



# ANNUAL REPORT 2020-21

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## About Shiv Nadar University, Delhi-NCR

Shiv Nadar University, Delhi-NCR has been on the vanguard of India's recent revolution in private higher education with its founding in 2011 by the Shiv Nadar Foundation, a philanthropic foundation established by Mr. Shiv Nadar, founder of HCL.

It distinguishes itself from the other new private universities, though, by (a) having a "public mission" at its core with its commitment to delivering affordable education for students from all walks of life, (b) a concomitant and equal focus on education and research, and undergraduate and post-graduate programs, and (c) planning for a comprehensive and equitable coverage of disciplines, as befitting a major University, ranging from the natural and social sciences, humanities, engineering, and management.

This approach not only positions Shiv Nadar University, Delhi-NCR to achieve its founder's vision of establishing an outstanding multidisciplinary research-focused University of global stature and impact but also as a role model for private education in the country that addresses the needs for enhancing educational access as well as modern high-quality education and cutting-edge research.

Furthermore, the University is founded on the principle that research, scholarships, and creative activity are fundamental sources of new knowledge that can contribute to the betterment of society. It manifests an all-pervasive spirit of recognition and respect for the diversity of people and ideas, inclusiveness, a global perspective and a sense of community.

In the decade since its founding, Shiv Nadar University, Delhi-NCR has assembled an impressive cast of faculty members across various disciplines, drawn from the top universities in India and across the world. It has not only established a range of undergraduate and post-graduate programs but also started establishing a solid presence in the world of research. And it has built a world-class campus to house its academic activities as well as students and faculty.

As the University completes its 10 years of existence, it is on the cusp of changes for the next decade to elevate its position in the Indian education landscape as well as its presence on the global map. It continues to make significant investments in research, infrastructure, technology, and in people to deliver on its vision of becoming an outstanding research-based, multidisciplinary University of global stature and impact.

Shiv Nadar University, Delhi-NCR was established by the Act no 12 of 2011 of State Legislature of Uttar Pradesh as a State Private University, and was empowered by the UGC to award degrees under Section 22 of the UGC Act, 1956.

In March 2021, Shiv Nadar University, Delhi-NCR signed a Memorandum of Understanding (MoU) with the Ministry of Education, Government of India, for granting of the prestigious status of 'Institution of Eminence Deemed to be University' (IoE). With this MoU, it has become the youngest recognized IoE and part of the hallowed league of top 20 public and private institutions mandated to elevate Indian higher education on the global stage with complete academic and administrative autonomy.

The University is currently registered with DSIR, Government of India as a Research Institution.

## Vision

To empower individuals and communities to realize and exercise universal freedom through acquisition and application of knowledge by:

- Dedicating to the development, organization, preservation, dissemination, and application of knowledge in a wide range of fields of study.
- Committing to excellence in teaching, discovery & innovation, scholarship, and service to expand the scope of human understanding, and contributing to the betterment of the world.
- Pledging to serve the higher education needs of State of Uttar Pradesh, India, and the global community.

## Mission & Objective

A comprehensive, multidisciplinary, research-focused, and student-centric University aimed at becoming a leading international institution of higher learning by:

- Developing and educating the path-shapers of tomorrow, who can shoulder the challenges of globally responsible, and ethical leadership in the 21st Century.
- Supporting research, scholarly, and creative endeavors that contribute to the creation of new knowledge at the frontiers of specialized areas as well as at the interface of diverse disciplines.
- Evolving research and teaching programs that tackle the most pressing problems of the State of Uttar Pradesh, India, and the global community.



## Values & Principles

- Research, scholarship, and creative activity as fundamental sources of new knowledge, contributions to the betterment of society and expressions of the human spirit.
- Pursuit of academic excellence with integrity in an environment of collaboration, collegiality, and civility.
- Freedom of inquiry and creation of an intellectual environment conducive to free, open, and respectful exchange of ideas.
- Recognition and respect for the diversity of people and ideas, a rational spirit of inclusiveness, a global perspective, and a sense of community as essential conditions for campus life.
- Environmental consciousness, sustainability, and prudent management of natural resources as central tenets of the construction and operation of the University.
- Commitment to social justice and public service as the foundation of individual, educational, social, and economic development.
- Engaged teaching and learning based on dialogue, student involvement, and experiential learning.
- Responsible stewardship and thoughtful reflection, collaboration, planning, and evaluation as essential for meeting the changing needs of India and the global community.
- Cultivation of character and the modeling of honesty, integrity, compassion, fairness, respect, and ethical behavior, both in the classroom and beyond.



## SCHOOLS

### School of Engineering

The School of Engineering (SoE) at Shiv Nadar University, Delhi-NCR is a pioneering effort in the field of engineering and aims to provide a world-class learning experience in the discipline. With innovative and engaging teaching methods, the School endeavors to hone engineers who not only specialize in their core discipline but are also capable of shouldering leadership responsibilities in the 21st century. The School combines research and education at the undergraduate level, providing students with a well-rounded experience. Each program in the School has been carefully customized in consultation with industry and academia to provide a balanced mix of theoretical and practical knowledge.

The School currently offers undergraduate and doctoral programs in Chemical Engineering, Civil Engineering, Computer Science and Engineering, Electrical and Electronics Engineering, Electronics and Communication Engineering, and Mechanical Engineering; and Masters in Chemical Engineering, Civil Engineering, Computer Science and Engineering, and Mechanical Engineering. In addition to the major branch, the School also encourages students to broaden their education by choosing a minor within SoE or even in departments from other Schools.

### School of Natural Sciences

The School of Natural Sciences (SNS) at Shiv Nadar University, Delhi-NCR is an integral part of the University's vision to build an institution of global education standards. The School aims to provide an international ambience in a local setting with innovative and engaging teaching methods, globally benchmarked curricula, world-class faculty and key partnerships in research.

SNS has four major departments: Chemistry, Life Sciences, Mathematics and Physics. It also nurtures the Big Data Analytics Center (BDAC), Center for Informatics, the Institute for Innovations & Inventions with Mathematics & IT (IIIMIT), Center for Advanced Materials and Center for Environmental Sciences and Engineering (CESE). The Undergraduate, Master and Doctoral programs have been designed based on the University's philosophy of interdisciplinary and research-based learning.

In the student-centric and active style of education at SNS, students are trained to 'learn by doing' and, thus, develop the essential employability skill through creative problem solving.

The University is currently registered with DSIR, Government of India as a Research Institution; and all the departments at SNS have received DST-FIST (Improvement of Science & Technology Infrastructure) grants.



### School of Humanities and Social Sciences

The School of Humanities and Social Sciences (SHSS) at Shiv Nadar University, Delhi-NCR is dedicated to transformative research and teaching. In the true spirit of a liberal arts education that is responsive to the challenges of 21st century India, the School's departments and programs encompass and integrate perspectives and practices from across the humanities, social sciences, and the creative fields. The School has the following departments: Art & Performing Arts, Communications, Design, Economics, English, History, Sociology, and International Relations and Governance Studies. The School is committed to creating a learner-centric environment, where students and faculty work as peers in the creation of new knowledge.

### School of Management & Entrepreneurship

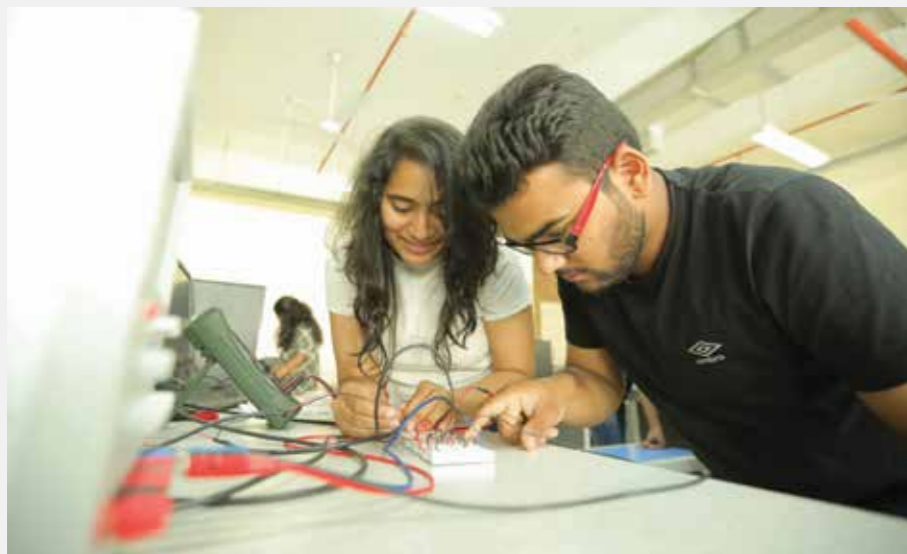
The School of Management & Entrepreneurship (SME) at Shiv Nadar University, Delhi-NCR was established in 2014 with the goal of developing into a premier business school in India serving the world. Programs offered by the School are taught by faculty members drawn from top institutions in India and across the world, and the School has made significant investments in the latest educational technology and infrastructure such as financial trading, innovation prototyping and 'digital experience' labs, and established a deep student-centric foundation for advanced experiential learning, incubation and entrepreneurship. Its programs have been designed by distinguished faculty from Harvard Business School, The Haas School of Business, U.C. Berkeley and the Indian Institute of Management. Students at SME are equipped with the knowledge and competencies to flourish in the new-age digital economy in an international context through opportunities of global exposure, thanks to our partnerships with some of the top institutions abroad and hands-on learning on entrepreneurship at the in-house Atal Incubation Centre (AIC) supported by NITI Aayog's Atal Innovation Mission, Government of India.

### Academy of Continuing Education

The Academy of Continuing Education (ACE) has been launched with a single overarching mission: to present best-in-class knowledge, practices and skill development offerings to the rapidly expanding Shiv Nadar University, Delhi NCR ecosystem of learners and leaders, both within and outside the University.

The School provides three linked platforms: Executive Education & Leadership Development programs for business, government and social sector organizations; Professional Certification and Skill Building courses for individuals and organizations interested in enhancing employability and job performance; and novel Continuing Education via University Extension offerings on topics of interest to a broader community of adult learners. This substantial last group may not be eligible or even seek degrees/diplomas but will be driven by a desire to learn from the best faculty in each field of study – at both Shiv Nadar University, Delhi-NCR and from around the world. For them, ACE will act as the gateway to enhanced learning on topics that excite them.

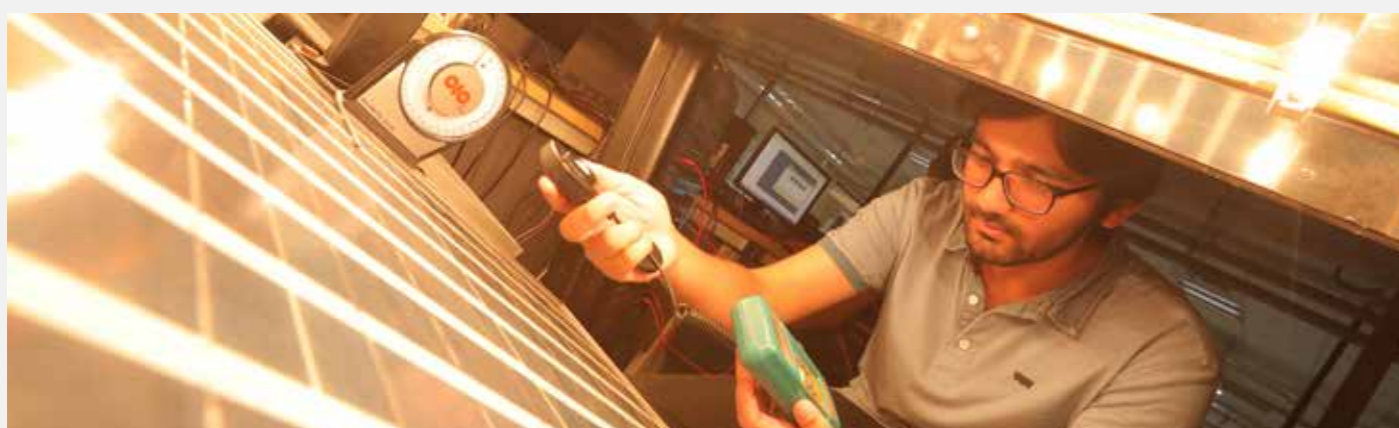
## DEPARTMENTS



The University has 17 academic departments across 5 schools that allow for an innovative curriculum with a variety of Major and Minor course combinations. It provides heterogeneous curricula, pedagogy, and assessment.

Undergraduates have the opportunity to pursue individual and group research projects with faculty members, creating the perfect mix of new ideas, and established expertise on each team engaged in a project, or a class engaged in learning.

- Department of Chemical Engineering
- Department of Civil Engineering
- Department of Computer Science and Engineering
- Department of Electrical Engineering
- Department of Mechanical Engineering



- Department of Art, and Performing Arts
- Department of Communication
- Department of Design
- Department of Economics
- Department of English
- Department of History
- Department of Sociology
- Department of International Relations and Governance Studies

- Department of Life Sciences
- Department of Chemistry
- Department of Physics
- Department of Mathematics



## CENTERS

### Center for Big Data Analytics Center

The Big Data Analytics Center (BDAC) is an interdisciplinary center set up under the aegis of the School of Natural Science, Shiv Nadar University, Delhi-NCR in 2014. Today we experience a true deluge of data which record and shape our lives, ranging from large global issues such as climate change to the smallest local problem such as controlling a thermostat. The critical screening and processing of Big Data has become a world-wide effort, requiring academic attention from diverse disciplines. The challenge is to develop theoretical and innovative scientific and technological solutions to cater to the needs of the industry, the society and the environment.

The Center focuses on bridging the wide gap between the demand and supply of scientists, technologists and key experts in the domain of Data Analytics today.

### Center for Environmental Sciences & Engineering

Taking cognizance of increasing environmental problems and to tackle these challenges scientifically and proactively for problem solving, the Center for Environmental Sciences & Engineering (CESE) is conceived under the School of Natural Sciences, Shiv Nadar University, Delhi-NCR with the specific objective of creating an interdisciplinary research facility integrating the fields of Science, Natural Resources, Engineering, Social Sciences, Public Policy and Law. The Vision of the Center is to become a leader in environmental science research in the country by conducting problem solving inter/multidisciplinary research in niche areas and meeting the needs of the society, industry and national and international agencies/organizations. The Center will provide advance training to students in Environmental Science, Natural Resource Management, Socio-economics, Public Policy and Engineering from the environment perspective for sustainable development.



### Center of Informatics

Informatics is the science of information, information processing, and the study of structures, algorithms, behavior, and interactions of natural and artificial systems that store, process, access and communicate information. The science of informatics, thus, overlaps a wide range of disciplines. Specific research programs and areas in the Center for Informatics at Shiv Nadar University, Delhi-NCR are set by the individual faculty, who nucleate inter-disciplinary research in select areas, exploiting synergies between overlapping programs in one or more schools at The University. Currently active areas of interest include:

- Bioinformatics and Cheminformatics
- Computational Nanoscience
- Design of Organic Dyes and Organic/Polymer Semiconductors
- Computational Facilities

### Center for Public Affairs & Critical Theory

Center for Public Affairs and Critical Theory (C-PACT) has been established under the aegis of the School of Humanities and Social Sciences, Shiv Nadar University, Delhi-NCR to pursue inter-disciplinary research on social policies. It is important to examine social reality from diverse perspectives so that the outcomes of such exercises are accessible across academic specialties and to the members of the general public as well.

C-PACT's research on social policy aims to meet the highest academic standards such that they contribute to scholarship as well as to actual policy formulations on the ground. By converting research into viable solutions C-PACT aims to address the pressing problems of the day without being partisan or biased towards any political or academic persuasion.

### Center for Economics, Mathematics & Data Analytics

The challenges that the society faces are complex and multifaceted. It requires people from different disciplines to come together and create a multidisciplinary approach without compromising the disciplinary rigors. With the advancement of computing, one promising configuration is a mix

of economics, mathematics, and data. The Center for Economics, Mathematics and Data Analytics (CEMD) plans to bring together faculty members who are interested in using economic thinking, mathematical methods, use data and computational techniques to solve some of these societal problems.

### Center for Advanced Materials

Center for Advanced Materials provides unique excellence in the field of material science. With state-of-the-art materials labs, the Center caters to the needs of research in the areas of defense, health care and processing industries. The mission of this Center is to create an ecosystem of research and learning in the field of advanced materials that cater to the needs of industry and society.

### Center for Archaeology, Heritage & Museum Studies

The Center for Archaeology, Heritage and Museum Studies provides a mechanism whereby undergraduate and graduate students can learn archaeological methods through field visits, workshops, and conferences, to share knowledge and distribute it across universities and institutions in Delhi-NCR. With a small concentration of archaeologists and scholars of cultural heritage, the Center aims to become the hub of a Consortium that aims to impart a broad based interdisciplinary training to undergraduate and graduate students.

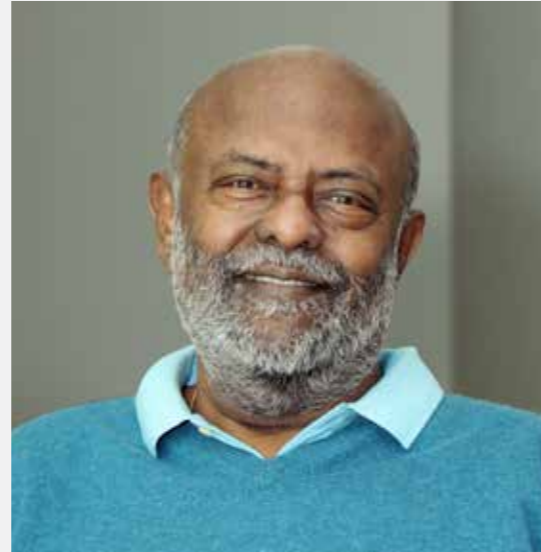


## LEADERSHIP

Mr. Shiv Nadar founded the University in 2011 with a vision to create a world-renowned institution for multidisciplinary education, embedded in innovation and research.

Mr. Nadar is the Founder of HCL, a \$ 10.5 billion global organization with over 176,000 professionals operating from 50 countries. He is credited with being one of the pioneers of the computing and IT industry in India. Under his guidance, HCL has continued to ride the waves of the changing IT landscape for over 40 years and remain at the forefront of every technological revolution since 1976.

Mr. Nadar established the Shiv Nadar Foundation in 1994, which is committed to the creation of a more equitable, merit-based society by empowering individuals through transformational education to bridge the socio-economic divide. In recognition of his pioneering role in business and philanthropy in India and across the globe, Mr. Nadar has received several honors and accolades, including one of the highest civilian honors, the *Padma Bhushan*, from the President of India in 2008.



**Mr. Shiv Nadar**  
Founder and Chancellor

Mr. Shikhar Malhotra took over the role of Pro-Chancellor at the University in September 2018. Under his leadership, the institution has rapidly grown and been chosen as an 'Institution of Eminence' by the Government of India – an acknowledgment of the University's focus on world-class teaching and research.

As a Trustee, Mr. Malhotra plays multiple roles at the Shiv Nadar Foundation to shape its vision of nation-building through transformational leadership.

He is also the founding CEO of Shiv Nadar Schools (established in 2012), having led them to become the most coveted schools in the National Capital Region of Delhi, consistently recognized among the top schools in India. Mr. Malhotra is a Board Member of HCL Corporation, the holding company for HCL's operating companies that has a distinguished lineage as one of India's original technology garage start-ups, founded by Mr. Shiv Nadar. His early lessons as an entrepreneur were learnt at his family business and were later sharpened at Babson College in the US, with a specialization in entrepreneurship.



**Mr. Shikhar Malhotra**  
Pro-Chancellor



**Dr. Rupamanjari Ghosh**  
Vice-Chancellor

Dr. Rupamanjari Ghosh joined the University in July 2012, as the Founding Director of the School of Natural Sciences (SNS) and the Dean of Research and Graduate Studies. She took over the role of the University's Vice-Chancellor in 2016, and has since been at the helm of the University's growth with her transformational leadership.

Prior to joining the University, Dr. Ghosh served as the Dean of School of Physical Sciences at Jawaharlal Nehru University, Delhi, along with many other important academic and administrative positions. She has held several visiting faculty/scientist positions on invitation abroad and delivered numerous invited research seminars. Recipient of the *Stree Shakti Science Samman* for her 'original contribution to Science', she serves as an expert on the Department of Science and Technology (DST), Government of India committees in Physical Sciences; and in many central and state universities and institutes. She received the DAE (Department of Atomic Energy, Government of India) C V Raman Lecture award (in Physics) in 2018.

Having contributed to science research and training from the university to the school level, she has also served as the Chief Advisor for the National Council of Educational Research and Training (NCERT) Science textbooks for Classes IX and X, developed afresh under the National Curriculum Framework - 2005. She Co-Chairs the Federation of Indian Chambers of Commerce and Industry (FICCI) Higher Education Committee, and is currently a member of the Council of the Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune.

Dr. Ghosh has a Master of Science degree in Physics from the University of Calcutta, India, and Ph.D. from the University of Rochester, New York, USA, where she worked as a Rush Rhees Fellow, selected for '*outstanding scholarly ability and the promise of exceptional contributions to scholarship and teaching*.' As a researcher, teacher, orator, and an academic administrator par excellence, Dr. Ghosh is well known for her stand and efforts to support the cause of gender justice and environment consciousness in the higher education system.



Col. (Retd.) Gopal Karunakaran joined Shiv Nadar University, Delhi NCR in May 2019, and also holds the position of CEO of Shiv Nadar Schools.

His journey in the education sector began in 2008 with his belief in education as a tool for social transformation. He has since had rich and diverse experiences across all facets of education including policymaking, academic leadership, operations, and business. He has been a member of the National Committee of Education of the Confederation of Indian Industries since 2008 and was part of the team which formulated draft proposals to the Government on the Right to Education Act.

Col. Karunakaran spent 27 years in the Indian Army before joining the education sector, having been posted in the insurgency region of Kashmir for 10 years, six months of which were spent in the Siachen Glacier - the highest military post in the world. While with the Indian Army, he was chosen for the United Nations Mission in Kuwait in a multilateral and multicultural environment. An alumnus of the National Defence Academy (NDA), he graduated from Jawaharlal Nehru University in 1980, and holds M.Phil. and Master's degrees from Madras University.



**Col. (Retd.) Gopal Karunakaran**  
Executive Director



**Dr. Bibek Banerjee**  
Dean, School of Management & Entrepreneurship  
Dean, Academy of Continuing Education  
Director, University Strategy & Planning

Dr. Bibek Banerjee joined the University in May 2020 and leads strategic initiatives for the University to build it as an outstanding, research-driven, multidisciplinary institution. With significant experience in designing and delivering executive education programs, and having mentored large businesses across sectors for their leadership development initiatives, Dr. Banerjee also leads the world-class management school at Shiv Nadar University, Delhi-NCR.

In his distinguished career, he has successfully incubated several companies in the education and technology sectors. His teaching interests span Sustainable & Integrated Business Orientation as well as Strategic Marketing and Leadership. His research publications have appeared in several international academic journals, including *Marketing Science*, *International Journal of Management*, *Journal of International Consumer Marketing*, and *Advances in Applied Microeconomics*. Dr. Banerjee is also the Founding Co-Editor of the *Journal of Entrepreneurship and Innovation in Emerging Economies*.

He holds Ph.D. and M.S. degrees from Purdue University's Krannert Graduate School of Management and B.S. (Economics Honours) from St. Xavier's College, University of Calcutta.



**Dr. Sandeep Sen**  
Dean, School of Engineering  
Professor, Department of Computer Science & Engineering

Dr. Sandeep Sen joined Shiv Nadar University, Delhi-NCR as Director, School of Engineering, in May 2019. Dr. Sen did his Ph.D. (1989) in Computer Science from Duke University, M.S. (1986) in Computer Engineering from the University of California at Santa Barbara, and B.Tech. (1984) in Computer Science and Engineering from IIT Kharagpur. He worked with Bell Labs, Murray Hill, in 1990-91.

He has been a faculty member in the Department of Computer Science and Engineering, IIT Delhi, since 1991. His research interests are in the areas of Algorithms and Complexity; and in particular, Randomized Algorithms, Parallel Computation, Computational Geometry, Dynamic Data Structures, etc.

Dr. Sen has held the Dhananjay Chair Professor and the Microsoft Chair Professor in IIT-Delhi. He has been a Visiting Researcher/Faculty in notable institutions in India and abroad. He is a Fellow of the Indian Academy of Sciences, and also of the Indian National Science Academy. He shouldered the responsibility of heading his Department during 2007-10; and served as the Dean of Faculty of IIT-Delhi during 2016-18.

Dr. Rajat Kathuria joined Shiv Nadar University, Delhi-NCR as Dean, School of Humanities & Social Sciences, and Professor of Economics, on April 1, 2021.

He carries over 20 years of experience in teaching and more than 15 years of experience in economic policy, besides pursuing extensive research on a range of issues relating to regulation and competition policy. Dr. Kathuria served as Director and Chief Executive at the Indian Council for Research on International Economic Relations (ICRIER) before joining the University.

He has earlier taught undergraduate Economics at the University of Maryland, USA, and spent over 12 years with the International Management Institute (IMI), New Delhi teaching post-graduate students Managerial Economics and International Trade. He has also previously worked with the World Bank in Washington D.C. as a Consultant, and worked on research assignments for a number of international organizations, including the International Labour Organization (ILO), United National Conference on Trade and Development (UNCTAD), LirneAsia, The World Bank and The Asian Development Bank (ADB). Dr. Kathuria's work has been published in several journals of repute as well as in top magazines and newspapers across the world. He serves on multiple industry and government committees such as the Confederation of Indian Industry (CII) Committee on International Trade Policy and Exports, the Implementation for Intended Determined Contribution (Ministry of Environment, Forest and Climate Change, Government of India), and on the Research Advisory Council of the State Bank of India (SBI).

Dr. Kathuria has an undergraduate degree in Economics from St. Stephens College (University of Delhi), a Masters' from the Delhi School of Economics (University of Delhi) and a PhD from the University of Maryland (College Park), USA.



**Dr. Rajat Kathuria**  
Dean, School of Humanities & Social Sciences  
Professor, Department of Economics

Dr. Sanjeev Galande joined Shiv Nadar University, Delhi-NCR, as Dean of the School of Natural Sciences in June 2021.

Dr. Galande brings with him over two decades of experience as a renowned cell biologist, epigeneticist and academic. He earlier served the Indian Institute of Science Education & Research (IISER)-Pune, as Professor of Biology, and Dean of Research & Development. At IISER-Pune, he led the Centre of Excellence in Epigenetics (CoEE) and assembled a team of scientists to study the evolution of epigenetic mechanisms using multiple model systems. The CoEE focuses on epigenetic modifications underlying a variety of biologically important phenomena and their role in gene expression, regeneration, cancer, behavior, ageing, and evolution. He is credited for having established a multidisciplinary program engaged at the interface of biochemistry, molecular biology, bioinformatics, cell biology, proteomics, and genomics.

He has previously also served the National Centre for Cell Science (NCCS) in Pune, as a senior scientist, where he was part of a group that elucidated how cellular signaling pathways eventually exert their effect at the level of chromatin to orchestrate cell-type-specific patterns of gene expression. He earned his Ph.D. in Biochemistry from the Indian Institute of Science in 1996. As a postdoctoral fellow at the Lawrence Berkeley National Laboratory in the USA from 1996-2001, he studied the role of MAR-binding proteins in tumorigenesis.

Dr. Galande was the recipient of the International Senior Research Fellowship, Wellcome Trust, UK, 2005-10, DBT National Bioscience Award 2006, DST Swarnajayanti Fellowship 2007, the coveted CSIR Shanti Swarup Bhatnagar Prize 2010, GD Birla Award for Scientific Excellence 2015, and the SERB JC Bose Fellowship 2019. He has been a Fellow of the Indian Academy of Sciences since 2010, of the Indian National Science Academy since 2012, and of the National Academy of Sciences since 2017.

Dr. Galande was an honorary associate faculty at the University of Sydney, Australia, and a visiting faculty at the University of Turku, Finland.



**Dr. Sanjeev Galande**  
Dean, School of Natural  
Sciences  
Professor and Head,  
Department of Life Sciences



**Dr. Suneet Tuli**  
Dean of Research &  
Partnerships  
Professor, Department of  
Electrical Engineering

Dr. Suneet Tuli is a distinguished academician and administrator, who comes with an experience of over 35 years in higher education. He joined Shiv Nadar University, Delhi-NCR in May 2019 as the Director of Research & Graduate Studies, and Faculty Affairs; and works towards promoting the inter and multidisciplinary research at the University. He also manages the externally-funded research, carried out by the faculty and researchers at the University.

Dr. Tuli was a faculty at the Indian Institute of Technology (IIT) Delhi for three decades, and held terms as Dean R&D (2012-16); Associate Dean Industrial R&D (2005-09); and Head, Centre for Applied Research in Electronics (2009-12). He is a widely regarded faculty and mentor in academia, and a visiting researcher in the UK and France. His research areas include thermal-acoustic-electrical-optical interactions, non-destructive characterization – active and passive thermography, and surface acoustic wave devices and electronic systems.

A Ph.D. and M.Tech. in Electronics from IITDelhi, Dr. Tuli holds his B.E. (Hons.) in Electrical & Electronics Engineering from BITS, Pilani.

Dr Rajeev Kumar Singh joined Shiv Nadar University, Delhi-NCR as a member of the founding faculty in the Department of Computer Science & Engineering in July 2011.

Prior to joining the University, he served as Assistant Professor at various reputed institutions and also worked in the corporate world with stints at CL Educate, MeritNation.com, IMS Learning Resources, and EXL Services. His deep theoretical foundation blended with industry practices helped him to migrate to teaching and research in a seamless manner.

Dr. Singh's research interests lie in the broad domain of Computer & Communication Networks as well as Machine Learning application in Medical Imaging. His work has been published in various international journals, and he has served as a reviewer of many articles. He has delivered specialized lectures on Research Methodology and Big Data & Machine Learning for the Cabinet Secretariat, Ministry of Home Affairs, Government of India. He is associated with FICCI as a key speaker for faculty development programs, and has he has delivered faculty development programs at Shiv Nadar University Delhi-NCR, Pearl Academy, Symbiosis Pune, and UPES, among other universities. At Shiv Nadar University, Delhi-NCR, he has been instrumental in driving some of the biggest academic conferences and workshops, including the 39th National Systems Conference and an Indo-German workshop on Algorithms for Big Data in collaboration with IIT Delhi. He has also led the University's efforts in supporting the mission of International Career & College Counseling (IC3) Movement to promote the importance of career counseling at the grassroots.

Dr. Singh was bestowed with the 'Best Faculty' award by the global IT giant, Cognizant, the 'Excellence' award at Shiv Nadar University, Delhi-NCR in 2014 for his outstanding services during the founding years of the University, and was voted 'Outstanding Faculty' by the students of the University.

He earned his Ph.D. in Computer Science from Jawaharlal Nehru University (JNU), Delhi, M.Tech. in Computer Science from JNU, and a Bachelor's degree in Computer Science from Delhi University.



**Dr. Rajeev Kumar Singh**  
Associate Dean, Academics  
Associate Professor,  
Department of Computer  
Science & Engineering



**Major General (Retd.)  
G. Jaishankar**  
Director, Student Affairs

Maj. Gen. (Retd.) G. Jaishankar joined Shiv Nadar University, Delhi-NCR in March 2019 as Dean, Student Affairs. He is an Infantry Officer with vast operational experience in J&K and North East India; and has held various Command, Senior Staff and instructional assignments. He has also served overseas in active UN Peacekeeping in Rwanda, as India's Defence Attaché in China, Mongolia and North Korea, and as Commandant of the Indian Military Establishment in Bhutan.

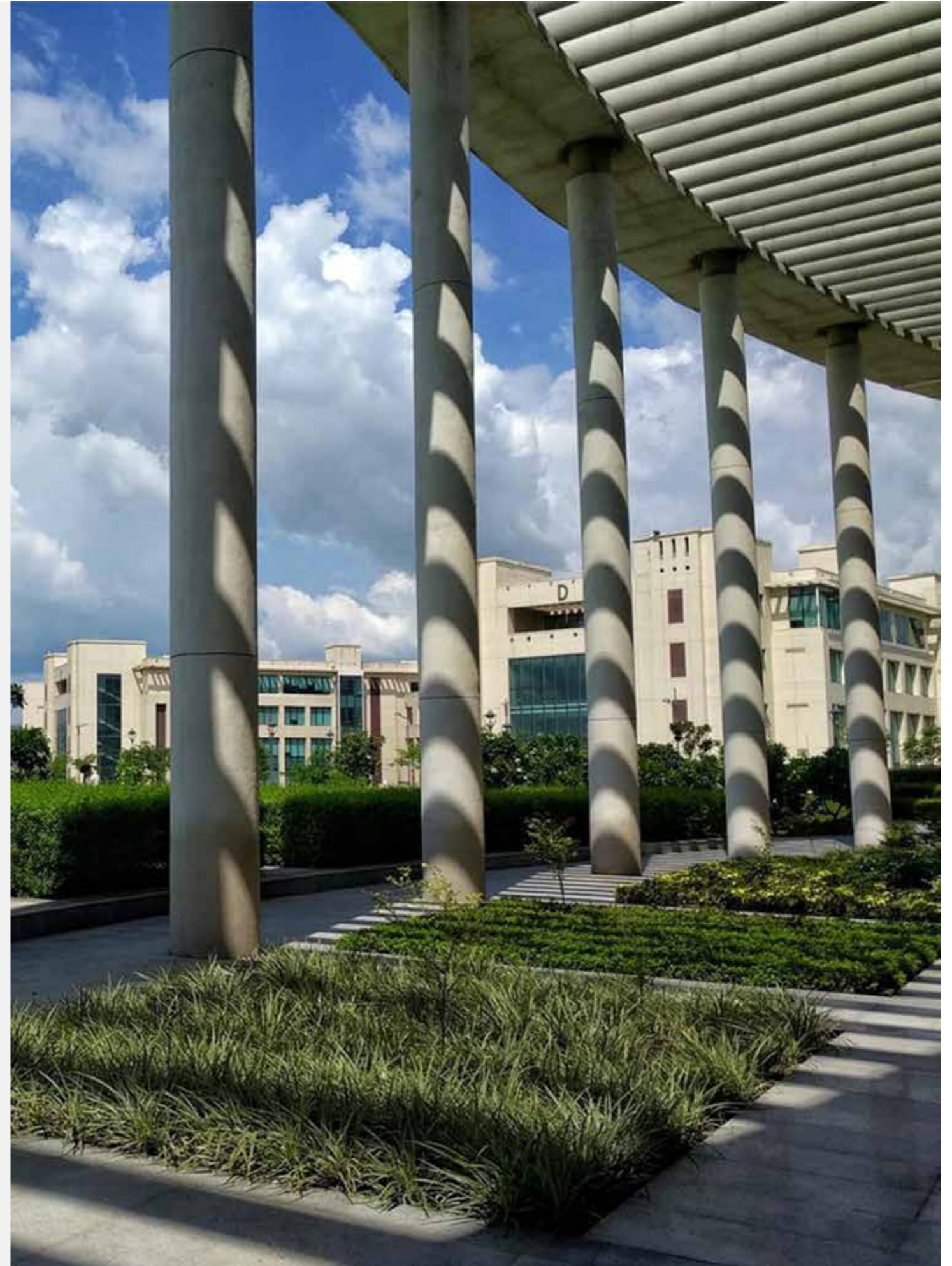
He is an alumnus of the National Defence Academy (NDA), Khadakwasla, and holds an M.Sc. degree from Madras University and an M.Phil. in Defence and Strategic Studies from Mumbai University.

Mr. Sudhir Naudiyal is a post-graduate in Commerce, in Education Management and also has a Law Degree. With a professional experience of 31 years in educational institutions, he has worked in various capacities including HR, Administration, Legal and Finance & Accounts.

Mr. Naudiyal has proven expertise in handling complex issues involved in running educational institutions, specifically related to statutory approval process and compliances within the legal framework, essentially covering all aspects of academic administration.



**Mr. Sudhir Naudiyal**  
Registrar





## VICE-CHANCELLOR'S PROGRESS REPORT 2020-21

“In the last century, innovation remained strongly coupled with **STEM** - Science, Technology, Engineering, and Mathematics subjects. Our offerings of, what I call ‘**STEAM**’ disciplines with an extra **A** for **Art and Design**, and the **E** standing for **Enterprise** education, coupled with our emphasis on critical thinking and creative problem solving, and the training and experience of cross-connecting ideas give our students a clear advantage in the face of worldwide challenges of the Future of Work.”

Dr. Rupamanjari Ghosh  
Vice-Chancellor

On the occasion of this Sixth Convocation of the Shiv Nadar University, Delhi-NCR, it is my honor and privilege to present the Vice-Chancellor's Progress Report for the Academic Year 2020-21 (1 July 2020-30 June 2021).

This year's Report is special. It demonstrates the commitment of our University community in a year marked by unprecedented challenges brought by the COVID-19 pandemic, and captures their stellar work in the landmark year of the University's tenth anniversary.

Shiv Nadar University, Delhi-NCR was established in 2011 by the Shiv Nadar Foundation through an Act of the State of Uttar Pradesh, with the aim of becoming an enduring global center of excellence in higher education, which is learner-centric, and anchored in research & innovation, driven by outstanding faculty, and supported by national

**“Two months of the second wave of COVID-19 were particularly hard for all of us. A dedicated team worked round the clock to provide all possible support to members of our community in those very dark days, including oxygen cylinders, hospitalization assistance, medicines, and a lot more. HCL and the Shiv Nadar Foundation extended their full support, standing by every member of the University community, and organized a vaccination drive covering students on campus, faculty, staff and their families.”**

& international academic partnerships. In March 2021, we signed a Memorandum of Understanding (MoU) with the Ministry of Education, Government of India, which accords us the prestigious status of ‘**Institution of Eminence**’. With this MoU, we transition from being a university established by a State Legislature Act to becoming an institution incorporated under a Central Act, with full academic and administrative autonomy. This recognition, thus, makes us part of the distinguished league of top 20 public and private institutions empowered to elevate Indian higher education to the global stage.

This achievement is a direct result of our pioneering **multidisciplinary** approach to education in India

and an unwavering focus on driving research & innovation that can help solve issues of global importance. Currently, the University has four major Schools: (i) School of **Engineering**, hosting the Departments of Chemical Engineering, Civil Engineering, Computer Science & Engineering, Electrical Engineering and Mechanical Engineering, (ii) School of **Natural Sciences**, hosting the Departments of Chemistry, Life Sciences, Mathematics and Physics, (iii) School of **Humanities & Social Sciences**, hosting the Departments of Economics, English, History, International Relations & Governance Studies, Sociology, Art & Performing Arts, Communication, and Design, and (iv) School of Management & Entrepreneurship, as well as an **Academy of Continuing Education** (ACE) to support life-long learning and technology enabled delivery for working professionals.

In the last century, innovation remained strongly coupled with **STEM** (science, technology, engineering, and mathematics) subjects. The University's offering of **integrated “STEAM”** disciplines, with the extra ‘A’ for **Art & Design**, and the ‘E’ standing for **Enterprise** education, coupled with our emphasis on critical thinking & creative problem-solving, and the training & experience of cross-connecting of ideas give our students a clear

advantage in the face of world-wide challenges of “Future of Work”

A lot of innovative and contemporary research at Shiv Nadar University, Delhi-NCR is facilitated at the **interdisciplinary Centers** - the Center for Public Affairs & Critical Theory, the Center for Environmental Sciences & Engineering, the Big Data Analytics Center, the Center of Informatics, the Institute for Innovations & Inventions with Mathematics & Information Technology, the Center for Advanced Materials, the Center for Economics, Mathematics & Data Analytics, and the Center for Archaeology, Heritage & Museum Studies. Last year, the University established the **Shiv Nadar**

**University-Dassault Systèmes Center of Excellence (SDC)**, which is powered by the 3DEXPERIENCE platform from Dassault Systèmes, and is for research, innovation, design and entrepreneurship. It is aimed at enhancing the effectiveness of multidisciplinary education at Shiv Nadar University, Delhi-NCR in a way that prepares students to develop products or services and be better equipped for opportunities across industries in the new digital economy.

Shiv Nadar University, Delhi-NCR is a comprehensive university, offering a full range of general and professional degree programs -- as of today, the University offers 16 Bachelor's-level degree programs [B.Tech., B.M.S., B.Sc.(Research) and B.A.(Research)], 9 Master's programs [M.Tech., M.Sc., M.F.A., M.A. and M.B.A.], and 14 Doctoral level [Ph.D.] programs. A total of 1318 fresh students were enrolled in the Academic Year 2020-21.

We currently have 2499 students enrolled at the University -- of these 1961 are undergraduates, 250 Master's and 288 are doctoral students. The **diverse** student body, coming from 27 states & Union Territories in the country, is spread across various programs in the four Schools. Our current faculty strength is nearly 250. The academic leadership got strengthened with **Dr. Rajat Kathuria** joining as Dean, School of Humanities & Social Sciences on 1 April 2021, taking charge from Dr. Ajay Dandekar, and **Dr. Sanjeev Galande** joining as Dean, School of Natural Sciences on 1 June 2021, taking charge of the School from me. We also welcomed many globally acclaimed academics as **advisers** to guide the transformational journey of our Schools.

On the non-academic front, **Mr. Sunil R. Shetty** joined us as Director – Marketing & Communications, tasked with maximizing exposure for 'Brand Shiv Nadar University'. Nearly 60% of our undergraduate, postgraduate and doctoral students received some form of scholarship, and all our doctoral students receive stipends & tuition fee waivers. In 2020-21, the University disbursed ₹22.13 crores as **scholarships** to students across levels, and **stipends** worth approx. ₹13.09 crores to postgraduate and doctoral students.

It is a matter of great pride for the University that **Dr. Parthapratim Munshi** was invited to become a Fellow of the Royal Society of Chemistry, UK; he joined a group of outstanding individuals in the field of chemical sciences. **Dr. Bimlesh Lochab** was awarded the prestigious Bronze Medal by the Chemical Research Society of India (CRSI) for her outstanding contribution to research in chemistry. The Science and Engineering Research Board (SERB) under Government of India's Department of Science & Technology (DST), awarded the Ramanujan Fellowship to **Dr. Bappaditya Gole** who has joined the Department of Chemistry. The Indian Society of Hydraulics' Executive Council conferred the 'ISH Lifetime Achievement Award' for the year 2020 to **Dr. Nayan Sharma** in our Center for Environmental Sciences & Engineering for his significant contribution in the field of Water Resources.

As COVID-19 wreaks havoc across the world, some of our faculty members have been actively studying various aspects of the coronavirus, using various funding avenues.

Our faculty members have so far published more than 200 books and book chapters, close to 1000 articles in refereed high-impact journals, more than 1000 conference papers or presentations, and had more than 100 exhibitions and performances. This year (2020-21), almost 50 of our faculty members were invited for various talks and lectures around the globe. Two of the University's several patents filed were finally granted by the Government of India this year. It is a start.

The University's faculty have so far brought in over ₹35 crores in extramural research funding, and there is more in the pipeline. Our doctoral students have won several awards nationally and internationally for their research, special thanks to their superb mentors at the University. Our doctoral students received postdoctoral positions from top universities abroad, such the University of Oxford and Harvard University.

Research at the University is not limited to faculty and doctoral students. Undergraduate students are required to engage in research as part of their curriculum. They are made to understand the nuances of research and innovation, while

we strengthen their foundation with a broad multidisciplinary approach and provide a depth of learning in their major subject.

I am happy to share that a team of seven undergraduate students, guided by **Dr. Nishant Mishra**, won the **MyGov India Innovation Challenge Design Contest (IICDC)** organized by the Department of Science & Technology (DST) in collaboration with Texas Instruments, for their 'Smart Dustbin' named SEGMAN, which segregates waste at source using AI, ML and Image Processing, and uses IoT and Cloud-based solutions for advertising on the digital screens of the dustbin. The team was declared winner from of a total of 18,000 teams that participated in the contest. **Team Genesis** of 16 undergraduate students, won the **Mega ATV Championship** held in Goa in April 2021, for the first-ever, all-electric all-terrain vehicle (ATV).

Our undergraduate students also won some very prestigious global competitions this year. At the **ASME Engineering Festival, Team Vidyut** of 9 undergraduates students **ranked No. 1 globally** in

**“Shiv Nadar University, Delhi-NCR, became one of the few university campuses in the country to have received two ISO Certifications: ISO 14001:2015 (for Environment Management System) and ISO 45001:2018 (for Occupational Health & Safety Management System). This is an important step towards our plan for creating a sustainable campus which each of us will be really proud of.”**

the 'Student Design Competition', and **Team Aria** of 10 students won the **'Best Design Award' globally** in the ASME Innovative Additive Manufacturing 3D (IAM3D) Competition'.

We further expanded our portfolio of partnerships with some notable national and international institutions this year. We signed an agreement with the **Network "n+i" of Engineering Institutes in France**, which is a consortium of 50 French

engineering institutes of higher education, to pursue academic and educational exchange as well as research collaboration in fields related to science, engineering, technology and management. The Center for Archaeology, Heritage and Museum Studies (CAHMS) and the **University of Pennsylvania's Penn Museum** entered into an MoU with the intent to establish a program of collaborative partnership. More recently, we signed another MoU with the **Indian Institute of Science Education and Research (IISER)**, Pune, to collaborate in R&D projects in the areas of Natural Sciences, and for faculty/student exchanges between the two institutions.

In 2017, Shiv Nadar University, Delhi-NCR was awarded the prestigious **Atal Incubation Centre (AIC)** grant by NITI Aayog, to share the Government of India's effort of fostering innovation and entrepreneurship, and to cradle start-ups. Since the formation of AIC-SNU (SNARF), the Incubator has supported more than 30 start-ups, helping them turn their disruptive ideas into successful businesses with its support. AIC-SNU launched the fourth edition of its **'Venture Challenge'** this

year, in association with HCL Technologies and Dassault Systèmes. It received 200+ applications from young entrepreneurs across the country.

This year witnessed a fundamental shift in which teaching-learning is delivered and experienced as the world adapted to "the new normal", in the face of the COVID-19 pandemic. Within this harsh,

alarming, almost existentially-threatening context, we continued to keep the University rising to the expectations of our stakeholders. My sincere thanks to all our faculty, staff, students, parents and well-wishers for their continued support in helping us navigate these unusual challenges, and in ensuring that our commitment to education & research stays firm. The University continued to host distinguished academics, business leaders, diplomats, authors and experts for important **conferences, seminars**

and workshops virtually, across all Schools and Departments. In the last one year, we hosted nearly **100 such events** virtually, enabling our students to gain maximum exposure to global industry and academia. The Office of International Partnerships organized the second and third editions of the International Webinar series, "Beyond Boundaries". Global leaders in education delivered talks and engaged with the participants, including the Chancellor of Vanderbilt University, the Rector of the University of Geneva, and the Former Chancellor of the University of California, Berkeley. Alumni also connected with the students to deliver online talks and guide the graduating students.

Shiv Nadar University, Delhi-NCR, became one of the few university campuses in the country to have received two **ISO Certifications**: ISO 14001:2015 (for Environment Management System) and ISO 45001:2018 (for Occupational Health & Safety Management System). This is an important step towards our plan for creating a **sustainable campus** which every SNUite will be really proud of. The campus now has a 9-hole golf course, a new shopping arcade, a club house for faculty and staff, a pre-school for children of faculty and staff, and a couple of rescued horses that beautifully add to the diversity of life on campus.

For the students in campus during lockdown and returning students in the campus, dedicated isolation and quarantine wards continued to be operational. All essentials of daily need, including medicines, were made available to the residents. Two months of the second wave of COVID-19 were particularly hard for all of us. A dedicated team worked round the clock to provide all possible support to members of our community in those very dark days, including oxygen cylinders,

hospitalization assistance, medicines, and a lot more. HCL and the Shiv Nadar Foundation extended their full support, standing by every member of the University community, and organized a vaccination drive covering students on campus, faculty, staff and their families.

Today, we have the privilege of conferring honorary doctorates on four distinguished individuals – one of world's most renowned quantum physicists, **Professor Alain Aspect**, Foreign Member of the Royal Society; the trailblazing figurative artist and modernist, **Padma Bhushan Ms. Arpita Singh**; an iconic ambassador of India's technology industry, **Ms. Neelam Dhawan**; and the highly revered diplomat, **Ambassador Richard Burt**. It gives me immense pleasure to share that this is the first time we are honoring two iconic women with our Honorary Doctorates. In the presence of our Chief Guest, **Mr. Vineet Nayar**, Founder Chairman, Sampark Foundation, more than 500 students, including 40 PhDs, from various streams of Engineering, Natural Sciences, Social Sciences, Fine Arts and Management are going to receive their degrees, and some will be recognized with special awards and distinctions for their performance.

The Founder and Chancellor, Trustees of the Shiv Nadar Foundation, all my colleagues -- the faculty, staff and administrators, my dear students and alumni, parents & family members, and friends: thank you for your support to the University, and for joining us on this momentous occasion. Today, 24 July 2021 is Guru Purnima, dedicated to one's Guru, i.e., mentor or teacher. On this day, let the light of knowledge dispel all darkness.

Thank you!

## UNIVERSITY ACCOLADES



“A successful person finds the right place for himself. But a successful leader finds the right place for others.” --

**John C. Maxwell**

### Shiv Nadar University Delhi-NCR Conferred 'Institution of Eminence' Status by Government of India

Shiv Nadar University, Delhi-NCR has signed a Memorandum of Understanding (MoU) with the Ministry of Education, Government of India, for granting of the prestigious status of 'Institution of Eminence Deemed to be University' (IoE). With this MoU, it has become the youngest recognized IoE and part of the hallowed league of top 20 public and private institutions mandated to elevate Indian higher education on the global stage with complete academic and administrative autonomy.

Mr. Shikhar Malhotra, Pro-Chancellor; and Dr. Rupamanjari Ghosh, Vice-Chancellor, Shiv Nadar University, Delhi-NCR signed the MoU in the presence of Dr. Vineet Joshi, Additional Secretary, Ministry of Education, Government of India, and Ms. Kirti, Deputy Director (Science), Department of Higher Education, Ministry of Education, Government of India.

The University has been granted the 'IoE' status upon duly clearing a wide-ranging assessment by the Government-appointed Empowered Expert Committee (EEC). The assessment included several legislative and procedural requirements under the UGC regulations and guidelines. It took into account all aspects of the University's functioning including but not limited to curriculum, research, faculty, campus infrastructure, students' selection parameters and the Institution's long-term vision, culminating in the MoU signed.



Shiv Nadar University, Delhi-NCR was recommended as an 'IoE' by the EEC in August 2019 after the 'Institutions of Eminence' scheme was rolled out by the University Grants Commission (UGC) in 2017. The 20 'IoEs' were selected from a total of 114 applications received from public and private universities. Shiv Nadar University, Delhi-NCR is also among the select group of institutions in the country which were awarded the prestigious Atal Incubation Center grant by the NITI Aayog, Government of India, in the very first round in 2017.

### Shiv Nadar University, Delhi-NCR granted its first two patents

Shiv Nadar University, Delhi-NCR has been granted its first two patents. One is for 'Derivatives of Imidazole and Benzimidazole, Method of Preparation and Use Thereof' (Department of Chemistry) by the Registrar of Patents. The Patent has been numbered 359100 dated 23 February 2021. Term of Patent is 20 years from the priority date i.e. from 31 March 2016.

The second Patent is titled 'Erosion Resistance Bimodal Composite Coating Composition and Method Thereof', with applicant name: Shiv Nadar University, Delhi-NCR (Dr. Harpreet Singh Arora). The Patent has been numbered 357935 dated 6 February 2021. Term of Patent is 20 years from the Priority date i.e. from 22 August 2018.

### Shiv Nadar University, Delhi-NCR receives the ISO 14001:2015 and ISO 45001:2018 certifications

Shiv Nadar University, Delhi-NCR has received the International Organization for Standards (ISO) certifications for meeting the prescribed standards of excellence in environment, health and safety management system. ISO 14001:2015 for Environmental Management System and ISO 45001:2018 for Occupational Health and Safety Management System were accredited to the University after an extensive external audit. The certification aligns with the University's philosophy and commitment to excellence in every sphere.

### Shiv Nadar University, Delhi-NCR Ranked 25th in the India Nature Index 2020

Shiv Nadar University, Delhi-NCR has been ranked among the top 25 institutions in India in the overall academic institutions Rankings 2020 by the Nature Index. The Nature Index is a database of author affiliation information collated

from research articles published in an independently selected group of high-quality science journals. It provides a close to real-time proxy of high-quality research output and collaboration at the institutional, national and regional level.

### Shiv Nadar University, Delhi-NCR ranked 56th in NIRF Rankings

Shiv Nadar University, Delhi-NCR was ranked at 56 in the 'University' category in the National Institute Ranking Framework (NIRF), published by the Ministry of Education, Govt. of India. The University has been the youngest institution in the NIRF top-100 'Overall' list for the last four years.





## HIGHLIGHTS

### Shiv Nadar University, Delhi-NCR and Dassault Systèmes Establish a Unique Center of Excellence for Design and Innovation

Shiv Nadar University, Delhi-NCR has established the Shiv Nadar University-Dassault Systèmes Center of Excellence (SDC). The SDC, powered by the 3DEXPERIENCE platform from Dassault Systèmes, is for research, innovation, design and entrepreneurship, and is also aimed at enhancing the effectiveness of multidisciplinary education at the University in a way that prepares students to develop products or services and be better equipped for opportunities across industries in the new global economy.

The SDC is a physical lab with a virtual extension, based on the 3DEXPERIENCE platform, that covers key aspects of product design and business analytics to inculcate design and experience thinking among students in the product development journey.

The 3DEXPERIENCE platform enables students to undergo a thorough process involving social listening, market analysis, product benchmarking, feasibility assessment, etc. to develop real products or services. Along with Engineering Design and Business Analytics, a recent focus of the platform has been on Predictive Sciences for drug discovery and systems biology analysis.

The SDC will help students gain advanced skills such as mathematical modeling for behavior simulation, performance validation,

manufacturability and maintainability studies. It will also provide dedicated training courses for various aspects such as design, manufacturability, maintainability, business processes, ideation etc., and students will get to work on research projects from industry and research institutes for greater exposure to best global, industry practices.

Subject matter experts and global teams from Dassault Systèmes will provide focused trainings to enhance learning for Undergraduate, Post-Graduate and Ph.D. students on design, multi-disciplinary engineering, manufacturing, information intelligence and program governance, leveraging the 3DEXPERIENCE platform.

### Shiv Nadar University, Delhi-NCR Launches Online MBA Program in Partnership with Great Learning

Shiv Nadar University, Delhi-NCR has launched an MBA program, seamlessly delivered online in collaboration with Great Learning, one of India's leading EdTech companies for professional and higher education. The two-year, UGC-entitled MBA program is designed for working professionals and young entrepreneurs to unlock their career potential while juggling their busy schedules, including fresh graduates with outstanding credentials.

The newly launched MBA program offers specializations in domains such as Data Science & Analytics, Digital Finance, Marketing, and Human Resources, and empowers learners with the knowledge and skills to succeed in a highly competitive and complex digital world. It will be delivered via live interactive lectures, industry expert sessions, recorded videos, projects, and case studies to simulate real-world scenarios, enabled by Great Learning's cutting-edge online learning technologies. The program is intended to include regular meet-ups for program participants at Great Learning centres in key metro cities and in-person residencies at the Shiv Nadar University, Delhi-NCR campus once a year for peer-to-peer interaction, engagement and learning during the program.

Learners will have access to robust career support from Great Learning including resumé and interview preparation support, access to 1-1 career mentorship, virtual job fairs and to job opportunities through its placement assistance program, GL Excelerate. The platform has partnered with 500+ leading organizations including Accenture, Bank of America, Barclays, Capgemini, Cognizant, HSBC, JP Morgan, and Tata Consultancy Services, that choose from the extensive talent pool.

Picture Credit: Ritwik Bhattacharya



### Shiv Nadar University, Delhi-NCR Inks MoU with France's Network "n+i" of Engineering Institutes

Shiv Nadar University, Delhi-NCR has entered a Memorandum of Understanding (MoU) with Network "n+i" of Engineering Institutes in France, a not-for-profit association that brings together about 50 French engineering institutes of higher education. The five-year agreement cements the joint aim of the two institutions to pursue academic and educational exchange as well as research collaboration in fields related to science, engineering, technology and management.

The partnership enables students of Shiv Nadar University, Delhi-NCR at the undergraduate, postgraduate and doctoral levels to participate in training programs, semester exchanges and 'study abroad projects' across the consortium of 50 engineering institutions in France. Reciprocally, Shiv Nadar University, Delhi-NCR will welcome students from Network "n+i" institutes to various programs that it offers.

### Shiv Nadar University, Delhi-NCR Inks MoU with University of Pennsylvania's Penn Museum

The Center for Archaeology, Heritage and Museum Studies (CAHMS) at Shiv Nadar University, Delhi-NCR and the University of Pennsylvania's Penn Museum have entered a Memorandum of Understanding



(MoU) with the intent to establish a program of collaborative partnership. The program potentially aims to facilitate scholarly cooperation, communication, and exchange; enhancement of comprehensive and interdisciplinary training for students and professionals; and the development of innovative consortia models for global cooperation.

The potential areas of cooperation between the CAHMS at Shiv Nadar University, Delhi-NCR and Penn Museum include but are not limited to faculty exchanges, student opportunities at both undergraduate and graduate levels, research programs, and shared training initiatives in archaeological sciences, research methods, digital archaeology, and heritage studies.

### Shiv Nadar University, Delhi-NCR and IISER Pune Sign MoU For Research Collaboration And Exchange

Shiv Nadar University, Delhi-NCR, and the Indian Institute of Science Education and Research (IISER), Pune, have entered into a Memorandum of Understanding (MoU) for collaborations in scientific research & development (R&D) and faculty/student exchanges between the two institutions.

The agreement enables the two institutions to pursue significant academic cooperation in R&D projects in the areas of Natural Sciences, leveraging their respective expertise and capabilities. The scope of the agreement includes sharing of relevant information and laboratory resources between the two institutions as well as exchange of students, scholars and postdoctoral fellows for projects.

The MoU between Shiv Nadar University, Delhi-NCR and the IISER Pune also aims to establish provisions for exchange of students for pursuing structured courses and internships, joint grant applications, joint publications, conferences and workshops and exchange visits of faculty members. The agreement will be in effect for the next five years, which is extendable thereafter.

### Shiv Nadar University, Delhi-NCR Announces an Updated Admission Process for its Undergraduate Programs in the Wake of COVID-19

Shiv Nadar University, Delhi-NCR announced modifications to its admission process for the undergraduate programs, in the wake of the COVID-19 pandemic. The University was among the first few educational institutions in the country to conduct remotely proctored admission test (SNU-SAT & APT) using an AI mechanism that is secure and ensures anti-cheating surveillance. The University is also accepting existing SAT scores for admission purpose. Students with a score of 80 percentiles and above in their JEE Mains (January) 2020, were exempted from taking SNU-SAT & APT and were able to apply directly for admission in programs under Engineering or Natural Sciences. In the absence of Class XII Board marks, provisional admissions were awarded to eligible candidates based on their existing school grades, and performance in the entrance process. Online interviews for select programs were also conducted to finalize the applicant's candidature.

### Published Books

*Traditional Knowledge: Folk Songs of Chithara Village in Upper Doab Region, Uttar Pradesh, India.*

लोकगीतों का पारम्परिक ज्ञान: एक संग्रह- चितहैरा ग्राम पंचायत, गौतम बुद्ध नगर, उत्तर प्रदेश (रीडर्स प्रेस, नई दिल्ली). ज्योति के शर्मा और अमित के त्रिपाठी 2020.

(Jointly published by Shiv Nadar University, Delhi-NCR and Readers Press, New Delhi)

Authors: Jyoti K. Sharma, Amit Kumar Tripathi and Mohd. Ahmad (2020)

### Covid-19 Vaccination Drive

A Covid-19 vaccination drive for all willing members of the University community, including staff, faculty and their spouses, and resident students from 8-20 May 2021, facilitated by Shiv Nadar Foundation and HCL Healthcare. Third third party vendors and support staff members were also vaccinated during the drive.

### Circle of Excellence Awards

On the momentous occasion of the 10th Year Anniversary of Shiv Nadar University, Delhi-NCR, the Vice-Chancellor, Dr. Rupamanjari Ghosh, announced the Circle of Excellence Awards to recognize the outstanding contributions of faculty and staff members of the University. Owing to the ongoing pandemic situation, the awards were held in online mode.

Different categories for which the awards were announced included the Service Award, The Rising Star Awards in Research and Teaching, The Teaching Awards, The Distinguished Professor Award, The Outstanding Research Awards, among others. Those who completed 10 years of service at the University received special mentions during the ceremony.



## VICE-CHANCELLOR'S ON-INVITATION TALKS

Vice-Chancellor, Dr. Rupamanjari Ghosh, was invited to speak at a number of prestigious national and international forums and conferences, some of which are as follows. She presented her thoughts, ideas, and participated in meaningful dialogues on a range of issues related to the higher education industry.



### Panel Discussion

**Invited as:** Guest Panelist

**Topic:** 'Perspectives on the National Education Policy (NEP) from Indian Institutions – from policy to practicality and implementation'

**About:** The virtual event brought together senior academics, policy and regulatory experts from India to demystify the NEP and take stock of the changing Indian higher education landscape.

**Organized by:** University College London, UK

**Date:** 29 June 2021

### 16<sup>th</sup> FICCI Higher Education Summit 2021

**Invited as:** Moderator and Session Chair

**Topic:** R.I.S.E (Resilience. Innovation. Sustainability. Enterprise)

**About:** The session focused on the need for industry, government, and society to come together and reassess their roles in building a robust, resilient, and student-centric futuristic education system.

**Organized by:** Federation of Indian Chambers of Commerce & Industry

**Date:** 25-27 February 2021

### XGrad-2021 Higher Education Summit

**Invited as:** Guest Speaker

**Topic:** Rethinking Innovation in Education (Dream of a University)

**Organized by:** XGrad

**Date:** 22 January 2021

### International Education Virtual Festival 2021

**Invited as:** Guest Panelist

**Topic:** India's New National Education Policy: Opportunities

**About:** Representatives from the UK based higher education institutions, Universities UK International (UUKi), British Universities International Liaison Associations (BUILA) attended the session, which focused on the online and distance education part of the policy and potential for collaboration, partnership and mobility for the UK institutions.

**Organized by:** British Council

**Date:** 20 January 2021.

### World Education Conference

**Invited for:** Introductory Remarks

**About:** Dr. Ghosh shared the virtual stage with the Chief Guest, Shri Manish Sisodia, Deputy Chief Minister and Education Minister, Government of Delhi, along with other academic leaders and policymakers. The three-day virtual conference discussed the National Education Policy (NEP) 2020 implementation roadmap, post-COVID-19 recovery plans, affordable and inclusive e-learning, and education-industry integration with leaders and policymakers in education. The inaugural session of the conference was held on 15 January 2021.

**Organized by:** Policy Times and Shiv Nadar University, Delhi-NCR

**Date:** 15 January 2021

### Panel Discussion

**Invited as:** Guest Speaker

**Topic:** National Education Policy: Innovation and Entrepreneurship

**Organized by:** Birla Institute of Technology, Mesra - Innovation Council (a Ministry of Education initiative)

**Date:** 27 November 2020.

### Global Webinar

**Invited as:** Guest Speaker

**Topic:** Higher Education and the Pandemic in India

**About:** The event was joined by eminent educationists who shared their views on the new National Education Policy 2020 and the basic structural features of the Indian higher education system.

**Organized by:** Centre for Global Higher Education, Oxford University, UK

**Date:** 22 September 2020

### Panel Discussion

**Invited as:** Guest Panelist

**Topic:** ABEA Masterclass on Decoding National Education Policy

**Organized by:** Aditya Birla Education Academy

**Date:** 6 August 2020

### Global Virtual Conference on 'Reimagining & Transforming The University: Confluence of Ideas During and Beyond COVID-19'

**Invited as:** Distinguished Speaker

**Topic:** Quality Assurance, Academic Standards & Institutional Excellence

**Organized by:** International Institute for Higher Education Research & Capacity Building, O.P. Jindal Global University

**Date:** 6-7 August 2020

### STIP2020

**Invited as:** Guest Panelist

**Topic:** Across the Table – Skilled Human Resources and Capacity Building

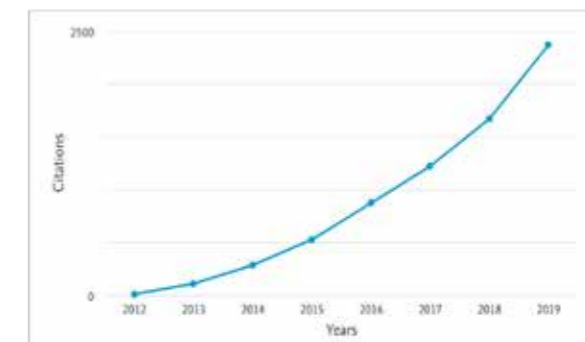
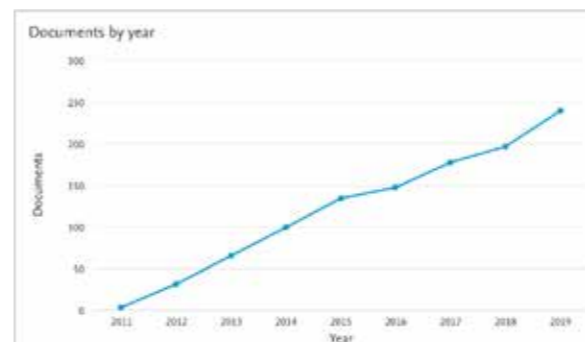
**Organized by:** Science Policy Forum jointly with Gubbi Labs

**Date:** 4 July 2020

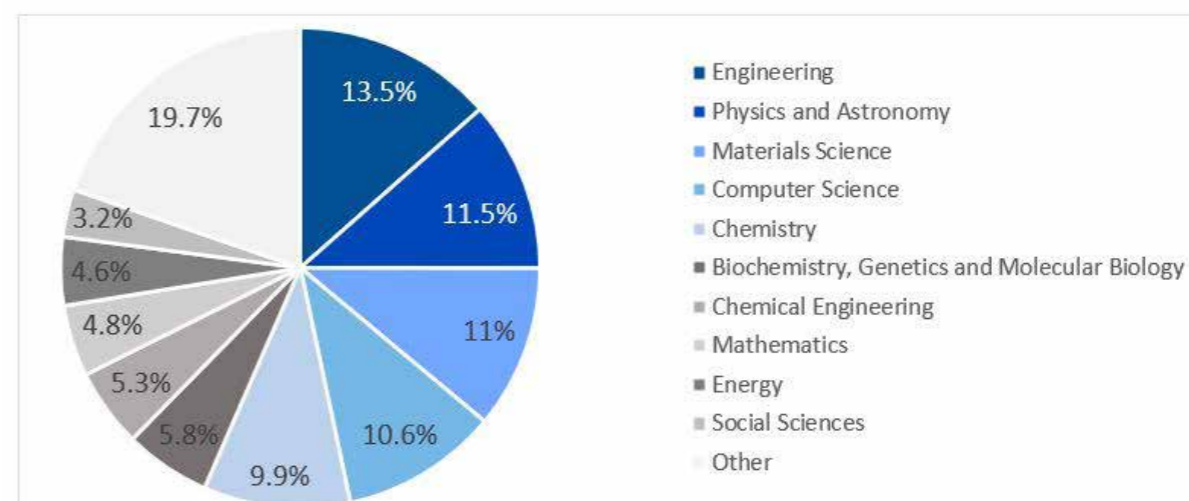
RESEARCH



Yearly trends in research publications by the faculty and annual citations (Source: Scopus, October 2020)



Area-wise distribution of research publications by the faculty (Source: Scopus, October 2020)



## RESEARCH HIGHLIGHTS

### Shiv Nadar University, Delhi-NCR Develops India's First Sustainable Lithium-Sulfur Battery Technology Leveraging Elements of Green Chemistry



Dr. Bimlesh Lochab.

Shiv Nadar University, Delhi-NCR announced the development of a technology of Lithium-

Sulfur (Li-S) batteries. The research will aid the production of cost-effective, compact, energy-efficient, safe and environment-friendly Li-S batteries, offering a viable alternative to Lithium-ion batteries commonly used at present. The Li-S battery technology by Shiv Nadar University, Delhi-NCR leverages principles of Green Chemistry, incorporating usage of by-products from the petroleum industry (Sulfur), agro-waste elements and copolymers such as cardanol (a by-product of cashew nut processing) and eugenol (clove oil) as cathodic materials. It has the potential to aid multi-billion dollar industries including tech gadgets, drones, electric vehicles (EV) and several more that depend on such batteries.

The new battery technology has been developed after an extensive research of five years by the University's Associate Professor in the Department of Chemistry, Dr. Bimlesh Lochab. The research reveals that this Li-S battery technology - once put into production - will be significantly

cheaper and sustainable, while offering up to three times higher energy density with intrinsic flame-retardant properties. Dr Lochab's team has partnered with Indian Institute of Technology-Bombay's Professor in the Department of Energy Science and Engineering, Dr Sagar Mitra, to use this research for the development of a Li-S battery prototype.

### Dr. Parthapratim Munshi Becomes Fellow of Royal Society of Chemistry, UK



Dr. Parthapratim Munshi

Associate Professor and Head, Department of Chemistry, Dr. Parthapratim Munshi, has joined the Royal Society of Chemistry (RSC), UK, as a Fellow. Dr. Munshi was invited by the world's leading chemistry community through its 'Leaders in the Field' scheme - which identifies outstanding individuals in the chemical sciences - for his significant contributions in the field, particularly in the area of Organic multifunctional materials and several other notable research.

### Dr. Subhabrata Sen Becomes Fellow of Royal Society of Chemistry, UK



Dr. Subhabrata Sen

Dr. Subhabrata Sen, Professor, Department of Chemistry, has joined the prestigious Royal Society of Chemistry (RSC), UK, as a Fellow. Professor Sen's research group focusses on fundamental and applied research in synthetic organic chemistry. Sen's research group is working on the organic medicinal chemistry, and is involved in the discovery of biologically active molecules through organic chemistry driven approaches.

### Researchers at Shiv Nadar University, Delhi-NCR discovers Exotic Invasive Species of Plant



Dr. Jyoti Sharma

The researchers at Shiv Nadar University, Delhi-NCR have discovered an exotic invasive species of weed that is growing and spreading unchecked across Uttar Pradesh and the upper Gangetic Plains.

*Emex australis Steinh* - commonly known as devil's thorn, cat's head or bullhead is a pesky, creeping, prostrate multi-branched weed, with sturdy, long taproots. Its leaves are finely corrugated, greenish-brown and white felty haired. Its fruits are green, fleshy but become woody upon drying with sharp spines that hook onto animals' wool, coats and feet, as well as shoe soles and tractor tyres. This is how they have proliferated across the length and breadth of the region.

Initially reported in Jammu and Kashmir, researchers have noticed its alarming expansion into Delhi NCR and Haryana as it is highly adaptable to different climatic conditions. The plant has a high propensity for seed

production and the potential to cause serious damage to local biodiversity and crops. The economics of Uttar Pradesh is predominantly agrarian (65 % of the total population is dependent on it). Chithara village, a semi-urban village with a total population of 7,656 across 770.78 hectares (app. 8 square km) in Dadri is no different. A group of researchers led by Prof. Jyoti Sharma, who heads the Center for Environmental Sciences & Engineering at Shiv Nadar University, Delhi-NCR have been studying the growth of this invasive species and its possible impact on the lives of the villages during their research for an on-campus Biodiversity Documentation Program.

### Shiv Nadar University, Delhi-NCR Researchers Receive ₹ 1.04 Crore Grant for DST Technology Initiative

A multidisciplinary team lead by **Professor Nayan Sharma**, Center for Environmental Sciences & Engineering, and **Dr. Gopal Das Singhal**, Department of Civil Engineering, has been awarded a grant of **₹1.04 crores** for the project "*Development of AI based DSS for Improved Crop Water Use Efficiency under Regulated Deficit Drip Irrigation Regime in the Backdrop of Climate Change*" under the **DST Water Technology Initiative**. The project also involve two industrial collaborators; Jain Irrigation Systems Ltd and Innovante Water Solutions Pvt. Ltd.

### Dr. Bappaditya Gole Awarded Ramanujan Fellowship by Department of Science & Technology, Govt. of India



Dr. Bappaditya Gole

Science and Engineering Research Board (SERB), a statutory body under the Department of Science & Technology, Government of India, has awarded the prestigious Ramanujan Fellowship to Dr. Bappaditya Gole, Assistant Professor, School of Natural Sciences, Shiv Nadar University. Dr. Gole will use the awarded grant in his extensive research in Biomimetic Supramolecular Chemistry.

The Ramanujan Fellowship is awarded to exceptional scientists and engineers from all over the world scientific research in India. Ramanujan Fellows are allowed to work in any of the scientific institutions and universities in India and are eligible for receiving regular research grants through the extramural funding schemes of various science & technology agencies of the Government of India.

Before joining Shiv Nadar University, Delhi-NCR Dr. Gole was a Post-Doctoral Research Fellow at the University of Bordeaux (France) and the University of Würzburg (Germany). An Integrated Master's-Ph.D. holder from the Indian Institute of Science, Bangalore, Dr. Gole is a highly-awarded scholar who has made significant research contributions in various fields of Chemistry including but not limited to self-assembled materials, organic materials, foldamers, crystalline polymers and synthetic peptides.

### Dr. Bimlesh Lochab Receives 'The Most Creative Research Award'

Dr. Bimlesh Lochab, Associate Professor, Department of Chemistry has received (first) 'The Most Creative Research Award' in the field of Polybenzoxazines - an upcoming class of high-performance phenolic thermoset polymers. The award was announced during ISPBZ 2021 - 4th International Symposium on Polybenzoxazines, held in Luxembourg in virtual mode. The recognition was provided to Dr. Lochab's group for their research on Polybenzoxazines and taking it to new set of applications i.e. battery, self-healing, adhesives, and wound healing.

### Dr. Harpreet Singh Arora Receives Patent for his Work



Dr. Harpreet Singh Arora

Dr. Harpreet Singh Arora, Associate Professor and Head, Department of Mechanical Engineering, has been granted a Patent by the Registrar of Patents for his work on 'Erosion Resistance Bimodal Composite Coating Composition and Method Thereof'. The Patent has been numbered 357935 dated 6 February 2021. Term of Patent is 20 years from the Priority date i.e. from 22 August 2018.



### Dr. Nayan Sharma Receives the 'ISH Lifetime Achievement Award 2020'

Dr. Nayan Sharma, Distinguished Professor, Center for Environmental Sciences & Engineering, Shiv Nadar University, Delhi NCR; and Adjunct Professor, IIT Roorkee, has received the 'ISH Lifetime Achievement Award 2020' by the Indian Society for Hydraulics (ISH) for his contributions in the field of Water Resources Engineering (in general) and Hydraulics (in particular). The award was announced at the inaugural session of the virtual Hydro-2020 Conference organized by the Department of Civil Engineering, National Institute of Technology Rourkela on 26 March 2021. Dr. Sharma's specializations cover River Engineering, Hydraulic Structures and Irrigation Science.

### Dr. Santosh Kumar Faculty Receives Reviewer Recognition Award



Dr. Santosh Kumar

Dr. Santosh Kumar, Associate Professor, Department of Physics, received the 'Reviewer Recognition Award' by Communications in Nonlinear Science and Numerical Simulation journal, Elsevier.



## STUDENT ACHIEVEMENTS

### Team Cryptonite wins the Smart India Hackathon 2020 -Software category

Team Cryptonite comprising B.Tech. Computer Science and Engineering students, V. Pratishtha Sharma (Team Leader), Daniel David Vaz, Kabir Kanha Arora, Komal Talwar, Manika Mittal and Shivangi Goel won First Prize in Smart India Hackathon 2020 -- Software category. As part of the Hackathon, the team worked on a problem statement given by the Bureau of Police Research and Development - 'Detection of Child Predators/Cyber Harassers on Social Media'. The team was mentored by Dr. Sonia Khetarpaul and Dr. Nishant Mishra.

### Team Genesis Wins the MEGA ATV Championship 2021

Team Genesis, the automotive team of Shiv Nadar University, Delhi-NCR won the MEGA ATV Championship 2021, held at Arambol, Goa. Their engineering marvel, BEAST 6.0 - an electric All-Terrain Vehicle (ATV) was created in just three weeks and beat all combustion-based ATVs to emerge a winner. The team was mentored by Dr. Nishant Mishra, Associate Professor, Department of Mechanical Engineering, led by Shorya Govil as the Captain (and the driver), and Samrath Suri as the Vice-Captain.

### Team Vidyut Ranked 1<sup>st</sup> globally at the ASME Student Design Competition

Team Vidyut was ranked first globally at the ASME Student Design Competition (SDC). The second rank was secured by a team from University of Wisconsin, Madison, USA, and third position was bagged by a team from Western Kentucky University, USA.

In the competition problem statement the nine-member team was asked to build a robot which would harness wind and solar energy and transport weights from one location to another. The team was not allowed to use any battery other than a small AAA cell to store the harnessed energy. The team worked on the problem statement for a period of six months, building prototypes to adequately address the challenge statement. Dr. Nishant Mishra, Associate Professor, Department of Mechanical Engineering mentored the team throughout the process. Team Vidyut was led by Rahul Madan, and won a prize money of \$500.

## Shiv Nadar University, Delhi-NCR Students Emerge Winners at IICDC 2019

A team of seven students from Shiv Nadar University, Delhi NCR has won the prestigious MyGov India Innovation Challenge Design Contest (IICDC) 2019. The competition was organized by the Department of Science & Technology (DST) in collaboration with Texas Instruments and was anchored by the N.S. Raghavan Centre for Entrepreneurial Learning (NSRCEL) - Indian Institute of Management, Bangalore (IIMB). A total of 18,000 teams participated in the contest that concluded recently, and after multiple rounds of shortlisting, presentations, and video submissions, winners were declared.



The winning team from Shiv Nadar University, Delhi NCR has created a prototype for smart dustbin, named SEGMAN, which does segregation at source using artificial intelligence, machine learning and image processing. Since the prototype was submitted as an entrepreneurial idea, its financial viability was also measured during the assessment. The team also used IoT and Cloud based solution to advertise on the digital screen of the dustbin. The team is being incubated by NSRCEL at IIMB Launchpad and is undergoing the mentoring sessions.

## Team Aria Wins the 'Best Design Award' globally at the ASME E-Fest IAM3D Challenge

Team Aria from Shiv Nadar University, Delhi-NCR won the 'Best Design Award' globally at the ASME E-Fest 'IAM3D (Innovative Additive Manufacturing 3D) Challenge'. The competition was designed to give undergraduate students of Mechanical Engineering and other fields from around the world an opportunity to re-engineer existing products or create new designs using the modern-age technique of Additive Manufacturing.

The participating teams were required to use their engineering design principles and leverage the latest advances in Additive Manufacturing technology to creatively re-design an Unmanned Aerial Racing Cargo Vehicle (UARCVC) commonly known as Drones that aimed at providing a right balance between agility and stability to pick up and drop a ferromagnetic payload remotely mid-air without losing its fierce speed.

Mentored by Dr. Nishant Mishra, Associate Professor, Department of Mechanical Engineering and led by Samrath Suri, the team included Abhishek Kishor, Aditya Chrandrasekar, Adhitya Reddy, Sanjana Ashok Iyer, Kavya Lilhare, Kush Goyal and Sanchit Singhal.



Smart dustbin extension

# EXTRAMURAL RESEARCH FUNDING

## SCHOOL OF NATURAL SCIENCES

### Center For Environmental Sciences And Engineering

Dr. Prem Chandra Pandey

**Project title:** Assessment of aquatic weeds in Northern India using Remote Sensing Technology

**PI:** Dr. Prem Chandra Pandey

**Co-PI:** Dr. Moumita Karmakar, Dr. Jyoti K Sharma

**Funding agency:** NRDMS Department of Science & Technology, Government of India.

**Budget:** ₹ 27.65 lakh

**Duration:** 3 Years

### Center For Inormatics

Dr. Vijay Kumar and Dr. Anu Bala

**Project title:** Computational design of low-dimensional energy materials for solar cells and optoelectronics

**PI:** Dr. Anu Bala

**Role:** Mentor

**Funding agency:** DST, under WoS-A project

**Budget:** ₹ 29.68 lakh

**Duration:** 3 years

### Department of Chemistry

Dr. Biswajit Gucchait

**Project title:** Photoinduced Charge Transfer and Förster Energy Transfer Dynamics in Supported Ionic Liquid Membranes

**PI:** Dr. Biswajit Gucchait

**Funding agency:** DST- SERB

**Budget:** ₹ 26.65 lakh

**Duration:** 3 Years

Dr. Debdas Ray

**Project title:** Organic High Efficient Biluminescent Materials for Data Security Applications

**PI:** Dr. Debdas Ray

**Funding agency:** DST-SERB

**Duration:** 3 years

**Budget:** ₹ 40 lakh

Dr. Ajoy Kapat

**Project title:** "Development of Palladium - Catalyzed Triple Cascade for the Synthesis of Tetracyclic Core of Apocynaceae Family of Indole Alkaloids: Combined Experimental & Computational Based Mechanistic Study and Structure Activity Relationship Study".

**PI:** Dr. Ajoy Kapat

**Funding agency:** DST-SERB

**Duration:** 2 years

**Budget:** ₹ 26.43 Lakhs

## Department of Life Sciences

Dr. Naga Suresh Veerapu

**Project title:** Systematic assembly of SARS-CoV-2 full-length and subgenome cDNA clones

**PI:** Dr. Naga Suresh Veerapu; **Co-PI:** Dr. Krishnan, CCMB

**Funding agency:** DBT

**Budget:** ₹ 49.9 lakh (Shiv Nadar University, Delhi-NCR share: ₹ 33 lakh; CCMB: ₹ 16.9 lakh)

**Duration:** 1.5 years

## SCHOOL OF ENGINEERING

### Department of Chemical Engineering

Dr. Karan Gupta

**Project title:** Instabilities during production of nanofibres by rotary jet spinning

**PI:** Dr. Karan Gupta

**Funding agency:** Science and Engineering Research Board, Department of Science and Technology

**Budget:** ₹ 15.24 lakhs

**Duration:** 2 years

## Department of Civil Engineering

Dr. Gopal Das Singhal

**Project title:** Development of AI based DSS for Improved Crop Water Use Efficiency under Regulated Deficit Drip Irrigation Regime in the Backdrop of Climate Change.

**PI:** Dr. Gopal Das Singhal

**CO-PI:** Dr. Nayan Sharma, Dr. Jyoti Sharma and Dr. Prem Chandra Pandey

**Funding agency:** DST-WTI

**Budget:** ₹ 109.98 lakh

Dr. Susant Kumar Padhi

**Project title:** Simultaneous Treatment of Gaseous BTEX and Wastewater Containing Nitrate and Sulphate by Using an Anaerobic Hybrid Bioreactor for Methane Production

**PI:** Dr. Susant Kumar Padhi

**Funding Agency:** Science and Engineering Research Board, Department of Science and Technology

**Budget:** ₹ 19.40 lakh

**Duration:** 2 years

## PATENTS GRANTED

1. *Derivatives of imidazole and benzimidazole, method of preparation and use thereof*  
(Department of Chemistry)

2. *Erosion Resistance Bimodal Composite Coating and Method Thereof*  
(Dr. Harpreet Singh Arora and Dr. Harpreet Singh Grewal)



Dr. Harpreet Singh Arora



Dr. Harpreet Singh Grewal

## OPPORTUNITIES FOR UNDERGRADUATE RESEARCH

The Opportunities for Undergraduate Research (OUR) program aims to give undergraduates a hands-on experience in conducting research and doing independent work under faculty supervision. OUR lets students learn by discovery, encourages greater student-faculty interaction, and helps identify candidates for graduate programs.

In 2020, the 6th edition of Opportunities for Undergraduate Research (2019-20) concluded with a conference held on Sunday, 23 August 2020. More than 75 projects from four schools were presented at the conference. Out of these 6 notable projects (mentioned below) were chosen for special mention.

**OUR STUDENT:** Ranjini Bhattacharya (Life Sciences)  
**FACULTY ADVISOR:** Anindita Chakrabarty (Life Sciences)

**Title:** An Evolutionary Game Theoretic Prospective Of The Interplay Between The Therapy-Induced Senescent Tumor Cells And Neighbouring Fibroblasts

**OUR STUDENT:** Aakash Grover (Life Sciences)  
**FACULTY ADVISOR:** Ashish Gupta (Life Sciences)  
**Title:** Identification, Cloning and Characterization of SmedTIP60

**OUR STUDENT:** Khushi Garg (Life Sciences)  
**FACULTY ADVISOR:** Sailesh Behera (Sailesh Behera)  
**TITLE:** Levels of trace elements in vegetables, fruits and cereals and associated human risk assessment

**OUR STUDENT:** Anirudh Kaushik (Mechanical Engineering)  
**FACULTY ADVISOR:** Ankit Gupta (Mechanical Engineering)

**TITLE:** Reflection of acoustic waves at various fluid-solid interfaces for varying material properties

**OUR STUDENT:** Apurva Prasad (English)  
**FACULTY ADVISOR:** Sambudha Sen (English)  
**TITLE:** Murder and the Media: The legacy of the Nanavati Scandal

**OUR STUDENT:** Prapti Panda (HISTORY)  
**FACULTY ADVISOR:** Hemanth Kadambi (HISTORY)  
**TITLE:** Place-making in Korlai: an archaeological Study



## GLOBAL COLLABORATIONS

Shiv Nadar University, Delhi-NCR, partners with some of the world's finest institutions to strengthen its engagement with academics and students across the globe, and to continue pursuing cutting-edge education and research. The University joined hands with multiple institutions this year in its effort of building collaborations in various disciplines to offer education and experiences of truly global standards to students and faculty.

### New Partnerships

The Office of International Partnerships entered two important partnerships in this exceptional year:

**Penn Museum, University of Pennsylvania**

**Scope of Collaboration:** Training and Research

**Partnered with:** The Center for Archaeology, Heritage and Museum Studies, School of Humanities and Social Sciences, Shiv Nadar University, Delhi-NCR

**Network "n+1" of Engineering Institutes**

**Scope of Collaboration:** Training and Research for engineering students

**Partnered with:** Shiv Nadar University, Delhi-NCR

### Exchange Programs

**One (Virtual Exchange):**

**Student Name:** Ananya Gaba

**Program:** B. Sc. (Research) in Economics

**Host University:** Ontario University, York University

**Duration:** Virtual Classes - January-April 2021

### Workshops and Events

**Beyond Boundaries 2.0 Webinar Series**

The Office conducted three sessions in the Beyond Boundaries 2.0 series discussing about the "emerging changes" across various disciplines. All the three sessions



were moderated by Dr. Partha Chatterjee, Professor and Head, Department of Economics, Shiv Nadar University, Delhi-NCR.

- **8 April 2021:** In Conversation with Dr. Ka Yee Christina Lee (Provost, University of Chicago) and Dr. Rupamanjari Ghosh (Vice-Chancellor, Shiv Nadar University, Delhi-NCR)
- **15 April 2021:** In Conversation with Dr. Andrew Kenan Rose (Dean, Business School; Distinguished Professor-Finance, National University of Singapore)
- **22 April 2021:** In Conversation with Dr. Pauline Rose (Professor, International Education; Director-Research for Equitable Access and Learning (REAL) Centre, University of Cambridge)

### European Association for International Educations 2021

Dr. Partha Chatterjee and Ms. Harshita Tripathi, Senior Manager, Office of Research and Partnerships published a blog article, "Shaping the future with trust and connectedness" on 19 January 2021 at the EAIE platform.

### European Association for International Educations 2021

Global Young Scientists Summit is a gathering of young researchers worldwide for a chance to interact with eminent scientists and technology leaders. Five students from the Department of Chemistry at Shiv Nadar University, Delhi-NCR attended the prestigious summit scheduled on 12-15 January 2021.

### International Education Week at Adelphi University

Dr. Urmila Bhirdikar, Associate Professor, Department of Sociology, was invited as panel speaker on "Teaching and Research During Covid-19 on 19 November 2020 along with panelists from three different countries.

### QS APPLE 2020

Dr. Partha Chatterjee, Professor and Head, Department of Economics, and Ms. Harshita Tripathi, Senior Manager, Office of Research and Partnerships at Shiv Nadar University, Delhi-NCR presented at the QS APPLE 2020 Virtual Conference and Exhibition on 26 November 2020. The discussion was titled, "Transcendental Style of Leadership: Maintaining Excellent in Turbulent Times".

### International Staff and Faculty Engagement Program at Harris School of Public Policy

Four faculty members from Shiv Nadar University, Delhi-NCR attended the online program titled 'The Battles Ahead: Domestic and Global Implications of the 2020 US Election'. The six weeks program explored the political, domestic, and foreign policy implications of the 2020 US Presidential, Congressional and State Elections, through a series of panel discussions by eminent analysts, pollsters, journalists and members of Congress. The initiative was undertaken by Harris School of Public Policy with the theme of 'Innovative and Effective Global Leaders in Higher Education'.

### Currently Active Global Collaborations

- University of California, Berkeley
- University of Michigan, Ann Arbor
- University of Queensland, Australia
- University of Warwick, UK
- University of Bologna, Italy
- Heidelberg University, Germany
- Ontario Universities International, Canada
- Sapienza University of Rome, Italy
- Peking University HSBC Business School, Shenzhen, China
- Deakin University, Australia
- China University of Petroleum
- Wellington Institute of Technology
- University of Wisconsin-Madison
- National Yunlin University of Science & Technology, Taiwan
- Taipei Economic and Cultural Centre (TECC-Education Division)
- University of Essex
- Universitat Pompeu Fabra



## MAJOR EVENTS

### Shiv Nadar University, Delhi-NCR among the First to Host Virtual Graduation Ceremony

Shiv Nadar University, Delhi-NCR celebrated its sixth graduation ceremony virtually, owing to the ongoing COVID-19 pandemic. It was hosted on the University's social media channels – Facebook, Instagram and YouTube. The University, thus, becomes among the first in India to host a ceremony of the kind. Shiv Nadar University, Delhi-NCR awarded degrees to 601 graduating students, including 24 Ph.D.s, from various streams of Engineering, Natural Sciences, Humanities and Social Sciences, Fine Arts, as well as Management.

Ms. Roshni Nadar Malhotra, Executive Director and CEO of HCL Corporation and Trustee, Shiv Nadar Foundation; and Mr. Shikhar Malhotra, Pro-Chancellor, Shiv Nadar University, Delhi NCR addressed and congratulated the graduating students.

The graduating students have joined some of the leading organizations including but not limited to Amadeus Software Labs, American Express, Adobe, Bombardier Transportation, Dell, Deloitte, Ericsson, Ernst & Young (EY), Goldman Sachs, Hewlett Packard Enterprises and ITC Hotels. A substantial number of students have received graduate admission and financial aid offers from top institutions and universities across the world, including Arizona State University, Columbia University, Imperial College London, National University of Singapore, New York University (NYU), Northeastern University, Toulouse School of Economics, University of Oxford, University of California, University of Leeds, among others.

Apart from over 600 students, the virtual

graduation ceremony, showered with affectionate wishes from the faculty members, Head of the Departments and Deans of the Schools was attended by their proud parents, friends and the University's mentors and staff.



### Shiv Nadar University, Delhi-NCR holds an online Orientation Session for the first-year students

Shiv Nadar University, Delhi-NCR, conducted an online Orientation Session for the incoming Undergraduate Class of 2024 from 8-14 August 2020, owing to the spread of Covid-19 pandemic. Apart from the introduction to various schools and academic programs, the students were acquainted with various students' clubs and societies as well. The orientation also included a popular lecture by Dr. Rupamanjari Ghosh, Vice-Chancellor, Shiv Nadar University, Delhi-NCR and an introduction to the student council.

### Beyond Boundaries Series of Panel Discussions

The Office of International Partnerships at Shiv Nadar University, Delhi-NCR organized a series of great discussions by thought-leaders and institution-builders from some of the world's greatest higher education institutions, on 3-4 December 2020. The renowned speakers came together to discuss the 'Changing Landscape of Higher Education in India and Abroad', especially in context of the uncertain world we live in today. Renowned academicians including Dr. Rupamanjari Ghosh, Vice-Chancellor, Shiv Nadar University, Delhi-NCR; Dr. Pankaj Jalote, Distinguished Professor, and Founding Director, IIT Delhi; and Dr. Pradeep Khosla, Chancellor, University of California, San Diego were panelists for the discussion held on 3 December 2020.

Whereas, on 4 December 2020 the panel consisted Dr. Daniel Diermeier, Chancellor, Vanderbilt University; Dr. Nicholas Dirks, Former Chancellor, University of California, Berkeley and President and CEO, The New York Academy of Sciences; and Dr. Yves Fluckiger, Rector, University of Geneva. The discussions were moderated by Dr. Partha Chatterjee, Dean of International Partnerships, and Professor and Head, Department of Economics.

### Synergence - The Career Week

The Career Development Center organized a six days long virtual event 'Synergence - The Career Week' from 4-9 January 2021 that brought together industry experts, trainers, academicians, and alumni to share their knowledge and experiences with the students.

The inaugural session was delivered by Mr. Suresh Narayanan, Chairman and Managing Director, Nestlé India, who spoke on the topic 'Leadership Lessons of a Career'. He took the students through his inspirational career journey spanning over 40 years during his conversation with Ms. Anubha Bali, Director, Career Development Center and Alumni Relations Office, Shiv Nadar University, Delhi NCR.

Some of the other curated sessions organized during the week include talks on 'Career Advice for Future Business Leaders, Marketers and Entrepreneurs' by Ms. Namita Liz Koshy, Vice President, Ogilvy (Delhi); 'Digital Networking Strategies' by Mr. Varun Jain, Account Director - Large Accounts, LinkedIn Talent & Learning Solutions; 'Science to Success' by Ms. Pooja Sehgal, Lead - Program Communications, Bill & Melinda Gates Foundation; 'An Insight into Development Sector in India' by Ms. Nidhi Pundhir, Director, HCL Foundation; 'Values & Ethics for the Real World' by Maj. Gen. (Retd.) G. Jaishankar, Dean – Student Affairs, Shiv Nadar University, Delhi NCR; and 'What Interviewers Look For?' by Col. (Retd.) Gopal Karunakaran (Retd.), Executive Director, Shiv Nadar University, Delhi-NCR.

### Stargazing Night

Celestia Explora - the space society of Shiv Nadar University, Delhi-NCR organized a unique stargazing experience on 21 December 2020 to witness a celestial evening at the campus through professional observatory telescopes as planets Jupiter and Saturn come together after a period of 800 years. The event took place under the guidance of Mr. Aakash Sinha, Assistant Professor of Practice, Department of Electrical Engineering, School of Engineering.





International Women's Day

### International Women's Day

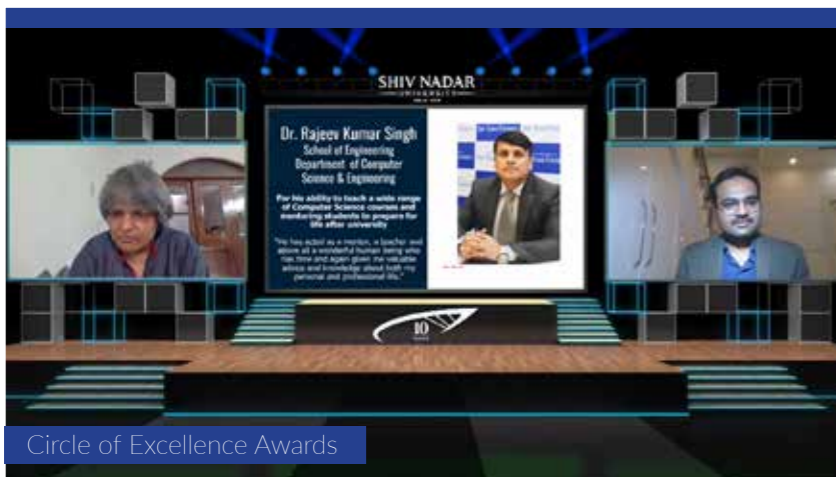
Shiv Nadar University, Delhi NCR celebrated the International Women's Day (IWD) 2021 at the University campus with much fanfare. The theme for this year's IWD was 'Women of Will (WOW)' who choose to challenge the barriers and triumph over them. Apart from the talks and discussions, the three days long event witnessed a 21 Km long cyclothon, various fun games and activities, and performances by students, faculty, and staff members.



Republic Day Celebrations



7th International Day of Yoga



Circle of Excellence Awards



International Women's Day

### 7th International Day of Yoga

The Department of Physical Education hosted an hour long online yoga session for the Shiv Nadar University, Delhi NCR community to mark the 7th International Day of Yoga 2021. An offline session was also organized at the Indoor Sports Complex for the on-campus residents. All Covid-19 social distancing protocols were strictly followed during the session.

### Circle of Excellence Awards

On the momentous occasion of the 10th Year Anniversary of Shiv Nadar University, Delhi-NCR, the Vice-Chancellor, Dr. Rupamanjari Ghosh, announced the Circle of Excellence Awards to recognize the outstanding contributions of faculty and staff members of the University. Owing to the ongoing pandemic situation, the awards were held in online mode. Different categories for which the awards were announced included the Service Award, The Rising Star Awards in Research and Teaching, The Teaching Awards, The Distinguished Professor Award, The Outstanding Research Awards, among others. Employees who completed 10 years of service at the University were also awarded special mention during the ceremony.

### Shiv Nadar University, Delhi-NCR hosts Dean's List and OUR Felicitations for Students

Shiv Nadar University, Delhi-NCR hosted the Dean's List (Monsoon Semester 2020) and OUR (Opportunities for Undergraduate Research) Felicitations ceremony (2019-20) to recognize the students' performance in the Monsoon 2020 semester. The ceremony was organized on 8 April 2020 in online mode, and

celebrated the students' academic achievements in the year when the learning process encountered its own challenges. Special prizes were also announced for students who made it to the Dean's List and scored a perfect SGPA of 10.

### Republic Day Celebrations

Shiv Nadar University, Delhi NCR commemorated the 72nd Republic Day of India, with Col. (Retd.) Gopal Karunakaran, Executive Director; and Maj. Gen. (Retd.) G. Jaishankar, Dean - Student Affairs, Shiv Nadar University, Delhi NCR, hoisting the National Flag. The past year brought a number of unprecedented challenges. However, the medical staff at Blue Circle Medi Services remained steadfast and ensured the campus remained safe for students and faculty. On the occasion, they were felicitated for their exemplary efforts by Col. Karunakaran.

### Panel Discussions on 'Global Hiring Trends: Challenges and Opportunities'

Career Development Center organized an engaging discussion on 'Global Hiring Trends: Challenges and Opportunities' where eminent leaders from industries across the world came together and deliberated on the topics including global trends in hiring, sector-wise emerging challenges, new opportunities, and corporate level structural changes. The discussion was held on 1 May 2021.

The speakers for first panel included Darwin Rivers, Sr. Director - Shared Services, iSupport Worldwide Inc., Philippines; Amit Sawant, Senior Manager - Human Resources, RSM, Kuwait; Siddharth Bhujbal, Talent Acquisition Leader, UST Global, Singapore; and Pravin Dalal, Senior Manager & Head of Talent Acquisition for UK, EU & ME at Virtusa, London. The session was moderated by Dr. Bibek Banerjee, Senior Dean and University Head of Strategic Initiatives, and the Dean of School of Management & Entrepreneurship.

The second panel included Prakul Kumar, Head HR - International Business at Dabur International Ltd., Dubai, UAE; Sreejith Nambiar, Head - TA APAC & Executive Search at Autodesk, Singapore; Temitope Adedayo, Regional Head, Talent Acquisition and Development, PZ Cussons, Nigeria, Africa; and Ashish Gakrey, Founder, HR Shapers, Mumbai, India. This session was moderated by Dr. Rajat Kathuria, Dean of School of Humanities & Social Sciences, and Professor of Economics at Shiv Nadar University, Delhi NCR.

### Global Mental Wellness Seminar Series

The Office of Marketing and Communications organized the weekly Global Mental Wellness Seminar Series. Speakers for the six episode long series included Dr. Devika Khanna, Consultant Psychiatrist in Medical Psychotherapy; Megha Mathur, a Mental Health Professional; by Dr. Raj Raghunathan, Professor of Marketing, McCombs School of Business, University of Texas, Austin; Jyotsna Srikant, Therapeutic Movement Facilitator; celebrated actor, presenter and emotional intelligence coach, Shruti Seth; and Dr. Renu Kishore, Associate Professor in Psychology (Retd.), Daulat Ram College, University of Delhi.



# SCHOOL OF ENGINEERING

## DEPARTMENT OF CHEMICAL ENGINEERING

### Key Milestones Achieved

The Department of Chemical Engineering has published 10 papers in international journals with high impact factor and 4 articles are currently under review. The research work got accepted for presentations at national as well as at international conferences of high impact in various chemical engineering fields.

### Major Events

#### International Symposium

Prof. J. P. Gupta conducted an international symposium during 22-23 March 2021, jointly with Memorial University, Canada in the lead. It was attended by over 200 participants from 44 countries.

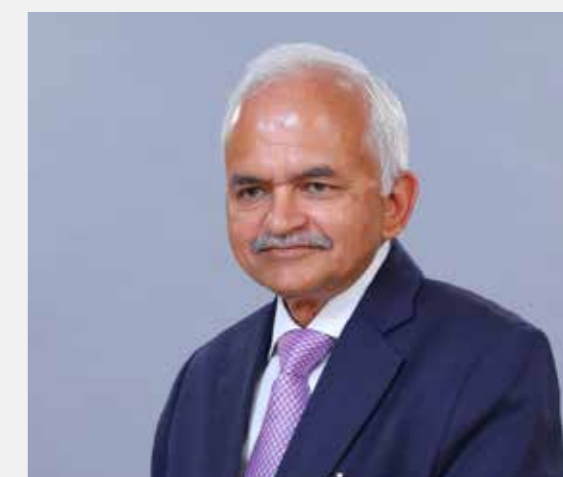
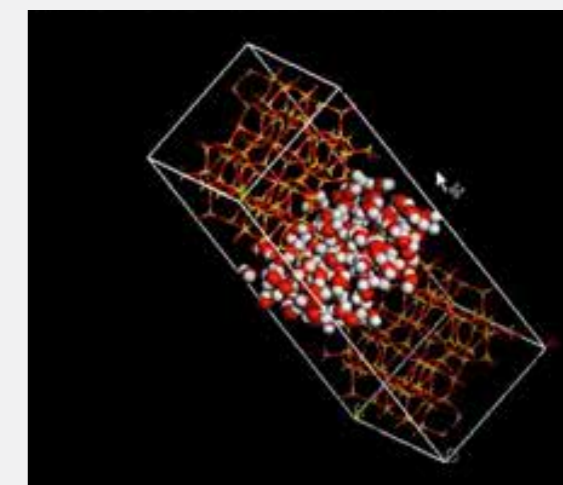
**C-RISE5: A Virtual Symposium on**  
**PANDEMIC RISK TO SAFETY AND INTEGRITY OF PROCESS OPERATIONS**  
**March 22-23, 2021**

REGISTRATION IS COMPLIMENTARY  
 Organized by:

For Information  
 ✉ [crise@mun.ca](mailto:crise@mun.ca)  
 🌐 [mun.ca/crise](http://mun.ca/crise)

### International Symposium

Dr. Yamini Sudha Sistla, conducted an online workshop on 'Biovia Material Studio' as SNU-Dassault Centre activity during 16-20 November, 2020. This was attended by 20 students from Shiv Nadar University, Delhi-NCR.



Prof. J. P. Gupta

## Key Research Projects

### Modeling and Simulation

Computational investigation and optimization of chaotic advection in chaotic microtubular reactors under free radical polymerization: This project aims at using Computational Fluid Dynamics (CFD) for studying chaotic geometrical configurations - microtubular in our case for ease of construction- under free radical polymerization to ascertain conditions causing chaotic advection and then optimizing it.

**Faculty: Dr. Dhiraj Garg**

Molecular Modeling for Development of New Materials: Quantum chemical and molecular mechanics studies are being used for various applications such as (a) edible and biodegradable films with excellent moisture and gas barrier properties, flexibility and tensile strength (b) functional materials for CO<sub>2</sub> capture and conversion (c) solvents for extractive desulfurization of fuel oil and aromatic extraction (d) thermally stable materials for fuel tank, gas turbine and radar applications.

**Faculty: Dr. Yamini Sudha Sistla**

### Gasification and Separation Process

Steam gasification of kitchen food waste using fixed bed reactor: Raw food waste has some drawbacks such as high moisture content, heterogeneous nature, hydrophilicity, less mass and less energy density. Torrefaction is used as pre-treatment step to make it more suitable for biomass gasification. The raw as well as torrefied food waste was used as biomass for gasification to achieve improved syngas yield with better syngas composition than raw food waste.

**Faculty: Dr. Sanjeev Yadav**



### Microfluidics

Microfluidics for single and multiple emulsions for drug delivery: Microfluidics, used as a powerful tool for fabricating complex systems (micro particles, microcapsules, microgels) with uniform size, narrow size distribution and desired properties, which have great potential in drug delivery applications. Drug delivery utilizes rationally designed delivery systems to deliver drugs at a sustained rate directly to specific sites in the body in two essential steps: first, deliver drugs

to specific sites, and then release drugs at a sustained rate.

**Faculty: Dr. V.M. Rajesh**

Study of colloid and interface science in the micro-nanofluidic system: Particle migration and self-assembly on a substrate are interesting phenomena that have critical implications in many applications such as inkjet printing, coating, and many other droplet-based industrial processes. Our findings would provide a new direction in understanding the particle deposition pattern of a colloidal droplet and the development of flexible photonic crystal for anti-counterfeit applications.

**Faculty: Dr. Ashish Kumar Thokchom**

Microfluidic technology for disease detection and diagnosis on a point-of-care platform: Microfluidics based assays shows distinctive advantages for rapid detection of pathogenic micro-organisms. The microfluidic devices consume a

low amount of sample ( $\leq$  few microliters) and lead to fast analysis. Our objective is to fabricate single platform based microfluidic devices which can be used for detecting pathogens by nanoparticle based, protein based and Nucleic acid amplification-based assays. Further, we aim to detect cancer from any bio-fluids on single microfluidic point-of-care diagnostic platform without the aid of rigorous and expensive processes.

**Faculty: Dr. Debayan Das**



Dr. Dhiraj Garg



Dr. V.M. Rajesh



Dr. Sanjeev Yadav



Dr. Ashish Kumar Thokchom

### Complex Fluids

Rotary Jet Spinning process is a novel method to produce ultrafine nanofibres of high quality and consistency. Nanofibres find immense utilization in specialty products, such as face masks, drug delivery, medical sutures, and sportswear. During the extensional flow in the air-gap of a high polymer, the polymer undergoes a hydrodynamic instabilities degrading the quality. This undesirable phenomenon is a function of the rheological characteristics of the fluid, as well as the spinning conditions. Through mathematical modelling and stability analysis, it is possible to predict the onset of this instability, so that a better control on the quality of nanofibres can be achieved through a control over the process parameters.

**Faculty: Dr. Karan Gupta**

### Polymers

Biopolymer based films and coatings: "Edible and Biodegradable Films & Coatings" are critical for improving the shelf life of fresh produce and processed foods in an environmentally friendly manner. Experimental, statistical and computational modeling techniques are being used to develop various novel edible biopolymer films and coatings with required aesthetic, adhesion, physical, chemical and mechanical properties for various types of food packaging applications. Other applications of biopolymers such as membranes for separation processes, fuel cells, photovoltaics, biomedical devices are being explored.

**Faculty: Dr. Yamini Sudha Sistla**

### Scholarly Activity Report

Dhiraj K Garg, Christophe A Serra, Yannick Hoarau, Dambarudhar Parida, Michel Bouquey, Rene Muller. (2020). Numerical investigations of different tubular microreactor geometries for the synthesis of polymers under unmixed feed condition, *Macromolecular Theory and Simulations*, 29(4).



### Dr. Sanjeev Yadav

#### Journal Publications

Azhakesan A., **Yadav S.**; "Extraction of silica nanoparticles from rice husk ash and its characterization"; *JSIR*, 2020. Vol. 79, 656-660.

Singh D., **Yadav S.**; "Steam gasification with torrefaction as pretreatment to enhance syngas production"; *Journal of Environmental Chemical Engineering*. Available online 4 November 2020, 104722 2020.

Singh D., **Yadav S.**, Mohanty P. Sarangi P. K.; "Biochemical and Thermochemical route of hydrogen production from food waste: A comparative review", *Chemical Engineering and Technology*.

### Dr. Ashish Kumar Thokchom

#### Journal Publications

Ashish Kumar Thokchom, Bhaskar Joyti Medhi, Subrata Kumar, Majumder and Anugrah Singh. (2021); "Analysis of Circulation Reversal and Particle Transport in Evaporating Drops", *Microgravity Science and Technology* 33, 20. (DOI: <https://doi.org/10.1007/s12217-020-09866-0>).

#### Conference Paper and Presentation

Appurva Tiwari, Anugrah Singh and **Ashish Kumar Thokchom**. Manipulation of Marangoni convection of a sessile droplet. Droplet 2021, TU Darmstadt, Germany.

Appurva Tiwari<sup>1</sup>, Seong Jae Lee<sup>2</sup>, Sheyun Shin<sup>3\*</sup> and **Ashish Kumar Thokchom**<sup>1\*</sup>Banded  $\mu$ -Marangoni Vortex inside the Sessile Evaporating Droplet. Droplet 2021, TU Darmstadt, Germany.



### Dr. Priyanka

#### Journal Publications

N. Chakravarty, Priyanka, J. Singh, R.P. Singh; "A potential type-II L-asparaginase from marine isolate *Bacillus australimaris* NJB19: Statistical optimization, in silico analysis and structural modeling", *International Journal of Biological Macromolecules* (Impact factor=5.162), Elsevier, 174, 527-539 (2021).

### Dr. V.M. Rajesh

#### Conference Papers & Presentations

Sain Sourav, Vm Rajesh, Sinha Roy Susanta. Effect of inlet mixers on flow uniformity in parallel microchannels.

### Dr. Dheeraj Garg

#### Journal Publications

Dhiraj K Garg, Christophe A Serra, Yannick Hoarau, Dambarudhar Parida, Michel Bouquey, Rene Muller. (2020). Numerical investigations of different tubular microreactor geometries for the synthesis of polymers under unmixed feed condition, *Macromolecular Theory and Simulations*, 29(4).

### Dr. Yamini Sudha Sistla

#### Journal Publications

Yamini Sudha Sistla\*, Vignesh Sridhar. (2020) Molecular understanding of carbon dioxide interactions with ionic liquids. *Journal of Molecular Liquids*, 325, 115162.



## DEPARTMENT OF CIVIL ENGINEERING

### Key Milestones Achieved

**DST Sponsored Project**, for Dr. Gopal Das Singhal, Dr. Hitesh Upreti, "Development of AI based DSS for Improved Crop Water Use Efficiency under Regulated Deficit Drip Irrigation Regime in the Backdrop of Climate Change", Grant amount: Rs 104 lakh.

**DST Sponsored Project**, Dr. Susant Kumar Padhi, "Simultaneous Treatment of Gaseous BTEX and Wastewater Containing Nitrate and Sulphate by Using an Anaerobic Hybrid Bioreactor for Methane Production", Grant amount: Rs. 19.4 Lakh.

### Journal Publications

#### Dr. Susant Padhi

Influence of various oxidation parameters for natural indigo dye formation from *Indigofera tinctoria*, Environmental Challenges, 2021.

#### Dr. Sumedha Moharana

Investigation of a Continuum Shear Lag Model as an Indicator for the Damage Detection in Piezo-Elasto Dynamic Structure, Journal of Vibration Engineering & Technologies, 2021.

#### Dr. Sailesh Behera

Spatio-seasonal Concentrations, Source Apportionment and Assessment of Associated Human Health Risks of PM<sub>2.5</sub>-bound Polycyclic Aromatic Hydrocarbons in Delhi, India, Aerosol and Air Quality Research, 2020.

#### Dr. Gyan Vikash

An Assessment of Codal Provisions for Analysis of Laterally Loaded Well foundations, Indian Geotechnical journal, 2020.

#### Dr. Ellora Padhi

Response of Reynolds stresses and scaling behavior of high-order structure functions to a water-work, International Journal of Sediment Research, 2021.



Dr. Sumedha Moharana



Dr. Gyan Vikash



Dr. Sailesh Behera



#### Dr. Susant Padhi

##### Book Chapters

Role of Microbes and Microbial Consortium in Solid Waste Management, Environmental and Agricultural Microbiology: Applications for Sustainability, Wiley-Scrivener (in press), 2021.

Valorization of solid and liquid wastes generated from agro-industries, Urban Mining for Waste Management and Resource Recovery: Sustainable Approaches, CRC Press (in press), 2021.

#### Dr. Sailesh Behera, Dr. Hitesh Upreti

##### Book Chapters

Current trends and future challenges for solid waste management: Generation, characteristics and application of GIS in mapping and transportation routes, Routledge Press, 2021.

Biochar production and its characterization to assess viable energy options and environmental co-benefits from wood-based wastes, Routledge Press, 2021.

#### Dr. Sailesh Behera

##### Book Chapter

Study on spatial distribution, temporal variation and growth trends of particulate matter, sulfur dioxide, nitrogen oxides and ammonia from anthropogenic sources over India, CRC Press, 2021.

#### Dr. Gyan Vikash

##### Book Chapter

Significance of Interface Modeling in the Analysis of Laterally Loaded Deep Foundations, Springer Singapore, 2021.



## Awards and Accolades

**Best Poster Award for Dr. Susant Kumar Padhi:** Vikalp Saxena, Uday Jhunjhunwala, **Susant Kumar Padhi\***, 2021 "Treatment of domestic sewage and leachate using a moving bed hybrid bioreactor" **BSAEH 2021 international conference, MNIT, Jaipur, 4-8 April 2021**

**Dr. Sumedha Moharana**, Co-Chairperson for International conference on futuristic technologies 2021: Structural Health Monitoring, Energy Harvesting, Green Materials, Bio-mechanics, Organized by Smart Structures and Dynamics Laboratories, IIT Delhi.

**Dr. Sailesh Behera**, Opportunities for Undergraduate research (OUR) Supervision Award, Circle of Excellence Awards, Shiv Nadar University, Delhi-NCR April 2021.

**Dr. Gyan Vikash offered a short course at IIT Gandhi Nagar** titled "Tensor Mathematics in Constitutive Modeling" during 26 July – 02 August 2020.

### Guest Speakers and Major Events

The Department organized an industry academia webinar on 'Effective Management of Projects and Stakeholders' by Mr. Ashish Verma, Cushman & Wakefield, Senior Director Project Management on 24 July 2020. The discussion was moderated by Dr. Sailesh Behera, Associate Professor and Head - Department of Civil Engineering.

The Department organized a webinar on 'Satellite Remote Sensing and its Applications in Forestry' by Dr. Siddhartha Khare, Postdoctoral Fellow, Department of Fundamental Science, University of Quebec, Canada, on 9 October 2020. The talk was moderated by Dr. Hitesh Upreti, Assistant Professor, Department of Civil Engineering.

The Department organized an industry academia webinar on 'The Industrial Career Choices for an Environmental Stream Student' by Mr. Bhaskar Ray, Commercial Engineering Lead of a leading Water Technology & Solutions Company on 8 August 2020. The discussion was moderated by Dr. Susant Kumar Padhi, Assistant Professor, Department of Civil Engineering.

The Department organized a technical webinar on 'Challenges in Execution of Deep Foundations in Coastal Areas and Liquefaction Mitigation Techniques' led by Dr. K.V. Babu, Deputy General Manager, L&T Hydrocarbon Engineering on 21 October 2020.

The Department organized a webinar titled 'Evaluation of Dilemma Zone at Signalized Intersections for Developing World Traffic' by Dr. Digvijay Sampatrao Pawar, Assistant Professor - Transportation Engineering, Department of Civil Engineering, IIT Hyderabad, on 31 October 2020. The talk was moderated by Dr. Shalini Rankavat, Assistant Professor, Department of Civil Engineering.



The Department organized a day-long workshop on 'Practices in Estimating and Construction Management' on 8 November 2020. The objective of the workshop was to provide a broader overview of the technical knowledge to young engineering students on development of bill of quantities and cost of projects, and to expose them to different aspects of construction planning and management for any civil engineering project.

The Department organized a seminar titled 'Water Crisis and the Growing Metropolis: The Case of NCT Delhi' by Dr. Arindam Biswas, Associate Professor, Department of Architecture and Planning, Indian Institute of Technology (IIT) Roorkee, India, on 15 April 2021. It was moderated by Dr. Hitesh Upreti, Assistant Professor, Department of Civil Engineering.

### Key Research Projects

#### Project 1:

**Development of AI based DSS for Improved Crop Water Use Efficiency under Regulated Deficit Drip Irrigation Regime in the Backdrop of Climate Change**  
Sanction Grant Amount: ₹ 105 lakh

#### Investigators:

- Dr. Gopal Das Singhal (PI), Department of Civil Engineering
- Dr. Jyoti Sharma (Co-PI), Center for Environmental Sciences & Engineering

- Dr. Nayan Sharma (Co-PI), Center for Environmental Sciences & Engineering
- Dr. Rohini Garg, (Co-PI), Department of Life Sciences
- Dr. Prem Chandra Pandey (Co-PI), Center for Environmental Sciences & Engineering
- Industry Collaborators: Jain Irrigation Systems Limited
- Industry Collaborators: Innovante Water Solutions Pvt Ltd. (A Start-up Entity)

**Funding Agency:** Department of Science and Technology, Govt. Of India.

#### Project Highlights:

- The study will provide solution for rice and wheat with five variants of water saving Regulated Deficit Irrigation regimes to enlarge area under irrigation in backdrop of climate change vagaries.
- Artificial Intelligence based DSS software will be innovated using experimental field lab and remote sensing data for water saving irrigation application in five RDI water stress conditions in rice and wheat crops mimicking vagaries of climate change/global warming for optimal water use.
- User-Friendly DSS tool will be very much conducive for practical use with ease by planners, irrigation managers, and farmers in varying water availability and stress conditions.
- AI based DSS software tool under five Regulated Deficit Irrigation regimes mimicking moisture stress conditions of global warming for rice and wheat crops by using experimental lab and remote sensing data with respect to crop growth, water use & yield.



Field Photograph Drip Irrigation system

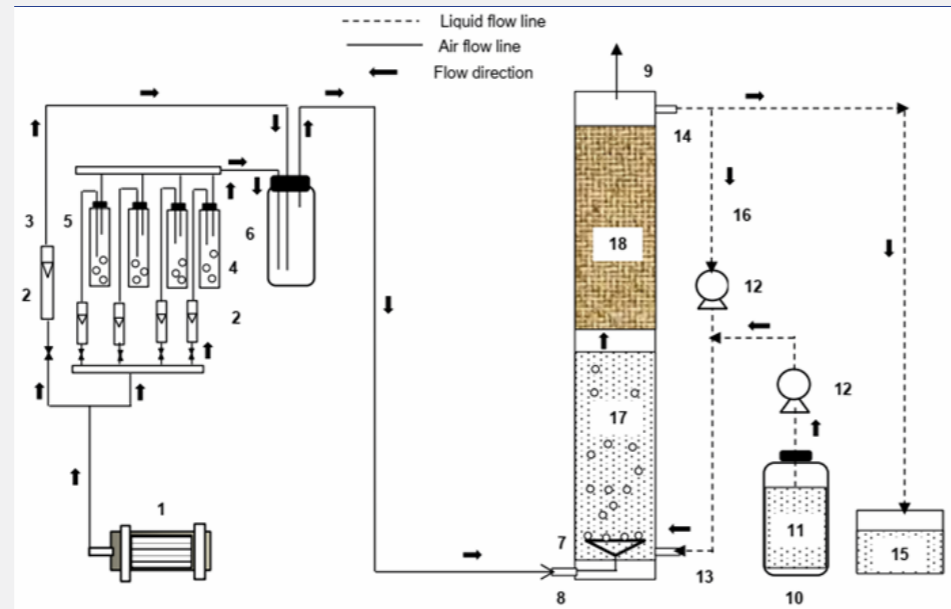
**Project 2:**

**Title of the project:** Simultaneous Treatment of Gaseous BTEX and Wastewater Containing Nitrate and Sulphate by Using an Anaerobic Hybrid Bioreactor for Methane Production

**Investigators:** Dr. Susant Kumar Padhi (PI), Department of Civil Engineering  
**Funding Agency:** Department of Science and Technology, Govt. Of India.

**Project Highlights:** The compound benzene, toluene, ethylbenzene, and xylene (BTEX) are highly volatile, majorly emitted from chemical, petrochemical, and paint-manufacturing industries found in liquid and gaseous form in the environment, causes a significant threat owing to their toxic and carcinogenic properties. This project

aims to develop an anaerobic hybrid bioreactor (AHB) for the efficient removal of BTEX along with nutrients found in wastewater released from the industry. The broad objective of the project involves the design, installation, and process optimization of lab-scale AHB (Fig. 1) for the removal of BTEX from waste air and nutrients from wastewater simultaneously for the production of methane.



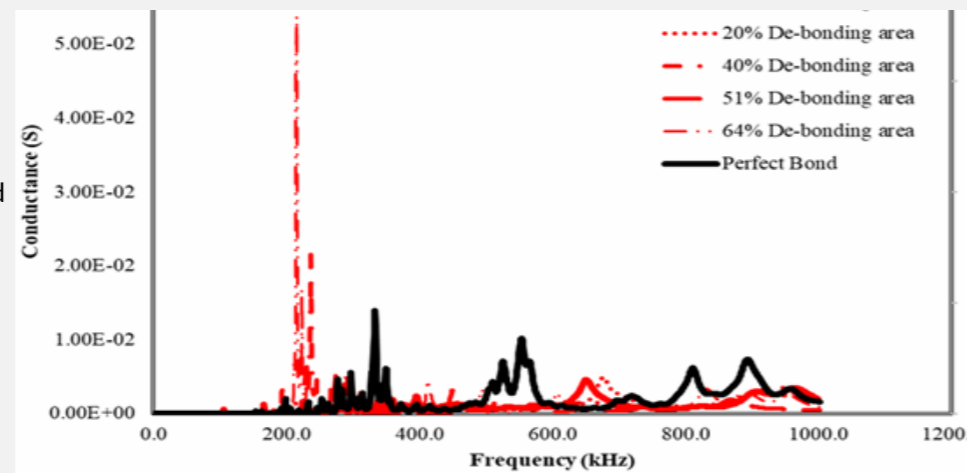
Schematic of the anaerobic hybrid bioreactor (AHB)

**Project 3:**

**Study of adhesive bond/debond effect on electro- mechanical behaviour of coupled- piezo structural system**

**Investigators:** Dr. Sumedha Moharana  
**Funding Agency:** Department of Science and Technology, Govt. Of India.

**Project Highlights:** Structural health Monitoring (SHM) denotes the process of acquisition, validation and interpretation of a set of structural data, collected from the structure at different times to facilitate lifetime risk management decisions. This project aimed at developing a novel method of bonding for metal (Aluminium) to piezoceramic transducers (PZT-5H) through Sn-Ag based alloy-bonding technique through thermal activation procedure. To understand the bond behaviour and its degradation under various environmental condition (moisture, chemicals, and high temperature), degradation in bondline, signal degradation due to disbond and disbond geometry, piezo impedance based monitoring for piezo-structural bond system has integrated for the project objectives. Finally, the above study will be extended to coupled field analysis of piezo-bond-structural system for both bond and disbond configuration. The attempt will be made to understand the bond morphology for different bond condition and disbond geometry through optical microscope and scanning electron microscope.



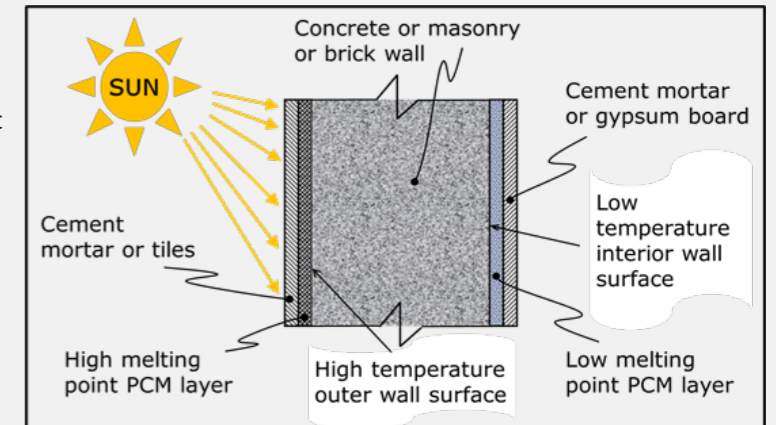
Piezo-coupled adhesive bonded joint signature

**Project 4:**

**Innovative Approach to Energy Savings in New and Existing Indian Habitats: Multilayer System for Energy Efficiency using Phase Change Materials**

**Sanction Grant Amount:** ₹ 94.2 Lakhs  
**Investigators:** Dr. Ghanshyam Pal, Department of Civil Engineering  
 Dr. Harpreet Singh Grewal, Department of Mechanical Engineering

**Project Highlights:** In India, cooling and heating (during winter) of these buildings consume large amount of electricity (32% of total generated electricity i.e. 3,03,200 Gigawatt-Hours in 2015) and, hence, has huge energy footprint. The solution involves reducing the electricity consumption in residential and commercial buildings by increasing the energy efficiency of these structures. Incorporation of phase change materials (PCM) in buildings could reduce the electricity consumption in heating and cooling of the buildings.



Schematic diagram of multilayer PCM system to improve the energy efficiency of new and existing Indian habitats

The primary objective of this project is to develop a novel multilayer PCM system to improve building energy efficiency which has been optimized for Indian weather conditions and could sustain for the design lifetime of the building. The multilayer PCM system under development in this project consists of layer(s) of microencapsulated or form stabilized PCM material which is applied to the building walls.

**Project 5:**

**Innovative Approach to Energy Savings in New and Existing Indian Habitats: Multilayer System for Energy Efficiency using Phase Change Materials**

**Physicochemical characterization, formation mechanism and human health risk assessment of size-fractionated particulate matter emitted from stationary**

**Sanction Grant Amount:** ₹ 48 lakh  
**Investigator:** Dr. Sailesh Behera (PI), Department of Civil Engineering,  
**Funding Agency:** Department of Science and Technology, Govt. Of India.





**Scholarly Activity Report**

**Dr. Hitesh Upreti**

**Books and Book Chapters**

**Book Chapter:** Danush Jaisankar, Sailesh N. Behera, Mudit Yadav, and Hitesh Upreti. "Current trends and future challenges for solid waste management: Generation, characteristics and application of GIS in mapping and optimizing transportation routes." Sustainable Approaches of Urban Mining for Waste Management and Resource Recovery, CRC Press Taylor and Francis. (Accepted).

**Professional Activities**

Reviewer, Geocarto International (IF = 3.789)

**Dr. Ghanshyam Pal**

**Conference Papers and Presentations**

C. Silambarasan, Ghanshyam Pal, Numerical investigation of occupant comfort for low income residences constructed using pervious concrete bricks, 2021 International Civil Engineering and Architecture Conference (CEAC 2021), National University of Singapore, Singapore.

**Professional Activities**

Session Chair for session on Building Materials and Structure, 2021 International Civil Engineering and Architecture Conference (CEAC 2021), National University of Singapore, Singapore.

Reviewer, Journal of The Institution of Engineers (India): Series A, Elsevier Publication



Dr. Hitesh Upreti



Dr. Ghanshyam Pal



## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### Key Milestones Achieved

Updated academic curriculum for B.Tech., M.Tech., and Ph.D. programs

The BOS and Academic Council approved changes in the proposed curricula of undergraduate, postgraduate and doctoral programs and the updated curricula has been implemented.

### Major Events and Talks

- HackData 5.0 hackathon conducted on 18 March 2021
- First online cryptic hunt competition, Labyrinth, conducted in collaboration with Google and DSC-SNU in March 2021.
- A competitive programming competition, Decode, conducted in December 2020.

**Seminar** – 15 February 2021 - Constructing an Abstraction Layer over Multi-CLOUDS  
Guest Speaker: Dr. Sreekrishnan Venkiteswaran, IBM Distinguished Engineer and CTO Hybrid Cloud Center of Excellence, Bengaluru.

**Seminar** – 27 March 2021 – Women in Tech Talks  
Guest Speaker: Ms. Sashrika Kaur, Google WTM Scholar '19 and GHCI Scholar '20.



## Awards and Accolades

### Students' Achievements

- Team Vidyut secured first position globally in ASME Student Design Competition 2021. It was the only Indian team to make it to the top 3 global finalists. The team designed and built a wireless robot which stored solar and wind energy in supercapacitors and transferred weights from one location to another.

**Team Leader:** Rahul Madan (B.Tech. in Computer Science and Engineering student)  
**Prize Money:** \$500



- **Team Genesis, SAE Team**, performed exceedingly well at the **Mega ATV Championship** held at Goa in April' 2021. Our ATV was the first-ever all-electric team participating in the competition, competing against all the combustion-based all-terrain vehicles. It was the only electric ATV team from the entire country which could reach the final endurance run.

**Team Leader:** Shorya Govil as the Captain (and the driver) Vice Captain: Samrath Suri



### Faculty Awards and Honors Students' Achievements

#### Dr. Karmeshu

##### Awards

Awarded D.Sc. degree (Honoris Causa) by Dayalbagh Educational Institute (Deemed to be University) on 22 January 2021.

*Citation: "In recognition for outstanding pioneering contributions to the field of mathematical modelling of dynamical systems and their applications to technical as well as abstract socio-economic systems."*

##### Awards

President, The (Indian) Mathematics Consortium (an umbrella organization of several Mathematics Societies).

(The Mathematics Consortium established in 2016) is an Association of Mathematics Societies and Institutions in India. At present Prof. Karmeshu is the President of The Mathematics Consortium.

- The Mathematics Consortium (TMC) has been conducting many activities in Pure and Applied Mathematics from undergraduate level to research level. The Consortium organized an International Conference in 2016 with the cooperation of American

Mathematical Society and now it is planning an International Conference jointly with European Mathematical Society.

- In addition, The Consortium has been organizing Regional Workshops in different parts of the country regularly. From 2021, there have been online lecture series and workshops at different levels under Regional and NASI-TMC programmes too.

- Also, from 2021 a distinguished lecture series in Mathematics is being organized jointly with IIT Bombay and ICTS. A new lecture series called Young Achievers Lecture Series is also being started from 2021.

Executive Council Member, Indian Society for Mathematical Modelling and Computer Simulation (HQ: IIT, Kanpur).

Member, Executive Committee, Systems Society of India.

Member, Editorial Board, PARITANTRA Journal of Systems Science and Engineering.

Editor, Bulletin of Mathematics Consortium.



### Invited Lectures

Delivered invited lecture on “Mathematical Modelling- Role of Nonlinearity,” in Computational Techniques and Research Methodology organized by UGC - Human Resource Development Center, Jawaharlal University, New Delhi on 03 March 2021.

Guest Speaker, National Webinar on Image Processing and Applications, 27 May 2021. Title of the Talk: “Probabilistic Aspects of Image Processing”, Organized by P.G. Department, Computer Science, Gujranwala Guru Nanak Khalsa College, Ludhiana.

### Scholarly Activity Report

#### Dr. Rajeev Kumar Singh

##### Journal Publications

Singh, **Rajeev Kumar**, Sonia Khetarpaul, Rohan Gorantla, and Sai Giridhar Allada. **SHEG: summarization and headline generation of news articles using deep learning**. Neural Computing and Applications 33, no. 8 (2021): 3251-3265, April 2021.

**Rajeev Kumar Singh**, Rohan Pandey, Rishie Nandhan Babu: **COVIDScreen: explainable deep learning framework for differential diagnosis of COVID-19 using chest X-rays**, Neural computing & applications. <https://doi.org/10.1007/s00521-020-05636-6>

#### Dr. Dolly Sharma

##### Books and Book Chapters

Dolly Sharma, Ranjit Kumar “Smart Aquaculture: Integration of Sensors, Biosensors, and Artificial Intelligence”, in Biosensors in Agriculture: Recent Trends and Future Perspectives, Springer, 2021.

##### Journal Publications

Purushottam Kumar, **Dolly Sharma**, “A novel similarity measure for the link prediction in unipartite and bipartite networks”, Social Network Analysis and Mining, Springer, 11, 41, 2021 (<https://doi.org/10.1007/s13278-021-00745-z>)

Monika Bansal, **Dolly Sharma**, “A novel multi-view clustering approach via proximity-based factorization targeting structural maintenance and sparsity challenges for text and image categorization”, Information Processing and Management, Elsevier, Vol. 54, Issue 4, 2021 (<https://doi.org/10.1016/j.ipm.2021.102546>)

Purushottam Kumar, **Dolly Sharma**, “A potential energy and mutual information based link prediction approach for bipartite networks”, Scientific Reports, Nature Publishing Group, 2020 [Impact Factor: 3.998]

##### Conference Papers and Presentations

Khetarpaul S., Sharma D., Gupta M., Gautam V. (2021) A Real Time Analysis of Offensive Texts to Prevent Cyberbullying. In: Qiao M., Vossen G., Wang S., Li L. (eds) Databases Theory and Applications. ADC 2021. Lecture Notes in Computer Science, vol 12610. Springer, Cham.

Mohith S., Jose J.I., Khetarpaul S., Sharma D. (2021) Analyzing Tweets to Understand Factors Affecting Opinion on Climate Change. In: Qiao M., Vossen G., Wang S., Li L. (eds) Databases Theory and Applications. ADC 2021. Lecture Notes in Computer Science, vol 12610. Springer, Cham.



#### Dr. Sonia Khetarpaul

##### Journal Publications

Singh, Rajeev Kumar, **Sonia Khetarpaul**, Rohan Gorantla, and Sai Giridhar Allada. **SHEG: summarization and headline generation of news articles using deep learning**. Neural Computing and Applications 33, no. 8 (2021): 3251-3265, April 2021.

##### Conference Papers and Presentations

**Sonia Khetarpaul**, Dolly Sharma, Mayuri Gupta, and Vaibhav Gautam. “A Real Time Analysis of Offensive Texts to Prevent Cyberbullying.” In Databases Theory and Applications: 32nd Australasian Database Conference, ADC 2021, Dunedin, New Zealand, January 29–February 5, 2021,

Proceedings 32, pp. 152-165. Springer International Publishing, 2021.

Mishra, Saurabh, and **Sonia Khetarpaul**. “Optimal Placement of Taxis in a City Using Dominating Set Problem.” In Databases Theory and Applications: 32nd Australasian Database Conference, ADC 2021, Dunedin, New Zealand, 29 January– 5 February, 2021, Proceedings 32, pp. 111-124. Springer International Publishing, 2021.

Mohith, S., Jackson I. Jose, **Sonia Khetarpaul**, and Dolly Sharma, “Analyzing Tweets to Understand Factors Affecting Opinion on Climate Change.” In Databases Theory and Applications: 32nd Australasian Database Conference, ADC 2021, Dunedin, New Zealand, 29 January– 5 February 2021, Proceedings 32, pp. 99-110. Springer International Publishing, 2021.

Manika Mittal, Shivangi Goel, V. Pratishtha Sharma, **Sonia Khetarpaul**, “Monitoring Social Media Content for Religious Context”, In proceedings of 17th International Conference on Machine Learning and Data Mining, pages:181-195, MLDM 2021, New York, USA, 2021.

##### Professional Activities

Attended 32nd Australasian Database Conference held virtually.



Dr. Rajeev Kumar Singh



Dr. Dolly Sharma



Dr. Sonia Khetarpaul

**Dr. Divya Lohani****Journal Publications**

K. Rastogi, **D. Lohani** and D. Acharya, "Context-Aware IoT-based Monitoring and Control of Ventilation Rate in Indoor Environments", in IEEE Internet of Things Journal, 2021.

N. Kumar, D. Acharya and **D. Lohani**, "An IoT-Based Vehicle Accident Detection and Classification System Using Sensor Fusion," in IEEE Internet of Things Journal, 2021.

A. Bathwal, D. Acharya and **D. Lohani**, "Prediction and Analysis of Particulate Matter Concentrations using Machine Learning Techniques", Journal of Ambient Intelligence and Humanized Computing, Springer, 2021.

**D. Lohani**, A. Barthwal and D. Acharya, "Modelling Vehicle Indoor Air Quality Using Sensor Data Analytics", Journal of Reliable Intelligent Environments, Springer, 2021.

**Dr. Sweta Mishra****Awards and Honors**

Raising Star award, on 6 April 2021 in the Circle of Excellence award ceremony held online at Shiv Nadar University, Delhi-NCR.

**Awards and Honors**

Abhishek Agarwal, Ayush Prasad, Rishabh Rustogi, Sweta Mishra, "Detection and mitigation of fraudulent resource consumption attacks in cloud using deep learning approach", Journal of Information Security and Applications, Volume: 56, Elsevier, 2021.

**Dr. Pooja Malik****Awards and Honors**

Awarded the best Teaching Faculty at Circle of Excellence Awards organized by Shiv Nadar University, Delhi-NCR.

**Journal Publications**

Rati Shukla, Gaurav Dubey, **Pooja Malik**, Nishi Sindhvani, Rohit Anand, Aman Dahiya and Vikash Yadav, "Detecting Crop Health using Machine Learning Techniques in Smart Agriculture System", Journal of Scientific and Industrial Research (JSIR) - 2021

Aleem Ali, **Pooja Malik**, "Conditional GANs as a Solution to Image-to-Image Rendering Problems", Information Technology in Industry", Volume 6, April 2021 (<https://doi.org/10.17762/itii.v9i2.458>)

**Books and Book Chapters**

Dimpal Tomar, Pooja Malik, Jai Prakash Bhati and Pradeep Tomar, "Sustainability of Cloud-Based Smart Society", Source Title: Integration and Implementation of the Internet of Things Through Cloud Computing, June 2021, (DOI: 10.4018/978-1-7998-6981-8.ch006)

**Professional Activities**

Participated in an AICTE-ISTE sponsored Refresher programme on "Use of ICT in Engineering Education" organized by Maharaja Surajmal Institute of Technology (MSIT), Janakpuri, New Delhi during 24 February-2 March 2021.

Participated in the Refresher Course in Mathematics organized by Department of Mathematics, Ramanujan College, Delhi University



in collaboration with Teaching Learning Centre, Ramanujan College during 16-30 March 2021.

Participated in an AICTE-ISTE sponsored Refresher programme on "Use of ICT in Engineering Education" organized by Maharaja Surajmal Institute of Technology (MSIT), Janakpuri, New Delhi during 7-13 April 2021.

**Dr. Snehasis Mukherjee****Journal Publications**

BSNV Chaitanya and **Snehasis Mukherjee**, Single Image Dehazing Using Improved CycleGAN, **Journal of Visual Communication and Image Representation**, Elsevier, Vol. 74, Article 103014, 2021.

Laisha Wadhwa and **Snehasis Mukherjee**, Learnable Spatio-Temporal Feature Pyramid for Prediction of Future Optical Flow in Videos, **Machine Vision and Applications**, Springer, Vol. 32, No. 1, Article 18, 2021.

**Conference Papers and Presentations**

Hareesh Devarakonda and Snehasis Mukherjee, Early Prediction of Human Action by Deep Reinforcement Learning, Proc. of NCC 2021, IEEE (Accepted).

Sri Girinadh Tanneru and Snehasis Mukherjee, Action Recognition in Haze Using an Efficient Fusion of Spatial and Temporal Features, Accepted for publication in CVIP 2020 conference.

Chirumamilla Nagalakshmi and Snehasis Mukherjee, Human Action Recognition from 3D Landmark Points of the Performer, Accepted for publication in CVIP 2020 conference

**Professional Activities**

**Participated:** Program Committee Member at HADCV 2021 Workshop associated with the WACV 2021 conference organized by NIST, USA

**Reviewer of the following journals:** IEEE Transactions on Circuits and Systems for Video Technology; IEEE Transactions on Image Processing; IEEE Transactions on Cybernetics; IEEE Transactions on Human-Machine Systems; IEEE Computational Intelligence Magazine; IEEE Sensors Journal; Computer Vision and Image Understanding (Elsevier); Pattern Recognition Letters (Elsevier); Computers and Electronics in Agriculture (Elsevier); Powder Technology (Elsevier); Multimedia Tools and Applications (Springer); IET Computer Vision; IET Image Processing; IET Electronics Letters; PLOS One; ETRI Journal; SADHANA Journal (Springer)



Reviewer of several prestigious international conferences like ICARCV, ICIP, ICPR, ACPR, ACCV, ICVGIP Program committee member of the prestigious WACV 2021 conference.

Reviewer of the following journals: IEEE Transactions on Circuits and Systems for Video Technology; IEEE Transactions on Image Processing; IEEE Transactions on Cybernetics; IEEE Transactions on Human-Machine Systems; IEEE Transactions on Emerging Topics in Computational Intelligence; IEEE Computational Intelligence Magazine; IEEE Sensors Journal; Computer Vision and Image Understanding (Elsevier); Pattern Recognition Letters (Elsevier); Computers and Electronics in Agriculture (Elsevier); Powder Technology (Elsevier); Multimedia Tools and Applications (Springer); IET Computer Vision; IET Image Processing; IET Electronics Letters; PLOS One; ETRI Journal; SADHANA Journal (Springer)

Reviewer of several prestigious international conferences like WACV, ICARCV, ICIP, ICPR, ACPR, ACCV, ICVGIP and many others.

**Referee:** IEEE Transactions on Circuits and Systems for Video Technology; IEEE Transactions on Image Processing; IEEE Transactions on Cybernetics; IEEE Transactions on Human-Machine Systems; IEEE Transactions on Emerging Topics in Computational Intelligence; IEEE Computational Intelligence Magazine; IEEE Sensors Journal; Computer Vision and Image Understanding (Elsevier); Pattern Recognition Letters (Elsevier); Computers and Electronics in Agriculture (Elsevier); Powder Technology (Elsevier); Multimedia Tools and Applications (Springer); IET Computer Vision; IET Image Processing; IET Electronics Letters; PLOS One; ETRI

Journal; SADHANA Journal (Springer); Reviewer of several prestigious international conferences like WACV, ICARCV, ICIP, ICPR, ACPR, ACCV, ICVGIP and many other

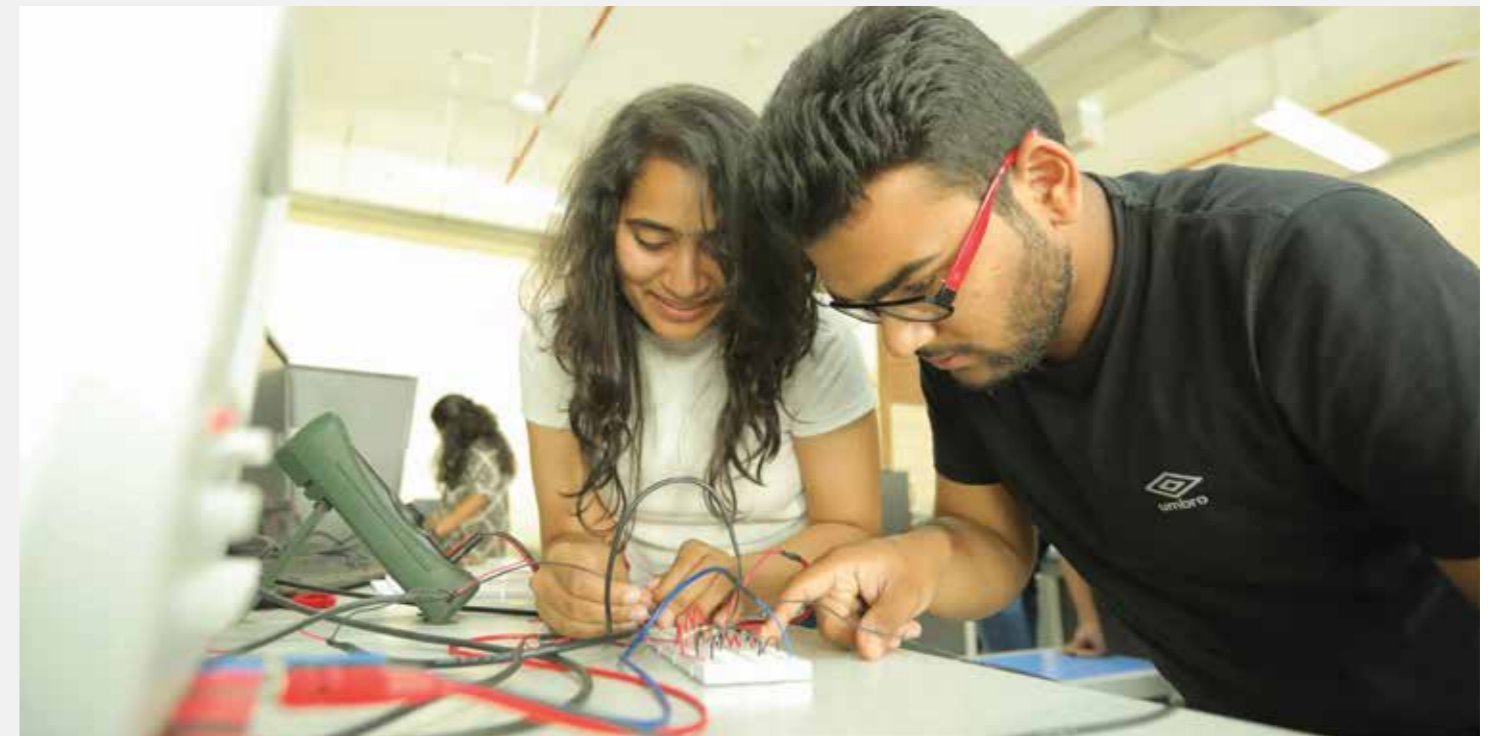
Reviewer of the following journals:

- IEEE Transactions on Circuits and Systems for Video Technology; IEEE Transactions on Image Processing; IEEE Transactions on Cybernetics; IEEE Transactions on Human-Machine Systems
- IEEE Transactions on Emerging Topics in Computational Intelligence; IEEE Computational Intelligence Magazine; IEEE Sensors Journal; IEEE Access; Computer Vision and Image Understanding (Elsevier); Pattern Recognition Letters (Elsevier); Computer Methods and Programs in Biomedicine (Elsevier); Journal of Computational Science (Elsevier); Computers and Electronics in Agriculture (Elsevier); Powder Technology (Elsevier); Multimedia Tools and Applications (Springer); IET Computer Vision; IET Image Processing; IET Electronics Letters; PLOS One; ETRI Journal; SADHANA Journal (Springer); Reviewer of several prestigious international conferences like WACV, ICARCV, ICIP, ICPR, ACPR, ACCV, ICVGIP and many other

### Dr. Kamal Singh

#### Journal Publications

K. Singh and C. Singh; "Comments and Corrections to "Capacity of Multiple-Antenna systems With Both Receiver and Transmitter Channel State Information"; in IEEE Transactions on Information Theory



## DEPARTMENT OF ELECTRICAL ENGINEERING

### Key Milestones Achieved

#### Dr. Kamal Singh

Establishment of Organic and Flexible Electronics laboratory.

Establishment of Optical Fiber Communication laboratory.

#### Dr. Amitabh Chatterjee

Development proposal of Ultrafast pulse generation for EMC testing in CMOS devices - RRCAT & SCL-Chandigarh.

Proposal with ISRO to develop test methodology for Silicon IC testing using Silicon Light Generation.

Establishment of TCAD Facility and proposal for forming a computing cluster and further integration with cloud.

Collaborating with Nano Photonics

RRCAT for modeling TDSHG for thin film metrology.

Introducing System Level VerilogA as tool for teaching undergrad Analog Electronics for system level pedagogy.

### Mr. Aakash Sinha

Only Indian University to cover the conjunction of Jupiter and Saturn live (December 2020).



**Dr. Premchand Jain**

New "Internet of Things (IoT)" course was developed and taught in Monsoon 2020 session with Dr. Rohit Singh. It included mainly the IoT architecture, communication protocols, and applications. We also introduced mini projects on IoT for students in place of one Quiz. It was well taken by the students and enjoyed working on mini projects.

New Internet of Things (IoT) course lab was developed with Co-Investigator Dr. Rohit Singh

**Key Research Projects**

Highly efficient and ambipolar charge transporting Discotic liquid crystalline organic semiconductors for organic electronic devices. (Dr. Upendra Kumar Pandey)

Projects on Smart Telescope, Camera Nerve Centre and A Crash proof drone. (Mr. Aakash Sinha)

Projects on Open RAN in 5G, Integration of Wi-Fi6 with 5G, IoT (Internet of Things), Smart Transportation, Advanced Wireless Local Area Network (Wi-Fi 6E, 7). (Prof. Premchand Jain)

**Scholarly Activity Report****Dr. Jitendra Prajapati****Awards and Accolades**

**The rising star award in teaching** – Teaching awards category in Circle of Excellence Awards of Shiv Nadar University, Delhi-NCR, April 2021.

**Dr. Upendra Kumar Pandey****Awards and Accolades**

**Young Investigators Award** - Research awards category in Circle of Excellence Awards of Shiv Nadar University, Delhi-NCR, April 2021.

**Journal Publications**

Kavita Rani, Upendra Kumar Pandey and Sanchita Sengupta; "Efficient Electron Transporting and Panchromatic Absorbing FRET Cassettes Based on Aza-BODIPY and Perylenediimide Towards Multiple Metal FRET-Off Sensing and Ratiometric Temperature Sensing", *J. Mater. Chem. C*, 2021, 9, 4607-4618. DOI: <https://doi.org/10.1039/D1TC00068C> (Impact Factor: 7.059)

Shallu Dhingra, Indu Bala, Joydip De, Santosh Prasad Gupta, Upendra Kumar Pandey\*, Santanu Kumar Pal, "An Electron-Deficient Tris(triazole)-based Discotic Liquid Crystal that exhibits Fast Electron Transport" *J. Mater. Chem. C*, 2021,



Just Accepted Manuscript, DOI: <https://doi.org/10.1039/D1TC00866H> (Impact Factor : 7.059).

Indu Bala, Joydip De, Santosh Prasad Gupta, Upendra Kumar Pandey\*, Santanu Kumar Pal; "Enabling efficient ambipolar charge carrier mobility in H-bonded heptazine-triphenylene system forming segregated donor-acceptor columnar assemblies", *J. Mater. Chem. C*, 2021, Just Accepted Manuscript, DOI: <https://doi.org/10.1039/D1TC01898A> (Impact Factor : 7.059)

**Invited lectures and Talks**

Invited lecture for RIL R&D on June 11, 2021. Topic: "Organic-Inorganic Perovskite Solar cells: Status and upcoming 10 Years"



Dr. Upendra Kumar Pandey

**Dr. Rohit Singh****Awards and Accolades**

**INSA Visiting Scientist Fellowship 2021** for a period of two months for FY 2021-22.

**Journal Publications**

Praveen Dwivedi, Rohit Singh, and Yogesh Singh Chauhan; "Crossing the Nernst Limit (59 mV/pH) of Sensitivity Through Tunneling Transistor-Based Biosensor", *IEEE Sensors Journal*, vol. 21, no. 3, pp. 3233-3240, February 2021. (Impact Factor = 3.076).

Praveen Dwivedi, Rohit Singh, Brajendra Singh Sengar, Amitesh Kumar, and Vivek Garg, "A New Simulation Approach of Transient Response to Enhance the Selectivity and Sensitivity in Tunneling Field Effect Transistor-Based Biosensor", *IEEE Sensors Journal*, vol. 21, no. 3, pp. 3201-3209, February 2021. (Impact Factor = 3.076).

Amit Kumar Singh, Rohit Singh, Kulwant Singh, and Amit Rathi; "Optical gain enhancement and wavefunction confinement tuning in AlSb/InGaAsP/GaAsSb heterostructures", *The European Physical Journal B*, vol. 94, no. 6, pp. 1-5 June 2021.

**Conference Papers and Presentations**

Amit Kumar Singh, Rohit Singh, Dibyendu Chowdhury, and Amit Rathi, Optical response in strained type-II AlInAs/AlSb ultra-thin QW heterostructures, Flexible Electronics for Electric Vehicles (FlexEV-2021), Manipal University Jaipur, Jaipur, India, 18-19 March 2021.



### Invited Lectures and Talks

Expert/speaker in a one-week e-workshop organized by CoE in Advanced Materials Research, Department of Electrical and Electronics Engineering in association with FET MJP, Rohilkhand University, Bareilly, U.P. on “Recent Trends in Materials for Next-Generation Applications” from 1-5 February 2021, under the TEQIP-III action plan.

Expert/speaker in Faculty Development Program organized by Rajasthan Technical University, Kota and Geetanjali Institute of Technical Studies, Udaipur on “Next Generation Semiconductor Devices” from 11-13 December 2020, under the TEQIP-III action plan.

Expert/speaker in Continuing Education Programme (CEP) course organized by Department of Electrical Engineering, IIT Patna on “Modern Trends and Developments in Semiconductor microelectronics” from 9-11 October 2020.

Expert/speaker in Faculty Development Program organized by NIT Patna in association with Electronics & ICT Academy on “Renewable Energy: Research to Industry” from 22 August-6 September 2020, under National Knowledge Network.

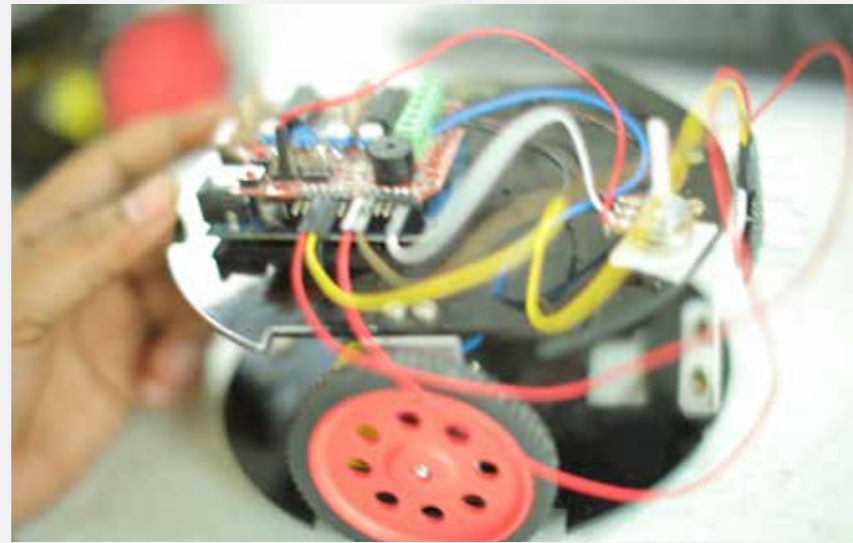
Expert/speaker in Webinar organized by Department of Electronics & Telecommunication, NBN Sinhgad School of Engineering, Ambegaon, Pune on “Nanoscale Devices” on 26 July 2020.

### Dr. Amit Bakshi

#### Awards and Accolades

The teaching award for Inspirational and innovative practices – Teaching awards category in **Circle of Excellence Awards** of Shiv Nadar University, Delhi-NCR, April 2021.

Outstanding UG academic advisor Award– Service awards category in **Circle of Excellence Awards** of Shiv Nadar



University, Delhi-NCR April 2021.

### Dr. Naveen Babu

#### Awards and Accolades

The teaching award for Inspirational and innovative practices – Teaching awards category in **Circle of Excellence Awards** of Shiv Nadar University, Delhi-NCR, April 2021.

### Dr. Madhur Dev Upadhyay

#### Awards and Accolades

Technical Committee member 3rd International Conference on Academic Science and Engineering (ICASAE -2020), Chandigarh, Punjab, 14-15 February 2020, organized by Institute for Engineering Research and Publication.

Technical Committee member International Conference on Emerging Technology in Electrical and Electronics Engineering, Jaipur, Rajasthan, 5-6 February 2020 organized by Institute for Engineering Research and Publication.

Recognition as a Reviewer for the Global Emerging Innovation Summit (9-10 April) 2021 organized by Italian national agency for new technologies, energy and sustainable economic development.

Award of Excellence for excellent mentor- Esha Goel, Shreya Sharad,” International conference of undergraduate students of electronics (ICONICS-UG 2021), “ICONICS UG” held on 15th February 2021, organized by Department of Electronics, Sri Aurobindo College, University of Delhi, India.

Esha Goel and Shreya Sharad, second year students of electrical engineering, secured third position in the International Conference of Undergraduate Students of Electronics (ICONICS-UG) organized by the Department of Electronics, Sri Aurobindo College, University of Delhi, India.



### Journal Publications

Manali Saini, Udit Satija, **Madhur Deo Upadhyay**; “Wavelet Based Waveform Distortion Measures for Assessment of Denoised EEG Quality with Reference to Noise-Free EEG Signal”, **IEEE Signal Processing Letters**, Vol 27, pp1260-1264, 03 July 2020 (DOI 10.1109/LSP.2020.3006417).

### Conference Papers & Presentations

Manali Saini, Udit Satija, Madhur Deo Upadhyay, “Variational Mode Decomposition Based Mental Task Classification from Electroencephalogram”, 2020 IEEE 17th India Council International Conference (INDICON), 11-13 December 2020, NSIT, New Delhi, India.

### Invited Lectures and Talks

Delivered talks on two topics “Scholarly Activities and its impact on Institutional growth” and “Online classes during pandemic and Faculty Responsibilities” in Online one day workshop on “Administrative Training for Faculty” 17 October 2020, organized by Department of Physics, GLA University Mathura.

Delivered an expert talk on “Online Classes During Pandemic and Responsibilities of Faculty” in AICTE-ISTE sponsored Faculty

Refresher Programme on “Modern Pedagogy for Engineering Teachers in Making Digital India” from 23-28 November 2020, conducted in virtual mode by Bhartiya Institute of Engineering & Technology, Sikar.

Session Chair at an international conference on “Sustainable Energy and Future Electric Transportation 2021” at Hyderabad.

Guest Speaker on “Demystifying Research Metrics (DRM 21)” in avirtual induction/refresher program, Tamil Nadu, 3-9 March 2021.

Guest Speaker in an AICTE sponsored one-week short term training program on “Empowering the Moral values, Ethics and Behavioural Attitude in Teaching Skills among Teachers (Phase – I), 1-7 December 2020.”



Dr. Naveen Babu



Dr. Madhur Dev Upadhyay

### Professional Activities

#### Organized:

- TPC member in International Conference on Sustainable Energy and Future Electric Transportation (SeFet) 2021, 21-23 January 2021.
- TPC member in International Conference in collaboration with Springer Proceedings (LNCS) on “Recent Innovations in Applied Sciences, Communications and Networkings” ReNACON 2021 on 14-15 May 2021

#### Participated:

- Webinar on “Innovation in Antenna Design and Analysis” IEEE & Council on RFID in collaboration with Amity University India, 9 July 2020.
- Three day Online Faculty Development Programme on “Role of IoT and Wireless Sensor Network in Knowledge Engineering” organized by Department of Electronics and Communication Engineering of Atria Institute of Technology, Bengaluru, India during 14-19 September 2020.
- Participated in the National Webinar on “I-STEM: A Gateway for R&D Community and Other Gol initiatives towards Aatmnirbhar Bharat” conducted by the Indian Science Technology and Engineering facilities Map (I-STEM) in association with the NEEV- a Social educational Initiative of IIT Delhi Alumni on 17 September 2020 (Thursday).
- Participated in the RTU (ATU) TEQIP-III Sponsored one week Faculty Development Programme on “Emerging Trends in Nano-Electronics (ETNE 2020)” held from 21/09/2020 to 25/09/2020 at “Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur”
- Participated in the Webinar on “Recent Problems in Energy & Environment: Their Solutions” sponsored by UD TEQIP-III and organized by University Department of Electronics Engineering, Rajasthan Technical University, Kota on 22 September 2020.
- Member IEEE (USA) since 2006; Associate Member IETE since 2009; Life Member ISTE since 2012; Executive Committee member (Academia) IEEE MTTs Chapter, Delhi Section 2017 -2019.



Reviewer IEEE conferences (IEEE WCSN2013, IEEE Techsym2014, ICMEMSS2014, IEEE APCAP2015, IEEE ICSPC 2015, NSC- 2015, IEEE INDICON 15, CCIS2015, IAET2016, ICAEDC2016, ICSC2016, ICSC2018, IEEE CEFC2018, IEEE ICSPC2018, SIRS2018, EECSI 2018, COPUMAG2019 Paris, SPIN2019, SPIN20, CEFC2020, CITEI2020); Reviewer Springer Journal on Signal, Image and Video Processing (from 2017); Reviewer IET Microwave Antenna Propagation; Reviewer IEEE Antenna and Wireless Propagation Letters, IEEE Access; Reviewer AEU International Journal of Electronics and Communications; Reviewer Bulletin of Pure and Applied Sciences.

TPC member in International Conference on Sustainable Energy and Future Electric Transportation (SeFet) 2021, 21-23 Jan 2021.

TPC member in International Conference in collaboration with Springer Proceedings (LNCS) on “Recent Innovations in Applied Sciences, Communications and Networking” ReNACON 2021 on 14th and 15th May 2021.

Participated in Virtual launch of Shiv Nadar University- Dassault Systems Center of Excellence on 3 October 2020.

Participated in AICTE sponsored one week Short Term Training Programme (STTP) Online-Phase-II on “Automotive Technology For Sustainable Future”, Organised by Department of Electrical & electronics Engineering, Gokaraju Rangaraju Institute of Engineering & Technology, Hyderabad during 5-10 October 2020.

The webinar on the “Design and Development of High-performance Microwave and Millimetre Wave Components Utilizing Suspended Substrate Transmission Line (SSL)” Organised by IEEE MTT-S SBC IITBHU, on 6 October 2020.

Participated & completed successfully AICTE Training And Learning (ATAL) Academy Online FDP on “Internet of Things (IoT)” from 12-16 October 2020 at Indian Institute of Information Technology Kota.

**Membership:** Member IEEE (USA) since 2006; Associate Member

IETE since 2009; Life Member ISTE since 2012.

Executive Committee member (Academia) IEEE MTTs Chapter, Delhi Section 2017 -2019.

Reviewer IEEE conferences (IEEE WCSN2013, IEEE Techsym2014, ICMEMSS2014, IEEE APCAP2015, IEEE ICSPC 2015, NSC- 2015, IEEE INDICON 15, CCIS2015, IAET2016, ICAEDC2016, ICSC2016, ICSC2018, IEEE CEFC2018, IEEE ICSPC2018, SIRS2018, EECSI 2018, COPUMAG2019 Paris, SPIN2019, SPIN20, CEFC2020, CITEI2020).

Reviewer Springer Journal on Signal, Image and Video Processing (from 2017); IET Microwave Antenna Propagation; Antenna and Wireless Propagation Letters, IEEE Access; AEU International Journal of Electronics and Communications; Reviewer Bulletin of Pure and Applied Sciences.

### Dr. Premchand Jain

#### Journal Publications

Dhairya Sibal, Aditya Jain, P.C. Jain, “Smart Parking Management System in Smart City”, 4th International Conference on Optical & Wireless Technologies 2020 (OWT2020), MNIT, Jaipur, 3-4 October 2020

T.Jaya Sankar, P.C. Jain, “Smart Transportation for Warehouses”, 4th International Conference on Optical & Wireless Technologies 2020 (OWT2020), MNIT, Jaipur, 3-4 October 2020.

Dhairya Sibal, Aditya Jain, P.C. Jain; “Smart Parking Management System in Smart City”, Lecture Notes on Elect. Engg., Springer, Vol. 771, 2021.

UpendT.Jaya Sankar, P.C. Jain; “Smart Transportation for Warehouses”, Lecture Notes on Elect. Engg., Springer, Vol. 771, 2021



**Conference Papers and Proceedings**

Dhairya Sibal, Aditya Jain, **P.C. Jain**, "Smart Parking Management System in Smart City", 4th International Conference on Optical & Wireless Technologies 2020 (OWT2020), MNIT, Jaipur, 3-4 October 2020.

T.Jaya Sankar, **P.C. Jain**, "Smart Transportation for Warehouses", 4th International Conference on Optical & Wireless Technologies 2020 (OWT2020), MNIT, Jaipur, 3-4 October 2020.

KSP Kashyap, V. Sai Kumar, **P.C.Jain**, "Smart locking in home automation using Internet of Things", 2nd Intern. Conf. on Communication and Intelligent Systems (ICCIS-2020), GIT, Jaipur and BIAS Uttarakhand, 26-27 December 2020.

**Professional Activities****Participated:**

- Next generation Wi-Fi webinar, Wireless Global Congress-2020, Wireless Broadband Allianz, USA, 2 November 2020
- 5G India 2020 webinar, Bharat Exhibitions, N. Delhi, 4 November 2020
- IoT and 5G webinar, STMicro Live Days, Europe, 19 November 2020
- 4th India Mobile Congress-2020 on 5G, 8 December 2020; IEEE 5G Thessaloniki Summit, 16 Dec., 2020; ITU-WRC-23 Workshop, 1 April 2021
- ITU-WRC-23 Workshop, 1 April 2021
- 6G World Webinar, 28 April 2021
- 6G Symposium, 4-6 May 2021
- World telecom Day, World telecom & Information

Society, ITU-APT, India, 17 May 2021 Wi-Fi 6, 6E, 7, Webinar, 27 May 2021.

**Member: Fellow of Institution of Communication Engineers and Information Technologist (ICEIT)****Dr. Vijay Kumar Chakka****Journal Publications**

K. Venugopalachary and **V. K. Chakka**; "A Small-Scale Wireless Distributed Cooperative Secure Communication Network Design Using Graph FIR Filters", **IEEE Sensors Letters**, vol. 5, no. 4, pp. 1-4 April 2021, Art no. 7001504, doi: 10.1109/LENS.2021.3068047. (IF :1.7)

P. Mathur, **V. K. Chakka** and S. B. Shah; "Ramanujan Periodic Subspace Based Epileptic EEG Signals Classification", **IEEE Sensors Letters**, vol. 5, no. 7, pp. 1-4 July 2021, Art no. 7002404, doi: 10.1109/LENS.2021.3086755.(IF:1.7)

**Mr. Aakash Sinha****Invited Lectures and Talks**

- Delivered webinar on backyard Astronomy for Nucleus Event in December 2020
- Speaker, Webinar on Jobs in Robotics organized by FICCI
- Speaker, Times Techies Webinar on Robotics



## DEPARTMENT OF MECHANICAL ENGINEERING

**Key milestones achieved**

- Established Energy Research Lab (C- Block Terrace)
- Shiv Nadar University, Delhi-NCR was selected as a network institute of IIRS/ISRO outreach program (22 July 2020)
- Established state-of-the-art material characterization facility involving FESEM, EDS, EBSD, STEM
- SDC (SNU-Dassault Systems Center of Excellence) launched on 3 October 2020

**Awards and Accolades****Student Achievements**

- Ashwad Raaj was admitted for Ph.D. at EPFL Switzerland, however, has joined Complex systems and nonlinear dynamics group IIT-Madras for Ph.D.
- Sai Vishal received admission offer for fully funded Ph.D. at Georgia Tech Aerospace Department.

Following Student received admissions offer for

**Master's Program**

- Keval Sushruth: M.S. in Columbia University, USA  
 Harin Raja: MBA in IIM Sirmaur  
 Vemavarapu Swarat: MBA in BITS Pillani
- Team Vidyut, which participated in the ASME Engg. Festival (E-Fest) 'Student Design Competition' ranked No. 1 Globally.



### Faculty Achievements

“Award for Outstanding UG Academic Advising” to **Dr. Harender Sinhar** during the Circle of Excellence award ceremony held on 6 April 2021 on the special occasion of 10th Anniversary celebration of Shiv Nadar University, Delhi NCR.

“Young Investigator Research Award” to **Dr. Sumit Tiwari** during the Circle of Excellence award ceremony held on 6 April 2021 on the special occasion of 10th Anniversary celebration of Shiv Nadar University, Delhi NCR.

“Outstanding Research Award” to **Dr. Harpreet Singh and Dr. Harpreet Singh Grewal** during the Circle of Excellence award ceremony held on 6 April 2021 on the special occasion of 10th Anniversary celebration of Shiv Nadar University, Delhi NCR.

### Scholarly Activity Report

#### Dr. Sumit Tiwari

##### Books and Book Chapters

Book: Fundamentals and Innovations in Solar Energy. Editors: Sri Niwas Singh, Prabhakar Tiwari, **Sumit Tiwari**. eBook ISBN 978-981-336-456-1; DOI- 10.1007/978-981-33-6456-1, Hardcover ISBN: 978-981-336-455-4, Series ISSN-2199-8582. (Publisher: Springer Singapore)

S. N. Singh, Prabhakar Tiwari, **Sumit Tiwari**. Introduction to Solar Energy (Pages 1-9).

Anirudh Kulkarni, Rajat Saxena, **Sumit Tiwari**. Phase Change Materials and Its Applications (Pages 311-340).

Desh Bandhu Singh, **Sumit Tiwari**, Sanjay Kumar. Sensitivity Analysis in Solar Systems. (Pages 341-365).

**Sumit Tiwari**, Prabhakar Tiwari, V. K. Dwivedi, G. N. Tiwari. Environmental Feasibility of Solar Hybrid Systems (Pages 367-396).



Dr. Harender Sinhar



Dr. Harpreet Singh Grewal



Dr. Harpreet Singh



#### Journal Publications

**Sumit Tiwari**, Ravinder Kumar Sahdev, Mahesh Kumar, Deepak Chhabra, Prabhakar Tiwari, G.N. Tiwari.; “Environmental and economic sustainability of PVT drying system: A heat transfer approach”; Environmental Progress & Sustainable Energy, Wiley (American Institute of Chemical Engineers). (SCI/SCIE, Impact Factor = 1.989)

Prashant Mishra, Mukesh Pandey, Yutaka Tamaura, **Sumit Tiwari**; “Numerical analysis of cavity receiver with parallel tubes for cross-linear concentrated solar system”; Energy, Volume 220, 2021, 119609, ISSN 0360-5442, <https://doi.org/10.1016/j.energy.2020.119609>. (SCI/SCIE, Impact Factor = 6)

Mahesh Kumar, Ravinder Kumar Sahdev, **Sumit Tiwari**, Himanshu Manchanda, Deepak Chhabra, Hitesh Panchal, Kishor Kumar Sadasivuni; “Thermal performance and kinetic analysis of vermicelli drying inside a greenhouse for sustainable development”, Sustainable Energy Technologies and Assessments, Volume 44, April 2021, 101082. (SCIE, Impact Factor = 3.427).

Mahesh Kumar, Ravinder Kumar Sahdev, **Sumit Tiwari**, Himanshu Manchanda, Anil Kumar; “Enviro-economical feasibility of groundnut drying under greenhouse and indoor forced convection hot air dryers”, Journal of Stored Products Research, Volume 93, 2021, 101848, ISSN 0022-474X. (Impact Factor = 2.123)

#### Conference Paper and Presentations

Pramod Akula, **Sumit Tiwari**, Rajat Saxena. Performance Evaluation of Phase Change Material filled Bricks. In 1st National Conference on “New Frontiers in Energy and Environmental Sustainability (NFEES-2021)” organized by Department of Chemical Engineering, Pandit Deendayal Energy University, Gandhinagar, Gujarat, India during 27-28 February 2021.

Ravin Sehrawat, Ravinder Kumar Sahdev, **Sumit Tiwari**, Mahesh Kumar. Innovations on photovoltaic technology and greenhouse dryer. In 1st National Conference on “New Frontiers in Energy and Environmental Sustainability (NFEES-2021)” organized by Department of Chemical Engineering, Pandit Deendayal Energy University, Gandhinagar, Gujarat, India during 27-28 February 2021.

### Invited Lectures and Talks

Invited talk on “Solar Hybrid Systems” in Short Term Training Programme (Online) on “Solar PV and Storage Systems” sponsored by AICTE from 7-12 December 2020 organized by Department of Electrical & Electronics Engineering, JSS Academy of Technical Education, Noida.

Invited talk on “Solar hybrid systems & study to improve the efficiency of C-Si in photovoltaic Material in Power Plant” in Short Term Training Programme (Online) on “Solar PV and Storage Systems” sponsored by AICTE from 14-19 December 2020 organized by Department of Electrical & Electronics Engineering, JSS Academy of Technical Education, Noida.

Invited talk on “**Photovoltaic Thermal and Study to Improve the Efficiency of Photovoltaic Power Plant**” in “International Conference on Advance Computing and Innovative Technologies in Engineering” technically sponsored by IEEE from 04-05 March 2021 organized by Galgotias College of Engineering and Technology, Greater Noida. (IEEE Conference Record No.: #51222, IEEE Conference ISBN No.: 978-1-7281-7742-7)

Guest speaker in a National Seminar on ‘Restore Our Earth’ at Centre for Sustainability and Environmental Management, IIM Sirmaur on 22 April 2021.

### Professional Activities

More than 05 papers reviewed in SCI/ SCIE Journal.

### Dr. Sati Rajesh Reddy

#### Journal Publications

Mayank Kumar, Rajesh Reddy, Raja Banerjee, Narasimha Mangadoddy; “Effect of particle concentration on turbulent modulation inside hydrocyclone using coupled MPPIC-VOF method”, Separation and Purification Technology, (Impact



Factor =5.8), Elsevier (in press)

### Dr. Ankit Gupta

#### Awards and Achievements

Venkat Boddu, Vijay Krishna, Narendra Unnava, Pavan Vemulapalli, Ankit Gupta, Vibrational analysis of porous sandwich functionally graded plate with boundary conditions and geometric imperfections, ICRASE 2020, 26-27 December 2020 (Best Paper Award)

#### Journal Publications

Anirudh Kaushik, **Ankit Gupta**; “Reflection of oblique incident acoustic waves at various fluid–solid interface for varying material properties”; **Applied Acoustics** 174 (2021) 107611 (IF: 2.2, Elsevier).

Gaurav bansal, **Ankit Gupta**; “Influence of geometric discontinuities and geometric/microstructural defects on the temperature-dependent vibration response of functionally graded plates on elastic foundation”; **Journal of the Brazilian Society of Mechanical Sciences and Engineering** (IF: 1.5), DOI: 10.1007/s40430-020-02619-5.

Srikant P , **Ankit Gupta**, Gaurav Arora, Himanshu Pathak, Ramesh G Burela, Anant B; “Meso-macro scale computational analysis of BNNTs reinforced aluminium and epoxy nanocomposites: A case study on Crack propagation”; IMECHE, Part L, **Journal of Materials and Design** (IF: 2.8) <https://doi.org/10.1177/1464420720961426>

Varun Katiyar and **Ankit Gupta**; “Vibration response of a geometrically discontinuous Bi-directional Functionally Graded Plate Resting on Elastic Foundations in Thermal Environment with initial imperfections”, **Mechanics Based Design of Structures and Machines**. 2021.

### Conference Papers & Presentations

Sushruth Keval, Rakesh P, Ankit Gupta , Suitability of functionally graded material in solar thermal system, ICRASE 2020, Dec 26-27, 2020

Venkat Boddu, Vijay Krishna, Narendra Unnava, Pavan Vemulapalli, Ankit Gupta, Vibrational analysis of porous sandwich functionally graded plate with boundary conditions and geometric imperfections, ICRASE 2020, 26-27 December 2020.

### Invited Lectures and Talks

Delivered Keynote lecture in International Conference of recent advancement in applied science and engineering, ICRASE 2020, 26-27 December 2020.

### Professional Activities

Advisory board in ICRASE 2020.

### Dr. Venkatramani J

#### Books and Book Chapters

Santhakumar, Nivedhithaa, Divyangi Singh, and **Venkatramani Jagadish**. “Investigating the Route to Flutter in a Pitch–Plunge Airfoil Subjected to Combined Flow Fluctuations.” *Trends in Mechanical and Biomedical Design* (2021): 369-378. (Springer Nature).

Parvathaneni, A., Sharma, D., Vashishtha, D., Malaji, P. V., & **Venkatramani, J**. “Investigations into Nonlinear Energy Sinks for a Stochastic Dynamical Oscillator.” *Trends in Manufacturing and Engineering Management* (2021): 963-976. (Springer Nature)

### Journal Publications

Raaj, Ashwad, Sirshendu Mondal, and **Venkatramani Jagdish**; “Investigating amplitude death in a coupled nonlinear aeroelastic system”, **International Journal of Non-Linear Mechanics** 129 (2021): 103659. Publisher: Elsevier. Impact Factor: ~ 2.5. Available Online: March 2021

Sai Vishal, Ashwad Raaj, Chandan Bose, and **Venkatramani J**; “Routes to Synchronization in a pitch-plunge aeroelastic system with coupled structural and aerodynamic nonlinearities”, **International Journal of Non-Linear Mechanics**, p.103766. (Elsevier IF ~2.5).

### Conference Papers & Presentations

Arvind Raj, Sirshendu Mondal, and **Venkatramani Jagadish**. Identifying route to flutter in a stochastic nonlinear aeroelastic system using recurrence networks. 2nd International Nonlinear Dynamics Conference (**Nodycon 2021**). Virtually held on 16-19 february 2021.

Sai Vishal, Ashwad Raaj, Chandan Bose, and **J Venkatramani**. Parametric investigation into an aeroelastic system with coupled non-smooth nonlinearities using the framework of synchronization. 2nd International Nonlinear Dynamics Conference (**Nodycon 2021**). Virtually held on 16-19 february 2021

James Emilian, Veda Samhitha Kanduri, Chandan Bose, Jaromir Horacek, **J. Venkatramani**. Bifurcation behavior in vocal folds and its impact on physiological conditions. 2nd International Nonlinear Dynamics Conference (**Nodycon 2021**). Virtually held on 16-19 february 2021.

Dheeraj Tripathi, Sai Vishal, Chandan Bose, and J Venkatramani. Bifurcation analysis of coupled non-smooth nonlinear aeroelastic system subjected to stochastic input fluctuations. 2nd International Nonlinear Dynamics Conference (Nodycon 2021). Virtually held on 16-19 february 2021.

### Professional Activities

**Advisory committee** and part of co-organizing International Conference on Advances in Energy Harvesting Technology-ICAEHT-2021 (18-21 March 2021), organized jointly between BLDEACET, Vijayapur, India and Lublin University of Technology, Poland.

### Dr. Ramesh Gupta

#### Journal Publications

Padmanabhan Srikant;, Gupta Ankit; Arora, Gaurav; Pathak, Himanshu; **Burela, Ramesh**; Bhatnagar, Anant; "Meso-macro scale computational analysis of BNNTs reinforced aluminium and epoxy nanocomposites: A case study on Crack propagation", (JMDA-20-0273), Part L: **Journal of Materials: Design and Applications**. Vol. 235, No. 2, pp. 293-308, 2021 (IF: 2.01)

Balaji B, **Ramesh Gupta Burela**, Ganeshthangaraj Ponniah; "Realizing the impact and compressive strengths of an arrowhead auxetic structure inspired by topology optimization", Vol. 12, pp. 211-217, 2020, **International Journal of Advances in Engineering Sciences and Applied Mathematics**, Springer.

Anant S. Bhatnagar, Ankit Gupta, Gaurav Arora, **Ramesh G. Burela**, Srikant Padmanabhan; "Mean-field homogenization coupled low-velocity impact analysis of nano fibre reinforced composites", **Materials Today Communications**, Vol. 26, pp. 102089, 2021. (IF: 2.678).

#### Conference Papers and Presentations

Trilok Sachin Chittala, **Ramesh Gupta**, Sathiskumar Ponnusami, Delamination detection and localization in laminated structures using Machine Learning Techniques, 2nd International Conference on Future Learning Aspects of Mechanical Engineering (FLAME - 2020), Amity University, Noida, 5-7 August 2020.

Aravindh Gowtham Bommisetty and **Ramesh Gupta Burela**, Stochastic analysis of natural fiber-reinforced composites, "International Conference on Advancements in Aeromechanical Materials for Manufacturing" (ICAAMM-2020), MLR Institute of Technology, Hyd. Jul. 24-25 July 2020.

Jain, K. Bavikar, A. Sanjay, M. Gupta, B. Ramesh Gupta and H. Dineshkumar, "Baseline procedure for conceptual designing of an eVTOL for Urban Air Mobility," 2020 4th International Conference on Electronics, Communication and Aerospace Technology (ICECA), Coimbatore, 5-7 November 2020 pp. 1173-1178, doi: 10.1109/



ICECA49313.2020.9297649. Publisher: IEEE

Balaji, B., Burela, R.G. and Ponniah, G., 2021, February. Mass production of re-entrant cubic auxetic structure. In IOP Conference Series: Materials Science and Engineering (Vol. 1070, No. 1, p. 012128). IOP Publishing.

#### Invited Lectures and Talks

3D and 4D Printing of structures, Webinar, FDP, IILM, 21 January 2021.

#### Invited Lectures and Talks

**Panel member:** Tech Bharat 2021, Digital Transformation in Higher Education, 5-6 March 2021 Laghu Udyog Bharati-Karnataka & IMS Foundation.

**Panel member:** Vaibhav (Vaishwik Bharatiya Vaigyanik Summit), Vertical 8: Aerospace Technologies, Horizontal: V8H2: Propulsion Technologies, Theme: V8H2S2: Aerospace Materials for High-Temperature Applications, 10 October 2020, Govt. of India.

### Dr. Santanu Mitra

#### Conference Papers and Presentations

Parthsarathi Rawat, Tanay Misra, Khin Phone May, Marcelo H Ang Jr, Raye Chen-Hua Yeow and **Santanu Mitra**, "A Viscosity Gradient Approach to Achieve Dexterity in Soft Pneumatic Actuators" Paper accepted for publication and presentation in 16th International Conference on Intelligent Autonomous Systems (IAS 16), Singapore, 21-25 June 2021

#### Professional Activities

Advisory Board Member - ICONECTS – National Institute of Technology Jaipur,

### Dr. Nishant Mishra

#### Journal Publications

Prakash P., Nair A., Manoj J., Thoppil T.M., **Mishra N;** (2021) "Parametric Study of Leading-Edge Tubercle: Bio-inspired Design of Darrieus Vertical Axis Wind Turbine", Innovations in Sustainable Energy and Technology. **Advances in Sustainability Science and Technology**, Springer, Singapore. [https://doi.org/10.1007/978-981-16-1119-3\\_22](https://doi.org/10.1007/978-981-16-1119-3_22)



Dr. Ramesh Gupta Burela



Dr. Santanu Mitra



Dr. Nishant Mishra

# CENTER FOR INFORMATICS

## Scholarly Activity Report

### Dr. Santanu Mitra

#### Books and Book Chapters

**Book Chapter:** Vijay Kumar, "Endohedrally Doped Superatoms and Assemblies" in the book "Superatoms: Principles, Synthesis, and Applications" Eds. Profs. Q. Sun and P. Jena, Wiley Publishers (in press).

**Chapters in Books:** Vijay Kumar, "Endohedrally Doped Superatoms and Assemblies" in the book "Superatoms: Principles, Synthesis, and Applications" Eds. Profs. Q. Sun and P. Jena, Wiley Publishers (in press).

#### Journal Publications

A. Bala and V. Kumar; "Effects of Cl and F Substitution in Phenylethylammonium Spacer Cations on Stability, Structure, Electronic, and Optical Properties of 2D-3D Ruddlesden-Popper Perovskite Layers", ACS Appl. Energy Materials (I.F. 4.473 for 2019), ACS, Vol. 4, 1860 (2021).

Qiuying Du, Zhen Wang, Si Zhou, J. Zhao, and Vijay Kumar; "Searching for cluster Lego blocks for 3D and 2D assemblies", Phys. Rev. Materials (I.F. = 3.337), American Physical Society, 5, 066001 (2021).

#### Invited Lectures and Talks

Gave a talk in Computational Chemistry Session in Vaibhav Summit on 3 October 2020, 2 talks in Computational Materials Science sessions in the Vaibhav Summit on 15 and 21 October 2020.



#### Professional Activities

**Invited** to be Chair and Moderator of Computational Materials Science Session in VAIBHAV Summit in the Vertical Computational Sciences and Horizontal Computational Natural Sciences. Also Co-Chair and Rapporteur of the Computational Chemistry Session in this Summit.

**Participated:** Panelist in the Computational Chemistry Session of the VAIBHAV Summit

Lead **Panelist** in Computational Materials Science session in the VAIBHAV Summit

Membership: Refereed papers for ACS Omega and Chemistry Select

Chairman and Chief Panelist of the Computational Materials Science Sessions in the Vaibhav Summit.

Co-Chairman and Rapporteur of the Computational Chemistry Sessions in the Vaibhav Summit.

**Participated** in the Vaibhav Summit.

**Refereed** one paper for Applied Physics Letters.

**Refereed** for Chemistry Select and New Journal of Chemistry.



# SCHOOL OF NATURAL SCIENCES

## CENTER FOR ENVIRONMENTAL SCIENCES & ENGINEERING (CESE)

### Key Milestones Achieved

#### Establishment of an Environmental Lab

An Environmental Lab with necessary equipments to cater to requirements for research on plant taxonomy, phytoplankton and Zooplankton and algal identification, water pollution and water quality analysis and Remote Sensing and GIS was established during the period.

#### Research Publications

Center has published six research papers in International and National Journals, two books, edited two books, and contributed three book chapters.

#### Journal Publications

Published six research papers in various journals.

Bhatt, G D and J K Sharma 2020. Land Use/ Cover Change Detection in the Western Part of Upper IndoGangetic Plains of Uttar Pradesh, India - A Geospatial Approach. International Journal of Ecology and Environmental Sciences 46 (1): 83-96

Srivastava, Kshitij., Pandey, P.C\*, & Sharma, J.K, (2020). "An Approach for Route Optimization

in Applications of Precision Agriculture Using UAVs", Drones MDPI, 4(3), 58. Online 18 Sep 2020. DOI: <https://doi.org/10.3390/drones4030058>.

Malhi, R.K.M., Pandey, P.C., Srivastava, P.K., and G.Sandhya Kiran (2020). "Synergetic use of in situ and hyperspectral data for mapping species diversity in Shoolpaneshwar Wildlife Sanctuary, Gujarat". Tropical Ecology (Springer) Special issue (Ecosystem Function and Remote Sensing). 61, 106-115. DOI: <https://doi.org/10.1007/s42965-020-00068-8> (Impact factor- 0.647) ISSN- 2661-8982

Anand, A., Pandey PC \*, Petropoulos, GP., et al. (2020). "Use of Hyperion for Mangrove Forest Carbon Stock Assessment in Bhitarkanika Forest Reserve: A Contribution towards Blue Carbon Initiative". Remote Sensing MDPI, 12(4), 597. DOI: 10.3390/rs12040597 (Impact factor- 4.509)

Pandey, P.C\*, et al (2021) "Land Use/ Land Cover in view of Earth Observation: Data Sources, Input Dimensions and Classifiers -a Review of the State of the Art", Geocarto International, Online. DOI: 10.1080/10106049.2019.1629647 (Impact factor: 3.789)

Amit K Tripathi, Jyoti Kumar Sharma and Mohd Ahmad 2021. Preponderance of alien species in Delhi NCR of western Uttar Pradesh: possible impacts on ecosystem. Tropical Plant Research.

**Book Chapters**

Three Chapters in edited books were published

Amit K Tripathi, Jyoti K Sharma and Mohd Ahmad 2020. Traditional Usages and Chemical Constituents of High Value Medicinal Plants Recorded from Chithara Village Panchayat (Gautam Buddha Nagar) of Uttar Pradesh, India. In: Plants for Novel Drug Molecules: Ethnobotany to Ethnopharmacology, Bikarma Singh & Yash Pal Sharma (eds.), pp. 221-273. New India Publishing Agency, New Delhi.

Prem C Pandey, Amit K Tripathi and Jyoti K Sharma (2021). An Evaluation of GPS Opportunity in Market for Precision Agriculture. In: GPS and GNSS Technology in Geosciences, George P Petropoulos & Prasant Srivastava (eds.), Elsevier.

Pandey, PC\*, Tripathi, AK., and Sharma, JK. (2021). "GPS Applications in Precision Agriculture: An Evaluation for Opportunity in the Market" in- GPS and GNSS in Geosciences, Elsevier, Page- 337-349.



Dr. Jyoti K Sharma



**Chapters in Proceedings**

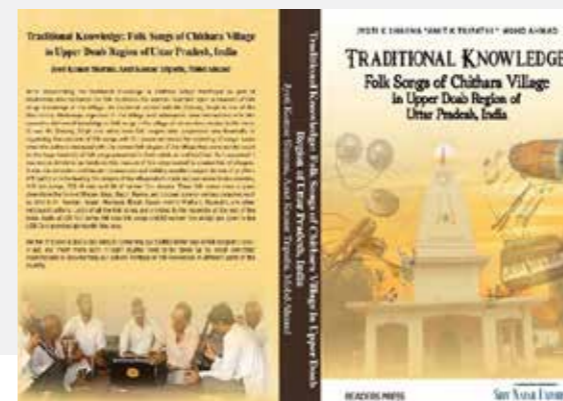
Amit K Tripathi, Jyoti K Sharma and Mohd Ahmad 2020. Wild date palms in Upper Gangetic Plains- A unique ecosystem of biodiversity repository. In: Perspectives on Biodiversity of India, Vol. IV, A. Biju Kumar (Chief Ed.), pp. 5-10. Proceedings of the International Biodiversity Congress (IBC 2018), 4-6 October 2018 held at FRI, Dehradun, India. Published by Centre for Innovation in Science and Social Action (CISSA), Kerala.

Mohd Ahmad, Amit K Tripathi, Jyoti K Sharma 2020. Ethnobotany of important medicinal plants growing as weed and their conservation. In: Perspectives on Biodiversity of India, Vol. IV, A. Biju Kumar (Chief Ed.), pp. 292-296. Proceedings of the International Biodiversity Congress (IBC 2018), 4-6 October 2018 held at FRI, Dehradun, India. Published by Centre for Innovation in Science and Social Action (CISSA), Kerala.

**Books Published**

Published the following three books:

- "Traditional Knowledge: Folk Songs of Chithara Village in Upper Doab Region, Uttar Pradesh, India. (Readers Press, New Delhi) by Dr. Jyoti K Sharma, 2020
- लोकगीतों का पारम्परिक ज्ञान: एक संग्रह- चितहैरा ग्राम पंचायत, गौतम बुद्ध नगर, उत्तर प्रदेश (रीडर्स प्रेस, नई दिल्ली). ज्योति के शर्मा और अमित के त्रिपाठी 2020.
- University 2021. Manish Bhardwaj, Jyoti K Sharma, Amber Habib, Mohmad Masood Khan.



**Books Edited**

- "HYPERSPECTRAL REMOTE SENSING: Theory and Applications", Elsevier (978-0-08-102894-0), Pandey,PC., Srivastava,PK., Balzter,H., Bhattacharya,B and Petropoulos, GP (2020): DOI: 10.1016/C2018-0-01850-2
- Advances in Remote Sensing Techniques for Natural Resource Monitoring, John Wiley & Sons, Ltd, UK. Pandey, P C., Sharma JK. (Jan uary 2021): ISBN (9781119615972)

## Awards and Accolades

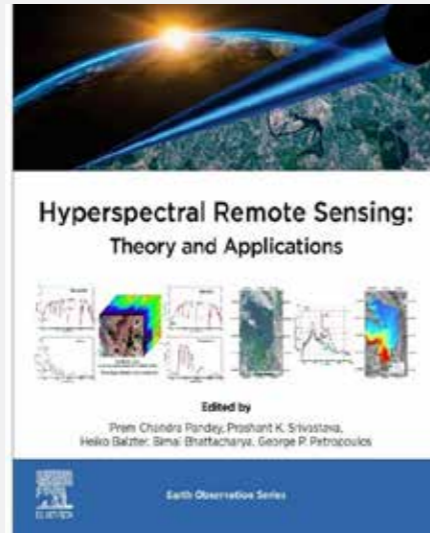
### Dr. Prem C. Pandey

Dr. Prem C. Pandey was selected as:

Member of IUCN- CEM (International Union for Nature Conservation Commission on Ecosystem Management)

Member of Global Land program for 3 years' duration.

Member of The Society of Wetland Scientists.



## Professional Activities

Guest Editor for the Journal Remote Sensing MDPI (impact Factor 4.848)

Reviewer of renowned journal from Nature publication, Scientific Data

## Scientific Reports

Dr. Prem C. Pandey was awarded young rising investigator 2021 by Shiv Nadar University, Delhi-NCR

## Talk Invites

Dr. Prem C Pandey was invited by Sharda University to deliver a talk in the International Conference on "Advances in Agricultural & Food Sciences to Face the Challenges to Environment and Biosecurity" in 2020. He delivered a talk on the "Applications of Remote Sensing in Precision Agriculture using Drones".



Dr. Prem C Pandey

### Dr. Jyoti K. Sharma

#### Talk Invites

Invited to give a talk on International Biodiversity Day in Doon University on 22 May 2021. He delivered a talk on "Role of Butterflies in Ecosystem Functioning".

Invited to give a talk on World Environment Day in Shiv Nadar University, Delhi-NCR on 5 June 2021. He delivered a talk on "Butterflies as indicators of Ecosystem Restoration".

## Key Research Projects

1. Dr. Prem C. Pandey was awarded an externally funded project DST Government of India, on "Wetland assessment using remote sensing technology" for ₹ 27.65 lakhs from the Department of Science & Technology, GOI. (PI: Dr Prem C Pandey; Co-PI: Dr. Jyoti K. Sharma and Dr. Moumita Karmakar)

### Key research project highlights-

- Wetland monitoring and assessment using remote sensing techniques
- Forest mapping and conservation
- Application of Drone in mapping

## Ongoing Research Projects (funded by Shiv Nadar University, Delhi-NCR)

1. Establishment of Thematic Botanic Garden at Shiv Nadar University, Delhi-NCR (PI: Dr. Jyoti K. Sharma; Co-PI: Dr. Amit K. Tripathi)

- With the introduction of numerous rare plant species during the past year the Botanic Garden has a unique distinction in whole of Delhi-NCR and even in northern India to successfully grow these rare plant species. The list is fairly long but a few are mentioned below:

Rosemary, Clove, Pepper, Nutmeg, Olive, Coconut, Coco, Coffee, Rambutan, Black Cardemom, Cardemom, Bay Leaf, All Spice, Arecanut, Breadfruit, Kiwi Fruit, Avocado, Mangosteen, Cashew nut, etc.

2. Biodiversity documentation in Chithara Village Panchayat (PI: Dr. Jyoti K. Sharma; Co-PI: Dr. Amit K. Tripathi)

- Preparation of Model Biodiversity Register for Chithara Village Panchayat was initiated after completing the documentation of flora, fauna and traditional knowledge in Chithara Village Panchayat, the first of its kind of study done in India for a Panchayat.





## DEPARTMENT OF CHEMISTRY

### Key Milestones Achieved

The Department was ranked 21 among the Chemistry Departments across Indian Institutions by **Nature Index** (data published between 1 January - 31 December 2019). The **Nature Index 2020 Annual Tables highlight the institutions and countries that dominated high quality research** in the natural sciences in 2019.

### Launched new programs in Monsoon 2020

- Integrated M.Sc.-Ph.D. in Chemistry
- M.Sc. (Research) in Chemistry
- Integrated B.Sc.-M.Sc.-Ph.D. in Chemistry
- Integrated B.Sc.-M.Sc. (Research) in Chemistry

### Dr. Bimlesh Lochab Develops India's First Sustainable Lithium-Sulfur Battery Technology Leveraging Elements of Green Chemistry

Shiv Nadar University, Delhi-NCR announced the development of a technology of Lithium-Sulfur (Li-S) batteries. The research will aid the production of cost-effective, compact, energy-efficient, safe and environment-friendly Li-S batteries, offering a viable alternative to Lithium-ion batteries



Dr. Bimlesh Lochab

commonly used at present. The Li-S battery technology by Shiv Nadar University, Delhi-NCR leverages principles of Green Chemistry, incorporating usage of by-products from the petroleum industry (Sulfur), agro-waste elements and copolymers such as cardanol (a by-product of cashew nut processing) and eugenol (clove oil) as cathodic materials. It has the potential to aid multi-billion dollar industries including tech gadgets, drones, electric vehicles (EV) and several more that depend on such batteries.

The new battery technology has been developed after an extensive research of five years by the University's Associate Professor in the Department of Chemistry, Dr. Bimlesh Lochab. The research reveals that this Li-S battery technology - once put into production - will be significantly cheaper and sustainable, while offering up to three times higher energy density with intrinsic flame-retardant properties. Dr. Lochab's team has partnered with Indian Institute of Technology-Bombay's Professor in the Department of Energy Science and Engineering, Dr. Sagar Mitra, to use this research for the development of a Li-S battery prototype.

### Dr. Parthapratim Munshi Becomes Fellow of Royal Society of Chemistry, UK

Associate Professor and Head, Department of Chemistry, Dr. Parthapratim Munshi, has joined the Royal Society of Chemistry (RSC), UK, as a Fellow. Dr. Munshi was invited by the world's leading chemistry community through its 'Leaders in the Field' scheme - which identifies outstanding individuals in the chemical sciences - for his significant contributions in the field, particularly in the area of Organic multifunctional materials and several other notable research.

### Dr. Subhabrata Sen Becomes Fellow of Royal Society of Chemistry, UK

Dr. Subhabrata Sen, Professor, Department of Chemistry, has joined the prestigious Royal Society of Chemistry (RSC), UK, as a Fellow. Dr. Sen's research group focuses on fundamental and applied research in synthetic organic chemistry. The group is working on the organic medicinal chemistry, and is involved in the discovery of biologically active molecules through organic chemistry driven approaches.



### Dr. Bappaditya Gole Awarded Ramanujan Fellowship by Department of Science & Technology, Govt. of India

Science and Engineering Research Board (SERB), a statutory body under the Department of Science & Technology, Government of India, has awarded the prestigious Ramanujan Fellowship to Dr. Bappaditya Gole, Assistant Professor, School of Natural Sciences, Shiv Nadar University, Delhi-NCR. Dr. Gole will use the awarded grant in his extensive research in Biomimetic Supramolecular Chemistry.

The Ramanujan Fellowship is awarded to exceptional scientists and engineers from all over the world scientific research in India. Ramanujan Fellows are allowed to work in any of the scientific institutions and universities in India and are eligible for receiving regular research grants through the extramural funding schemes of various science & technology agencies of the Government of India.

Before joining Shiv Nadar University, Delhi-NCR Dr. Gole was a Post-Doctoral Research Fellow at the University of Bordeaux (France) and the University of Würzburg (Germany). An Integrated Master's-Ph.D. holder from the Indian Institute of Science, Bangalore, Dr. Gole is a highly-awarded scholar who has made significant research contributions in various fields of Chemistry including but not limited to self-assembled materials, organic materials, foldamers, crystalline polymers and synthetic peptides.



Dr. Parthapratim Munshi



Dr. Bappaditya Gole

## Awards & Accolades

### Ph.D. Scholars

Ph.D. scholar **Harsh Bhatia** awarded with a Postdoctoral fellowship, University College London, UK. 2020

**Saibal Sar**, Ph.D. candidate at the Department of Chemistry, won the Best Poster Award at the International Conference on Progress and Challenges in Modern Day Science (PCMDS-2021) organized by Department of Chemistry, B. Borooah College in Association with Assam Science Society, June 2021.

**Saad Zafar**, Best Oral Presentation certificate in Science for Sustainable Development (SSD-20) in the National Seminar 'Science for Sustainable Development' organized by Department of Chemistry, B. Borooah College held on September, 25-26 September 2020 in association with Assam Science Technology & Environment Council (ASTEC), Department of Science & Technology, Govt. of Assam.

**Saibal Sar**, was awarded the first prize in Progress and Challenges in Modern Day Science, organized by Department of Chemistry, B. Borooah College and Assamese Chemical Society on 17-18 June 2021.

**Dr. Monisha**, offered Postdoc position from Aarhus University, Denmark in the Department of Electrical and Computer Engineering from 1 August 2021 to 31 July 2023 under Prof. Shweta Agarwal to work on Electronically Functional polymers for Biodegradable Electronics.

**Suman Kumar Mandal** received Postdoctoral Fellowship as a Research Associate, Bristol BioDesign Institute, School of Chemistry/School of Biochemistry, University of Bristol, UK. March 2021 – present.

**Dr. Sanjay Gupta** and **Anil Kumar** received the Bursary award to attend the 25th Congress and General Assembly of IUCr (Virtual), 14-22 August 2021, Prague. Dr. Sanjay Dutta received direct CSIR-SRF award from Govt. of India in the materials science category, October 2020.

**Dr. Monisha** received the postdoctoral fellowship to work at Aarhus University, Denmark in the Department of Electrical and Computer Engineering from 1 August 2021.

**Dr. Nagarjuna Amarnath** received Postdoctoral Fellowship to work at the Fraunhofer-Institut für Fertigungstechnik und Angewandte Materialforschung IFAM, Germany

**Dr. Jyoti Chauhan** received the Postdoctoral Fellowship to work at the Northeastern University, Boston, USA

**Ankita Tripathi** received the second best oral award in RTGAST-21, Department of Chemistry, Teerthanker Mahaveer University, February 2021.

### Undergraduate Students - Awards & Accolades

#### Ananya Biswas, B.Sc. (Research) in Chemistry (Class of 2021)

- Participant of Global Young Scientists Summit (GYSS) 2021, Singapore organized by National Research Foundation, Singapore.



- Certificate of Achievement, Rigaku School for Practical Crystallography 2020 examination.

- Selected to be a Student in the NCCR Master in Chemical Biology program jointly organized by University of Geneva and EPFL, Switzerland (with monthly stipend), admission in September 2021.

- Completed her Senior Project: 1.5 year Master in Chemical Biology program offered by NCCR (National Centre for Competence in Research) Chemical Biology, jointly taught by University of Geneva and EPFL, Switzerland. Completed her Senior Project: 5 year integrated M.S.-Ph.D. program in Complex Systems Chemistry (CSC) Graduate School at the University of Strasbourg, France

#### Malavika Ramkumar, B.Sc. (Research) in Chemistry (Class of 2022)

- Summer Undergraduate Researcher, Case Western Reserve University, Cleveland, USA

- Got selected for a one-year research project, Case Western Reserve University USA, 2021-22 Chemistry Lead for the University's iGEM team 2021

- Dean's Award - MSN 2020

#### Sanjana Maheshwari, B.Sc. (Research) in Chemistry (Class of 2023)

- Chemistry Scholar of XVI batch of National Initiative on Undergraduate Sciences (NIUS) by Homi Bhabha Centre for Science Education, Tata Institute of Fundamental Research (TIFR) (December 2019).

- Undergraduate Research Student at Bhabha Atomic Research Centre (January 2020 - August 2021) (Selection after interview, project and tests at NIUS Chemistry Camp).

- Dean's Award - MSN 2020.

#### Aditya Verma, B.Sc. (Research) in Chemistry (Class of 2023)

- INSA-NSA-Summer Research Fellowship Programme 2021 under Prof. Ramasesha at SSCU, IISc., Bangalore.



### Dr. Animesh Samanta

#### Awards and Honors

Received the Shiv Nadar University, Delhi-NCR Young Investigator Research Award, 2021.

#### Journal Publications

Published four articles in reputed journals. A new pentacyclic pyrylium fluorescent probe that responds to pH imbalance during apoptosis, Chem. Sci.

Highly selective chemosensor for reactive carbonyl species based on simple 1,8-diaminonaphthalene, J. Photochem. Photobiol.

B. A single benzene fluorescent probe for efficient formaldehyde sensing in living cells using glutathione as an amplifier, J. Photochem. Photobiol.

B. ICT based water-soluble fluorescent probe for discriminating mono and dicarbonyl species and analysis in foods. Chem. Commun.

Jana, A., Baruah, M., Munan, S., Samanta, A; "ICT based water-soluble fluorescent probe for discriminating mono and dicarbonyl species and analysis in foods", Chem. Commun., 2021.

## Events

### Ph.D. Scholars

The Department organized a webinar titled 'L'Oréal Research & Innovation (R&I) – Deciphering Career & Research Opportunities' by Dr. Nitu Sood, Scientific Talent Acquisition Specialist, L'Oréal R&I on 6 November 2020. The session was moderated by Dr. Subhabrata Sen, Professor, Department of Chemistry, School of Natural Sciences.

As part of Synergence 2021, the Department organized a webinar titled 'Navigating Landscape of Careers in Natural Sciences' by Dr. Smita Jain, Executive Director, India Bio Sciences, and Shivane Shah, Senior Managing Editor, Cactus Communications on 7 January 2021. The discussion was moderated by Dr. Bimlesh Lochab, Associate Professor, Department of Chemistry.

As part of Synergence 2021 the Department organized a webinar titled 'Research as a Career Prospect' by Dr. Pravee Iyer of Glenmark Pharmaceuticals, on 5 January 2021. The session was moderated by Dr. Subhabrata Sen, Professor, Department of Chemistry.

## Faculty Scholarly Report

### Dr. Ajoy Kapat

#### Awards and Honors

Successfully completed the installation of basic instrumental set-up including Glove-Box for the Radical Chemistry and Catalysis Laboratory located in the room number A221, A-Block.

Successfully taught two new core courses (CHY 502 & CHY 527) for the integrated M.Sc. - Ph.D. students for the first time.

Reported Stereoselective and Stereospecific Triflate Mediated Intramolecular Schmidt Reaction: Easy Access to Alkaloid Skeletons. P. Renaud\*; L. Gnägi; R. Arnold, F. Giornal, H. Jangra, A. Kapat, E. Nyfeler, R. M. Schäfer; H. Zipse\* Angew. Chem. Int. Ed. 2021, 133, 10267-10273.

Received the first research grant from the DST - SERB. Title: Development of Palladium-Catalyzed Triple Cascade for the Synthesis of Tetracyclic Core of Apocynaceae Family of Indole Alkaloids: Combined Experimental & Computational Based Mechanistic Study and Structure Activity Relationship Study for 2 years.

#### Professional Activities

**Membership of Professional Boards:** currently a member of American Association for the Advancement of Science (AAAS).

**Refereeing for Journals:** served as reviewer in last 1 year for three articles, two were submitted in Synthesis and one from Organic Letters.

American Physical Society (APS; life member); American Chemical Society (ACS); Chemical Research Society of India (CRSI); Photographic Society of America, APSA

**Membership of Professional Boards:** American Association for the Advancement of Science (AAAS)

**Refereeing for Journals:** Journal of the American Chemical Society; Synthesis



Dr. Ajoy Kapat



Dr. Animesh Samanta

**Dr. Basab Bijayi Dhar****Journal Publications**

A. Dhara, S. Maity, B. B. Dhar; "Visible-light mediated synthesis of substituted phenazine and phenoxazinone using Eosin Y as photoredox catalyst", *Org. Let.*, 2021, 23, 3269-3273.

Selective U(VI) removal using phosphorous-doped graphitic carbon, *J. Environ. Chem. Eng.*, 2021.

**Dr. Bimlesh Lochab****Awards and Honors**

Awarded Chemical Research Society of India (CRSI) Bronze Medal, 2020

Chief Executive Member of Asian Polymer Association – Sustainability Forum, 2020

Awarded the first **Most Creative Research Award** in 4th International Symposium on Polybenzoxazines, Luxembourg Institute of Science and Technology (LIST), 31 May-4 June 2021.

Most Creative Research Award, 4th International Symposium on Polybenzoxazines, Luxembourg Institute of Science and Technology (LIST), 2021

Shiv Nadar University, Delhi-NCR Research Excellence Award, 2021

Executive member of Sustainability Forum in APA Asian Polymer Association since October 2020

**Journal Publications**

Divambal Appavoo, Nagarjuna Amarnath, **Bimlesh Lochab**; "Cardanol and Eugenol Sourced Sustainable Non-Halogen Flame Retardants for Enhanced Stability of Renewable Polybenzoxazines"; *Front. Chem.*, 30 September 2020 <https://doi.org/10.3389/fchem.2020.00711>. (\*Equal contribution)

Nisha Yadav, Deepika Kannan, Sachin Patil, Shailja Singh and **Bimlesh Lochab**; "Amplified activity of artesunate mediated by iron oxide nanoparticles loaded on graphene oxide carrier for cancer therapeutics"; *ACS Appl. Bio Mater.* 2020, 3, 10, 6722–6736.

Nisha Yadav, Monisha Monisha, Rashmi Niranjana, Amrita Dubey, Sachin Patil1, **Richa Priyadarshini, Bimlesh Lochab**;



Antibacterial performance of fully bio-based chitosan-grafted-polybenzoxazine films: Elaboration and properties of released material, *Carbohydr. Polym.* 2020, 117296.

Nagarjuna Amarnath, Sourav Mukherjee and **Bimlesh Lochab**; "Understanding the Stereochemical Effect on the Properties of Emerging Thermosets: Sustainable Polybenzoxazines", *ACS Sustainable Chem. Eng.* 2021, 9, 22, 7550–7560.



Dr. Basab Bijayi Dhar

**Bimlesh Lochab**, Monisha Monisha, Nagarjuna Amarnath, Pratibha Sharma, Sourav Mukherjee and Hatsuo Ishida, "Accelerated and Low-Temperature Polymerization of Benzoxazine Resins: Addition Polymerizable Sustainable Polymers", *Polymers*, 2021, 13(8), 1260; <https://doi.org/10.3390/polym13081260>. (Open Access).

**Invited Lectures and Talks**

Invited speaker for International Webinar on 'COVID – 19 and 3Ls: Lives, Livelihood and Lockdown', Talked about "Research Then, Now and in Future", held on 26 April 2020 organized under 'e-Saanidhy: 2020' Maitreyi College, University of Delhi.

Invited speaker for the Global Virtual Conference on Green Chemistry, 5-6 October 2020.

Invited lecture, National Webinar on Sustainable Polymers, Shyam Lal College University of Delhi, 19 November 2020.

Invited as Discussant in Webinar On Making High Performance Polymers Greener via Monomers Derived from Cashew Nut Shell Liquid (CNSL) and Lignin by Dr. Prakash P. Wadgaonkar Emeritus

Scientist, Polymer Science and Engineering Division, CSIR-National Chemical Laboratory, Pune in Somaiya Vidyavihar University, Society of Polymer Science India, Mumbai Chapter, available on YouTube <https://www.youtube.com/watch?v=Jlb0sgrnGyo>, Chaired by Dr. Prakash Trivedi, 10 October 2020.

Invited as keynote speaker in green forum, 4th International Symposium on Polybenzoxazines, Luxembourg Institute of Science and Technology (LIST), 31 May-4 June 2021. <https://www.ispbz2021.lu/>

Invited for a talk on Asian Polymer Association - Sustainability Forum on "Sustainable Polymers for Energy Sector: Indian Scenario", Webinar, 24 April 2021.

**Invited Lectures and Talks**

Refereed manuscript in International Journals and received certificate for recognitions from Elsevier.

Refereed manuscript in International Journals and received certificate for recognitions from ACS Nano, Carbon, Macromolecules, ACS Sustainable Chem. Engg, Eur. Polym. J, Polym. Chem. (RSC, ACS, Wiley, Elsevier journals)

**Editorial and Mass Media Articles**

Newspapers (several) cited B. Lochab, Green and Sustainable Chemistry work on Li-S battery, PTI, 24 August 2020. The Financial Express, The Hindu Business Line etc.

**Dr. Biswajit Guchait**

Received Project Title: Photoinduced Charge Transfer and Förster Energy Transfer Dynamics in Supported Ionic Liquid Membranes, SERB, Amount (in INR): ₹27 lakhs for 2 years.

Established picosecond resolved fluorescence spectroscopy laboratory.

Developed eight new lab experiments and implemented in a PG course (thermodynamics and reaction dynamics).

**Dr. Debdas Ray****Awards and Honors**

Received an external research grant on data security application. Project title: Organic high efficient biluminescent materials for data security applications" DST-SERB, 3 years support, ₹40 Lakhs.



International Research Collaborations with Prof. Ebinazar B. Namdas, School of Mathematics and Physics, Centre for Organic Photonics & Electronics, The University of Queensland, St Lucia Campus, Brisbane, Australia; Shuzo Hirata, Department of Engineering Science (Fundamental Science and Engineering), University of Electro-communication, Japan.

Published an open access reputed journal (<https://doi.org/10.1002/adpr.202000201>) based on organic light emitting devices with international collaboration with Prof. Ebinazar B. Namdas, The University of Queensland, Australia.

Published two other open access journals (Wiley and ACS). The research articles (J. Phys. Chem. Lett(s); J. Phys. Chem. C.; Chem. Commun.) are cited by high impact factor journals like Nature Communication, Angew. Chem., Adv. Matter., Adv. Opt. Matter., J. Phys. Chem. Lett., Materials Horizons, and others.

**Professional Activities**

- Reviewed Journals: (1) The Journal of Photochemistry Photobiology (RSC, 1 No), (2) Chemical Communications (RSC), 1 No; (3) Adv. Opt. Mater. (1 No).
- Reviewed three DST-SERB projects.
- Participated in the Joint IISc-TIFR Webinar series (International) in Chemical Sciences held on 5 November at TIFR.



Dr. Biswajit Guchait

**Journals Reviewed:**

The Journal of American Chemical Society (JACS); Angewandte Chemie International Edition. (Wiley-VCH); Advanced Optical Materials (Wiley-VCH); Inorganic Chemistry (ACS)

**Membership of Professional Boards:** CRSI-India & American Chemical Society (ACS).

**Dr. Kshatresh Dubey****Awards and Honors**

Published three research articles in highly prestigious journals; ACS Catalysis (Impact Factor: 13.01), Molecules (Impact Factor: 4.4), and Frontiers in Chemistry (Impact Factor: 5.2) Published one Book Chapter in Royal Society of Chemistry. Reviewer invitation from the Nature Communications.

Reviewer for a research grant from National Research and Development Agency, Govt. of Chile.

**Dr. Parthapratim Munshi****Awards and Honors**

- Honored as the Fellow of Royal Society of Chemistry (FRSC), UK, 2020
- Member of the Advisory Board of CrystEngComm –Journal by Royal Society of Chemistry, 2021

- Member of the Commission on Quantum Crystallography (QCr) of the IUCr, 2021 – 2024.
- Consultant to the Commission on Quantum Crystallography (QCr) of the IUCr, 2020 – 2021.
- Shiv Nadar University, Delhi-NCR Research Excellence Award, 2021



Dr. Debdas Ray



Dr. Kshatresh Dubey

**Dr. Subhabrata Sen****Awards and Honors**

- Honored as the Fellow of Royal Society of Chemistry (FRSC), UK, 2021
- Received the Research Fellowship from University of Paris
- Shiv Nadar University, Delhi-NCR Research Excellence Award, 2021

**Books and Book Chapters**

**Sen, Subhabrata., Maiti, Debajit.** (in press). 8-Rings 1 S. Reference Module in Chemistry, Molecular Sciences and Chemical Engineering (planned for publication in the Comprehensive Heterocyclic Chemistry IV edited by Christian Stevens, David Black and Janine Cossy) Elsevier, doi: 10.1016/ B978-0128186558-00066-4.

**Books and Book Chapters**

Jyoti Chauhan, Srinivas R Maddi, **Kshatresh Dutta Dubey** and **Subhabrata Sen**; "Developing C2-aryl indoles as novel inhibitors of hIDO1 and understanding their mechanism of inhibition via mass spectroscopy, QM/MM calculations and molecular dynamics simulation". **Front. Chem.** 2021, doi: 10.3389/fchem.2021.691319.

Saibal Sar, Ranajit Das and **Subhabrata Sen** Blue LED Induced Manganese(II) Catalysed Direct C2-H Activation of Pyrroles with Aryl Diazoesters. **Adv. Synth. Catal.** 2021, 10.1002/adsc.202100305.

Souvik Guha, Satyanarayana Gadde, Naresh Kumar, David StClair Black and **Subhabrata Sen**, Orthogonal syntheses of  $\beta$ -carbolinone and spiro[pyrrolidinone-3, 3']indole derivatives in one pot through reaction telescoping. **J. Org. Chem.** 2021, doi.org/10.1021/acs.joc.1c00141.

Akshaykumar Nayak, Himani Saxena, Chandramohan Bathula, Tarkeshwar Kumar, Souvik Bhattacharjee, **Subhabrata Sen**, Ashish Gupta\* Diversity-oriented synthesis derived indole based spiro and fused small 1 molecules kills artemisinin-resistant Plasmodium falciparum; **Malaria Journal** 2021, https://doi.org/10.1186/s12936-021-03632-2.

Debajit Maiti, Ranajit Das and **Subhabrata Sen** Blue LED mediated N-H insertion of indoles into aryldiazoesters at room temperature in batch and flow: Reaction kinetics, DFT and mechanistic study; **J. Org. Chem.** 2021, just accepted, DOI: 10.1021/acs.joc.0c02649

**Dr. N. Sukumar****Editorial and Mass Media Articles**

Interviewed for Chemistry World (published 4 September 2020) <https://www.chemistryworld.com/news/chemists-welcome-indias-new-education-policies-focus-on-interdisciplinary-learning/4012390.article#/>) and Nature on the New Education Policy (NEP2020).

**Professional Activities****Participated:**

- ACS - Drug repositioning/ repurposing: Promising strategy to develop therapy against viral infections: 31 July 2020
- MHRD - The Molecular Magic of the Primary Steps of Photosynthesis: 20 August 2020
- ACS - Reversible Chemical Tools

to Capture Life in Action: 4 September 2020

- MHRD - Granular Mining, Uncertainty Modelling and Data Science: Concepts, Models and Challenges: 26 September 2020
- MHRD - Organic Electronics: 30 September 2020

**Member:** American Physical Society (APS); American Chemical Society (ACS); Chemical Research Society of India (CRSI); Photographic Society of America, APSA

**Refereed for:** Future Medicinal Chemistry; Current Computer-Aided Drug Design

**Participated:** Royal Society of Chemistry webinar, 2 November 2020.

**Member:** American Physical Society (APS; life member); American Chemical Society (ACS); Chemical Research Society of India (CRSI); Photographic Society of America, APSA. Expert evaluator for the Drug Discovery Hackathon (DDH 2020).

**Became lifetime member of:** American Physical Society (APS); American Chemical Society (ACS); Chemical Research Society of India (CRSI)

**Member** of Photographic Society of America, APSA

**Expert** evaluator for the Drug Discovery Hackathon DDT2-06

**Conference Papers and Talks**

Manuja Kothiyal, Santosh Kumar and N. Sukumar, Study of real world chemical networks using random matrix theory and graph measures, Delhi Dynamics Day-2020, 19 December 2020.

"The Road Less Travelled: Meanderings in the Less-known India" MakeMyTrip Holiday Expert Channel, 12 May 2021.



Dr. N. Sukumar

## DEPARTMENT OF LIFE SCIENCES

### Key Milestones Achieved

Three new research project grants were sanctioned to the Department's faculty members, 24 research papers, 5 review articles and 2 book chapters were published by faculty members.

3 Ph.D. students from the Department were awarded Ph.D. degrees. 9 UG students were selected for higher studies in Masters/Ph.D. programs in reputed Universities/Institutes in India and abroad.

New research laboratories were established during this period which includes, BSL-3 category laboratory for research work on highly infectious pathogens and BSL-1 category laboratory for planaria culture for research on tissue repair & regeneration biology.

During the pandemic period, the Department successfully transformed all teaching classes to online mode and successfully conducted online classes for both UG and Ph.D. teachings.

Department successfully conducted Monsoon 2020 Ph.D. admission entrance exam and interviews in online mode for the first time due to pandemic.

### Awards and Accolades

Dr. Ashish Gupta was awarded with 'Research Excellence Award-2021' during the Circle of Excellence award ceremony on the special occasion of 10th anniversary celebration of Shiv Nadar University, Delhi NCR.

Dr. Anindita Chakrabarty received 'Shiv Nadar University, Delhi-NCR Teaching award' for innovative and inspirational practices (Circle of Excellence award ceremony, 2021) and 'Opportunities of Undergraduate Research' (OUR) supervision award (Circle of Excellence award ceremony, 2021)

Ph.D. student Mainak Pratim Jha has secured both ICMR-SRF and CSIR-SRF for the year 2020.

Dr. Koyeli Mapa joined as an invited member of Board of Reviewing Editors (BRE) of the journal eLife

Dr. Ashish Gupta was invited to continue as Editorial Board Member (EBM) for Scientific Reports journal (Springer Nature).

Dr. Anindita Chakrabarty joined the editorial board of the Journal Frontiers in Genetics.

UG students Ranjini Bahttacharya's (under supervision of Dr. Anidita Chakrabarty) and Aakash Grover (Under supervision of Dr. Ashish Gupta) received best project award in the OUR felicitation ceremony 2021.

Dr. Anindita Chakrabarty article "Generation of reactive oxygen species is the primary mode of action and cause of survivin suppression by sepantronium bromide (YM155)" made a cover page in RSC Medicinal Chemistry issue 2021, 12, 566-578.

Dr. Richa Priyadarshani and Dr. Rohini Garg participated as judges for iGEM competition, virtual Giant jamboree (Nov-2020).



Ph.D. student Parul Pal, secured 3rd position in oral presentation at "Revealing a new paradigm of Biology in the 21<sup>st</sup> century: A Cellular and Molecular approach" - held on the 8-9 April 2021, Amity Institute of Biotechnology, Noida.

Ph.D. student, Mudassar Ali secured third prize at an international conference titled "Revealing a new paradigm of biology in the 21st century: A cellular and molecular approach" organized by Amity University, Uttar Pradesh, Noida held on 8-9 April 2021.

Ph.D. student Rashmi Niranjana received 2<sup>nd</sup> position in oral presentation in Food and Biotechnology section in International Conference on Advances in Biosciences and Biotechnology (ICCABB 2021) conducted over 3 days from 28-30 January 2021 at Jaypee Institute of Information Technology, Noida.

Ph.D. student Deepa Seti received 2<sup>nd</sup> position in oral presentation in Agriculture, Environment and Industry section in 3 days International Conference on Advances in Biosciences and Biotechnology (ICABB 2021) 28-30 Jan, 2021 held at Jaypee Institute of Information Technology, Noida.

Dr. Rohini Garg was selected to serve as core committee member from Biological Sciences for INYAS for two years (2021-2023).

Dr. Rohini Garg delivered a lecture in 'Vigyan Main Safalta Ke Awsar' program organised by INYAS, Delhi-NCR for school children on 19th June 2021 and a webinar on women science day on "Studying epigenomics to understand plant environment interactions" in NASI- DDUC Webinar Series on 28 February 2021.



Dr. Ashish Gupta



Dr. Anindita Chakrabarty



Dr. Koyeli Mapa



Dr. Rohini Garg

## Key Research Projects

Research grant was awarded to Dr. Nagasuresh Veerapu from DBT to perform research on SARS-CoV2.

A research grant was awarded by DBT to Dr. Koyeli Mapa in collaboration with CSIR-CCMB to work on mitochondrial proteotoxicity.

Dr. Richa Priyadarshani received research grant from ICMR for research on biofilm formation and pathogenesis in *E. coli*.

Dr Rohini Garg is a Co-PI in DST sponsored, WTI, "Development of AI based DSS for Improved Crop Water Use Efficiency under Regulated Deficit Drip Irrigation Regime in the Backdrop of Climate Change" in collaboration with Civi Engineering Department and Jain Irrigation as Industrial partner.

## Scholarly Activity Report

### Dr. Deepak Sehgal

#### Professional Activities

- Department of Science and Technology for EMR grants
- Biotechnology Ignition Grant Scheme (BIGS, DBT)
- Small Business Innovation Research Initiative (SBIRI, DBT)
- Biotechnology Industry Partnership Programme (BIPP, DBT)



Dr. Deepak Sehgal



#### Professional Activities

**Research Advisor:** Double Helix Research publishing house for publishing the journals, DHR International Journal of Biomedical and Life Sciences; DHR International Journal of Pharmaceutical Sciences; DHR International Journal of Medical Science

- Department of Science and Technology for EMR grants
- Biotechnology Ignition Grant Scheme (BIGS, DBT)
- Small Business Innovation Research Initiative (SBIRI, DBT)
- Biotechnology Industry Partnership Programme (BIPP, DBT)

### Dr. Koyeli Mapa

#### Honors and Awards

Joined Board of Reviewing Editors (BRE) of the journal *eLife*.

#### Books and Book Chapters

**Book Chapter:** Possible therapeutic intervention strategies for COVID-19 by manipulating the cellular proteostasis network- Mudassar Ali, Jyotirmoy Rajukar; Priyanka Majumder, Mainak Pratim Jha, Rajasri Sarkar, Koyeli Mapa. (Under minor revision) Invited book chapter for Springer book on Heat Shock Protein Series, special edition on Coronaviruses.

"An Overview of Protein Homeostasis Pathways to Safeguard the Cellular Powerhouse from Proteotoxic Stresses" Priyanka Majumder, Mudassar Ali, Rajasri Sarkar, and Koyeli Mapa\* (\*corresponding author). (under communication) Invited book chapter for Springer book on Heat Shock Protein Series.



**Book Chapter:** "Possible therapeutic intervention strategies for COVID-19 by manipulating the cellular proteostasis network"- Mudassar Ali, Jyotirmoy Rajukar, Priyanka Majumder, Mainak Pratim Jha, Rajasri Sarkar, Koyeli Mapa\* (\* corresponding author). (accepted for publication) Invited book chapter for Springer book on Heat Shock Protein Series, special edition on Coronaviruses.

**Book Chapter:** "An Overview of Protein Homeostasis Pathways to Safeguard the Cellular Powerhouse from Proteotoxic Stresses" Priyanka Majumder, Mudassar Ali, Rajasri Sarkar, and Koyeli Mapa\* (\*corresponding author). (accepted for publication) Invited book chapter for Springer book on Heat Shock Protein Series.

#### Journal Publications

Ali M, Boosi Narayana Rao K, Majumder P, Sarkar R, **Mapa K.**; "Alterations in inter-organellar crosstalk and Ca<sup>2+</sup> signaling through mitochondria during proteotoxic stresses"; *Mitochondrion*. 2020 Dec 17;57:37-46. doi: 10.1016/j.mito.2020.12.003. Online ahead of print. PMID: 33340711, Impact Factor 3.992

Sadat A, Tiwari S, Verma K, Ray A, Ali M, Upadhyay V, Singh

A, Chaphalkar A, Ghosh A, Chakraborty R, Chakraborty K, Mapa K\* (\*corresponding author); "GROEL/ES Buffers Entropic Traps in Folding Pathway during Evolution of a Model Substrate"; *J Mol Biol*. 2020 Aug 21. PMID: 32835659 Impact factor 5.04

Ali M, Boosi Narayana Rao K, Majumder P, Sarkar R, Mapa K\$ (\$ corresponding author); "Alterations in inter-organellar crosstalk and Ca<sup>2+</sup> signaling through mitochondria during proteotoxic stresses", *Mitochondrion*. 2021 Mar; 57:37-46. doi: 10.1016/j.mito.2020.12.003. Epub 2020 Dec 17. PMID: 33340711, Impact Factor 3.992

Anwar Sadat, Satyam Tiwari, Mapa K, "Protocol for spontaneous and chaperonin assisted in vitro refolding of a slow folding mutant of GFP, sGFP", (corresponding author). Accepted in Bioprotocol.

#### Conference Papers and Presentations

Oral presentation by Ph.D. student, Mr. Mudassar Ali titled "Mitochondrial sub-compartments elicit distinct stress response triggered by proteotoxic stress" at an international conference "Revealing a new paradigm of biology in the 21st century: A cellular and molecular approach" organized by the Centre for Cellular and Molecular Biotechnology, Amity Institute of Biotechnology, Amity University, Uttar Pradesh, Noida held on 8-9 April 2021. The oral presentation secured third prize in oral presentation category.



### Invited Lectures and Talks

Invited lecture titled "Deciphering the sub-mitochondrial compartment specific proteotoxic stress response using *S. cerevisiae* as a model organism" in international Cellular and Protein Homeostasis Webinars, held on Tuesday 16 February 2021.

### Professional Activities

- Member of Board of Reviewing Editors of the journal *eLife*
- Adjunct Faculty of Academy of Scientific and Innovative Research (AcSIR) at CSIR-IGIB for a period of three years (2018-21).
- Life Member of Indian Cell Biology Society.
- Joined Board of Reviewing Editors (BRE) of the journal *eLife*

### Dr. Manasi Mishra

#### Journal Publications

**Mishra M** (2020); "Evolutionary aspects of the structural convergence and functional diversification of Kunitz-domain inhibitors"; *Journal of Molecular Evolution*, Springer 88(7): 537-548.

**Mishra M**, Singh V, Tellis MB, Joshi RS, Pandey KC, Singh S (2020); "Cyclic peptide engineered from phytocystatin inhibitory hairpin loop as an effective modulator of falcipains and potent anti-malarial"; *Journal of Biomolecular Structure and Dynamics*, Taylor & Francis

**Mishra M**, Singh V, Tellis MB, Joshi RS, Singh S (2021); "Repurposing the McoTI-II rigid molecular scaffold in to inhibitor of 'papain superfamily' cysteine proteases"; *Pharmaceuticals*, MDPI 14, 7: 1-17.

#### Journal Publications

Participated in "Young Investigators' Meeting 2021 (YIM 2021)" as a Young Investigator. Held between 17th to 19th March, 2021 (Virtual Mode) organized by India Bioscience and Department of Biotechnology, GOI.

**Book reviewed** "Reproductive Biology of Angiosperm: Theory and Practical", Cambridge University Press, India – 3 chapters.

**Reviewed** research article for *Journal of Biomolecular Structure and Dynamics*.



### Dr. Rajan Vyas

#### Invited Lectures and Talks

Invited speaker at Department of Computational Sciences, Central University of Punjab, Bathinda, Punjab. Title: Bioinformatics and Chemical Biology Webinar Series, Date: 13 November 2020

### Dr. Jayadev Magani

#### Books and Book Chapters

M. Sri Durgambica, K. Parimala, M. Sri Krishna Jayadev, Pothana Shanmukha Anand, and Tantravahi Srinivasan. An Insight into the Therapeutic Potential of Phytochemicals for Colorectal Cancer: Latest Perspective. *Colon Cancer Diagnosis and Therapy*, Springer Nature 2021, [https://doi.org/10.1007/978-3-030-64668-4\\_12](https://doi.org/10.1007/978-3-030-64668-4_12)

#### Conference Papers and Presentations

Deepu Sharma; Fayyaz Rasool; Komal M Vyas; Sri Krishna Jayadev Magani. Novel ruthenium-based compound as a combination therapeutic in regorafenib resistant colorectal cancer cells. 14th International Symposium on Cancer Prevention and Therapeutics 16-17

March 2021 Jawaharlal Nehru University, New Delhi, India. Fayyaz Rasool; Deepu Sharma; Sri Krishna Jayadev Magani. Understanding the role of Genetic and epigenetic changes associated with drug resistance against Regorafenib in colorectal cancer cells. 14th International Symposium on Cancer Prevention and Therapeutics 16-17 March 2021 Jawaharlal Nehru University, New Delhi, India.

### Dr. Richa Priyadarshini

#### Books and Book Chapters

Plastic to Bioplastic (P2BP): A Green Technology for Circular Bioeconomy- Special research topic- Role- Co-editor.

#### Journal Publications

### Dr. Bimlesh Lochab (Chemistry) & Dr. Richa Priyadarshini (Life Sciences)

Nisha Yadav, Monisha Monisha, Rashmi Niranjana, Amrita Dubey, Sachin Patil, Richa Priyadarshini, Bimlesh Lochab; "Antibacterial performance of fully bio-based

chitosan-grafted-polybenzoxazine films: Elaboration and properties of released material", *Carbohydr. Polym.* 2021, 254, 117296.



Dr. Manasi Mishra



Dr. Jayadev Magani



Dr. Rajan Vyas



Dr. Richa Priyadarshini

## DEPARTMENT OF MATHEMATICS

### Awards & Accolades - Internal

Department of Mathematics was one of three Departments to get the “Best Teaching Department Award” during the Circle of Excellence award ceremony held on 6 April 2021 on the special occasion of 10th Anniversary celebration of Shiv Nadar University, Delhi-NCR.

### Circle of Excellence awards:

- Dr. Ajit Kumar and Dr. Amber Habib received the Outstanding Teaching Award
- Dr. Sanjeev Agrawal received the Distinguished Professor Award.
- Dr. Charu Sharma received the Inspirational and Innovative Practices Award for teaching.
- Dr. Dipti Dubey received the “Rising Stars” teaching award.
- Dr. Ajit Kumar and Md. Saif received the Service Award.

### Scholarly Activity Report

#### Dr. Lal Mohan Saha

##### Books and Book Chapters

Book Chapter: L. M. Saha (2020): Chaos and



Dr. Lal Mohan Saha

Complexity Dynamics of Evolutionary Systems. Accepted, as a chapter of the book “**Chaotic Systems**”, Edited by Prof. Paul Bracken, INTECHOPEN LIMITED, ISBN 978-1-83962-859-7.

**Book Chapter:** L. M. Saha (2020): Chaos and Complexity Dynamics of Evolutionary Systems. Published, as a chapter of the book “**Chaotic Systems**”, Edited by Prof. Paul Bracken, INTECHOPEN LIMITED, ISBN 978-1-83962-859-7.

**L. M. Saha (2020):** Chaos and Complexity Dynamics of Evolutionary Systems. Published, as a chapter of the book “A Collection of Papers on Chaos Theory and Its Applications” “**Chaotic Systems**”, Chapter 10. Edited by Prof. Paul Bracken and Dimo I. Uzunov, INTECHOPEN LIMITED, ISBN 978-1-83962-859-7. DOI: <http://dx.doi.org/10.5772/intechopen.94295>. 185 – 214.

**Book Chapter:** M. K. Das and Lal Mohan Saha (2021): Chaotic Dynamics and Complexity in Real and Physical Systems. “Advances in Dynamical Systems Theory, Models, Algorithms and Applications” edited by Dr. Bruno Carpentieri. INTECHOPEN LIMITED

##### Journal Publications

L. M. Saha and Nandlal Mandal (2021); “Complex Evolution Dynamics of Insect Population”, J Pur Appl Math Vol 5 No 2, 16 – 22.

Neha Kumra, L. M. Saha and M. K. Das (2021); “Application of asymptotic stability analysis in two and three-dimensional discrete structures to control chaos”, Int. J. Math. Eng. Manag. Sci., 6 (2): 677 – 687.

Bijan Bagchi; Dibyendu Ghosh; Lalmohan Saha (2021); “Qualitative analysis of a classical double oscillator model”, Archive: arXiv: 2103.09.09797. DOI:10.5772/intechopen.96573

Sada Nand Prasad, L. M. Saha and Abdullah A. Ansari (2021): Measuring Complexity and Chaos in Three - Species Food Chain System



with the Beddington-De Angelis Functional Response. accepted, Indian Journal of Mathematics (IJM) / Bulletin of the Allahabad Mathematical Society.

##### Professional Activities

External Experts of the Board of Studies of University School of Basic and Applied Sciences, Guru Gobind Singh Indraprastha University, Sector 16-C, Dwarka, New Delhi – 110078.

Attended a BOS Meeting on 22 December 2020 to finalize examiners for Ph.D. courses.

External Experts of the Board of Studies of Department of Mathematics, Jamia Millia Islamia, New Delhi.

A founding member of the Board of Studies for the School of Engineering and Technology, BML Munjal University, Sidhrawali, Gurgaon.

External **Experts** of the Board of Studies of University School of Basic and Applied Sciences, Guru Gobind Singh Indraprastha University, Sector 16-C, Dwarka, New Delhi.

Attended a BOS Meeting on 22 December 2020 to finalize examiners for Ph.D. courses.

External Experts of the Board of Studies of Department of Mathematics, Jamia Millia Islamia, New Delhi

A founding **member** of the Board of Studies for the School of Engineering and Technology, BML Munjal University, Sidhrawali, Gurgaon.

External **Experts** of the Board of Studies of Department of Mathematics, Sharda University, Greater Noida, U. P.



**Dr. Dipti Dubey****Journal Publications**

Dubey, Dipti, Neogy, S.K; "On testing nonnegativity of principal minors of Z-matrices using simplex method", *Annals of Operations Research* (2021). <https://doi.org/10.1007/s10479-021-04095-z>

**Professional Activities**

Attended short term course on Matrix Analysis and its Applications conducted by the Department of Mathematics NIT Jalandhar during 23-27 September 2020.

**Invited Lectures and Talks**

Gave two invited talks on the topic *Linear Complementarity Problem* in **Refresher course in applied mathematics and statistics** organized by Devi Ahilya University, Indore (MP) during 25 November 2020 to 8th December 2020.

**Invited Lectures and Talks**

Gave an invited talk in International Symposium on Computational Operations Research and Algorithmic Game Theory, 29-31 March 2021 organized (ONLINE MODE) by Indian Statistical Institute, Delhi Centre.

**Dr. Amber Habib****Journal Publications**

Samir Kumar Hazra and Amber Habib; "Exact sequences in the cohomology of a Lie superalgebra extension", *Linear and Multilinear Algebra*, (IF=1.1), Taylor and Francis, March 2021.

**Invited Lectures and Talks**

Gave 3 lectures in Online Foundation Course in Mathematics, conducted by MTTs Trust and funded by NBHM during 04-14 October, 2020.

Gave a lecture on "Newton's Method and Fractals" to students of Islamic University of Science & Technology on 26 December 2020, as part of celebrations of National Mathematics Day.

Gave 4 lectures on "Baire Category Theorem and its Applications" in Refresher Course in Mathematics, Ramanujan College, University of Delhi, 16-30 March

Faculty Enrichment webinar on "Mathematics" organized by National Resource Centre for Education on 24 March:

- Lecture on Engaging Pedagogy and Optimising Learning Strategies for University Teachers.
- Panelist for Promoting Teaching and Learning for Teachers in Higher Education

**Conference Papers and Presentations**

The Interplay of Mathematics and Finance, Proc Indian Natn Sci Acad, 86 No. 4 December 2020 pp. 1441-1445. PINSAs\_2020\_Art84.pdf

**Dr. A. Satyanarayana Reddy****Invited Lectures and Talks**

Resource person for Online Foundation Course in Mathematics (OFCM-2020) organized by the MTTs Trust during 04-24 October, 2020.

Resource person for Online SDP on Linear algebra and its applications organized by Department of Mathematics SGTB Khalsa College, Sri Anandpur Sahib, Punjab from 26 October to 7 November 2020.

Resource person for 80th Refresher Course in Mathematics and Statistics Sciences for the college and university

teachers organized by UGC-Human Development Center, Punjabi University, Patiala from 16 November to 28 November, 2020.

**Professional Activities**

Member of organizing committee of Online Foundation Course in Mathematics (OFCM-2020) a national level program organized by the MTTs Trust during 04-24 October, 2020.

**Dr. Sudepto Bhattacharya****Journal Publications**

Rinku Sharma, Shashankaditya Upadhyay, Sudepto Bhattacharya and Ashutosh Singh; "Abiotic stress responsive miRNA and transcription factor mediated gene regulatory network in *Oryza sativa*: Construction and structural measure study", *Frontiers in Genetics* 12:618089.

**Dr. Nitesh Sahni and Dr. Charu Sharma****Journal Publications**

**Charu Sharma & Nitesh Sahni**, A mutual information based R-vine copula strategy to estimate VaR in high frequency stock market data, *Plos-One* (IF=2.74), 2021.

**Dr. Charu Sharma****Journal Publications**

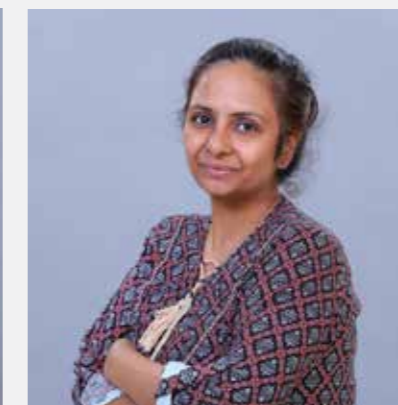
Richa Chauhan, Jay Singh, **Charu Sharma**, Prasad Dange, Anita Chopra, Manoranjan Mahapatra, Haraparasad Pati; "The Utility of a Single Tube 10-Color Flow Cytometry for qualitative and quantitative analysis in Myelodysplastic Syndrome- a pilot study", *Leukemia Research* (Impact Factor=2.319), 2021, <https://doi.org/10.1016/j.leukres.2021.106651>



Dr. Amber Habib



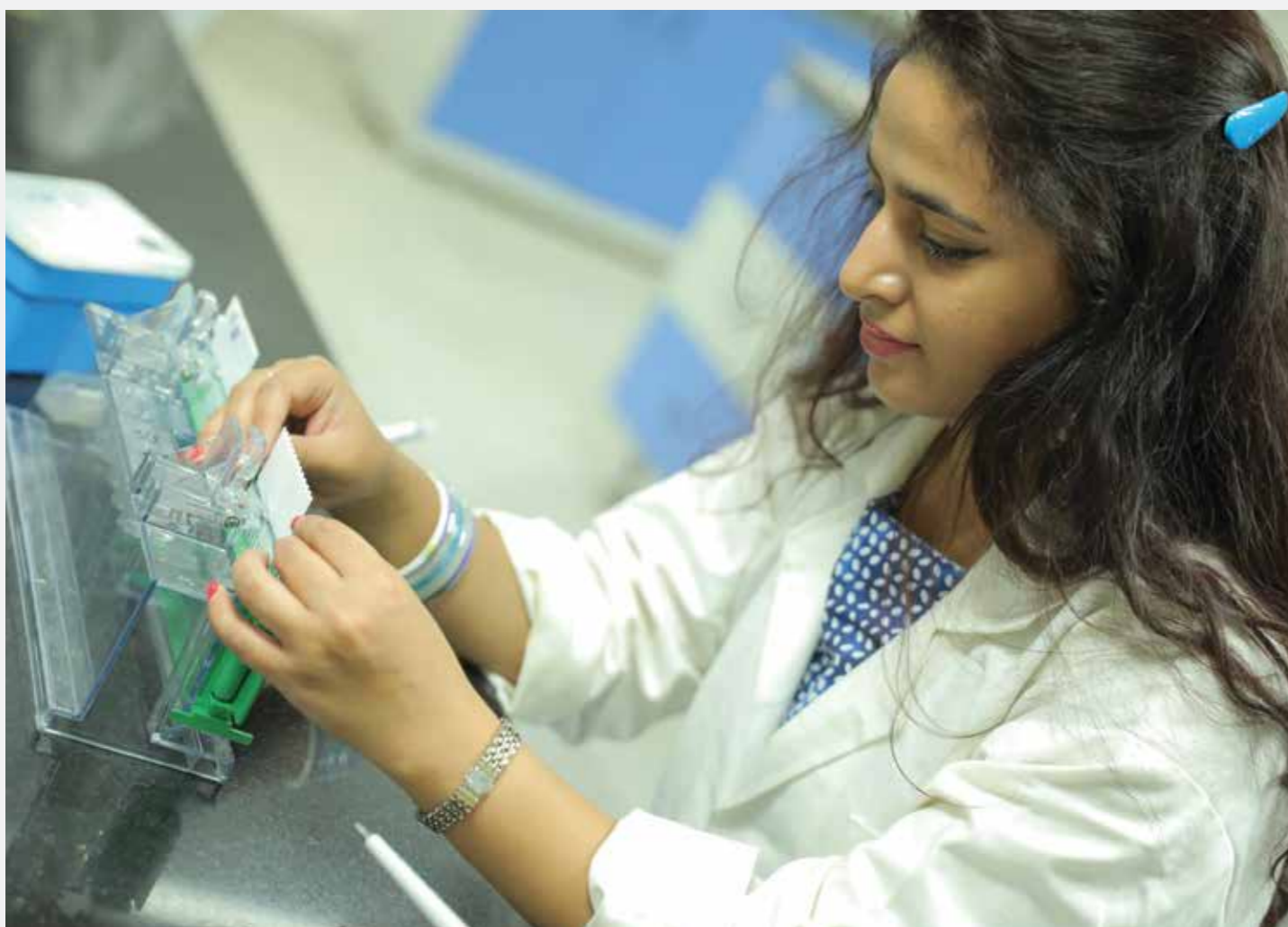
Dr. A. Satyanarayana Reddy



Dr. Charu Sharma



Dr. Nitesh Sahni



## DEPARTMENT OF PHYSICS

### Key Milestones Achieved

Implemented FIST project; and midterm review was conducted by DST successfully

Successfully completed DAE-BRNS and UGC-DAE CSR projects.

Implemented a virtual laboratory for online physics teaching

No of publications: 44

No of Conference contribution: 24

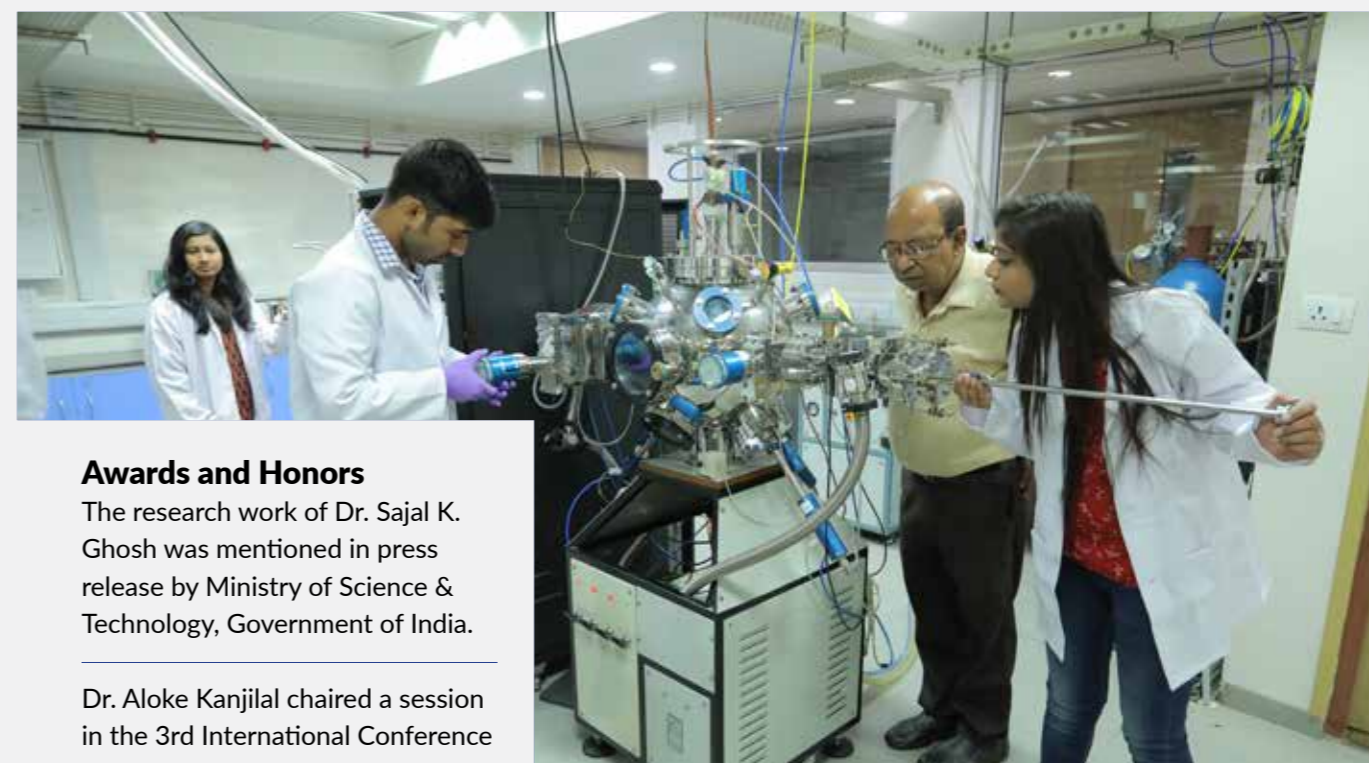
No of patent accepted: 1

No. of UG degree Awarded: 29

No of Ph.D. awarded: 5

No of Ph.D. scholars received post-doctoral fellowship: 5

No of Ph.D. admitted: 16 Shiv Nadar University, Delhi-NCR fellowships and 1 CSIR fellowship



### Awards and Honors

The research work of Dr. Sajal K. Ghosh was mentioned in press release by Ministry of Science & Technology, Government of India.

Dr. Alope Kanjilal chaired a session in the 3rd International Conference on Current Trends in Materials Science and Engineering (CTMSE 2021) organized by Department of Basic Science and Humanities, Institute of Engineering & Management, Kolkata from 11-13 March 2021.

Dr. Santosh Kumar was invited for a talk (online) at the Summer School on Quantum Information and Quantum Technology-2021, IISER Kolkata.

Dr. Sajal K Ghosh was invited for a talk titled 'Unravelling the Structural Changes of Phospholipid Membranes in Presence of Graphene Oxide, Synchrotron Users' on 4-5 March 2021 by Jawaharlal Nehru Centre for Advanced Scientific Research (NCAS), Bengaluru, India.

Dr. Sajal K. Ghosh was invited for a talk titled 'Self-assembly of graphene oxide nano-flakes in lipid membranes' at the 6th International Conference on Nanoscience and Nanotechnology on 1-3 February 2021 by SRM

Institute of Science and Technology, Kattankulathur, India

Ph.D. student Debosmita Banerjee successfully defended her thesis and was awarded Ph.D. degree.

Two Ph.D. students Mr. Joshua Asirvatham and Ms. Ananya Chattaraj performed GIXRD measurements at the BL18 Indian Beamline in the Synchrotron Radiation Facility at KEK, Tsukuba, Japan through Mail-in-Request mode from 30 May-2 June 2021.



Dr. Alope Kanjilal



Dr. Santosh Kumar

Ph.D. scholar, Joshua Asirvatham also performed EXAFS measurements at the IMSS-PF (12C) Beamline in the Synchrotron Radiation Facility at KEK, Tsukuba, Japan through Mail-in-Request mode from 18-19 March.2021.

Undergraduate student, Mayank Garg has joined the master's degree program in the Applied and Engineering Physics department at the Technical University of Munich.

Undergraduate student, Ms. Mrinalini Chatterjee is pursuing M.Sc. in Physics from the Kirori Mal College, University of Delhi.

Undergraduate student, J. Pundarikaksha received admission offers from the University of Heidelberg for Masters in Physics, and from the University of Freiburg for Masters in Applied Physics.

Ph.D student Debosmita Banerjee was awarded with PROM Fellowship under Polish National Agency for Academic Exchange Programme from Gdansk University of Technology (GUT), Poland, for one-month research internship at GUT.

Ph.D. student Raja Sen has joined as Post-doctoral fellow in Ecole Polytechnic, France.

Ph.D. student Priya Mandal successfully defended her thesis and was awarded Ph.D. degree. She has joined as post doc Fellow at IIT-Gandhinagar.

Ph.D. student Sangita Bhowmick successfully defended her thesis and was awarded Ph.D. degree. She has joined as Post Doctoral fellow at IIT Bombay.

Ph.D. Student Saheli Mitra successfully defended her thesis and was awarded Ph.D. degree. She has received Post-doctoral fellowship from Carnegie Mellon University, Pittsburgh, USA



#### Guest Speakers and Major Events

**Webinar:** "Story of an interacting non-ergodic dynamical phase"  
**Speaker:** Dr. Soumya Bera, Assistant Professor, IIT Bombay

**Webinar:** "Quantum Spin Liquids: Phases with Entanglement and Topological orders"  
**Speaker:** Dr. Yogesh Singh, Associate Professor, IISER Mohali.

**Webinar:** "Phase Transitions and Physics of Structural Modulation in Magnetic Shape Memory Alloys"  
**Speaker:** Dr. Sanjay Singh, Assistant Professor, IIT BHU

**Webinar:** "Metal - insulator transitions in the ANiO<sub>3</sub> Nickelates"  
**Speaker:** Dr. Anamitra Mukherjee, Reader-F, NISER.

**Webinar:** "An overview of topological materials: from synthesis to applications"  
**Speaker:** Dr. Nitesh Kumar, Assistant Professor at S.N. Bose National Centre for Basic Sciences.

**Webinar:** "Electron correlations and superconductivity in FeSe"  
**Speaker:** Dr. Shantanu Mukherjee, Assistant Professor at IIT Madras

**Webinar:** "Metallic antiferromagnetic spintronics"  
**Speaker:** Dr. Samik Duttagupta, Assistant Professor at Tohoku University, Japan

**Webinar:** "Designing quantum materials in atomic scale"  
**Speaker:** Prof. Srimanta Middey, IISc Bangalore

#### Major Research Projects

**Project Title:** Tailoring Ge doping in GaSb films for phase change memory applications  
**PI:** Dr. Alope Kanjilal  
**Co-PI(if any):** Dr. A. K. Sinha (RRCAT)  
**Funding Agency:** UGC-DAE CSR Indore  
**Amount Sanctioned (in INR):** ₹ 17.89 Lakh  
**Duration:** 4 years

**Project Title:** Development of new Mg-S Battery Chemistry and Electrodes through Synthesis, Characterization, and Simulation  
**Name of PI and Co-PIs:** Sagar Mitra, Bimlesh Lochab and Priya Johari  
**Funding Agency:** MES-DST  
**Amount Sanctioned:** ₹ 74.40 lakh (INR 38.14 Lakhs for IIT Bombay and ₹ 36.26 lakh for Shiv Nadar University, Delhi-NCR)

**Project Title:** Development of sensors for blast and blight diseases and stomatal activity measurement in rice (*O. Sativa* L.)  
**Name of PIs:** S.P. Singh (PI), Sajal Kr. Ghosh  
**Funding Agency:** (NASF) ICAR  
**Grant in INR:** ₹ 256 Lakh

**Project Title:** Fabricating and characterizing super-hydrophobic surfaces for biomedical applications  
**Name of PIs:** Dr. Sajal K Ghosh, Dr. Harpreet Grewal  
**Funding agency:** Shiv Nadar University, Delhi-NCR

#### Scholarly Activity Report

##### Dr. Sankar Dhar

##### Journal Publications

Mamta Arya, Shammi Kumar, Dilruba Hasina, Sunil Ojha, Alisha Arora, Vivek Kumar Malik, Anirban Mitra, Tapobrata Som and **Sankar Dhar**; "Ta-doped SrTiO<sub>3</sub> epitaxial thin film: A promising perovskite for optoelectronics", **J. Appl. Phys.** 129, 145109 (2021). Impact Factor 2.29

G. Maity, R. P. Yadav, S. Ojha, A. Mishra, A. K. Mittal, R. Singhal, **S. Dhar**, D. Kanjilal, and Shiv. P. Patel; "Investigating the surface characteristics of ions irradiated bilayer Al/a-Si thin film for solar cell application: A study based on fractal and multifractal model", **J. Appl. Phys.** 129, 045301 (2021). Impact Factor 2.29

S. Kumar, B. D. Kumar, Meena M. S., J. fade, **S. Dhar**, M. Alouini, F. Bretenaker, and Hema Ramachandran; "Imaging through real fog using quadrature lock-in discrimination", **OSA Continuum** 4,

1649 (2021) Impact Factor 2.29, Impact Factor 1.86

##### Dr. Bijan Kumar Bagchi

##### Journal Publications

**Bijan Bagchi** and Achal Vinod; "Ermakov-Pinney equation for time-varying mass systems", **Journal of Physics**, Conference Series (0.55), IOP (2021)- in press

**Bijan Bagchi** and Rahul Ghosh; "Dirac Hamiltonian in a Supersymmetric framework", **Journal of Mathematical Physics** (1.355), AIP, 62 (2021) - in press



Dr. Sankar Dhar



Dr. Bijan Kumar Bagchi

**Dr. Sajal Kumar Ghosh****Journal Publications**

P. Mandal, G. Perumal, H. S. Arora, **S. K Ghosh** and H. S. Grewal; "Green Manufacturing of Nanostructured Al-Based Sustainable and Self-cleaning Metallic Surface"; *Journal of Cleaner Production* 2020, Volume: 278 Page: 123373.

S. D. Sarkar, S. Mitra and **S. K. Ghosh**; "Relating the Physical Properties of Aqueous Solutions of Ionic Liquids with Their Chemical Structures"; *European Physical Journal - E* 2020, Volume: 43 Page: 55

P. Mandal, G. Bhattacharya, A. Bhattacharyya, S. S. Roy and **S. K. Ghosh**; "Unravelling the Structural Changes of Phospholipid Membranes in Presence of Graphene Oxide"; *Applied Surface Science*, Impact Factor: 6.18, Year: 2021, Volume: 539, Page: 148252

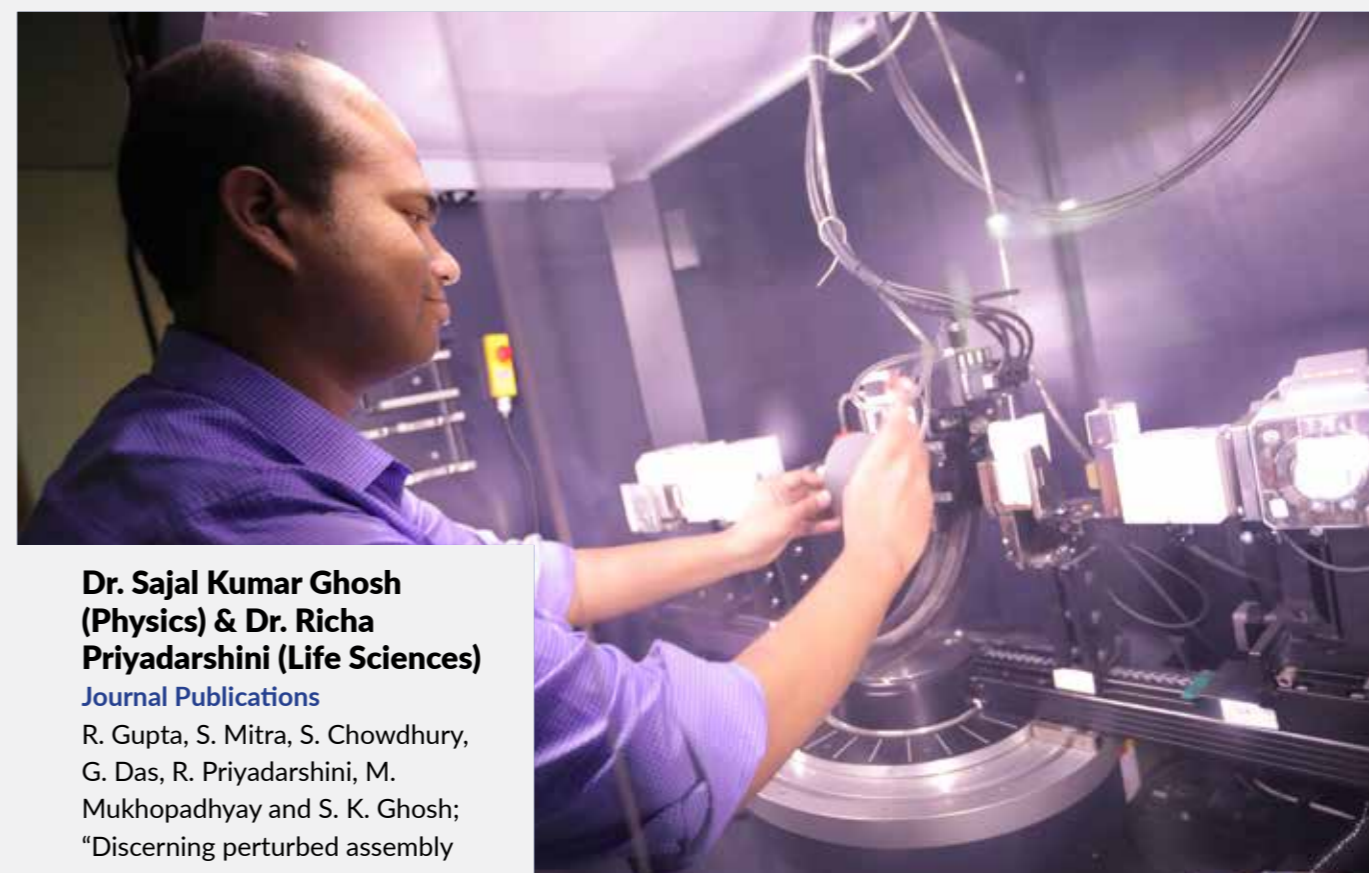
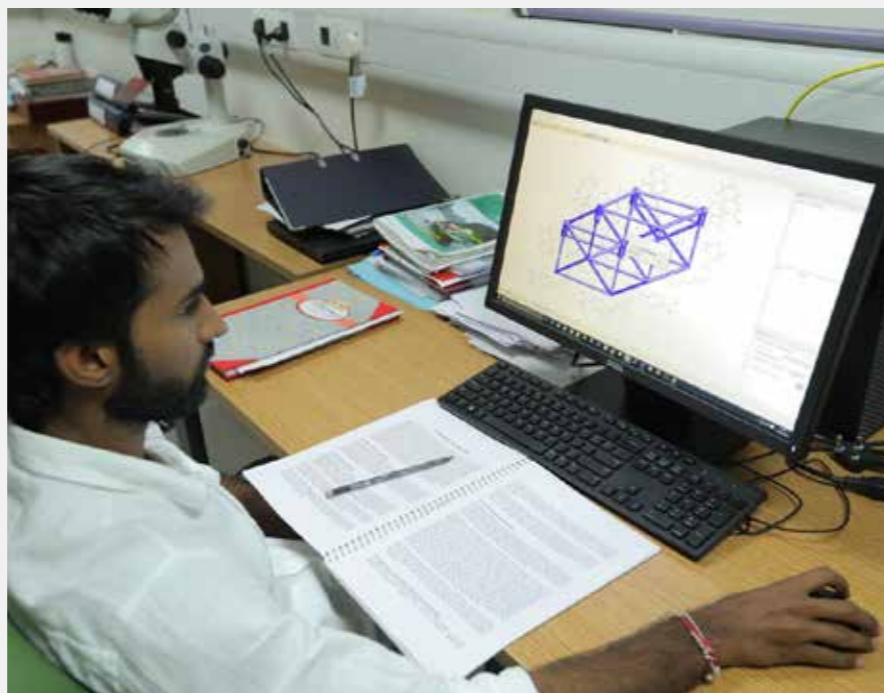
V. K. Sharma, **S. K Ghosh**, V. G. Sakai and R. Mukhopadhyay; "Enhanced Microscopic Dynamics of a Liver Lipid Membrane in the Presence of an Ionic Liquid"; *Frontiers in Chemistry*, Impact Factor: 3.994, Year: 2020, Volume: 8, Page: 577508

R. Karim, D. Panda, A. Adhikari, P. Haldar, P. Mandal, **S. K. Ghosh**, S. Bedanta, A. Barman, and I. Sarkar; "Electrodeposited Heusler alloy films with enhanced magneto-optical property"; *Materials Today*

Communications, Impact Factor: 2.678, Year: 2020, Volume: 25, Page: 101678.

**Dr. Sajal Kumar Ghosh (Physics) & Dr. Harpreet Singh Arora & Dr. Harpreet Singh Grewal (Mechanical Engineering)****Journal Publications**

P. Mandal, J. Ivvala, H. S. Arora, H. S. Grewal, S. K. Ghosh; "Structured aluminium surfaces with tunable wettability fabricated by a green approach", *Materials Letters*, Impact Factor: 3.204 Year: 2021, Volume: 300, Page: 130186.

**Dr. Sajal Kumar Ghosh (Physics) & Dr. Richa Priyadarshini (Life Sciences)****Journal Publications**

R. Gupta, S. Mitra, S. Chowdhury, G. Das, R. Priyadarshini, M. Mukhopadhyay and S. K. Ghosh; "Discerning perturbed assembly of lipids in a model membrane induced by violacein", *BBA - Biomembranes*, Impact Factor: 3.411, Year: 2021, Volume: 1863, Page: 183647

Y. Yadav, **S. K. Ghosh** and S. P. Singh; "High-performance Organic Field-effect Transistors Gated by Imidazolium-based Ionic Liquids", *ACS Applied Electronic Materials*, Impact Factor: N/A (new journal. The I. F. is not assigned yet), Year: 2021, Volume: 3, Page: 1496-1504

S. Mitra, V. K. Sharma, J. B. Mitra, S. Chowdhury, M. K. Mukhopadhyay, R. Mukhopadhyay and **S. K. Ghosh**; "Thermodynamics and structure of model bio-membrane of liver lipids in presence of imidazolium-based ionic liquids", *Journal: BBA - Biomembranes*, Impact Factor: 3.411, Year: 2021, Volume: 1863, Page: 183589

R. Gupta, A. Singh, V. Srihari, and **S. K. Ghosh**; "Ionic Liquid-Induced Phase-Separated Domains in Lipid Multilayers Probed by X ray Scattering Studies", *Journal: Impact Factor: 2.87, Year: 2021; Volume: 6; Page: 4977-4987.*

**Conference Papers and Presentations**

S. Mitra, and S. K. Ghosh, Effect of ionic liquids on the structures of ripple phases of model cellular membranes, *AIP Conference Proceedings* 2265, 030024 (2020)

R. Gupta and S.K. Ghosh, Co-existence of two lamellar phases in phospholipid multilayers induced by an ionic liquid, *AIP Conference Proceedings* 2265, 030032 (2020)

Presentation Title: Self-assembly of graphene oxide nano-flakes in lipid membranes 6th International Conference on Nanoscience and Nanotechnology. 1-3 February 2021, SRM Institute of Science and Technology, Oral presentation



Dr. Sajal Kumar Ghosh

### Invited Lectures and Talks

Presentation Title: Unravelling the Structural Changes of Phospholipid Membranes in Presence of Graphene Oxide. Synchrotron User's Meeting, 4-5 March 2021, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru Invited Talk: Oral presentation

### Professional Activities

- Indian Physics Society: Life member; Indian Association for Physics Teachers: Life member; 3. Material Research Society of India: Life member; 4. Indian Biophysical Society: Life member
- Refereeing for Journals: Reviewed one manuscript of "Science Translational Medicine".
- **Life member:** Indian Physics Society; Indian Association for Physics Teachers; Material Research Society of India; Indian Biophysical Society
- **Refereeing for Journals:** "Science Translational Medicine" and SERB, DST grant project
- **Life member:** Indian Physics Society; Indian Association for Physics Teachers; Material Research Society of India; Indian Biophysical Society; American Chemical Society (ACS): Annual member 2021-22
- Reviewed a thesis from University College Dublin, United Kingdom
- **Life member:** Indian Physics Society; Indian Association for Physics Teachers; Material Research Society of India; Indian Biophysical Society; American Chemical Society (ACS).
- **Refereeing for Journals:** two manuscripts of journal 'Soft Matter' and one for journal 'Physical Chemistry Chemical Physics (PCCP)'

### Dr. Alope Kanjilal (Physics) and Dr. Vijay Kumar (Center for Informatics)

#### Journal Publications

A. Chattaraj, M. Balal, A. K. Yadav, S. R. Barman, A. K. Sinha, S. N. Jha, S. Joulie, V. Serin, A. Claverie, V. Kumar, A. Kanjilal; "Unravelling oxygen driven  $\alpha$  to  $\beta$  phase transformation in tungsten" Scientific Reports 10, 14718 (2020).

#### Journal Publications

"Ion beam dosimetry of self-patterned alumina films" in the E - Workshop for skill development on energetic beam



technology: From materials engineering to diagnostics, organized by Amity Institute of Nanotechnology on 23 June 2021 (Invited Lecture).

"Fundamentals and frontier applications of low dimensional semiconductors" in the Short Term Course through Virtual Mode on the "Journey from Semiconductor Physics to Smart Devices to Intelligent Automation" organized by NIT Srinagar in collaboration with Semiconductor Society of India during 1-5 May 2021 (Invited Lecture).

3rd International Conference on Current Trends in Materials Science and Engineering (CTMSE 2021) organized by Department of Basic Science and Humanities, Institute of Engineering & Management, Kolkata from 11-13 March 2021 (Session Chair).

"An overview of work at ADXRD beamline" in the Special Web Conference on the 60th Birthday celebration of Dr. A.K. Sinha, organized by RRCAT Indore on 23 January 2021 (Invited talk).

3rd International Conference on Current Trends in Materials Science

and Engineering (CTMSE 2021) organized by Department of Basic Science and Humanities, Institute of Engineering & Management, Kolkata from 11-13 March 2021 (Session Chair).

#### Journal Publications

U. Das, D. Das, B. Paul, T. Rabha, S. Pattanayak, A. Kanjilal, S. Bhattacharjee, P. Sarkar, A. Roy; "Induced Vacancy Assisted Filamentary Resistive Switching Device Based On RbPbI<sub>3</sub>-xCl<sub>x</sub> Perovskite for RRAM Application"; ACS Appl. Mater. Interf. 12, 41718 (2020).

S. Pal, S. Bhowmick, S. A. Khan, A. Claverie, D. Kanjilal, A. K. Bakshi, A. Kanjilal; "Annealing temperature driven near surface crystallization with improved luminescence in self-patterned alumina films", J. Mater. Sci.: Mater. Electron. 32, 11709 (2021).

S. Bhowmick, S. Pal, A. Singh, S. A. Khan, D. R. Mishra, R. J. Choudhary, D. M. Phase, T. K. Chini, A. K. Bakshi, A. Kanjilal; "Carbon doping

induced defect centers in anodized alumina with enhanced optically stimulated luminescence"; J. Mater. Sci.: Mater. Electron. 32, 10635 (2021).

S. Bhowmick, R. Sen, C. P. Saini, M. Gupta, D. M. Phase, R. Singhal, A. Kanjilal, J.; "Unveiling Temperature Mediated Dual-band Edge in TiO<sub>2</sub> Nanotubes with Enhanced Photocatalytic Effect", Phys. Chem. C 125, 4846 (2021).



## Dr. Alok Kanjilal and Dr. Priya Johari

### Journal Publications

D. Das, A. Barman, P. K. Sarkar, P. Rajput, S. N. Jha, R. Hübner, D. Kanjilal, P. Johari, and A. Kanjilal; "Metal-induced progressive alteration of conducting states in memristors for implementing an efficient analog memory: a DFT-supported experimental approach", *J. Mater. Chem. C* **9**, 3136-3144 (2021). (I.F.: 7.059)

D. Das, A. Barman, P. K. Sarkar, P. Rajput, S. N. Jha, R. Hübner, D. Kanjilal, P. Johari, A. Kanjilal, J.; "Metal-induced progressive alteration of conducting states in memristors for implementing an efficient analog memory: A DFT Supported Experimental Approach" *Mater. Chem. C* **9**, 3136 (2021).

### Conference Presentations and Talks

"An overview of work at ADXRD beamline" in the Special Web Conference on the 60th Birthday celebration of Dr. A.K. Sinha, organized by RRCAT Indore on 23 January 2021.

### Invited Lectures and Talks

"Ion beam dosimetry of self-patterned alumina films" in the E - Workshop for skill development on energetic beam technology: From materials engineering to diagnostics, organized by Amity Institute of Nanotechnology on 23 January 2021 (**Invited Lecture**).

"Fundamentals and frontier applications of low dimensional semiconductors" in the **Short Term Course** through Virtual Mode on the "Journey from Semiconductor Physics to Smart Devices to Intelligent Automation" organized by NIT Srinagar in collaboration with Semiconductor Society of India during 1-5 May 2021 (**Invited Lecture**).

"An overview of work at ADXRD beamline" in the Special Web Conference on the 60th Birthday celebration of Dr. A.K. Sinha, organized by RRCAT Indore on 23 January 2021 (**Invited talk**).

### Professional Activities

- Lifetime membership in Indian Physics Association (IPA); Materials Research Society of India (MRSI); Ion Beam Society of India (IBSI); and Electron Microscope Society of India (EMSI)
- Elected as member of National Academy of Sciences India (NASI), Allahabad
- Regular reviewer of various international journals and project proposals for DST-SERB.
- I am one of the National Advisory Board Member of the "online international conference on mechanical engineering and managerial applications for productivity enhancement and marketability (MMPM-2021)" during 15-16 September 2021 at Maulana Azad National Institute of Technology (MANIT), Bhopal (India).
- **Participated:** "Ion beam dosimetry of self-patterned alumina films" in the E - Workshop for skill development on energetic beam technology: From materials engineering to diagnostics, organized by Amity Institute of Nanotechnology on 23 June 2021 (Invited Lecture).
- "Fundamentals and frontier applications of low dimensional semiconductors" in the Short Term Course through Virtual Mode on the "Journey from Semiconductor Physics to Smart Devices to Intelligent Automation" organized by NIT Srinagar in collaboration with Semiconductor Society of India during 1-5 May 2021 (Invited Lecture).
- 3rd International Conference on Current Trends in Materials Science and Engineering (CTMSE 2021) organized by Department of Basic Science and Humanities, Institute of Engineering & Management, Kolkata from 11-13 March 2021 (Session Chair).



- **Lifetime membership** in Indian Physics Association (IPA); Lifetime membership in Materials Research Society of India (MRSI); Lifetime membership in Ion Beam Society of India (IBSI); Lifetime membership in Electron Microscope Society of India (EMSI); Elected as member of National Academy of Sciences India (NASI), Allahabad; Regular reviewer of various international journals and project proposals for DST-SERB.

- "An overview of work at ADXRD beamline" in the Special Web Conference on the 60th Birthday celebration of Dr. A.K. Sinha, organized by RRCAT Indore on 23 January 2021 (Invited talk).

- 3rd International Conference on

Current Trends in Materials Science and Engineering (CTMSE 2021) organized by Department of Basic Science and Humanities, Institute of Engineering & Management, Kolkata from 11-13 March 2021 (Session Chair).

- **Lifetime membership** in Indian Physics Association (IPA); Lifetime membership in Materials Research Society of India (MRSI); Lifetime membership in Ion Beam Society of India (IBSI); Lifetime membership in Electron Microscope Society of India (EMSI)
- **Elected as Member of National Academy of Sciences India (NASI), Allahabad**
- Regular reviewer of various international journals and project proposals for DST-SERB.

## Dr. Santosh Kumar

### Journal Publications

S. Kumar and S. Sai Charan; "Spectral statistics for the difference of two Wishart matrices"; *Journal of Physics A: Mathematical and Theoretical* **53**, 505202 (2020).



R. S. Chandramouli, R. K. Srivastav, and **S. Kumar**; "Electronic transport in chaotic mesoscopic cavities: A Kwant and random matrix theory based exploration"; *Chaos* 30, 123120 (2020). DOI Link: <https://doi.org/10.1063/5.0026039>.

A. Sarkar and **S. Kumar**; "Generation of Bures-Hall mixed states using coupled kicked tops", *Physical Review A* 103, 032423 (2021).

#### Conference Papers and Presentations

- Poster and a short-oral presentation by Ph.D. student Ms. Ayana Sarkar in the Conference on Complex Systems 2020 (held online), 8 December 2020: Random matrix theory based study of spin chains (- A. Sakar and S. Kumar).
- Poster and a short-oral presentation by Ph.D. student Ms. Ayana Sarkar in the XVI Brunel-Bielefeld Workshop on Random Matrix Theory (held online), 18-19 December 2020: Random matrix theory based study of spin chains (- A. Sakar and S. Kumar).
- Poster and a short-oral presentation by Ph.D. student Mr. Aritra Laha in the XVI Brunel-Bielefeld Workshop on Random

Matrix Theory (held online), 18-19 December 2020: Spectral Statistics for weighted sum of an arbitrary number of Wishart matrices (- A. Laha and S. Kumar)

#### Professional Activities

- Participated in the XVI Brunel-Bielefeld Workshop on Random Matrix Theory (held online), 18-19 December 2020.
- **Reviewed articles** for *Physical Review E* (American Physical Society); *Physica Scripta* (IOPScience, IOP Publishing); *Mathematical Reviews* (American Mathematical Society)
- **Reviewed the following: each 1** article for *Journal of Statistical Physics* (Springer); *Physica Scripta* (IOPScience, IOP Publishing) 1 article for *Journal of Physics A* (IOPScience, IOP Publishing)

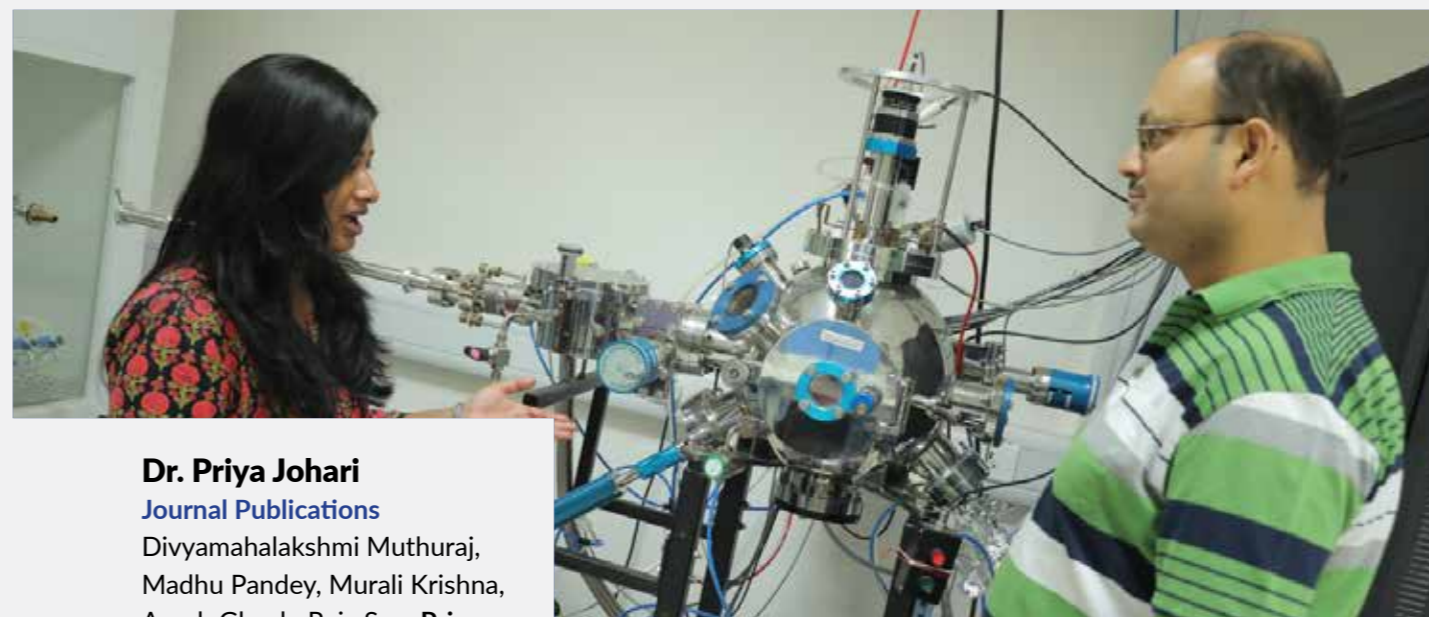
#### Dr. Kenji Nishiwaki

##### Invited Lectures and Talks

Particle Physics Demystified", as an online activity of NucleUS: SNS-SNU-Vidyayan Collaboration, on 25 May 2021 (<https://sites.google.com/sns.edu.in/nucle-us/workshopslive-classes?authuser=0>).

#### Professional Activities

- An organiser of the weekly webinar on High Energy Physics and Cosmology "HEP-Cosmo Webinar Series" (<https://sites.google.com/view/hepcosmoindia>)
- Participated: Attending various webinars in High Energy Physics, including our weekly webinar series "HEP-Cosmo Webinar Series".
- A supervisor of the NucleUS initiative (online), "Fundamentals of Particle Physics",
- As an online activity of NucleUS: SNS-Shiv Nadar University, Delhi-NCR -Vidyayan Collaboration, from 7 June-3 July 2021 ( <https://sites.google.com/sns.edu.in/nucle-us/online-courses> ).
- Attending the hands-on session of quantum digital simulations for QFT by Dr. Masazumi Honda, online, on 10-11 June 2021.
- Organizer the online Webinar "HEP-Cosmo Webinar Series"



#### Dr. Priya Johari

##### Journal Publications

Divyamahalakshmi Muthuraj, Madhu Pandey, Murali Krishna, Arnab Ghosh, Raja Sen, **Priya Johari**, and Sagar Mitra; "Magnesium polysulfide catholyte (MgSx): Synthesis, electrochemical and computational study for magnesium-sulfur battery application"; *Journal of Power Sources* 486, 229326 (2021) (I.F.: 8.247).

Sithara Radhakrishnan, Sree Raj K A, Susendaran Ravi Kumar, **Priya Johari**, and Chandra Sekhar Rout; "Energy storage performance of 2D MoS2 and carbon nanotube heterojunctions in symmetric and asymmetric configuration"; *Nanotechnology* (2020) (I.F.: 3.551)

Dwaipayan Chakraborty, Vipin Kumar, Syed Mohammad Kamil, and **Priya Johari\***; "Using Density Functional Theory to Correlate Charge-Transport Properties with Gas-Sensing by Organic Nanowires"; *ACS Appl. Nano. Mater.* (2021). (I.F.: 3.939)

#### Conference Papers and Presentations

"Introduction to DFT based VASP Code", talk at intra-University e-workshop on "Calculations and Analysis of Various Properties of Materials using Density Functional Theory", 6-12 July 2020. "Study of Potential Materials for the Technological Advancement", talk at VAIBHAV Summit in Computational Sciences Vertical and Computational Natural Sciences Horizontal, 23 October 2020. "First-Principles Investigation of Selective Gas Sensing Property of Two-Dimensional 1T-HfTe2", Dwaipayan Chakraborty and Priya Johari, oral presentation (online) by Dwaipayan Chakraborty at APS March Meeting 2021 on 17 March 2021.

#### Invited Lectures and Talks

Invited Talk at VAIBHAV Summit in Computational Sciences Vertical and Computational Natural Sciences Horizontal, 15 and 23 October 2020.

#### Professional Activities

Conducted a week long intra-University e-workshop on "Calculations and Analysis of Various Properties of Materials using Density Functional Theory", 6-12 July 2020.

Manuscript received for reviewing from International Journal of Energy Research, ACS Applied Nano Materials, ACS Applied Energy Materials and Materials Advances

Reviewed manuscript received from RSC Advances.



Dr. Kenji Nishiwaki



Dr. Priya Johari



## SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

### DEPARTMENT OF COMMUNICATION

#### Key Milestones Achieved

- More than 1000 students enrolled in classes offered by Department of Communications, since inception in April 2013 and with this convocation the Department granted over **125 students a Minor Degree in Communication**.
- Currently the Department has **120 students enrolled for a Minor Degree in Communication** – a high jump as compared to the previous years'. Given the estimated growth 17-22% CAGR (<https://ficci.in/pressrelease-page.asp?nid=4137>) of the Media and Entertainment Industry predicted by FICCI to ₹ 425 Bn by 2023, the Department is most poised to grow and be of benefit to students who wish to be part of this massive revolution in high-quality Digital Media Consumption. The Department recognizes the urgent need to respond to both the market and the educational needs of those who will look to be part of the Media and Entertainment Industry in the coming times.

#### Guest Speakers and Major Events

- **Lecture by Plogman of India** (on communicating behavior change) – This was organized for all students at the University and faculty to demonstrate how effective communication tools can lead to behavior change. It was attended by 30-40 students and 3-4 faculty members from other departments. This was moderated by Ms. Bahar Dutt. *The poster for this program is attached.*



## Key Research Projects and Works

### Preparation of Biodiversity Map for Shiv Nadar University, Delhi-NCR as a visual communication tool:



Ms. Bahar Dutt

Ms. Bahar Dutt, worked closely with the Office of Dean of Student Affairs and Oriya artist Sudarshan Shaw to prepare a biodiversity map of Shiv Nadar University, Delhi-NCR. This required several field trips (at the time of the pandemic), in person meetings with the Artist who was commissioned for preparing of the Map and coordinating with Center for Environmental Sciences and Engineering for validation of the species that were selected for illustration. The map is a visual communications tool of the rich flora and

fauna found on campus. It shows how traditional art forms can be used to communicate complicated scientific and biological names in an easy to comprehend form.

Ms. Bahar Dutt, an award-winning environmental journalist, and Associate Professor at the Department of Communication has written several OP-ED and cover stories in The Hindu, The Wire, and several other platforms.

Mr. Ashwin Ramanathan produced a 10-minute short documentary on the theme 'effects of the pandemic on marginal workers, working with Shiv Nadar University, Delhi-NCR,' with student alumni in 5 different parts of the country, and submitted it for a competition announced by the Public Service Broadcasting Trust (PSBT) in association with the Dalai Lama's Foundation for Universal Responsibility (FUR).



## DEPARTMENT OF DESIGN

### Major Events and Talks

**Seminar:** Design Engagements at the Margins: What I learned in Rural Underserved India  
**Speaker:** Dr. Uttaran Dutta, Associate Professor, Hugh Downs School of Human Communication, Arizona State University  
**Date:** 16 April 2021

**About: Dr. Uttaran Dutta**  
 He is an Associate Professor of Intercultural Communication with the Hugh Downs School of Human Communication, Arizona State University. He received Ph.D. in Communication from Purdue University and Master of Design (M.Des.) from Indian Institute of Technology Bombay, India. He also earned a Bachelor's in Civil Engineering and a Master of Business Administration from Indian academic institutions.

Presently, he studies creative ways to address development, health and social disparity issues. His research focuses on sustainable development and social change in marginalized communities, analyzing the importance of culture, communication, design and innovation in transforming the lives of people who are

socially, politically and economically poor. In most of his works, local participants are the key forces in identifying and developing cost-effective solutions using local resources.



## Scholarly Activities

### Dr. Subhajit Chandra

#### Conference Papers and Presentations

Chandra S. (2021) Indian Typefaces in Digital Platforms: Issues and Challenges. In: Martins N., Brandão D. (eds) Advances in Design and Digital Communication. Digicom 2020. Springer Series in Design and Innovation, vol 12. Springer, Cham. [https://doi.org/10.1007/978-3-030-61671-7\\_12](https://doi.org/10.1007/978-3-030-61671-7_12)

Chandra S., Udaya Kumar D. (2021) The Role of Letter Anatomy in Type Design: An Eye-Tracking Study of Bengali Letters. In: Chakrabarti A., Poovaiah R., Bokil P., Kant V. (eds) Design for Tomorrow—Volume 1. ICoRD 2021. Smart Innovation, Systems and Technologies, vol 221. Springer, Singapore. [https://doi.org/10.1007/978-981-16-0041-8\\_1](https://doi.org/10.1007/978-981-16-0041-8_1)

Gaur L., Chandra S. (2021) Product Semantics: The Emotional Design Language. In: Chakrabarti A., Poovaiah R., Bokil P., Kant V. (eds) Design for Tomorrow—Volume 1. ICoRD 2021. Smart Innovation, Systems and Technologies, vol 221. Springer, Singapore. [https://doi.org/10.1007/978-981-16-0041-8\\_50](https://doi.org/10.1007/978-981-16-0041-8_50)

Chandra S. (2021) Indian Typefaces in Digital Platforms: Issues and Challenges. In: Martins N., Brandão D. (eds) Advances in Design and Digital Communication. Digicom 2020. Springer Series in Design and Innovation, vol 12. Springer, Cham. [https://doi.org/10.1007/978-3-030-61671-7\\_12](https://doi.org/10.1007/978-3-030-61671-7_12)

### Dr. Prakash kumar

#### Books and Book Chapters

Chapter titled, "Knee Arthritis-Related Issues Among Aging Population in Indian Households" in Design Science and Innovation, Springer Nature Singapore.

#### Conference Papers and Presentations

Designing educational models for school children - An account of designing model for education kits of NCERT at Design for Children 2019 conference (proceeding yet to be published). Poster/talk: Presented the above paper at Design for Children 2019, organised by IDC, IIT Bombay (28-30 January 2021)

- Design of Pineapple Eye Removing Device, ICAPIE-2021, Delhi Technological University
- Design of a Pineapple Slicing Machine, ICAPIE-2021, Delhi Technological University.
- Design of Storage System for Local Gardeners: A Case Study, ICAPIE-2021, Delhi Technological University.
- Design of Pineapple Peeling Equipment, ICAPIE-2021, Delhi Technological University
- Designing Mobile App Interfaces for Facilitating Medical Treatment at the Government Hospitals, ICAPIE-2021, Delhi Technological University.

#### Professional Activities

Participated in Anveshana Delhi NCR-2021 (a competition organized by Agastya Foundation, Bengaluru for school children mentored by engineering students) as a Jury member



Dr. Subhajit Chandra



Dr. Prakash kumar

## DEPARTMENT OF ECONOMICS

### Highlights

#### Guest Speakers and Major Events

The Department conducted eighteen seminars with faculty from across the globe with multidisciplinary concerns relevant to Economics. The sessions were moderated by faculty members of the Department.

- **8 August 2020:** "Still Waters Run Deep: Groundwater Arsenic Contamination and Education Outcomes in India" by Dr. Rashmi Barua, Jawaharlal Nehru University.
- **4 September 2020:** "Experimental Analysis of a Land Assembly Mechanism" by Dr. Rakesh Chaturvedi, Indraprastha Institute of Technology Delhi.
- **11 Septemebr 2020:** "Acceptable Utility
- **18 Septemebr 2020:** "Early Cooperation Promotes the Private Provision of Public Goods" by Dr. Robertas Zubrickas, University of Bath.
- **25 Septemebr 2020:** "Optimal Incentives for Financial Analysts" by Dr. Mallesh Pai, Rice University.
- **9 October 2020:** "Binary Choice with Asymmetric Loss in a Data-Rich Environment: Theory and an Application to Racial Justice" by Dr. Rohit Kumar, Indian Statistical Institute Delhi.
- **16 October 2020:** "A Quantitative Theory of the Credit Score" by Dr. Satyajit Chatterjee, Federal Reserve Bank of Philadelphia.
- **6 November 2020:** "The Compliance

Bounds in Sequencing Problems with Incentives" by Dr. Parikshit De, IISER Bhopal.

Costs of Non-Tariff Measures: Measurement, Theory, and Policy” by Dr. Kunal Dasgupta, IIM Bangalore.

- **13 November 2020:** “Implementation in Undominated Strategies with Applications to Auction Design, Public Good Provision and Matching” by Dr. Nozomu Muto, Yokohama National University.
- **23 November 2020:** “Why Do People Stay Poor? Evidence on Poverty Traps from Rural Bangladesh” by Dr. Maitreesh Ghatak, London School of Economics.
- **27 November 2020:** “Monetary Policy and Sovereign Risk in Emerging Economies (NK-Default)” by Dr. Gabriel Mihalache, Stonybrook University.
- **29 January 2021:** “Centralised and delegated contracts in the presence of potential collusion” by Dr. Dushyant Kumar, BITS Pilani.
- **12 February 2021:** “On Stars and Galaxies: Exploiting Social Influence on Networks” by Dr. Eyal Winter, The Hebrew University of Jerusalem; and A&E Brunner Professor of Economics, Lancaster University.
- **26 February 2021:** “Subversive Conversations” by Dr. Archishman Chakraborty, Mel Harris Chair in Insurance and Risk; and Department Chair – Finance, Yeshiva University, New York.
- **12 March 2021:** “Educated Leaders through Legislation, But at what Cost?” by Dr. Abhiroop Mukhopadhyay, Indian Statistical Institute Delhi.
- **19 March 2021:** “A Taxonomy

of Non-dictatorial Domains” by Huaxia Zeng, Associate Professor - Microeconomic Theory and Mechanism Design, Shanghai University of Finance and Economics.

- **26 March 2021:** “Proportional Systems with Free Entry: a Citizen-Candidate Model” by Sandro Brusco, Professor of Finance, Stony Brook University, New York.
- **16 April 2021:** “Unearthing Zombies” by Dr. Nirupama Kulkarni, Research Director, CAFRAL.

**Why Do People Stay Poor? Evidence on Poverty Traps from Rural Bangladesh**

**Speaker**  
**PROF. MAITREESH GHATAK**  
Director, Development Economics Programme, STICERD  
London School of Economics

**SEMINAR**

**THE SPECTER OF SINOCENTRISM AND THE HOPE FOR “CHINESE IR”**

**SPEAKER**  
**DR. SINAN CHU**  
Research Fellow,  
German Institute for Global and Area Studies, Germany



Dr. Ram Ranjan



Dr. Gitanjali Sen

The Department conducted its first Macroeconomics Workshop on 10-11 December 2020 in online mode. Papers were presented by young economists, junior faculty members and Ph.D. students who received substantive feedback from senior and established economists. The workshop was inaugurated by the Vice-Chancellor, Dr. Rupamanjari Ghosh. Dr. Satyajit Chatterjee, Vice President, Federal Reserve Bank of Philadelphia was the plenary speaker and also a discussant. Among the discussants were Dr. Urvi Neelakantan from the Federal Reserve Bank of Richmond, Dr. Parantap Basu from Durham University, Dr. Parag Waknis from Ambedkar University, Dr. Arpita Chatterjee from the University of New South Wales, and Dr. Kurt Horner from Shiv Nadar University, Delhi-NCR.

### Important Research Projects

The Covid-19 pandemic has brought in an economic and health crisis across the globe. The Department of Economics has been actively participating in improving our understanding of the situation and contributing in helping the society recover. Specifically, Dr. Partha Chatterjee, Professor and Head, Department of Economics, actively wrote about the Indian economy and manufacturing sector. The following papers were published as a result of the work:

- Chatterjee, P. (2020c, 30 May). Lives and Livelihood: An Exit Strategy from Lockdown for India. Economic and Political Weekly, Special Article, 55(22). (with Dey, S., & Jain, S.). <https://doi.org/10.2139/ssrn.3582497>
- Chatterjee, P., & Jain, S. (2021). The COVID-19 Pandemic, India and the World: Economic and Social Policy



Perspectives (R. Bhattacharyya, Ed.; 1st ed.). Routledge India. <https://www.routledge.com/The-COVID-19-Pandemic-India-and-the-World-Economic-and-Social-Policy-Perspectives/Bhattacharyya-Dastidar-Sikdar/p/book/9781032114965>

Dr. Ram Ranjan, who is an environmental and resource economist worked on measures of mitigating risks of spreading vector borne diseases.

Ranjan, R. (2021). Mitigating vector-borne pathogen spread risks through promoting Gmelina arborea-based afforestation and agroforestry on private farms. *Journal of Cleaner Production*, 315, 128215. <https://doi.org/10.1016/j.jclepro.2021.128215>

### Scholarly Activities

#### Dr. Gitanjali Sen

**Conference Papers and Presentations**  
Population Association of America, USA

#### Conference Papers and Presentations

- American Economic Association.
- Population Association of America.

#### Professional Activities

- Annual Meetings of the Population Association of America, 2021.
- SERI seminars
- CPHS seminars
- ISI-Delhi seminars
- IEG seminars/workshop
- ISI-IWage workshop
- BREAD conference 2021.
- Membership: American Economic Association; Population Association of America.

## DEPARTMENT OF ENGLISH

### Highlights

#### International Conference

**Music and Social Affect: Building Genealogies in Asia** was a successful international conference organized by Dr. Vinayak Das Gupta, Department of English, Dr. Urmila Bhardikar, Department of Sociology and Dr. Adrian McNeil, Music Archive Monash in March 2021. This conference brought together eminent scholars in Musicology, History, and Archival Studies to discuss how music has the power to move, to form communities, to confront power, to express identity, to heal wounds, and to entertain. The proceedings from the conference will result in a publication.

#### Dr. Sambudha Sen

**Dr. Sambudha Sen**, Senior Professor, has been awarded the internationally prestigious writing residency at the Hawthornden Castle Scotland for March - April 2022.

#### Akshita Todi

**Akshita Todi**, M.A. in English (Class of 2019), is joining as a fully funded Ph.D. candidate at the University of Chicago. She had similar offers from the University of California at Berkeley and Oxford University as well.

#### Dr. Anirban Ghosh

##### Invited Lectures and Talks

Chief speaker/ Resource person at Academic Writing workshop/symposium organized by International Relations Department, Jadavpur University, 21-22 December 2020.



Dr. Sambudha Sen

#### Dr. Tulika Chandra

##### Invited Lectures and Talks

Guest lecture on 1 October 2020 (11 am to 12.15 pm) on "Mechanics of Writing" in School of Management at BML Munjal University, Gurugram.

Guest session on 17 November 2020 on 'Career Choices' - for Excel Group of Schools based in Thiruvattar, Tamil Nadu.

Invited for an Expert Talk titled 'Understanding & Misunderstanding: Cultivating Our Intercultural Interactions' 24 February 2021 from 12:30 pm - 2:00 pm., by Dr. B. R. Ambedkar National Institute of Technology, Jalandhar is organizing TEQIP- III sponsored Short-Term Course entitled "**Recent Advances in Technical Communication in a Global Business Scenario**".

**Invited Lecture:** The eighth online lecture series of the International Society for Folk Narrative Research (ISFNR) - Belief Narrative Network was delivered on Friday, 7 May 2021, at 5 p.m. CET (CEST) by Assoc. Prof. Dr Tulika Chandra, from Shiv Nadar University, Delhi-NCR India, entitled Folk Healing: Care, Cure, and Wellness in India.

##### Professional Activities

Participation in National/International Conferences/ Meetings: as a member of Folk Belief and Religious Folklife Section, American Folklore Society (AFS) Section Meeting, participated in the Annual AFS Section Business Meeting, on Friday, 18 September, from 12:00 PM Eastern Time (US and Canada) on Zoom link.

Participation in National/International Conferences/ Meetings: American Folklore Society (AFS) - as a member of the Creative Writing and Storytelling section participated in the Annual Business Meeting on Wednesday, 30 September 2020 at 5:00 pm EST. on Zoom link.



Participation in National/International Conferences/ Meetings: Participated in the discussions in **TESOL 2020: the Annual TESOL International Convention, Virtual Convention sessions & English Language Expo**, 16-18 July 2020. [Teaching English to Speakers of Other Languages.] Discussions on distance learning, project-based instruction to supporting English learners with disabilities.

Resource person: For a three-day workshop (online) on "Art of Thesis Writing and Academic publishing" 8-10 August 2020 organized by KOACH Scholar; an EdTech venture.

Resource person: Webinar on National Education Policy, 2020 - Highlights and Challenges (Part-2), on 5 September 2020 hosted by CRACR & PD on Zoom.

Participated in the by American Folklore Society's Business Meeting of Creative Writing & Storytelling Section on Wednesday, 30 September 2020. Invitation from: Creative Writing & Storytelling section co-convenor. Zoom info: CREATIVE WRITING & STORYTELLING.

Participated in ISFNR Belief Narrative Network Online Lectures, Tok Thompson: 'Aliens, Androids, Animals, and Ghosts'. 4 December 2020



Dr. Tulika Chandra

Orient BlackSwan, Publishing House. Reviewed a typescript Publication for a volume of essays by noted Hindi writer Shrilal Shukla, in English translation, meant for general readers.

Springer Nature India Private Limited. Review of complete manuscript of two books in English Language Teaching.

**Organized:** Guest Lecture by Prof. Kirsten Møllegaard, Professor and Department Chair of English at the University of Hawaii at Hilo, USA. Prof. Møllegaard delivered her lecture on "Ho'okupu: A Hawaiian Tradition of Gift Giving. Date and timings: 22 March: 7-8pm (HST), & 10:30-11:30AM (IST), 23 March, virtual lecture on MS Teams.

**Reviewer** of Manuscript ID JSSH-8123-2021 for Journal of Social Sciences and Humanities

American Folklore Society Membership No.  
AFS id: 04247

International Society for Educational  
Leadership (ISEL) membership ID is ISEL-  
2021-338

Reviewer for Journal of Studies in Social  
Sciences and Humanities (JSSSH) E-ISSN:  
2413-9270. A Journal of International  
Educational & Social Sciences Association  
(IESSA)

### Dr. Vikram Kapoor

#### Creative Works and Performances

'Slow Time,' a short story published in The  
Punch Magazine, October 2020.

'Papa's Letters,' a short story published in the  
Himal Southasian magazine, November 2020.

'The Right Thing,' a short story published in  
The Hong Kong Review, Hong Kong, China,  
ISSN 2617-5061, January 2021.

'Empty Delhi,' an essay published on  
the Mekong Review website, <https://mekongreview.com>,  
ISSN 2206-141X,  
Sydney, Australia, April 2021.

'Unmade Lives,' a short story published in the  
Mekong Review, Volume 6, Number 3, Issue  
23, May-July 2021, ISSN 2206-1401, Sydney,  
Australia.

'Unmade Lives' was picked up by the Los  
Angeles Review of Books and placed on their  
homepage as a story to read on 21 May 2021.



### Dr. Teja Verma Pusapati

#### Books and Book Chapters

Book Chapter: Invited and Abstract Accepted for a  
chapter in the Routledge Companion for Literature and  
Feminism (Forthcoming 2022), Accepted for publication.

#### Conference Papers and Presentations

Paper accepted for the annual international conference  
of the RSVP- Research Society for Victorian Periodicals.

#### Professional Activities

Research Society for Victorian Periodicals

## DEPARTMENT OF HISTORY

### Talks and Events

#### Center for Archaeology, Heritage and Museums:

Title: Archaeology and Decolonization of  
Europe

Speaker: Dr. Rui Gomes Coelho, Durham  
University, UK

Date: 19 November 2020

#### Series on 'Historical Archaeology'

Title: Facades and False Narratives: The history  
and archaeology of Velha Goa during colonial  
rule

Speaker: Dr. Brian C. Wilson, Historical  
Archaeologist and Anthropologist, Ph.D.  
University of Chicago, Anthropology.

Date: 25 March 2021.

### History

Title: "I Sing in Hindi" How Hindi/Urdu Began  
Speaker: Dr. Tyler W. Williams, Assistant  
Professor, Department of South Asian  
Languages and Civilizations, University of  
Chicago, USA

Date: 21 January 2021

Title: Fractured Families: Forced Child Removal  
from Hijra and 'Criminal Tribe' Households in  
Nineteenth Century North India

Speakers: Dr. Jessica Hinchy (Assistant  
Professor, History, Nanyang Technical  
University, Singapore)

Date: 15 April 2021

Title: Writing Legal Histories in South Asia

Speaker: Dr. Kalyani Ramnath, Prize Fellow of  
Economics, History and Politics and Lecturer,  
Center for History and Economics, and Lecturer,  
Harvard University, USA

Date: 25 February 2021



Dr. Vikram Kapoor



Dr. Teja Verma Pusapati

One-day Department of History Symposium:  
Title of Symposium: 'Heritage and Urbanism: reimagining the heritage city in India', An Urban Histories Symposium

**Speakers:** Dr. Garima Dhabai, Assistant Professor, History, Presidency University, Kolkata  
Dr. Deviani Chaudhuri, Assistant professor, English, Shiv Nadar University, Delhi-NCR  
**Roundtable Participants:** Dr. Iman Mitra, Assistant Professor, Department of History, Shiv Nadar University, Delhi-NCR  
Dr. Sudeshna Guha (Associate Professor, Department of History, Shiv Nadar University, Delhi-NCR)

**Awards and Honors**

**Faculty**

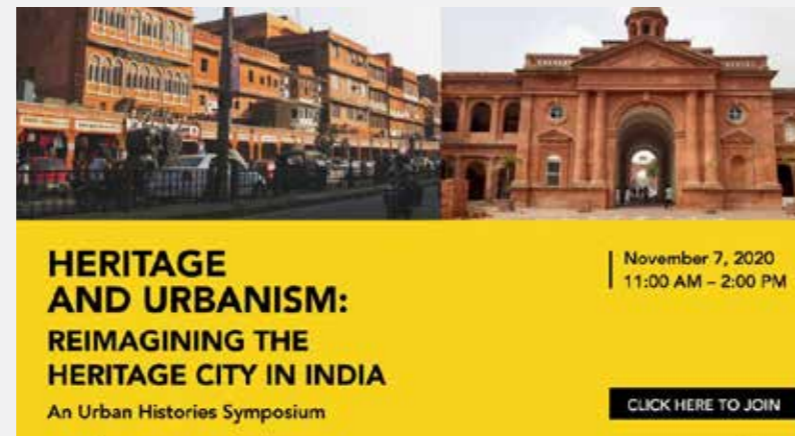
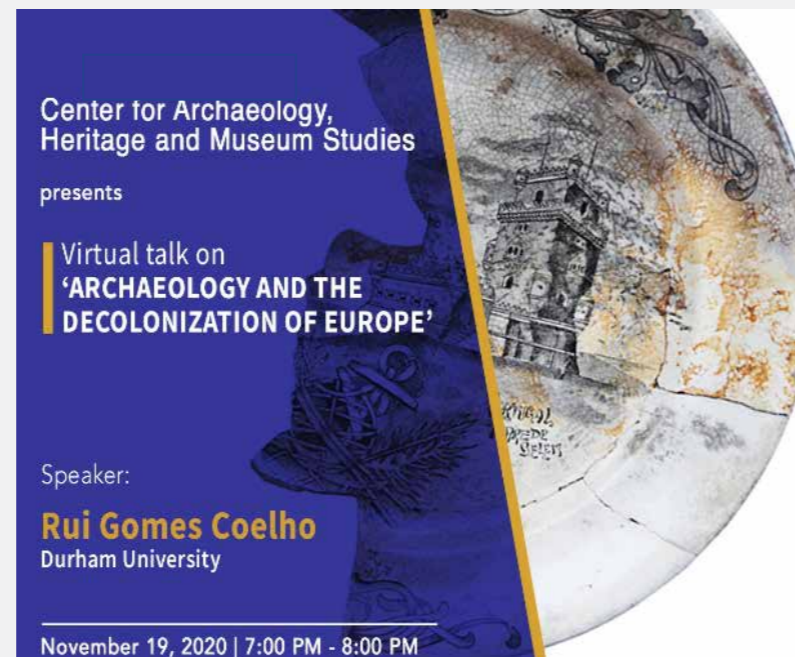
**Dr. Hemanth Kadambi:** Circle of Excellence Award for Teaching with Inspirational and Innovative practices (2020-21) by Shiv Nadar University, Delhi-NCR

**Dr. Jaya Menon:** Circle of Excellence Award for Research Excellence (2020-21)

**Students:**

**Adrija Chaudhuri** (Class of 2018), History Department alumnus, has secured the Felix scholarship to pursue M.Sc. Development Studies at the School of Oriental and African Studies (SOAS), London.

**Zaffer Ishaq War** (Class of 2021), Department of History, has been awarded the Commonwealth Master's Scholarship to pursue M.Sc. in Modern South Asian Studies at the University of Oxford later this year.



**Research Projects**

Dr. Jaya Menon and Dr. Hemanth Kadambi have joined the Indo-French Project entitled MANDU: Monsoon, Climatic Anomalies and Society in Late Medieval and Early Modern Times, directed by Dr. Supriya Varma, Centre for Historical Studies, Jawaharlal Nehru University and Dr. Anne Casile, French National Research Institute for Sustainable Development.



**Scholarly Activities**

**Dr. Jaya Menon**

**Research Projects**

Jaya Menon, Making and using spindle whorls in early historic South Asia, in Uma Chakravarti et.al. (ed.) Festschrift for Kumkum Roy, submitted.

**Dr. Meera Visvanathan**

**Books and Book Chapters**

**Book Edits:** Mekhola Gomes, Digvijay Kumar Singh and Meera Visvanathan (eds.), 2021, *The Social Worlds of Premodern Transactions: Perspectives from Indian Epigraphy and History*, Delhi: Primus Books.

**Book Chapter:** Meera

**Visvanathan**, 2021, 'The First Land Grants: The Emergence of an Epigraphic Tradition in the Early Deccan', in Mekhola Gomes, Digvijay Kumar Singh and Meera Visvanathan (eds.), *The Social Worlds of Premodern Transactions: Perspectives from Indian Epigraphy and History*, Delhi: Primus Books, pp.1-24.

**Book Reviews:** Meera

**Visvanathan**, 2021, 'Review of *Talking History: Romila Thapar in Conversation with Ramin Jahanbegloo with the Participation of Neeladri Bhattacharya*', *Studies in History* 37(1), pp. 129-132.

**Dr. Sudeshna Guha**

**Journal Publications**

**Modern Asian Studies**, 'Negotiating Evidence: History, Archaeology and the Indus Civilization'. Republished in December 2020, Critical Collective, <https://criticalcollective.in/ArtHistory.aspx>

"Decolonizing South Asia through Heritage- and Nation-Building", *Future Anterior*, **Journal of Historic Preservation: History, Theory, and Criticism**, Vol. 16 (2), Winter 2019, pp. 31-46.

**Conference Papers and Presentations**

A keynote lecture delivered in 2018 at the conference (UCL and German Historical Institute, London) 'Heritage, Decolonizing and the Field' is now also hosted (as of 29 April 2021) by the specialist website Harappa.com, on the archaeology of the Indus Civilization.



Dr. Hemanth Kadambi



Dr. Jaya Menon



Dr. Meera Visvanathan



Dr. Sudeshna Guha



### Invited Lectures and Talks

Public Talk at Centre of Public History, Srishti Manipal Institute of Art, Design and Technology, Bengaluru

'Heritage Histories and Museum Archaeology: Exploring Practice and Disciplinary Domains'. 14 May 2021

### Professional Activities

Online C-PACT (and MSc. In Water Science and Policy) 14 December 2020. Speaker: Professor Kathleen Morrison, University of Pennsylvania (Water Worlds: Vijayanagara Landscapes and Change)

Organized a public lecture for CPACT, 1 March 2021. Speaker: Professor Swadhin Sen, Jahangirnagar University (Bangladesh): Trivializing Intimacy, Objectifying.

**Reviewed:** A book manuscript on early 19th century Madras for publishers Peter Lang (Oxford).

**Reviewed:** An article for Asian Archaeology.

**Moderator** for a lecture by Dr. Bishnupriya Basak (16 June 2021) in a webinar series organized by Regional Directorate Office, Department of Archaeology Bangladesh, titled 'Archaeologies of deltaic ecology: Relevant methods and techniques for engaging with human and non-human interaction in Southwestern part of Bangladesh'.

### Dr. Divya Kannan

#### Journal Publications

Divya Kannan; "Children's Work for Children": Caste, Childhood, and "Missionary Philanthropy in Colonial India", *The Journal of the History of Childhood and Youth*, Volume 14, Number 2, Spring 2021, pp. 234-253

#### Conference Papers and Presentations

Constructing 'Model' Christians: Basel Mission Boarding Schools in Colonial Malabar" at the International Conference on Exclude to Include: Global Perspectives on Boarding Schools, their Participants and Processes during the 19th and 20th Centuries, 5-6 November 2020, Munster, Germany.

### Invited Lectures and Talks

#### LSE International History Research Seminar 18 November 2020

Paper: Caste(ing) Childhood: Missionaries and the Education of the Poor in Colonial South India

#### Creative Works and Performances

Academic work beyond the university: Co-convenor of the online Critical Childhoods and Youth Studies Collective- a forum to bring together academics and practitioners working on and with children and youth in South Asia [www.theccysc.com](http://www.theccysc.com)



## DEPARTMENT OF INTERNATIONAL RELATIONS AND GOVERNANCE STUDIES

### Awards and Accolades

- Special mention of Dr. Siddharth Mallavarapu's 'The Pendulum Swings: Tethering Histories and Futures of the United Nations' in a roundtable 'Race, Indigeneity and the Global South - Missed Opportunities and Possible Futures' organized by American Political Science Association.
- Dr. Rajeswari Raina received a Ford Foundation sponsorship for a study on 'Institutional Changes for Rural Innovation: The Civic Space and the State in India, the 1980s through 2010s'.
- Dr. Rajeswari Raina received a RRA Network sponsored project grant Consultative Processes Towards Public Policy for Living Soils.

- Dr. Rajeswari Raina was elected Vice President of the Indian Society of Agricultural Economics (ISAE), by the Board of the Society, January 2021.
- Dr. Kaveri Gill was invited to take up the Principalship of The Dalai Lama Institute for Higher Education, Bengaluru.
- Dr. Jabin Thomas Jacob appeared on multiple media platforms (print, TV, radio, and digital) ranging from The Independent (U.K.) to El Confidencial (Spain) to The Telegraph (India) to The Indian Express, to NHK World-Japan, to News 24, to Bloomberg Markets, to The Print, BBC Hindi and Newslaundry, among others.
- Two students, Prashant and Suhail Ahmed Khan, under Dr. Jabin Thomas Jacob, won the top prize in the 2021 China Video Challenge organised by Chennai Centre for China Studies.

### Key Research Projects

Jabin Thomas Jacob: Co-editor (with Bhim Subba, Hyderabad Central University) - 100 Years of the Communist Party of China - 2 Special Issues for the journal China Report (SAGE, India) – Vol. 58, Nos. 1 & 3.

Jabin Thomas Jacob: Series editor (with Kaveri Gill, IRGS) - Policy Paper Series on Himalayan Studies, Konrad-Adenauer-Stiftung India.

Jabin Thomas Jacob: Book manuscript on India-China Relations

Sruthi Muralidharan: Co-Edited Volume from the Workshop conducted 'The International in Ambedkar' with colleague Medha.

Sruthi Muralidharan: Co-conceptualized and Co-organised the workshop on the the title 'The International in Ambedkar' with the Department colleagues Medha and Jabin Thomas Jacob. It was a collaborative effort between IRGS, Shiv Nadar University, Delhi-NCR , and Dr. Ambedkar Center for Social Justice, University of Mumbai, held on 26 November 2020 (Online).

### Talks and Events

- From Learned Societies to "Global Science": Genealogies of Scientific Internationalism, 14 September 2020. Speaker: Dhruv Rana
- Facets of Modern Diplomacy, 10, 17 and 24 September, 2020. Speaker: Ambassador Gurjit Singh
- Collective Action in the 21st Century: Reimagining the Public and the State. 22 October 2020.
- 'Unskilled' and 'Unsanitary' Immigrants: Caste, Public Health and Indian Diplomacy. 29



October 2020. Speaker: Dr. Kalathmika Natarajan

- Science Diplomacy Lecture Series: Talk on 'India's Styles of Science and Science Diplomacy: Reflections from Nucleus and Nation'. 2 November 2020. Speaker: Prof. Robert Anderson
- Hegel's Political Philosophy: Law, Freedom and Ethical Life. 2 November 2020. Speaker: Professor Gurpreet Mahajan
- Science Diplomacy Lecture Series: Technopolitics and other Intersections of Science and Foreign Policy: An Overview of the Indian Experience. 5 November 2020. Speaker: Prof. Itty Abraham
- Decolonization, the Cultural Cold War, and Writers' Organizations. 12 November 2020. Speaker: Dr. Chinmay Sharma
- Persistent Becoming: Women's Religious Thought in the Global. 19 November 2020. Speaker: Dr. Anupama Ranawana
- The International in Ambedkar. 26 November 2020 jointly by the Dr. Ambedkar Center for Social Justice, University of Mumbai and the IRGS Department
- Workshop on Himalayan Studies. 28 November 2020.
- Research Colloquium. 4 December 2020. Speaker: Prof. Rajeswari Raina
- An American Reset. 21 January 2021. Speakers: Siddharth Mallavarapu, Atul Mishra, Jabin Jacob, Rajeswari Raina
- The Battle for International Law: South-North Perspectives on the Decolonization Era. 11 February 2021. Speaker: Philipp Dann
- Research Colloquium, 26 February 2021. Speaker: Medha



- Research Colloquium, 19 March 2021. Speakers: Jabin T. Jacob, Anthony Miranda
- U.S.-India Relations - The First 100 Days of the New U.S. Administration. 25 March 2021.
- Book Discussion: China's Search for 'National Rejuvenation': Domestic and Foreign Policies under Xi Jinping. 1 April 2021. Speakers: Jabin T. Jacob, Prashant Kumar Singh and Aravind Yelery
- Research Colloquium, 2 April 2021. Speaker: Shibashis Chatterjee
- IRGS Seminar: The Specter of Sinocentrism and the Hope for "Chinese IR". 8 April 2021. Speaker: Sinan Chu
- What does the figure of Thomas Sankara tell us about IR?, 15 April 2021. Speaker: Olivia Rutazibwa

### Major Events

#### Himalayan Studies Workshop

The Department of International Relations & Governance Studies, Shiv Nadar University, Delhi-NCR organized the Himalayan Studies Workshop in partnership with India Office of the Konrad-Adenauer-Stiftung (KAS) on 28 November 2020. The workshop initiated a long overdue conversation in India on the Himalayas and its neighboring spaces from a multidimensional and multi-sectoral perspective covering knowledge creation, cultural dynamics, development challenges, environmental issues and cross-border flows of multiple kinds as well as regional geopolitics. The exercise was intended to be one that values both deep understanding as well as the need for urgent action at the

DEPARTMENT OF INTERNATIONAL RELATIONS AND GOVERNANCE STUDIES  
Presents  
BOOK DISCUSSION  
CHINA'S SEARCH FOR 'NATIONAL REJUVENATION': Domestic and Foreign Policies under Xi Jinping

**SPEAKERS**

 Jabin Thomas Jacob Co-editor Associate Professor, Department of International Relations and Governance Studies, Shiv Nadar University	 Prashant Kumar Singh Contributor Associate Fellow, Institute for Defence Studies and Analyses, New Delhi, India	 Aravind Yelery Contributor Senior Research Fellow, Peking University HSBC Business School, Shenzhen, Guangdong, China
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📅 APRIL 1, 2021 ⌚ 12:00 PM - 2:00 PM

DEPARTMENT OF INTERNATIONAL RELATIONS AND GOVERNANCE STUDIES  
Presents  
SEMINAR  
THE SPECTER OF SINOCENTRISM AND THE HOPE FOR "CHINESE IR"

**SPEAKER**  
DR. SINAN CHU  
Research Fellow,  
German Institute for Global and  
Area Studies, Germany



government and societal levels. The workshop brought together scholars from various institutions across India on a platform curated by scholars from the Department.

### Scholarly Activities

#### Dr. Shibashis Chatterjee

##### Book Chapter

Sreya Maitra and Shibashis Chatterjee, "Federalization of Indian foreign policy" in Johannes Dragsbæk Schmidt, Shantanu Chakrabarti (eds.), *The Interface of Domestic and International Factors in India's Foreign Policy*, Routledge, London, February 2021.



**Shibashis Chatterjee;** "The Politics of Humanitarianism: Some Considerations", *Refugee Watch, MCRG* (Kolkata), 56, December 2020. <http://www.mcrg.ac.in/ci.asp>

**Shibashis Chatterjee:** Chatterjee, Shibashis, Surya Sankar Sen, and Mayuri Banerjee. 2021. "Borders, Citizenship, and the Local: Everyday Life in Three Districts of West Bengal". *Borders in Globalization Review* 2 (2). Victoria, British Columbia, Canada, 10-25. <https://doi.org/10.18357/bigr22202120196>

**Shibashis Chatterjee:** "India-Bangladesh Relations: Geopolitics or Human Security?" in Eswaran Sridharan (ed.), *Eastward Ho: India's Relations with the Indo-Pacific*, Orient Blackswan, Hyderabad, June 2021.

**Book chapter:** "India-Bangladesh Relations: Geopolitics or Human Security?" in Eswaran Sridharan (ed.), *Eastward Ho: India's Relations with the Indo-Pacific*, Orient Blackswan, Hyderabad, June 2021.

**Book chapter:** Shibashis Chatterjee, "Population Flows, Refugees, and the Responsibility to Protect in the Global Protection System", in Paula Banerjee (ed.), *On the Margins of Protection*, Orient Blackswan, Hyderabad (Forthcoming).

**Book chapter:** Shibashis Chatterjee and Udayan Das, "Refugees in South Asia: Political Membership, Nation-building Projects and Securitization of Human Flows", in Ujjaini Mukhopadhyay (ed.), *Internal Migration within South Asia: Contemporary Issues and Challenges*, Springer, Singapore (Forthcoming).

#### Journal Publications

**Shibashis Chatterjee,** Surya Sankar Sen and Mayuri Banerjee; "Borders, Citizenship, Identity and the State in Everyday Life: Mapping Local Perceptions of the Border in Select Areas of West Bengal", *Borders in Globalization Review*, Canada. <https://journals.uvic.ca/index.php/bigreview/article/view/20196>

#### Conference Papers and Presentations

Panelist for an online Book Launch/Discussion on "Status of European Integration: Possible Trajectory" by Prof. Purushottam Bhattacharya on 9 April 2021.

#### Professional Works

**External Expert,** Board of Studies, South Asian University, New Delhi

**External Expert,** Board of Studies, Pondicherry Central University, Pondicherry

**External Member,** Board of Studies, Goa University, Goa.

**Referee for:** *India Review* (Taylor & Francis), *Journal of Asian Security and International Affairs* (Taylor & Francis), *Journal of the Indian Ocean Region* (Taylor & Francis), *Journal of Peace Research* (Oslo), *India Quarterly* (Sage)

**External Expert,** Board of Studies, South Asian University, New Delhi

External Expert, Board of Studies,  
Pondicherry Central University,  
Pondicherry

External Member, Board of Studies, Goa  
University, Goa.

**Referee for:** India Review (Taylor & Francis), Journal of Asian Security and International Affairs (Taylor & Francis), Journal of the Indian Ocean Region (Taylor & Francis), Journal of Peace Research (Oslo), India Quarterly (Sage)

#### Media Articles

Shibashis Chatterjee: Shibashis Chatterjee along with Sumit Ganguly wrote an article for Times of India titled "Trinamool fortress stands: How Mamata managed to withstand the siege laid to her citadel by BJP".

"Trinamool fortress stands: How Mamata managed to withstand the siege laid to her citadel by BJP". 4 May 2021, Shibashis Chatterjee and Sumit Ganguly in Times of India Edit Page, Edit Page, India, TOI. <https://timesofindia.indiatimes.com/blogs/toi-edit-page/trinamool-fortress-stands-how-mamata-managed-to-withstand-the-siege-laid-to-her-citadel-by-bjp/>

#### Dr. Siddharth Mallavarapu

##### Honors

Appointed as Editor-in-Chief (in the domain of Politics and International Relations) for the Global Social Challenges Journal to be launched by the Bristol



Dr. Siddharth Mallavarapu



University Press. The journal is envisaged as a multi-disciplinary journal and has other co-editors in chief as well for specific domains of scholarly inquiry.

#### Book Chapter

'Imperialism, International Law and War: Enduring Legacies and Curious Entanglements' in Lothar Brock and Hendrik Smith ed. The Justification of War and International Order: From Past to Present (Oxford: Oxford University Press, 2021), pp.45-64.

#### Invited Lectures and Talks

Presentation at a panel on 'New Globalism in a Post-Covid World' as part of a conference on 'The Rise of Asia in Global History and Perspective' on 12 February 2021 organized by Bandung Spirit. My individual paper was titled, 'Making Sense of the Global in Post-Covid Times'.

#### Professional Works

Conversation with Ambassador Abhay Kumar (India's Ambassador to Madagascar and Comoros) on 17 March 2021.

Participant at the University of Chicago, Harris School of Public Policy online credential program titled 'The Battles Ahead: Domestic and Global Implications of the 2020 US Election' held during the period January 2021 to February 2021.

#### Dr. Rajeswari S. Raina

##### Honors

**Elected** as Vice President of the Indian Society of Agricultural Economics (ISAE), by the members of the ISAE Board, Feb 2021.

#### Book Chapter

"Environmental Sustainability with Equity in India" (July 2020) in LUMS/Mahbub ul Haq Research Centre, Sustainable Development in South Asia, the 20th Annual Report, Human Development in South Asia 2017/18. MHRC, LUMS: Lahore, pp. 59-98.

Rajeswari S. Raina (2021) Science, Technology and Policy for Sustainable Development. In: Leal Filho W., Azul A.M., Brandli L., Lange Salvia A., Özuyar P.G., Wall T. (eds) No Poverty. Encyclopedia of the UN Sustainable Development Goals. Springer, Cham. ([https://doi.org/10.1007/978-3-319-69625-6\\_39-1](https://doi.org/10.1007/978-3-319-69625-6_39-1))

Rajeswari S. Raina (2021) Science, Technology and Policy for Sustainable Development. In: Leal Filho W., Azul A.M., Brandli L., Lange Salvia A., Özuyar P.G., Wall T. (eds) No Poverty. Encyclopedia of the UN Sustainable Development Goals. Springer, Cham. ([https://doi.org/10.1007/978-3-319-69625-6\\_39-1](https://doi.org/10.1007/978-3-319-69625-6_39-1))

Rajeswari S. Raina and Keshab Das 2021. Whither Rural India? The Developmental State and Labour at the Margins, in Padmini Swaminathan and Uma Rani (Ed.s) State Capital Nexus: Implications for Labour, Anveshi Broadsheet on Contemporary Politics, March 2021, pp.9-12. (<https://www.anveshi.org.in/broadsheet-on-Journal-Publications-contemporary-politics/broadsheet-pdfs-english-and-telugu/>)

#### Journal Publications

**Rajeswari S. Raina** and Keshab Das (Eds.) 2020; "Inclusive Innovation: Evidence and Options in Rural India"; Springer: Heidelberg/Delhi (<https://www.springer.com/gp/book/9788132239277>).

**Rajeswari S. Raina** and Debanjana Dey 2020; "How we know Biodiversity: Institutions and Knowledge-Policy Relationships"; **Sustainability Science**, Vol. 15: 975-984

**Rajeswari S. Raina** and Keshab Das; 2021. "Whither Rural India? The Developmental State and Labour at the Margins", in Padmini Swaminathan and Uma Rani (Ed.s) **State Capital Nexus: Implications for Labour, Anveshi Broadsheet on Contemporary Politics**, March 2021, pp.9-12.

Raina R.S. (2021) Science, Technology, and Policy for Sustainable Development. In: Leal Filho W., Azul A.M., Brandli L., Lange Salvia A., Özuyar P.G., Wall T. (eds) No Poverty. Encyclopedia of the UN Sustainable Development Goals. Springer, Cham. ([https://doi.org/10.1007/978-3-319-69625-6\\_39-1](https://doi.org/10.1007/978-3-319-69625-6_39-1))

Rajeswari S. Raina and Keshab Das (Eds.) 2020; "Inclusive Innovation: Evidence and Options in Rural India. Springer: Heidelberg/Delhi (<https://www.springer.com/gp/book/9788132239277>).

Rajeswari S. Raina and Debanjana Dey 2020; "How we know Biodiversity: Institutions and Knowledge-Policy Relationships," *Sustainability Science*, Vol. 15: 975

#### Conference Papers and Presentations

China's Search for "National Rejuvenation", Observer Research Foundation, 11 January 2021.

'China's Search for "National Rejuvenation: Domestic and Foreign Policies under Xi Jinping"', Institute of Chinese Studies, 17 February 2021.

#### Invited Lectures and Talks

Invited lecture delivered (online) as part of the 50th Foundation Year lecture series, at the Centre for Development Studies (CDS) Trivandrum, on "Institutions and the Evolution of Indian Agriculture", 29 January 2021

Invited lecture delivered to the faculty and students in the School of Economics, at the Kumaraguru College of Liberal Arts and Science, Coimbatore on "The Economics of Sustainable Agriculture in India," 27 January 2021.

2021 Panchayat Temporality: Emotion and Time in Bhil Customary Practice. Invited Presentation at South Asian Studies Program, Faculty of Arts and Social Sciences, National University of Singapore. 23 April 2021.

#### Professional Activities

Organized the (virtual) "Consultation on Living Soils Western Odisha", 19 September 2020., as part of the sponsored project (on-going RRA-Network sponsored project in SPS and C-PACT) on Consultative Processes: Towards Public Policy for Living Soils, with 72 participants from the Government of Odisha, NGOs, farmers, scientists and donor agencies 19 September 2020.

Organized a university-wide lecture by Prof. Dhruv Raina "From learned Societies to "Global Science": Genealogies of Scientific Internationalism," as part of the Science Diplomacy.

Lecture Series by the Department of International Relations and Governance Studies, 5-7pm. 14 September 2020.

**Participated:** Panelist in the Session on “Reflections: Making change happen,” (3 September) at the ISEE (International Society for Ecological Economics) Conference on Economy and livelihoods after Covid-19 - A global on-line symposium of the International Degrowth Network and the International Society for Ecological Economics. 1-4 September 2020, University of Manchester, UK.

**Organized** and participated in a book discussion on “Agrarian Change and Urbanisation in Southern India – City and the Peasant,” Springer: India., as a collaborative event between Shiv Nadar University, Delhi-NCR and Azim Premji University, on 10 March 2021.

**Presentation** On “Reading a Science Policy Document” at the (webinar) workshop on STIP 2020 and the Future of Scientific Research in India, organized by the Zakir Husain Centre for Educational Studies, Jawaharlal Nehru University, 11 March 2021.

**Referee paper** - for Journal of Institutional Economics (March 2021)

**Reviewer and Member,** Selection Committee for a candidate’s promotion to Chair Professor in IIT Bombay (January 2021)



Dr. Rajeswari S. Raina



Dr. Atul Mishra

**Reviewer** and Expert in the Faculty Selection Committee for a candidate’s promotion to Professor in The Department of Policy Studies, in TERI School of Advanced Studies (February 2021).

### Dr. Atul Mishra

#### Books and Book Chapters

Atul Mishra: ‘Perils of Ideological Maximalism’, in P.R. Kumaraswamy (ed.) Facets of India’s Security: Essays for C. Uday Bhaskar, Oxon and New York: Routledge, 2021, pp. 34-50.

#### Media Articles

- ‘Liberal democracies must stand up’, The Hindustan Times, 28 July 2021.
- ‘India’s PACK challenge needs a political response’, The Hindustan Times, 11 June 2021.
- ‘Korona sankatatoon saamaaji parivartan shakya aahe ka?’, The Wire Marathi, 3 June 2021.
- ‘Kya Covid mahamaari ko samaajik badlaav laaney ke mauqe ke taur pe dekha ja sakta hai’, The Wire Hindi, 23 May 2021.
- ‘India’s real foreign policy challenge is domestic’, The Hindustan Times, 12 May 2021.
- ‘Assessing India’s counter to ‘diminishing democracy’, The Hindu, 25 March 2021.
- ‘Dangers of hard sovereignty’, The Hindu, 10 February 2021.

### Dr. Jabin Thomas Jacob

#### Books and Book Chapters

Co-editor with Hoang The Anh, *China’s Search for ‘National Rejuvenation’: Domestic and Foreign Policies under Xi Jinping* (Singapore: Palgrave Macmillan, 2020).

Of Cuiping Zhu. 2018. India’s Ocean: Can China and India Coexist? in *China Report*, Vol. 57, No. 2, May 2021. 249-252.

**Book Chapter:** ‘Arunachal Pradesh in India-China Relations: Trends in Chinese Behaviour and their Implications’, in M. Mayilvaganan, Nasima Khatoun and Sourina Bej (eds). *Tawang, Monpas and Tibetan Buddhism in Transition: Life and Society along the India-China Borderland* (Singapore: Springer, 2020). 153-162.

Co-author with Hoang The Anh, ‘National Rejuvenation’ as Panacea for China’s Domestic and External Challenges’, in Jabin T. Jacob and Hoang The Anh (eds). *China’s Search for ‘National Rejuvenation’: Domestic and Foreign Policies under Xi Jinping*. (Singapore: Palgrave Macmillan, 2020). 3-19.

‘Political Considerations in the Chinese Leadership’s Economic Assessments’, in Jabin T. Jacob and Hoang The Anh (eds). *China’s Search for ‘National Rejuvenation’: Domestic and Foreign Policies under Xi Jinping* (Singapore: Palgrave Macmillan, 2020). 63-75.

Jabin Thomas Jacob: ‘China’s BRI in South Asia: Unique Characteristics and General Framework’, in Jonathan Fulton (ed.). *Regions in the Belt and Road Initiative* (London and New York: Routledge, 2020). 36-53.

#### Journal Publications

“‘To Tell China’s Story Well’: China’s International Messaging during the COVID-19 Pandemic’, *China Report*, Vol.56, No.3 August 2020. 374-392. (Open Access)

#### Conference Papers and Presentations

**Book Discussion** ‘China’s Search for “National Rejuvenation”’, Department of IRGS, 1 April 2021.

#### Invited Lectures and Talks

‘Why Should Indians Study China?’ University Institute of Laws, Panjab University Regional Centre, 8 May 2021.

‘At the Forefront, In the Background: The Indo-Tibetan Border Police in India’s China Policymaking’, ICS Wednesday Seminar, Institute of Chinese Studies, Delhi, 16 June 2021.

Discussant: ‘India Versus China: Why They Are Not Friends’, Centre for Social and Economic Progress, New Delhi, 29 June 2021.

Videos: ‘Security Analysis: One Year after Galwan’, Bharata First, 12 June 2021. ‘What Triggered the 2020 Ladakh Crisis’, Strategic Learning, Stimson Centre, 15 June 2021.

‘The Changing Nature of India-China Relations During COVID-19’, Keynote Address, Department of Political Science & IQAC, BNN College, Bhiwandi, Thane Maharashtra, Webinar, 23 July 2020.

‘Understanding China: A Politico-Economic Perspective’, Naval Higher Command Course-33, Naval War College, Goa, 7 September 2020.

‘The Politics in Economic Policy Discourse in China’, Chennai Centre for China Studies, Webinar, 12 September 2020.

‘The Chinese Economy Post-Pandemic’, China Study Forum, College of Defence Management, Secunderabad. Online, 21 December 2020.

‘**Role of China in South Asia**’, Sushma Swaraj Institute of Foreign Service, Ministry of External Affairs, Government of India, 25 January 2021.

‘**Chinese Foreign Policy in South Asia: Toolkit, Approaches, Goals**’, 7th Refresher Course in Global Studies, UGC-Human Resource Development Centre, Jawaharlal Nehru University, New Delhi, 17 March 2021.

‘**The Objectives and Practice of Chinese Foreign Policy**’, Indo-Tibetan Border Police, Guwahati, 22 March 2021.

'The Communist Party of China's Foreign Policy: Of Regime Survival, Status and Power', *China Studies Lecture Series*, Department of Foreign Languages, School of Humanities and Social Sciences, Tezpur University, Assam, 22 March 2021.

Inaugural Address, *Global Order and India: Challenges and Choices*, IQAC and Dept. of Political Science, Kirti M. Doongursee College, Dadar (West), Mumbai, 29 March 2021.

#### Editorial and Mass Media Articles

'The anxiety in China', *The Indian Express*, 8 July 2020. p. 13. ('Anxiety in China stems from the CPC's insecurity,') *The Indian Express*, 8 July 2020.

'Why Indian Foreign Policy Cannot Succeed Without Foreign Languages', *The Quint*, 11 August 2020.

'Crisis with China is an Opportunity to Rethink India's Economic Policies', *TimesNowNews.com*, 19 August 2020.

'With China Breathing Down Its Neck, What Has India Won and Lost in Iran?', *News18*, 21 August 2020.

'LAC Stand-off: Let's not talk to China for the sake of talking', *Moneycontrol*, 15 September 2020.

दुरुह चोटियों पर पूरे साल सैनिक रहेंगे, यह न्यू नॉर्मल, दैनिक भास्कर, 19 September 2020.

Buzai renrang - Yin-Zhong guanxi xin changtai, (*Pingguo Ribao*), 31 October 2020.

'India-China Relations: A New Normal of Competition and Conflict', *The China Story*, 12 November 2020.

'Recalibrating India's Foreign Policy in South Asia: The China Factor', *Manorama Yearbook 2021*, December 2020.

'Chinese communists in India: Why it is a cause of concern', *India Today*, 25 December 2020.

'China in the post-COVID19 era – How will the CCP tackle its image problem?', *Raisina Debates*, Observer Research Foundation, 28 December 2020.

#### Quoted in National and International Media

##### Print:

Sandhya Sharma, 'Winter truce: border talks, return of PUBG spark hopes India may lower its guard on Chinese firms', *The Economic Times*, 20 November 2020.

in P Vaidyanathan Iyer. 'Seven branches of China's ruling party have India link', *The Indian Express*, 17 December 2020.

प्रवीण शर्मा, 'चीन और ताइवान के राजनयिकों के बीच फिजी में क्यों हो गई मारपीट', बीबीसी हिंदी, 20 October 2020.

प्रवीण शर्मा, 'भारत की ताइवान के साथ ट्रेड डील को लेकर चीन क्यों नाराज़?', बीबीसी हिंदी, 22 October 2020.

in Rahul Kumar, 'China aggression pushes India towards Beca, strategic alliances', *India Narrative*, 29 October 2020.

'Two missteps in Joe Biden's China agenda that require repair', *Moneycontrol*, 8 January 2021.

'How China might tackle the Biden presidency', *The Hindu*, 26 January 2021.

'India must no longer wait for China to change its behaviour', *Moneycontrol*, 27 January 2021.

'China's vaccine diplomacy bears closer watching', *Moneycontrol*, 23 March 2021.

'India's Foreign Policy Strategy Is Increasingly Resembling That of China', *The Wire*, 30 March 2021.

'India's vaccine diplomacy failure and its foreign policy implications', *Moneycontrol*, 19 May 2021.

#### Professional Activities

National Maritime Foundation-Taiwan Asia Exchange Foundation, Webinar, 14 July 2020.

China-India Relations: Present and Prospects, China Institute of International Studies, Beijing, Webinar, 13 August 2020.

International conference organized by Centre for Chinese and Southeast Asian Studies, Jawaharlal Nehru University and Center for South Asian studies, Fudan University, Webinar, 19 September 2020.

'China's Approach to Securing Interests Overseas: A Case Study of Bangladesh', *Importance of China Studies in the Contemporary World*, International Online Conference, UGC China Studies Programme, MMAJ Academy of International Studies, Jamia Millia Islamia, New Delhi, 13 October 2020.

'Impact of China's Economic Policies: Its Relationships with the US, Changes in Global World Order and Impact on India', *China Seminar*, Defence Services Staff College, Wellington, Tamil Nadu. Webinar, 14 October 2020.

'Teaching Mandarin Chinese in India: Political Challenges and Missed Opportunities', *2020 Workshop on Mandarin Chinese Language Teaching and Learning in India*, Taiwan Education Center in India at National Tsing Hua University, Online, 14 November 2020.

'India's China Policymaking: Assumptions, Bias, Confusion', *India China Dialogues: Language, Culture, Border and Beyond*, Department of Foreign Languages, Faculty of Arts, Banaras Hindu University, Online, 18 November 2020.

'The Sino-Indian Crisis: Hindsight is 20/20?', *South Asia Institute and China Institute*, School of African and Oriental Studies, 7 December 2020.

'Party and State in Tandem: Chinese Foreign Policy in Nepal', *Understanding China from a Multidisciplinary Perspective*, Cheena Bhavana, Santiniketan. Webinar, 9 December 2020.

Member, Editorial Board – *Review for Indian and Asian Studies*, Institute for Indian and Southwest Asian Studies, Vietnam

Academy of Social Sciences, Hanoi, Vietnam

Member, Editorial Board – *Maritime Affairs: Journal of the National Maritime Foundation of India*, New Delhi

M.Phil. Dissertation Evaluation & Viva-Voce: Department of Political Science, Faculty of Social Sciences, University of Delhi, December 2020.

Referee for Journals: *Journal of Current Chinese Affairs*, International Politics

Referee for Think-tanks: Institute of Chinese Studies, Delhi

#### Books reviewed

François Bougon. 2018. *Inside the Mind of Xi Jinping in China Report*, Vol. 57, No. 1, February 2021. 113-116. <https://doi.org/10.1177/0009445520984767>

'Another Book on the BRI: Caveat Emptor', of David De Cremer, Bruce McKern and Jack McGuire, ed. 2020. *The Belt and Road Initiative: Opportunities and Challenges of a Chinese Economic Ambition in The Book Review*, Vol. XLV, No. 3, March 2021. 17-18. <https://www.thebookreviewindia.org/another-book-on-the-bri-caveat-emptor/>

#### Participated

'The Biden Administration's China Policy: Reset or Reprise?', *An American Reset? The Global Implications of US Presidential Elections*, IRGS, 21 January 2021.

'BRI: Implications for the Indo-Pacific Region', 2nd National Maritime Foundation, India – International Institute for Migration and Security Research, Bulgaria (Virtual) Dialogue, 22 February 2021.

'Competing for Leadership: India and China in the Third World', International Online Symposium on Sino-Indian Border Disputes: A Dialogue between International Law and International Relations organized by School of Law and Centre for Chinese and Comparative Law, City University of Hong Kong in collaboration with Public Law and Human Rights Forum. 4 March 2021.

'Southwest of China? Identity, borders and conflict in contemporary Asia', *Asian Studies at Kyushu University*, Fukuoka, Japan. 19 March 2021.

**Discussant:**

'Japan and its Partners in the Indo Pacific', *Japan's Grand Strategy in the Indo-Pacific Region: Debates, Dialogues and Deliberations*, organized by Centre for East Asian Studies, SIS Jawaharlal Nehru University and Japan Foundation, Webinar, 25 February 2021. 3:04:30-3:17:02.

'The Art of Political Control in China', Book Discussion, ORF, 2 March 2021.

**Podcasts:**

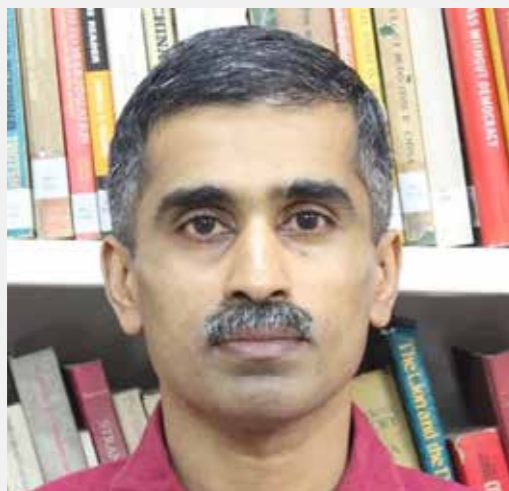
Major's Squad @MajorsSquad. 18 February 2021. <https://twitter.com/MajorsSquad/status/1362170510432342018>

**Referee:** Asian Journal of Political Science

**Member, Editorial Board** – Review for Indian and Asian Studies, Institute for Indian and Southwest Asian Studies, Vietnam Academy of Social Sciences, Hanoi, Vietnam .

**Member, Editorial Board** – Maritime Affairs: Journal of the National Maritime Foundation of India, New Delhi.

**Ph.D. Thesis Evaluation** Centre for International Politics, Organization and Disarmament, School of International Studies, Jawaharlal Nehru University, New Delhi.



Dr. Jabin Thomas Jacob

**Referee for Journals:** Asian Perspective; China Report.

**Referee for Think-tanks:** Indian Council of World Affairs.

**Participated**

'Analyzing Chinese Behaviour in Recent Times and its Impact on Global Order', 61st Course, National Defence College, New Delhi, 5 May 2021.

'Indian Foreign Policy Towards China Post-Doklam: Up, Down and Sideways', SAProg Workshop #1 – India's Foreign Policy under Modi, South Asia Programme, Noria, France, 10 June 2021.

'The Competitive Dynamics of Order-Building in the Indo-Pacific: The Belt and Road Initiative Versus the Free and Open Indo-Pacific', Australian Political Studies Association Workshop, Australia, 28 June 2021.

**Member, Editorial Board** – Review for Indian and Asian Studies, Institute for Indian and Southwest Asian Studies, Vietnam Academy of Social Sciences, Hanoi, Vietnam

**Member, Editorial Board** – Maritime Affairs: Journal of the National Maritime Foundation of India, New Delhi

**External Member** – Committee for promoting Ph.D. scholars from JRF to SRF, Centre for International Politics, Organization, and Disarmament, School of International Studies, Jawaharlal Nehru University, 1 May 2021 (for 2 years)

**Referee for Journals:** China Report, India; Strategic Analysis, India

**Dr. Kaveri Gill****Books and Book Chapters and Journal Publications**

Kaveri Gill. 4 May 2021. The Environment as Disingenuous Trope: Tracing Waste Policy and Practice in a Medium Hill Town of the Himalayas, India. *Journal of Developing Societies*, 37(2), pp.184-200. <https://doi.org/10.1177/0169796X211001246>

Kaveri Gill, K. 2020. Will Tibet Ever Prevail Over China? A Review of Greg C. Bruno's Blessings from Beijing: Inside China's War on Tibet in Exile. *Biblio*, July-September 2020 Issue, p. 14.

**Journal Publications**

**Gill K;** "The Environment as Disingenuous Trope: Tracing Waste Policy and Practice in a Medium Hill Town of the Himalayas, India", *Journal of Developing Societies*, 37(2), pp. 184-200.

**Gill K;** 2020b; "Will Tibet Ever Prevail Over China? A Review of Greg C. Bruno's Blessings from Beijing: Inside China's War on Tibet in Exile", *Biblio*, July-September 2020 Issue, p. 14. **Gill K;** 2020a; "Why the Indian Media's Leading Ladakh Expert Doesn't Live up to the Billing", *NewsLaundry*, 30 June.

**Gill K;** 2019; "The Informal Waste Sector: 'Surplus' Labour, Detritus, and the Right to the Post-Colonial City". In Cullet, P. and Koonan, S. (eds.) *Research Handbook on Law, Environment and the Global South*. Edward Elgar Publishing, pp. 452-475.

**Dr. Medha****Conference Papers**

Medha: Medha, Escaping the Nation: Abul Kalam Azad, Islam, and India's Foreign Policy (1940-64), Millennium Conference 2020, LSE, London (22-24 October)

**Invited Lectures and Talks**

'Islam in the Constitution of Indian Identity and Foreign Policy' – Lecture series as part of the Global Studies Programme at Albert-Ludwigs University, Freiburg, Germany – November 2020

'Religion as a central category in Indian diplomacy' – Guest Lecture as part of the course Postcolonial Indian Foreign Policy: Intersections of Race, Caste, and Gender, School of History, Classics and Archeology, University of Edinburgh - 24 Feb 2021

'Islam and the Politics of the Global South' – Lecture series/seminar as part of the Chair for International Relations at Albert-Ludwigs University Freiburg, Germany – May 2021



Dr. Kaveri Gill

## DEPARTMENT OF SOCIOLOGY

### Major Talks and Events

#### The Sociology Seminar Series Talk

**Topic:** From Infrastructure to Superstructure: A Tale in 3 Acts  
**Speaker:** Arvind Rajagopal, Professor of Media Studies, and an affiliate faculty in Sociology, and the Social and Cultural Analysis at New York University.  
**Date:** 24 September 2020  
**Abstract of the talk:** In his presentation, the speaker outlined three episodes in the establishment of one aspect of communication infrastructure in India, namely television.

**Topic:** "Urban as Opportunity and Anxiety: Caste Associations and Competing Cosmopolitanisms in Mumbai"  
**Speaker:** Dr. Suryakant Waghmore, Associate Professor, Humanities and Social Sciences, IIT, Bombay  
**Date:** 22 October 2020  
**Abstract of the talk:** This paper explored the nature of urbanism that caste associations seek to construct in the metropolis of Mumbai.

**Topic:** The Globally Familiar: Mediating Masculinities in Delhi, India  
**Speaker:** Dr. Ethiraj Gabriel Dattatreyan  
**Date:** 29 October 2020  
**Abstract of the talk:** In the last decade access to information and communication technologies – 3G and 4G networks, smart phones and social media platforms – have created opportunities for young people on the margins of the national imaginary in India to take part in transnational media worlds. In this talk the speaker

▶ WEBINAR

**From Infrastructure to Superstructure: A Tale in 3 Acts**



**Speaker**  
**DR. ARVIND RAJAGOPAL**  
 Professor of Media Studies; and  
 Affiliate Faculty in Sociology and the Social and Cultural Analysis, New York University, NYC

Thursday, September 24, 2020  
 6:45 PM to 8:45 PM IST

▶ Sociology Seminar Series

**A Talk on 'Urban as Opportunity and Anxiety: Caste Associations and Competing Cosmopolitanisms in Mumbai'**




**Speaker**  
**DR. SURYAKANT WAGHMORE**  
 Associate Professor of Sociology,  
 Department of Humanities and Social Sciences,  
 IIT-Bombay

Thursday, October 22, 2020  
 6:45 PM to 8:15 PM IST

discussed how the young men from working class, migrant and minority communities in Delhi who he first met in 2012 took up global hip hop's now digitally mobile aesthetic discourse to fashion themselves in online and offline worlds.

▶ The Sociology Seminar Series Talk

**What is 'Modern' Mathematics?**



**Speaker**  
**DR. SAUMYA MALVIYA**  
 Assistant Professor,  
 School of Arts and Sciences,  
 Ahmedabad University

Thursday, November 12, 2020  
 6:45 PM – 8:15 PM IST

**Topic:** What is 'Modern' Mathematics?  
**Speaker:** Dr. Saumya Malviya, Assistant Professor at the School of Arts and Sciences, Ahmedabad University  
**Date:** 12 November 2020  
**Abstract of the talk:** Historians of mathematics have rightly pointed out that the heuristic advantage of the category of 'modernism' in mathematics must not be exaggerated. Although, it can be useful at times to see how different branches of mathematics were modernized at the same time when similar developments were taking place in the arts, no zeitgeist of the 'modern' can be drawn in mathematics.

**Topic:** Seed Narratives: Agricultural Biotechnology, Science, and Temporalities  
**Speaker:** Dr. Ashawari Chaudhuri, Research Fellow, National University of Singapore  
**Date:** 19 November 2020  
**Abstract of the talk:** Since 2002, when the first genetically modified (GM) seed, Bt cotton, began to be cultivated in India, conversations and debates around agricultural biotechnology - large scale farmers' suicides, higher yields during the first few years, the control of agricultural by multinational companies-have been fierce and muddled. Although most of them have been centered on GM seeds, the seed itself still remains unexplored. By taking the listeners behind closed doors of bureaucracy, secretive research sites of

▶ The Sociology Seminar Series Talk

**Seed Narratives: Agricultural Biotechnology, Science, and Temporalities**



**Speaker**  
**DR. ASHAWARI CHAUDHURI**  
 Research Fellow,  
 National University of Singapore

biotechnology companies and the vast stretches of agricultural cotton fields, the talk opened up the seed by tracing the practices of the communities and their experiences of time.

**Topic:** Precarious Autonomy: Resisting the vikas - mining nexus in Niyamgiri, India  
**Speaker:** Dr. Madhuri Karak, Mellon - American Council of Learned Societies PublicFellow/Community Engagement Lead at Rare's Center for Behavior & the Environment in Washington D.C.  
**Date:** 18 March 2021  
**Abstract of the talk:** Niyamgiri gained attention in 2013-14 as a rare instance of indigenous peoples halting land acquisition for bauxite mining. This presentation explored positions within a "no" to mining, particularly along the axes of vikas (development) and adivasis' historical relationship with the Indian state, revealing the shrinking forms/spaces available to anti-capitalist politics in the context of pervasive agrarian precariousness in India today.

**Topic:** The Politics and Poetics of Suspension  
**Speaker:** Dr. Isaac Marrero-Guillamon, Lecturer in Anthropology at Goldsmiths, University of London  
**Date:** 25 March 2021  
**Abstract of the talk:** The speaker combined a focus on the temporal multiplicity of the suspended project (between the 'yet to come' and the 'could have been') with an attention to its redistributed materiality in the form of drawings, models and simulations. The presentation was based on ethnographic fieldwork conducted in Fuerteventura and several other locations in Spain in 2016-17.



**Topic:** The Imperial Optic: College Studies, Race and Mobility

**Speaker:** Dr. Mariam Durrani is an assistant professor of Anthropology at Hamilton College.

**Date:** 8 April 2021

**Abstract of the talk:** In this talk, Dr. Mariam Durrani discussed the imperial optic as a conceptual orientation to see how social life on campus is refracted through war making policies to understand processes of imperial racialization across two contexts, focusing on the impact of the US wars "on terror" on higher education and youth mobility.

### Dr. Yasmeen Arif

#### Books and Book Chapters

Event and Every day: Epistemologies and Empiricisms. In Press. (Final MSS Submitted in June'21). New Delhi: Orient Blackswan.

**Book Chapter:** "Framing an Indian contemporary: Speculations beyond the postcolonial" Invited Chapter submitted for publication in Gita Chadha and Renny Thomas (eds.): "Mapping Disciplinary Debates: Scientific Method and its Discontents". Routledge India.

#### Journal Publications

"The Reluctant Native: Decolonizing Ontologies and Epistemic Disobedience", Invited essay for **HAU: Journal of Ethnographic Theory**. 2021. Vol 11(1):256-263. Open Access.



Dr. Yasmeen Arif

### Student Achievements

Dr. Shagufta Kaur Bhangu completed her Ph.D. at the Department in 2021. Her doctoral research, titled 'A Sociological Investigation of Pain Medicine and Pain Clinics in India' was an exploration of the medicalization of pain and the resultant therapeutics structured around this condition. During her doctoral studies, she spent a year as a Fulbright-Nehru scholar at UCSF-UC Berkeley (2017-2018).

Shagufta plans to continue her research into pain's sociality, emergent medical fields and imaginaries in India as a Postdoctoral Research Associate at the Department of Global Health and Social Medicine at King's College, London where she has joined Dr. Carlo Caduff's Wellcome Trust funded project, 'Grid Oncology: Remaking Cancer Care in India.'

Invited Entry, "Crisis: A Note for the Humanitarian Encyclopedia", Open Access

#### Conference Papers and Presentations

Dr. Yasmeen Arif made a presentation 'Body. Space. Social: Geometrics and Geopolitics of the Pandemic' on 10 February, 2021, in the virtual two day international conference 'Globalization and New Terrains of Consciousness: Phenomenologies of the Global/Local/Glocal' organized by Department of English Jamia Millia Islamia, New Delhi in collaboration with Department of English and American Studies University of Würzburg, Germany.

Dr. Yasmeen Arif discusses the book 'Elementary Aspects of the Political' by Professor Prathama Banerjee on 24 March 2021. Professor Prathama Banerjee will introduce the book followed by discussion by Professor Indrani Bhattacharjee, Azim Premji University and Professor Yasmeem Arif, Shiv Nadar University, Delhi-NCR as part of SAU's Sociology Seminar Series.

Dr. Yasmeen Arif presented a paper titled 'The Government of Identity' and participated at the round table titled 'Sexuality, Political Economy, and the Law: New and Old Materialisms' at the Law and Society Association Virtual Conference, 26-30 May.

#### Invited Lectures and Talks

Law and Society Association Virtual Conference/26-30 May (anchored in Chicago)

**Round Table Title:** Sexuality, Political Economy, and the Law: New and Old Materialisms

**Title and Date of presentation:** The Government of Identity/27 May 2021

### Dr. Subhashim Goswami

#### Journal Publications

Goswami, Subhashim; 2021. "The Unwittingly Wilful State Subject: Travelling and Testing in the Terrain of Threat." *Society and Culture in South Asia*. Vol. 7 Issue 1. pp. 155-162.

#### Conference Papers and Presentations

Presented a paper titled "Anthropologist in Absentia: Ethnography sans the ethnographer" at the Association of the Social Anthropologists of the UK conference ASA 2021 RESPONSIBILITY. Online 29 March - 1 April 2021.

Dr. Subhashim Goswami presented a paper titled: Anthropology as Interlocution: An ethnography of the seen and the heard." at the Panel titled: "Educating Anthropologists for the contemporary world" on 22 July 2020 at the 16th European Association of Social Anthropologists (EASA) Biennial Conference - EASA 2020, Lisbon, Portugal titled - "New Anthropological Horizons in and beyond Europe".

Dr. Subhashim Goswami convenes a panel titled: "Dematerialization and Immateriality: the impact of intangibility in pedagogy and ethnography" in collaboration with Prof. Claudio Pinheiro, Professor of Asian and African Studies, Rio de Janeiro Federal University at the Association of the Social Anthropologists of the UK conference ASA 2021 RESPONSIBILITY. Online 29 March - 1 April 2021. Dr. Goswami also presents a paper titled: "Anthropologist in Absentia: Ethnography sans the ethnographer" at the same conference.

Dr. Subhashim Goswami was invited as a key panellist for a national conference on "The Pandemic and its Impact on Children" organised by St. Claret College, Bengaluru, University of Bangalore, 30 July 2021. As a panellist he was the discussant for 11 papers presented by social science scholars from all over the country discussing pedagogical and other concerns of children during the pandemic.

#### Invited lectures and Talks

Invited to conduct a workshop on Critical Thinking and Thesis Writing for the Critical Thinking and Liberal Arts Program, Ahmedabad University on 15 June 2021. Conducted a half day workshop.

#### Professional Works

Convened a panel titled: "Dematerialization and Immateriality: the impact of intangibility in pedagogy and ethnography" at the Association of the Social Anthropologists of the UK conference ASA 2021 RESPONSIBILITY. Online 29 March - 1 April 2021

Convened a panel and presented a paper at the Association of the Social Anthropologists of the UK conference ASA 2021 RESPONSIBILITY. Online 29 March - 1 April 2021

**Member European Association of Social Anthropologists (EASA)**

**Member International Union of Anthropological and Ethnological Sciences (IUAES)**

**Refereed for the following journals:** Sage Open; Society and Culture in South Asian; Urbanities: Journal of Urban Ethnography



Dr. Subhashim Goswami

**Reviewer:** SAGE Open; Society and Culture in South Asia

**Creative Works and Performances**

Published two Poems in the magazine Double Speak (<https://dsmag.in/>) Link to the publication <https://dsmag.in/the-magazine-pages/poems/>

**Dr. Vasundhara Bhojvaid**

**Conference Papers and Presentations**

Dr. Tuhina Ganguly and Dr. Vasundhara Bhojvaid co-organized and presented at the panel 'Breathing Well: Breath, Body, and Air in India', Association of Asian Studies virtual conference. The papers presented in the panel were: 'Breathy Biomoral Ecologies: Breathing, Strength and Vigor in India's Rajasthan' by Dr. Andrew McDowell, Tulane University, USA; "'Inhale Deeply": Breath, Prana and the Yoga Body Today' by Dr. Tuhina Ganguly, Shiv Nadar University, Delhi-NCR, and 'Exposing Breath: Transmissions of the Virus and Air Pollution in New Delhi' by Dr. Vasundhara Bhojvaid. The discussant for the panel was Dr. Awadhendra Sharan, Centre for the Study of Developing Societies, India.

Dr. Vasundhara Bhojvaid presented a paper titled 'Indexing Air: How New Delhi became the most polluted city in the world' as part of the panel 'Precarious Places in the Anthropocene' on 17 September 2020, at the Royal Anthropological Institute's 'Anthropology and Geography: Dialogues Past, Present and Future' Conference 14 -18 September, 2020.

Dr. Vasundhara Bhojvaid's paper 'Sociology as/of Science' discussed in 'STS pedagogies in India' workshop. The virtual workshop was organised by Dr. Ram Ramaswamy and Dr.



Dr. Tuhina Ganguly



Dr. Vasundhara Bhojvaid



**Naveen Thayyil**, IIT Delhi. The workshop entailed an engagement and discussion with four papers on 'Cultivating Amateur Curiosity across disciplinary boundaries: Liminality administ the three Cultures'.

**Journal Publications**

**Bhojvaid, Vasundhara;** 2021 "Hazy Clouds: Making Black Carbon Visible in Climate Science", **Journal of Material Culture** (Impact Factor = 0.667), (February 2021). <https://journals.sagepub.com/doi/10.1177/1359183521994864>

**Professional Works**

**Book reviewed:** Bhojvaid, Vasundhara. 2020. "The Social in/and the Scientific. Book Review of Pankaj Sekhsaria's 'Instrumental Lives: An Intimate Biography of an Indian Laboratory'", *Dialogue. Science, Scientists and Society*, November

20, 2020. <http://www.dialogue.ias.ac.in/article/48361/the-social-inand-the-scientific>

**Participated:** Dr. Tuhina Ganguly and Dr. Vasundhara Bhojvaid co-organized and presented at the panel 'Breathing Well: Breath, Body, and Air in India' at the 2021, Association of Asian Studies virtual conference. The papers presented in the panel were: 'Breathy Biomoral Ecologies: Breathing, Strength and Vigor in India's Rajasthan' by Dr. Andrew McDowell, Tulane University, USA; "'Inhale Deeply": Breath, Prana and the Yoga Body Today' by Dr. Tuhina Ganguly and 'Exposing Breath: Transmissions of the Virus and Air Pollution in New Delhi' by Dr. Vasundhara Bhojvaid. The discussant for the panel was Dr. Awadhendra Sharan, Centre for the Study of Developing Societies, India.

**Dr. Tuhina Ganguly**

**Conference Papers and Presentations**

Dr. Tuhina Ganguly and Dr. Vasundhara Bhojvaid co-organized and presented at the panel 'Breathing Well: Breath, Body, and Air in India' at the 2021, Association of Asian Studies virtual conference. The papers presented in the panel were: 'Breathy Biomoral Ecologies: Breathing, Strength and Vigor in India's Rajasthan' by Dr. Andrew McDowell, Tulane University, USA; "'Inhale Deeply": Breath, Prana and the Yoga Body Today' by Dr. Tuhina Ganguly and 'Exposing Breath: Transmissions of the Virus and Air Pollution in New Delhi' by Dr. Vasundhara Bhojvaid. The discussant for the panel was Dr. Awadhendra Sharan, Centre for the Study of Developing Societies, India.

Dr. Tuhina Ganguly presented a paper on 14 May 2021 at the Society for the Anthropology of Religion Virtual Conference. Her paper was titled, 'Toward Decolonising Religion: New Thought and the First Hindu American'.

**Dr. Urmila Bhirdikar**  
Conference Papers and Presentations

Dr. Urmila Bhirdikar made an invited presentation “New Concepts for the New normal?” on 7 October 2020 in a webinar organized by St Xavier’s College, Kolkata.



**Dr. Devika Bordia**  
Conference Papers and Presentations

Dr. Devika Bordia presented a paper titled “Panchayat Temporality: Emotion and Time in Bhil Customary Law” at the webinar series for the South Asian Programme at National University of Singapore on Friday, 23 April. Dr. Bordia also presented another paper titled “Mediating Rage and Revenge: Mautana Custom and Panchayat Practices among Bhils in Rajasthan” on Saturday, 24 April at the Conference titled “Plural Ideas of Justice: Stories, Narratives, and Experiences from India” organized in collaboration with Konrad Adenauer Stiftung and Justice Adda.

2021 Mediating Rage and Revenge: Mautana Custom and Panchayat Practices among Bhils in Rajasthan. Paper presented at Conference “Plural Ideas of Justice: Stories, Narratives, and Experiences from India” organized in collaboration with Konrad Adenauer Stiftung and Justice Adda. 24 April.

2021 Panchayat Temporality: Emotion and Time in Bhil Customary Practice. Invited Presentation at South Asian Studies Program, Faculty of Arts and Social Sciences, National University of Singapore. 23 April.



Dr. Urmila Bhirdikar



Dr. Devika Bordia



**CENTER FOR PUBLIC AFFAIRS AND CRITICAL THEORY (C-PACT)**

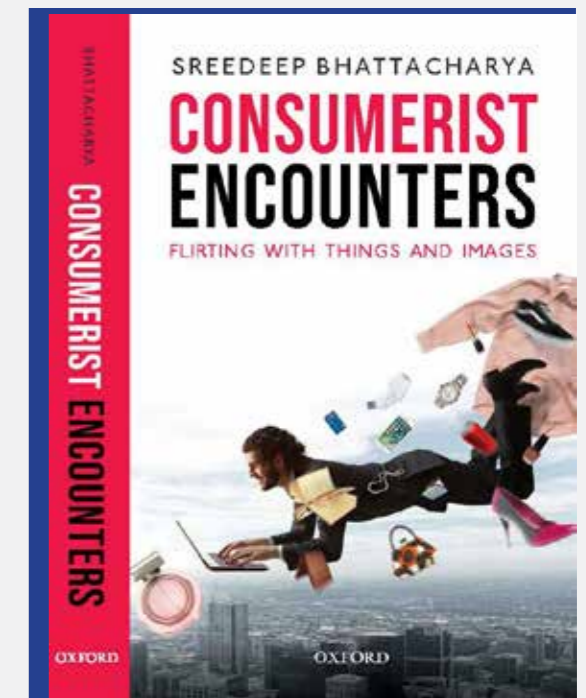
**Dr. Sreedeep Bhattacharya**  
Books and Book Chapters

**Book:** Consumerist Encounters: Flirting with Things and Images, Oxford University Press (published)

**Journal Publications**  
“After the Tourists Depart: Visual Postmortem of a New Tourist Destination”; Journal of Contemporary Archaeology, 7.1. 2020. P 61-78.

**Creative Works and Performances**  
Guest Editor for Special Issue “Earth Observation in Forest Biophysical/ Biochemical parameter retrieval” in Journal “Remote Sensing” MDPI [Impact Factor-4.509].[https://www.mdpi.com/journal/remotesensing/special\\_issues/Forest\\_Biophysical\\_Retrieval](https://www.mdpi.com/journal/remotesensing/special_issues/Forest_Biophysical_Retrieval).

‘Wear Che Guevara, Johnny Walker and Gandhi on your T-shirts, but it says nothing about you’, The Print, 31 October 2020



Dr. Sreedeep Bhattacharya

# SCHOOL OF MANAGEMENT & ENTREPRENEURSHIP

## Achievements and Scholarly Activities

### Dr. Asish Bhattacharya

#### Journal Publications

Evolution of Corporate Governance in Emerging Economies - Indian Experience (Available at SSRN: <https://ssrn.com/abstract=3747512> or <http://dx.doi.org/10.2139/ssrn.3747512>)

### Dr. Vinita Krishna

#### Achievements

- Recognized and featured in the Booklet on 100 Success Stories of Women Empowerment, released by TIFAC, DST, Government of India, on Int'l Women's Day, 2021.
- Selected and accepted as a participant for the 12 weeks (10 May-10 August 2021) Virtual global program on Entrepreneurship conducted by University of Alabama, USA.
- Contributed in the form of group work - case analysis and submission of research proposal on entrepreneurship and themes connecting - entrepreneurial orientation, gender and culture.
- Organized the AICTE sponsored five days long workshop on Intellectual Property and Innovation Management in October 2020;
- Organized weekend workshop on IPR for start-ups and entrepreneurs in July-August 2021.

#### Journal Publications

Vinita Krishna, Raman Dutt and Prakhar Rathi (2021). Paper titled "Novel Mixed-Encoding for Forecasting Patent Grant Duration" in the journal World Patent Information, 64, Elsevier, Scopus-indexed.

Vinita Krishna and Sudhir K Jain (2020). "Measuring Collaboration in Open Innovation Practice of Pharmaceutical Firms: The Use of Survey and Patent Data," in Journal of Intellectual Capital (ABDC ranked "B category" with 5.33 IF), Emerald Insight Publishing, Scopus-indexed.

Vinita Krishna and Sudhir K Jain (2021). "Patenting Motives of Pharmaceutical Firms: A Perspective on Changing Role of Patents and Firms' Strategy in Business" in International Journal of Intellectual Property Management(IJIPM), Inderscience Publications, 11(1), 1-20, Scopus-indexed



Dr. Vinita Krishna

**Conference Papers and Presentations**

The International Conference on Innovation in Management & Business, conducted by Howard and NIT Trichy, July 2021.

**Professional Activities**

FDP proposal on "Innovation Management & Intellectual Property" got selected and sponsored under AICTE-ATAL Scheme (2020). Capacity building through training of 115 Faculties across India in the given domain for 5 days involving 12 speakers (a mix of academia and industry experts).

Participated in 3 days Online National Workshop on Theory Building, Conceptual Development of Models, Model Robustness and WarpPLS conducted by K.P>B Hindujaa college of Commerce (8-10 January 2020)

Participated in 1-week Online National workshop on Advanced Research Methods conducted by Lucknow University (26-30 December 2020).

**Dr. Sundar Venkatesh**

**Books and Book Chapter**

Co-authored, Fundamental Accounting Principles. Published by McGraw Hill

**Dr. Vijayta Fulzele**

**Achievements**

Received the Young Investigator in Research awards at the Circle of Excellence Awards conducted by Shiv Nadar University, Delhi-NCR.

**Achievements**

Published a paper titled "Performance measurement of sustainable freight transportation: a consensus model and FERA approach" in Annals of Operations (A category).

**Dr. Sandeep Kumar Gupta**

**Achievements**



- Citations reached to 400+
- i10 & h-index have entered into double digit (14 & 13 respectively);
- Organized an AICTE funded Faculty Development Program
- Successfully closed a special issue in a ABDC and Scopus listed journal.
- Organized a workshop on 'Data Visualization using Tableau'
- Organized an FDP on 'Operations Management'
- Organized a guest talk on 'Quality assurance & control'.

**Journal Publications**

**Sandeep Kumar Gupta, Shivam Gupta, Uthayasankar Sivarajah.** Sharing economy: pathway to sustainability. **Management of Environmental Quality: An International Journal** Vol. 32 No. 1, 2021 pp. 1-3.

**Key Research**

The pertinence of incorporating ESG ratings to make investment decisions: A quantitative analysis using Machine Learning;

A Case-study on Dilemmas and Decisions in Transition to Carbon Neutral Factory: Mahindra & Mahindra

Editorial for a special issue on 'Sharing Economy: Pathway to Sustainability?' Management of Environmental Quality.

Developing a Framework for Sacred Grove Management using Stakeholder Analysis: Evidence from Sacred Groves in Gujarat, India. Benchmarking: an International Journal

Ten Commandments of Sustainable Business Operations: a practitioners' perspective

**Dr. Raghupathy M. B.**

**Invited Lectures and Talks**

Transfer Pricing and global business at BIMTECH, Greater Noida. Date: 16 December 2020.

**Dr. Partha Sarathi Roy**

**Achievements**

Officially completed an international research project funded by prestigious 'Kaken' Grant awarded by Japan Ministry of Education.

**Books and Book Chapters**

**Roy, P. S. & Chaudhuri, S.** (2021). Aligning Partner Interests: Challenges in Delivering Potable Water in India through an Inclusive Business Model - Waterlife India Pvt. Ltd. In Y. Okada & S. Stanislawski (Eds.) Institutional Interconnections and Cross-Boundary Cooperation in Inclusive Business: Case Studies from India and Africa (pp. 155-76). Emerald Publishing, UK  
**Book: Institutional Interconnections and Cross-Boundary Cooperation in Inclusive Business: Case Studies from India and Africa;** Editors - Y. Okada & S. Stanislawski

**Conference Papers and Presentations**

14th International Conference conducted by Jagdish Sheth School of Management, Bangalore titled 'Convergence 2020'.



Dr. Sundar Venkatesh



Dr. Vijayta Fulzele



Dr. Sandeep Kumar Gupta



Dr. Raghupathy M. B.



Dr. Partha Sarathi Roy

**Dr. Vivek Khanna****Conference Papers and Presentations**

A paper presented at the 19th Annual Conference of the International Social Theory Consortium hosted by the University of South Florida from 17-19 June 2021. [The conference was held online].

**Professional Works**

**Participated** in the 19th Annual Conference of the International Social Theory Consortium hosted by the University of South Florida from 17-19 June 2021. [The conference was held online].

Member of the International Sociological Association (ISA).

**Mr. Pradeep Mehra****Conference Papers and Presentations**

"Incubator Capabilities Enhancement for a Robust Ecosystem for High Performing Startups", organized by Atal Innovation Mission, Bill and Melinda Gates Foundation and Wadhvani Foundation.

**Scholarly Activities - Doctoral Candidates****Divya Gogia****Conference Papers and Presentations**

46th Macromarketing Conference 2021. Alliance management study, international Conference 2021 conducted by Alliance University."

**Keerat Kaur****Conference Papers and Presentations**

World Finance Conference, Norway (3-6 August); Southern Finance Association Annual Meeting 2021, Florida (17-20 November 2020)

**Ankur Paliwal****Conference Papers and Presentations**

Ph.D. student symposium on financial market research and policy developments



Mr. Pradeep Mehra

**Ankit Singh****Conference Papers and Presentations**

7th International Young Finance Scholar's Conference, Peking University HSBC School

Allied Social Science Association (ASSA) Meetings, AEA"

Evolution of Corporate Governance in Emerging Economies - Indian Experience (Available at SSRN: <https://ssrn.com/abstract=3747512> or <http://dx.doi.org/10.2139/ssrn.3747512>)

**Satyam Mukherjee****Achievements**

Best paper awards at the AOM Apr/May 2021

**Research Project**

Network centrality and negative ties in feminine and masculine occupations, ABDC A (Shiv Nadar University, Delhi-NCR affiliation) <https://link.springer.com/article/10.1007/s10490-021-09785-7>



## ATAL INCUBATION CENTRE - SHIV NADAR UNIVERSITY, DELHI-NCR

Shiv Nadar AIC Research Foundation - SNARF, the Atal Incubation Centre - Shiv Nadar University, Delhi NCR (AIC-SNU) was established as an initiative by NITI Aayog, Government of India, under the Atal Innovation Mission. The synergetic research and technology resources of Shiv Nadar University, Delhi-NCR makes AIC conducive enough for Technology Startups to thrive.

The campus is laced with advanced lab infrastructure/facilities as futuristic startup support. Also, the knowledge and motivation to drive entrepreneurial spirit and stimulate innovation via startup ideas, is intrinsic to students, faculty and the overall university culture. To encourage and create an entrepreneurship culture in the university, especially among students, AIC closely works with the Entrepreneurship Cell (E-Cell) a student body, created to boost student innovation efforts. Many events and efforts have been made to create awareness towards enhancing entrepreneurship and innovation. AIC is also working towards promoting women entrepreneurship.

### Start-ups Incubated

**Start-up:** The Children's Post of India  
**Company:** Infogain Edumedia Pvt. Ltd.  
**Website:** www.kidsnews.top; www.thechildrenspost.com  
**Founder:** Nidhi Arora | **Founders:** 2 | **Team Members:** 24  
**About the start-up:** The only DAILY children's newsletter available for B2C and B2B subscription in India. The entire content is created by parents. So the content comes under strict editorial guidelines but is written exactly at the level at which a child can understand. It's USP is its explanation of concepts in the

language of children. The start-up also runs a news portal especially for kids. In 3 years, it has reached around 5 lakh readers in all parts of India. The paper is also read internationally - most notably the Middle East, China and Europe.

**Start-up:** Evo Rentals  
**Company:** EVO Rentals Pvt. Ltd.  
**Website:** www.evorentals.com | **Founder:** Saurabh Jain | **Founders:** 2  
**About the start-up:** EVO Rentals is an application based green tech shared mobility and last mile delivery solution provider based in Bangalore. The start-up aims to ensure it's customers get best vehicle and service. The start-up was selected In India Finals in Climate Launchpad.

**Start-up:** Hundred Plus  
**Company:** Huplus Market Innovations Pvt. Ltd.  
**Website:** www.100plusmall.com  
**Founder:** Gaurav Bansal | **Founders:** 2 | **Team Members:** 5  
**About the start-up:** Hundred Plus is a startup dedicated fo semi urban and rural women. With an aim of introducing virtual retailing in India, wherein women shall be appointed as virtual retailers, it connects brands to corners of India, assisting customers in online shopping. The start-up has been featured in Hindi Newspapers - 'Dainik Jagran' and 'Deshbandhu'. It was also selected among top 30 startups, Masterplan, IIM Ahmedabad, 2019; and was invited to showcase at Assocham Startup Launchpad, IIT Guwahati, 2020.

**Start-up:** Statlogic India Pvt. Ltd.  
**Company:** Statlogic India Pvt. Ltd.  
**Website:** www.statlogic.io  
**Founder:** Vignesh M.S. | **Founders:** 2 | **Team Members:** 9  
**About the start-up:** Statlogic is a deep-tech company specialized in delivering geospatial big data and IoT technologies. The start-up is developing the country's first parametric cattle insurance platform that covers both mortality and morbidity losses in dairy cattle by leveraging artificial intelligence, actuarial science and biometeorology. Statlogic in association with SAP Co-Innovation Lab is building SkyAI, an ML driven environment to predict and mitigate safety incidents in a controlled airspace. Being built for a national aviation regulator, SkyAI is the Decision Intelligence solution that will unlock the value hidden in their data. This Solution blends the latest machine learning technologies to build smart decision-making systems.

### Events

Date	Event	Attendees	Speakers
14 July 2020	Webinar on how family businesses can diversify into new ventures and incubate new innovative ventures	300+	Mr. Ramanan Ramathan, Mr. Harsh Chopra, Dr. Rupamanjari Ghosh, Dr. Bibek Banerjee
30 October 2020	Merge. Dev Colloquium 2020	100+	Miri Rodriguez, Siddhant Agarwal, Debajani Chatterjee, Nikita Gandhi, Rohan Passi, Yashovardhan Agrawal, Jonathan Periera, Karan MV, Priyanka Kasture
8 January 2021	National Webinar on DSIR's PRISM Scheme and Proposal Writing	65	Dr. P Uma Maheswari Devi, Ramanuj Banerjee, Dr. Rupamanjari Ghosh
27 January 2021	National Webinar on DSIR's PRISM Scheme: Innovative Bright Idea Competition	55	Dr. P Uma Maheswari Devi, Ramanuj Banerjee
1 February 2021	Launch of Investonet	60	Prashant Narang, Dhianu Das, Dr. Rupamanjari Ghosh, Dr. Bibek Banerjee
19 February 2021	Pitch Cafe	28	AIC Team
30 April 2021	Driving Innovation through Startup - Industry Collaboration	38	Geraldine Gandveau, Gautam Sivaramakrishnan, Ritesh Jain, Renuka Bodla
15 May 2021	AIC-SNU Panel Discussion - Raising Your First Ticket	72	Zaran B, Dhianu Das, Anila Choraria, Achyut Chandra
9 June 2021	VC 4.0	100+	Dhianu Das, Shashank Ramdev, Himanshu Malik, Gunjan Arya, Suneev Motwani, Maniappan Rajagopalan, Koteswaran Srinivasan, Gautham Shivramakrishnan, Dr. Sanjeev Galande, Dr. Rajat Kathuria, Col. Gopal Karunakaran, Maj. Gen. G. Jaishankar, Pawan Danwar, Dr. Rupamanjari Ghosh, Pradeep Mehra, Taha Malik, Mukesh Kestwal, Anubha Bali
19 June 2021	Demo Day	40+	Dhianu Das, Shashank Ramdev, Himanshu Malik, Gunjan Arya, Suneev Motwani, Maniappan Rajagopalan, Koteswaran Srinivasan, Gautham Shivramakrishnan, Dr. Sanjeev Galande, Dr. Rajat Kathuria, Col. Gopal Karunakaran, Maj. Gen. G. Jaishankar, Pawan Danwar, Dr. Rupamanjari Ghosh, Pradeep Mehra, Taha Malik, Mukesh Kestwal, Anubha Bali

## Training Sessions

Date	Attendees	Event	Type	Speakers
11 November 2020	20+	Virtual roadshow for Defence India Startup Challenge 4 (DISC4)	Interactive Session	Akhil Pratap Singh
26 November 2020	25+	Webinar on How to start a startup	Interactive Session	Chintan Bakshi
2 December 2020	20+	Webinar on The Art of Fundraising	Interactive Session	Anupam Saronwala
18 December 2020	10+	Introductory Session: Wadhvani Venture Fast-track Program	Interactive Session	Naved Ahmed
22 December 2020	10+	Thinking like an Investor	Interactive Session	Saurabh Bisht
14 January 2021	37	Sharpen your problem pitch	Interactive Session	Saurabh Bisht
4 February 2021	15	Identifying and Prioritizing Riskiest Assumptions	Interactive Session	Saurabh Bisht
11 February 2021	35	Funding your start-up	Funding your start-up by Dr. Dhruv Nath, Angel Investor, Director - Lead Angels Network.	Dr. Dhruv Nath
26 February 2021	14	Market Identification and Sizing	Interactive Session	Saurabh Bisht
4 March 2021	20	How to Create a Winning Pitch Deck	Interactive Session	Chetan Bhatia
12 March 2021	27	Building a Minimum Lov-able Product	Interactive Session	Saurabh Bisht





## UNDERGRADUATE ADMISSIONS 2021

The University invited applications for all 17 programs it offers as part of B.Tech., B.Sc. (Research), BMS, and B.A. (Research) degrees across disciplines - Management, Natural Sciences, Engineering, and Humanities & Social Sciences.

This year, the University introduced seven new, future-focused specializations in B.Tech. for students to choose from. These include Artificial Intelligence and Machine Learning, Data Science and Big Data Analytics, Cyber Security and Privacy, Energy and Environment, Modelling and Simulations, Production Technology and Industrial Engineering, and Energy Technology.

Additionally, the School of Humanities & Social Sciences has introduced a Minor in Political Philosophy, which students can pursue along with a Major from any of the disciplines. Shiv Nadar University, Delhi-NCR also offers an Integrated B.Sc. and M.Sc. program in Chemistry, enabling students to master the subject in an explorative, research-driven ecosystem and graduate with a master's degree in five years.

### Admission Process

Admission to the undergraduate programs was conducted via a remotely proctored entrance test (SNUSAT & APT) using an AI mechanism that is secure and ensures anti-cheating surveillance. The University also accepted SAT (College Board) and ACT scores as well as JEE Mains 2020 and 2021 scores for admissions. Students with 80 percentile and above scores in their JEE Mains 2020 and 2021 attempts are exempted from taking the entrance test and can apply directly for admission in programs offered by the Schools of Engineering and Natural Sciences. Provisional admissions will be awarded to eligible candidates based on performance in the entrance exam and interviews wherever applicable.

### Scholarships offered and criteria

The University provides equal opportunities to meritorious students, regardless of their economic backgrounds. It offers up to 100% scholarships across various categories to deserving students covering tuition fee, accommodation charges and other living expenses. These include:

- Gifted Student Scholarship: For top-100 rank holders in Class XII
- Rural Student Scholarship: For students of exceptional caliber from rural and underprivileged backgrounds
- Merit cum Means Scholarship: For students scoring 92% and above in Class XII and belonging to families with annual income below Rs. 12 lakh
- Sports Scholarship: For exceptional athletes
- SAT India Scholarship: For top scorers in SAT with financial need, co-funded by College Board and Shiv Nadar University, Delhi-NCR

### Admission Process Continues

The admissions process continues for the year 2021.

### Undergraduate Admissions 2020

Admissions	Domestic	International
No. of applications	8031	110
Villages/districts/cities covered through admissions process	366	15 Countries
Number of students who appeared for screening exam	5060 applied through SNUSAT & approx. 2000 applied through other entrance exams (JEE, SAT & ACT)	93
Number of students selected (first stage/second stage)	3757	51
Number of students selected finally	782	24
Male - female break-up of the above numbers	Male : 479 & Female : 303	Male : 13 & Female : 13

# STUDENT STATISTICS

## Detail of Students

### Undergraduate

A. School of Engineering (SoE)					
Bachelor of Technology					
Department/Major	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	Total
Chemical Engineering	26	17	11	14	68
Civil Engineering	20	8	6	17	51
Computer Science and Engineering	155	103	54	59	371
Electrical and Electronics Engineering	36	32	19	34	121
Electronics and Communication Engineering	106	54	41	56	257
Mechanical Engineering	76	40	26	42	184
Total A					1052
B. School of Humanities and Social Sciences (SHSS)					
Bachelor of Arts (Research)					
English	32	15	10	29	86
History	13	4	5	7	29
International Relations	29	21	5	1	56
Sociology	21	6	9	13	49
Bachelor of Science (Research)					
Economics	45	22	20	30	117
Economics and Finance	45	-	-	-	45
Total B					382
C. School of Natural Sciences (SNS)					
Bachelor of Science (Research)					
Biotechnology	33	28	14	18	93
Chemistry	11	16	9	6	42
Mathematics	28	17	10	17	72
Physics	29	22	23	32	106
Total C					313
D. School of Management and Entrepreneurship (SME)					
Bachelor of Management Studies	98	46	32	36	212
Total D					212
Grand Total (A+B+C+D)					1959

### Post Graduate

A. School of Engineering (SoE)			
Master of Technology			
Department/Major	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	Total
Civil Engineering	8	5	13
Mechanical Engineering	-	4	4
Total A			17
B. School of Humanities and Social Sciences (SHSS)			
Master of Arts			
English	9	9	18
Master of Fine Arts	8	8	16
Master of Design	16	6	22
Master of Science			
Economics	26	19	45
Water Science and Policy	10	8	18
Total B			119
C. School of Natural Sciences (SNS)			
Master of Science			
Mathematics	-	2	2
Integrated B.Sc. & M.Sc.			
Chemistry	-	-	1
Integrated M.Sc. & Ph.D.			
Chemistry	3	-	-
Total C			6
D. School of Management and Entrepreneurship (SME)			
Master of Business Administration	47	49	96
MBA - Executive	11	-	11
Total C			107
Grand Total (A+B+C+D)			249

### Doctor of Philosophy

A. School of Engineering (SoE)					
Doctor of Philosophy					
Department/Major	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	Total
Chemical Engineering	7	-	-	1	8
Civil Engineering	3	7	4	3	17
Computer Science and Engineering	6	-	-	7	13
Electrical Engineering	3	2	-	4	9

Electronics and Communication Engineering	5	1	2	5	13
Mechanical Engineering	6	8	1	4	19
Integrated M.Tech. & Ph.D. Mechanical Engineering	-	-	-	1	1
<b>Total C</b>				<b>80</b>	
<b>B. School of Humanities and Social Sciences (SHSS)</b>					
Doctor of Philosophy					
Economics	3	4	1	3	11
English	2	-	1	-	3
History	4	3	-	-	7
International Relations and Governance Studies	2	2	-	-	4
Sociology	3	2	-	7	12
<b>Total B</b>				<b>37</b>	
<b>C. School of Natural Sciences (SNS)</b>					
Doctor of Philosophy					
Bioinformatics	-	1	1	-	2
Chemistry	14	11	4	11	40
Life Sciences	9	6	8	23	46
Mathematics	4	11	5	7	27
Physics	17	8	5	15	45
<b>Total C</b>				<b>160</b>	
<b>D. School of Management and Entrepreneurship (SME)</b>					
Doctor of Philosophy					
Management	2	4	-	2	8
Management (PT)	-	-	-	3	3
<b>Total D</b>				<b>11</b>	
<b>Grand Total (A+B+C+D)</b>				<b>288</b>	

UG	1959
PG	245
Ph.D.	288
<b>Grand Total (UG+PG+Ph.D.)</b>	<b>2496</b>

**Note:-** Bachelor of Science (Research)-Economics and Finance program jointly offered by School of Humanities & Social Sciences (SHSS) & School of Management & Entrepreneurship (SME)





## PLACEMENTS 2020-21

Despite the ongoing pandemic and slowdown in hiring activity, Shiv Nadar University, Delhi-NCR has witnessed a stellar placement season. With about 87% of the batch receiving industry and academic offers as of 30 June 2021, the entire batch is well on its way to pursue the career of their choice by either opting to join the workforce or by following academic pursuits further.

Some of the leading organizations that rolled out offers this year include Google, Goldman Sachs, Microsoft, DE Shaw, Adobe, McKinsey & Company, UHG, ZS Associates, HP Enterprises, Asian Paints, Dell, HCL, Cognizant, Genpact, Nagarro, TCS, Samsung, L&T, & EY to name a few.

Many of the students have also secured admission and financial aid offers from top institutions and universities across the world, including Columbia University, Georgia Institute of Technology, Heidelberg University, New York University, University of Copenhagen, University of Oxford, to further pursue their academic goals.

### Campus Placement Preparation Module

Every year the students opting for

placements face some of the world's best employers in a competitive selection process. Preparing them to ace the placement process is the Campus Placement Preparation Module (CPPM) which is a rigorous training program enabling students to present their best self forward.

Sessions on Resume and Cover Letter Creation, Mock Interview Rounds and Group Discussions, Technical Interviews and multiple aptitude tests help them understand how an actual interview day may look like. Soft Skill workshops that teach students the importance Body Language, Leadership, Etiquette, Dining and Grooming contribute to their overall evolution from classroom to the outside world. CPPM is organized in association with industry leaders, subject matter experts & trainers from some of the best partner organizations besides actively engaging our alumni in these pre placement preparatory sessions.

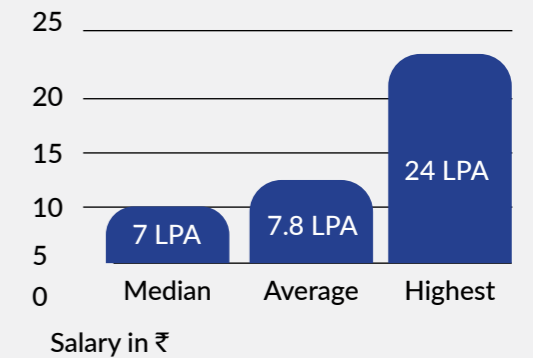
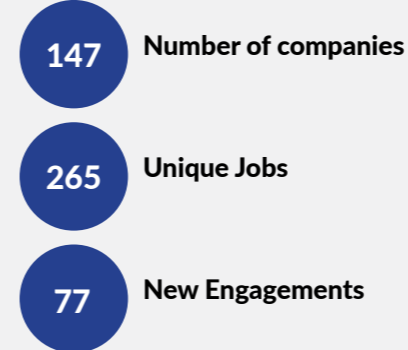
### Industry Placements

Despite a challenging year, Shiv Nadar University, Delhi-NCR remains a preferred choice for hiring fresh graduates. A total of 147 companies recruited from the University this year, offering 365 jobs. Out of 512 students, 291 students had opted for placements in 2020-21, of these 91% received a job offer from companies from different domains.

This year's highest package stood at ₹ 24 lakh, and the average package was pegged at ₹ 7.8 lakh. Some of the top recruiters this year included Goldman Sachs, Google, Deloitte, Adobe, Microsoft, Futures First, American Express, Mother Dairy, Asian Paints, Schindler, TCS and Byjus etc.

### Highlights 2020-21

	2020-21 (Till Date)
Total Students	512
Students Registered for Placements	291
Students Not Registered for Placements	221
Total Campus Processes	147
Unique Jobs	265
Total Jobs	365
% Placed	91.10%
Average No. of students getting selected per process	2.48
Companies above ₹ 5 lakh	72
Companies above ₹ 10 lakh	27
Average Salary (in lakh)	7.82
Students Placed over ₹ 10 lakh	55
Students Placed over ₹ 8 lakh	56
Students Placed over ₹ 5 lakh	80
Students Placed below ₹ 5 lakh	74
No. of New Placement Partners Added	77



### Academic Placements

Like every year, a sizeable portion of students received offer of admissions for master's and doctoral degree from reputed institutions of higher learning. Some of these include Columbia University, Concordia University, Georgia Institute of Technology, IIT Madras, Indian Statistical Institute, London School of Economics, Narsee Monjee Institute of Management Studies, New York University, Oxford University, UC Davis, University of California, UCLA, University of Alberta.



## INFRASTRUCTURE

The University's state-of-the-art campus infrastructure was further upgraded in the Academic Year to support the institution's growth and expansion.

The new developments on the campus include a Shopping Arcade for all campus residents, a new space for Atal Incubation Centre-Shiv Nadar University, Delhi-NCR (AIC-SNU), another parking area, and a fully functional Club House for faculty and staff which boasts of a gymnasium, a restaurant, a cafe, a multi-purpose hall, reading room, and a swimming pool.

The projects under development include a new, dedicated Student Activity & Recreation Center for student club activities and events, two new student hostel blocks, an auditorium for the School of Management & Entrepreneurship, and the Chancellor's villa.



AIC-SNU



New Parking



AIC-SNU

### Ongoing Infra Works



Ongoing Business School Auditorium



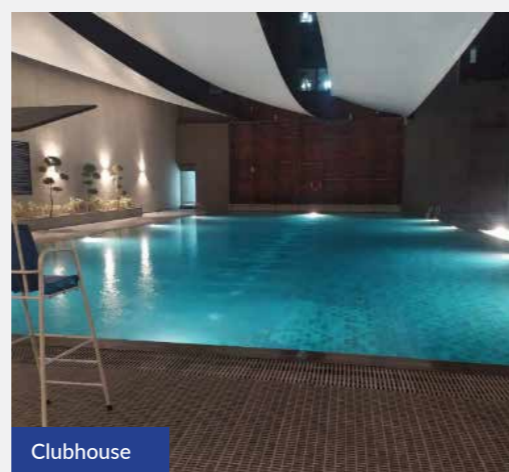
Ongoing Business School Auditorium



Hostel 4 & 5



Clubhouse



Clubhouse



Clubhouse



Clubhouse



Shopping Arcade

Ongoing Infra Works



Ongoing Chancellor Villa



Ongoing Chancellor Villa



Ongoing Student Activity and Recreation Center



Hostel 4 &5- Typical room mockup



Ongoing Cricket Field works



Ongoing Student Activity and Recreation Center



Campus Horticulture Upgradation



Campus Horticulture Upgradation

## GOVERNANCE

### Composition of Court

S.No.	Name of the Members	Designation
1	Mr. Shiv Nadar	Chancellor, Shiv Nadar University, Delhi-NCR and Chairperson of the Court
2	Mr. Shikhar Malhotra	Pro-Chancellor – Member
3	Dr. Rupamanjari Ghosh	Vice-Chancellor – Ex-officio Member
4	Dr. S. Sankar Sastry	Member
5	Dr. N. Balakrishnan	Member
6	Dr. Ashok Misra	Member
7	Dr. Nikhil Sinha	Member
8	Dr. Srikant M. Datar	Member
9	Mr. Alok Ranjan	Member
10	Mr. Sudhir Naudiyal	Registrar – Non- Member Secretary

### Composition of Executive Council

S.No.	Name of the Members	Designation
1	Mr. Shiv Nadar	Chancellor, Shiv Nadar University, Delhi-NCR and Chairperson of the EC
2	Mr. Shikhar Malhotra	Pro-Chancellor, Member
3	Dr. Rupamanjari Ghosh	Vice-Chancellor, Member
4	Mr. Pawan K. Danwar	Member
5	Mr. D.K. Srivastava	Member
6	Mr. Saurav Adhikari	Member
7	Mr. Sudhir Naudiyal	Registrar, Member-Secretary

### Composition of Academic Council

S.No.	Name of the Members	Designation
1	Dr. Rupamanjari Ghosh	Vice-Chancellor - Chairperson
2	Col. (Retd.) Gopal Karunakaran	Executive Director
3	Dr. Bibek Banerjee	Dean, School of Management and Entrepreneurship, SME; Dean, Academy of Continuing Education; Director, Strategic Planning
4	Dr. Sandeep Sen	Dean, School of Engineering, SoE; Senior Professor, Computer Science & Engineering
5	Dr. Suneet Tuli	Dean, Research & Partnerships, Professor, Electrical Engineering
6	Dr. Ajay Dandekar	Chairperson, Center for Public Affairs and Critical Theory (C-PACT)
7	Dr. Dinkar Prasad	Professor & Head, Department of Electrical Engineering, SoE
8	Dr. Amber Habib	Professor and Head, Department of Mathematics, SNS
9	Maj. General (Retd.) G. Jaisankar	Director, Student Affairs
10	Dr. Rajat Kathuria	Dean, School of Humanities and Social Sciences, SHSS
11	Dr. Sankar Dhar	Professor & Head, Department of Physics, SNS
12	Dr. Sanjeev Galande	Dean, School of Natural Sciences, SNS; Head, Department of Life Sciences, SNS
13	Dr. Parthapratim Munshi	Associate Professor & Head, Department of Chemistry, SNS
14	Dr. J.P. Gupta	Distinguished Professor, Department of Chemical Engineering, SoE
15	Dr. Saroj Kaushik	Distinguished Professor & Head, Department of Computer Science and Engineering, SoE
16	Prof. Shahid Jamal	Professor & Head, Department of Communication, SHSS
17	Dr. Jaya Menon	Professor & Head, Department of History, SHSS
18	Dr. Yasmeen Arif	Professor & Head, Department of Sociology, SHSS
19	Dr. Sambudha Sen	Professor & Head, Department of English, SHSS
20	Dr. Partha Chatterjee	Professor & Head, Department of Economics, SHSS
21	Dr. Harpreet Singh	Associate Professor & Head, Department of Mechanical Engineering, SoE
22	Dr. Shibashis Chatterjee	Professor & Head, Department of International Relations and Governance Studies, SHSS
23	Dr. Ghanshyam Pal	Associate Professor & Head, Department of Civil Engineering, SE
24	Prof. Atul Bhalla	Professor & Head, Department of Art & Performing Arts, SHSS
25	Mr. Sudhir Naudiyal	Registrar - Non- Member Secretary

IN MEDIA




### Shiv Nadar and Universitat Pompeu Fabra Sign MoU for collaboration in Archaeology

Our Bureau | New Delhi | Updated on July 20, 2021



**Aims to enable scholarly cooperation, communication, and enhancement of interdisciplinary training**


Shiv Nadar University, Delhi-NCR's Center for Archaeology, Heritage and Museum Studies (CAHMS) and Spain's Universitat Pompeu Fabra, Barcelona, have signed a Memorandum of Understanding (MoU) with the intent of establishing a program of collaborative partnership. The aim is to enable scholarly cooperation,



### Shiv Nadar University Delhi NCR gets Institution of Eminence tag

The university is among the youngest ones to be given the IIE status by the education

MONEYCONTROL NEWS | MARCH 16, 2021 | 11:34 PM IST



Shiv Nadar University Delhi NCR has received the 'Institution of Eminence' status from the government.

The institute said that it has signed a Memorandum of Understanding (MoU) with the Education for granting of the status of 'Institution of Eminence' (IoE).

IOE institutions have complete academic and administrative autonomy and also have responsibility to make India a global brand for education.

Such institutions can also collaborate with top 500 foreign higher education institutions seeking prior approval from the government. Shiv Nadar University is among the youngest list which includes institutes like IIT Bombay and IIT Delhi.

Shikhar Malhotra, Pro-Chancellor of Shiv Nadar University, said that this achievement is a collective effort from all the members of the community including students, faculty, our students, alumni and partners.



### Shiv Nadar University Delhi-NCR opens 2021 undergraduate admissions



Shiv Nadar University Delhi NCR, India's youngest 'Institution of Eminence' as recognized by the Government of India, has opened 2021 undergraduate admissions. The University is inviting applications for all 17 programs it offers as part of B.Tech., B.Sc. (Research), B.M.S., and B.A. (Research) degrees across disciplines - Management,



### Are universities ready for the era of the online MBA?



B-schools need to adapt quickly. The new MBA offers a flexible, real-time, and holistic learning experience.

What makes an Master of Business Administration (MBA) programme successful? If you ask a prospective applicant, it is, as the Princeton Review aptly puts it, never only about securing top grades. Let's not beat around the bush — great MBA applicants are in it to secure a successful, high-paying job. And to achieve that goal, getting good grades is important, yes, but more important is the ability to develop a networking base with fellow peers, professors, and executives.



### Covid-19: Rise in R-value 'worrying', but premature to declare third wave, say scientists



A healthcare worker collects swab samples for the Covid-19 test (Pratik Chorge/HT PHOTO)

5 min read . Updated: 04 Aug 2021, 05:08 PM IST



### The state of liberal arts education in India


Colleges offering these courses in India have begun to gain ground, but for them to truly shine on the global map, they must be cognisant of the country's culture and challenges.

BY ANUBHUTI MATTA, MANOJINI KAUSHIK

3 min read

PUBLISHED: Apr 21, 2021 12:21:08 PM IST


UPDATED: Apr 22, 2021 02:07:12 PM IST

### Life in a hostel

Sanjini Mathew

Shikhar Ghosh




### Self-cleaning aluminium surface

Updated on August 01, 2021



Researchers have developed a flake-like nano-structure on aluminium surface, making it durable and ideal for medical devices

Aluminium is a light metal that has many industrial applications as it can be easily cast, machined and shaped. However, atmospheric degradation due to contaminants and humidity significantly limits its



### Shiv Nadar University and IISER Pune sign MoU for research collaboration and exchange




### Scientist Sanjeev Galande Joins as Dean of School of Natural Sciences at Shiv Nadar University



Shiv Nadar University Delhi-NCR has appointed well-known cell biologist and epigeneticist, Dr. Sanjeev Galande as Dean of the School of Natural Sciences.



**WIRE** | **ANALYSIS** | **HISTORY**

### Operation Barbarossa Eight Decades On, When Nazism Dug Its Own Grave

Hitler's bloody invasion of the Soviet Union proved his unfolding bid to legitimize an authoritarian regime obsolete even today.



Frederick Berneri, the most celebrated of the German Daily Worker newspaper, died on June 10, 1938 in the California desert in a letter to Anna Maria during his final months. In popular memory, he is best known for his role in the founding of the Communist Party of the United States of America (CPUSA) in 1944. Berneri was a socialist, a pacifist, and a humanist. He was a member of the CPUSA and a member of the Communist Party of the United States of America (CPUSA) in 1944. He was a member of the CPUSA and a member of the Communist Party of the United States of America (CPUSA) in 1944.

**CAREERS360** | Featured | Latest | Exams | Co

### Giving back to society through education



A multidisciplinary approach and research focus guide Shiv Nadar University, one of the higher education institutions built on philanthropy... by Faizal Khan

**Hindustan Times** | Copyright © 2014 HT Media All Rights Reserved | Hindustan Times - Delhi; Size : 318 sq.cm.; Circulation : 1518367 Page : 12

### An ode to the Megapode sanctuary

In January, the National Board for Wildlife (NBWL) took a series of decisions... One of them was to declare a wildlife sanctuary in the Nagarhole Biosphere Reserve...



**THE HINDU** | Copyright © 2014, The Hindu | Mon, 31 May 21; Hindu - Delhi; Size : 344 sq.cm.; Circulation:136562; Page : 16

**ETCETERA**

- Online learning portal**: Bharathiar University, Tiruchi, has announced the launch of its online learning portal to offer undergraduate (UG) and postgraduate (PG) degrees in multiple domains with a mix of live learning supplemented with quality course content, study guides, practice tests, discussion forums, recorded lectures and gamified modules. For more information, visit: <http://www.bhu.ac.in/edulead>
- UPES Entrance Test**: UPES has announced the schedule of its aptitude entrance exams: UPESRAT (Engineering Aptitude Test), ULSAT (Legal Studies Aptitude Test) and UPESPAT (Pharmacy Aptitude Test) from June 17 to June 19. These will be conducted and monitored online. Registration begins on June 1 and the last date to register is June 12. Students have an option for a demo test from June 4. Visit: <https://bit.ly/3H87C79> for more.
- Programs for all**: Ed-tech company Hero Vired offers various full-time, part-time and certificate programmes designed to enable an essential one-on-one
- Interns from home**: Internshala has launched their COVID-19 initiative, 'Chalo India, Let's Work From Home'. The initiative involves students from all educa-

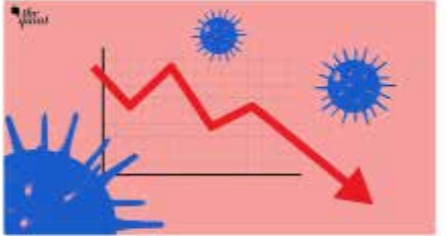
**Triumph of the Party-state**

The story of the Chinese Communist Party, which turned 100 this month, is a testimony to its ability to survive, adapt, and stay in power. What are the factors in its journey from peasant insurgency to ruling a global superpower? Here is an analysis by Sachin T Joshi.



**yahoo!news** | COVID-19 Third Wave: Imperfect, Inadequate Data May Mislead Predictions

Dr Sanjit Bhattacharyya | 10 July 2021 | 5 min read



Mathematical models have become very popular for predicting outbreaks during the COVID pandemic. Many researchers including epidemiologists and public health policymakers adopted this approach, and a number of models were developed, forecasting the trajectory of COVID-19 during the first and second wave. Some were useful, many went wrong.

**Hindustan Times** | Copyright © 2014 HT Media All Rights Reserved | Hindustan Times - Delhi; Size : 343 sq.cm.; Circulation : 1018367 Page : 10


### In a pandemic, the idea of a university

Universities are often envisaged as enclaves at least one remove away from the everyday grind of politics and societal realities. While they are often deeply involved in studying both the nature of the crisis and the nature of these fractures, their distance provides them with a quiet luxury — to wait for the dust to settle and reflect on what a particular moment in history meant. The computer we currently find ourselves in both domestically and globally is no such halcyon moment.

**THE TIMES OF INDIA** | EDUCATION

### Shiv Nadar varsity signs pact with IISER Pune

GREATER NOIDA: The Shiv Nadar University, Delhi-NCR, and the Indian Institute of Science Education and Research (IISER), Pune, have entered into a Memorandum of Understanding (MoU) for collaborations in scientific research & development (R&D) and faculty/student exchanges between the two institutions.



**NEWS 18** | New York University Faculty, Globally Acclaimed Academicians Join Shiv Nadar University



**Business Standard**

### With positivity rate below 5% for 14 days, is second Covid wave over?

This optimistic picture, however, must be edged with abundant caution, say several scientists, citing the emergence of new variants

**Topics**  
Coronavirus | Coronavirus Tests | Coronavirus Vaccine

**THE TIMES OF INDIA** | Copyright © 2014 Bennett Coleman & Co. Ltd. All rights reserved | Mon, 21 Jun 21; Education Times - Times Of India - Mumbai; Size : 203 sq.cm.; Circulation:893796; Page : 1

### Rise in PhD aspirants is not indicative of quality research

because I did not see the drive to do excellent research in my peer group. There are only a few amazing theses in English by Indian researchers. For many candidates, it is simply the charm of adding a title to the name. I have recently restarted work on my thesis with the hope of doing justice to my topic.



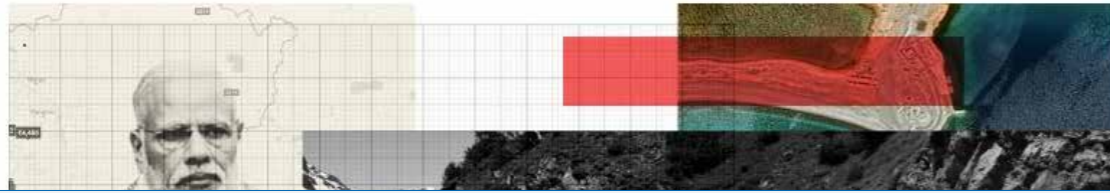
Home / Defence / What does the future of India-China ties look like? 8 experts speak

Defence Diplomacy

## What does the future of India-China ties look like? 8 experts speak

As the disengagement process continues between India and China in Ladakh, experts weigh in on the future of the two countries' bilateral ties.

THEPRINT TEAM 16 June, 2021 3:02 pm IST



### Hindustan Times

Copyright © 2014 HT Media All Rights Reserved  
Wed, 12 May-21, Hindustan Times - Delhi, Size : 342 sq.cm.;  
Circulation:1018367, Page : 12

#### India's real foreign policy challenge is domestic

From January to March, "Vaccine state" in late April, an appeal for the world to help as India struggles to manage its most serious crisis since independence. New Delhi's international position may have never seemed more precarious, but here is the key question — what is the target aspect of the solution? Domestic or foreign policy?

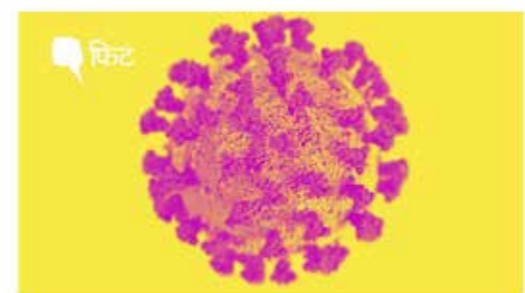


Atul Mishra

### कोरोना की संभावित तीसरी लहर पर काबू पाने के लिए क्या करना होगा?

COVID-19 के नए मामलों में गिरावट, क्या ये दूसरी लहर के फनने का संकेत है?

सुरभि मुया  
Published: 25 Jun 2021, 7:46 PM IST



### Dassault Systemes, Shiv Nadar University set up research centre in Greater Noida

By PTI | October 04, 2020 5:01 PM

Software industry major Dassault Systemes has established a research centre in collaboration with Shiv Nadar University in Uttar Pradesh's Greater Noida.



### Business Standard

#### With positivity rate below 5% for 14 days, is second Covid wave over?

This optimistic picture, however, must be edged with abundant caution, say several scientists, citing the emergence of new variants

Topics  
Coronavirus | Coronavirus Tests | Coronavirus Vaccine

Press Trust of India | New Delhi  
Last updated on June 27, 2021 10:13:07



India on Monday crossed the important milestone of a Covid positivity rate of less than 5 per cent for 14

HOME MY FEED INDIA WORLD BUSINESS TECH MOVIES SPORTS SCIENCE BEST UNIVERSITIES

News / Education Today / News / Shiv Nadar University faculty member becomes fellow of Royal Society of Chemistry

### Shiv Nadar University faculty member becomes fellow of Royal Society of Chemistry

An associate professor from Shiv Nadar University has become a fellow of the Royal Society of Chemistry in the United Kingdom.



### How institutes are helping the grieving students

Academinn has been launching schemes and allowing fee concessions of students who were approved by the management like waived of credits for graduating students and no-fee grade and no-fee re-entrance," adds the spokesperson from SNV.

Home / Cities / Noida News / Private institutions in Noida, Ghaziabad to help students who lo...

### NOIDA NEWS Private institutions in Noida, Ghaziabad to help students who lost parents to Covid

Noida: Amid the prevailing Covid-19 crisis, some private schools and universities in Noida and Ghaziabad are extending a helping hand to those students who have lost one or both of their parents to the infection

By Ashni Dhaor

SCHOOL NEWS ENGINEERING ACCOUNTANCY CASE STUDIES COLUMNS BLEAN

15 Jun 2021 10:29:07

### Shiv Nadar University inks pact with engineering institutes in France

Students can be a part of 'study abroad projects' across the consortium of 50 institutions in France  
Shiv Nadar University has entered a Memorandum of Understanding (MOU) with Network 'InT' of Engineering Institutes in France, a not-for-profit association that brings together 50 French engineering institutes of higher education.

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### IIT Bombay, Shiv Nadar researchers develop environment friendly lithium batteries



## A DECADE OF EXCELLENCE. A JOURNEY TO EMINENCE.

Shiv Nadar University, Delhi NCR has been accorded the status of '**Institution of Eminence**' by the Government of India - the youngest to have received this recognition. Since inception in 2011, we are committed to building an institution of global stature and impact, and contributing to nation-building. We are delighted to receive this honour on our **10<sup>th</sup> Anniversary**.

