Research @ SaiU

Toleti Subba Rao
Dean - Centre for Research Innovation Collaboration & Policy

Research at Sai University

Sai University is dedicated to fostering a dynamic and impactful research ecosystem that drives innovation and contributes to the advancement of scientific knowledge. Guided by the principles of the National Education Policy (NEP) 2020 and aligned with

the goals of Atma-Nirbhar Bharat, our research endeavours aim to address pressing global and regional challenges and translate into tangible technological advancements. We are committed to cultivating a culture of interdisciplinary collaboration, intellectual curiosity, and ethical research practices, empowering our faculty, researchers, and students to achieve excellence. Research at SaiU will emphasizes the importance of fostering a culture of innovation, collaboration, and intellectual curiosity to drive impactful studies that result in knowledge creation, benefiting both the institution and society.

Dean's Message

It is with immense pleasure that I extend my warmest greetings to you. Research at Sai University (SaiU) stands at the cusp of a transformative era, poised for significant expansion and impactful contributions. In the realm of higher education, research serves as the bedrock upon which excellence, innovation, creativity, global knowledge, and societal progress are built. It is my firm belief that SaiU's future initiatives will exemplify the pinnacle of research excellence, and I cordially invite every member of our academic community to join hands in this exciting journey of discovery and to promote advancement in science and technology.

To cultivate a robust Research and Development ecosystem at SaiU, I wish to emphasize the following key principles:

- Nurturing Intellectual Curiosity: We are committed to fostering an environment that stimulates intellectual curiosity and encourages experimentation, thereby nurturing the intellectual growth of both our students and faculty.
- Promoting Interdisciplinary Collaboration: SaiU actively encourages interdisciplinary collaboration among faculty and students, both within our institution and with external organizations, including renowned universities and institutes. This collaborative approach enables us to address complex, real-world challenges and translate our findings into impactful publications in leading journals and innovative patents.
- Societal and Industrial Impact: We recognize the importance of research outcomes in driving societal and industrial progress. Therefore, we are dedicated to forging strong partnerships with industry and government organizations to secure research funding and facilitate knowledge transfer.
- Ethical Research Practices: SaiU upholds the highest standards of ethical research, with a strong emphasis on integrity and on the prevention of plagiarism. We encourage our faculty to disseminate their work in top-tier journals that adhere to rigorous ethical guidelines.
- Empowering Students: We are committed to providing our students with mentorship and hands-on research experience, equipping them with the skills and mindset to become the next generation researchers and innovators. We actively involve students in research projects, offering them invaluable learning opportunities and the chance to contribute meaningfully to the research enterprise.

- Cultivating a Vibrant Research Ecosystem: We aim to foster a dynamic research ecosystem that promotes cutting-edge research across all disciplines. We will encourage and facilitate interdisciplinary collaborations to tackle complex challenges and develop innovative solutions. We will nurture a culture of curiosity, exploration, and experimentation, which empowers our faculty and students to push the boundaries of knowledge.
- Strategic Support and Development:
    - We will actively seek and provide funding opportunities for research projects and initiatives.
    - We will support the development and operation of Centres of Excellence to foster interdisciplinary research and innovation.
    - We will encourage and support international collaborations to expand our research horizons.
    - We will provide opportunities for faculty development, including training and mentorship, to enhance their research capabilities.
    - We are committed to engaging with industry and society to translate research findings that benefit our society.
    - We support the patenting of innovative ideas and the protection of intellectual property that has a lasting impact.

We strive to conduct research that has a tangible impact on society and addresses real-world problems. I look forward to witnessing the remarkable strides we will make together in advancing research at SaiU. Sai University welcomes collaborations and partnerships with researchers, institutions, and organizations that share our commitment to advancing knowledge and making a positive impact on the world. We invite you to explore our research areas, connect with our faculty, and join us in our pursuit of excellence.

Research Vision and Mission

Our Vision:

To be a leading university recognized for transformative research that generates impactful solutions and advances human understanding on a global scale.

Our Mission:

- To cultivate a vibrant research culture that fosters intellectual curiosity and rigorous inquiry.
- To promote multidisciplinary and transdisciplinary research collaborations that address complex societal challenges.
- To facilitate access to research and empower young faculty and research scholars through seed grants and extramural funding opportunities.
- To translate research findings into practical applications, technological innovations, and societal benefits.
- To forge strategic collaborations with industry, government, and international academic and research institutions.
- To uphold the highest standards of ethical conduct and ensure research integrity in all our endeavours.
- To enhance research productivity and promote the dissemination of research outcomes through publications and other scholarly activities.

Research Advisory Board (RAB):

The Research Advisory Board (RAB) is a key component of our research governance structure. Constituted in accordance with UGC guidelines, the RAB provides guidance and oversight for research activities at Sai University. The board comprises esteemed members, including the Vice-Chancellor, Deputy Vice-Chancellor, Deans of various schools, and distinguished external experts.

Sai University Research Advisory Board

S.No.	Name	Designation	Affiliation
1	Prof. Ajith Abraham	Vice Chancellor	Dean – School of Artificial Intelligence, Sai University
2	Prof. Anuba Singh	Deputy Vice Chancellor	Sai University
3	Prof. Krithi Ramamritham	Distinguished Professor	Sai University
4	Prof. G.A. Ramadass	Distinguished Visiting Professor	Former Director, National Institute of Ocean Technology, Chennai; currently at Sai University
5	Prof. Toleti Subba Rao	Professor	Dean – Research & Dean - School of Technology, Sai University
6	Prof. M.V. Shiju	Professor	Dean - School of Law, Sai University
7	Prof. Uma Vangal	Professor	Dean - School of Management Studies, Sai University
8	Prof. Subhasree Natarajan	Professor	Dean - School of Business, Sai University
9	Prof. Subrata Dey	Professor	Dean - School of Arts and Sciences, Sai University
10	Prof. Ram Prasad Krishnamoorthy	Associate Professor	Associate Dean - School of Computing and Data Science, Sai University
11	Prof. Ralf Feser	Professor	University of Applied Sciences, Germany
12	Prof. A. Gopala Krishna	Professor	Indian Institute of Technology Madras, Chennai
13	Dr. S. Ramesh	Scientist – G	National Institute of Ocean Technology, Chennai

Research Centre and Initiatives:

Centre for Research, Innovation, Collaboration, and Policy (CRICP):

Sai University's research enterprise is supported by the Centre for Research, Innovation, Collaboration, and Policy (CRICP). CRICP plays a pivotal role in:

- Facilitating and supporting faculty research.
- Strengthening institutional capacity for research planning and management.
- Developing research policies, procedures, and guidelines.
- Promoting research collaborations and partnerships.
- Overseeing research ethics and compliance.

Research Focus Areas:

Sai University's research activities are organized around key thematic areas that leverage our strengths and address critical regional and global needs:

- **Engineering and Technology:**

  This area encompasses cutting-edge research in fields such as artificial intelligence, data science, sustainable engineering, and emerging biotechnologies.

- **Sciences:**

  Our research in sciences includes biology, environmental science, and other key scientific disciplines, with a focus on both fundamental and applied research.

- **Humanities and Social Sciences:**

  We explore critical issues in economics, public policy, cultural studies, and other social sciences, contributing to a deeper understanding of society and culture.

- **Interdisciplinary Research:**

  Sai University is committed to fostering interdisciplinary research that transcends traditional boundaries and addresses complex challenges through collaborative approaches.

Key Research Activities:

- **Research Policy and Scope:**

  Our research policy encompasses all individuals affiliated with SaiU, including faculty, postdoctoral candidates, doctoral students, teaching fellows, teaching assistants, and external collaborators. It covers research across various fields, academic degrees, curriculum development, and professional training. We emphasize quality assurance through transparent project planning, meticulous documentation, comprehensive training, and the establishment of state-of-the-art facilities.

- **Research Ethics and Integrity:**

  Sai University is committed to the highest ethical standards in research. The university has established an ethics committee that also functions as the Research Advisory Board (RAB) and approves research projects involving animal studies.

- **Research Quality Assurance:**

  We ensure the quality and integrity of our research through transparent project planning, rigorous documentation, training of research personnel, and the provision of state-of-the-art facilities and equipment.

- **Intellectual Property Rights (IPR):**

  SaiU adheres to stringent intellectual property rights (IPR) guidelines to ensure compliance and facilitate commercialization. We encourage researchers to seek funding from government and private sources, providing institutional support for grant administration and infrastructure. Faculty recruitment and promotions are based on demonstrated research capabilities, teaching credentials, and contributions to institutional development, with an emphasis on quality and impact.

- **Research Funding and Collaboration:**

  The university actively encourages researchers to seek funding from government and private sources and facilitates collaboration with national and international institutions.

- **Research Facilities and Resources:**

  Sai University provides researchers with access to the resources and support necessary to conduct high-quality research, including adequate space, infrastructure, IT support, and technical facilities.

- **Faculty Development and Recognition:**

  The university supports faculty development through workshops, seminars, and training programs. Recruitment and promotion of faculty members are based on research capability, productivity, and impact.

- **Undergraduate Research:**

  Sai University is committed to fostering a research culture among undergraduate students and provides support and opportunities for their involvement in research projects.

- **Consultancy:**

  SaiU encourages faculty to engage in consultancy work to facilitate technology transfer and industry impact. The CRICP coordinates these activities, ensuring alignment with university policies and ethical standards. Faculty members involved in consultancy projects are required to report progress periodically, and publications arising from such work must acknowledge both university and industry affiliations.

Achievements and Impact:

- Sai University has received recognition and registration from the Scientific and Industrial Research Organisation (SIRO), a unit of the Ministry of Science & Technology, New Delhi.
- This recognition enables the university to import equipment for research projects funded by government and non-government agencies with customs duty exemption and facilitates faculty applications for research grants.

Research Collaborations (MoUs Signed)

- Sai University has Academic and R & D collaboration with Alagappa University, Karaikudi, Tamil Nadu.
- Sai University has R & D collaboration with Society for Aerospace, Maritime and Defence Studies, New Delhi.

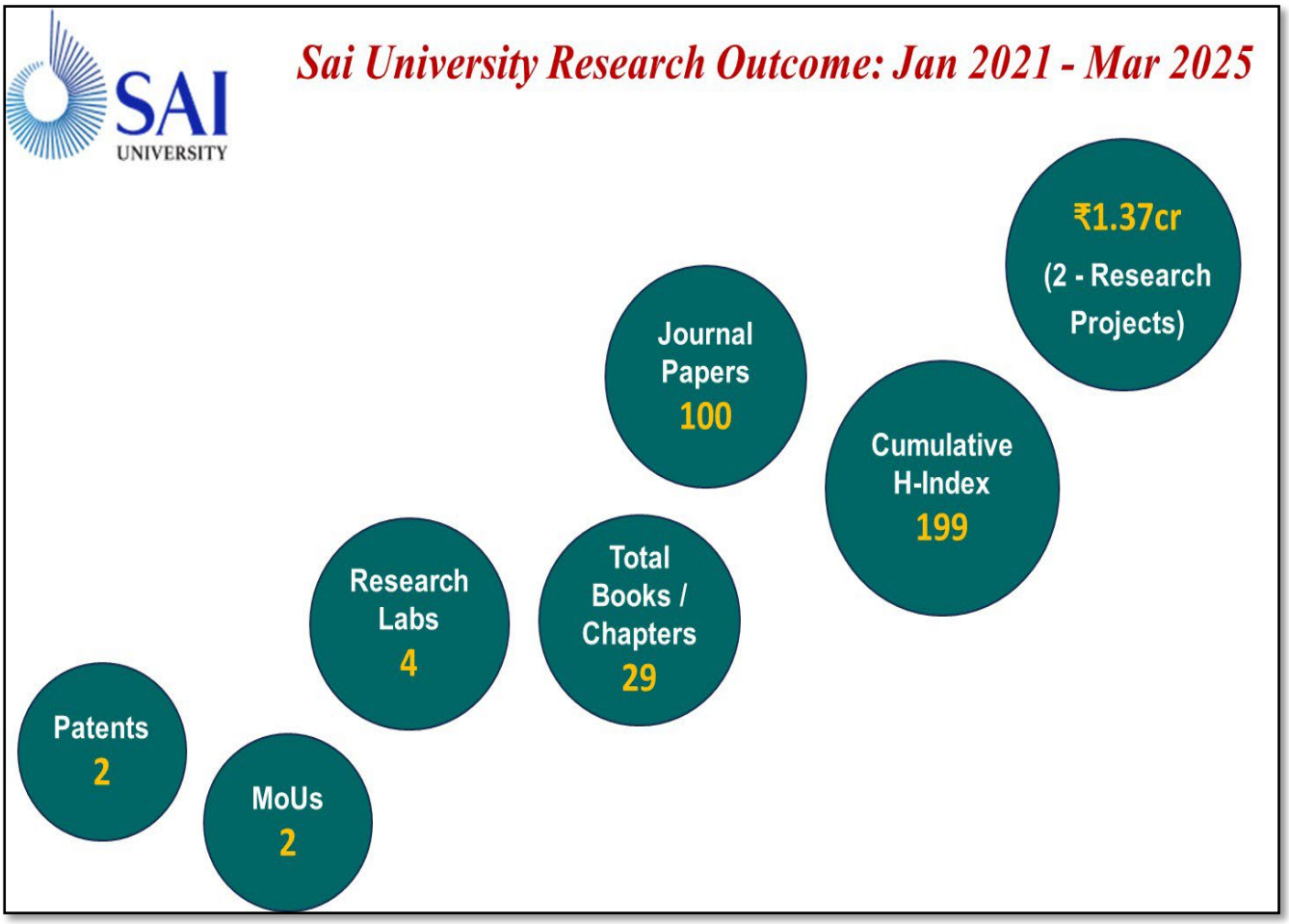
Funded Projects

Sai University has been granted two government-funded projects under the Deep Ocean Mission program of the Ministry of Earth Sciences, New Delhi.

- Screening of deep ocean microbial metabolites for their anti-infective properties using in-vivo model system *Caenorhabditis elegans.*

  Joint Deep Ocean Mission *Project:* Ministry of Earth Sciences, New Delhi.
  Dr. K. Balamurugan, Alagappa University is the PI. Dr. T. Subba Rao, Sai University, is the Co-PI.
  ₹ 73.12 Lakhs was sanctioned. Work started 1 Feb 2024. Research scholar, recruited. Work in progress. SaiU - Project Share ₹ 34,37,760/-.

- The unknown and the unexplored deep sea anaerobic microbiota: *A* culturable, metagenomic and eDNA approach.
  Ministry of Earth Sciences, (MoES), New Delhi. Deep Ocean Mission - MoES - Sanctioned 27 Jan 2025, ₹ 64.01 Lakhs.
  Dr. T. Subba Rao, Sai University, is the PI.



PUBLICATIONS

School of Arts & Sciences (SAS)

Journal Articles:

1. **Srihari, M.** (2024). These are War Stories: Therapeutic Citizenships and Brandon Stanton's Humans of New York. Life Writing, 1–15. https://doi.org/10.1080/14484528.2024.2428627
2. **Srihari, M.** (2023). "The Medical/Health Humanities and IWE: A Survey Essay." Indian Writing In English Online, 14 Aug 2023, indianwritinginenglish.uohyd.ac.in/the-medical-health-humanities-and-iwe-a-survey-essay-meenakshi-srihari/ .
3. **Srihari, M.** (2022). Xenotransplantation and borders: two Indian narratives Medical Humanities;48:153-158. doi: 10.1136/medhum-2022-012412. WOS Indexed
4. **Manobala, T.** (2024). Peptide-based strategies for overcoming biofilm-associated infections: a comprehensive review. Critical Reviews in Microbiology, 1–18. https://doi.org/10.1080/1040841X.2024.2390597
5. **Siddharth, S** and Tejas Bhojraj. (2024). 'Leibnizian panpsychism or: How I learnt to stop worrying and love the combination problem'. *Journal of Consciousness Studies*. 31 (11-12). 198-227. https://doi.org/10.53765/20512201.31.11.198
6. **Siddharth, S.** (2024). 'Are composite subjects possible? A clarification on the subject combination problem facing panpsychism'. European Journal of Analytic Philosophy. 20(1). 205-229. https://doi.org/10.31820/ejap.20.1.9
7. Vaidya, Anand and **Siddharth, S.** (2024). 'Rāmānuja's cosmopsychist–panentheistic solution to the hard problem of consciousness'. *Religious Studies* (special issue).
8. Chakraborty, A., Mukesh, N., **Annamneedi, A.** (2025). Synaptic dysfunctions in schizophrenia: Commonalities and divergences in Chinese and Indian populations. Schizophrenia research, 276, 106–107. https://doi.org/10.1016/j.schres.2025.01.012
9. **Sankaran, S.**, Soral, W., Lewczuk, K., & Kofta, M. (2025). Threat to control promotes utilitarian moral judgement: The role of judgement type and length of control deprivation. British Journal of Social Psychology, 64, e12829. https://doi.org/10.1111/bjso.12829
10. Bukowski, M., de Lemus, S., Potoczek, A., **Sankaran, S.**, Petkanopoulou, K., Montañés Muro, M. P., … Tausch, N. (2024). United as one? Personal and social identity threats differentially predict cooperation and prejudice toward minorities. Self and Identity, 23(1–2), 95–126. https://doi.org/10.1080/15298868.2024.2336939
11. **Sankaran, S.**, Szumowska, E., & Kossowska, M. (2024). "Always look on the bright side of life": The role of adaptive rumination on goal pursuit and cognitive task performance. Journal of Individual Differences, 45(2), 98–107. https://doi.org/10.1027/1614-0001/a000413
12. **Sankaran, S.** (2023). Social-cognitive factors that influence prosociality and collective action towards refugees: a reply to 'The challenges of encouraging refugee assistance: lessons learned from reframing the problem as one of within-group collective action and norm change' by Faiza El-Higzi and Cristina Moya. Global Discourse, 13(3-4), 399-406. Retrieved Apr 3, 2025, from https://doi.org/10.1332/20437897Y2023D000000016

13. **Sankaran, S.**, Kossowska, M., & Von Hecker, U. (2023). When do they push the right buttons? Need for closure and the role of perceived control in situations of uncertainty. Personality and Individual Differences, 213, 112316. https://doi.org/10.1016/j.paid.2023.112316
14. Politi, E., Van Assche, J., Lueders, A., **Sankaran, S.**, Anderson, J., & Green, E. G. T. (2023). Does threat trigger prosociality? The relation between basic individual values, threat appraisals, and prosocial helping intentions during the COVID-19 pandemic. Current Psychology. https://doi.org/10.1007/s12144-023-04829-1
15. **Kapoor, Megha.** (2022). Ecological Solidarity: A Philosophical Analysis through Societal-Environmental Dialectic. Bangladesh Journal of Bioethics, 13(1), 16-28. https://doi.org/10.62865/bjbio.v13i1.28
16. **Kushwaha, Ankita**. (2022). "Neutrality and Pluralism: The Role of Religion in the Public Sphere." Journal of Darśana, vol. 13-16, VCW, Varanasi, 2022, pp. 49-62.
17. **Kushwaha, Ankita**. (2021). "Review of Rethinking Pluralism, Secularism and Tolerance: Anxieties of Coexistence by Neera Chandhoke." Perspectives: UCD Postgraduate Journal of Philosophy, vol. 9, 2021, pp. 361-365, https://www.ucd.ie/philosophy/t4media/PerspectivesVolume_9_(Winter_2021).pdf.

Books/Book chapters:

1. **Srihari, M.** "Introduction to the Health Humanities" under contract with Orient Black-Swan, In progress.

Conferences:

1. **Manobala, T.** Malaviya Mission Teacher Training Program-IIT Ropar FDP on "Capacity Building Programme: AI in education-Navigating the Future of Learning" from 24 Feb-1Mar, 2025.
2. **Manobala, T.** Resource person for conducting Faculty Development Program (FDP) under the Nan Mudhalvan scheme, Government of Tamilnadu at the University of Madras from January 6-11, 2025 titled "Food analysis, Processing & Preservation".
3. **Manobala, T.** Invited research talk on "Novel peptide engineering approach to tackle biofilm-associated infections and combat antimicrobial resistance" at International Conference on Recent Developments in Biofilms and Biofouling Control (BBC-2024), during 12-14 December 2024 organized by Bhabha Atomic Research Centre, Kalpakkam.
4. **Manobala, T.** C-CAMP AMR Innovator School-Resource person. Selected for participation in the C-CAMP AMR Innovator school-2024 held from 12-14 March at the centre for Cellular and Molecular Platforms (C-CAMP), Bengaluru. Selected as one of the national level finalists representing Sai University. It was a fully funded program.
5. **Manobala, T.** Amity University, Raipur – Online FDP Participated in seven says Faculty Development Program (FDP) on "Challenges and Opportunities in National Education Policy

for Viksit Bharat organized by Amity Institute of Biotechnology, Amity University Chhattisgarh, Raipur Chhattisgarh held from 10-16 July 2024.

6. **Manobala, T.** VIT-TBI workshop Participated in the virtual training program "Concept to Company" organised by VIT-Technology Business Incubator (VIT-TBI) from 10– 14 June 2024.
7. **Sankaran, S.,** & Politi, E., 'Selective solidarity – How Moral Judgments and Perceived Deservingness Shape Attitudes Towards Ukrainian and Afghan Refugees. Symposium at the Annual Meeting of the International Society of Political Psychology, Santiago, Chile, July 2024.
8. **Sankaran, S.,** Sekerdej, M., & von Hecker, U., 'What makes you an outcast(e)': The impact of caste norm violation and caste identity on in-group judgments Paper presentation (Online) at the Annual Meeting of the International Society of Political Psychology, Toronto, Canada, July 2023.
9. **Sankaran, S.,** Lewczuk,K., & Kofta, M., 'Threat to control promotes utilitarian moral decision making - The boundary conditions.' Paper presented at the 19th European Association of Social Psychology, General Meeting, Krakow, Poland, July 2023
10. **Sankaran, S.,** 'Lack of control promotes helping refugees: The role of control experience on moral trait evaluation, empathy and prosociality' Paper presented at the 19th European Association of Social Psychology, General Meeting, Pre-conference, Krakow, Poland, July 2023

Other Writings:

1. **Srihari, M.** (2023). 'Fictions of (In) Dignity': Graphic Public Health from India.
2. **Srihari, M.** (2023) Review – "An Eclectic Spread." Indian Writing In English Online.
3. **Srihari, M.** (2023) Review – "The Bloomsbury Handbook to the Medical-Environmental Humanities." *Synapsis: A Journal of Health Humanities*
4. **Siddharth, S.** (2024). 'How thought experiments work'. Fountain Ink. URL: https://fountainink.in/essay/thought-experiment-
5. Kapoor, M., & **Kushwaha, A.** (2023). Traditional vs colonial: Navigating dichotomies of philosophy in India. IPN Blog. https://www.indianphilosophynetwork.org/ipn-blog/traditional-vs-colonial%3A-navigating-dichotomies-of-philosophy-in-india.

Editorial Contributions:

Anil Annamneedi

Acting as special research topic coordinator at Frontiers in Neurology. Link: https://www.frontiersin.org/research-topics/54902/cross-talk-of-synaptic-proteins-in-neurological-diseases

School of Technology (SoT)

Journal Articles:

1. Padmavathi, A. R., Vishnuprasadh, A., Joshi, H., **Rao, T. S.,** Anand, M., & Murthy, P. S. (2025). Facile fabrication of self-assembled monolayers of organosilanes for antibiofilm applications. Results in Surfaces and Interfaces, 19, 100507, https://doi.org/10.1016/j.rsurfi.2025.100507
2. Padmavathi, A. R., Karthikeyan, B., **Rao, T. S.**, Kumar, J. S., & Murthy, P. S. (2025). Polydimethylsiloxane loaded capsaicin afflicts membrane integrity, metabolic activity and biofilm formation of nosocomial pathogens. Microbial Pathogenesis, 200, 107282. https://doi.org/10.1016/j.micpath.2025.107282
3. Shukla, S. K., **Rao, T. S.**, N, M., & Mohan, T. K. (2024). Active-bromide and surfactant synergy for enhanced microfouling control. Archives of Microbiology, 206(11), 430.https://doi.org/10.1007/s00203-024-04154-6
4. Karley, D., Shukla, S. K., & **Rao, T. S**. (2024). Biosynthesis of silver nanoparticle using Bacillus licheniformis culture-supernatant for combating pathogenic biofilms. Microbial Pathogenesis, 194, 106833. https://doi.org/10.1016/j.micpath.2024.106833
5. Muthubharathi, B. C., Subalakshmi, P. K., Mounish, B. S. C., **Rao, T. S.**, & Balamurugan, K. (2024). Impact of low-dose UV-A in Caenorhabditis elegans during candidate bacterial infections. Photochemistry and Photobiology. https://doi.org/10.1111/php.14009
6. Gujar, R. B., Kanekar, A. S., Bhattacharyya, A., Karthikeyan, N. S., Ravichandran, C., **Toleti, S. R.**, & Mohapatra, P. K. (2024). Remarkable improvement in Am3+ and Cm3+ separation using a cooperative counter selectivity strategy by a combination of branched diglycolamides and hydrophilic polyaza-heterocycles. Inorganic chemistry, 63(25), 11649-11659.https://doi.org/10.1021/acs.inorgchem.4c01081
7. Ansari, S. A., Gujar, R. B., Bhattacharyya, A., Thangaraj, B., Natesan Sundaramurthy, K., Ravichandran, C., **Rao, T. S.**, & Mohapatra, P. K. (2024). First Report on a 1-Cycle Solid-Phase Extraction Method for Selective Separation of Am3+ and Eu3+: Use of BTP-Grafted Silica Decorated on Activated Carbon. Industrial & Engineering Chemistry Research, 63(7), 3256-3264.
8. Sushmitha, T. J., Rajeev, M., Murthy, P. S., **Rao, T. S.,** & Pandian, S. K. (2023). Planktonic and early-stage biofilm microbiota respond contrastingly to thermal discharge-created seawater warming. Ecotoxicology and Environmental Safety, 264, 115433.https://doi.org/10.1016/j.ecoenv.2023.115433
9. Sushmitha, T. J., Rajeev, M., Kathirkaman, V., Shivam, S., **Rao, T. S.,** & Pandian, S. K. (2023). 3-Hydroxy coumarin demonstrates anti-biofilm and anti-hyphal efficacy against Candida albicans via inhibition of cell-adhesion, morphogenesis, and virulent genes regulation. Scientific Reports, 13(1), 11687., https://doi.org/10.1038/s41598-023-37851-1
10. **Rao, T. S.**, & Feser, R. (2023). Mono and bilayer coatings of alkanethiol and silane on copper: Prevents corrosion and regulate bacterial adhesion. Materials Today Communications, 36, 106517. https://doi.org/10.1016/j.mtcomm.2023.106517
11. Karley, D., Shukla, S. K., & **Rao, T. S.** (2023). Sequestration of cobalt and nickel by biofilm forming bacteria isolated from spent nuclear fuel pool water. Environmental Monitoring and Assessment, 195(6), 699., https://doi.org/10.1007/s10661-023-11266-x
12. **Rao, T. S.,** & Feser, R. (2022). Biofilm Formation by Sulphate Reducing Bacteria on Different Metals And Its Prospective Role In Titanium Corrosion. Available at SSRN 4141038., https://doi.org/10.1080/09593330.2023.2178976
13. Ganesh, S., Retna, A. M., Wesley, S. G., Murthy, P. S., & **Rao, T. S**. (2023). Assessment of biogrowth at two different environments of nuclear power plant cooling water system located at southern coast of India. Asian Journal of Chemistry, 35, 69–78.

14. Vincent, F., **Rao, T. S.,** Kumar, R., & Nancharaiah, Y. V. (2023). Exploring the effects of organic loading rate and domestic wastewater treatment by algal-bacterial granules under natural daylight conditions. Water Environment Research, 95(1), e10831., http.doi.org/10.1002/wer.1083
15. Ganesh, S., Retna, A. M., Murthy, P. S., Wesley, G. S., & **Rao, T. S**. (2022). Avoidance of zooplankton entrainment in a mega power plant cooling water system by an eco-friendly method.
16. Shukla, S. K., & **Rao, T. S.** (2022). Targeting hydrophobicity in biofilm-associated protein (Bap) as a novel antibiofilm strategy against Staphylococcus aureus biofilm. Biophysical chemistry, 289, 106860.https://doi.org/10.1016/j.bpc.2022.106860
17. Karley, D., Shukla, S. K., & **Rao, T. S**. (2022). Microbiological assessment of spent nuclear fuel pools: An in-perspective review. Journal of Environmental Chemical Engineering, 10(4), 108050. https://doi.org/10.1016/j.jece.2022.108050
18. Shukla, S. K., Manobala, T., & **Rao, T. S.** (2022). The role of S-layer protein (SlpA) in biofilm-formation of Deinococcus radiodurans. Journal of Applied Microbiology, 133(2), 796-807. https://doi.org/10.1111/jam.15613
19. Khan, A., **Rao, T. S.,** & Joshi, H. M. (2022). Phage therapy in the Covid-19 era: advantages over antibiotics. Current research in microbial sciences, 3, 100115. ISSN 2666-5174, https://doi.org/10.1016/j.crmicr.2022.100115

Books/Book chapters:

1. Mudali, U. K., **Rao, T. S**., Ningshen, S., Pillai, R. G., George, R. P., & Sridhar, T. M. (Eds.). (2022). A Treatise on Corrosion Science, Engineering and Technology. Springer. https://doi.org/10.1007/978-981-16-9302-1.
2. **Rao, T. S.** (2023). Industrial applications and implications of biofilms. In Understanding Microbial Biofilms (pp. 713-738). Academic Press.
3. Khan, A., & **Rao, T. S**. (2023). Natural biofilms: Structure, development, and habitats. In Understanding Microbial Biofilms (pp. 187-206). Academic Press.
4. **Rao, T. S**. (2023). Industrial applications and implications of biofilms. In Understanding Microbial Biofilms (pp. 713-738). Academic Press.
5. Khan, A., & **Rao, T. S**. (2023). Natural biofilms: Structure, development, and habitats. In Understanding Microbial Biofilms (pp. 187-206). Academic Press.
6. Murthy, P. S., Venugopalan, V. P., Mohan, T. K., Nanchariah, Y. V., Das, A., Venkatnarayanan, S., & **Rao, T. S**. (2022). Advancements and modifications to polydimethylsiloxane foul release antifouling coatings. In A Treatise on Corrosion Science, Engineering and Technology (pp. 467-511). Singapore: Springer Nature Singapore.
7. Anandkumar, B., George, R. P., & **Rao, T. S.** (2022). Non-Conventional Methods for Biofilm and Biocorrosion Control. In A Treatise on Corrosion Science, Engineering and Technology (pp. 513-535). Singapore: Springer Nature Singapore.
8. **Rao, T. S**. (2022). Microfouling in industrial cooling water systems. In Water-Formed Deposits (pp. 79-95). Elsevier.
9. **Rao, T. S.** (2022). Biofouling (macro-fouling) in seawater intake systems. In Water-formed deposits (pp. 565-587). Elsevier.
10. **Rao, T. S**., Panigrahi, S., & Velraj, P. (2022). Transport and disposal of radioactive wastes in nuclear industry. In Microbial biodegradation and bioremediation (pp. 419-440). Elsevier.
11. Kungwani, N., Shukla, S. K., **Rao, T. S.**, & Das, S. (2022). Biofilm-mediated bioremediation of polycyclic aromatic hydrocarbons: current status and future perspectives. Microbial Biodegradation and Bioremediation, 547-570.

Conferences:

Toleti Subba Rao. Chaired the technical session at one international conference 1) International conference on - Recent Trends in Analytical Chemistry – 2023.

Keynote Lectures:

1) *Delivered the keynote lecture on Microbial Corrosion at CORCON – 2023 held during Sept 2023, at Mumbai.*
2) *Delivered the keynote lecture on Surface Modifications and Prevention of Biofouling and Biocorrosion at specialist meeting held during April 2024, for Naval Trainee Officers, at Naval Metallurgical Research Laboratory, Ambernath, Maharashtra.*

Toleti Subba Rao. Participated in several scientific and professional society meetings:

1) Organized the signing of MoUs with SAMDES, New Delhi; Alagappa University, Karaikudi, Tamil Nadu.

2) Participated in the professional meeting of AMPP – NACE – India Section Meetings at Mumbai.

3) Organizing member of International Conference in Heat Treatment & Surface Engineering.

4) Organizing member of International Conference of Analytical Chemistry

5) Organizing member, Second Annual Corrosion Awareness Day Symposium (Corposium-2023), 3-4 May 2023, Centre for Nanoscience and Nanotechnology, Sathyabama Institute of Science and Technology (Deemed to be University), Chennai 600119, Tamil Nadu.

6) Organizing member, Second Edition of Research Scholars Meeting on Electrochemistry, Corrosion and Coatings (RSM-ECC)-2023 will be held on February 25, 2023 (Saturday) at Hotel Novotel, Sholinganallur.

7) Organizing member, Technologies for Low-carbon and Lean Construction at IC&SR Auditorium, IIT Madras, Chennai, India, January 30 – February 3, 2023.

School of Computing and Data Science (SCDS)

Journal Articles:

1. **Galada, S.,** Halder, T., Deo, K., **Krish, R. P.,** & Jadhav, K. (2024). PRISM: Privacy-preserving Inter-Site MRI Harmonization via Disentangled Representation Learning. arXiv preprint arXiv:2411.06513.
2. Kumar, P. P., Bai, V., Amala, M., & **Krish, R. P**. (2023). Krill herd optimization algorithm with deep convolutional neural network fostered breast cancer classification using mammogram images. Concurrency and Computation-Practice & Experience, 35(7). https://onlinelibrary.wiley.com/doi/10.1002/cpe.7605

3. **Chandrasekaran, A**., & Venkateswaran, N. (2025). An enhanced coprime sampler for effective co-array domain processing of underdetermined direction-of-arrival estimation. IEEE Canadian Journal of Electrical and Computer Engineering (Accepted).

4. **Chandrasekaran, A**. (2024). Efficient methods for unambiguous direction of arrival estimation with co-prime linear arrays. IEEE Signal Processing PhD Theses.

5. Nawroly, S. S., Popescu, D., **Mariya Celin, T. A**., & Actlin Jeeva, M. P. (2025). Analysis for Using Noise as a Source of Data Augmentation for Dysarthric Speech Recognition. Circuits, Systems, and Signal Processing, 1-18.
6. **Mariya Celin, T. A**., Vijayalakshmi, P., Nagarajan, T., & Mrinalini, K. (2025). Augmentative and alternative speech communication (AASC) aid for people with dysarthria. Computer Speech & Language, 101777.DOI: https://doi.org/10.1016/j.csl.2025.101777
7. Nawroly, S. S., Popescu, D., & Antony, **Mariya Celin, T. A**., (2024). Category-based and Target-based Data Augmentation for Dysarthric Speech Recognition Using Transfer Learning. Studies in Informatics and control, 33(4). DOI: https://doi.org/10.24846/v33i4y202408

Books/Book chapters:

1. "SMART Energy Management: A Computational Approach". **Krithi Ramamritham** (Indian Institute of Technology Bombay, India & Sai University, Chennai, India), Gopinath Karmakar (Bhabha Atomic Research Centre Mumbai, India), and Prashant Shenoy (University of Massachusetts, Amherst, USA), Published by World Scientific
2. **Krithi Ramamritham.** Wrote an article for e-Yantra book published in 2024.

Conferences:

1. **Krithi Ramamritham,** Gopinath Karmakar. "Improving Thermal Comfort in Work Spaces with Multiple Occupancy: A Frugal Approach". accepted in: The 16th ACM International Conference on Future and Sustainable Energy Systems (ACM e-Energy 2025) to be held in Rotterdam, Netherlands during June 17 - 20, 2025
2. Webinar on Computational Approaches to SMART Energy Management, by **Krithivasan Ramamritham** and Gopinath Karmakar - jointly organized by IEEE CS Madras, CSI Chennai, ACM Chennai, KPR Institute of Engineering and Technology, and IEEE CS SBC - to be held on April 5, 2025
3. **Krithi Ramamritham.** Presented paper along with Dr. Santosh Jois - former Ph.D. student from IIT Bombay "Meeting Mid-day Peak Loads through Distributed Rooftop PV Systems:

Tale of Two Cities" International Conference on NextGen Solar (SUN-2023) https://solarenergymeet.com/ October 30, 2023| San Francisco, CA October 31t, 2023 | Virtual (Pacific Time)

Editorial Contributions:

Krithi Ramamritham

CSI publication -- December special issue that Prof. Krithi curated as Guest Editor has been released with his editorial. You can access the special issue using:

https://link.springer.com/journal/40012/volumes-and-issues/11-4

Editorial using:

https://link.springer.com/article/10.1007/s40012-023-00391-0

School of Law (SoL)

Journal Articles:

1. **Mazhuvanchery, S.** (2021). Annual review – International Labour Organization. Yearbook of International Environmental Law, 32, 277–283.
2. **Mazhuvanchery, S.** (2020). Annual review – International Labour Organization. Yearbook of International Environmental Law, 31, 301–304.
3. **Chakravarty, A.** (2024). Independent Environment Regulator-The Transformation India Needs in Environmental Governance. Wm. & Mary Env't L. & Pol'y Rev., 49, 213., https://scholarship.law.wm.edu/wmelpr/vol49/iss1/6
4. **Chakravarty, A.** (2021). A legal study of sacred groves in India and its biological importance with special reference to Mawphlang Sacred Grove, Meghalaya. National Law University Assam Law Review, 5.
5. **Prasad, S.** (2022). Did The ECJ Butcher Religious Freedom and Animal Welfare? A Response to Rovinsky. The Global Journal of Animal Law, 10(1).
6. **Prasad, S.,** & Kaushik, M. (2022). India's National Green Tribunal: A Contemporary Overview. Golden Gate U. Env't LJ, 14, 37.

Books/Book chapters:

1. **Mazhuvanchery, S.** (2022). Remedies against excessive pricing of patented medicines under competition law. Intellectual Property Series No. 18, TWN Penang.
2. **Mazhuvanchery, S.,** & John, S. (Eds.). (2021). Essays on law, society and development. MPP House.
3. **Mazhuvanchery, S.** (2024). Procedural environmental rights. In P. Cullet et al. (Eds.), The Oxford handbook of environmental and natural resources law in India. Oxford University Press.
4. **Mazhuvanchery, S.** (2021). Nuclear power and environmental law: The Indian experience. In S. Mazhuvanchery & S. John (Eds.), Essays on law, society and development. MPP House.
5. **Mazhuvanchery, S. (2021).** "Competition Law Framework in India" and "India's Position on Genetically Modified Organisms (GMOs)", in Seokwoo Lee (Ed.), *Encyclopedia of Public International Law in Asia*, Leiden: Brill Nijhoff. ISBN 978-90-04-38877-2.

6. **Shiju Mazhuvanchery** (2021), "Multiculturalism and Spirit of Accommodation: A Relook at the UCC debates", in Sarfaraz Ahmed Khan and Ahmar Afaq (Eds.), *Uniform Civil Code: A Never - Ending Dilemma*, New Delhi: Thomson Reuters. ISBN 978-93-90673-94-0.
7. **Abhishek Chakravarty.** The UN Watercourses Convention, Hydropolitics, and Human Rights: Lessons from the Brahmaputra Basin, COMMENTARY ON UN WATERCOURSES CONVENTION (Vanessa Casado Perez and Rhett Larson, Edward Elgar Publishing 2025). (Upcoming)
8. **Abhishek Chakravarty.** Ensuring Water Security in Brahmaputra Basin: Shift from Conflict to Cooperation, in A RESEARCH AGENDA FOR WATER LAW (Vanessa Casado Perez and Rhett Larson, Edward Elgar Publishing 2023). https://doi.org/10.4337/9781802204476.00008
9. Ananth Padmanabhan, **Abhishek Chakravarty.** Foundations for a Sustainable Growth: India's Constitution and its Supreme Court, in ROUTLEDGE HANDBOOK OF CONTEMPORARY INDIA (Knut Jacobson, Routledge, 2023).

Other Writings:

1. **Shiju Mazhuvanchery** (2020), "Book Review: Constitution Making under UN Auspices – Fostering Dependencies in Sovereign Lands", Indian Journal of International Law, 60 (3&4): 403-405.
2. **Shiju Mazhuvanchery** (2022), "EWS Reservation Explained: Who is Eligible? Will it affect General Category Seats?" THE WEEK (Online – November 7). https://www.theweek.in/news/india/2022/11/07/ews-reservation-explained-who-is-eligible-will-it-affect-general-category-seats.html
3. **Shiju Mazhuvanchery** (2021), "ACM Decision on Abuse of Market Exclusivity and Excessive Pricing", South North Development Monitor (#9432, 7 October). https://www.sunsonline.org/contents.php?num=9432
4. **Shiju Mazhuvanchery** (2021), "Ministry of Cooperation and Federalism: Lessons from a Gujarat High Court Verdict", THE WEEK (July 13). https://www.theweek.in/news/india/2021/07/13/ministry-of-cooperation-and-federalism-lessons-from-a-gujarat-high-court-verdict.html
5. **Shiju Mazhuvanchery** (2020), "Last Among Equals", THE WEEK (Anniversary Issue – December 27). https://www.theweek.in/theweek/business/2020/12/17/last-among-equals.html
6. **Abhishek Chakravarty.**(2021)Climate Refugees and Assam's Future. https://indianexpress.com/article/opinion/climate-refugees-and-assams-future-7165653/lite/
7. **Abhishek Chakravarty.** (2020)Critical Thinking Course in India Legal Education is a Necessity. https://www.livelaw.in/law-firms/articles/critical-thinking-course-in-indian-legal-education-is-a-necessity-155393
8. **Abhishek Chakravarty.** (2020)The COVID-19 Pandemic: Learnings from a Climate Action Perspective. https://www.livelaw.in/law-firms/articles/the-covid-19-pandemic-learnings-from-a-climate-action-perspective-157315
9. **Abhishek Chakravarty.** (2020)The Art of Story-Telling is the Essence of Good Lawyering. https://www.livelaw.in/law-firms/articles/the-art-of-story-telling-is-the-essence-of-good-lawyering-158591

10. **Abhishek Chakravarty.** (2020)COVID-19: India Must Act Quickly to Open the Eyes of Its Laws to Exotic Species. https://science.thewire.in/environment/covid-19-india-exotic-animals-wildlife-trade-environment-ministry-advisory/
11. **Abhishek Chakravarty.** (2020)Why the Etalin Hydroelectric Power Project Is Flawed. https://science.thewire.in/politics/rights/etalin-hydroelectric-power-project-engineering-dibang-valley-idu-mishmi/
12. **Abhishek Chakravarty.** (2020)Baghjan blowout shows why we need to fix liabilities. https://www.downtoearth.org.in/blog/pollution/baghjan-blowout-shows-why-we-need-to-fix-liabilities-71867
13. **Abhishek Chakravarty.** (2020)Why environmental racism needs to have its moment. https://www.downtoearth.org.in/blog/environment/why-environmental-racism-needs-to-have-its-moment-72372
14. **Abhishek Chakravarty.** (2020)Involving indigenous people in environmental governance – the Sixth schedule way. https://www.downtoearth.org.in/blog/governance/involving-indigenous-people-in-environmental-governance-the-sixth-schedule-way-72896
15. **Abhishek Chakravarty.** (2023)COP27 impact: What does the loss and damage fund mean for Majuli's Salmora potters? https://www.downtoearth.org.in/climate-change/cop27-impact-what-does-the-loss-and-damage-fund-mean-for-majuli-s-salmora-potters--87646
16. **Abhishek Chakravarty.** Draft EIA notification 2020: Is it contra legem to international conventions, judicial verdicts. https://www.downtoearth.org.in/blog/environment/draft-eia-notification-2020-is-it-contra-legem-to-international-conventions-judicial-verdicts-73858
17. **Abhishek Chakravarty.** (2021)Tribal hunting rights vs wildlife protection laws: Is there a middle ground? https://www.downtoearth.org.in/blog/wildlife-and-biodiversity/tribal-hunting-rights-vs-wildlife-protection-laws-is-there-a-middle-ground--77462
18. **Abhishek Chakravarty.** (2020)Delta-Model of Lawyering: Skilling Indian Lawyers for the Digital Age. https://www.lawctopus.com/indian-lawyers-skilled-digita-age-delta-model-lawyering/
19. **Abhishek Chakravarty.** (2020)India needs a Strategic Shift in its Policy on Quality to achieve 'self-reliance'. https://www.insidene.com/india-needs-a-strategic-shift-in-its-policy-on-quality-to-achieve-self-reliance/
20. **Abhishek Chakravarty.** (2020)COVID-19, Political Prisoners, and the Overcrowding of Prisons. https://www.jurist.org/commentary/2020/08/chakravarty-rajkhowa-covid19-prisonovercrowding/
21. **Abhishek Chakravarty.** (2020)Saving India's Endangered Languages in light of National Education Policy, 2020. https://www.jurist.org/commentary/2020/08/abhishek-chakravarty-saving-endangered-languages-in-india/
22. **Abhishek Chakravarty.** (2021)The Privacy Question in India's Drone Regulation. https://www.jurist.org/commentary/2021/04/chakravarty-sivasubramanian-privacy-drone/
23. **Abhishek Chakravarty.** (2020)Indo-Naga Political Negotiations: An Explainer. https://southasianvoices.org/indo-naga-political-negotiations-an-explainer/
24. **Abhishek Chakravarty.** (2020)Drones can make Covid vaccine delivery a success — if Modi govt can just tweak its policy. https://theprint.in/opinion/drones-can-make-covid-vaccine-delivery-a-success-if-modi-govt-can-just-tweak-its-policy/566064/
25. **Vikas Muralidharan.** (2024)"Article 370 Judgment: A Betrayal of Federal Values"- The India Forum.

26. **Vikas Muralidharan.** (2023)“Same Sex Couples: A Judge to the Rescue”- Op-Ed Co-authored with Senior Advocate Sriram Panchu in The Hindu.
27. **Vikas Muralidharan.** (2023)“Criminal Law Bills renaming is needless meddling”- Op-Ed Co-authored with Senior Advocate Sriram Panchu in The Hindu
28. **Vikas Muralidharan.** (2023)“Basic Structure’: Defence against Parliamentary Hegemony”- The India Forum (co-authored with Senior Advocate Sriram Panchu and Aprameya Manthena).

School of Artificial Intelligence (SoAI)

Books

1. Anu Bajaj, Ajith Abraham (Eds.), Computational Intelligence based Hyperspectral Image Processing, Springer Nature, ISBN 978-3-031-83125-6, 2025.
2. Anu Bajaj, Ajith Abraham (Eds.), Computational Intelligence Based Hyperspectral Image Analysis and Applications, Springer Nature, ISBN 978-3-031-83126-3, 2025.

Journal Papers

1. Saurabh Deshpande, Rahee Walambe, Ketan Kotecha, Ganeshsree Selvachandran, Ajith Abraham , Advances and applications in inverse reinforcement learning: a comprehensive review, Neural Computing and Applications, Neural Computing and Applications, 2025. https://doi.org/10.1007/s00521-025-11100-0
2. Yajnaseni Dash, Vinayak Gupta, Ajith Abraham, Swati Chandna, Improving Object Detection in High-Altitude Infrared Thermal Images Using Magnitude-Based Pruning and Non-Maximum Suppression, Journal of Imaging, 11(3), 69, 2025.