

Indian National Academy of Engineering (INAE)

India-Taiwan Programme of Cooperation In Science & Technology

List of jointly selected proposals with Taiwan Call 2025

A joint call for proposals was invited by INAE and NSTC Taiwan in the areas of (1) Artificial Intelligence, Cyber Security, Quantum technology, (2) Biotechnology, Healthcare including Functional Genomics, Drug Development and Biomedical Devices, Agriculture and Food Sciences, (3) Green Energy Technology/ Renewable Energy (solar energy and bioenergy)/ Clean Energy, (4) Semiconductor & Communication, and (5) Green Manufacturing Technologies. The Call was advertised in June 2025. In total, 185 common eligible proposals were received against the joint call for which last date was July 31st, 2025. Based on scientific merit, complementarities of the project objectives, scientific strengths of the project coordinators and priorities of the two sides, the INAE India and NSTC Taiwan have jointly decided to support following 13 proposals. Project coordinators are being informed separately to complete administrative formalities for release of grants from INAE.

S. No.	Project Title	Indian PI	Taiwan PI
1	Reprogramming Therapy Resistance in TNBC via Nanoarchaeosome-Mediated Intracellular Delivery: A Chemo-Immuno-Gene Therapy Approach	Dr.Swathi Sudhakar , Assistant Professor,MSB-221, Department of Applied Mechanics and Biomedical Engineering, IIT Madras, Chennai	Yu-Fen Huang, Professor, Biomedical Engineering and Environmental Science,Room 514, Atomic Science Building, Institute of Analytical and Environmental Sciences, National Tsing Hua University,30013, Hsinchu, Taiwan
2	Development of Biofunctional Nerve Tissue through Microfluidic Alignment and Interaction of Nerve Cells	Dr. Narayan Chandra Mishra, Professor, Department of Polymer and Process Engineering, IIT Roorkee,	Dr. Chia-Fu Chou, Professor, Academia Sinica, Nakang, Taipei, Taiwan
3	Autonomous Cognitive Inspection of Construction Sites via Multimodal 4D Scene Graphs and Large Language Models	Dr Aritra Pal, Assistant Professor, Room No.223, Building Sciences Block, IIT Madras Campus, Chennai	Jacob J. Lin, Associate Professor, CERB 710, No.188, Sec. 3, Xinhai Rd., Daan District, Taipei City 106, Taiwan (ROC)
4	Transporter-facilitated drug delivery to improve outcomes in corneal infections.	Dr Nirmal Jayabalan, Associate Professor, BITS, Pilani - Hyderabad Campus Jawahar Nagar, Shameerpet Mandal, Hyderabad, Telangana.	Ching-Li Tseng, Professor, Shuang-Ho Campus, 6F, Biomedical Building, No. 301, Yuantong Road, Zhonghe District, New Taipei City
5	Screening of High Affinity Engineered Antibodies as a Promising Tool for Diagnosis of Non Structural 1 (NS1) Protein of Japanese encephalitis virus	Dr. Sonu Gandhi, Scientist-E, Biosensor and NanoBioengineering Laboratory (BNBL), National Institute of Animal Biotechnology, Hyderabad	Prof. Wei-Ssu Liao, Professor, Department of Chemistry, National Taiwan University, 10617, Taipei, Taiwan

6	Relating the Electrochemical Properties and Atomic/Electronic Structures of Cationic and Anionic Redox Cathodes for Next-Generation Rechargeable Batteries.	Dr. Urmimala Maitra Assistant Professor School of Materials Sciences Indian Association for the Cultivation of Science 2A & 2B Raja S. C. Mullick Road, Jadavpur, Kolkata	Chi-Liang Chen, National Research Institution, 30080, Hsinchu, Taiwan No.101 Hsin-Ann Road, Hsinchu Science Park
7	Establishment of a trackable ovarian endometrioma-like mouse model for evaluating the therapeutic potential of the IGF-1R inhibitor Picropodophyllin	Dr. Vaishnavi Seenan, Assistant Professor, Department of Biotechnology, Vel Tech High Tech, Chennai, Tamil Nadu	Dr. Che-Fang Hsu, Assistant Research Fellow, Department of Medical Research, Hualien Tzu Chi Medical Center, Buddhist Tzu Chi Medical Foundation, No. 707, Sec. 3, Chung Yang Rd., Hualien 970, Taiwan.
8	Layered High-Entropy Oxides as Robust Next-Generation Cathodes for Sodium-Ion Batteries	Dr. Abhishek Sarkar, Assistant Professor, IIT Delhi, Department of Materials Science and Engineering, IIT Delhi Campus, Hauz Khas, New Delhi	Prof. Han-Yi Chen, Professor, National Tsing Hua University (NTHU), Department of Materials Science and Engineering, National Tsing Hua University, 300044, Taiwan
9	Clay–MOF Composite Membranes for Simultaneous Acid Recovery and Energy Harvesting in Industrial Wastewater Systems	Dr. Dharendra Kumar Rai, Associate Professor, Department of Metallurgical Engineering and Materials Science, Indian Institute of Technology Indore, Simrol	Prof. Li-Hsien Yeh, Distinguished Professor, Department of Chemical Engineering, National Taiwan University of Science and Technology, No.43, Keelung Rd., Sec. 4, Da'an Dist.
10	AI-driven Integrative Screening Platform for Host-Directed and Anti-mycobacterial Therapies via Organelle-Centric Coevolution Analysis	Prof. Sharmistha Banerjee, Department of Biochemistry, School of Life Sciences, University of Hyderabad	Dr. Kazuhiro Takemura, Assistant Professor, Ph.D. Program in Biomedical Artificial Intelligence, National Tsing Hua University, Hsinchu 300, Taiwan
11	AI-Based Cognitive Load Modeling for XR interfaces of Human-Robot Collaborative Manufacturing Environments	Dr Arunachalam M, Assistant Professor, School of Interdisciplinary Design and Innovation, IIITDM, Kancheepuram (India)	Yu-chi Lee, Assistant Professor, Department of Industrial Engineering and Management, National Taipei University of Technology
12	Generating Renewable Energy via Engineered Nano-layers in 2D Materials (GREEN-2D)	Dr. Rajesh Kumar Ulaganathan, Principal Investigator, Assistant Professor Grade-I, Centre for Nanotechnology, Indian Institute of Technology Roorkee	Dr. Raman Sankar, Principal Investigator (Taiwan) Associate Research Scientist Institute of Physics, Academia Sinica, Taiwan
13	Smart Solar Windows for Tomorrow: Luminescent Concentrator device for efficient Sunlight harvesting	Dr Brijesh Tripathi, Associate Professor, Head, Department of Physics, SOET, Pandit Deendayal Energy University, Raisan, Gandhinagar	Prof Chi-Tsu Yuan, Professor, Department of Physics, Chung Yuan Christian University, No. 200, Zhongbei Road, Taiwan