

**Department of Science & Technology
(International Co-operation Division)**

India-Japan (DST-Japan Society for the Promotion of Science) Cooperative Science Programme (IJCSP)-2019 Joint call for Proposals was issued by the Department of Science and Technology (DST), Ministry of Science & Technology, Government of India and Japan Society for the Promotion of Science (JSPS), Japan for inviting joint research projects and workshops carried out by Indian and Japanese researchers on the mutually agreed areas of i) Fundamental Sciences: Physical and Chemical Systems ii) Materials and System Engineering: Man-made Systems iii) Natural Systems: Life Sciences and Bioengineering Sciences iv) Astronomy, Space, Earth System and Sciences and v) Mathematics and Computational Science

2. The last date for submitting the proposals was 4th September, 2019. A total of 134 common joint research project proposals and 8 workshop proposals were received against the call. These proposals were peer reviewed and ranked separately by Indian and Japanese experts. After judicious assessment based on scientific strength, technical aspects, project objectives and national priorities of both the countries, Department of Science and Technology (DST), India and Japan Society for the Promotion of Science (JSPS), Japan have jointly decided to support 20 joint research project and 4 joint workshop/seminars.

3. We are pleased to inform you that 20 joint projects, and 4 joint seminars have been recommended for implementation for the period 2020-2022 under DST- JSPS program between India and Japan. These are mobility based projects in which the sending side would provide the international travel cost and receiving side will provide local hospitality. Due to the current pandemic, we are not envisaging any visit in this financial year. Funding of these projects will start after coming out of present COVID-19 pandemic. The scientists on two sides are expected to collaborate using available resources (manpower, consumables, equipment etc.) at their end through institutional sources or externally funded projects.

List of Joint Research Projects

Fundamental Sciences: Physical and Chemical Systems

S. No.	Title of the Project	Indian PI Name and Institute Details	Japanese PI Name and Institute Details
1.	Ultrafast hot-carrier energy distribution and relaxation in metal nano-structures	Dr Parinda Vasa Associate Prof. Indian Institute of Technology, Bombay	Prof. Kaoru Yamanouchi The University of Tokyo
2.	Charge- and Spin-Blockade in Ultrathin-Layers of Single Molecule Magnets	Prof. Amlan Pal Indian Association for the Cultivation of Science, Kolkata, West Bengal	Assistant Professor Megumi Akai-Kasaya Osaka University

Materials and System Engineering: Man-Made Systems

3	Solution Processed Up-conversion Luminescent Nanoparticle Self-assembly for Development of Electron Beam Excitation Assisted High-resolution Optical Microscope	Dr Dheivasigamani Thangaraju Assistant Prof. PSG Institute of Technology and Applied Research, Neelambur, Coimbatore Tamilnadu	Prof. Yoshimasa Kawata National University Corporation Shizuoka University
4.	Preparation of Next Generation Nanovaccine using Multifunctional Glycans for Cancer Immunotherapy	Dr Rajesh Kumar Gupta Associate Prof. Dr. D. Y. Patil Biotechnology & Bioinformatics Institute, Mumbai Bangalore Express Highway, Pune Maharashtra	Associate Prof. Eiji Yuba Osaka Prefecture University
5.	Development of InAlN/GaN high electron mobility transistor prototype for mm-wave electronic applications	Dr Biplab Sarkar Assistant Prof. Indian Institute of Technology Roorkee, Uttarakhand	Prof. Hiroshi Amano, Nagoya University
6.	Development of high energy density asymmetric supercapacitor using chemically derived mesoporous graphene-based composites materials	Dr Tapas Kuila Senior Scientist CSIR-Central Mechanical Engineering Research Institute, Durgapur, West Bengal	Associate Prof. Hirofumi Yoshikawa Kwansei Gakuin University
7.	Design and fabrication of GaN based THz Solid State Source	Dr Arindam Biswas, Assistant Prof. Kazi Nazrul University, West Bengal	Prof. Hiroshi Inokawa, National University Corporation Shizuoka University
8.	Photo-catalytic dye degradation for industrial (textile) waste management	Dr Kaushik Ghosh Associate Prof. Institute of Nano Science & Technology, Mohali, Punjab	Prof. Takahiro Maruyaya Meijo University
9.	Hot Electron Transfer in Semiconductor Nanocrystals for Artificial Photosynthesis	Prof. Challapalli Subrahmanyam Indian Institute of Technology Hyderabad, Kandi, Sanga Reddy Telangana	Prof. Vasudevan Pillai Biju Hokkaido University
10.	Design and Development of Self Powered Selective Collection of Rare earth Elements	Prof. Bosco John Balaguru, SASTRA Deemed University,	Prof. Kazuyoshi Tsuchiya Tokai University

	from Sea Water	Tirumalaisamudram Thanjavur, Tamilnadu	
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Natural Systems: Life Sciences and Bioengineering

11.	Biocementation for the improvement of sloppy regions in India using biopolymers	Dr Kamini Numbi Ramadu , Principal Scientist & Head Central Leather Research Institute, Chennai, Tamilnadu	Associate Prof. Kazunori Nakashima Hokkaido University
12.	Drug discovery targeting cysteine biosynthesis: chemical library screening and structural elucidation	Prof.Samudrala Gourinath Jawaharlal Nehru University, New Delhi	Prof. Tomoyoshi Nozaki The University of Tokyo
13.	Origin, specificity and molecular systematics of Bopyrid isopods infecting Penaeid shrimps and the host immune response	Dr Kappalli Sudha Associate Prof. Central University of Kerala, Kasaragod, Kerala	Associate Prof.Gyo Itani Kichi University
14.	Generation of photosynthetic mutants with high light tolerance	Prof. Rajagopal Subramanyam University of Hyderabad, Telangana	Prof. Yuichiro Takahashi Okayama University
15.	Dynamic evaluation of pharmaceutical contamination and antibiotic bacteria in Indian river	Dr Debraj Bhattacharyya Associate Prof. Indian Institute of Technology, Hyderabad, Telangana	Prof. Hiroyuki Futumata National University Corporation Shizuoka University

Astronomy, Space, Earth System and Sciences

16.	Unveiling the physical structure and chemical composition of hot molecular cores by observation and astrochemical model	Dr Ankan Das Assistant Prof. Indian Centre for Space Physics, Kolkata, West Bengal	Assistant Prof. Takashi Shimonishi Tohoku University
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Mathematics and Computational Sciences

17.	Spectrum defragmentation management in elastic optical networks using machine learning	Dr Bijoy Chand Chatterjee Assistant Prof. South Asian University, Delhi	Prof. Eiji Oki Kyoto University
18.	Learning with Limited Labeled Data: Solving the Next Generation of Machine Learning Problems	Associate Prof.Vineeth N Balasubramanian , Indian Institute of Technology, Hyderabad, Telangana	Prof.Tatsuya Harada , The University of Tokyo

19	Mathematical Modeling for Advanced Wave Analysis and Engineering Applications	Prof. Sushil Kumar Tomar Panjab University, Chandigarh	Prof. Soichi Hirose Tokyo Institute of Technology
20.	Surface groups and geometric structures	Dr Krishnendu Gongopadhyay Associate Prof. Indian Institute of Science Education and Research, Mohali, Punjab	Prof. Kenichi Ohshika Gakushuin University

List of Joint Research Workshops

S. No.	Title of the Project	Indian PI Name and Institute Details	Japanese PI Name and Institute Details
Fundamental Sciences			
1.	Cluster science by interdisciplinary approach: Emerging materials and phenomena	Prof. Pradeep Thalappil IIT Madras, Chennai Tamilnadu	Prof. Tatsuya Tsukuda, The University of Tokyo
2.	Indo-Japan Workshop on Interface phenomena for spintronics	Prof. Subhankar Bedanta National Institute of Science Education and Research, Odisha	Prof. Koki Takanashi, Tohoku University
Astronomy, Space, Earth System and Sciences			
3.	Managing the Water-Energy-Food Nexus in Semi-arid Areas of India under Climate Change	Prof. V Jothiprakash IIT Bombay, Mumbai Maharashtra	Prof. Koichi Fujita Kyoto University
Materials and System Engineering: Man-Made Systems			
4.	India Japan Workshop on Biomolecular Electronics and Organic Nanotechnology for Environment Preservation (IJWBME 2020)	Prof. Parameswar K Iyer IIT Guwahati, Assam	Prof. S Kishida, Nagoya University