

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

An Indo-Japanese joint call for proposal under India-Japan Cooperative Science Programme (IJCSP) was issued by Department of Science and Technology (DST), Ministry of Science & Technology, Government of India, New Delhi and the Japan Society for the Promotion of Science (JSPS) for inviting Indian and Japanese scientists to submit their proposals for joint research projects and joint workshops in the areas of i) Fundamental Sciences: Physical and Chemical Systems, ii) Materials and System Engineering: Man-made Systems, iii) Natural Systems: Life Sciences and Bioengineering, iv) Astronomy, Space, Earth System and Sciences and v) Mathematics and Computational Science. The last date for submitting the proposals was 5th September, 2018. A total of 116 proposals (110 joint projects and 6 joint workshops) were received against the call. 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 the following 23 proposals (20 joint research projects and 3 workshops). Project coordinators are being informed separately to complete administrative formalities for release of DST grant.

List of Selected FY2019 Joint Research Projects

[A] Fundamental Sciences: Physical and Chemical Systems

Sl.	Title of the Project	Indian PI	Japanese PI
1	Interfacial multiferroic magnonics : understanding of cross-correlation towards magnonic logic circuit applications	Venkataiah GORIGE Assistant Professor, University of Hyderabad	Tomoyasu TANIYAMA Professor, Nagoya University
2	Tailoring the catalytic properties of atom-precise metal nanoclusters	Sukhendu MANDAL Associate Professor, Indian Institute of Science Education and Research Thiruvananthapuram	Hiroshi KITAGAWA Professor, Kyoto University
3	Magneto-optic sensor for cardiac biomarker detection	Jayasree S. RAMAPURATH Scientist F, Sree Chitra Tirunal Institute for Medical Sciences and Technology	Yoshihiro ITO Chief Scientist, RIKEN

[B] Materials and System Engineering: Man-made Systems

Sl.	Title of the Project	Indian PI	Japanese PI
1	Understanding toxicity and uptake of nanomaterials to edible plants during reuse of treated municipal wastewater as irrigation water	Arun KUMAR Assistant Professor, Indian Institute of Technology Delhi	Toru WATANABE Professor, Yamagata University
2	Combinatorial exploration and property control of oxide based power semiconductors	Somu KUMARAGURUBARAN Associate Professor, Indian Institutes of Science Education and Research	Takahiro NAGATA Group leader, National Institute for Materials Science
3	Engineering photoluminescence of tungsten sulfide through doping and electrical biasing	Viswanath BALAKRISHNAN Assistant Professor, Indian Institute of Technology, Mandi	Yukio SATO Associate Professor, Kyushu University
4	Design of Two-Dimensionally Self-Assembled Organic Semiconductors	Suhrit GHOSH Professor, Indian Association for the Cultivation of Science	Shu SEKI Professor, Kyoto University
5	Understanding the phase stability of oxides and nitrides in the context of fine tuning their functional properties - a combinatorial approach based on computations and experiments	Ravi KUMAR, N V Professor, Indian Institute of Technology – Madras	Ryo MAEZONO Professor, Japan Advanced Institute of Science and Technology
6	Development of an integrated magnetic sensor featuring a microwave-assisted nanoferrite-film for high-sensitivity magnetocardiographic measurement	Navakanta BHAT Professor, Indian Institute of Science (IISc)	Masahiro YAMAGUCHI Professor, Tohoku University

[C] Natural Systems: Life Sciences and Bioengineering

Sl.	Title of the Project	Indian PI	Japanese PI
1	Fundamental Study on Carotid Artery Stenting Using Numerical Simulation	Raghuvir PAI Professor, Manipal Academy of Higher Education	Masaaki TAMAGAWA Professor, Kyushu Institute of Technology
2	Anti-microbial peptide (LL37) loaded	Mohanan PARAYANTHARA V.	Ayako OYANE Senior Researcher,

	multifunctional 3D collagen scaffold for vascularized bone tissue regeneration	Scientist-G & Head, Toxicology Division, Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST) [Govt. of India]	National Institute of Advanced Industrial Science and Technology
3	Development of a biocompatible vehicle for sustained delivery of lactobacillus spores as a treatment modalities for Bacterial Vaginosis	J. PONMOZHI Associate Professor, Institute of Engineering & Science IPSA	Michiyo SUZUKI Principal Researcher, National Institutes for Quantum and Radiological Science and Technology
4	Role of gamma-delta T cells in patients with complicated malaria due to Plasmodium vivax	Sehgal RAKESH Professor and Head, Postgraduate Institute of Medical Education & Research	Shinichi INOUE Lecturer, Kyorin University
5	Methanogenic bioelectrode driven conversion of CO ₂ to CH ₄ to enhance methanogenesis and mitigation of greenhouse gas from agrowaste based bioenergy systems	Santosh Ranjan MOHANTY Principal Scientist, ICAR Indian Institute of Soil Science	Seiya TSUJIMURA Associate Professor, University of Tsukuba

[D] Astronomy, Space, Earth Systems and Sciences

Sl.	Title of the Project	Indian PI	Japanese PI
1	Study of fault architecture, deformation mechanisms and evolution of fault zone rocks with implications for seismicity in the upper and lower crust	Gautam GHOSH Professor, Presidency University	Junichi ANDO Professor, Hiroshima University
2	Large-scale mapping of massive star-forming regions in the far-infrared [CII] emission with a balloon-borne telescope	Devendra K OJHA Professor, Tata Institute of Fundamental Research (TIFR)	Hidehiro KANEDA Professor, Nagoya University
3	Long term variation of solar ultraviolet radiation investigated from the Japan-Indian integrated database of solar chromospheric images	Dipankar BANERJEE Professor, Indian Institute of Astrophysics	Ayumi ASAI Associate Professor, Kyoto University

[E] Mathematics and Computational Science

Sl.	Title of the Project	Indian PI	Japanese PI
1	Prediction, Detection and Monitoring System for Landslide in Hilly Regions	Vinay KUMAR Assistant Professor, National Institute of Technology Meghalaya	Masahiro FUJITA Professor, The University of Tokyo
2	Geometric Approximation Algorithms in Fixed Parameterised Time	Saket SAURABH Professor, The Institute of Mathematical Sciences	Yoshio OKAMOTO Professor, The University of Electro- Communications
3	Cryptanalytic study on Stream ciphers	Santanu SARKAR Associate Professor, Indian Institutes of Technology Madras	Takanori ISOBE Associate Professor, University of HYOGO

List of selected FY2019 Joint Workshops/Seminars**Fundamental Sciences: Physical and Chemical Systems**

Sl.	Title of the Workshop	Indian PI	Japanese PI
1	Frontiers in Molecular Spectroscopy: From Fundamentals to Applications in Chemistry and Biology	Amalendue CHANDRA Professor, Indian Institute of Technology, Kanpur	Keisuke TOMINAGA Professor, Kobe University

Materials and System Engineering: Man-made Systems

Sl.	Title of the Workshop	Indian PI	Japanese PI
1	Materials and Manufacturing for Next Generation Electric and High Speed Railway	Rajappa GNANAMOORTHY Professor, Indian Institute of Technology Madras	Masakazu OKAZAKI Professor, Nagaoka University of Technology
2	Development of Sustainable Environment/Energy Technologies in South India	Mohan DORAISWAMY Associate Dean (Research), Hindustan Institute of Technology & Science	Kazuho NAKAMURA Associate Professor, Yokohama National University