

**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 8<sup>th</sup> September, 2016. A total of 105 proposals (96 joint projects and 9 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 28 proposals (23 joint research projects and 5 workshops). Project coordinators are being informed separately to complete administrative formalities for release of DST grant.

**List of Projects:**

**[A] Fundamental Sciences: Physical and Chemical Systems**

<b>S. No.</b>	<b>Title of the Project</b>	<b>Indian PI</b>	<b>Japanese PI</b>
1	Development of ultrafast photo-functional materials by nano-scale and femtosecond structural dynamics	Pratik Sen Associate Professor, Indian Institute of Technology, Kanpur	Shin-YaKoshihara Professor, Tokyo Institute of Technology
2	Temporal Control over Supramolecular Polymerization	Subi Jacob George Associate Professor, Jawaharlal Nehru Centre for Advanced Scientific Research	Masayuki Takeuchi Group Leader, National Institute for Materials Science
3	Fabrication and characterization of magnetic impurity doped CuGaS <sub>2</sub> thin films for high efficiency intermediate band solar cell application	KalainathanSivaperuman Professor, Deputy Director (Centre for Crystal Growth), VIT University	Nazmul Ahsan ProjectAssociate Professor, The University of Tokyo

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

<b>S. No.</b>	<b>Title of the Project</b>	<b>Indian PI</b>	<b>Japanese PI</b>
1	Dynamics of Nonlinear Optical Micro cavities for On-Chip Quantum Photonic Applications	Shailendra Kumar Varshney Associate Professor, Indian Institute of Technology, Kharagpur	Kazuaki Sakoda, Managing Researcher, National Institute for Materials Science

2	Fabrication of carbonate apatite coated titanium implant	Than Ganapathy Pandian Sakthina, Associate Professor, Anna University	Kunio Ishikawa Professor, Kyushu University
3	Development of Micro-Nano Zinc Oxide Based Functional Devices	Nilesh Jayantilal Vasa Professor, Indian Institute of Technology Madras	Daisuke Nakamura, Associate Professor, Kyushu University
4	Dynamic behavior and low velocity transverse impact response of fluid-conveying functionally graded shells under mechanical and thermal loads	Amit Karmakar Associate Professor, Jadavpur University	Kazuaki Inaba Associate Professor, Tokyo Institute of Technology
5	Production and measurement of THz radiation at LUCX and DLS for promoting researches in Materials Science, Nanotechnologies, Molecular Physics	Subhendu Ghosh Scientist – G, Inter University Accelerator Centre	Masakazu Washio Professor, Waseda University
6	In-Process Monitoring of Stamping Process of a Thin Plate	Puneet Tandon Professor, PDPM Indian Institute of Information Technology, Designing & Manufacturing, Jabalpur	Masao Ishihama Professor, Kanagawa Institute of Technology
7	Development of Graphene-Metal/Semiconductor Nanocomposite based Smart Torque and Shear Sensors and their Applications	Konandur Rajanna Professor, Indian Institute of Science	Hidekuni Takao, Professor, Kagawa University

**[C] Natural Systems: Life Sciences and Bioengineering**

S. No.	Title of the Project	Indian PI	Japanese PI
1	In search of a missing piece: Understanding the kinetochore architecture of a human fungal pathogen that lost most evolutionarily conserved inner kinetochore proteins	Kaustuv Sanyal Associate Professor, Jawaharlal Nehru Centre for Advanced Scientific Research	Tatsuo Fukagawa Professor, Osaka University
2	Comprehensive understanding of cellular response to amyloid toxicity at molecular level	Deepak Kumar Sharma Senior Scientist, Institute of Microbial Technology	Hideki Taguchi Professor, Tokyo Institute of Technology
3	Development and In Vivo Evaluation of Multiscale Fibrous Scaffolds Having Controlled Molecular Mobility For Directed Bone Regeneration	Rangasamy Jayakumar Professor, Amrita Vishwa Vidyapeetham University	Sachiko Iseki Professor, Tokyo Medical and Dental University

4	Estimation of transport properties of blood modeled as a fluid-particulate mixture from experimental and theoretical approaches	IndranilSahaDalal Assistant Professor, Indian Institute of Technology Kanpur	Kazuya Tatsumi, Associate Professor, Kyoto University
5	Comprehensive omics studies on a versatile sphingomonad strain to establish theoretical basis for in situ bioremediation of recalcitrant environmental pollutants	Dayananda Siddavattam, Professor, University of Hyderabad	Yuji Nagata Associate Professor, Tohoku University
6	Investigating catalytic mechanism and regulation in Era and EngA; and their role in ribosome biogenesis	BalajiPrakash Professor, Indian Institute of Technology Kanpur	HyoutaHimeno Professor, National University Corporation Hirosaki University
7	Genomic and epigenomic characterization of 9p21 in intracranial aneurysm patients from two distinct ethnic population of the world	MoinakBanerjee Scientist F, Rajiv Gandhi Centre for Biotechnology	IturoInoue Professor, Research Organization of Information and Systems
8	Elucidation of the mechanisms of programmed cell death induced by fungal toxin and hydrogen peroxide in tobacco BY-2 cells and Physcomitrellaprotonemal cells	MaumitaBandyopadhyay Assistant Professor, University of Calcutta	Yuji Moriyasu, Professor,Saitama University
9	Characterizing role of large frugivores in seed dispersal networks: macaques and hornbills in Asia	SoumyaPrasad Assistant Professor, Jawaharlal Nehru University	ShumpeiKitamura Associate Professor, Ishikawa Prefectural University

**[D] Astronomy, Space, Earth Systems and Sciences**

<b>S. No.</b>	<b>Title of the Project</b>	<b>Indian PI</b>	<b>Japanese PI</b>
1	Adaptive snowpack parameters estimation and mapping by using SAR polarimetry and interferometry	DharmendraSingh Professor & Head, Indian Institute of Technology Roorkee	Akira Hirose Professor, The University of Tokyo
2	Investigation of Interstellar Polycyclic Aromatic Hydrocarbons (PAHs), pure and substituted: a combined approach	Amit Pathak Assistant Professor, Tezpur University	ItsukiSakon Assistant Professor, The University of Tokyo

### **[E] Mathematics and Computational Science**

<b>S. No.</b>	<b>Title of the Project</b>	<b>Indian PI</b>	<b>Japanese PI</b>
1.	Design Methodology for Programmable Microfluidic Devices by Integrating Architectural and Logic Synthesis Techniques	Sudip Roy Assistant Professor, Indian Institute of Technology Roorkee	Shigeru Yamashita Professor, Ritsumeikan University
2	Development of a pathological healthcare system for early detection of neurological gait abnormalities	AnupNandy, Assistant Professor, National Institute of Technology, Rourkela	GentianeVenture Associate Professor, Tokyo University of Agriculture and Technology

### **List of Workshops:**

#### **[A] Fundamental Sciences: Physical and Chemical Systems**

<b>S. No.</b>	<b>Title of the Workshop</b>	<b>Indian PI</b>	<b>Japanese PI</b>
1	Applications of Layered Materials: Advances and Perspectives	Swapan Kumar Pati Professor, Jawaharlal Nehru Center for Advanced Scientific Research	Michiko Kusunoki Professor, Nagoya University
2	New Insights into Multifunctional Catalysis for Biomass Transformations	Chandrashekar Vasant Rode Chief Scientist, National Chemical Laboratory	Masayuki Shirai Professor, Iwate University

#### **[C] Natural Systems: Life Sciences and Bioengineering**

<b>S. No.</b>	<b>Title of the Workshop</b>	<b>Indian PI</b>	<b>Japanese PI</b>
1	Future Perspective of Bioresource Industry in North Eastern Part of India	RamagopalUppaluri Professor, Indian Institute of Technology Guwahati	Akio Ebihara Associate Professor, Gifu University
2	International meeting on non-mammalian models in biomedical research: Current	Anirban Chakraborty Associate Professor, Nitte University	NaoyaKENMOCHI Professor, University of Miyazaki

	status and future perspectives		
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**[D] Astronomy, Space, Earth Systems and Sciences**

<b>S. No.</b>	<b>Title of the Workshop</b>	<b>Indian PI</b>	<b>Japanese PI</b>
1	Knowledge sharing workshop on adopting Water-Energy-Food Nexus Approach	Sudhindra Nath Panda Director, National Institute of Technical Teachers Training and Research	Makoto Taniguchi Professor, National Institutes for the Humanities