

Department of Science & Technology
International Division

**Indo-Italian Executive Programme of Scientific and Technological
Cooperation 2022 – 2024**

An Indo-Italian Joint call for proposals was advertised in February 2021. In total 13 eligible proposals for Network of Excellence; 227 proposals for Significant Research in 7 different areas and 76 proposals for Mobility of Researchers in five areas were received.

Based on scientific merit, national priority of both the countries, scientific strengths of the project coordinators and availability of funds, Department of Science & Technology, Govt. of India and Ministry of Foreign Affairs, Directorate General for Cultural and Economic Promotion and Innovation, Italy have provisionally agreed to support following :

- **2 Network of Excellence**
- **5 proposals for Significant Research**
- **13 mobility based proposals**

The duration of the selected project would be for 3 years. Project coordinators are being informed separately to complete administrative formalities for release of DST grant.

Network of Excellence

	Area	Title	Indian Coordinator	Italian Coordinator
1	Technologies applied to cultural and natural heritage TPN: 64388	Indo-Italian Centre of Excellence for Restoration and Assessment of Environmental Impacts on Cultural Heritage Monuments	Prof Mukesh Sharma, Indian Institute of Technology Kanpur	Prof. Alvise Benedetti, Ca' Foscari University of Venice
2	Biomedical Sciences TPN: 64267	Multi-Scale Brain Function India-Italy Network of Excellence MSBFIINE	Prof. Shyam Diwakar Mukundanunny, Amrita Mind Brain Center, Amrita Vishwa Vidyapeetham, Kollam	Prof. Giovanni Naldi, Universita degli Studi di Milano

Significant Research

1	Biomedical Sciences leading to communicable and non-communicable diseases TPN: 64085	Exploring the heterogeneity of systemic lupus patients based on autoantibodies distribution and multi-omics approaches compared in two ethnic cohorts	Dr. Dipyaman Ganguly, CSIR-Indian Institute of Chemical Biology, Kolkata	Dr. Roberto Lande, Istituto Superiore di Sanità (ISS) Viale Regina Elena, Rome (I)
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2	Environment: sustainable cities and circular economy, healthy and productive ocean/sea TPN: 63815	Biorefinery approach in recovering high value products from vegetable and fruit wastes under circular economy frame	Dr. Binod Parameswaran, CSIR-National Institute for Interdisciplinary Science and Technology, Thiruvananthapuram	Prof. Fabrizio Adani, Università degli studi di Milano, Milan
3	Physics of Matter and New Materials TPN: 64068	Access to the beamlines of the Elettra Synchrotron and of the FERMI free electron laser by the Indian Institutions	Prof. Jaydeep Kumar Basu, Indian Institute of Science Bangalore	Dr. Giorgio Paolucci, Elettra-Sincrotrone Trieste, Trieste
4	Renewable energies; climate change and geohazards TPN: 63553	Probabilistic floods and sediment transport forecasting in the Himalayas during the extreme events	Dr. Sumit Sen, Indian Institute of Technology Roorkee	Mrs. Silvia Barbetta, Research Institute of geo-Hydrological Protection IRPI of the National Research Council CNR, Perugia
5	Technologies applied to cultural and natural heritage TPN: 64029	Safety assessment and long-term ageing monitoring of heritage masonry structures using high-definition surveying, innovative inverse analysis and IoT	Prof. Siddhartha Ghosh, Indian Institute of Technology Bombay	Prof. Gabriele Milani, Politecnico di Milano, Milan

Exchange of Researchers

1	Information and Communication Technologies TPN: 63288	Photonic resonant structure based on hybrid silicon for resistive memory	Dr. Mukesh Kumar, Indian Institute of Technology, Indore	Prof. Caterina Ciminelli, Polytechnic University of Bari
2	Information and Communication Technologies TPN: 64169	Multimodal Explainability for Object Detection and Image processing in Drone Imagery	Dr. Rahee Walambe, Symbiosis Institute of Technology, Pune	Dr. Fabio Scotti, Università degli Studi di Milano
3	Information and Communication Technologies TPN: 64092	Modelling, Fabrication and Testing of MEMS based Hybrid Vibrational Energy Harvester having Segmented Electrodes and Storage	Dr. Koushik Guha, National Institute of Technology Silchar	Dr. Jacopo Iannacci, Fondazione Bruno Kessler FBK, Trento
4	Information and Communication Technologies TPN: 64189	Manageable AI for scene understanding tasks from low light noisy images	Dr. Jhilik, Thapar Institute of Engineering & Technology University, Patiala	Prof. Giovanni Ramponi, University of Trieste, Trieste

5	Information and Communication Technologies TPN: 64201	UAV air-corridor integration with cellular network	Prof. Swades De, Indian Institute of Technology Delhi	Prof. Claudio Casetti, Politecnico di Torino, Torino
6	Physics, Astrophysics, Space sciences TPN: 63673	The Role of Gaseous Halos in Galaxy Evolution	Prof. Sowgat Muzahid, Inter-University Centre for Astronomy & Astrophysics, Pune	Prof. Sebastiano Cantalupo, University of Milano-Bicocca, Milan
7	Physics, Astrophysics, Space sciences TPN: 63530	NU FEEDBACK Probing Nonlinear Feedback Effects in Flavor Transformations of Neutrinos from Dense Astrophysical Sources	Prof. Basudeb Dasgupta, Tata Institute of Fundamental Research, Mumbai	Prof. Alessandro Mirizzi, Università degli Studi di Bari, Bari
8	Physics, Astrophysics, Space sciences TPN: 64081	Simulating outflows from supermassive blackholes	Prof. Dipanjan Mukherjee, Inter-University Centre for Astronomy and Astrophysics, Pune	Prof. Paola Rossi, INAF - National Institute for Astrophysics, Torino
9	Physics, Astrophysics, Space sciences TPN: 64072	Combined experimental and theoretical approach towards the synthesis and characterization of novel metal-halide perovskites for photovoltaics and photocatalysis	Prof. D D Sarma, Indian Institute of Science, Bangalore	Prof. Filippo De Angelis, Università degli Studi di Perugia, Perugia
10	Physics, Astrophysics, Space sciences TPN: 64046	RELIC - Reconstructing Early and Late events In Cosmology	Dr. Dhiraj Kumar Hazra, The Institute of Mathematical Sciences, Chennai	Dr. Fabio Finelli, INAF Institute of National Astrophysics, Bologna
11	Physics, Astrophysics, Space sciences TPN: 64191	Genesis of organic molecules in the extra-terrestrial environment role of energetic radiation	Prof. Umesh Kadhane, Indian Institute of Space Science and Technology, Thiruvananthapuram	Dr. Lorenzo Avaldi, CNR- Istituto di Struttura della Materia, Rome
12	Physics, Astrophysics, Space sciences TPN: 64375	Development of Lead-Free Perovskite Solar Cells for Indoor Lighting A Green Solution for a Grey Problem FREE-SOLAR	Prof. Soumitra Satapathi, Indian Institute of Technology, Roorkee	Dr. Silvia COLELLA, Institute of Nanotechnology . National Research Council, Bari
13	Water Management TPN: 63863	Sustainable management of wastewater for fuel production and environmental remediation using cost-effective nanocatalyst.	Dr. Nainesh Patel, Christ University, Bengaluru	Dr. Michele Orlandi, University of Trento, Trento