

# DST-Inria-CNRS Targeted Programme

## Ongoing Projects

| S.No | Title of the Project   | Indian PI   | French PI   |
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| 1    | IoT software Testing using Timed Automata                              | Prof. B. Srivathsan,<br>Chennai Mathematical Institute,<br>Chennai                            | Dr. Igor Walukiewicz,<br>Bordeaux INP, Laboratoire Bordelais de<br>Recherche en Informatique (LaBRI), UMR<br>CNRS 5800, Talence   |
| 2    | Looking Beyond Backpropagation in Deep Learning                        | Dr. Angshul Majumdar,<br>Indraprastha Institute of Information<br>Technology, New Delhi       | Dr. Emilie Chouzenoux,<br>Laboratoire Informatique Gaspard Monge<br>(LIGM), UMR CNRS 8049, Université de<br>Paris-Est Marne-la-Vallée   |
| 3    | Modelling of Human Intention during Gait Rehabilitation                | Dr. Neelesh Kumar,<br>CSIR- Central Scientific Instruments<br>Organisation (CSIO), Chandigarh | Dr. Ahmed Chemori,<br>Laboratoire d'Informatique de Robotique et de<br>Microelectronique de Montpellier (LIRMM)<br>CNRS UMR 5506, University of Montpellier 2,<br>Montpellier |
| 4    | Machine Learning for Network Analytics                                 | Prof. Vivek S. Borkar,<br>Indian Institute of Technology, Bombay,<br>Mumbai                   | Dr. Konstantin Avrachenkov<br>Inria Sophia Antipolis, Sophia Antipolis  |
| 5    | Formal Verification of Autopilot Software for UAVs                     | Dr. Indranil Saha,<br>Indian Institute of Technology- Kanpur                                  | Dr. Goran Frehse,<br>Laboratoire Verimag<br>Université Grenoble Alpes,<br>Grenoble  |
| 6    | Games and Optimization for Energy Management with Stochasticity -GOEMS | Dr. Vikas Vikram Singh,<br>Indian Institute of Technology –Delhi,<br>New Delhi                | Dr. Abdel Lisser,<br>Laboratoire de Recherche en Informatique<br>(LRI) Université Paris Sud, Paris  |

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| 7 | Efficient Quantitative Verification                     | Dr. S. Akshay,<br>Indian Institute of Technology Bombay,<br>Mumbai  | Dr. Loïc Hérouët,<br>SUMO Team, Inria, Rennes   |
| 8 | FogCity: QoS-Aware Resource Management for Smart Cities | Dr. Sudip Misra,<br>Indian Institute of Technology-Kharagpur<br><br>Dr. Subhas C. Misra,<br>Indian Institute of Technology-Kanpur | Dr.Christine Morin,<br>Inria Rennes- Bretagne Atlantique,<br>Campus Universitaire de Beaulieu, Rennes |

### Completed Projects

| S.No. | Title of the Project                               | Indian PI  | French PI  |
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| 1     | Personalized Mobility Services for Urban Travelers | Dr. Pushpender Sigh,<br>Indraprastha Institute of Information Technology Delhi (IIIT) Delhi, New Delhi   | Dr. Animesh Pathak , Inria Rocquencourt / Dr.Rachit Agarwal  |
| 2     | Basal Ganglia at Large                             | Dr. Bapi Raju,<br>International Institute of Information Technology (IIIT)-Hyderabad/ University of Hyderabad<br><br>Dr. V. Srinivasa Chakravarthy,<br>Indian Institute of Technology- Madras, Chennai | Dr. Frédéric Alexandre,<br>Laboratoire Bordelais de Recherche en Informatique (LaBRI), UMR CNRS 5800, INRIA Bordeaux, Institute for Neurodegenerative Diseases (IMN) CNRS UMR 5293, Bordeaux |
| 3     | Algorithmic Verification of Real time systems      | Dr. S.Krishna,<br>Indian Institute of Technology Bombay, Mumbai  | Dr. Frédéric Herbreteau,<br>Institut Polytechnique de Bordeaux (IPB), Laboratoire Bordelais de Recherche en Informatique (LaBRI),CNRS UMR 5800, Talence                                      |

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| 4 | Optimal Inference in complex and turbulent data   | Dr. Dharmendra Singh,<br>Indian Institute of Technology -Roorkee   | Dr. Hussein Yahia,<br>GEOSTAT Team , Inria BSO, Talence  |
| 5 | Evolving Communities and Information Spreading  | Dr. Bivas Mitra,<br>Indian Institute of Technology- Kharagpur  | Dr. Jean Loup Guillaume,<br>Université de La Rochelle, Pôle Sciences et Technologie Laboratoire L3i, La Rochelle   |
| 6 | Post-stroke tele-neurorehabilitation using an operant conditioning paradigm under volitionally driven transcutaneous neuromuscular electrical stimulation | Dr. Uttma Lahiri,<br>Indian Institute of Technology-<br>Gandhinagar  | Dr. Anirban Dutta,<br>Inria -Sophia Antipolis, Montpellier   |
| 7 | Automated Verification of concurrent Software   | Prof. Madhav Mukund,<br>Chennai Mathematical Institute,<br>Chennai   | Dr. Ahmed Boujjani,<br>University Paris Diderot (Paris 7), and Institut Universitaire de France, Laboratoire d'Informatique Algorithmique Fondements et Applications (LIAFA), UMR CNRS 7089, Paris |
| 8 | A big data perspective for energy management in smart grids and dwelling.   | Prof. Ujjwal Maulik,<br>Jadavpur University, Kolkata<br><br>Prof. Sangmitra Bandhopadya<br>Indian Statistical Institute, Kolkata | Prof. Stephane Ploix ,<br>G-SCOP lab UMR CNRS 5272,<br>Grenoble INP, Grenoble  |
| 9 | Reflection Aware ICC Analysis Framework for Android Apps  | Dr. Vijay Laxmi/Dr. Manoj Singh Gaur,<br>Malaviya National Institute of<br>Technology, Jaipur                                    | Prof. Akka Zammari,<br>Laboratoire Bordelais de Recherche en Informatique (LaBRI),UMR CNRS 5800, Université de Bordeaux, Talence   |

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| 10 | Modelling and control of mobile cooperating bionic arms                         | Prof. Pushparaj Mani Pathak,<br>Indian Institute of Technology -Roorkee<br><br>Prof. A.K.Samantaray,<br>Indian Institute of Technology- Kharagpur | Prof. Rochdi Merzouki,<br>Ecole Polytechnique Universitaire de Lille,<br>Université de Lille1, Villeneuve d'Ascq |
| 11 | Study of Privacy, Accountability and Ownership in IoT                           | Dr. Manik Lal Das,<br>Dhirubhai Ambani Institute of<br>Information and Communication<br>Technology, Gandhinagar                                   | Dr. Lafourcade Pascal,<br>Univeristy Clermont Auvergne,<br>Clermont-Ferrand                                      |
| 12 | Polyhedral Compilation and Optimization for Data-Flow Programming Languages     | Prof. Uday Kumar Reddy Bondhugula,<br>Indian Institute of Science, Bengaluru  | Porf. Labert Cohen,<br>Ecole Polytechnique (PARKAS project Team)<br>Ecole Normale Supérieure, Paris              |
| 13 | Learning from BigData: First-Order methods for Kernels and Submodular functions | Prof. Chiranjib Bhattacharyya,<br>Indian Institute of Science,<br>Bengaluru   | Prof. Francis Bach,<br>SIERRA Project Team,<br>Inria- Rocquencourt, Paris  |