

1.7.1 Collaborative Activities


Sl. No.	Title of the collaborative activity	Name of the collaborating agency with contact details	Name of the participant	Year of collaboration	Duration	Nature of the activity	Link to the relevant document
1		Dr. Neha Mittal	12		IN PROCESS	KING'S COLLEGE LONDON, PATHOLOGY PROJECT	
2		Dr. Neha Mittal	15		IN PROCESS	SINDASAL TUMOURS CLASSIFIER	
3		Dr. Tanuja Shet	MALPANI BI, SINGH NEHA		1 YEAR	TIME PATTERN OF BRDGS AND BR-FLT UPTAKE IN A RABBIT MODEL OF CASEATING TUBERCULOUS LESION RADIATION MEDICINE CENTER	
4		Dr. Tanuja Shet	SWAPNA NABAR, RATNESH JAIN, VANDANA PATRAVALA		2 YEARS	BIODISTRIBUTION OF BRAIN TRARGETED NOVEL TCD9 LABELED ZOLMITRIPTAN MICELLAR NANO CARRIER.	
5		Dr. Tanuja Shet	SWAPNA NABAR, RATNESH JAIN, VANDANA PATRAVALA		2 YEARS	DEVELOPMENT OF AN INTERNASAL SPRAY FOR METHOTREXATE AND EFFICACY IN MUSE LEUKEMIA MODEL 2016	
6		Dr. Tanuja Shet	DR. PRASANNA LAB, SUDEEP GUPTA, ACTREC		2 YEARS	DESMOGLANIN AND MATRIPTASE IN BREAST CANCERS - RECURRENT TUMORS, SPECIAL TYPES OF BREAST CANCER	
7		Dr. Prakash Shetty	TMH AND IIT-B		2014-2019	PART OF COLLABORATIVE STUDY INVOLVING MENINGIOMA PROTEOMICS WITH IIT-BOMBAY	
8		Dr. Aliaagar Moyadi	DEPT OF BIOSCIENCE IIT		ONGOING SINCE 2014	COLLABORATION WITH IIT B ON PROTEOMIC STUDIES	
9		Dr. Aliaagar Moyadi	DEPT OF ROBOTICS AND REMOTE HANDLING		SINCE 2014 ONGOING	COLLABORATION WITH BARC	
10		Dr. Gagan Prakash	NIPRH		2 YEARS	RESEARCH	
11		Dr. Sudhir Nair	6		7 YEARS	MULTICENTER STUDY (ARREST STUDY)	
12		Dr. Jayita Deodhar	AS PRINCIPAL INVESTIGATOR		--	RESEARCH	
13		Dr. Jayita Deodhar	--		2018 MARCH TO 2019 JAN	PREVALENCE OF AND FACTORS ASSOCIATED WITH ANXIETY DISORDERS IN ADVANCE CANCER PATIENTS REFERRED FOR PALLIATIVE CARE	
14		Dr. Jayita Deodhar	--		2015-2019	ASSESSMENT OF PALLIATIVE CARE NEEDS IN GERIATRIC CANCER CARE SETTING USING A COMPREHENSIVE CANCER - SPECIFIC GERIATRIC ASSESSMENT TOOL AND EVALUATION OF THE FEASIBILITY OF UTILIZATION OF THE TOOL	
15		Dr. Jayita Deodhar	--		2015-2019	ADOLESCENTS WITH BONE AND SOFT TISSUE CANCER - EFFICACY OF PSYCHOSOCIAL INTERVENTIONS FOR PATIENTS AND THEIR SUBGROUPS	
16		Dr. Jayita Deodhar	--		ONGOING	UNDERSTANDING COPING SKILLS IN ADOLESCENT WITH ACUTE LYMPHOBLASTIC LEUKEMIA UNDERGOING CURATIVE TREATMENT - A PROSPECTIVE OBSERVATION STUDY	
17		Dr. Jayita Deodhar	--		2017-9 MONTHS	STANDARDS BASED DOCUMENTATION OF ASSESSMENT OF SPIRITUAL CONCERNS IN ADULT PATIENTS REFERRED TO PALLIATIVE CARE SERVICES	
18		Dr. Jayita Deodhar	--		2015-2017	KNOWLEDGE OF HOSPICE AND ATTITUDE TOWARDS HOSPICE ADMISSION IN PATIENTS WITH ADVANCED CANCER IN PALLIATIVE CARE SETTING IN THE INDIAN SOCIETY CONTEXT	



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19	Dr. Jayita Deodhar	--	2015-2017	STUDY OF RESILIENCE AND ITS RELATION WITH QUALITY OF LIFE IN CAREGIVERS OF PATIENTS WITH ADVANCED CANCER
20	Dr. Jayita Deodhar	--	2016-2017	STAFF SUPPORT GROUP IN AN ONCOLOGY SETTING IN A DEVELOPING COUNTRY A RETROSPECTIVE ANALYSIS OF STRUCTURE, PROCESS AND IMPACT
21	Dr. Vikas Ostwal	2 INSTITUTION	2 YEARS	COLLABORATION WITH AIMS NEW DELHI
22	Dr. Anant Ramaswamy	2 INSTITUTION	2 YEARS	COLLABORATION WITH AIMS NEW DELHI
23	Dr. Sudeep Gupta	Ethnic Research Initiative, USA & Tata Memorial Centre	28-Sep-2010 till date	Research - Project no. 802: "Case Control Observational Study of the Distribution of Breast Cancer Subtypes and Associated Clinical Features and Risk Factors among Women Diagnosed With the Breast Cancer presenting to three Urban Indian Hospitals".
24	Dr. Sudeep Gupta	Dr. Sovarna Khadikar, The Federation of Obstetric & Gynecological Societies of India (FOGSI) & Tata Memorial Centre	18-Dec-2014 till date	Research - Project no. 1339: "Risk factors in carcinoma breast: A questionnaire based FOGSI project of endocrinology and study of breast committees."
25	Dr. Sudeep Gupta	Tata Memorial Centre, Advanced Centre for Treatment Research and Education in Cancer (ACTREC), National Institute of Biomedical Genomics (NIBMG), National Centre for Cell Science (NCCS), Institute Of Bioinformatics, Bangalore (IOB)	12-May-2017 till date	Research - Project no. 239: "Multi-Omics Analysis to Decipher Mechanisms of Hormone Resistance in Breast Cancer"
26	Dr. Sudeep Gupta	Sanofi-Synthelabo (India) Limited & Tata Memorial Centre	09-Jan-2015 till date	Research - Project no. 351: "Mapping of Breast Cancer "Transitions" to identify the Underlying Biology of Tumor Progression using Next Generation Sequencing (NGS) Technologies"
27	Dr. Sudeep Gupta	Oncostem Diagnostics Private Limited & Tata Memorial centre	08-Sep-2014 to till date	Research - Project no. 1362: "Retrospective and anonymized study on breast tumors for identification of markers predictive of risk of recurrence".
28	Dr. Jyoti Bajpai	Memorial Sloan Kettering Cancer Center (MSKCC)	23 rd July-10 th Aug. 2018	International Observership Programme
29	Dr. Jyoti Bajpai	Leading Academic centres in India (TMC, AIIMS, IIT CMC Vellore, TMC Kolkata, CCRC Kochin)	Nov 2, 2018 (registration of Society)	General Secretary
30	Dr. Jyoti Bajpai	TMC NIRRH	2019 onwards	Research Proposal
31	Dr. Jyoti Bajpai	Roche	2016 onwards	Evaluation of VEGF expression of tumor cells as a potential prognostic marker in Ewing's sarcoma.
32	Dr. Jyoti Bajpai	Terry Fox	2017 onwards	"A Double Blind Randomized Controlled Trial of Renal Protective Effects of Normal Saline Plus Placebo Versus Normal Saline Plus Mannitol Prior to Cisplatin Containing Chemotherapy Regimens in Osteosarcoma and other Solid Tumors".




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33	Dr. Jyoti Bajpai	Wadia-TMC	2016 onwards	Pregnancy Associated Breast Cancer (PABC) Registry to collate data on epidemiology and treatment patterns & outcomes of PABC.
34	Dr. Jyoti Bajpai	Paxman Cooler	2016 onwards	Scalp Cooling for the prevention of chemotherapy induced alopecia in breast cancer from a tertiary care cancer centre in India.
35	Dr. Jyoti Bajpai	Novartis	2016 onwards	A Phase III randomized, double-blind, placebo-controlled study of LY2011 or placebo in combination with Tamoxifen and goserelin or a non-steroidal aromatase inhibitor (NSAI) and goserelin for the treatment of premenopausal women with hormone receptor positive, HER2-negative, advanced breast cancer.
36	Dr. Jyoti Bajpai	ES Lilly	2017 onwards	A Randomized, Double-Blind, Placebo-Controlled, Phase 3 Study to Compare NSAI (Anastrozole or Letrozole) plus Abemaciclib, a CDK4 and CDK6 inhibitor, or plus Placebo, and to Compare Fulvestrant plus Abemaciclib or plus Placebo in Postmenopausal Women with Hormone Receptor-Positive, HER2-Negative Locoregionally Recurrent or Metastatic Breast Cancer.
37	Dr. Poonam Joshi	FACULTY / STUDENTS	06.11.2016	CME
38	Dr. Shahshank Ojha	EVERY YEAR 2 MD STUDENTS FROM IEM MUMBAI, KMC MANIPAL AND 1 MD STUDENT EACH FROM KIMS NALGONDA AND MGM NAVI MUMBAI	15 DAYS POSTING FOR EACH STUDENT EVERY YEAR	MD STUDENT POSTING TO LEARN TRANSFUSION MEDICINE ASPECT IN BONE MARROW TRANSPLANTATION AT DEPT. OF TRANSFUSION MEDICINE, TMC
39	Dr. Shahshank Ojha	TATA MEMORIAL HOSPITAL & IIT BOMBAY	3 YEARS (01.12.2019 TILL DATE)	CO-INVESTIGATOR IN PROJECT TITLED "A PRECLINICAL TRANSLATION STUDY TO EVALUATED THE EFFICACY OF SCFV-CD28-CD3 CAR T CELLS MANUFACTURED FROM HEALTHY VOLUNTEERS AND PATIENTS WITH REAPSED/REFRACTORY ACUTE LYMPHOBLASTIC LEUKEMIA IN EX-VIVO SETTING
40	Dr. K P Dholam	TATA MEMORIAL CENTRE IN COLLABORATION WITH IIT	2 YEARS (2015-2016)	COLLABORATIVE RESEARCH PROJECT TITLED "DEVELOPMENT OF IMPROVED INDIGENOUS DENTAL IMPLANTS: PHASE 1 - IN VIVO STUDIES ON CELL RESPONSES / RAPID OSSEINTEGRATION OF ENDOSEOUS TITANIUM DENTAL IMPLANT WITH ELECTROSPUN PCL-GELATINE OSSTEINDUCTIVE SCAFFOLD IN RABBIT BONE MODEL"
41	Dr. Swapnil Rane	DR. AJIT SETHI, IIT BOMBAY	2016-ONGOING	COLLABORATION
42	Dr. Swapnil Rane	DR. ANAT MADABHUSHI CASE WETERIN UNIVERSITY USA	2019-ONGOING	COLLABORATION
43	Dr. Swapnil Rane	AIRA MATRIX, MUMBAI	2018-ONGOING	COLLABORATION
44	Dr. Priti D Desai	TMH AND IMMUCOR INDIA PVT LTD	6 MONTHS	RESEARCH PROJECT
45	Dr. Priti D Desai	TMH AND TERUMO PENPOL LTD	6 MONTHS	RESEARCH PROJECT
46	Dr. Rajiv	Cachar Cancer Centre, Silchar, Assam and TMH	3yrs	DBT funded research project for North East India



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47	Dr. Kumar Prabhash			2017-ongoing	Phase I Clinical trial of an oral therapeutic agent Bioplatin in patients with solid tumors refractory to conventional therapies and advanced metastatic tumors
48	Dr. Kumar Prabhash	2019- ongoing		2019- ongoing	Centre for advanced research and excellence in clinical pharmacology
49	Dr. Kumar Prabhash	2019- ongoing		2019- ongoing	a) Model-based approach for optimization of doxorubicin dose recommendations for pediatric malignancies
50	Dr. Kumar Prabhash	2019- ongoing		2019- ongoing	b) A randomized controlled trial of therapeutic monitoring based dosing strategy versus standard dosing strategy of sunitinib in metastatic renal cell carcinoma
51	Dr. Kumar Prabhash	2019- ongoing		2019- ongoing	c) Model based dosing of docetaxel in Indian elderly population with advanced cancers
52	Dr. Kumar Prabhash	2019- ongoing		2019- ongoing	d) To determine relative bioavailability of the proposed pediatric formulation of isotretinoin in adult volunteers
53	Dr. Kumar Prabhash	2019- ongoing		2019- ongoing	e) Bioequivalence of an oral mercaptopurine powder for oral suspension 50 mg/5 ml versus tablet in healthy male subjects under fasting conditions.
54	Dr. Kumar Prabhash	2019- ongoing		2019- ongoing	f) To study the pharmacokinetics of Nivolumab in Indian patients with solid tumors
55	Dr. Kumar Prabhash			2018-2021	To study the utility of Therapeutic drug monitoring of sunitinib in patients with metastatic Renal Cell Carcinoma
56	Dr. Kumar Prabhash			2019- ongoing	Pharmacogenetic study of commonly used anti-cancer drugs: Implication of ADME gene polymorphisms in the treatment of Indian cancer patients
57	Dr. Kumar Prabhash			2017-Ongoing	A comparative study to evaluate the effect of administering whole versus crushed solid oral dosages forms on PK of drugs in cancer patients
58	Dr. Kumar Prabhash			2017- ongoing	Development of a mathematical model to predict the occurrence of Hand Foot Skin Reaction requiring dose modification in patients with metastatic Renal Cell Carcinoma and unresectable Hepato Cellular Carcinoma
59	Dr. Kumar Prabhash			2012-ongoing	An Open label, Randomized, Investigator Initiated Multicentric, Phase III Study of Nimotuzumab in combination with Concurrent Radiotherapy and Cisplatin alone, in Subjects with Locally advanced Squamous Cell Carcinoma of the Head & Neck (SCCHN)
60	Dr. Kumar Prabhash				"Epidemiological Study to Evaluate the Prevalence of Epidermal Growth Factor Receptor (EGFR) Mutation Status in Non-Small Cell Lung Cancer (NSCLC) in India"



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61		Dr. Kumar Prabhash			2018-Ongoing	An observational multicentre, Prospective study to evaluate concordance of detecting EGFR mutation by circulating tumor free DNA versus tissue biopsy in NSCLC (CONCORDANCE)	
62		Dr. Jyoti Balpal	Memorial Sloan Kettering Cancer Center (MSKCC)		23rd July-10th Aug, 2018	International Observership Programme	
63		Dr. Jyoti Balpal	Leading Academic centres in India (TMC, AIIMS, IIT CMC Vellore, TMC, Kolkata, CCRC Kochin,		Nov 2, 2018 (registration of Society)	General Secretary	
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68		Dr. Jyoti Balpal	Faxman Cooler		2016 onwards	Scalp Cooling for the prevention of chemotherapy induced alopecia in breast cancer from a tertiary care cancer centre in India.	
69		Dr. Jyoti Balpal	Novartis		2016 onwards	A Phase III randomized, double-blind, placebo-controlled study of LE001 or placebo in combination with Tamoxifen and goserelin or a non-steroidal aromatase inhibitor (NSAI) and goserelin for the treatment of premenopausal women with hormone receptor positive, HER2 negative, advanced breast cancer.	
70		Dr. Jyoti Balpal	Eli Lilly		2017 onwards	A Randomized, Double-Blind, Placebo-Controlled, Phase 3 Study to Compare NSAI (Anastrozole or Letrozole) plus Abemaciclib, a CDK4 and CDK6 Inhibitor, or plus Placebo, and to Compare Fulvestrant plus Abemaciclib or plus Placebo in Postmenopausal Women with Hormone Receptor-Positive, HER2-Negative Locoregionally Recurrent or Metastatic Breast Cancer.	
71	Algorithms and Complexity of Algebraic problems	IMSc, & Saarland University, Germany	V Arvind and Meena Mahajan from IMSc, and Markus Bläser from Saarland University, Germany	2014-15	5 years beginning April 2011	The focus of this project is on algorithms and complexity theoretic questions for algebraic problems.	
72	Arithmetic circuits computing polynomials	IMSc & Univer sit Paris Diderot, Paris 7	Meena Mahajan from IMSc, and Guillaume Malod from Institut Mathématique de Jussieu, Université Paris Diderot, Paris 7.	2012-15	3 years beginning May 2012	To better understand arithmetic circuit computations of polynomials and related counting and enumeration complexity questions	



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73	Computational methods for identifying and analyzing design features of metabolic networks	IMSc & Max Planck Institute for Mathematics in the Sciences, Leipzig	Areejit Samal at IMSc and Jürgen Jost at Max Planck Institute for Mathematics in the Sciences, Leipzig	2014-15	4 years (2015-2018)	To develop improved methods for analyzing metabolic networks to address specific challenges in systems and synthetic biology
74	Correctness by Construction (CORCON)	IMSc & University of Leeds, UK.	Meena Mahajan from IMSc and Olaf Beyersdorff from the University of Leeds	2014-18	5 years beginning January 2014	
75	India-based Neutrino Observatory (INO)		D. Indumathi, Meghna K.K., Lakshmi S. Mohan, M.V.N. Murthy, Sumanta Pal, S. Rajasekaran, Nita Sinha and project assistant, TiruSenthil	2014-15	2000 – 2015 +	
76	Indo-EU program on Mathematics for Health and Disease	Leeds, UCL, Utrecht, Vigo, Comillas, UBC, LANL, WEHI and RSC, ... , Basel, Hamilton, MIT, University of Hyderabad, INCASR, IMSc and NII.		2014-15		To develop stochastic mathematical models of receptor-mediated processes in health and disease... Using evolutionary game theory, to characterise the genomic fluidity of human pathogens, in order to understand microbial pathogen evolution and what constitutes the boundary between commensal and pathogenic organisms, ... on pathogenic and molecular characterisation of HIV-1, and the distribution of virulence in intra-host HIV quasispecies
77	Indo-German research grant, Humboldt Foundation			2011-17	2011-2014, extended to 2014-2015	
78	ITRA Media Lab Asia Project on De-congesting India's transportation networks using mobile devices			2014-15		To develop algorithms and tools for traffic planning and management, using the mobile phone as a service platform
79	Mechanism of Active Intracellular Transport: Connecting Theory and Experiment			2014-15		To combine experimental investigations, using fluorescence microscopy, of the motion of vesicle in axons of touch neurons of <i>C. elegans</i> with theoretical models
80	Quantitative analysis of Mitochondrial positioning in <i>C. elegans</i> axons		Varuni Prabhakar along with Gautam Menon, of IMSc, & Sandhya Koushika of TIFR, Mumbai.	2014-15		
81	Algorithms and Complexity of Algebraic problems	IMSc, & Saarland University, Germany	V Arvind and Meena Mahajan from IMSc, and Markus Bramer from Saarland University, Germany	2011-16	5 years beginning April 2011	The focus of this project is on algorithms and complexity theoretic questions for algebraic problems;
82	An integrated omics approach for a systems-level understanding of the metabolic dynamics during fungal biomass degradation		J. Philipp Benz (TU Munich, Germany), N. Louise Glass (UC Berkeley, USA), Luis F. Larrondo (Chile), Chaoguang Tian (Chinese Academy of Sciences) and Areejit Samal (IMSc)	2015-16	2 years (2015-2017)	To characterize the metabolic network of the model cellulolytic filamentous fungus, <i>Neurospora crassa</i> .
83	CEIPRA Project Proposal No 5401-A Sums of Integers : Fourier Combinatorics computation		R. Balasubramanian as the principal investigator from the Indian side, & Jean Marc Deshouillers from the French side	2015-16	Three year project, from 2016.	
84	Computational methods for identifying and analyzing design features of metabolic networks	IMSc & Max Planck Institute for Mathematics in the Sciences, Leipzig	Areejit Samal at IMSc and Jürgen Jost at Max Planck Institute for Mathematics in the Sciences, Leipzig	2015-16	4 years (2015-2018)	To develop improved methods for analyzing metabolic networks to address specific challenges in systems and synthetic biology



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85	Correctness by Construction (CORCON)	IMSc & University of Leeds, UK	Meera Mahajan from IMSc and Olaf Beyersdorff from the University of Leeds	2015-16	5 years beginning January 2014	
86	Correlation between $\lambda W W$ and $t\theta$ coupling at the LHC			2015-16		correlation between Higgs couplings with weak gauge bosons and the top quark. To dig out from the Higgs' coupling, for search of 'New Physics'
87	India-EU program on Mathematics for Health and Disease	Leeds, UCL, Utrecht, Vigo, Comillas, UBC, LANL, WEHI and IISc, ... , Basel, Hamilton, MIT, University of Hyderabad, INCASR, IMSc and IIT		2015-16		To develop stochastic mathematical models of receptor-mediated processes in health and disease... Using evolutionary game theory, to characterise the genomic fluidity of human pathogens, in order to understand microbial pathogen evolution and what constitutes the boundary between commensal and pathogenic organisms, ... on pathogenic and molecular characterisation of HIV-1, and the distribution of virulence in intra-host HIV quasispecies
88	Exact Geometric Computation for Nonlinear Problems			2015-17		To devise new algorithms for some of the fundamental nonlinear problems such as finding roots of analytic functions, and computing arrangements of curves and surfaces. To develop practical algorithms with optimal guarantee on the worst case running time.
89	India-based Neutrino Observatory (INO)		D. Indumathi, Meghna K.K., Lakshmi S. Mohan, M.V.N. Murthy, Sumanta Pal, G. Rajasekaran, Nita Sinha and project assistant, TiruSenthil	2015-16	2000 - 2015 + ...	
90	Indo-German research grant, Humboldt Foundation			2015-16	2011-2014, currently on extension period	
91	ITRA- Media Lab Asia Project on De-congesting India's transportation networks using mobile devices			2015-16		This work is expected to shed new conceptual insights into the general problem of control of complex networks with strategic agents, by bringing together ideas from several technical disciplines
92	Mechanism of Active Intracellular Transport: Connecting Theory and Experiment			2015-16		To combine experimental investigations, using fluorescence microscopy, of the motion of vesicle in axons of touch neurons of <i>C. elegans</i> with theoretical models



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93	Quantitative analysis of Mitochondrial positioning in C. elegans axons		Varun Prabhakar along with Gautam Menon, of IMSc, & Sandhya Koushika of TIFR, Mumbai.	2015-16		Working on an image analysis algorithm to process the microscope images, in order to understand how mitochondria are positioned along axons of neurons over the development of the worm.	
94	Arecibo 327 MHz Drift Pulsar Survey (AO327)		This collaboration has total nine members, from different institutes across the world, e.g., Naval Research Laboratory USA, University of New Mexico USA, West Virginia University USA, IMSc India (Manjari Bagchi), Max Planck Institut für Radioastronomie Bonn Germany.	2016-17			http://www.naic.edu/deneva/drift-search
95	Automatic Presentation of Numbers (PAND - Pr'ésentation automatique des nombres)		Kamal Lodaya and Vikram Sharma of IMSc, & Prof. Didier Caucal and Dr. Antoine Meyer from Université Paris-Est at CNRS, Marne-La-Valle, France and Prof. Christian Delhomme, Prof. Marion Le-Gonidec, from University of Reunion, France.	2016-18		Automatic numbers are roughly represented as numbers whose nth bit position is accepted by a DFA. A breakthrough result shows that such numbers are either rational or irrational. We are interested in studying similar properties of numbers accepted by other automatic models, such as PGAs.	
96	CEIPRA Project Proposal No 5401-A Sums of Integers : Fourier Combinatorics computation		R. Balasubramanian as the principal investigator from the Indian side, & Jean Marc Deshouillers from the French side	2016-17	Three year project, from 2016.		
97	Correctness by Construction (CDBCON)	IMSc & University of Leeds, UK.	Meena Mahajan from IMSc and Olaf Beyersdorff from the University of Leeds	2016-17	5 years beginning January 2014		
98	Correlation between hWW and tth coupling at the LHC			2016-17		correlation between Higgs couplings with weak gauge bosons and the top quark. To dig out from the Higgs' coupling, for search of 'New Physics'	
99	Indian Pulsar Timing Array (InPTA) experiment		Project members are affiliated to NCRA/TIFR Pune, TIFR Mumbai, RAC TIFR Doty, ASTRON (The Netherlands), & IMSc Chennai (Manjari Bagchi, Dhruv Pathak)	2016-17		PTA uses an ensemble of pulsar clocks in an attempt to detect Gravitational Waves (GW) from a stochastic background resulting from a superposition of an ensemble of super-massive black hole binary systems (BSMBH)	
100	Indo-German research grant, Humboldt Foundation		V. Arvind as project leader and some PhD students of IMSc) and Humboldt University, Berlin (with Johannes Koebler and students)	2016-17	2011-2014, + extension		
101	ITIA Media Lab Asia Project on De-congesting India's transportation networks using mobile devices			2016-17		The first focus area deals with the problem of estimating mobile phone densities to measure prevailing congestion and traffic patterns. The second focus area involves developing algorithms for traffic routing, control and prediction, based on the estimated congestion. The proposed work has enormous potential for applications, such as dynamic route planning, peak hour rush control, routing of emergency vehicles to and from disaster affected areas, evacuation planning, and traffic prediction. This work is expected to shed new conceptual insights into the general problem of control of complex networks with strategic agents by bringing together ideas from several technical disciplines.	



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102	Modeling Soft Glass flow from micro to macro scale (CEFIPRA Project No 5604-1)		Pinaki Chaudhuri, IMSc, and Dr. Kirsten Martens, Laboratoire Interdisciplinaire de Physique, Universit Grenoble Alpes, Grenoble,	2016-17	3 years from December 2016.	To understand the complex dynamical features during the yielding and subsequent flow of dense soft disordered materials, via a multi-scale approach, using computational and analytic techniques.	
103	Survey for Pulsars and Fast Transients with the upgraded GMRT : A Pilot Study		20 Members in collaboration & they are affiliated to NCRA-TIFR Pune, IMSc Chennai (Manjari Bagchi) SINP Kolkata, IUCAA Pune, RRI Bangalore, NISER Bhubaneswar, University of California Berkeley (USA), TIFR Mumbai, ASTRON (The Netherlands), CRA Saclay (France), IIT, Kharagpur, PRL, Ahmedabad, and IIT-Rourkha GMRT is operated by NCRA-TIFR, Pune	2016-17			
104	Towards precision pulsar timing with the uGMRT		This is a eight member team from NCRA-TIFR Pune, TIFR Mumbai, IMSc Chennai, and ASTRON (The Netherlands).	2016-17		To test the capacity of upgraded GMRT (uGMRT) to study millisecond pulsars (MSPs), 19 MSPs are being monitored and timed	
105	Exact Geometry Computation		The principal investigator from the Indian side is Vikram Sharma, and from the German side Michael Sagraloff.	2016-17		To devise exact algorithms for nonlinear problems in computational geometry, such as finding roots of polynomials and analytic functions, isotopic approximation of curves	
106	Arecibo 327 MHz Drift Pulsar Survey (AO327)		This collaboration has total nine members, from different institutes across the world, e.g., Naval Research Laboratory USA, University of New Mexico USA, West Virginia University USA, IMSc India (Manjari Bagchi), Max-Planck-Institut für Radioastronomie Bonn Germany.	2017-18			http://www.naic.edu/deneva/drift-search
107	Automatic Presentation of Numbers (PAND - Pr'esentation automatique des nombres)		Kamal Lodaya and Vikram Sharma of IMSc, & Prof. Didier Caucal and Dr. Antoine Meyer from Universit Paris-Est et CNRS, Marne-La-Vall'e, France and Prof. Christian Delhomme, Prof. Marion Le-Gonidec, from University of Reunion, France.	2017-18		Automatic numbers are roughly represented as numbers whose nth bit position is accepted by a DFA. A breakthrough result shows that such numbers are either rational or irrational. We are interested in studying similar properties of numbers accepted by other automatic models, such as PDAs	
108	Correctness by Construction (CORCON)	IMSc & University of Leeds, UK.	Meena Mahajan from IMSc and Olaf Beyersdorff from the University of Leeds	2017-18	5 years beginning January 2014		




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109	Indian Pulsar Timing Array (InPTA) experiment		Project members are affiliated to NCRATIFR Pune, TIFR Mumbai, RAC TIFR Doty, ASTRON (The Netherlands), & IMSC Chennai (Manjari Bagchi, Dhruv Pathak)	2017-18		PTA uses an ensemble of pulsar clocks in an attempt to detect Gravitational Waves (GW) from a stochastic background resulting from a superposition of an ensemble of super-massive black hole binary systems (BSMBH)
110	Indo-U.S Joint R&D Networked Joint Center Programme: Emergence and Re-modeling of force chains in soft and Biological Matter		This project involves partners at Jawaharalal Nehru Centre for Advanced Scientific Research, Bengaluru, India, (Srikant Sastry), Brandeis University, Waltham, MA, USA, (Bulbul Chakraborty), National Centre for Biological Sciences, Bengaluru, (Madan Rao), Institute of Mathematical Sciences, Chennai, (Pinaki Chaudhuri) and Northeastern University, Boston, (Dapeng Bi)	2017-18		To pursue theoretical and computational research on the localization of pathways by which stress propagates in disordered, soft matter and biological systems, and their implications for the propagation of dynamical correlations, and information, in these systems, and in the latter context, their implications for biological function
111	ITRA-Media Lab Asia Project on 'De-congesting India's transportation networks using mobile devices			2017-18		This work is expected to shed new conceptual insights into the general problem of control of complex networks with strategic agents, by bringing together ideas from several technical disciplines
112	Max Planck Partner Group in Mathematical Biology		... of IMSC, in collaboration with Prof. Jürgen Jost, our partner and host in MPIMIS Leipzig	2017-18		We are employing concepts from geometry to develop and apply methods based on edges rather than nodes in graphs for differential or comparative analysis of condition-specific biological networks. We are developing general methods that can compare condition-specific networks irrespective of their mathematical representation, and thus, will be applicable to labeled or unlabeled graphs, unweighted or weighted graphs, and undirected or directed graphs
113	Mechanism of Active Intracellular Transport: Connecting Theory and Experiment			2017-18		To combine experimental investigations, using fluorescence microscopy, of the motion of vesicle in axons of touch neurons of <i>C. elegans</i> with theoretical models
114	Mechanobiology of cell adhesion and cytoskeleton under dynamic shear			2017-18		To explore the differences in cell adhesions, contractility and morphology in response to variations in the mechanical milieu.
115	Modeling Soft Glass flow from micro to macro scale (CEFIPRA Project No 5604-1)		Pinaki Chaudhuri, IMSC, and Dr. Kirsten Martens, Laboratoire Interdisciplinaire de Physique, Université Grenoble Alpes, Grenoble,	2017-18	3 years from December 2016.	To understand the complex dynamical features during the yielding and subsequent flow of dense soft disordered materials, via a multi-scale approach, using computational and analytic techniques.




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116	Automatic Presentation of Numbers [PAND - Pr'esentation automatique des nombres]	Kamal Lodaya and Vikram Sharma of IMSc, & Prof. Didier Caucal and Dr. Antoine Meyer from Universit Paris-Est et CNRS, Marne-La-Valle, France and Prof. Christian Delhomme, Prof. Marion Le-Gonidec, from University of Reunion, France	2017-18	Automatic numbers are roughly represented as numbers whose nth bit position is accepted by a DFA. A breakthrough result shows that such numbers are either rational or irrational. We are interested in studying similar properties of numbers accepted by other automatic models, such as PDAs
117	Quantitative analysis of Mitochondrial positioning in C. elegans axons	Varuni Prabhakar along with Gautam Menon, of IMSc, & Sandhya Koushika of TIFR, Mumbai.	2017-18	Working on an image analysis algorithm to process the microscope images, in order to understand how mitochondria are positioned along axons of neurons over the development of the worm.
118	Survey for Pulsars and Fast Transients with the upgraded GMRT - A Pilot Study	20 Members in collaboration & they are affiliated to NCRA-TIFR Pune, IMSc Chennai (Manjari Bagchi) SINP Kolkata, IUCAA Pune, RFI-Bangalore, NISER Bhubaneswar, University of California Berkeley (USA), TIFR Mumbai, ASTRON (The Netherlands), CEA Saclay (France), IIT -Kharagpur, PRL Ahmedabad, and IIT-Roorkee GMRT is operated by NCRA-TIFR, Pune	2017-18	
119	Towards precision pulsar timing with the uGMRT	This is a eight member team from NCRA-TIFR Pune, TIFR Mumbai, IMSc Chennai, and ASTRON (The Netherlands).	2017-18	To test the capacity of upgraded GMRT (uGMRT) to study millisecond pulsars (MSPs), 19 MSPs are being monitored and timed
120	Indian Pulsar Timing Array (InPTA) experiment	Project members are affiliated to NCRA/TIFR Pune, TIFR Mumbai, RAC TIFR Doty, ASTRON (The Netherlands), & IMSc Chennai (Manjari Bagchi, Dhruv Pathak)	2018-19	PTA uses an ensemble of pulsar clocks in an attempt to detect Gravitational Waves (GW) from a stochastic background resulting from a superposition of an ensemble of super-massive black hole binary systems (BSMBH)
121	Indo-U.S Joint R&D Networked Joint Center Programme: Emergence and Re-modeling of force chains in soft and Biological Matter	This project involves partners at Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru, India, (Srikanth Sastry), Brandeis University, Waltham, MA, USA, (Bulbul Chakraborty), National Centre for Biological Sciences, Bengaluru, (Madan Rao), Institut z of Mathematical Sciences, Chennai, (Pinaki Chaudhuri) and Northeastern University, Boston, (Dapeng Bi)	2018-19	To pursue theoretical and computational research on the localization of pathways by which stress propagates in disordered, soft matter and biological systems, and their implications for the propagation of dynamical correlations, and information, in these systems, and in the latter context, their implications for biological function




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	Max Planck Partner Group in Mathematical Biology		... of IMSc. In collaboration with Prof. F. von Steiger, our partner and host in MPIMS Leipzig	2018-19		We are employing concepts from geometry to develop and apply methods based on edges rather than nodes in graphs for differential or comparative analysis of condition-specific biological networks. We are developing general methods that can compare condition-specific networks (irrespective of their mathematical representation, and thus, will be applicable to labeled or unlabeled graphs, unweighted or weighted graphs, undirected or directed graphs.	
122	Mechanism of Active Intracellular Transport: Connecting Theory and Experiment			2018-19		To combine experimental investigations, using fluorescence microscopy, of the motion of vesicle in axons of touch neurons of <i>C. elegans</i> with theoretical models	
123	Modeling Soft Glass flow from micro to macro scale (CEIPRA Project No 5604-1)		Pinaki Chaudhuri, IMSc, and Dr. Kirsten Martens, Laboratoire Interdisciplinaire de Physique, Université Grenoble Alpes, Grenoble,	2018-19	3 years from December 2016.	To understand the complex dynamical features during the yielding and subsequent flow of dense soft disordered materials, via a multi-scale approach, using computational and analytic techniques.	
124	Representation Zeta Functions		Amritanshu Prasad, IMSc (7), IISc Bangalore, and the Australian National University, Canberra	2018-19		Scheme for Promotion of Academic and Research Collaboration project in collaboration with IISc Bangalore, and the Australian National University, Canberra.	
125	Size Matters: Predicting personalized risk of SGA] part of "Grand Challenges India: Maternal and Child Health", funded by BIRAC, DBT and IIT and Melinda Gates Foundation]		Investigators are Leelavati Narlikar of CSIR-NCL Pune (PI), Gautam Menon and Rahul Siddharthan of IMSc, all of whom bring modelling and machine-learning expertise; and Uma Ram of Seethapathy Clinic, Chennai, and P Sarevanan of University of Warwick, UK, who are both medical professionals	2018-19	An 18-month project	An initiative to build models to predict the risk of babies being born "small for gestational age" (SGA)	
126	Survey for Pulsars and Fast Transients with the upgraded GMRT : A Pilot Study		20 Members in collaboration & they are affiliated to NCRA-TIFR Pune, IMSc Chennai (Manjiv Bhagti) STP Kolkata, IUCAA Pune, RRI Bangalore, NISER Bhubaneswar, University of California Berkeley (USA), TIFR Mumbai, ASTRON (The Netherlands), CEA Saclay (France), IIT-Kharagpur, PRL Ahmedabad, and IIT-Bombay GMRT is operated by NCRA-TIFR, Pune.	2018-19			
127							




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TATA MEMORIAL HOSPITAL

AA No. 1013166

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Annexure-II

Ref:

August 7, 2020

The list of collaborative activities with other institutions/ research establishment/industry for research and academic development of faculty and students per year during the last five years in respect of Tata Memorial Centre (name of the institute), a Constituent Institution/ Off Campus Centre of HBNI is enclosed herewith.


Director/ Registrar

(Signature)

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Encl: As above

Seal



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Cancer is curable, if detected early.

Website : <https://tmc.gov.in>

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