

**ANNUAL REPORT 2016-2017**  
**DEPARTMENT OF MATHEMATICS**

**1. Introduction:**

The Department of Mathematics was established in 1959 along with the institute. It offers the M.Sc. programme in Mathematics, the M.Tech. programme in Industrial Mathematics and Scientific Computing [IMSC] and the Ph.D. programme. In addition, the department has taken the responsibility of teaching mathematics courses to B.Tech., M.Tech. (other than IMSC), M.Sc. and Ph.D. students of the institute.

**The major research areas of the department are the following:**

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| <ol style="list-style-type: none"> <li>1. Algebraic Combinatorics</li> <li>2. Algebraic Geometry</li> <li>3. Algebraic Topology</li> <li>4. Applied Probability</li> <li>5. Approximation Theory</li> <li>6. Category Theory</li> <li>7. Combinatorial Optimization</li> <li>8. Combinatorics</li> <li>9. Combinatorics of Words</li> <li>10. Commutative Algebra</li> <li>11. Complex Analysis</li> <li>12. Conformal Geometry</li> <li>13. Contact and Symplectic Topology</li> <li>14. Convective Heat &amp; Mass Transfer</li> <li>15. Computational Fluid Dynamics</li> <li>16. Computational Number Theory</li> <li>17. Cryptology</li> <li>18. Differential and Integral Equations</li> <li>19. Differential Topology</li> <li>20. Fixed Point Theory</li> <li>21. Fluid Mechanics</li> <li>22. Functional Analysis</li> <li>23. Fractals</li> <li>24. Game Theory</li> <li>25. Graph Algorithms</li> </ol> | <ol style="list-style-type: none"> <li>26. Graph Theory</li> <li>27. Harmonic Analysis</li> <li>28. Inverse and Ill-Posed Problems</li> <li>29. Linear Algebra</li> <li>30. Low dimensional Topology</li> <li>31. Mathematical Modeling</li> <li>32. Mathematical Study of Ferromagnetic Networks</li> <li>33. Nonlinear Analysis</li> <li>34. Nonlinear Analysis of Functional Differential Equations</li> <li>35. Nonlinear Differential Equations</li> <li>36. Number Theory</li> <li>37. Operator Algebras</li> <li>38. Operator Equations</li> <li>39. Operator Theory</li> <li>40. Optimization</li> <li>41. Partial Differential Equations</li> <li>42. PDE Numerics</li> <li>43. Solid Mechanics</li> <li>44. Special Functions</li> <li>45. Systems and Control Theory</li> <li>46. Theory of Codes</li> <li>47. Theory of Computation</li> <li>48. Theory of Wavelets</li> <li>49. Time Frequency Analysis</li> <li>50. Wave Structure Interactions</li> </ol> |
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**2. Academic Programmes:**

**2.1 New discipline/branch introduced: -Nil-**

**2.2 New courses introduced**

Sl.No	Course No	Title
1	MA 7654	Algebraic Combinatorics
2	MA5440	Combinatorics and Number Theory
3	MA6420	Algebraic Theory of Codes and Automata
4	MA7040	Advanced Probability Theory

**2.3 New lab(s) established: -Nil-**

**2.4 Students on roll as of September 2016+ Ph.D admission in January 2017:**

Programme	Number of Students
M.Sc.	99
M.Tech.	20
Ph.D.	100
Total	219

## 2.5 Endowment prize instituted:

Sl.No	Endowment Prize	Purpose	To be awarded from
1	Smt. Lakshmikutty Amma and Shri A.Krishnankutty Nair Prize- instituted by Retired Proferssor Dr. P.Achuthan Dr. Sukhendhu Ghosh Ph.D scholar under supervision Prof. R.Usha, and Dr. Asrifa Sultana Ph.D scholar under supervision of Prof.V.Vetrivel received the award for the year 2016	For the best Ph.D thesis in mathematics	From the 2013 Convocation

## 2.6 Names of Student/Scholar who attended Conferences/ /Seminars and Symposia Abroad/India:

Sl. No.	Name of the Research Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop and Venue	Date	Financial Assistant
<b>Abroad</b>					
1	Mr. Amit Kumar	MA13D015	Presented a paper titled 'Pseudo binomial approximation to (L1)-Runs' in the "International Conference on Computational Physics, Mathematics and its Application" at Tokyo, Japan	06.11.2016 to 09.11.2016	Institute
2	Ms. Sukhla Adak	MA11D022	Presented a paper titled 'Tikhonov regularization of a singularly perturbed two-point boundary value problem' in the "11 <sup>th</sup> AIMS conference on Dynamical Systems, differential Equations and Applicatis" at Onlando, Florida, USA	30.06.2016 to 08.07.2016	Institute
<b>India</b>					
Sl. No.	Name of the Research Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop and Venue	Date	Financial Assistant
1	Mr .Ajoy Jana	MA14D001	Attended the workshop on "Inverse and Control Problems" at IISER, Thiruvananthapuram	14.05.2016 to 29.05.2016	--
			Presented a paper titled 'Truncated spectral regularization method for source identification in an abstract cauchy problem' in the "International Conference on Mathematical Analysis and its applications" at IIT Roorkee	25.11.2016 to 07.12.2016	--
2	Mr. Amit Kumar Singh	MA14D008	Attended the workshop on "K-theory and its applications" at ISI, Bangalore	26.12.2016 to 07.01.2017	--
3	Ms. Arati Shashi	MA14D009	Attended the International conference on "Fourier analysis and wavelets" at Ramanujan Institute, Chennai	21.03.2017 to 25.03.2017	--

4	Mr. Arvind Kumar	MA16D012	Attended the workshop on "IST-2016 Commulative Algebra" at Bhaskar Charya Pratisthana, Pune	26.11.2016 to 12.12.2016	--
5	Mr. K. Ashok Kumar	MA15D027	Attended the Training programme on "NPDE" at BITS-PILANI, Hyderabad	23.05.2016 to 15.06.2016	--
6	Mr. Bivas Khan	MA14D010	Attended the workshop on "K-theory and its applications" at ISI, Bangalore	26.12.2016 to 06.01.2017	--
			Attended the workshop on "Seshadri constants" at CMI, Chennai	30.01.2017 to 10.02.2017	--
7	Mr. Debabrata De	MA15D001	Attended the workshop on "Recent advances in operator theory and operator algebra" at ISI, Bangalore	12.12.2016 to 23.12.2016	--
8	Mr. Devindra Pratap Singh	MA15D018	Attended the workshop on "Advanced summer school on Hyperbolic Conservation Laws" at IIFR-CAM, Bangalore	15.05.2016 to 05.06.2016	--
9	Ms. Geetanjali Chattopadhyay	MA13D017	Research collaboration with Prof.K.C.Sahu, Dept., of Chemical Engineering, IIT Hyderabad	27.07.2016 to 30.07.2016	--
			Research collaboration with Dr. K.C.Saha, IIT Hyderabad	05.11.2016 to 13.11.2016	--
			Presented a paper titled 'Inviscid instability of a shear flow in presence of a wall' in the International conference on "Applications of mathematics in topological dynamics, physical, biological and chemical systems" at Calcutta Mathematical Society	07.12.2016 to 14.12.2016	--
10	Mr. Gopal Dutta	MA14D011	Presented a paper titled 'Proximal normal structure' in the "82 <sup>nd</sup> Annual conference of the Indian Mathematical society" at University of Kalyani, West Bengal	26.12.2016 to 02.01.2017	--
11	Ms. Hingu Dharini Ramesh	MA13D002	Presented a paper titled 'On superiority and weak stability of population states' in the "Symposium on mathematical programming and game theory" at ISI, Delhi	08.01.2017 to 12.01.2017	--
12	Ms. Jyoti Dasgupta	MA14D012	Attended the workshop on "K-theory and its applications" at ISI, Bangalore	26.12.2016 to 06.01.2017	--
13	Mr. Komandla Mahipal Reddy	MA13D003	Presented a paper titled 'Data visualization by rational fractal function based on function values' in the "International Conference on Mathematical Analysis and its applications" at IIT Roorkee	28.11.2016 to 05.12.2016	--

			Presented a paper titled 'Constrained data visualization using rational Bi-cubic fractal functions' in the International conference on "Mathematics and computing" at Haldia Institute of Technology, Haldia	16.01.2017 to 21.01.2017	--
14	Mr. Kuntal Som	MA15D019	Attended the workshop on "Advanced summer school on Hyperbolic Conservation Laws" at IIFR-CAM, Bangalore	15.05.2016 to 05.06.2016	--
			Attended the workshop on "Advanced International school of Mathematical Programming" at Central University of Tamil Nadu, Tiruvarur	04.07.2016 to 08.07.2016	--
15	Mr. Nirjan Biswas	MA15D017	Attended the Training programme on "NPDE" at BITS-PILANI, Hyderabad	23.05.2016 to 15.06.2016	--
16	Mr. Palpandi	MA14D015	Attended the workshop on "Matrix Analysis" at Shiv Nadar University, Noida	30.04.2016 to 22.05.2016	--
17	Ms. Poorna Pushkala	MA13D008	Attended the workshop on "Seshadri constants" at CMI, Chennai	30.01.2017 to 10.02.2017	--
18	Mr. Pradyut Karmakar	MA16D005	Attended the workshop on "Recent advances in operator theory and operator algebra" at ISI Bangalore	12.12.2016 to 23.12.2016	--
19	Mr. Priyabrata Mandal	MA16D011	Attended the workshop on "Algebraic structures of manifold" at Kolkata	11.12.2016 to 24.12.2016	--
			Attended the workshop on "K-theory and its applications" at ISI, Bangalore	25.12.2016 to 18.01.2017	--
20	Mr. Rahul Kumar	MA15D015	Attended the workshop on "Recent advances in operator theory and operator algebras" at ISI, Bangalore	12.12.2016 to 23.12.2016	--
21	Ms. Raisa Dsouza	MA13D005	Attended the workshop on "K-theory and its applications" at ISI, Bangalore	24.12.2016 to 08.01.2017	--
22	Mr. Samir Kar	MA15D004	Attended the "82 <sup>nd</sup> Annual conference of the Indian mathematical society" at University of Kalyani, West Bengal	26.12.2016 to 03.01.2017	--
23	Ms. Sangita Jha	MA14D017	Presented a paper titled 'Parameter identification of constrained data by a new class of rational fractal function' in the "3 <sup>rd</sup> International conference on mathematics and computing" at Haldia Institute of Technology, India	18.01.2017 to 23.01.2017	--
24	Mr. Sanjeev Singh	MA12D004	Presented a paper titled 'Turan type inequalities for some special functions' in the "International Conference on Mathematical Analysis and its applications" at IIT Roorkee	25.11.2016 to 03.12.2016	--
25	Mr. Santi Ranjan Das	MA14D202	Attended the International conference on "Fourier analysis and wavelets" at Ramanujan Institute, Chennai	21.03.2017 to 25.03.2017	--

26	Mr. Sarvesh Kumar	MA13D023	Attended the International conference on "Fourier analysis and wavelets" at Ramanujan Institute, Chennai	21.03.2017 to 25.03.2017	--
27	Mr. S.Selvaraja	MA13D024	Presented a paper titled 'Characterization of Cohen-Macaulay edge ideals whose height is half of the number of vertices' in the "International conference of the Indian mathematics consortium" at Banaras Hindu University	13.12.2016 to 18.12.2016	--
28	Ms. Soumitra Dey	MA15D020	Attended the workshop on "Advanced International school of Mathematical Programming" at Central University of Tamil Nadu, Tiruvarur	04.07.2016 to 08.07.2016	--
29	Mr. Subhajt Chanda	MA15D022	Attended the workshop on "K-theory and its applications" at ISI, Bangalore	25.12.2016 to 08.01.2017	--
			Attended the workshop on "Seshadri constants" at CMI, Chennai	30.01.2017 to 10.02.2017	--
30	Mr. Subhasis Panda	MA15D028	Attended the workshop on "Advanced topics on Discrete Logarithms on Finite Fields and Elliptic Curves" at ISI, Delhi	22.07.2016 to 24.07.2016	--
31	Ms. P. Susmitha	MA16D007	Attended the workshop on "Annual foundation school-I" at Thiruvananthapuram	03.12.2016 to 01.01.2017	--
32	Mr. Tapabrata Roy	MA15D025	Attended International seminar on "Algebra and coding theory (INSACT 2017)" at St. Berchmans College, Kerala	08.02.2017 to 11.02.2017	--
33	Mr. Vijaya Kumar	MA16D031	Attended the National workshop on "Functional Analysis and its Applications" at BDU, Trichy	09.03.2017 to 10.03.2017	--

**2.7 Names of students/scholars who won outside prizes and awards:-Nil-**

**2.8 Name of Students/Scholars who won Institute Convocation/Institute Day Prize:**

SI.No.	Name of the Student/Scholar	Roll No.	Name of Prizes	Name of Donor
1	Mr. Ajoy Jana	MA14D001	Institute Research Award	Institute
2	Mr. Projesh Nath Choudhury	MA14D005	Institute Research Award	Institute

3	Ms. Rimpa Mondal	MA15M011	Dr. N Seshagiri-NIC Prize	Institute
			LVKV Sarma Prize	Institute
5	Ms. Sahiba Arora	MA15C037	Geetha Raghupathy Prize	Institute
			LVKV Sarma Prize	Institute

### 3. Faculty and their activities:

#### 3.1. Faculty:

Name and Qualifications	Major area of specialization (only 3 areas)
<b>PROFESSORS:</b>	
Prof. Arindama Singh, Ph.D. (IIT Kanpur)	Logic, Numerical Analysis
Prof.S.H.Kulkarni, Ph.D. (IIT Bombay)	Functional Analysis, Numerical Analysis
Prof. S. Ponnusamy ,Ph.D. (IIT Kanpur)	Complex Analysis, Function Spaces, Special functions and Conformal Geometry
Prof. R. Radha, Ph.D. (IMSC Chennai)	Harmonic Analysis, Wavelets, Time-Frequency Analysis
Prof. R. Rama, Ph.D. (Anna University)	Formal Language & Automata Theory / Molecular computing
Prof. Y.V.S.S.Sanyasiraju, Ph.D. (IIT Madras)	Computational Fluid Dynamics
Prof. Satyajit Roy, Ph.D. (IISc. Bangalore)	Convective Heat and Mass Transfer, Computational Fluid Dynamics
Prof. K.C. Sivakumar, Ph.D. (IIT Madras)	Functional Analysis, Mathematical Programming
Prof. S. Sundar, Ph.D. (IIT Madras)	Computational Fluid Dynamics, Numerical Analysis for Partial Differential Equations, Mathematical Modeling
Prof. M.Thamban Nair, Ph.D. (IIT Bombay)	Applicable Functional Analysis: Spectral approximation, Operator equations, Inverse & Ill-posed problems.
Prof. R. Usha, Ph.D. (IIT Madras)	Fluid Dynamics
Prof. P. Veeramani, Ph.D. (IIT Bombay)	Fixed Point Theorems and their Applications to Problems in Optimization and Best Approximation, Fuzzy Set Theory
Prof. V. Vetrivel, Ph.D. (IIT Madras)	Non-Smooth Optimization, Fixed Point Theory, Complementarity problems
<b>ASSOCIATE PROFESSORS:</b>	
Dr. A.K.B. Chand, Ph.D. (IIT Kanpur)	Fractals, Approximation Theory and Wavelets
Dr. Ch. Srinivasa Rao, Ph.D. (IISc. Bangalore)	Non-linear Differential Equations
Dr. A.V.Jayanthan, Ph.D. (IIT Bombay)	Commutative Algebra and Algebraic Combinatorics

Dr. Kalpana Mahalingam, Ph.D. (Univ. of South Florida, Tampa)	Theory of codes, DNA Computing, Combinatorics of words
Dr. S.R. Manam, Ph.D. (IISc, Bangalore)	Applied Mathematics
Dr. A.J. Shaiju, Ph.D. (IISc, Bangalore)	Game Theory, Systems and Control Theory
Dr. Shruti Dubey, Ph.D. (IIT Kanpur)	Nonlinear Analysis of Functional differential equations, Mathematical Study of Ferromagnetic systems
Dr. Sounaka Mishra, Ph.D. (ISI, Kolkata)	Discrete Mathematics, Approximation Algorithm , Combinatorial Optimization
<b>ASSISTANT PROFESSORS:</b>	
Dr. T.V.Anoop, Ph.D.(IMSC, Chennai)	Linear and Nonlinear Partial Differential Equations, Nonlinear Functional Analysis
Dr. Arijit Dey, Ph.D.	Algebraic Geometry
Dr. R. Balaji, Ph.D. (IIT Madras)	Linear Algebra and Optimization
Dr. Dipramit Majumdar Ph.D. (Brandeis University)	Algebraic Number Theory, p-adic aspects of modular forms and Galois representations
Dr. Kunal Krishna Mukherjee, Ph.D. (Texas, A&M)	Operator Algebras
Dr. N. Narayanan, Ph.D. (IMSC, Chennai)	Graph Theory: Graph Colouring, Structural and Extremal Graph Theory Probabilistic Combinatorics. Discrete Mathematics
Dr. Neelesh S. Upadhye, Ph.D. (IIT Bombay)	Probability Theory and applications
Dr. Priyanka Shukla, Ph.D. (JNCASR, Bangalore)	Fluid Mechanics: hydrodynamic instability; Nonlinear dynamics; Numerical PDE; Granular flows; Pattern formation
Dr. Santanu Sarkar, Ph.D. (ISI, Kolkata)	Cryptology & Computational Number Theory
Dr. Sarang S.Sane, Ph.D. (TIFR, Bombay)	Commutative Algebra, Homological Algebra, Algebraic K-theory, Algebraic Geometry
Dr. Soumen Sarkar Ph.D. (ISI, Kolkata)	Algebraic Topology, Geometric Topology, Differential Geometry, Convex Geometry, K-Theory, Topological Complexity, Persistent Homology, Ring of Continuous Functions
Dr. Sriram Balasubramanian, Ph.D. (University of Florida)	Functional Analysis
Dr. Suhas Jaykumar Pandit, Ph.D. (ISI, Bangalore)	Geometric group theory and low dimensional topology
Dr. Sumesh K. Ph.D (ISI, Bangalore)	Operator algebra
Dr. V.Uma, Ph.D. (IMSC Chennai)	Topology and Geometry of Toric Varieties and Related Spaces
Dr. T.E. Venkata Balaji, Ph.D. (CMI, Chennai)	Algebraic Geometry and Commutative Algebra
Dr. Venkatesh R	Representation theory of Lie algebras
<b>INSPIRE FACULTY:</b>	
Dr. J. Jaikrishnan Ph.D	Complex Analysis

(Indian Institute of Science, Bangalore)	
<b>VISITING PROFESSOR:</b>	
Dr. S.Kesavan 01.02.2016 to 31.01.2017	Partial Differential Equation- Homogenization, Isoperimetric inequality
<b>ADJUNCT PROFESSOR</b>	
Dr. S.Kesavan 01.02.2017 to till date	Partial Differential Equation- Homogenization, Isoperimetric inequality
<b>INSTITUTE PDF:</b>	
Dr. Pabitra Barik 16.09.2014 to till date	Algebraic Geometry
Dr. Manasi Kulkarni 01.02.2016 to till date	Combinatorics on kiords, Formal language and automata theory DNA computing
Dr. Pranav Haridas 01.07.2016 to till date	Several complex variables
Dr. J. Kokila 10.02.2017 to till date	Fractional Differential Equation

**3.2. Short-term Courses/ Workshops/ Seminars/ Symposia /Conferences organized by the faculty members:**

SI. No.	Coordinator(s)	Title	Period
<b>Conference:</b>			
1	Dr. A. K. B. Chand	GIAN course coordinator for " Splines and Fractals in Approximation and Interpolation Theory"	14.07.2016 to 29.07.2016
2	Dr. Santanu Sarkar and Dr. Soumen Sarkar	"Forays 2017"	28.01.2017 to 29.01.2017
3	Prof. K.C.Sivakumar	International Conference on "Game Theory and Optimization"	06.06.2016 to 10.06.2016
		"Management Science and Practice (MSP 2016)"	09.09.2016 to 10.09.2016
4	Prof.S.Sundar,	International Conference on "Advances in Scientific Computing"	28.11.2016 to 30.11.2016
<b>Symposia:</b>			
1	Dr. A.V.Jayanthan	"National Symposium on Mathematics and Applications (NSMA)"	22.12.2016
<b>Workshop:</b>			
1	Dr.A.V.Jayanthan	"MTTS 2016"	23.05.2016 to 18.06.2016
2	Prof. K.C. Sivakumar	"Linear Complementarity Problem (LCP) and Generalizations"	24.09.2016 to 25.09.2016



<b>Short term Course:</b>			
1	Dr. Neelesh S Upadhye and Dr. A.J.Shaiju	"Mathematical Finance: Theory and Practice"	16.01.2017 to 21.01.2017
<b>Video Course:</b>			
1	Dr. T.E. Venkata Balaji	NPTEL Video Course on "Advanced Complex Analysis" - Part 2 (43 lectures)	NPTEL website July 2016
		NPTEL Video Course on "Algebraic Geometry" ( 42 lectures)	NPTEL website in August 2016

**3.3. Short-term Courses/ Workshops/ Seminars/ Symposia/ Conferences/ Training attended by the faculty members in Academic institutions and Public Sector Undertakings:**

Sl. No.	Name of faculty	Title	Institution	Period
<b>Workshop:</b>				
1	Prof. R.Usha	Workshop on "DE modeling"	IIT Ropar	01.06.2016 to 04.06.2016
2	Dr. R. Venkatesh	National workshop on "Functional Analysis"	Bharathidasan University, Trichy	09.03.2017 to 10.03.2017
<b>Conference:</b>				
1	Dr. K. Sumesh	Conference on "TSSRK fest"	ISI, Bangalore	22.09.2016 to 24.09.2016
		Conference on "Recent advances in operator theory and operator algebras" (OTOA) 2016	ISI, Bangalore	13.12.2016 to 22.12.2016
<b>Training: -Nil-</b>				

**3.4. Special Lectures delivered by the faculty in other Institutions:**

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1	Dr. T.V. Anoop	"Generalized-Hardy Sobolev inequalities and its application"	NISER, Bhubaneswar	26.07.2016
2	Prof. Arindama Singh	"Reiterated sum"	MS University, Tirunelveli	04.04.2016 & 05.04.2016
		"Why can't we prove all that is true?" under S.S. Pillai endowment lecture		
3	Dr. Dipramit Majumdar	"Selmer companion modular forms"	IISER Pune	14.10.2016
4	Dr. Neelesh S Upadhye	"Stein method and perturbations"	Anna University, Chennai	11.03.2017
5	Prof. Satyajit Roy	"Applications of vector calculus in fluid mechanics"	VIT University, Vellore	21.01.2017
6	Prof. Satyajit Roy	"Linear systems : Thomas and varga algorithms"	Karnatak University, Dharwad, Karnataka	27.03.2017

7	Prof. S. Sundar	"Solving Gas-Kinetic equation through the PBE solver sectional quadrature method of moments"	NIT, Patna	08.04.2016
		"A mathematical approach for material modeling: Glass fiber insulation"	IIT Patna	09.04.2016
		"Mathematics teaching: Technology driven approach for teaching engineers"	NIT, Trichy	13.04.2016
		"Image compression as big data through PDE models"	MGR, University	20.06.2016
		"Thinking with mathematical Models –Problem solving through school mathematics"	Inaugural of Math Olympiad for Inter Schools, Velammal Bothi Campus, Chennai	06.08.2016
		"Mathematics teaching: Expectations and challenges today"	Stella Maris College, Chennai	02.09.2016
		"On higher order Non-linear diffusion filters"	Kathmandu University, Nepal	04.10.2016
		"Mathematical challenges through Industrial Problems"	Mahindra Ecole Institute, Hyderabad	06.10.2016
		"Thinking with mathematical models" at FDP under TEQIP"	College of Engineering, Cherthala, Kerala	19.10.2016
		"Mathematical methods in data science"	NIT, Trichy	17.12.2016
		"Thinking with mathematical models – problem solving"	Sri Satya Sai University of Higher Learning, Puttaparthi	28.12.2016
	"Traffic flow mathematical models"	GRD College of Arts and Science, Coimbatore	21.12.2016	
	"Industrial mathematics and scientific computing"	S.B.Jain College, Chennai	18.01.2017	
	"GPU acceleration for flow problems"	SRM University, Chennai	28.01.2017	
	"Nonlinear diffusion filters for imaging"	PSG college, Coimbatore	08.02.2017	
	"Introduction to mathematics of shape optimization"	Madura college, Madurai	11.02.2017	
"Mathematical methods in data science"	SSN College, Chennai	10.02.2017		
	Prof. S. Sundar			

		1. "Finite pointset method for incompressible flow" 2. "GPU acceleration of FPM"	IIT Roorke	17.02.2017 to 18.02.2017
		"Mathematics – A Key Technology"	Sairam Engineering College, Chennai	16.02.2017
		"GPU acceleration & H-Matrix analysis for flow problems using FPM"	IISc, Bangalore	17.03.2017
8	Prof. M.Thamban Nair	"Ill-posedness of compact operator equation"	Jean Monnet University, St-Etienne, France	13.06.2016
		"A discretization method for integral equations of the first kind"	Jean Monnet University, St-Etienne, France	20.06.2016
		"Role of mathematics in engineering education"	Indian Naval Academy, Ezhimala, Kerala	25.03.2017
9	Dr. T.E.Venkata Balaji	"What is the Calculus, Geometry and Physics in the path of a mountain river?"	Sri Sankara Senior Secy School, Adyar	30.08.2016
10	Dr. R. Venkatesh	"Bases for root spaces of Borcherds-Kac-Moody algebras"	The Institute of Mathematical Sciences, Chennai	04.10.2016
		"Hilbert series of partially commutative lie algebras"	The Institute of Mathematical Sciences, Chennai	01.11.2016
		"Graph counting using group actions I and II"	Periyar University, Salem	07.03.2017 to 08.03.2017
11	Prof. P. Veeramani	"Normal structure, proximal normal structure and their applications"	St. Joseph's College, Trichy	16.12.2016
		"On LUB axion and its applications"	Ayya Nadar Janaki Ammal College, Sivakasi	25.12.2016
12	Prof. V. Vetrivel	"Variational inequality problems and applications"	Anna University, Chennai	04-03-2017

### 3.5. Invited Talks/Paper Presentaion at Conferences/Symposia/Workshop

SI. No.	Name of faculty	Programme	Paper/Talk/Lectures	Date
1	Dr. Anoop T. V.	TCIMS – AMS International conference at BHU, Varanasi	<b>Invited talk</b> "The monotonicity of the first eigenvalue of p-Laplacian on annuli"	16. 12. 2016

		International Conference on Applications of Mathematics to Nonlinear Sciences (AMNS-2016) in Kathmandu, Nepal	<b>Invited talk</b> "On the structure of the second eigenfunctions of p-Laplacian"	26.05.2016 to 29.05.2016
2	Prof.Arindama Singh	Training programme in Mathematics at NISER, Bhubaneswar	<b>Lectures (6)</b> "Foundation of Mathematics"	23.05.2016 to 28.05.2016
		Training programme in mathematics at NISER, Bhubaneswar	<b>Lectures (6)</b> "Foundation of mathematics"	01.06.2016 to 05.06.2016
3	Dr.A.K.B.Chand	National conference on Analysis and its Applications, Karnataka University, Dharward	<b>Invited talk</b> "Fractal interpolation and approximation"	15.03.2017
		UGC-DRS programme, Utkal University, Odisha	<b>Invited talks (2)</b> 1. "Introduction to fractal interpolation" 2. "Rational fractal interpolation and shape preservation"	27.03.2017
			<b>Invited talk</b> "Fractal Approximation"	28.03.2017
4	Dr. A.V.Jayanthan	Workshop and conference organized on local cohomology at St. Joseph's College, Irinjalakuda	<b>Invited talk</b> "Binomial edge ideals of finite simple graphs"	30.06.2016
		TCIMS – AMS International conference at BHU, Varanasi	<b>Invited talk</b> "Castelnuovo-mumford regularity of binomial edge ideals of certain block graphs and trees"	16.12.2016
		Faculty development programme on mathematics, Govt. College of Engineering, Thiruvananthapuram	<b>Invited talk</b> "Group theory"	04.01.2017
5	Prof. S.H.Kulkarni	11th ARP endowment talk at Government college, Chittur, Kerala	<b>Endowment talk</b> "Singular value decomposition and its applications"	22.11.2016
6	Prof. R.Radha	National workshop on Computational mathematics, Anna University	<b>Invited talks (2)</b> "Computational harmonic analysis"	02.03.2017 to 03.03.2017
		International conference on Fourier Analysis & Wavelets, RIASM, Chennai	<b>Invited talks (4)</b> "Wavelets and frames"	21.03.2017 to 25.03.2017
7	Dr. Santanu Sarkar	Workshop on cryptography at NIT, Trichy	<b>Invited talk</b> "RSA & stream ciphers"	03.06.2016 to 04.06.2016
		Faculty development programme on engineering mathematics through applications been conducted at PSG College of Technology, Coimbatore	<b>Lectures (02)</b> "Numerical methods for PDE originated from the incompressible flows"	04.07.2016 to 11.07.2016
		National conference on "Nonlinear dynamics" at NIT Warangal	<b>Invited talk</b> "True upwinding using RBF based meshless schemes"	21.12.2016 to 23.12.2016

8	Prof. Y.V.S.S.Sanyasiraju	Conference on "Latest advances in computational and applied mathematics" at Mahindra-Ecole- Central (MEC), Hyderabad	<b>Invite talk</b> "Finite difference type computations using radial basis functions"	14.12.2016
		National seminar on "Emerging trends in mathematics" been conducted by Department of Mathematics (UG & PG), Sir C R Reddy Autonomous College, Eluru	<b>Invited talk</b> "Numerical computations using meshless schemes"	08.12.2016 to 09.12.2016
		Conference NCMTA-2017, SRM University, Chennai	<b>Invited talk</b> "Shape parameter optimization for solving the partial differential equations using radial basis functions"	27.01.2017
		National conference, Anna University, Chennai	<b>Invited talk</b> "An introduction to the radial basis function (RBF) based meshless schemes"	07.03.2017
		National Workshop on Applications of Advanced mathematics in Engineering's & Sciences (AAAMES_2017), Andhra University, Visakhapatnam	<b>Invited talk</b> "RBF based solvers for the PDE"	01.03.2017
9	Prof. Satyajit Roy	The 31 <sup>st</sup> Annual conference of RMS at National College, Tiruchirappalli	<b>Invited talk</b> "Analysis of natural and mixed convection flows within square cavity using heatlines concept"	18.06.2016
		National Workshop on Computational Mechanics (NWCM), Anna University, Chennai	<b>Invited talk</b> "Linearization techniques and it's applications to BVPs"	06.03.2017
10	Dr. Shruti Dubey	International conference on "Recent advances in theoretical & computational partial differential equations and applications" Panjab University	<b>Invited talk</b> "Controllability of fractional order differential equations with nonlocal initial condition"	05.12.2016 to 09.12.2016
11	Prof. K.C. Sivakumar	International conference on game theory and optimization, Department of Mathematics, IIT Madras	<b>Invited talk</b> "Inverse nonpositivity of operators and semidefinite linear complementarity problems"	07.06.2016
		Faculty development programme on engineering mathematics through applications-EMTA 2016 at PSG College of Technology, Coimbatore	<b>Invited talk</b> "Applications of linear algebra in engineering"	09.07.2016
		Advanced instructional school on mathematical programming held at the Central University of Tamil Nadu, Thiruvavur	<b>Lectures (03)</b> "Farkas' lemma and its applications"	21.07.2016 to 24.07.2016

		Invited - talk at Management Science and Practice (MSP 2016)	<b>Invited talk</b> "Semipositive Matrices and their Semipositive Cones"	24.09.2016
		Invited - talk at ISI Chennai	<b>Invited talk</b> "Characterizations of P – matrices"	24.09.2016 & 25.09.2016
12	Dr. Sriram B	International Conference of Mathematical Analysis and its Applications (ICMAA) at IIT Roorkee	<b>Invited talk</b> "On the gross inequality for unital 2-positive linear maps"	29.11.2016
13	Dr. K. Sumesh	National seminar on functional and harmonic analysis, Govt. Mokeri College, Kerala	<b>Invited talk</b> "Positive definite matrices"	09. 12. 2016
14	Prof. S. Sundar	MPS 2016, Indian Institute of Technology Madras	<b>Invited talk</b> "Image denoising using shape optimization"	09.09.2016
		National Level Workshop on Emerging Trends in Mathematics at KG College of Arts and Science, Bharathiar University, Coimbatore	<b>Invited talk</b> "PDE computation"	08.10.2016
		Data Science Research Workshop at National Institute of Technology, Trichy	<b>Invited talk</b> "Mathematical methods for datascience"	03.11.2016
		ISTAM conference, VIT, Vellore	<b>Invited talk</b> "Understanding the porosity dependence of glass fiber insulation"	11.12.2016
		Conference on "Latest development in PDE"	<b>Invited talk</b> "Speedup issues on the simulations through finite pointset method"	16.12.2016
		82 <sup>nd</sup> Indian Mathematical Society Conference (IMS 2016), University of Kalyani, Kolkata	<b>Invited talk</b> "Scalar conservation law models for network supply chain"	29.12.2016
		National Workshop on Computational Mathematics, Anna University, Chennai	<b>Invited talk</b> "Numerical methods for solving population balance equation"	08.03.2017
15	Prof. M. Thamban Nair	INSPIRE – talk at SSN college of Engineering	<b>Invited talk</b> "Some questions in mathematics"	10.08.2016
		International Conference on Mathematical Analysis and its applications at IIT Roorkee	<b>Invited talk</b> "An operator theoretic treatment of an inverse problem in PDE"	28.11.2016 to 01.12.2016
		Colloquium on Research Opportunities in Functional Analysis	<b>Invited talk</b> "Ill- posedness and regularization of backward heat conduction problem"	25.02.2017

		Workshop on Engineering Mathematics, Indian Naval Academy, Ezhimala, Kerala	<b>Invited talks (2)</b> 1. "Heat conduction problem-some mathematical issues" (For mathematics teachers) 2. "Convergence and iteration" (For students)	24.03.2017 to 25.03.2017
16	Prof. R.Usha	82 <sup>nd</sup> Indian Mathematical Society Conference (IMS 2016), University of Kalyani, Kolkata	<b>Invited talk</b> "Film flows down inclined substrates: models, dynamics and stability"	26.12.2016 to 29.12.2016
17	Prof. P.Veeramani	82 <sup>nd</sup> Indian Mathematical Society Conference (IMS 2016), University of Kalyani, Kolkata	<b>Invited talk</b> "Nonlinear analysis optimization and approximation"	27.12.2016 to 30.12.2016
		International conference on Mathematical Applications in engineering and Technology, Sacred Heart College, Thirupattur	<b>Invited talk</b> "Fixed point theorems, best proximity point theorems and their applications"	27.01.2017 to 28.01.2018
18	Prof. V. Vetrivel	DST Inspire programme at PS College of Engineering and Technology	<b>Invited talk</b> "Contributions of euler"	22.07.2016
		International Conference on Mathematical Analysis and its applications at IIT Roorkee	<b>Invited talk</b> "Quasi optimization"	28.11.2016 to 02.12.2016

### 3.6 Visit to other Institutions

Sl. No.	Name of faculty	Programme	Venue	Date
1	Prof. Arindama Singh	Comprehensive viva cum DC meeting as a member	Tamil Nadu Central University, Tiruvarur	09.05.2016
2	Dr. A.K.B.Chand	M.Phil. Thesis meeting as a examiner	VIT University, Chennai	21.02.2017
3	Dr. Ch.Srinivasa Rao	M.Phil synopsis meeting as a member	VIT, Vellore	28.07.2016
4	Dr. Dipramit Majumdar	Research collaboration meeting	IISER, Pune	08.10.2016 to 16.10.2016
5	Prof. R.Radha	DST-purse evaluation committee meeting as a member	Ramanujan Institute for Advanced Study in Mathematics, Chennai	21.02.2017
		Visited as a chairman of the Peer review committee member for the purpose of reviewing the department activities	NIT, Warangal	27.04.2016

5	Prof. Y.V.S.S.Sanyasiraju	Comprehensive viva cum DC meeting as a member	SRM University, Chennai	07.05.2016
		Board of studies meeting as a member	JNTU, Hyderabad	03.06.2016 to 04.06.2016
			NIT, Warangal	18.07.2016
		Ph.D viva-voce meeting as a examiner	GITAM University, Visakhapatnam	09.06.2016
			IIT Mandi	22.07.2016
			IIT Delhi	24.10.2016
			JNTU Hyderabad	26.10.2016
			Bharathidasan University, Trichy	09.11.2016
		Comprehensive examination meeting as a member	VIT University, Vellore	21.11.2016
		Faculty recruitment meeting as a member	VIT University, Vellore	22.01.2017
Comprehensive viva examination as a expert member	SRM Univeristy, Chennai	04.03.2017		
Faculty up- graduation meeting as a member		24.02.2017		
6	Prof. Satyajit Roy	Ph.D viva as a member	BMS College of Engineering	22.04.2016
			NIT Agartala, Tripura	09.05.2016
			IIT Hyderabad	10.06.2016
	Faculty recruitment meeting as a member	GITAM University, Visakhapatnam	10.07.2016	
		DC meeting as a member	SRM University, Chennai	13.07.2016
	VIT University, Chennai		18.07.2016	
	SRM University, Chennai		27.07.2016	
	Comprehensive Viva as a member	VIT University, Vellore	02.08.201	
	DC meeting as a member	SRM University, Chennai.	23.09.2016	
	Ph.D viva-voce meeting as a examiner	IIT Karagpur	11.11.2016	
	Synopsis meeting as a member	VIT University, Vellore	07.10.2016	
Ph.D. viva-voce meeting as a member	Malnad College of Engineering, Hassan for VTU, Karnataka	28.01.2017		
Faculty recruitment meeting as a member	VIT University, Vellore	22.01.2017		
DC meeting as a member		21.01.2017		



7	Dr. Shruti Dubey	Ph.D review meeting as a member	SRM University, Chennai	03.10.2016
8	Prof. K.C.Sivakumar	Ph.D viva-voce as a examiner	IISER, Trivandrum	30.06.2016
9	Dr. Sounaka Mishra	DC meeting as a member	IIITDM, Kanchipuram	12.04.2016
		Workshop as a organizer	CMI, Chennai	28.04.2016
		Ph.D viva-voce as a Internal examiner	IIITDM, Kanchipuram	23.06.2016
		Synopsis meeting as a member	IIITDM, Kanchipuram	12.01.2017
		Ph.D DC meeting as a member	VIT, Vellore	10.03.2017
10	Dr. K.Sumesh	Attended the Conference	ISI, Bangalore	22.10.2016 to 23.10.2016
		Attended the discussion meeting "Advances in Non-commutative mathematics"	ISI, Bangalore	11.01.2017 to 13.01.2017
11	Prof. S.Sundar	DST PAC meeting as a member	Hamdard University, New Delhi	26.04.2016
		Faculty interview as a member	IIITDM, Kanchipuram	18.04.2016
		Faculty Review Meeting as a member	IISER, Tiruvanandapuram	06.05.2016
		Ph.D viva-voce as a member	IIT Kharagpur	15.06.2016
			Mysore University	27.06.2016
		Selection committee meeting as a member	SRM Research center,	21.06.2016
		Ph.D review meeting as a member	Central University Tamil Nadu, Tiruvarur	24.06.2016
			Sastra University	07.07.2016
		Selection Committee Member as a member	DRDO, RAC, New Delhi	01.08.2016 to 03.08.2016
		BoS meeting as a member	G.H.Raisoni College of Engg, Nagpur	20.08.2016
		Ph.D viva-voce as a examiner	IIT BHU	12.08.2016
			IIT Ropar	16.09.2016
		DST-PAC (MS) review meeting as a member	IIT Madras	23.08.2016 to 24.08.2016
Given General Talk on project proposal submission for Math Faculty	SRM University, Chennai	25.10.2016		

	Prof. S.Sundar	Ph.D viva-voce meeting as external examiner	DIAT, Pune	05.12.2016
		DST-PAC meeting as a member	DST, Delhi	27.12.2016
		Ph.D viva-voce meeting as Indian Examiner	Sastra University	14.02.2017
		DST-SERB PAC Meeting as Member of National PDF Selection	Pondicherry University, Pondicherry	09.03.20.7 to 11.03.2017
		Ph.D viva-voce meeting as Indian Examiner	Madurai Kamaraj University, Madurai	28.02.2017
		Inauguration of Mathfest as a Chief Guest	RMK College, Chennai	01.03.2017
		Research meeting as a member	Sastra University	18.03.2017
		Ph.D viva-voce meeting as Indian Examiner	JNTU, Hyderabad	21.03.2017
		Ph.D viva-voce meeting as Indian Examiner	IISc Bangalore	29.03.2017
12	Prof. M.Thamban Nair	Ph.D viva-voce meeting as a member	Camille Jordan Institute, St-Etienne, France	20.06.2016
		An interactive session with teachers and students from school	Green Woods Public School, Palakkunnu, Kerala	24.10.2016
		Committee member to evaluate profile of Mathematical science faculty members	Ramanujan Institute, Madras Univesity	26.12.2016
13	Prof. R.Usha	Jury at the paper presentation in Technology day event	Ashok Leylands, Chennai	24.1.2017 to 25.1.2017
14	Dr.T.E.Venkata Balaji	KVPY selection committee meeting as a panel member	MIT Chromepet, Chennai	27.02.2017 to 29.02.2017
		RSIC selection committee meeting as a panel member	PSBB school, KK Nagar, Chennai	05.03.2017
15	Dr. R. Venkatesh	Participated in National workshop on Functional Analysis	Bharathidasan University, Trichy	09.03.2017 to 10.03.2017
16	Prof. V Vetrivel	Ph.D review committee meeting as a member	IIT Delhi	03.10.2016
			KIIT, Bhubaneswar	07.11.2016
			IIT Bombay	16.11.2016
			Anna University, Chennai	07.10.2016

			SRM University, Chennai	30.09.2016
			SRM University, Chennai	19.12.2016
		Attended Undergraduation Admission committee meeting as a member	KIIT, Bhubaneswar	18 .02.2017

### 3.7. Visits abroad by faculty:

Sl. No.	Name of faculty	Country visited	Date	Purpose of visit	Funding from
1	Dr. R.Balaji	China	17.05.2016 to 19.05.2016	Attended the International conference on "Complementary Problems and related Topics" at China	Institute
2	Dr. A.V.Jayanthan	USA	06.07.2016 to 12.07.2016	Attended the International Conference on Commutative Algebra and presented a poster in "Algebraic Geometry" (in honor of Craig Huneke's Birthday)	Institute
3	Dr. N.Narayanan	Japan	21.05.2016 to 25.05.2016	Attended the International conference on "Combinatorics and its Applications" at Japan	Institute
4	Dr. Priyanka Shukla	Germany	05.09.2016 to 09.09.2016	Attended the Kick-off meeting at RWTH Aachen, Germany	No
5	Dr. K .Sumesh	Malaysia	22.08.2016 to 26.08.2016	Presented a paper titled 'Regular representations of completely bounded maps' In "37 <sup>th</sup> QP conference"	Association of IDAQP
6	Prof. S.Sundar	Germany	10.05.2016 to 09.06.2016	Went as Visiting professor to AG Technomathematik, TU Kaiserslautern, Germany	Germany
		Nepal	04.10.2016	Attended the workshop on "Mathematical Modeling and Industrial Mathematics" at Kathmandu University, Kathmandu, Nepal	Institute
7	Prof. M.Thamban Nair	France	05.06.2016 to 30.06.2016	As Visiting Professor at Jean Monnet University, Saint-Etienne	No
8	Prof. P.Veeramani	Turkey	12.07.2016 to 15.07.2016	Participated and gave an invited talk in 'Chebyshev centers, fixed point theorems and best proximity theorems' at the International conference on "Analysis ad its Applications"	No

### 3.8 Honours and Awards obtained by faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Date of award
<b>Awards:</b>				
1	Prof. M.Thamban Nair	B.K. Master Memorial National Excellence Award 2016	Udma Educational Trust in a public meeting at Green Woods Public School and Junior College at Palakannu, Kasaragood District, Kerala	24.10.2016
2	Dr.Santanu Sarkar	NASI-Young Scientist Platinum Jubilee Award (2016)	National Academy of Sciences, India	04.12.2016

Sl. No.	Name of faculty	Name of Honor	Name	Duration
<b>Honors:</b>				
1	Prof. V.Vetrivel	Life Member	Forum for Interdisciplinary Mathematics	Sine 27.03.2017

**3.9. Fellowships of Academies and Professional Societies:--Nil--**

**3.10 Journal Editorial Boards:**

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
1	Prof. S.Ponnusamy	Editor-In-Chief	Mathematics Newsletter
		Managing Editor	Journal of Analysis
		Associate Editor	Bulletin of Malaysian Mathematical Sciences Society
		Editorial member	Journal of Classical Analysis
		Vice-President and Editorial member	Indian Academy of Mathematics
		Editorial member	Mathematical Analysis (The Scientific World Journal, Hindawi)
		Editorial member	Conference papers in Mathematics (Hindawi)
		Editorial member	Issues of Analysis (Russian)
		Editorial member	Ilorin Journal of Science (Nigeria)
2	Prof. Satyajit Roy	Advisory Committee member	The Journal of Indian Academy of Mathematics
3	Prof.S.Sundar	Editorial Board Member	Journal Indian Academy of Mathematics
		Associate Editor	Advances in Engineering Sciences and Applied Mathematics
4	Prof. M.Thamban Nair	Editorial member	Journal of Analysis & Number Theory

**4. Design and Development Activities:--Nil--**

**4.1. Brief and specific details of Process/Instruments/Equipment/ Software designed and developed:**

**4.2. New facilities added or major equipment procured: -Nil-**

**4.3. Patents: --Nil--**

**4.3.1 Patents filed:--Nil--**

**4.3.2 Patents awarded:--Nil--**

**5. Research and Consultancy:**

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1.	Linear and nonlinear partial differential equations	2015-2017	ICSR-NFIG	5.00	Dr. T.V.Anoop
2.	Equivalent bundles on toric variety	2017-2020	NBHM	3.32	Dr. Arjit Dey & Dr. V.Uma
3.	Reactive fingering Instabilities	2015-2017	ICSR-NFIG	5.00	Dr. Priyanka Shukla
4.	Finite Element Methods for Parameter Identification Problems in Elliptic Partial Differential Equations		DST	12.13	Prof. M.Thamban Nair
5.	Cryptanalysis of Symmetric and Asymmetric key ciphers	2017 -2020	NFSC	26.00	Dr. Santanu Sarkar
6.	Development of three dimensional blade profiles based on iterative inverse design methodology	2015-2017	GTRE	37.40	Dr. B.V.S.S.Prasad Dr. Y.V.S.S.Sanyasiraju
7.	Projective modules, Euler classes, Chow-Witt groups and $A^1$ -homotopy theory	2014-2019	DST-INSPIRE	32.44388	Dr. Sarang S. Sane
8.	Some Aspects of Derived categories	2015-2017	ICSR-NFIG	5.00	Dr. Sarang S. Sane
9.	Topology and Geometry and their applications in other areas of Mathematics	2016-2018	ICSR-NFIG	5.00	Dr. Soumen Sarkar
10.	Operator Algebras	2016-2018	ICSR-NFIG	5.00	Dr. K.Sumesh

**5.2 Industrial Consultancy projects: (on going & new) --Nil--**

**5.3 RBIC projects: (on going & new)--Nil--**

**5.4 Retainer Consultancy: (on going & new)--Nil--**

**5.5 Exchange programme with other Universities including Institutions/Universities under MOU; --Nil--**

**5.6 Faculty members participation with other institution under MoU:--Nil--**

**Research Publications of the faculty members & research scholars:**

5.7 Books : ..... (Total No.)

5.8 (a) Total No. of papers published in Refereed National Journals: .....

5.8.(b) Total No. of papers published in Refereed International Journals: .....

5.8.(c) Total No. of papers presentation in National Conferences

(i) In proceedings as full paper : .....

(ii) As abstract : .....

5.8 (d) Total No. of papers presentation in International conferences

(i) In proceedings as full paper : .....

(ii) As abstract : .....

**Note: Only books / papers which are published between 1.4.2015 and 31.03.2016 are to be given. Complete details to be furnished in file accompanying excel sheet.**

a. In Refereed International Journals: Excel sheet

b. In Proceedings of International Conferences: Excel sheet

## 6 Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1	Prof. Phoolan Prasad	12.04.2016 to 14.04.2016	Research Collaboration with Prof. Satyajit Roy
2	Dr. D.Venku Naidu Assistant Professor, Department of Mathematics, IIT Hyderabad	27.05.2016 to 13.06.2016	Research Collaboration with Prof. R.Radha
4	Prof. P.M.Patil Karnatak University	19.06.2016 to 24.06.2016	Research collaboration with Prof. Satyajit Roy
5	Dr. Viwsanathan Assistant Professor, IIT Delhi	15.06.2016 to 30.06.2016	Research collaboration with Dr. A.K.B.Chand
6	Prof. Peter Massopust Technical University Munich, Germany	14.07.2016 to 29.07.2016	GIAN course on splines and fractals in approximation and interpolation theory
7	Mr. Mangwiro Magodora Bindura University, Zimbabwe	14.06.2016 to 11.09.2016	INSA JRD - TATA fellow
8	Dr. Narasimha Kumar Assistant Professor, IIT Hyderabad	24.07.2016 to 01.08.2016	Research collaboration with Inspire Faculty Dr. Srilakshmi Krishnamoorthy
9	Prof. K. Thulasiraman Department of Computer Science University of Oklahoma, USA	26.06.2016 to 27.06.2016	Research collaboration with Prof. K.C.Sivakumar
10	Prof. Manoj Changat Kerala University	18.08.2016 to 20.08.2016	Research collaboration with Dr. N.Narayanan
11	Dr. Biplab Basak, PDF, ISI Bangalore	23.10.2016 to 26.10.2016	Research collaboration with Dr. Soumen Sarkar
12	Dr. B.Baskar IISER, Pune	19.10.2016 to 22.10.2016	Research collaboration with Dr. Dipramit Majumdar
13	Dr. Soumnath Jha IIT Kanpur	04.12.2016 to 11.12.2016	Research collaboration with Dr. Dipramit Majumdar

14	Prof. Alok Nath Chakrabarti Emeritus Professor, IISC, Bangalore	09.01.2017 to 13.01.2017	Research collaboration with Prof. Satyajit Roy
15	Prof. Hrushikesh Mhaskar California State University Los Angeles, USA	10.01.2017 to 25.01.2017	Research collaboration with Prof. S.H.Kulkarni
16	Prof. Hira L.Koul Michigan State University	20.01.2017 to 29.01.2017	Research collaboration with Dr. Neelesh S.Upadhye
17	Dr. Grammont Laurence University of Sait-Etienn, France	11.01.2017 to 18.01.2017	Research collaboration with Prof. M.Thamban Nair
18	Prof. Anthony Bahri Department of Mathematics, Rider University, USA	09.01.2017 to 17.01.2017	Research collaboration with Dr. Soumen Sarkar
19	Prof. Dietrich Notbohm, Department of Mathematics, Vrije Universiteit Amsterdam, The Netherlands	09.01.2017 to 17.01.2017	Research collaboration with Dr. Soumen Sarkar
20	Mr. Jongbaek Song Department of Mathematical Sciences, Korea Advanced Institute of Science and Technology, Daejeon, Republic of Korea.	09.01.2017 to 17.01.2017	Research collaboration with Dr. Soumen Sarkar
21	Dr. Radhendushka Srivastava IIT Bombay	03.02.2017 to 07.02.2017	Research collaboration with Dr. Santanu Sarkar
22	Dr. B. Baskar IISER,Pune	15.03.2017 to 17.03.2017	Research collaboration with Dr. Dipramit Majumdar
23	Prof. Jugal K. Verma IIT Bombay	21.03.2017	Research collaboration with Dr. A.V. Jayanthan
24	Prof. B.V. Limaye	31.03.2017 to 03.04.2017	Research collaboration with Prof. M. Thamban Nair

## 7. Other Activities of the Department/Centre:

### Seminar talks

Sl. No.	Name of the Faculty	Title	Date
1	Prof. hab. inz. Agnieszka Wylomanska Wroclaw University of Technology, Poland	"Codifference as a practical tool to measure interdependence"	07.04.2016
2	Prof. Vijay Kodyalam IMSc., Chennai	"What is free probability?"	21.04.2016
3	Prof. K. V. Subrahmanyam Chennai Mathematical Institute	"An introduction to Invariant theory"	04.04.2016
4	Prof Kamal Lodaya, IMSc, Chennai	"Courcelle's theorem"	11.04.2016
5	Prof. M S Raghunathan	"The prime number theorem"	18.04.2016
6	Dr. Sudheesh Kumar ISI, Chennai	"How many ways can we spell gini index"	01.06.2016
7	Dr. Akshay Rane ICT, Mumbai	"Asymptotic expansions of approximate solution of operator equations and eigenvalue problems with	02.06.2016

		kernel of green's functions type"	
8	Prof. Krishnaiyan Thulasiraman Professor and Hitachi Chair, School of Computer Science, University of Oklahoma, USA	"Resistance networks, kirchhoff index and path diversity in graphs"	27.06.2016
9	Dr. Arul Shankar Benjamin Peirce Fellow, Harvard University	"Polynomials with squarefree discriminants"	18.07.2016
10	Dr. Narasimha Kumar IIT Hyderabad	"On the gaps between non-zero fourier coefficients of cusp forms of higher weight"	26.07.2016
11	Prof. Peter Massopust Technical University of Munich	"Fractal functions and wavelets: examples of multiscale theory"	28.07.2016
12	Dr. M. Ganesh Colorado School of Mines, USA	"A hybrid HPC framework with analysis for a class of stochastic models"	11.08.2016
13	Dr. Madhusudan Manjunath Department of Mathematics, UC Berkeley	"Tropical lifting problems"	18.08.2016
14	Dr. Saravanan Venkatachalam Wayne State University Detroit, USA	"Introduction to stochastic integer programs"	22.08.2016
15	Dr. K. Manjunatha Prasad Manipal University, Manipal	"Characterization of outer inverses and some applications"	23.08.2016
16	Dr. S. Sundar Chennai Mathematical Institute	"On the wiener hopf compactification of a symmetric cone"	25.08.2016
17	Dr. V. S. Sunder Institute of Mathematical Sciences, Chennai	"Two projections in general position"	01.09.2016
18	Dr. Soumen Sarkar Department of Mathematics, IIT Madras	"Orbit class and remarks on invariant topological complexity"	08.09.2016
19	Dr. S.P. Suresh Chennai Mathematical Institute	"Indian classical epistemology : An introduction"	22.09.2016
20	Dr. Ajith Iqbal Singh IMSC, Chennai	"Injectivity versus surjectivity and multipliers versus quotient rings"	29.09.2016
21	Dr. Amritanshu Prasad Institute of Mathematical Sciences, Chennai	"Representations of symmetric groups with nontrivial determinant"	06.10.2016
22	Dr. B.Baskar Indian Institute of Science Education and Research, Pune	"Special values of L-functions"	20.10.2016
23	Dr. Rituparna Sen Indian Statistical Institute, Chennai	"Statistical problems of big data with some applications in finance"	03.11.2016
24	Dr. R. Venkatesh Department of Mathematics IIT Madras	"Unique factorization of tensor products for finite- dimensional simple Lie algebras"	10.11.2016
25	Dr. Somnath Jha IIT Kanpur	"Congruent number problem"	08.12.2016



26	Dr. Sushil Gorai IISER, Kolkata	"Polynomial convexity of compact subsets of totally-real submanifolds $C^n$ "	12.12.2016
27	Dr. M. Ashok Kumar IIT Indore	"Statistical inference based on a parametric family of relative entropies"	15.12.2016
28	Prof. Dietrich Notbohm Vrije Universiteit Amsterdam	"Equivariant almost complex structure on quasi toric manifolds"	11.01.2017
29	Prof. Anthony Bahri Rider University, United States	"Geometry and topology of polyhedral products"	13.01.2017
30	Mr. Jongbaek Song Korea Advanced Institute of Science and Technology	"Integrality condition on the stanley-reisner ring"	18.01.2017
31	Prof. Laurence Grammont Institute Camille Jordan, University of Lyon, Saint-Etienne, France	"A new method to solve nonlinear weakly singular integral equations"	17.01.2017
32	Dr. Koushik Saha IIT Bombay	"Moment method and joint convergence of random matrices"	19.01.2017
33	Prof. Hira L.Koul Michigan State University	"Residual empirical processes"	25.01.2017
34	Dr. Jaikrishnan J. IIT Madras	"Impossibility theorems in social choice theory"	02.02.2017
35	Prof. Alladi Sitaram, Chennai Mathematical Institute	"A rapid journey through fourier analysis"	09.02.2017
36	Dr. Vikas Krishnamurthy, Imperial College, London	"Theoretical models for compressible vortex streets"	16.02.2017
37	Prof. V. Lakshmibai, Northeastern University, Boston, Massachusetts	"Ubiquity of schubert varieties"	23.02.2017
38	Dr. Arpan Kabiraj, Chennai Mathematical Institute	"Goldman bracket : center and geometric intersection number"	02.03.2017
39	Dr. Priyavrat Deshpande, Chennai Mathematical Institute	"Moduli space of planar polygons: a topological study of mechanical linkages"	09.03.2017
40	Dr. Divakaran D. Institute of Mathematical Sciences, Chennai	"Finiteness theorems for holomorphic maps from products of hyperbolic riemann surfaces"	16.03.2017
41	Dr. Nachiketa Mishra, ICTS-TIFR, Bengaluru	"On fourier-galerkin approach for FFT-based homogenization"	23.03.2017
42	Prof. R.Ramanujam, Institute of Mathematical Sciences, Chennai	"Who is afraid of infinite state systems"	30.03.2017

**Results obtained in research work (from M.S. & Ph.D thesis) of the scholar/faculty (last year sample enclosed from Director's Speech)**

**Inter disciplinary group achievements of the Departments.**

**Socially relevant activities carried out by the Department**

**International collaboration achievements by the Department**

### 1. Faculty visit

**2. Student visit**

**3. Activities initiated**

**Major infrastructure development made in the Department**