# ANNUAL REPORT 2015-2016 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), Dual Degree in ED, M.Sc. and Ph.D. students of the institute.

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

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- 2 Algebraic geometry
- 3 Applied probability
- 4 Approximation theory
- 5 Automata and its applications
- 6 Coding theory
- 7 Combinatorics on words
- 8 Complex analysis
- 9 Computational fluid dynamics
- 10 Continuum mechanics
- 11 Cryptology
- 12 Differential equations
- 13 Differential geometry
- 14 Fluid Dynamics
- 15 Functional analysis
- 16 Fractal geometry

- 17 Graph theory and combinatorics
- 18 Harmonic analysis
- 19 Inverse and ill-posed problems
- 20 Mathematical logic
- 21 Mathematical modeling
- 22 Nonlinear analysis
- 23 Numerical analysis
- 24 Operator theory
- 25 Probability theory
- 26 Stochastic processes
- 27 Theory of codes
- 28 Theoretical computer science
- 29 Wavelets and their applications

#### 2. Academic Programmes:

2.1 New discipline/branch introduced: -Nil-

#### 2.2 New courses introduced

SI. No.	Course No.	Title	
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7			

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

#### 2.4 Students on roll as of September 2015+ Ph.D admission in January 2016:

Programme	Number of Students
M.Sc.	101
M.Tech.	30
Ph.D.	76
Total	207

#### 2.5 Endowment prize instituted:

SI.No	Endowment Prize	Purpose	To be awarded from
1	Smt. Lakshmikutty Amma and Shri A.Krishnakutty Nair Prize- instituted by Retired Proferssor Dr. P.Achuthan	For the best Ph.D thesis in mathematics	From the 2013 conovocation
	(Dr. S.Rajesh Ph.D scholar under supervision Prof. P.Veeramani, received the award for		
	the year 2015)		

### 2.6 Names of Student/Scholar who attended Conference//Seminar and Symposia Abroad/India:

SI. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop and Venue	Date	Financial Assistance from
Abroa	d				
1	Mr. Sanjeev Singh	MA12D004	Presented a paper titled 'Turan Type Inequalities for Struve Functions' in 13 <sup>th</sup> International Symposium on "Orthogonal Polynamials, Special Functions & Applications" at Gaithersburg Maryland, USA	31.05.2015 to 07.06.2015	Institute
			Presented a paper titled 'Monotonicily and Functional Inequalities for Certain Class of Special Functions' in 5 <sup>th</sup> International Conference on "Mathematics and Informatics" at Targu Mures, Romania	27.08.2015 to 13.09.2015	Institute
2	Mr. Sharad Dwivedi	MA11D018	Presented a paper titled 'Controllability of a Two-dimensional Network of Ferromagnetic Ellipsoidal Samples' in International Conference on "SIAM conference on Control and its Applications" at Paris, France	08.07.2015 to 10.07.2015	Institute
	India:				
			Attended the workshop on "Advanced Instructional School (AIS) – Algebraic Surfaces" at MCNS, Manipal	20.07.2015 to 01.08.2015	
1	Mr. Bivas Khan	MA14D010	Attended the workshop on "ATMW the Grothedieck Reimann-Roch Theorem" at University of Hyderabad, Hyderabad	07.12.2015 to 18.12.2015	
2	Ms. Geetanjali Chattopadhyay	MA13D017	Presented a paper titled 'Instabilities due to Asymmetric reverse flow in a Viscosity Stratified plane Poiseuille Flow' in the conference "International Conference on Mathematical Modeling, Differential Equations, Scientific Computing and Applications" at IIT, Kanpur	25.03.2016 to 30.03.2016	
3	Ms. Hingu Dharini Ramesh	MA13D002	Attended the workshop on "International Condaveo Foundations of Decisions and Game Theory" at IGTDR, Mumbai	12.03.2013 to 20.03.2016	

4	Ms. Jyoti Dasgupta	MA14D012	Attended the workshop on "Advanced Instructional School (AIS) – Algebraic Surfaces" at MCNS, Manipal  Attended the workshop on "ATMW the Grothedieck Reimann-Roch Theorem" at University of Hyderabad, Hyderabad	20.07.2015 to 01.08.2015 07.12.2015 to 18.12.2015
5	Mr. Komandla Mahipal Reddy	MA13D003	Presented a paper titled 'Constraned Fractal Interplations with Vasable Sclaes' in the conference "81 <sup>St</sup> Annual conference of Indian Mathematical Society" at VNIT, Nagpur	27.12.2015 to 30.12.2015
6	Mr. Kurma Rao Tyada	MA12D003	Presented a paper titled 'A Novel Appreance to Preserve Positivity of Surface Data through Trigonometric Fractal Functions' in the conference "81 <sup>St</sup> Annual conference of Indian mathematical Society" at VNIT, Nagpur	27.12.2015 to 30.12.2015
7	Ms. Lavanya	MA14D014	Attended the workshop on "Technion Summer Program" at ISRAEL Institute of Technology	28.07.2015 to 29.08.0215
8	Mr. Mohan Kumar Mallick	MA13D021	Research collaboration work at NISER, Bhubaneshwar	10.08.2015 to 21.08.2015
9	Ms. Poornapushkala	MA13D008	Attended the workshop on "Advanced Instructional School (AIS) – Algebraic Surfaces" at MCNS, Manipal	20.07.2015 to 01.08.2015
10			Attended the workshop on "AFS part III- 2015" at HRI, Allahabad	29.06.2015 to 25.07.2015
10	Ms. Sampa Dey	MA15D005	Attended the workshop on "AIS Analytic Number Theory - 2015" at KIIT, Bhubaneswar	1.06.2015 to 20.06.2015
11	Ms. Samprita Das Roy	MA14D016	Attended the workshop on "CIMPA Summer School on Current Research in Finite Element Method" at IIT Bombay	24.06.2015 to 04.07.2015
12	Mr. Sarvesh Kumar	MA13D023	Attended the conference on "14 <sup>th</sup> Discussion Meeting on Harmenic Analysis" at University of Delhi, Delhi	05.12.2015 to 13.12.2016
13	Mr. Saswata Adhikari	MA11D016	Presented a paper titled 'Frames and Piest Bases of Twisted Shift Invariant Spaces in <2 (R2n)' in the "14 <sup>th</sup> Discussion Meeting on Harmenic Analysis" at University of Delhi, Delhi	05.12.2015 to 13.12.2015
14	Mr. A.Selvakumar	MA15D010	Attended the workshop on "Instructional Schools for Teachers" at Goa University, Goa	07.12.2015 to 19.12.2015

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			Presented a paper titled 'Field-driven Motion of Ferrofluids in Ferromagnetic Nonowire under the Influence of Inertial Effects' in the International Conference on "Heat & Mass Transfer" at NIT Warangal	30.11.2015 to 02.12.2015
15	Mr.Sharad Dwivedi	MA11D018	Presented a paper titled 'On the Evolution of Transverse Domain Walls in Biaxial Magnetic Nonowins' in the International conference on "Recent Trends in Engineering and Material Sciences" at Jaipur National University, Jaipur	16.03.2016 to 22.03.2016
16	Ms. Soumitra Dey	MA15D020	Attended the conference on "The Indian Science congress Association" at Mysore University, Karnataka	01.01.2016 to 09.01.2016
17	Mr. Sourabh Kumar Katiyar	MA11D017	Presented a paper titled 'Positivity Preserving Coalescence Hidden Variable Fractal Interpolation Functions' in the International conference on "Recent Trends in Engineering and Material Sciences" at Jaipur National University, Jaipur	16.03.2016 to 22.03.2016
18	Ms. Suchismita Mishra	MA15D008	Attended the workshop on "Annual Foundations School-II" at IISER Trivandrum/Shiv Nagar University, Uttar Pradesh	10.05.2015 to 07.06.2015
			Attended the conference on "Algorithms and Disc Applied Mathematics" at University of Kerala, Thrivandrum	15.02.2016 to 17.02.2016
19	Mr. Suhas B.N.	MA11D020	Attended the workshop on "Fifth years of the Narasimhan- Seshadri Theorem" at Chennai Mathematical Institute, Chennai	5.10.2015 to 16.10.2015
			Attended the conference on "Algebraic Geometry" at ISI, Bangalore	09.12.2015 to 16.12.2015
20	Mr. Surendra Kumar Sharma	MA11D023	Presented a paper titled 'Stability of Some fourth Order Nonlinear diffusion Filters for Image Denoising' in the International conference on "Current Trends In PDES: Theory & Computations" at South Asian University, Delhi	24.12.2015 to 04.01.2016
21	Ms. Susmita Agarwal	MA12D017	Presented a paper titled 'Radial Basis Fuction Based Gridefree scheme for Interface Computing Preliminary Results' in the International Conference on "Computational Heat and Mass Transfer at NIT Warangal	30.11.2015 to 02.12.2015
22	Mr. Susobhan Mazumdar	MA10D010	Attended the workshop on "Fifth years of the Narasimhan- Seshadri Theorem" at Chennai Mathematical Institute, Chennai	5.10.2015 to 16.10.2015
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#### 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	Kumar Saurabh	MA14M004	Institute Merit Prize	Institute
2	Santi Ranjan Das	MA14C044	Geetha Raghupathy Prize	Institute
3	Subhankar Mondal	MA14C047	LVKV Sarma Prize	Institute
4	Harish Lingam	MA14M016	LVKV Sarma Prize	Institute

#### 3. Faculty and their activities:

#### 3.1. Faculty:

Name and Qualifications	Major area of specialization (only 3 areas)
PROFESSORS:	
Prof. Arindama Singh, Ph.D. (IIT Kanpur)	Logic, Numerical Analysis
Prof.S.H.Kulkarni, Ph.D. (IIT Bombay)	Functional Analysis and 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 and Mathematical Programming
Prof. Subrahmanyam. P.V., Ph.D. (IIT Madras)	Non-linear Analysis- Fixed point Theory & Functional Equations, Fuzzy sets, Summability Theory
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
ASSOCIATE PROFESSORS:	
Dr. A.K.B. Chand, Ph.D. (IIT Kanpur)	Fractals, Approximation Theory and Wavelets
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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. S.R. Manam. S R , Ph.D. (IISc Bangalore)	Applied Mathematics
Dr. A.J. Shaiju, Ph.D. (IISC, Bangalore)	Game Theory, Systems and Control Theory
Dr. Sounaka Mishra, Ph.D. (ISI, Kolkata)	Discrete Mathematics, Approximation Algorithm, Combinatorial Optimization
ASSISTANT PROFESSORS:	
Dr. T.V.Anoop, Ph.D.(IMSC, Chennai)	Linear and Nonlinear Partial Differential Equations, Nonlinear Functional Analysis
Dr. ArijitDey, Ph.D.	Algebraic Geometry
Dr. R. Balaji, Ph.D. (IIT Madras)	Linear Algebra and Optimization
Dr. Kalpana Mahalingam, Ph.D. (Univ. of South Florida, Tampa)	Theory of codes, DNA Computing, Combinatorics of words
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 TheoryProbabilisticCombinatorics. 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-thory, Algebraic Gemetry
Dr. Shruti Dubey, Ph.D. (IIT Kanpur)	Nonlinear Analysis of Functional differential equations, Mathematical Study of Ferromagnetic systems
Dr. Sriram Balasubramanian, Ph.D. (University of Pitsburg)	Functional Analysis
Dr. Suhas Jaykumar Pandit, Ph.D. (ISI Bangalore)	Geometric group theory and low dimensional topology
Dr. V.Uma, Ph.D. (IMSC Chennai)	Topology and Geometry of Toric Varieties and Related Spaces
Dr. W.B. Vasantha, Ph.D. (RIASM Chennai)	Group Theory, Application of Algebra, Fuzzy Algebra and Linear Algebra
Dr. T.E. Venkata Balaji, Ph.D. (CMI, Chennai)	Algebraic Geometry and Commutative Algebra

INSPIRE FACULTY:	
Dr. J. Jaikrishnan Ph.D (Indian Institute of Science, Bangalore)	Complex Variables
Dr. Srilakshmi Krishnamoorthy Ph.D (Sheffield University, UK)	Number Theory, Arithmetic Algebraic Geometry, Elliptic Curves, Modular Forms and Galois Representations
VISITING FACULTY:	
Dr.Arun Kumar (IIT Bombay) 01.01.2015 to 31.12.2015	Subordinated Stochastic Processes
Dr.Pierra Fima (CAEN univesity, France) 12.01.2015 to 11.07.2015	Operator Algebra
Dr. S.Kesavan 01.02.2016 to 31.01.2017	Partial Differential Equation- Homogenization, Isoperimetric inequality
INSTITUTE PDF:	
Dr. Pabitra Barik 16.09.2014 to till date	Algebraic Geometry
Dr. Manasi Kulkarni 01.02.2016 to till date	

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

SI. No.	Coordinator(s)	Title	Period			
Confere	Conference:					
1	Dr. V.Uma	Forays	12.03.2016 to 13.03.2016			
Sympos	Symposia:					
1	Dr.T.E.Venkata Balaji	National Symposium on Mathematical Methods and Applications	22.12.2015			
Worksho	pp:					
1	Dr.A.V.Jayanthan	Advanced Training in Mathematics: School on Commutative Algebra at Chennai Mathematical Institute, Sirusseri	14.12.2015 to 01.01.2016			
2	Dr. A.K.B.Chand Member of Organising Committee	International Conference on 'Mathematical Modelling, Differential Equations, Scientific Computing & Applications', IIT Kanpur	27.03.2016 to 29.03.2016			
Short ter	rm Course:					
1	Dr. Neelesh S Upadhye Dr. K. Arun Kumar (VF)	r. Neelesh S Upadhye and Bayesian and Classical Statistics r. K. Arun Kumar (VF)				
Video Co	ourse:	·				
1	Dr. T.E.Venkata Balaji	NPTEL Video Course on Advanced Complex Analysis Part -1 (42 lectures)	NPTEL website in December 2015			

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

SI. No.	Name of faculty	Title	Institution	Period
Worksh	op:			
1	Dr. Sarang Sane	HIM School on "Derived Categories"	Hausdorff Institute of Mathematics	28.03.2016 to 03.04.216
Confere	nce:	1		
1	Sarang Sane	International Colloquium on K-theory	TIFR, Mumbai	06.01.2016 to 14.01.2016
Training	:			
1	Dr. A. V. Jayanthan	Mathematics Training and Talent Search Programme	SSN College, Chennai	18.05.2015 to 30.05.2015

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

SI. No.	Name of faculty	Topic of Lecture	Institution	Date
1	Dr. Arindama Singh	"Implications of Berry's and Richard's paradoxes"	Ramanujan Institute, University of Madras	31.03.2016
2	Dr. R.Balaji	"Convex Optimization"	LBS Women Engineering College, Trivandrum	21.07.2015 to 22.07.2015
		"Introduction to Fractal Functions and Surfaces"	Sambalpur University, Odisha	16.09.2015
3	Dr. A.K.B.Chand	"Introduction to Fractal Functions and Surfaces"	Sambalpur University, Odisha	16.10.2015
4	Dr. A.V.Jayanthan	"Euler's plolyhedral formula and beyond"	Sacred Heart College, Thevara, Kochi.	19.02.2016
5	Prof. S.H.Kulkarni	"The Nullity Theorem, Its Generalizations and Applications"	Indian Institute of Technology, Bombay	20.01.2016
		"Pseudospectrum of an Element of a Banach Algebra"		21.01.2016
6	Prof. R.Radha	Frames in matrix Fock spaces	IIT Hyderabad	30.09.2015
		"Some issues of Numerical Simulation of Incompressible Fluid Flows"(2 lectures)	National Institute of Technology, Warangal	17.04.2015
7	Prof. Y.V.S.S.Sanyasiraju	"Finite Difference Solutions of Elliptic Partial Differential Equations"(4 lectures)	Indian Institute of Technology, Kanpur	27.05.2015 to 04.06.2015
		"Numerical Solutions of the Ordinary Differential Equations" (08 lectures)	JLN IIT, Jaipur	01.06.2015 to 06.06.2015
		"Finite Difference type Computations using Radial Basis Functions (RBF)"	TIFR, Bangalore	22.12.2015
8	Prof. Satyajit Roy	"Non-uniform Mass Transfer and Non-uniform Heating"	Karnatak University, Karnatak.	29.03.2016

		"Inverse Positive Interval Matrices"	University of Manitoba, Canada	16.10.2015
		"Non-positive group Inverses of Noncopositive Matrices"	Atlanta, USA	29.10.2015
		"Inverse Positivity of Interval Matrices"	Auburn University, Alabama, USA	10.11.2015
		"On some Generalizations of M-matrices"	Howard University, Washington DC, USA	13.11.2015
9	Prof. K.C.Sivakumar	"Moore-Penrose Inverse Positivity of Interval Matrices"	New Mexico State University, New Mexico, USA	19.11.2015
		"Moore-Penrose Inverse Positivity of Interval Matrices"	Texas, USA	20.11.2015
		"Tucker's Theorem for almost Skew-symmetric Matrices"	University of Maryland, Baltimore County, USA	14.12.2015
		"Splitting of Matrices and Nonnegative Moore-Penrose Inverses"	University of Washington, Pullman, USA	03.12.2015
		"A Mathematical Introduction to Fluid Dynamics"	KSR Engineering College, Tiruchengode	02.04.2015
	Prof. S.Sundar	"Big Data Analysis through PDE Approach"	Indian Institute of Management, Ahmedabad	12.04.2015
		"Mathematical Modeling through Differential Equations" (8 lectures)	Indian Institute of Technology, Kanpur	1.06.2015 to 4.06.2015
		"PDE Image Filters" (2 lectures) and "Industrial Mathematics"	Kalinga Institute of Industrial Technology, Bhubaneshwar	28.06.2015 to 29.06.2015
10		"Non-linear Conservation Law Model for Production Systems Incorporating Yield Loss"	Indian Institute of Technology, Roorkee	31.07.2015
10	Troi. G.Garidai	"Mathematical Modeling"	PSBB School, KK Nagar, Chennai	20.08.2015
		"Understanding Porosity Effects of Glass Fibre Insulation"	TIFR-CAM, Bangalore	06.10.2015
		"Non-Linear Diffusion Filters: Models and Numerics" (4 lectures)	Satya Sai University, Puttapurthi	28.10.2015 to 29.10.2015
		"Image Filters based on Topological Optimization"	National Institute of Technology, Trichy	27.11.2015
		"Numerics for PDEs"	Bannari Institute of Engineering, Erode	07.12.2015
		"PDE Image Filters: Models"	IISER, Trivandrum	17.12.2015
		"Traffic Flow through Scalar Conservation Law"	Mohammad Sathak College of Arts and Science, Chennai	22.12.2015
		"Shipe Optimization in Imaging"	IIST, Trivandrum	23.12.2015

		"Pitching right Intelligent Questions on Engineering Mathematics"	VIT, Vellore	09.01.2016
11	Prof. S.Sundar	"PDE Based Image Technology"	SSN College, Chennai	01.02.2016
		"Mathematical Modeling"	Anand Institute of Technology, Chennai	17.02.2016
		"Mathematical Challenges Through Industrial Problems"	NIT, Raipur	14.03.2016
		"Some Interesting Consequences of Elementary Geometry" and "Some topics in Set Theory" (2 lectures)	The Association of Mathematics Teachers of India, Chennai	02.05.2015
12	Prof. M.Thamban Nair	"Hilbert Space Theory" (2 lectures)	Birla Institute of Technology & Science, Pilani - Goa	29.05.2015
		"On Solving Matrix Equations"	Indian Naval Academy, Ezhumala, Kerala	12.09.2015
		"Convergence"	IIT Palakkad	15.10.2015
		"Stability of Operator Equations"	Central University of Kerala	16.12.2015
		"Fixed point Theorems, Best Proximity point Theorems and their Applications"	SRM University, Chennai	05.01.2016
		"On some Results in Best Approximation Theory"	Sree Saraswathi Thyagaraja College, Pollachi	11.02.2016
13	Prof. P.Veeramani	"Normal Structure and Invariance of Chebyshev Center"	Periyar University, Selam	12.02.2016
		"On Completeness Axion, Zorn's Lemma and their Applications"	Shanmuga Industries Arts and Science College, Tiruvannamalai	26.02.2016
		"Role of Mathematics in Various Field"	Valivalam Desikar Polytechnic College, Nagapattinam	27.02.2016
		"On Existence and Convergence of Best Proximity Points"	VIT, Vellore	12.03.2016
14	Prof. V.Vetrivel	"BORSUK-ULAM Theorem"	Tamilnadu Open University	16.10.2015

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

SI.		Programme	Paper/Talk	Date
No.	Dr. Arindama Singh	TPM held at NISER, Bhubaneswar	Invited talks (12) "Ordinary Differential Equations"	23.05.2015 to 06.06.2015
'	DI. Allilualità Siligii	MTTS at Dibrugarh University	Invited talks (10) "Linear Algebra"	17.12.2015 to 23.12.2015
		INSPIRE programme at Laxmi Ammal Engg College, Chennai	Invited talk "How to count the elements in a set?"	28.12.2015

2	Dr. A.K.B.Chand	International Conference on 'Mathematical Modelling, Differential Equations', Scientific Computing & Applications, IIT Kanpur	Invited talk (2)  "Fractal Interpolation and Approximation"  "A-Fractal Rational Functions and Their Positivity Aspects"	26.03.2016 to 29.03.2016
3	Dr.Ch.Srinivasa Rao	19 <sup>th</sup> Ramanujan symposium on recent trends in nonlinear partial and fractional differential equations, University of Madras	Invited talk "Solutions of some nonlinear parabolic equations"	02.03.2016
4	Dr. A.V.Jayanthan	ATM School on Commutative Algebra held at Chennai Mathematical Institute	Invited Talks (6) "Commutative Algebra"	14.12.2015 to 19.12.2015
		'INSPIRE Camp for Higher Secondary School Students, Sacred Heart College', Thevara, Kochi	Invited talk on "Euler's Polyhedral Formula and Beyond"	19.02.2016
5	Dr. Priyanka Shukla	International Conference on 'Mathematical Modelling, Differential Equations', Scientific Computing & Applications, IIT Kanpur	Invited talk on  "Nonlinear Fingering Instability Driven by a Simple Chemical Reaction"	28.03.2016
6	Prof. Satyajit Roy	National Conference on 'Computational Mathematics and Non-linear Dynamics', at Visva Bharati University, West Bengal	Invited talk on  "Mixed Convection within Square Equities for Nozsing Wall(s)"	19.02.2016 to 21.02.2016
7	Dr. Sarang S Sane	NCM Instructional School for Teachers, SGGS Institute of Technology, Nanded	Invited talks (6) "Linear Algebra"	23.11.2015 to 28.11.2015
		National Workshop on Algebra, Shivaji University, Kolhapur	Invited Talks (3)  "Factoring and UFDs" "Gauss's Lemma" and "Factoring Integer Polynomials"	23.12.2015 to 24.12.2015
8	Dr. Shruti Dubey	International conference on Current Trends in PDEs: Theory and Computation, South Asian University, New Delhi	Invited Talk on "Control of 2D Ferromagnetic System Governed by Landau- Lifschitz Equation"	28.12.2015 to 29.12.2015
9	Prof. K.C.Sivakumar	International Conference on Matrix Analysis and Applications, Nova Southeastern University, Florida, USA	Presented a paper titled "P-operators on Banach Spaces"	17.12.2015 to 20.12.2015
		National Conference on 'Analysis and its Applications', BHU.	Invited talk on "Moore-Penrose Inverse Nonnegativity of Interval Matrices"	05.02.2016 to 07.02.2016

		National Conference on PDE & Application, DS University, Bangalore	Invited Talk on "Image Filters through Topological Gradients"	14.12.2015
		International Conference on PDE Applications, South Asian University, New Delhi	Invited Talk on "Solutions of Gas Kinetic Equations using Sectional Quadrature Method of Moments for PBE"	29.12.2015
		'National Science Day', IIT Madras	Invited talk on "Mathematics – A Key Technology"	28.02.2016
10	Prof. S.Sundar	National Conference on 'PDEs, Ramanujan Insitute', Chennai	Invited talk on "Solution of Gas Kinetic Equations using SQMOM"	02.03.2016
		National Conference on 'Physics of Fluids and Fluid Dynamics', Jadavpur University	Invited talk on  "Heat Transfer Modeling of glass fiber insulation"	03.03.2016
		'National Science Day', IIT Madras	Invited talk on "Mathematics – A Key Technology"	28.02.2016
		National Symposium on "Functional Analysis" Victoria college, Palakkad	Invited talk on "On Euqivalence of CGT and UBP"	30.10.2015
11	Prof. M. Thamban Nair	IMS Conference, VNIT, Nagpur	12 <sup>th</sup> Ganesh Prasad Memorial Award Lecture: "Compact Operators and Helbert Scales in ill-posed Problems"	28.12.2015 to 30.12.2015
		International Conference on 'Nonlinear Dynamical Systems' at Bharathiar University, Coimbatore	Invited talk on "Dynamical System Method for III-posed Problems"	24.03.2016
10		International conference on Analysis and its Applications, Aligarh Muslim University, Aligarh	Invited talk on "On Applications of best Prosimity Point Theorems"	19.12.2015 to 21.12.2015
12	Prof. P.Veeramani	Second National conference on Algebra, Analysis and Fuzzy Mathematics, North Maharashtra University, Jalgion	Invite talk on "Zeron's Lemma Normal Structure and some open Problems Involving Fixed Point Theorems of Non- expansive Mappings"	29.01.2016 to 30.01.2106
13	Dr. T.E.Venkata Balaji	'Ramanujan Day Celebrations', Ramanujan Institute RIASM University of Madras	Invited talk on "Quaternions and Quadratic Forms"	17.02.2016
		'Math Appreciation Forum', Padma Seshadri Bala Bhavan Senior Secondary School, KK Nagar	Invited talk on "What is Geometry?"	04.03.2016

#### 3.6 Visit to other Instutions

SI.	Name of faculty	Programme	Venue	Date
		Attended the Doctoral Committee Meeting as a member	VIT, Vellore	09.04.2015
		Attended the Ph.D. Viva-Voce as an Examiner	Kerala University, Trivandrum	13.04.2015
		Visited to evaluate M.Sc Thesis and conducting Viva-voce examination for 5 students	Indian Institute of Technology, Bhubaneswar	04.05.2015 to 06.05.2015
1	Prof. Y.V.S.S.Sanyasiraju	Attended the Board of Studies meeting	Madanapalli Institute of Technology, Madanapalli	14.05.2015
	1101. II.V.O.O.Ganyaonaja	Attended the Board of Studies meeting of the Mathematics Board,	PSG College of Engineering, Coimbatore	13.06.2015
		Attended the Ph.D Viva-Voce as an Examiner	University of Delhi, Delhi	21.07.2015
		Attended the Comprehensive Viva as a member	VIT, Vellore	05.02.2016
		Attended the Board of Studies meeting as a member	Audisankara College and Engineering and Technology, Guduru	13.02.2016
		Attended the Faculty recruitment committee meeting as a member	VIT, Vellore	26.03.2016
	Prof. Satyajit Roy	Attended the Ph.D Viva-Voce as an Examiner	Indian Institute of Technology, Ropar	28.05.2015 to 29.05.2015
2		Attended the Ph.D Viva-voce meeting as member	JNTA, Ananthapuramu	28.11.2015
		Attended the Departmental Promotion Committee meeting as expert member	Indian Institute of Space Science and Technology, Thiruvananthapuram	27.01.2016
		Attended the Comprehensive viva/DC meeting as a member	VIT, Vellore	09.02.2016
		Attended the Advisory Committee meeting as a member	Easwari Engineering College, Ramapuram.	17.02.2016
3	Prof. K.C.Sivakumar	Attended the Mathematical Modeling competition for B.Tech students as a Judge.	SRM University, Ramapuram	15.03.2016
		Attended the Doctoral Committee Meeting as a member	SRM University, Kattankulanthur	22.03.2016
		Attended the DC Meeting as an member	VIT, Vellore	03.08.2015
4	Dr. Sounaka Mishra	Attended the DC meeting as member	IIITDM, Kanchipuram	13.10.2015
	Dir Godinana Miorita	Attended the Ph.D Viva-voce as member	Indian Institute of Technology, Guwahati	17.12.2015 to 18.12.2015
		Attended the Synopsis meeting as member	IIITDM, Kanchipuram	14.01.2016

		Attended the Ph.D Viva-Voce as an Examiner	National Institute of Technology, Trichy	05.05.2015
		Attended DST-PAC meeting	Indian Institute of Science, Bangalore	22.06.2015 to 23.06.2015
		Attended the Ph.D Viva-Voce as an Examiner	Indian Institute of Technology, Roorkee	31.07.2015
		Attended the Ph.D review meeting	SASTRA University	08.08.2015
		Attended as chief guest for validation function of Modeling workshop	PSBB School, KK Nagar, Chennai	04.09.2015
		Attended the selection committee meeting.	IISER, Toam	09.09.2015
	Drof C Cundor	Attended the Ph.D review meeting	SASTRA University	26.09.2015
5	Prof. S.Sundar	Attended the Ph.D Viva-voce meeting as member	Anna University, Chennai	6.11.2015
		Attended the Faculty selection committee meeting	SRM Institute, Chennai	23.11.2015
		Attended the Faculty selection committee meeting	PSG Tech., Coimbatore	28.11.2015
		Attended the Faculty selection Interview as member	IISER, Trivandrum	23.12.2015
		Attended the Project Review Advise as member	Vel-Tech university, Chennai	20.12.2015
		Attended the Faculty selection Interview as member	IIST, Trivandrum	27.01.2016
		Attended the Ph.D viva-voce meeting as a member	SASTRA University	26.02.2016 to 27.02.2016
		Attended the Selection Committee meeting as a member	NIT, Surathkal	09.03.2016
		Attended the DAAD Meeting as a Panelist	M.S.Swaminathan Academy, Chennai	19.03.2016
		Attended the Ph.D viva-voce as External Examiner	IISc, Bangalore	29.03.2016
		Attended the selection committee meeting	Cochin University of Science and Technology, Kochi	25.05.2015 to 26.05.2015
		Attended the Faculty Recruitment related work	Indian Institute of Technology, Hyderabad	06.07.2015
6	Prof. M.Thamban Nair	Attended the Interaction meeting with faculty members and students	Indian Naval Academy, Ezhimala, Kerala	11.09.2015
		Interactive session with Students	Indian Institute of Technology, Palakkad	15.10.2015 to 16.10.2015
7	Prof. P.Veeramani	Attended the Curriculum development meeting	Bharathidasan University, Trichy	19.11.2015
		Attended the KVPY interviews as Panel member	Dept of Biotechnology, Anna University, Chennai	15.01.2016 to 17.01.2016
8	Dr . T.E. Venkata Balaji	Attended the Interview committee meeting of IITM-Sastra-PSBB RSIC 2016	Padma Seshadri Bala Bhavan Senior Secondary School Nungambakkam	20.02.2016

	Dr. T.E.Venkata Balaji	Attended the Function of Math Appreciation Forum as a Chief Guest		04.03.2016
9	Prof. V.Vetrivel	Attended Peer Review Committee Meeting as member	National Institute of Technology, Trichy	19.10.2015 to 20.10.2015

#### 3.7. Visits abroad by faculty:

SI. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1	Dr. Neelesh S Upadhye	Singapore	18.05.2015 to 29.05.2015	Attended the International workshop on "New Directions in Stein's method"	Institute (CPDA)
2	Dr. Kunal Krishna Mukherjee	Poland	28.06.2015 to 11.07.2015	Attended the International conference on "Topological Quantum Groups – Graduate School"	Institute (CPDA)
3	Prof. P.Veeramani	Turkey	20.07.2015 to 24.07.2015	Attended the "11 <sup>th</sup> International Conference on Fixed Point Theory and Its Application (ICFPTA 2015)"	Institute (CPDA)
4	Prof. K.C.Sivakumar	USA & Canada	14.09.2015 to 03.01.2016	To attend SIAM conference on "Applied Linear Algebra", USA     To attend 5 <sup>th</sup> International Conference on "Matrix Analysis and Applications", USA	Institute (CPDA)
				Collaborative work on a research monograph at the University of Manitoba, Canada	Without Institute Fund
5	Prof. M.Thamban Nair	Germany	16.09.2015 to 18.09.2015	To participate in an International Workshop on "Recent Advances in Inverse Problems".  Invited Talk: "A linear regularization method for a nonlinear parameter identification problem".  Also chaired a session.	Institute (CPDA)
6	Prof. R.Rama	China & Japan	12.11.2015 to 15.11.2015 & 16.11.2015 to 18.11.2015	Presented a paper in Asian Conference on Membrane Computing 2015, at Anhui University, China      Attended the 9 <sup>th</sup> International Collaboration Symposium on Information Production and Systems at Kitakyushu, Fukuoka, Japan	Institute (CPDA)
7	Prof. S.Sundar	Germany	09.10.2015 to 19.10.2015	Presented Invited Talk: "Industrial Mathematics in India through Industrial Case Studies"	Institute (CPDA)
8	Dr. Sarang S Sane	Germany	29.03.2016 to 02.04.2016	Attended the Hausdorff School on "Derived Categories" in the Hausdorff Institute of Mathematics, Bonn, Germany	

#### 3.8 Honours and Awards obtained by faculty:

SI.	Name of faculty	Name of Award	Awarded by	Date of award
No.				
Awards:				
1	Prof M.Thamban Nair	12th Ganesh Prasas	Indian Mathematical	29.12.2015
		Memorial Award	Society,2015	

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

#### 3.10 Journal Editorial Boards:

SI. No.	Name of faculty	Position (Editor/Member)	Journal Name
		Editor-In-Chief	Mathematics Newsletter
		Managing Editor	Journal of Analysis
		Associate Editor	Bulletin of Malaysian Mathematical Sciences Society
		Editorial member	Journal of Classical Analysis
1	Prof. S.Ponnusamy	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
		Guest 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:

#### 5.1 Sponsored Research Projects: (on going & new)

SI. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1.	Analysis and Computation of Optimal Strategies in N-person Differential Games	3 years from 08.07.13	DST	3.132	A. J. Shaiju (PI), Ch. SrinivasaRao
2.	Evolutionary Games with continuous Strategy space	3 years from 22.07.13	NBHM	3.295	K. S. MallikarjunaRao , A. J. Shaiju (Co-PI)
3.	Intersection Edge Colourings and Axiom.charec. of Geodesics	3 years From 10.09.2013	NFSC	5.00	Dr. N. Narayanan
4.	Finite Element Methods for Parameter Identification Problems in Elliptic Partial Differential Equations		DST	12.13	Prof. M.Thamban Nair
5.	Exploring Graph Products via Commutative Algebra	11.02.2015 To 10.02.2016	Center for IC & SR, IIT Madras	9.00	A. V. Jayanthan (PI) N. Narayanan B. V. Raghavendra Rao
6.	Projective modules, Euler classes, Chow- Witt groups and A <sup>1</sup> - homotopy theory	2014-2019	DST-INSPIRE	32.44388	Sarang S. Sane
7.	Some Aspects of Derived categories	2015-2017	ICSR-NFIG	5.00	Sarang S. Sane

- 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 Book	<b>KS</b>		: (Total No.)		
5.8 (a)	Total No	o. of papers published in Refereed National Journals	:		
5.8.(b)	Total No	o. of papers published in Refereed International Journa	ils:		
5.8.(c)	Total No	o. of papers presentation in National Conferences			
	(i) (ii)	In proceedings as full paper As abstract	: :		
5.8 (d)	Total No	o. of papers presentation in International conferences			
	(i) (ii)	In proceedings as full paper As abstract	: :		
	<u>Note:</u> Only books / papers which are published between 1.4.2015 and 31.03.2016 are to be given.				

a. In Refereed International Journals: Excel sheet

b. In Proceedings of International Conferences: Excel sheet

#### 6 Distinguished Visitors to the Department:

SI.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1	Prof. Gerald Beer California State University , Los Angeles , USA	14.04.2015 to 17.04.2015	Visited our department and given special seminar talk
2	Dr. Swagta Sarkar Postdoctoral Fellow, IISc Bangalore	30.04.2015 to 03.05.2015	Research collaboration with Dr. Arijit Dey
3	Prof. Manoj Changat University of Kerala	27.04.2015 to 01.05.2015	Research collaboration with Dr. N.Narayanan and given special seminar talk at our department
4	Dr. Panchugopal Bikram ISI Kokota	15.07.2015 to 01.08.2015	Research collaboration with Dr. Kunal Krishna Mukherjee
5	Dr. Ignazio Longhi Xi'an Jiaotong - Liverpool university, China	15.08.2015 to 21.08.2015	Research collaboration with Dr. N. Narayanan
6	Prof. Jan Cameron Professor of Mathematics, Vassar College, New York	06.08.2015 to 16.08.2015	Research collaboration with Dr. Kunal Krishna Mukherjee
7	Dr. Mainak Poddar Los Alamos University, Bogota	09.09.2015 to 12.09.2015	Research collaboration with Dr. Arjit Dey

8	Dr. Brian Powers The University of Illinois, Chicago, USA	24.01.2016 to 27.01.2016	Research interaction with Prof. K.C.Sivakumar, Prof. V.Vetrivel and Dr. A.J.Shaiju
9	Prof. Biswanath Datta Duistinguished Research Professor, North Illinois University	26.01.2016 to 27.01.2016	Research interaction with Prof. Arindama Singh
10	Prof.B.Rajiv ISI Bangalore	27.01.2016 to 30.01.2016	Research interaction with Prof. M.Thamban Nair
11	Prof.Harihar Khanal Department of Mathematics Emberry-Riddle Aeronautical Univeristy, Florida, USA	19.3.2016 to 26.3.2016	Research Collaboration with Prof.S. Sundar, delivered Lectures for M.Tech students and Colloquium Talk
12	Prof. V. Raghavendra Formerly with Department of Mathematics & Statistics,IIT Kanpur	05.02.2016 to 12.02.2016	Research Collaboration with Prof. S. Sundar, and delivered Special seminar in our department
13	Prof. hab. inz. Agnieszka Wylomanska Wrocław University of Technology, Poland	28.03.2016 to 8.04.2016	Research Collaboration with Prof. S. Sundar, and delivered Special seminars in our department

# 7. Other Activities of the Department/Centre:

#### a.Weekly seminar talk

SI. No.	Name of the Faculty	Title	Date
1.	Dr. Surya Prasath University of Missouri – Columbia USA	"Globally Convex Variational Methods in Computer Vision"	09.04.2015
2.	Prof. Gerald Beer California State University, Los Angeles, USA	"On Locally Lipschitz functions" and "Uniform Continuity of the product of Real Functions"	15.04.2015 and 16.04.2015
3.	Dr. Sarang S.Sane Department of Mathematics, IIT Madras	"An Exposition of Results Related to Cancellation Problems"	23.04.2015
4.	Dr. Swagata Sarkar Postdoctoral Fellow, IISc Bangalore	"Equivariant Cobordism Classes Of Milnor Manifolds"	01.05.2015
5.	Dr. Chetan Balwe Tata Institute Of Fundamental Research, Mumbai	"A <sup>1</sup> - Connectedness of Schemes"	19.05.2015
6.	Dr. Puneet Sharma Indian Institute of Technology, Jodhpur	"Dynamics Induced on the Hyperspaces"	22.05.2015

7.	Dr. Nitu Kumari School of Basic Sciences, Indian Institute of Technology Mandi, Himachal Pradesh	"Turing Patterns and Long-time behavior in a Three-species Food-chain Model"	27.05.2015
8.	Dr. Vikas Gupta, Department of Mathematics LNMIIT, Jaipur	"A Parameter Robust Finite Difference Scheme for Singularly Perturbed Problem with Two Small Parameter"	01.06.2015
9.	Dr. Pallavi Mahali Department of Mathematics VNIT, Nagpur	"Regularization of III-posed Operator Equations"	01.06.2015
10.	Prof. Shobha Madan Department of Mathematics and Statistics, IIT Kanpur	"Convergence of Multiple Fourier Series"	01.06.2015
11.	Dr. Sriram Balasubramanian IISER, Kolkata	"The Douglas Property for Free Functions"	03.06.2015
12.	Dr. R. Venkatesh Max Planck Institute of Mathematics Germany	"Unique Factorization of Tensor Products for Finite Dimensional Simple Lie Algebras"	03.06.2015
13.	Dr. Ananya Lahiri Chennai Mathematical Institute Chennai	"On Estimation of model Parameter of Multicomponent Chirp Signal"	04.06.2015
14.	Dr.T.V.Anoop	"On Eigenvalue Problems for the P-Laplacian"	04.06.2015
15.	Dr. Pratyusha Chattopadhyay ISI, Banglore	"Equality of Linear and Symplectic Orbits, and Improved K_1 Stability"	05.06.2015
16.	Dr. Raisam Gorai ISI, Bangalore	"Local Polynominal Convexity of Certain Classes of Surfaces in C2"	05.06.2015
17.	Dr. Rasmita Kar LNMIIT,Jaipur	"Existence of Solutions for a class of Nonlinear BVPS in Unbounded Domain"	08.06.2015
18.	Dr. V.B. Kiran Kumar PSMO College, Kerala	"Eigenvalue Clustering and its Applications"	08.06.2015
19.	Dr.Arun Kumar IIT Madras	"First-Exit times of Inverse Gaussian L'evy Process"	09.06.2015
20.	Dr. Anupam Priyadarshi Tokyo University, Japan	"Basic Ecological Food chain/web Modeling to Micro –Scale Plankton Modeling"	10.06.2015
21.	Dr. R. Sundara Rajan VIT University, Chennai	"On Network Embeddings"	11.06.2015
22.	Dr. Souman Sarkar University of Regina, Canada	"Some Aspects of Topological Complexity and Equivariant LS-Catego"	12.06.2015

Dr. Upendra Prasad Harvard University, USA  Prof. Ratnasingham Shivaji University of North Carolina at Greenboro, USA	"Analysis of Metabolic Pathways using Nonnegative Matrix Factorization"  "Bifurcation and Multiplicity Results for Classes of Reaction Diffusion Equations"	17.06.2015 26.06.2015
University of North Carolina at		26.06.2015
Prof. Ratnasingham Shivaji University of North Carolina at Greenboro, USA	"Proving Uniqueness Results for Reaction Diffusion Equations an Introduction"	30.06.2015
Dr. Shankar Venkataramani Department of Mathematics University of Arizona	"Numerical Conformal Mappings and Free Boundary Problems"	14.07.2015
Prof. Jan Cameron Professor of Mathematics, Vassar College, New York	"Bimodules Over Regular Subalgebras of Von Neumann Algebras"	13.08.2015
Dr. Sanjay Kumar Singh IISER, Bhopal	"Vector Bundles Satisfying the Point Property"	13.08.2015
Dr. Ignazio Longhi Xi'an Jiaotong - Liverpool university	"Aspects of Zeta Functions Over Function Fields"	20.08.2015
Dr. Debargha Banerjee IISER, Pune	" $p$ - adic L – Functions for Automorphic Forms on $\operatorname{Gl}_n$ "	21.08.2015
Prof. Loic Merel Université Paris Diderot - Paris VII	"The Diophantine Equation $y^2 = x^8 + x^4 + x^2$ and Modern Arithmetic Geometry"	27.08.2015
Dr. N. Narayanan Department of Mathematics, IIT Madras	"Erdös Magic"	10.09.2015
Dr. Umesh Dubey, IISc, Bangalore	"Tensor Action and Classification of Thick Subcategories"	15.09.2015
Dr. Sarath Sasi Visiting Faculty NISER, Bhubaneshwar	"Modeling of Alternate Stable States in Ecological Systems"	01.10.2015
Dr. J. Jaikrishnan, Inspire Faculty IIT Madras	"The Scaling Method of Pinchuk"	08.10.2015
Dr. Ritwik Mukherjee TIFR, Mumbai	"Enumerative Geometry of Rational Cuspidal Curves on Del-Pezzo Surfaces"	14.10.2015
Dr. Arun Kumar Visiting Faculty IIT Madras	"Python for Finance"	15.10.2016
Dr. Anisha P Department of Biostatistics and Epidemiology, Georgia Regents University, Augusta, GA, USA	"Shared Frailty Model for Recurrent Event data with Multiple Causes"	10.12.2015
	Dr. Shankar Venkataramani Department of Mathematics University of Arizona  Prof. Jan Cameron Professor of Mathematics, Vassar College, New York  Dr. Sanjay Kumar Singh IISER, Bhopal  Dr. Ignazio Longhi Xi'an Jiaotong - Liverpool university  Dr. Debargha Banerjee IISER, Pune  Prof. Loic Merel Université Paris Diderot - Paris VII  Dr. N. Narayanan Department of Mathematics, IIT Madras  Dr. Umesh Dubey, IISc, Bangalore  Dr. Sarath Sasi Visiting Faculty NISER, Bhubaneshwar  Dr. J. Jaikrishnan, Inspire Faculty IIT Madras  Dr. Ritwik Mukherjee TIFR, Mumbai  Dr. Arun Kumar Visiting Faculty IIT Madras  Dr. Anisha P Department of Biostatistics and Epidemiology, Georgia Regents	Dr. Shankar Venkataramani Department of Mathematics University of Arizona  Prof. Jan Cameron Professor of Mathematics, Vassar College, New York  Dr. Sanjay Kumar Singh IISER, Bhopal  Dr. Ignazio Longhi Xi'an Jiaotong - Liverpool university Dr. Debargha Banerjee IISER, Pune  Prof. Loic Merel Université Paris Diderot - Paris VII Dr. N. Narayanan Department of Mathematics, IIT Madras  Dr. Umesh Dubey, IISC, Bangalore  Dr. Sarath Sasi Visiting Faculty NISER, Bhubaneshwar  Dr. J. Jaikrishnan, Inspire Faculty IIT Madras  Dr. Arun Kumar Visiting Faculty Visiting

39.	Dr. Buddhananda Banerjee Department of Mathematics & Statistics, Indian Institute of Science Education and Research, Kolkata	"Linear Increment in Efficiency with the Inclusion of Surrogate Endpoint"	11.12.2015
40.	Dr. Deemat C Mathew National Remote Sensing Centre, Nagpur, India	"Analysis of Time Series With Heavy Tails"	17.12.2015
41.	Dr. Sanjukta Das	"Existence of Solution and Controllability of Delay Differential Equations"	21.12.2015
42.	Dr. Harsha Hutridurga Department of Pure Mathematics and Mathematical Statistics (DPMMS), The University of Cambridge, United Kingdom	"Hypocoercivity and Geometric Control Conditions in Kinetic Theory"	12.01.2016
43.	Dr. Sivaguru Ravisankar TIFR, Mumbai	"Several Complex Variables and the Bergman Projection"	14.01.2016
44.	Prof. K.C.Sivakumar Department of Mathematics, IIT Madras	"Inverse Positivity of Interval Matrices"	21.01.2016
45.	Dr. Brian Powers The University of Illinois, Chicago, USA	"An Analysis of Dual-Issue Final-Offer Arbitration"	25.01.2016
46.	Prof. Biswanath Datta Distinguished Research Professor, North Illinois University	"Computational and Optimization Methods for Quadratic Inverse Eigenvalue Problems Arising in Mechanical Vibration and Structural Dynamics: Linking Mathematics to Industry"	27.01.2016
47.	Prof. B. Rajeev Theoretical Statistics and Mathematics Unit, ISI, Bangalore	"Brownian Random times : Regeneration and Reversal"	28.01.2016
48.	Prof. Michel Waldschmidt Pierre et Marie Curie University, Paris	"Srinivasa Ramanujan his life and his work"	04.02.2016
49.	Prof. V. Raghavendra Formerly with Department of Mathematics & Statistics IIT Kanpur	"Natural numbers using Peano's Axioms"	11.02.2016
50.	Prof. S. Kesavan Department of Mathematics, IITM	"Korovkin's Theorem: Revisited"	18.02.2016
51.	Prof. M. T. Nair Head, Department of Mathematics, IIT Madras	"Compact Operators and Hilbert Scale in III-Posed Problems"	25.02.2016
52.	Dr. Sumesh K Postdoc, IMSc. Chennai	"GNS-Pair: Construction and Applications"	03.03.2016

53.	Prof. Ratnasingham Shivaji Chairman, Department of Mathematics & Statistics, The University of North Carolina at Greensboro, USA	"A Positivity Challenge in Steady State Reaction Diffusion Problems"	07.03.2016
54.	Dr. Jaikrishnan J Inspire Faculty, IIT Madras	"Continuous Computation and Applications"	10.03.2016
55.	Dr. Rajesh Kannan Postdoc, University of Manitoba, Canada	"Nonnegative Tensors and their Applications"	17.03.2016
56.	Dr. Harihar Khanal Department of Mathematics Embry- Riddle Aeronautical	"Computational Models of Spatio-Temporal Signalling in Rod Phototransduction"	22.03.216
	University, Florida, USA	"Computational Models for Nanosecond Laser Ablation"	24.03.2016
57.	Prof. hab. inz. Agnieszka Wylomanska (Wroclaw University of Technology, Poland)	"Stochastic Processes Based on Heavy-tailed Distributions: Theory and Applications"	28.03.2016 and 30.03.2016
		"Anomalous diffusion models as tools to real data description"	31.03.2016

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