

# 40th Annual Conference of the Ramanujan Mathematical Society (RMS-2025)

December 18-20, 2025

IIT-Delhi

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Events	Venue
Plenary Talk	B003
Public Talk	B003

No.	Symposia	Venue
S1	Algebraic Geometry	A006
S2	Discrete Mathematics	A007
S3	Partial Differential Equation	A105
S4	Geometry and Topology	A106
S5	Mathematical Aspects of Computer Science	A006
S6	Numerical Analysis	A007
S7	Probability and Statistics	A105
S8	Representation Theory	A106
S9	Algebra	A006
S10	Complex Analysis	A007
S11	Harmonic and Functional Analysis	A105
S12	Number Theory	A106

## RMS-2025 @IIIT-Delhi Day-wise Time-Table

Time	December 18	December 19	December 20
8:00–9:30	Registration/ Inauguration (9:15–9:30)	Registration	Registration
9:30–10:30	<b>Plenary 1</b>	<b>Plenary 3</b>	<b>Plenary 5</b>
10:30–11:00	Tea	Tea and posters	Tea and posters
11:00–13:00	S1, S2, S3, S4	S5, S6, S7, S8	S9, S10, S11, S12
13:00–14:15	Lunch	Lunch	Lunch
14:25–15:25	S1, S2, S3, S4	S5, S6, S7, S8	S9, S10, S11, S12
15:25–15:45	S1, S2, S3, S4	S5, S6, S7, S8	S9, S10, S11, S12
15:45–16:00	Tea	Tea	Tea
16:00–17:00	S1, S2, S3, S4	S5, S6, S7, S8	S9, S10, S11, S12
17:00–17:30	Tea and poster	Tea and posters	Tea and poster
17:30–18:30	<b>Plenary 2/ Public</b>	<b>Plenary 4</b>	<b>Plenary 6</b>
18:30–19:30	GBM	————	————
19:30–	Dinner	Dinner	Dinner

## Plenary/Public Talks

Venue: B003

(December 18–20, 2025)

Session	Date	Time	Speaker	Title
Plenary 1 Chair: Nabanita Ray	18 Dec	9:30–10:30 am	Gurmeet K. Bakshi Punjab University	From Correspondence to Revolution: Dedekind, Frobenius, and the Birth of Representation Theory
Plenary 2 <b>(Public)</b> Chair: Debika Banerjee	18 Dec	5:30–6:30 pm	Kumar Murty University of Toronto	Motives, periods and irrationality
Plenary 3 Chair: Kaushik Kalyanaraman	19 Dec	9:30–10:30 am	Debdip Ganguly ISI Delhi	Functional inequalities: Sharp Constants, Extremals and Stability
Plenary 4 (Professor R. Balakrishnan Endowment Trust Lecture) Chair: Rajiv Raman	19 Dec	5:30–6:30 pm	S. Sivaramakrishnan IIT Bombay	Enumerative combinatorics in the Alternating group $A_n$ and beyond
Plenary 5 Chair: Manuj Mukherjee	20 Dec	9:30–10:30 am	Rahul Roy IIIT-Delhi	Two models of evolution of species: a probabilistic study
Plenary 6 Chair: Satish Kumar Pandey	20 Dec	5:30–6:30 pm	Jotsaroop Kaur IISER Mohali	On Bochner-Riesz problem

# Symposia-1: Algebraic Geometry (S1)

Venue: A006

(December 18, 2025)

Chair of the Symposia Talks	Time	Speaker	Title of the Talk
<b>Krishan Hanumanthu</b> (CMI)	11:00–11:25 am	Nabanita Ray (IIT Delhi)	Positivity and Base Loci of vector bundles
	11:30–11:55 am	Pradip Kumar (Shiv Nadar University)	Related to Higgs bundles twisted by a vector bundle
	12:00–12:25 pm	Ritwik Mukherjee (NISER Bhubaneswar)	Counting Rational curves with an $m$ -fold point
	12:30–12:55 pm	Yashonidhi Pandey (IISER Mohali)	Bruhat-Tits theory over a higher dimensional base
	2:25–2:50 pm	Mainak Poddar (IISER Pune)	Equivariant principal bundles over toric DM stacks
	2:55–3:20 pm	Neena Gupta (ISI Kolkata)	On Affine forms
	3:25–3:40 pm	Rumi Ghosh (IIT Bhubaneswar)	An invariant of valuation transcendental extensions and some stability results
	4:00–4:15 pm	Cyril J. Jacob (IIT Bombay)	Lower bounds for Seshadri constants on general blow ups of $\mathbb{P}^2$
	4:20–4:35 pm	Snehajit Misra (IITISM Dhanbad)	On stability of Syzygy Bundles

## Symposia-2: Discrete Mathematics (S2)

Venue: A007

(December 18, 2025)

Chair of the Symposia Talks	Time	Speaker	Title of the Talk
Swarup K Panda / S. Pirzada (IIT Kharagpur/ University of Kashmir)	11:00–11:25 am	Deepa Sinha (South Asian University)	Encryption and Decryption of Signed Graph through RSA Algorithm
	11:30–11:55 am	Angsuman Das (Presidency University, Kolkata)	Graphs defined on Groups
	12:00–12:25 pm	Ranjit Mehatari (NIT, Rourkela )	Planer graphs with abelian automorphism groups
	12:30–12:55 pm	Pratima Panigrahi (IIT Kharagpur)	On some Combinatorial Structures associated with Strongly Regular Graphs and related open problems
	2:25–2:50 pm	Shariefuddin Pirzada (University of Kashmir)	On the eigenvalues of the adjacency matrix of graphs
	2:55–3:20 pm	Ranveer Singh (IIT Indore)	Expressing the permanent of bipartite graphs in terms of determinants
	3:25–3:40 pm	Somi Gupta (IIT Jammu)	A geometric characterization of known maximum scattered linear sets of $PG(1, q^n)$
	4:00–4:15 pm	Stuti Mohanty (NIT Rourkela)	Characterization of families of lines meeting a Hermitian variety of $PG(3, q^2)$ in $q + 1$ points
	4:20–4:35 pm	Bikramaditya Sahu (NIT Rourkela)	A characterization of the family of secant lines to a hyperbolic quadric in $PG(3, q)$ , $q$ odd
	4:40–4:55 pm	Ayushi Trivedi (IIT Delhi)	Simplicial degree $d$ self-maps on $n$ -spheres

## Symposia-3: Partial Differential Equation (S3)

Venue: A105  
(December 18, 2025)

Chair of the Symposia Talks	Time	Speaker	Title of the Talk
<b>Debdip Ganguly/ Swarnendu Sil</b> (ISI Delhi/ IISc Bangalore)	11:00–11:25 am	Ananta K. Majee (IIT Delhi)	Stochastic $p$ -Laplace equation: Large deviation principle and transportation cost information inequality
	11:30–11:55 am	Tuhina Mukherjee (IIT Jodhpur)	On Elliptic PDEs of mixed type
	12:00–12:25 pm	Ashish Kumar Pandey (IIIT Delhi)	Existence of Wilton Ripples in water wave models
	12:30–12:55 pm	Prosenjit Roy (IIT Kanpur)	Boundary Hardy Inequality
	2:25–2:50 pm	Swarnendu Sil (IISc Bengaluru)	Subelliptic nonlinear Stein theorems
	2:55–3:20 pm	Jagmohan Tyagi (IIT Gandhinagar)	The Neumann problem involving the fractional Laplacian and critical nonlinearities
	3:25–3:40 pm	Anupama Arora (BITS Pilani)	Existence result for double phase system with coupled critical growth
	4:00–4:15 pm	Vikram Yallapa Naik (BITS Pilani)	Brezis-Nirenberg type problem for fractional sub-Laplacian on the Heisenberg group
	4:20–4:35 pm	Diksha Saini (NSUT)	On the system of $p$ -Kirchhoff equation with Hardy Potential and Stein-Weiss type critical nonlinearity in $\mathbb{R}^N$
	4:40–4:55 pm	Vivek Sahu (ISI Delhi)	Weighted fractional Hardy–Sobolev and Hardy–Sobolev–Maz’ya inequalities with singularities on flat submanifold

## Symposia-4: Geometry and Topology (S4)

Venue: A106

(December 18, 2025)

Chair of the Symposia Talks	Time	Speaker	Title of the Talk
<b>Tanushree Shah</b> (CMI)	11:00–11:25 am	Suhas Pandit (IIT Madras)	Heegaard and sutured embeddings of compact 3-manifolds
	11:30–11:55 am	B. Subhash (IISER Tirupati)	TBA
<b>Bankatesh Tiwari</b> (BHU)	12:00–12:25 pm	Tanushree Shah (CMI)	Contact Structures on 3-manifolds
	12:30–12:55 pm	Mukut Mani Tripathi (BHU)	Casorati inequalities for submanifolds of complex two-plane Grassmannians
<b>Mukut Mani Tripathi</b> (BHU)	2:25–2:50 pm	Banktेशwar Tiwari (BHU)	On the Finsler structures associated to some weak metrics
	2:55–3:20 pm	Kashyap Rajeevsarathy (IISER Bhopal)	TBA
<b>Dishant M Pancholi/ Suhas J Pandit</b> (IMSc/ IIT Madras)	3:25–3:40 pm	Anshu Agarwal (IIT Delhi)	Regular genus of $\mathbb{S}^2 \times \mathbb{S}^1 \times \mathbb{S}^1$ , 4-torus, and small covers over $\Delta^2 \times \Delta^2$
	4:00–4:15 pm	Shital Lawande (IAI TCG-CREST)	Surfaces in 4-manifolds and extendable mapping classes
	4:20–4:35 pm	Ravi Prakash (JNU)	Twisted conjugacy classes in Lie groups
	4:40–4:55 pm	Rohan Suresh Mahure (IISER Bhopal)	On a family of Pseudo-Anosov-Like maps on the infinite ladder surface

## Symposia-5: Mathematical Aspects of Computer Science (S5)

Venue: A006

(December 19, 2025)

Chair of the Symposia Talks	Time	Speaker	Title of the Talk
<b>Rajiv Raman/ Partha Sarathi Mandal</b> ( IIT Delhi/ IIT Guwahati)	11:00–11:25 am	Minati De (IIT Delhi)	Online Algorithms and Lower Bounds for Geometric Hitting Set
	11:30–11:55 am	Debajyoti Bera (IIT Delhi)	TBA
	12:00–12:25 pm	Nikhil Gupta (IIT Delhi)	Towards efficient factorization of multicubic polynomials
	12:30–12:55 pm	Kaushik Mondal (IIT Roper)	Dynamic Graphs in Distributed Computing
	2:25–2:50 pm	Ashutosh Rai (IIT Delhi)	Mathematics in Computer Science
	2:55–3:20 pm	Sandeep Sen (IIT Delhi)	TBA

## Symposia-6: Numerical Analysis (S6)

Venue: A007

(December 19, 2025)

Chair of the Symposia Talks	Time	Speaker	Title of the Talk
<b>Subhashree Mohapatra/ Harsha Hutridurga</b> ( IIT Delhi/IIT Bombay)	11:00–11:25 am	Deepjyoti Goswami (Tezpur University)	A locally conservative LDG method for the coupled Navier-Stokes and Darcy model
	11:30–11:55 am	Swanand Khare (IIT Kharagpur)	Polynomial Inverse Eigenvalue Problem and Applications
	12:00–12:25 pm	Rekha Khot (IIT Palakkad)	Virtual Elements for Stokes/Biot–Kirchhoff Bulk–Surface Model
	12:30–12:55 pm	Chaman Kumar (IIT Roorkee)	Explicit schemes of order one and half for SDE with switching
	2:25–2:50 pm	Manas Rachh (IIT Bombay)	Integral equation methods for simple PDEs in complex geometries
	2:55–3:20 pm	Chandra Sekhar Seelamantula (IISc Bengaluru))	Generative Modeling: A Variational Perspective
	3:25–3:40 pm	Ravindra Kumar (Vivekananda Global University, Jaipur)	The MHD Ternary Hybrid Nanofluid (Cu–Al <sub>2</sub> O <sub>3</sub> –TiO <sub>2</sub> /H <sub>2</sub> O) Past a Vertically Radiative Stretching Cylinder in a Porous Medium with Soret and Dufour Effect: A Numerical Study
	4:00–4:15 pm	Priyanka (Central University of Haryana)	An orthogonal collocation method for fractional-order advection-diffusion problems
	4:20–4:35 pm	Aniruddha Seal (IISc Bangalore)	Higher-order weak Galerkin method for multidimensional time-fractional mobile/ immobile diffusion equation
	4:40–4:55 pm	Rajat Singla Sharma (Amity University)	A high-performance hybrid block method for direct solution of second-order differential systems

## Symposia-7: Probability and Statistics (S7)

Venue: A105  
(December 19, 2025)

Chair of the Symposia Talks	Time	Speaker	Title of the Talk
<b>Rahul Roy</b> (IIT Delhi)	11:00–11:25 am	Monika Arora (IIT-Delhi)	On regression modeling of count data
	11:30–11:55 am	Moumanti Poddar (IISER Pune)	A model of market economics inspired by random walks with long memory
	12:00–12:25 pm	Monika Bhattacharjee (IIT Bombay)	Testing high-dimensional means under sparse missing pattern
	12:30–12:55 pm	Neeraja Sahasrabudhe (IISER Mohali)	TBA
	2:25–2:50 pm	Priyanka Sen (IIT Palakkad)	Large sample behaviour of high-dimensional Kendall's correlation matrices with dependence
	2:55–3:20 pm	Debleena Thacker (Durham University)	TBA

## Symposia-8: Representation Theory (S8)

Venue: A106

(December 19, 2025)

Chair of the Symposia Talks	Time	Speaker	Title of the Talk
Punita Batra (HRI)	11:00–11:25 am	Shiv Prakash Patel (IIT Delhi)	Distinguished representations for $SL(n, F)$
	11:30–11:55 am	Dilpreet Kaur ( IIT Jodhpur)	Conjugacy Classes and Irreducible Representations of a Finite Group
	12:00–12:25 pm	Tanusree Khandai (IISER Mohali)	Local Weyl Modules and their tensor products
	12:30–12:55 pm	Mrigendra Singh Kushwaha (University of Delhi)	Crystals for Kostant-Kumar modules for affine Lie algebra
	2:25–2:50 pm	Sameer Kumar Hazra (Gitam University)	TBA
	2:55–2:20 am	Sushil Bhunia (BITS Pilani, Hyderabad)	Twisted conjugacy classes in groups
	3:25–3:40 pm	Pradeep Bisht (HRI)	Integral modules of ma full toroidal Lie algebras
	4:00–4:15 pm	Punya Plaban Satpathy (IMA, Bhubaneswar)	Borel-Serre type bordifications and canonical pairs for loop groups
	4:20–4:35 pm	Nabajit Talukdar (Cotton University)	Results in the kernel of non-linear irreducible characters of some $p$ -groups

## Symposia-9: Algebra (S9)

Venue: A006

(December 20, 2025)

Chair of the Symposia Talks	Time	Speaker	Title of the Talk
<b>Jugul Verma</b> (IIT Gandhinagar)	11:00–11:25 am	Rajat Kanti Nath (Tezpur University)	Centralizers of finite groups and rings
	11:30–11:55 am	Pooja Singla (IIT Kanpur)	On real conjugacy classes and real representations of the general linear groups of degree two over the principal ideal local rings
<b>Pooja Singla</b> (IIT Kanpur)	12:00–12:25 pm	Sourav Ghosh (Ashoka University)	Jordan projections and finite step rigidity
	12:30–12:55 pm	Ritumoni Sarma (IIT Delhi)	Cyclotomic polynomials - An application to Coding Theory
<b>Ritumoni Sarma</b> (IIT Delhi)	2:25–2:50 pm	Sugandha Maheshwary (IIT Roorkee)	Conjugacy relations and character fields of finite groups
	2:55–3:20 pm	Mahender Singh (IISER Mohali)	Linear representations and crystallographic quotients of virtual Artin groups
<b>G K Bakshi/ Manoj K Yadav</b> (Punjab University/ HRI)	3:25–3:40 pm	Mamta Balodi (IIT Gandhinagar)	Cyclic cohomology of entwining structures
	4:00–4:15 pm	Om Prakash Bhardwaj (CMI)	Buchsbaumness of finite complement simplicial affine semigroups
	4:20–4:35 pm	Sartaj Ul Hasan (IIT Jammu)	Local Permutation Polynomials and Related Enumeration Results
	4:40–4:55 pm	Amit Roy (CMI)	On the homological shifts of cover ideals of Cohen-Macaulay graphs

# Symposia-10: Complex Analysis (S10)

Venue: A007

(December 20, 2025)

Chair of the Symposia Talks	Time	Speaker	Title of the Talk
<b>Anwoy Maitra/ K. S. Charak</b> (IIT Madras/ University of Jammu)	11:00–11:25 am	Sarika Verma (University of Jammu)	On the Count and Location of Zeros of Complex Harmonic Polynomials
	11:30–11:55 am	Sushil Gorai (IISER Kolkata)	Polynomial convexity and dynamical system in the context of totally real subspaces
	12:00–12:25 pm	Diganta Borah (IISER Pune)	Limits of an increasing sequence of Riemann surfaces
	12:30–12:55 pm	Indrajit Lahiri (University of Kalyani)	A survey on a conjecture of Rainer Bruck
	2:25–2:50 pm	A. Sairam Kaliraj (IIT Ropar)	On Zeros of Harmonic Polynomials
	2:55–3:20 pm	Sayani Bera (Indian Association for the Cultivation of Science)	Rigidity of Greens measure of Hénon maps
	3:25–3:40 pm	Alana John (SRM University–AP)	Hermitian Toeplitz determinant for certain meromorphic univalent functions
	4:00–4:15 pm	Sushil Kumar (Bharati Vidyapeeth's College of Engineering)	Close-to-convex functions associated with a bounded domain in the right half-plane
	4:20–4:35 pm	Sanjit Pal (Sreenidhi University, Hyderabad)	Pre-Schwarzian and Schwarzian norms estimates for Janowski class functions
	4:40–4:55 pm	Navneet Lal Sharma (IIT Indore)	On logarithmic coefficient inequalities for certain of analytic functions

# Symposia-11: Harmonic and Functional Analysis (S11)

Venue: A105

(December 20, 2025)

Chair of the Symposia Talks	Time	Speaker	Title of the Talk
<b>Aparajita Dasgupta/ Prahllad Deb</b> (IIT Delhi/ IIT Delhi)	11:00–11:25 am	Ramiz Reza (IISER TVM)	Higher order weighted Dirichlet type spaces with poly-superharmonic weights and Dirichlet type operators of finite order
	11:30–11:55 am	Suparna Sen (University of Calcutta)	On a generalised Beurling’s Uncertainty Principle
	12:00–12:25 pm	Sutanu Roy (IIT Bombay)	Complex quantum planes as braided quantum groups
	12:30–12:55 pm	Divyang Bhimani (IISER Pune)	TBA
	2:25–2:50 pm	Sayan Bagchi (IISER Kolkata)	TBA
	2:55–3:20 pm	Santanu Sarkar (IIT Ropar)	Some aspects of vector valued de Branges spaces and functional models
	3:25–3:40 pm	Jyotirmay Das (TCG CREST)	Representation of the Möbius group on a reproducing kernel Hilbert space
	4:00–4:15 pm	Shubham Jain (ISI Bangalore)	On modules of the Hardy space of Hartogs triangle
	4:20–4:35 pm	Bhaskar Paul (IIT Bhilai)	On $\Gamma_{E(3;3;1,1,1)}$ -Contraction, $\Gamma_{E(3;2;1,2)}$ -Contraction, Their Canonical Decomposition and Conditional Dilation
	4:40–4:55 pm	Shivam Kumar Singh (NSUT Delhi)	On a generalization of a weighted composition differentiation operator on weighted Dirichlet-type space

## Symposia-12: Number Theory (S12)

Venue: A106

(December 20, 2025)

Chair of the Symposia Talks	Time	Speaker	Title of the Talk
<b>Sneha Chaubey Neelam Saikia, (IIIT-Delhi/ IIT Bhubaneswar)</b>	11:00–11:25 am	Saurabh Kumar Singh ( IIT Kanpur)	Counting special points on quadratic surfaces.
	11:30–11:55 am	Sudhir Kumar Pujahari (NISER Bhubaneswar)	Prime scattering geodesic theorem
	12:00–12:25 pm	Krishnan Rajkumar (JNU)	On the distribution of points of val- uation 1 for a polynomial in two Variables
	12:30–12:55 pm	Biplab Paul (IIT Bhubaneswar)	Variants of Kohlen’s conjecture for Hermitian modular forms
	1:00–1:15 pm	Mohammad Ahamed (NDA, Pune)	Properties of bilateral Mock theta functions and their Lerch transcen- dent.
	2:25–2:50 pm	Debika Banerjee (IIIT Delhi)	Different aspects of Piltz Divisor Functions with Congruence Condi- tions
	2:55–3:20 pm	Divyum Sharma (BITS Pilani)	Integers and their powers in two ‘un- related’ number systems
	3:25–3:40 pm	Bittu Chahal (IIIT, Delhi)	Distribution of Farey fractions with k-free denominators
	4:00–4:15 pm	Shivani Goel (CMI)	Moments of cubic Dirichlet L- functions over function fields
	4:20–4:35 pm	Khyati Khurana (IIT Ropar)	Explicit integral representation con- taining the error term in Piltz divi- sor problem with congruence condi- tions
4:40–4:55 pm	Sandeep Singh (Akal University)	On dilated sumsets in the additive group of integers	