

**38<sup>th</sup> Annual Conference of the Ramanujan Mathematical Society (RMS 2023)**  
**December 22-24, 2023**  
**IIT Guwahati**

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**DAY-1 (December 22, 2023)**

<b>22<sup>nd</sup> Dec</b>	8:00-8:55 Registration (Auditorium)	9:00-9:10 Inauguration (Auditorium)	9:10-10:05 Plenary 1 (Auditorium)	10:05-10:35 High Tea (Auditorium)	10:50-11:50 ST 1, 2 (Core-5)	11:55-12:55 ST 3, 4 (Core-5)	1:00-2:30 Lunch (Conference Center)	2:40-4:00 CT (Core-5)	4:00-4:20 Tea (Core-5)	4:20-5:00 CT (Core-5)	5:20-6:15 Public Lecture (Auditorium)	6:20-7:20 GBM (Auditorium)
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**DAY-2 (December 23, 2023)**

<b>23<sup>rd</sup> Dec</b>	9:00-9:55 Plenary 2 (Auditorium)	10:00-10:30 Tea (Auditorium)	10:45-11:45 ST 5, 6 (Core-5)	11:50-12:50 ST 7, 8 (Core-5)	1:00-2:30 Lunch (Conference Center)	2:40-3:40 ST 9, 10 (Core-5)	3:45-4:05 CT (Core-5)	4:05-4:25 Tea (Core-5)	4:25-5:45 CT (Core-5)	6:00-6:55 Plenary 3 (Auditorium)
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**DAY-3 (December 24, 2023)**

<b>24<sup>th</sup> Dec</b>	9:00-9:55 Plenary 4 (Auditorium)	10:00-10:30 Tea (Auditorium)	10:45-11:45 ST 11, 12 (Core-5)	11:50-12:50 ST 13, 14 (Core-5)	1:00-2:30 Lunch (Conference Center)	2:40-3:40 ST 15, 16 (Core-5)	3:45-4:05 CT (Core-5)	4:05-4:25 Tea (Core-5)	4:25-5:25 CT (Core-5)	5:40-6:35 Plenary 5 (Auditorium)	6:40-7:00 Valedictory (Auditorium)
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\*Auditorium: Dr. Bhupen Hazarika Auditorium    \*ST: Symposia Talks    \*CT: Contributory Talks

\*Average walking time from Auditorium to Core-5 is 10 minutes

## Plenary/Public Talks

Venue: Dr. Bhupen Hazarika Auditorium

(December 22-24, 2023)

Talk	Date	Time	Speaker	Title of the talk
Plenary 1 (Professor R. Balakrishnan's Endowment Lecture)  Chair: Anupam Saikia	22 Dec	9:10-10:05	M. S. Raghunathan (CBS Mumbai)	Two Alumni of Loyola College, Chennai
Public Lecture  Chair: Jugal Verma	22 Dec	5:20-6:15	K. Ramasubramanian (IIT Bombay)	The History and Historiography of the Discovery of Calculus in India
Plenary 2  Chair: Panchugopal Bikram	23 Dec	9:00-9:55	Kallol Paul (Jadavpur University)	Geomtery of the space of linear operators from the perspective of Birkhoff-James orthgonality
Plenary 3  Chair: Tony J. Puthenpurakal	23 Dec	6:00-6:55	Gurmeet Kaur Bakshi (Panjab University)	Units in integral group rings
Plenary 4  Chair: Anand Sawant	24 Dec	9:00-9:55	Indranil Biswas (TIFR Mumbai)	Nonabelian Hodge Theory
Plenary 5  Chair: Rajen Kumar Sinha	24 Dec	5:40-6:35	Manjunath Krishnapur (IISc Bangalore)	Nodal sets and nodal domains of random eigenfunctions of the Laplacian

## Partial Differential Equations

(Venue: Academic Complex - Core 5)

Core-5 class rooms have Green Chalk Boards and Projectors

<b>DAY-1 (December 22, 2023): Symposia Talks</b>				
Symposia	Venue	Time	Speaker	Title of the talk
Partial Differential Equations	5104	10:50-12:55	Saikatul Haque (HRI Allahabad)	Ill-posedness of Hartee Equation
			Ved Datar (IISc Bangalore)	Non-linear PDEs on Kahler manifolds and positivity conditions
			Debanjana Mitra (IIT Bombay)	Lack of null controllability of certain linear transport-parabolic coupled systems
			Saikat Mazumdar (IIT Bombay)	Existence results for the higher-order Q-curvature equation

<b>DAY-2 (December 23, 2023): Symposia Talks</b>				
Symposia	Venue	Time	Speaker	Title of the talk
Partial Differential Equations	5104	10:45-12:50	Kartick Ghosh (IISc Bangalore)	Coupled Kähler-Einstein AND Hermitian-Yang-Mills equations
			Alok Kumar Sahoo (Dept of Higher Edu., Odisha)	Global compactness result and multiplicity of solutions for a class of critical exponent problem in the hyperbolic space
			Aashirwad Naveen Ballal (IISc Bangalore)	The supercritical deformed Hermitian Yang-Mills equation on compact projective manifolds
			Debdip Ganguly (IIT Delhi)	Sharp quantitative stability of Poincaré-Sobolev inequality in the hyperbolic space
		2:40-3:40	Sheela Verma (IIT BHU)	Shape optimization problem for Steklov-Dirichlet eigenvalues
			Sarika Goyal (Netaji Subhas Uni. of Tech.)	Quasilinear Schrödinger Equations Involving Choquard Type Critical Nonlinearity

**Partial Differential Equations**  
**(Venue: Academic Complex - Core 5)**

<b>DAY-3 (December 24, 2023): Symposia Talks</b>				
<b>Symposia</b>	<b>Venue</b>	<b>Time</b>	<b>Speaker</b>	<b>Title of the talk</b>
Partial Differential Equations	5104	10:45-12:20	Souptik Chakraborty (IIT Bombay)	Some quantitative Sobolev-type inequalities
			Abhrojyoti Sen (TIFR CAM Bangalore)	Fine boundary regularity for fully nonlinear mixed local-nonlocal problems
			Subrata Majumdar (IIT Bombay)	Controllability of the linearized compressible Navier-Stokes system with Maxwell's law

**\*Each Symposia talk is of 30 minutes duration including discussions**

## Partial Differential Equations

(Venue: Academic Complex - Core 5)

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DAY-1 (December 22, 2023): Contributory Talks				
Subject	Venue	Time	Speaker	Title of the talk
Partial Differential Equations Chair: Saikatul Haque	5104	2:40-4:00	Abhilash Tushir (IIT Delhi)	Discrete Time-Dependent Wave Equation for the Schrodinger Operator with Unbounded Potential
			Diksha Gupta (IIT Delhi)	Existence and multiplicity of positive solutions for a class of elliptic equations involving subcritical and critical non linearities in the hyperbolic space
			Uttam Kumar (IIT Kanpur)	Boundary blow up solutions for equations involving fractional p-Laplacian operator
			Ritabrata Jana (IISER TVM)	Positive solutions for fractional $p$ - Laplace problem with indefinite sign
Partial Differential Equations Chair: Debanjana Mitra	5104	4:20-4:40	Vinayak Mani Tripathi (IIT Bhilai)	Nehari Manifold Method for Singular Double Phase Problem with Optimal Control on Parameter

## Partial Differential Equations

(Venue: Academic Complex - Core 5)

<b>DAY-2 (December 23, 2023): Contributory Talks</b>				
Subject	Venue	Time	Speaker	Title of the talk
Partial Differential Equations  Chair: Sarika Goyal	5104	3:45-4:05	Sarbani Pramanik (IISER TVM)	On a class of infinite semipositone problems for $\Delta(p,q)$ Laplace operator
Partial Differential Equations  Chair: Debdip Ganguly	5104	4:25-5:45	Shubham Garg (IIT Jodhpur)	Mathematical analysis of coupled mode theory
			Sanjit Biswas (IIT Kanpur)	Ground State Solution of a Schrodinger Type Equation Involving Anisotropic p-Laplacian Operator via Pohozaev Manifold
			Jyotirmoy Rana (IIT Hyderabad)	Study of Unsteady Solute Dispersion in Pulsatile Viscoelastic Fluid Flow
			Sivaram P (IISc Bangalore)	$L^\infty$ estimate for degenerate transverse complex Monge-Ampere equation and its application

<b>DAY-3 (December 24, 2023): Contributory Talks</b>				
Partial Differential Equations  Chair: Souptik Chakraborty	5104	4:25-5:05	Abhijit Shit (IIT Guwahati)	Fractional Model for Blood Flow in a Stenosed Artery under MHD Effect through Porous Medium
			Yashonanda Mahesh Maurya (SVKM's NMIMS)	Finite Meijer G-transform for Solving Steady-state Temperature Problems

**\*Each contributory talk is of 18 minutes duration including discussions**