

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

---

**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)
--------------------------------	---	---	---	---	------------------------------------	------------------------------------	---	-----------------------------	------------------------------	-----------------------------	---	----------------------------------

**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)
--------------------------------	--	------------------------------------	------------------------------------	------------------------------------	---	-----------------------------------	-----------------------------	------------------------------	-----------------------------	--

**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)
--------------------------------	--	------------------------------------	--------------------------------------	--------------------------------------	---	------------------------------------	-----------------------------	------------------------------	-----------------------------	--	--

\*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

## Functional Analysis

(Venue: Academic Complex - Core 5)

Core-5 class rooms have Green Chalk Boards and Projectors

<b>DAY-1 (December 22, 2023): Symposia Talks</b>				
<b>Symposia</b>	<b>Venue</b>	<b>Time</b>	<b>Speaker</b>	<b>Title of the talk</b>
Functional Analysis Chair: Sandipan De	5102	10:50-12:55	Vijay Kodiyalam (IMSc, Chennai)	Unitary invariants and an application to quantum solutions of Euler's 36 officers problem
			Arup Chattopadhyay (IIT Guwahati)	Higher-order spectral shift measures in several variables
			Sasmita Patnaik (IIT Kanpur)	Selfadjoint-Ideal Semigroups for Bounded Operators
			Bata Krishna Das (IIT Bombay)	de Branges-Rovnyak spaces which are complete Nevanlinna-Pick spaces

<b>DAY-2 (December 23, 2023): Symposia Talks</b>				
<b>Symposia</b>	<b>Venue</b>	<b>Time</b>	<b>Speaker</b>	<b>Title of the talk</b>
Functional Analysis Chair: Ranjana Jain	5102	10:45-12:50	Soumyashant Nayak (ISI Bangalore)	Algebraic aspects and functoriality of the set of a liated operators
			Dhriti Ranjan Dolai (IIT Dharwad)	Smoothness of the integrated density of states (IDS) for the Anderson model on the Bethe lattice
			Debabrata De (NISER Bhubaneswar)	On symmetric embedding of purely atomic von Neumann algebras
			Diptesh Saha (ISI Kolkata)	Non-commutative Neveu decomposition and associated ergodic theorems
Chair: Sasmita Patnaik		2:40-3:40	Sayan Chakraborty (TCG CREST, Kolkata)	Classi cation of crossed product $C^*$ -algebras of noncommutative tori by cyclic groups
			Keshab Chandra Bakshi (IIT Kanpur)	A family of new subfactors arising from Hadamard matrices

## Functional Analysis

(Venue: Academic Complex - Core 5)

DAY-3 (December 24, 2023): Symposia Talks				
Symposia	Venue	Time	Speaker	Title of the talk
Functional Analysis  Chair: Soumayashant Nayak	5102	10:45-12:50	Ranjana Jain (Delhi University)	Centres of certain tensor products of Banach algebras
			Rahul Kumar R (IIT Kanpur)	Mixed q-deformed Araki-Woods von Neumann algebras
			Monojit Bhattacharjee (BITS Goa)	Beurling quotient modules on the polydisc
			Sandipan De (IIT Goa)	Classification of pairs of commuting isometries with compact normal cross commutators
Chair: Sayan Chakraborty		2:40-3:40	Kunal Krishna Mukherjee (IIT Madras)	
			Issan Patri (ISI Delhi)	The Eros-Marechal topology on the space of von-Neumann algebras

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

## Functional Analysis

(Venue: Academic Complex - Core 5)

Core-5 class rooms have Green Chalk Boards and Projectors

<b>DAY-1 (December 22, 2023): Contributory Talks</b>				
Subject	Venue	Time	Speaker	Title of the talk
Functional Analysis Chair: Samya Kumar Ray	5102	2:40-4:00	Malay Mandal (CMI Chennai)	Operator Space structures of non-commutative unitary $C^*$ -algebra
			Shamim Sohel (Jadavpur University)	Extreme contractions on some special Banach spaces
			Souvik Ghosh (Jadavpur University)	On some geometric constants in a Banach space
			Arvish Dabra (IIT Delhi)	Arens regularity of the Orlicz Figa-Talamanca Herz Algebra
Functional Analysis Chair: Sasmita Patnaik	5102	4:20-5:00	Mansi Mishra (IIT BHU)	The Weyl Transform of a measure
			Ritika Singhal (IIT Delhi)	Vector-Valued Properties of Weyl Transform

<b>DAY-2 (December 23, 2023): Contributory Talks</b>				
Functional Analysis Chair: Debabrata De	5102	3:45-4:05	Uday Shankar Chakraborty (Assam University)	A Bishop-Phelps-Bollobas type property for Banach spaces with respect to minimum norm of bounded linear operators
Functional Analysis Chair: Dhriti Ranjan Dolai	5102	4:25-5:45	Sureshkumar M (IISER Bhopal)	Rokhlin Dimension: Permanence Properties and Ideal Separation
			Santu Bera (IIT Kanpur)	A spectral dichotomy for commuting $\mathfrak{M}$ -isometries with negative core operator
			Shubham Jain (IIT Kanpur)	Toeplitz operators on the $\mathfrak{H}$ -dimensional Hartogs triangle
			Pradip Debnath (Tezpur University)	Multivalued Geraghty contractions and their best proximity points

## Functional Analysis

(Venue: Academic Complex - Core 5)

<b>DAY-3 (December 24, 2023): Contributory Talks</b>				
Subject	Venue	Time	Speaker	Title of the talk
Functional Analysis Chair: Ranjana Jain	5102	3:45-4:05	Praveen Sharma (Shri Vishwakarma Skill University)	Interpolation Results for Convergence of Implicit Euler Schemes with Accretive Operators
Functional Analysis Chair: Panchugopal Bikram	5102	4:25-5:25  (Parallel Session-I)	Arshad Khan (Shiv Nadar Inst. of Eminence)	Nearly Invariant Brangesian Subspaces
			Sugirtha Gayathri (IIT Hyderabad)	Kowalski-Słodkowski Theorem for Condition Spectrum
			Mohana Rahul Nandan (IIT Hyderabad)	A Generalized GKZ theorems and Kowalski-Słodkowski theorem for Reproducing kernel Hilbert space
Functional Analysis Chair: Kunal Krishna Mukherjee	5106	4:25-5:25  (Parallel Session-I)	Krishna Bhattacharjee (The ICFAI University, Tripura)	New fixed point theorem on complete b-metric space by using Rus contraction mapping
			Suman Kumar (IGNTU Amarkantak, MP)	Controllability of Second Order Differential Systems with Nonlinear Control
			Kousik Dhara (IISc Bangalore)	Two Truncated Matrix Moment Problems

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