

Conference
Recent Developments in Applied & Computational Mathematics (RDACM)
 organized by
 Department of Mathematics, IIST Trivandrum
 Program Schedule (15th to 17th January 2026)

Time	Program	Speaker
Day 1 (15/01/2026) - Thursday		
9.15 am – 9.45 am	REGISTRATION Venue: Admin Council Hall	
9.45 am – 10.15 am	Inaugural Session (Duration: 45 min) Venue: Admin Council Hall	
10.15 am – 10.30 am	Photo Session (Duration: 15 min) Venue: In front of Admin Building	
10.30 am – 11.00 am	High Tea Break (Duration: 30 min) Venue: Admin Council Hall	
Session - I: Keynote Talk (Duration of Each Talk: 35 min) Venue: Admin Council Hall		
11.00 am - 11.35 am	Keynote Talk 1 (Chair : Prof. R.K.George)	Prof. M. C. Joshi
		AI - With Mathematical Perspective
11.40 am - 12.15 pm	Keynote Talk 2 (Chair : Prof. V.D. Pathak)	Prof. S. Sundar
		A meshless shock-capturing method for solving the shallow water equations
12.20 pm- 12.55 pm	Keynote Talk 3 (Chair : Prof. M. C. Joshi)	Prof. A. K. Pani
		Through Eyes of Feedback Control: How does External Stimulus Influence Research in Applied Mathematics
13.00 pm - 14.00 pm	Lunch Break	
Session - II: Keynote Talk (Duration of Each Talk: 35 min) Venue: Admin Council Hall		
14.00 pm – 14.35 pm	Keynote Talk 4 (Chair : Prof. S. Sundar)	Prof. Mythily Ramaswamy
		Stabilization of certain coupled systems
14.40 pm – 15.15 pm	Keynote Talk 5 (Chair : Prof. A. K. Pani)	Prof. V.D. Pathak
		Matrix Multiplication Algorithms as a Tensor game

15.20 pm – 15.55 pm	Keynote Talk 6 (Chair : Prof. Mythily Ramaswamy)	Prof. M. Thamban Nair A finite data based reconstruction and regularization in normed linear space setting			
16.00 pm – 16.20 pm	Tea Break (Duration: 20 min) Venue: Admin Council Hall				
Session - III: Invited Talk (Online) (Duration of Talk: 30 min)					
	Online Invited Talk 1 (Chair : Prof. R.K.George) Venue: Admin Council Hall	Online Invited Talk 2 (Chair : Prof. M. Thamban Nair) Venue: Library Conference Hall			
16.20 pm – 16.50 pm	Prof. Enrique Zuazua Machine Learning from an Applied Mathematician’s Perspective	Prof. Sivaguru. S. Sritharan Quantum Field Theory And The Standard Model: Rigorous Issues And Control Theory			
Session - IV: Special Talk (Duration of Talk: 30 min) Venue: Admin Council Hall					
16.55 pm – 17.25 pm	Special Talk 1 (Chair : Prof. R.K.George)	Prof. A.K.Anilkumar (Online) Sustainable Outer Space for a Safer Future			
Session - V: Invited Talk (Offline) (Duration of Each Talk: 20 min) & Paper Presentation (Offline) (Duration of Each Talk: 10 min)					
	Parallel Session 1 (Chair : Dr. Muslim Malik) Venue: C110, D1 building	Parallel Session 2 (Chair : Dr. G. Murali Mohan Reddy) Venue: C109, D1 building	Parallel Session 3 (Chair : Dr. Javid Ali) Venue: L102A, D1 building	Parallel Session 4 (Chair: Dr. Nagaiah Chamakuri) Venue: C112,D1 building	Parallel Session 5 (Chair : Dr. R K Sharma) Venue: C104, D1 building
17.45 pm – 18.05 pm	Invited Talk: Dr. Ajit Patel	Invited Talk: Dr. Jugal Mohapatra	Invited Talk: Dr. Aekta Aggarwal	Invited Talk: Dr. Sheetal Dharmatti	Invited Talk: Dr. K. Satheesh Kumar
	Primal hybrid method for weakly damped Klein-Gordon equations	Efficient Splitting Schemes for Time-Delayed Parabolic Convection–Diffusion Problems	Stability Estimates for Non-Local Conservation Laws	Boundary Control for Cahn-Hilliard-Navier-Stokes equations	Time Series Induced Network Forecasting: A Structural Alternative to Machine Learning Models

18.10 pm – 18.30 pm	Invited Talk: Dr. Debasish Pradhan	Invited Talk: Dr. Sangita Yadav	Invited Talk: Dr. Ganesh Vaidya	Invited Talk: Dr. Anil Kumar	Invited Talk: Dr. T. K. Manoj Kumar
	Fictitious domain method with penalty to solve PDEs over curved-complex domains	On two conservative HDG Schemes for Nonlinear Klein-Gordon Equation	On the uniqueness of entropy solutions for systems of conservations laws	Physics-Informed Neural Networks Framework for Numerically Solving Differential Equation-Constrained Optimal Control Problems	Large Language Models in Space Science: Opportunities, Adaptation, and Challenges
18.35 pm – 18.45 pm	Bharathi M C	Sushree Priyadarshana	Karthiga P	Mustaq Ahmad	Suja A. Alex
	Modal stability analysis of viscoelastic Giesekus fluid in a plane-Poiseuille flow	Numerics of time-delayed singularly perturbed parabolic problems with two small parameters	Trajectory Controllability: Analysis for Time-Varying Fractional Systems	A Novel Hepatitis B Epidemic Model with Vertical Transmission, Spontaneous Recovery and Optimal Control Analysis	Variational Autoencoder-Driven Deep Learning Regression for Wear Rate and Coefficient of Friction Analysis in AlCoCrFeNiTi High Entropy Alloy Coatings
18.48 pm – 18.58 pm	K. S. Vishnukumar	Kailash B B	Lalith Kumar S	Tooba M. Shaikh	Tinu John
	An analytical study on the controllability of a fractional order time-varying system with control delay	Controllability of Prabhakar fractional dynamical system with Multiple delays in control	Linear stability analysis of boundary layer fluid flow past a convex wedge in motion	Quasi-optimality of AFEM for distributed optimal control problems of Stokes equation : an axiomatic framework	R Gaussian Aligned Weight Initialization for Stable Gradient Propagation in Deep Neural Networks
19.01 pm – 19.11 pm	Ankit Kumar	Aishwarya B S	Divyabala K	Nishant Ranwan	Khushboo Yadav
	A Mixed Virtual Element Method for the Sobolev Equation with Convection on Polygonal Meshes	Modal and non-modal stability analyses of plane Poiseuille flow of viscoelastic fluid in a channel	Trajectory controllability of time-fractional impulsive Navier-Stokes equation with Rosenblatt process	Pressure and convection robust error bounds for fluid-structure interaction problem in fixed domain	Designing of Quantum Encryption Algorithm for the Post-quantum Era
19.14 pm – 19.24 pm	Humera Khan	Jalisraj A	Jain M Francis	Ankur Upadhyay	Rihana Farveen
	A Stable Fourth-Order FDM Scheme for Radiative MHD Flow of Ternary Hybrid Nanofluids over a Ramped Vertical Plate with Natural Convection and Linear Joule Heating	Stability and Averaging Principle for ψ -Caputo Pantograph Systems Driven by fBm and Pure Levy Jumps	Adaptive Physics-Informed Learning For Solving PDEs	Non-smooth Time-Space Control-Constrained Optimal Control Problem in a Cardiac Electrophysiology Model	Mathematical modeling of B-ALL dynamics: A Nonlinear Systems Approach
End of the Day-1 (Dinner at 8.00 PM)					

Time	Program	Speaker
Day 2 (16/01/2026) - Friday		
Session - I: Keynote Talk (Duration of Each Talk: 35 min) Venue: Admin Council Hall		
9.30 am – 10.05 am	Keynote Talk 7 (Chair : Prof. Daniele Boffi)	Prof. M. K. Kadalbajoo
		Machine Learning: A New Paradigm for Scientific Modelling
10.10 am – 10.45 am	Keynote Talk 8 (Chair : Prof. N. Sukavanam)	Prof. Natesan Srinivasan
		A Novel Operator-Splitting NIPG FEM for 2D Time-Fractional Diffusion Problem
10.50 am – 11.05 am	Tea Break (Duration: 15 min) Venue: Admin Council Hall	
Session - II: Keynote Talk (Duration of Each Talk: 35 min) Venue: Admin Council Hall		
11.05 am - 11.40 am	Keynote Talk 9 (Chair : Prof. Natesan Srinivasan)	Prof. Daniele Boffi
		Finite element approximation of parameter dependent eigenvalue problems
11.45 am - 12.20 pm	Keynote Talk 10 (Chair: Prof. M. K. Kadalbajoo)	Prof. Lucia Gastaldi
		Finite element approximation of fsi problems: a Fictitious domain formulation
12.25 pm -13.00 pm	Keynote Talk 11 (Chair: Prof. Rajen K. Sinha)	Prof. N. Sukavanam
		Controllability and computation of control
13.00 pm -14.00 pm	Lunch Break	
Session - III: Keynote Talk (Duration of Each Talk: 35 min) Venue: Admin Council Hall		
14.00 pm – 14.35 pm	Keynote Talk 12 (Chair: Prof. M. Thamban Nair)	Prof. A. K. Nandakumaran
		Exact Controllability for a Problem with Imperfect Interface via Hilbert Uniqueness Method
14.40 pm – 15.15 pm	Keynote Talk 13 (Chair : Prof. Lucia Gastaldi)	Prof. Rajen K. Sinha
		A Posteriori Error Estimates for Parabolic Optimal Control Problems with Lower-Dimensional Controls
15.20 pm – 15.55 pm	Keynote Talk 14 (Chair : Prof. S. Panda)	Prof. T. R. Ramamohan
		Introduction to Nonlinear Time Series Analysis

16.00 pm -16.20 pm	<div>Tea Break</div> <div>(Duration: 20 min)</div> <div>Venue: Admin Council Hall</div>				
<div>Session - IV: Invited Talk (Online)</div> <div>(Duration of Talk: 30 min)</div>					
	<div>Online Invited Talk 3</div> <div>(Chair :Prof. Rajen K.Sinha)</div> <div>Venue: Admin Council Hall</div>		<div>Online Invited Talk 4</div> <div>(Chair : Prof. R.K.George)</div> <div>Venue: Library Conference Hall</div>		
16.20 pm – 16.50 pm	Prof. Jean Pierre Raymond		Prof. Sanjeewa Perera		
	Existence of strong solutions to a FSI model in heterogeneous Sobolev spaces		Design Insurance Model to Assess Dengue Transmission		
<div>Session - V: Invited Talk (Offline)</div> <div>(Duration of Each Talk: 20 min)</div> <div>& Paper Presentation (Offline)</div> <div>(Duration of Each Talk: 10 min)</div>					
	Parallel Session 1 (Chair : Dr. Ganesh Vaidya)	Parallel Session 2 (Chair : Dr. Ajit Patel)	Parallel Session 3 (Chair : Dr. Aekta Aggarwal)	Parallel Session 4 (Chair : Dr. Jugal Mohapatra)	Parallel Session 5 (Chair :Dr. Debasish Pradhan)
	Venue: C110, D1 building	Venue: C109, D1 building	Venue: L102A, D1 building	Venue: C112,D1 building	Venue: C104, D1 building
17.10 pm – 17.30 pm	Invited Talk: Dr. Nagaiah Chamakuri	Invited Talk: Dr. K.R. Arun	Invited Talk: Dr. Muslim Malik	Invited Talk:Dr. Sudarshan Kumar K	Invited Talk: Dr. Pooja Dutt
	Challenges in Solving Large scale PDE-constrained Optimization	A structure-preserving scheme for dissipative solutions of the rotating shallow water system	Solutions of Delay Differential Equations by using PINNs	On numerical approximations of nonlocal conservation laws	Design of Interplanetary Trajectories
17.35 pm – 17.55 pm	Invited Talk: Dr. Gowrisankar S.	Invited Talk: Dr. Javid Ali	Invited Talk: Dr. G. Murali Mohan Reddy	Invited Talk: Dr. Sishu Shankar Muni	Invited Talk: Dr.R.K. Sharma
	A parameter-uniform numerical methods for singularly perturbed problems on equidistributed grids	Controllability of (k, ϕ) -Hilfer Fractional Dynamical Systems with Delay	Elliptic reconstruction and a posteriori error estimates for parabolic partial differential equations with small random input data	Resonant torus doubling bifurcation in three-dimensional maps	On Analytical Orbit Predictions in terms of KS Regular Elements

18.00 pm - 18.10 pm	Gopika P B	Nishi Hitendra Motta	Dr Ann Mary Philip	Bhargav Kumar K	Dhwani
	Numerical simulation of the electromechanical coupling of the heart	Fractional Black-76 Option Pricing: Valuing Derivatives on Gold Futures with Hurst Parameter Analysis	An Interval-Valued Fuzzy Graph-Based Clustering Model for Uncertain Data Analysis	Optimal harvesting control for a nonlinear McKendrick-von Foerster equation	Effect of Orbital Eccentricity of Primaries on Separatrices in the Sun-Saturn ERTBP using Poincaré Surface of Sections
18.13 pm - 18.23 pm	Himani Roul	Deepak Kumar Yadav	Dr Umesh P	Aadhithyan B	Annapoorni G
	Analysis of Gradient-Driven Sparse Optimization in Cardiac Electrophysiology Model	Domain Decomposition and Nonlinear Schwarz Preconditioning for Navier-Stokes Type Nonlinear PDEs	Inverse-Variance Weighted kNN Estimation with Metacell Regularization for Single-cell RNA Sequencing Data Denoising	Neural Network-Based Multi-Target Enclosing Control Over Signed Networks	Mathematical modelling of Rendezvous approaches of a Spacecraft with respect to another Spacecraft in known Eccentric Orbits
18.25 pm - 18.45 pm	<div>Tea Break</div> <div>(Duration: 20 min)</div> <div>Venue: Admin Council Hall</div>				
18.45 pm - 20.00 pm	<div>Felicitation Ceremony to Prof. Raju K. George</div> <div>(Duration: 1 hour 15 min)</div> <div>Venue: Admin Council Hall</div>				
End of the Day-2					
Special Conference Dinner at 8.00 PM					

Time	Program	Speaker
Day 3 (17/01/2026) - Saturday		
Session - I: Keynote Talk (Duration of Each Talk: 35 min) Venue: Admin Council Hall		
9.30 am - 10.05 am	Keynote Talk 15 (Chair : Prof. A. K. Nandakumaran)	Prof. K. Balachandran
		Stability and Stabilizability of Fractional Dynamical Systems
10.10 am - 10.45 am	Keynote Talk 16 (Chair : Prof. T. R. Ramamohan)	Prof. P. Balasubramaniam
		RSA vs Quantum Computing: The Mathematical Breakdown
10.50 am - 11.05 am	Tea Break (Duration: 15 min) Venue: Admin Council Hall	
Session -II: Keynote Talk (Duration of Each Talk: 35 min) Venue: Admin Council Hall		
11.05 am - 11.40 am	Keynote Talk 17 (Chair : Prof. K. Balachandran)	Prof. M. P. Rajan
		Inverse Problems and Its Applications
11.45 am - 12.20 pm	Keynote Talk 18 (Chair: Prof. V. O. Thomas)	Prof. S. Panda
		Fiber Spinning Using Rolie-Poly Fluid
12.25 pm - 13.00 pm	Keynote Talk 19 (Chair: Prof. T. R. Ramamohan)	Prof. Kapil Sharma
		Singularly Perturbed Models: Challenges, Mitigations & Recent Developments
13.00 pm - 14.00 pm	Lunch Break	
Session -III: Keynote Talk (Duration of Each Talk: 35 min) Venue: Admin Council Hall		
14.00 pm - 14.35 pm	Keynote Talk 20 (Chair : Prof. P. Balasubramaniam)	Prof. V. O. Thomas
		Restricted Three Body Problem
14.40 pm - 15.15 pm	Keynote Talk 21 (Online) (Chair : Prof. Kapil Sharma)	Prof. B. V. Rathish Kumar
		Stabilized Methods for PDEs: Theory, Computation and Application
15.20 pm - 15.40 pm	Tea Break (Duration: 20 min) Venue: Admin Council Hall	

Session - IV: Invited Talk (Offline)
(Duration of Each Talk: 20 min)
& Paper Presentation (Offline)

	Parallel Session 1 (Chair : Dr. Anilkumar)	Parallel Session 2 (Chair : Dr. Gowrisankar S.)	Parallel Session 3 (Chair : Dr. R.K. Sharma)	Parallel Session 4 (Chair : Dr. Ajit Patel)	
	Venue: C110, D1 building	Venue: C109, D1 building	Venue: L102A, D1 building	Venue: C112, D1 building	
15.45 pm – 16.05 pm	Invited Talk: Dr. D. Asha Kisan	Invited Talk: Dr. Vikash Gupta	Invited Talk: Dr. Trilochan Sahoo	Invited Talk: Dr. Kunwer Singh Mathur	
	Adaptive FEM for pointwise-tracking optimal control problems with a point source governed by biharmonic equation	Second-order finite difference scheme for singularly perturbed interior turning point problem with interior layers	Fourier Analysis for Flexural-Gravity Wave Blocking across Arctic Ice and Marine Infrastructure	Media-Driven Control of Food-Adulteration-Induced Diseases: Model and Analysis	
16.10pm – 16.20 pm	Yeshwanth R	Atul Kumar Verma	Athira V S	Ajeena Joseph	
	Modified Legendre wavelet based comparative study of a new model of Romantic and Interpersonal relationships	Mathematical Modelling of Transport Systems through Exclusion Processes	Observability analysis of signed heterogeneous multi-agent systems	Settling of non-spherical particle in creeping flow regime	
16.23pm – 16.33 pm	Aleena Thomas	Umme Zainab	Rajveer Singh	Feebe Sara Shaji	
	Controllability and Observability of Heterogeneous Networked Systems with Non-Uniform Node Dimensions and Distinct Inner-Coupling Matrices	The umbral-algebraic approach to study the Sheffer- λ polynomials	Exact solutions of the Kuralay Equation using the Kudryashov Method	Explainable Unsupervised Mammography: A Full-Coverage Comparative Framework using SVD, PCA and K-Means for Detecting Principal Breast Abnormalities	
	Aswathi A P	Surendra Kumar	Akshaya Sara	Preeti	

16.36 pm – 16.46 pm			George		
	A study on solvability of chemotaxis system with logistic source using Fixed point approach	Approximate Controllability of Non-Autonomous Differential Systems with both Instantaneous and Non-Instantaneous Impulses	A Unified Mathematical Framework for Image Compression using SVD, PCA and K-Means	Construction of some new vacuum cylindrically symmetric spacetimes in General Relativity using Lie symmetry	
16.49 pm – 16.59 pm	Varsha R	Uzair Ahmed	James T Kurien	Shadab Ali	
	A hybrid approach for multi dimensional nonlinear time-fractional Fokker-Planck equation	Numerical solution of two dimensional nonlinear time fractional mobile-immobile advection-diffusion equation arising in fluid transport	Orientation dynamics of a forced spheroid in variety of waveform shear flow	Localization of the hidden and other attractors of the chaotic dynamical systems via bound sets	
17.00 pm	<div>Evening Tea</div> <div>Venue: D1 Building</div>				
<div>End of the Day-3</div>					
<div>Dinner at 8.00 PM</div> <div>(For those staying back)</div>					