International Conference on



Latest Advances in Computational and Applied Mathematics-2025

December 8–11, 2025 IISER Thiruvananthapuram

 ${\bf Monday-December~8,~2025}$

Time	LHC 103: Kaumudi	LHC 105: G N Ramachandran	LHC 106: P C Ray	LHC 107: S Ramanujan		
08:30-09:10		$Registration \ ($	(LHC Lounge)			
09:00-09:30	Inauguration					
09:30-10:05	Vincent Heuveline Challenges in mathematical modeling and numerical methods in cancer research					
10:10-10:45	A.K.Pani On Backward Time-Fractional Diffusion Problems: A Unified Approach					
10:50-11:10		Coffee/Tea ($LHC\ Lounge)$			
11:10-12:40	HPC/Scientific Machine	A Posteriori Error Analysis and	Recent Advances in Numerical	From Algorithms to		
11:10-11:40	Learning - 1 • Ratikanta Behera: Neural Network Models for the Dynamic Moore-Penrose Inverse of Tensors	Adaptive FEM - 1 • Kamana Porwal: Adaptive quadratic finite element method for a unilateral contact problem	Methods for Newtonian and Viscoelastic Fluid Models - 1 • Saumya Bajpai: Local Discontinuous Galerkin Method for	Applications: Numerical Methods for PDEs - 1 • G. Murali Mohan Reddy: Elliptic reconstruction and a		
11:40-12:00	• Pratik Nayak: Batched GPU solvers for large scale simulations	• Tooba M. Shaikh: Adaptive Mixed Finite Element Method for	Kelvin-Voigt Viscoelastic Fluid Flow Model	posteriori error estimates for parabolic partial differential equations		
12:00-12:20	• Sarthak Sharma: Physics-Informed Deep Learning for	Distributed Optimal Control Problems : Quasi-Optimality	• Deepjyoti Goswami: Fully	with small random input data		
12:20–12:40	Solving Coupled Nonlinear Systems: A PINN-Based Approach for Multiphysics Transport • Monika Rani: A Robust Deep Learning Framework Using ANN and PINN for Solving a class of Singularly Perturbed Fredholm Integro-Differential Equations	 Arnab Pal: Convergence and Quasi-Optimality of an AFEM via Inf-Sup Stability for a Dirichlet Boundary Control Problem. Arijit Pal: A Posteriori Error Analysis of the Weak Galerkin FEM for Singularly Perturbed 2D Reaction-Diffusion Problems 	discrete error analysis of a two-grid discontinuous method for the Oldroyd model of order one • Kallol Ray: H(div)-Conforming DG Method for the Coupled Convective Brinkman-Forchheimer and Double-Diffusion Equations • Debendra Kumar Swain: Discontinuous Galerkin two-grid method for the transient Boussinesq equations	 Ashifa Khan: Exponentially fitted mesh spline approach for the numerical study of mathematical model arising from a model of neuronal variability. Avinash K: On the Convergence of the Modified Scale-3 Haar Wavelet Method for Solving Elliptic PDEs Shishu Pal Singh: Finite Difference Method for Global Stabilization of the Viscous Burgers' Equation with Nonlinear Neumann Boundary Feedback Control 		
12:40-13:50		Lunch~(CD)	H~III/VFR)	Boundary Feedback Control		
13:50-14:25	Olaf Ippisch					
	Efficient, Hybrid-Parallel Linear Algebra for Sparse Matrices					
14:30-15:05	Prabhu Ramachandran Adaptive Resolution for SPH with Reproducible Open Source Software					
15:10-15:20	$Group\ Photo\ (TBA)$					
15:20-15:40		Coffee/Tea ($LHC\ Lounge)$			
15:40-16:15	Alexander Heinlein Neural Network-Based Models for Physical Systems: Analysis, Domain Decomposition, and Preconditioning					
16:20–16:55	Sivaram Ambikasaran Smoothed Analysis of Kernel Matrix Ranks: Understanding Rank Growth of Kernel Matrices for Randomized Particle Distributions					
17:00-18:40	HPC/Scientific Machine Learning - 2	A Posteriori Error Analysis and Adaptive FEM - 2	Recent Advances in Numerical Methods for Newtonian and	From Algorithms to Applications: Numerical		
17:00–17:20 17:20–17:40	• Ziya Uddin: Physics Informed Optimal Homotopy Analysis Method (PI-OHAM): A Hybrid Analytical—Computational Framework for Solving Differential Equations • Subhashri A R: Global Polynomial Synchronization of Stochastic Reaction Diffusion Neural Networks via Dynamic Hybrid	 Mansi Yadav: Pointwise adaptive weak Galerkin methods for the obstacle problem Subham Nayak: Adaptive nonconforming FEM for distributed optimal control problems governed by m-harmonic equations Nakidi Shravani: A posteriori error estimates for the two-step 	Viscoelastic Fluid Models - 2 • Pooja Biswas: Virtual Element Method for the Oldroyd Model of order one. • Sweta Chakraborty: A priori error analysis of discontinuous Galerkin method for coupled surface and subsurface flow: Navier-Stokes and Darcy system.	Methods for PDEs - 2 • Vikash Sharma: L2-3 Approximation of the Generalized Fractional Derivative with Application to 1D and 2D Generalized Time-Fractional Electromagnetic Wave Models • Sahu Nagesh Sumanshankar: Semi-Analytical Solutions of		
17:40-18:00	Triggered Control with Cyber-Attacks • Vijay Kag: Learning Hidden Physics and System Parameters with	backward difference formula: application to parabolic PDEs subject to a Robin B.C. with small	• Jeremy Rymbai: Nanoparticle aggregation kinematics in hybrid nanofluid over a stretching surface	Counter-Current Imbibition Phenomena Using DTM and RDTM • Jyoti Yadav: An Efficient		
18:00-18:20	Deep Operator Networks Nida Izhar Mallick: A simple and efficient iterative scheme for image restoration.	randomness • Vikas Kumar: H ¹ -norm error estimate of a compact ADI finite difference scheme for the 2D	• Hemalatha Veedhuluri: Flow separation-induced stability and bioconvection dynamics in	High-Order Scheme for 2D Caputo Time-Fractional CDR Equations with Weak Initial Singularity: Analysis		
18:20-18:40	image restoration • Muhammad Roshan: A machine learning approach for dynamic prediction of a physiological flow through an annulus between two peristaltic tubes: Applications in biomedicine	atterence scheme for the 2D multi-term time-fractional convection-diffusion equation governing groundwater pollution	water-based AA7075 nanofluid with gyrotactic microorganisms • Himanshu Upreti: Thermal Analysis of Casson Hybrid Nanofluid Around a Circular Cylinder Using DTM	 and Computation Rupal Aggarwal: Numerical solution of delay differential equation using wavelet method Harshita: Self-similar solutions for magnetogasdynamic shock waves in rotating self-gravitating perfect gas 		
				using Lie group invariance method		

1

Time	LHC 103: Kaumudi	LHC 105: G N Ramachandran	LHC 106: P C Ray	LHC 107: S Ramanujan		
08:45-09:00	$Registration\;(LHC\;Lounge)$					
09:00-09:35	Dmitri Kuzmin Convex limiting and entropy fixes for finite element discretizations of nonlinear hyperbolic problems					
09:40-10:15	Srinivasan Natesan Robust Numerical Methods for Singular	ly Perturbed Biharmonic Problems: Wea	k Galerkin FEM and Physics-Informed N	eural Networks		
10:20-10:55	Martin Falcke The role of sub-dyadic structure for who	ole cell behavior – multiscale modelling fo	$r\ cardiology$			
11:00-11:20		Coffee/Tea ($LHC\ Lounge)$			
11:20-12:40	HPC/Scientific Machine Learning - 3	Numerical Methods for Hyperbolic Conservation Laws -	Recent Advances in Numerical Methods for Newtonian and	From Algorithms to Applications: Numerical		
11:20–11:40 11:40–12:00	 Mayank Kumar Bijay: Neural Networks Predicting Submesoscale Tracer Dispersion Anju: Hybrid Physics-Informed Neural Networks with Adaptive Flux 	 Sanjibanee Sudha: Second order central schemes for 1D systems of nonlocal balance laws. Subhodip Ghosh: Discontinuous 	Viscoelastic Fluid Models - 3 • Tapan Kumar Muduli: Lie symmetry analysis of a nonlinear system of partial integro differential	Methods for PDEs - 3 • Vishal Tiwari: A novel numerical method for the Cahn-Hilliard equation with degenerate mobility and		
12:00-12:20	Correction for Hyperbolic PDEs • Meenu: Neural Network Stabilization of Chaotic Cancer Dynamics Derived from	Galerkin methods for Weak and Temple-type Hyperbolic conservation laws Balwinder Singh: A compactly	equations arising in thermoviscoelasticity • Nishant Ranwan: The finite element analysis of a fluid-structure interaction problem in fixed domains	logarithmic potential • Deeksha Singh: An Efficient Newton-ADI scheme for 2D Time-Fractional Reaction-Diffusion Equations with Weak Initial		
12:20-12:40	Perturbation-Reduced Models • Atul Kaushik: Neural Network-Based Analysis of MHD Jeffery-Hamel Flow for Couple Stress Fluids in Stretching/Shrinking Channels	supported distribution function based contact discontinuity capturing Boltzmann scheme • Samala Rathan: Semi-implicit central scheme for hyperbolic systems of balance laws with relaxed source	Udeshna Bhattacharya: Streaming potential and electro viscous behavior in soft cylindrical nanochannels incorporating slip effects Rajesh Chary Kandukoori:	Singularity • Avijit Sarkar: On Prey-Predator Dynamics With Hunting Cooperation Among Predators And Allee Effect In Preys • Ravi Shankar Prasad: Numerical		
		term	Magneto-Hydrodynamics Ternary Nanofluids Flow over an Exponentially Stretching Porous Sheet with Variable Properties: Entropy Generation	study of brain tumor growth in 2D irregular domain with variable-order time-fractional derivative		
12:40-14:00		Lunch (CD)	H III/VFR)			
14:00-14:35	Thomas Wick Multigoal-oriented error estimation and adaptivity for coupled problems					
14:40-15:15	Martin Weiser Adaptive solvers for cardiac electrophysiology simulations					
15:20-15:40	$Coffee/Tea \; (LHC \; Lounge)$					
15:40-16:15	Praveen Chandrashekar Continuous Galerkin method for compressible flows					
16:20-16:55	Thomas Richter Numerics of fluid-rigid body interactions					
17:00-18:30	From Theory to Computation: FEM and DG Methods for Multiphysics Problems - 1	Numerical Methods for Hyperbolic Conservation Laws -	Recent Developments on Virtual Element Methods - 1 • Sarvesh Kumar: Three and four	Optimal control of PDEs - 1 • Gopikrishnan C: Semi and fully discrete analysis of extended		
17:00-17:30	Konduri Aditya: Scalable asynchrony-tolerant numerical fluxes for DG solvers	Aekta Aggarwal: Nonlocal Conservation Laws, Modelling Traffic Flow and Crowd Dynamics	fields mixed formulations for poroelasticity • Ankit Kumar: Convergence	Fisher-Kolmogorov equation with nonstandard FEMs for space discretization		
17:30-17:50	• Surabhi Rathore: Stabilised Galerkin-FE Approximations with POD-ROM for Real-Time Cardiovascular Flow Simulation	 Rahul Barthwal: On a Generalized Riemann problem solver for a rich hyperbolic system Sujoy Basak: Bound preserving 	analysis of the mixed virtual element methods for the Sobolev equation with convection • Nitesh Verma: A Virtual Element	 Himani Roul: Analysis of Sparse Control in Heart Tissue Dynamics Using Gradient-Driven Functionals Ankur Upadhyay: Non-smooth 		
17:50–18:10	• Kedar Wagh: A kinetic energy preserving discontinuous Galerkin scheme based on discrete kinetic model	Lax-Wendroff flux reconstruction method for special relativistic hydrodynamics • Sudipta Sahu: IMEX second	Method for the Biot-Brinkman Equations Using Nitsche's Technique • Aswini.N.K: DGVEM for Parabolic Problems	Time-Space Control-Constrained Optimal Control Problem in a Cardiac Electrophysiology Model • Maria Robert: A Lagrange		
18:10-18:30	Gautam Singh: Direct Discontinuous Galerkin Method for	order central scheme for discrete velocity kinetic models		multiplier approach to optimal control of the monodomain model		
	Singularly Perturbed Problems					

	LHC 103: Kaumudi	LHC 105: G N Ramachandran	LHC 106: P C Ray	LHC 107: S Ramanujan	LHC 108: C V Raman		
08:30-09:00			Registration (LHC Lounge)				
09:00-09:35	Hartwig Anzt Mixed Feeling about Mixed Precision: Can we adapt Numerical Algorithms to AI Hardware?						
09:40-10:15	G D V Gowda A convergent MUSCL-Hancock	G D V Gowda A convergent MUSCL-Hancock Scheme for Non-Local Conservation Laws					
10:20-10:55	Joscha Gedicke P_1 and SIP Discretizations for	Elliptic Optimal Control with Pois	ntwise State Constraints				
11:00-11:20			Coffee/Tea (LHC Lounge)				
11:20-12:40	HPC/Scientific Machine Learning - 4 • Mohd Vaseem:	From Theory to Computation: FEM and DG Methods for	Recent Developments on Virtual Element Methods - 2	Optimal control of PDEs - 2 • Pratibha Shakya: Finite	From Algorithms to Applications: Numerical Methods for PDEs - 4		
11:20–11:40 11:40–12:00	Wavelet-Based Pinn For Micropolar Mepcm Flow Over Paraboloidal Surface • Jain M Francis:	Multiphysics Problems - 2 • Aniruddha Seal: C0 Interior Penalty Method For Time-Fractional	• Ankur: A Virtual Element Framework for Modified Pois- son-Nernst-Planck-Navier-Stok of Room-Temperature Ionic	Element Method For Parabolic Optimal Control Problem With A Bilinear State Equation	• Richa Singh: Fast Higher Order Approximations For A Nonlinear Time-Fractional Biharmonic Equation With		
	Capturing Shocks In Weakly Hyperbolic Systems Using Physics-Informed Neural Network Framework	Cahn-Hilliard Equation • Manika Bag: Well-Posedness Of Three-Dimensional Damped	Liquids • Priyal Garg: A Meshless Hybrid Approach To The Navier–Stokes Equations	• Soundarya G: Uncertainty-Aware Modeling And Optimal Control Of Ransomware Propagation	Initial Singularity • Mohammad Saif: A Fixed-Point Iterative Method for Solving Fractional Order		
12:00-12:20	• Geetanjli: Computation Of Waveguide Eigenmodes By Physics-Informed Neural Networks	Cahn-Hilliard-Navier-Stokes Equations • Suraj Kumar: A Dimensional-Splitting	• Ambit Kumar Pany: Second order backward difference scheme combined with FEM for a 2D Sobolev	• Hemaleka A: Optimal Control Analysis Of A Fractional-Order Tuberculosis Model With Age-Structured	Boundary Value Problems • Sumit Kumar: Investigating Secondary And Tertiary Vortex Phenomena		
12:20-12:40	• Mahipal Jetta: On A Fractional Telegraph-Diffusion Model For Image Denoising	Non-Symmetric Interior Penalty Galerkin Method For 2D Singularly Perturbed Degenerate Parabolic Problems • Aditi Tomar: IMEX-Alikhanov-FEM for time-fractional PDEs/PIDEs	equation with Burgers' type non-linearity • Shantanu: Time-Fractional Smoluchowski Coagulation Equation: Analytical Study	Population • Bhargav Kumar K: Optimal Control Of Renewal Equation With Generic Cost Functional	in Flow Past a Circular Cylinder using Explicit RK-Type HOC Methods • Himanshu Kumar Dwivedi: A Novel Fast Second Order Approach with High-Order Compact Difference Scheme and its Analysis for the Tempered		
					Analysis for the Tempered		
12:40 14:00			Iunah (CDH III/VFR)		Fractional Burgers Equation		
12:40–14:00 14:00–14:35	Gernot Plank Computational Models of Cardio	ac Function - Closing the Gaps be	Lunch (CDH III/VFR) tween Virtual and Physical Reality	y			
	Computational Models of Cardio Phani Motamarri	ac Function - Closing the Gaps be tolerant to approximate matrix-v	tween Virtual and Physical Realit		Fractional Burgers Equation		
14:00–14:35 14:40–15:15	Computational Models of Cardio Phani Motamarri	· tolerant to approximate matrix-v	tween Virtual and Physical Realit	antum modelling of materials in t	Fractional Burgers Equation		
14:00-14:35	Computational Models of Cardio Phani Motamarri	\cdot tolerant to approximate matrix-v $Post$	tween Virtual and Physical Reality ector products: Applications to qu	antum modelling of materials in t	Fractional Burgers Equation		
14:00–14:35 14:40–15:15 15:20–16:20 16:20–16:55	Phani Motamarri A subspace iteration eigensolver Moritz Hauck Iterative solution of Timoshenke HPC/Scientific Machine Learning - 5 • Raghvendra Pratap	\cdot tolerant to approximate matrix-v $Post$	tween Virtual and Physical Reality ector products: Applications to qu	antum modelling of materials in t	Fractional Burgers Equation		
14:00–14:35 14:40–15:15 15:20–16:20	Computational Models of Cardio Phani Motamarri A subspace iteration eigensolver Moritz Hauck Iterative solution of Timoshenke HPC/Scientific Machine Learning - 5 Raghvendra Pratap Singh: Boundary Layer Physics-Informed Neural Networks For A Class Of Singularly Perturbed Fredholm	Post beam network models Numerical Methods for Hyperbolic Conservation Laws - 3 • Rakesh Kumar: Higher Order Accurate Numerical Schemes For Hyperbolic Conservation Laws	vector products: Applications to questre & Coffee/Tea (LHC Local English) Numerical Frontiers in Fluid Dynamics and Flow Simulation - 1 Rakib Mondal: Existence And Uniqueness Of C ¹ Solution to the BVP for Blood Flow Model with Body Forces	Recent Advances in PDEs, Modelling, and Applied Analysis - 1 Nitin Kumar: Bifurcation Curve Detection With Deflation For Multi-Parametric PDEs	Fractional Burgers Equation		
14:00–14:35 14:40–15:15 15:20–16:20 16:20–16:55 17:00–18:40	Phani Motamarri A subspace iteration eigensolver Moritz Hauck Iterative solution of Timoshenke HPC/Scientific Machine Learning - 5 • Raghvendra Pratap Singh: Boundary Layer Physics-Informed Neural Networks For A Class Of	Post beam network models Numerical Methods for Hyperbolic Conservation Laws - 3 • Rakesh Kumar: Higher Order Accurate Numerical Schemes For Hyperbolic Conservation Laws • Asha Kumari Meena: Robust Numerical Schemes For Two-Fluid Ten-Moment Plasma Flow Equations • Deepak Bhoriya: Entropy	tween Virtual and Physical Reality ector products: Applications to quarters & Coffee/Tea (LHC Lo Numerical Frontiers in Fluid Dynamics and Flow Simulation - 1 • Rakib Mondal: Existence And Uniqueness Of C ¹ Solution to the BVP for Blood Flow Model with Body Forces • Priyanshu Agrahari: Influence of Viscous Dissipation on Double-Diffusive Convection: Linear and Nonlinear	Recent Advances in PDEs, Modelling, and Applied Analysis - 1 Nitin Kumar: Bifurcation Curve Detection With Deflation For Multi-Parametric PDEs Radadiya Hardikkumar Sureshbhai: 2-Stage 4-Dimensional Fuzzy Stochastic Multi-Objective Transportation Problem and	Fractional Burgers Equation		
14:00–14:35 14:40–15:15 15:20–16:20 16:20–16:55 17:00–18:40 17:00–17:20	Phani Motamarri A subspace iteration eigensolver Moritz Hauck Iterative solution of Timoshenko HPC/Scientific Machine Learning - 5 • Raghvendra Pratap Singh: Boundary Layer Physics-Informed Neural Networks For A Class Of Singularly Perturbed Fredholm Integro-Differential Equations • Pavan Patel: Data-Driven Recovery Of Longitudinal Dispersion Parameters Via Inverse Physics-Informed Neural Networks • Subhajit Sanfui: Towards Accelerated ODE Solvers on GPU for Industrial Applications	Post beam network models Numerical Methods for Hyperbolic Conservation Laws - 3 • Rakesh Kumar: Higher Order Accurate Numerical Schemes For Hyperbolic Conservation Laws • Asha Kumari Meena: Robust Numerical Schemes For Two-Fluid Ten-Moment Plasma Flow Equations	vector products: Applications to questions to questions. Numerical Frontiers in Fluid Dynamics and Flow Simulation - 1 Rakib Mondal: Existence And Uniqueness Of C ¹ Solution to the BVP for Blood Flow Model with Body Forces Priyanshu Agrahari: Influence of Viscous Dissipation on Double-Diffusive Convection:	Recent Advances in PDEs, Modelling, and Applied Analysis - 1 Nitin Kumar: Bifurcation Curve Detection With Deflation For Multi-Parametric PDEs Radadiya Hardikkumar Sureshbhai: 2-Stage 4-Dimensional Fuzzy Stochastic Multi-Objective	Fractional Burgers Equation		
14:00–14:35 14:40–15:15 15:20–16:20 16:20–16:55 17:00–18:40 17:00–17:20	Phani Motamarri A subspace iteration eigensolver Moritz Hauck Iterative solution of Timoshenke HPC/Scientific Machine Learning - 5 • Raghvendra Pratap Singh: Boundary Layer Physics-Informed Neural Networks For A Class Of Singularly Perturbed Fredholm Integro-Differential Equations • Pavan Patel: Data-Driven Recovery Of Longitudinal Dispersion Parameters Via Inverse Physics-Informed Neural Networks • Subhajit Sanfui: Towards Accelerated ODE Solvers on GPU for Industrial Applications • Chetan Singh: Chew, Goldberger & Low Equations: Eigensystem Analysis And Applications To	Post beam network models Numerical Methods for Hyperbolic Conservation Laws - 3 • Rakesh Kumar: Higher Order Accurate Numerical Schemes For Hyperbolic Conservation Laws • Asha Kumari Meena: Robust Numerical Schemes For Two-Fluid Ten-Moment Plasma Flow Equations • Deepak Bhoriya: Entropy Stable ADer-DG (Arbitrary High-Order Derivative - Discontinuous Galerkin) Scheme For Conservation Laws • Biswarup Biswas: Limiter Based Entropy Stable Weno Schemes For Relativistic Hydrodynamic Equations	ector products: Applications to questions to Gers & Coffee/Tea (LHC Local Description) Numerical Frontiers in Fluid Dynamics and Flow Simulation - 1 Rakib Mondal: Existence And Uniqueness Of C ¹ Solution to the BVP for Blood Flow Model with Body Forces Priyanshu Agrahari: Influence of Viscous Dissipation on Double-Diffusive Convection: Linear and Nonlinear Stability in a Couple-Stress Fluid-Saturated Porous Layer Shweta: Analytical Study of the Continuous Redner-Ben-Avraham-Kahng Coagulating Cluster Dynamic Model Vivek Lodwal: Heat And Mass Transfer Enhancement	Recent Advances in PDEs, Modelling, and Applied Analysis - 1 • Nitin Kumar: Bifurcation Curve Detection With Deflation For Multi-Parametric PDEs • Radadiya Hardikkumar Sureshbhai: 2-Stage 4-Dimensional Fuzzy Stochastic Multi-Objective Transportation Problem and its solution by Random Loop-Based Non-Dominated Sorting Evolutionary Algorithm • Kannan R: The Distance To Bounded Realness • Buddhadev Pal: Almost Ricci-Bourguignon Soliton On Warped Product Space	Fractional Burgers Equation		
14:00–14:35 14:40–15:15 15:20–16:20 16:20–16:55 17:00–18:40 17:20–17:40 17:40–18:00	Phani Motamarri A subspace iteration eigensolver Moritz Hauck Iterative solution of Timoshenke HPC/Scientific Machine Learning - 5 • Raghvendra Pratap Singh: Boundary Layer Physics-Informed Neural Networks For A Class Of Singularly Perturbed Fredholm Integro-Differential Equations • Pavan Patel: Data-Driven Recovery Of Longitudinal Dispersion Parameters Via Inverse Physics-Informed Neural Networks • Subhajit Sanfui: Towards Accelerated ODE Solvers on GPU for Industrial Applications • Chetan Singh: Chew, Goldberger & Low Equations: Eigensystem Analysis And	Post Post	ector products: Applications to questions to Gers & Coffee/Tea (LHC Local Descriptions) Numerical Frontiers in Fluid Dynamics and Flow Simulation - 1 Rakib Mondal: Existence And Uniqueness Of C¹ Solution to the BVP for Blood Flow Model with Body Forces Priyanshu Agrahari: Influence of Viscous Dissipation on Double-Diffusive Convection: Linear and Nonlinear Stability in a Couple-Stress Fluid-Saturated Porous Layer Shweta: Analytical Study of the Continuous Redner-Ben-Avraham-Kahng Coagulating Cluster Dynamic Model Vivek Lodwal: Heat And	Recent Advances in PDEs, Modelling, and Applied Analysis - 1 • Nitin Kumar: Bifurcation Curve Detection With Deflation For Multi-Parametric PDEs • Radadiya Hardikkumar Sureshbhai: 2-Stage 4-Dimensional Fuzzy Stochastic Multi-Objective Transportation Problem and its solution by Random Loop-Based Non-Dominated Sorting Evolutionary Algorithm • Kannan R: The Distance To Bounded Realness • Buddhadev Pal: Almost Ricci-Bourguignon Soliton	Fractional Burgers Equation		

Time	LHC 103: Kaumudi	LHC 105: G N Ramachandran	LHC 106: P C Ray	LHC 107: S Ramanujan	
08:30-09:00	$Registration \; (LHC \; Lounge)$				
09:00-09:35	Sandra May The DoD Stabilization to solve the small cell problem				
09:40-10:15	Thirupathi Gudi C0-IP methods for optimal control problems governed by the PDEs in nondivergence form: Formulations and Approximations.				
10:20-10:40		Coffee/Tea ($LHC\ Lounge)$		
10:40-12:40	Numerical Frontiers in Fluid Dynamics and Flow Simulation -	Recent Advances in Numerical Methods for Newtonian and Viscoelastic Fluid Models - 4	From Theory to Computation: FEM and DG Methods for Multiphysics Problems - 3	Recent Advances in PDEs, Modelling, and Applied Analysis - 2	
10:40-11:00	Dipti Ranjan Parida: Novel Mathematical Models Capture Energy Transfer Patterns In Wave Turbulence	• Ruthra J S: Buoyancy Driven Convection In A Partially Open C-Shaped Enclosure Filled With A Nanofluid	• Rishi Das: Darcy-Forchheimer Equations: Robust Stability And Preconditioning • Kanchan Dwivedi: Large Time	Panchal Vijaykumar Amrutlal: Bi-Objective Optimization In Non-Markovian Finite-Capacity Retrial Queue Models With N-Policy	
11:00-11:20	Devika Jayan: Effect Of Temperature Modulation On Salt-Finger Convection In Micropolar Liquids	Om Prakash Meena: Magnetic And Joule Heating Effects On Mixed Convection Flow Across A Vertical Cone	Asymptotics For The Viscous Burgers Equation Under Impulsive Forcing Nikhil Kodali: Residual-Based Chebyshev Filtered Subspace Iteration	• Utsavkumar Dhansukhbhai Patel: Review On Mathematical Model For Permeable Reactive Barrier To Contain Volatile Organic	
11:20-11:40	 Sukdeb Manna: A Mathematical Approach To Precision Therapeutics For Cholesterol Regulation Sukhendu Das Adhikary: 	 Antara Wajpe: Fluid Flow Analysis In Curved Pipes Using Homotopy Analysis Method Angel Priya E: MHD 	For Sparse Hermitian Eigenvalue Problems Tolerant To Inexact Matrix-Vector Products Gopika P B: Novel Bidomain	Compound Remediation. • Monalisa Anand: Influence of Incubation Delays on Covid-19 Transmission in Diabetic and	
11:40-12:00	Turbulence Of Thermoacoustic Internal Gravity Waves In The Lower Atmosphere Through Pde Modelling And Simulation.	Darcy-Forchheimer Flow with Chemical Reaction along a Stretching Sheet. • Sheetal: Direct Numerical	Partitioned Strategies For The Simulation Of Ventricular Fibrillation Dynamics • Anoja Vijay: Finite Element	Non-Diabetic Populations • Rakesh Kumar Meena: Metaheuristic Optimization And Fuzzy Modelling For M/G/1	
12:00-12:20	Manisha Jangir: Magneto-Convection In Anisotropic Non-Darcy Porous Media With Non-Uniform Boundary Heating And	Simulation Of Plane Poiseuille Flow Of A Viscoplastic Fluid In A Channel With Hydrophobic Wavy Walls • Subrahamanyam Upadhyay:	Method For Two-Phase Flow Using Volume Of Fluid Method With Stabilization Techniques Gourab Panigrahi: Matrix-Free	Fault-Tolerant Machining System With Vacation • Vivek Subhedar Pathak: A high-order numerical method and its	
12:20-12:40	Internal Heat Generation • Akhilesh Yadav: Almost Ricci Solitons On Weakly Ricci Symmetric Perfect Fluid Spacetime.	Wavelet Collocation Method Applied To Study Bioheat Transfer In Skin Tissue	Algorithms For Fast Electronic Structure Calculations On Distributed Architectures Using Finite-Element Discretization	analysis for solving a 3D time-fractional advection-diffusion model • Anupam Priyadarshi: From Stability to Chaos: Fractional-Order Modeling of Intra-Guild Predation with Long-Term Ecological Memory	
12:40-13:50		Lunch (CD.	H III/VFR)	www.zong.zonw.zoong.com.zzonwerg	
13:50–14:50	Numerical Frontiers in Fluid Dynamics and Flow Simulation -	A Posteriori Error Analysis and Adaptive FEM - 3	Recent Advances in PDEs, Modelling, and Applied Analysis	Recent Advances in PDEs, Modelling, and Applied Analysis	
13:50-14:10	 Pratham Singh: Coherent Structure Dynamics Of Heat Transfer In Wakes Of An Inclined Elliptical Cylinder: A Novel Lagrangian Framework 	 Evana Islam Sarkar: Finite Element Analysis Of The 3-D Mhd System With P-Laplacian Priyanka: Error Analysis Of A Fast ADI Compact Finite Difference Method For Two-Dimensional 	- 3 • V Umapathi: Existence And Stability Results For Impulsive Fractional Integrodifferential Equations Involving The Hadamard Derivative In Sobolev Spaces	- 4 • Aditya Bhattacharya: Determining Effectiveness Of Treatment Measures In Controlling Dengue Outbreaks Using Optimal Control	
14:10-14:30	• Prashant Kumar Vishwakarma: A Bi-Slope Linear Distribution Function-Based Boltzmann Scheme For Fluid Flows	Semi-Linear Time-Fractional Problem With Weak Initial Singularity • Nitin: A high order numerical	• Kanailal Mahato: Composition Of Pseudo-Differential Operators Via Coupled Fractional Fourier Transform	 Pardeep Kumar: Chaos-Control Of Nanoparticles Transport In Tumors Sameer Nitin Khandagale: A 	
14:30-14:50	• Aiswarya R Iyer: Asymptotic Dispersion Behaviour Of Contaminants In Heterogeneous Groundwater Systems Under Directional Inlet Regime	method for solving parabolic degenerate convection-diffusion singularly perturbed problem on the Bakhvalov-type meshes	• Jyotiranjan Nayak: A Comparative Analysis Of Quadrilateral And Triangular Finite Elements In SIMP-Based Topology Optimization.	High-Order Numerical Scheme Based On L2-1 _Σ -ADI Difference Method On Nonuniform Meshes For A 2D Variable Coefficients Time Fractional Reaction-Diffusion Equation	
14:50-15:25	Christian Engwer Efficient simulation and discretization methods for brain source analysis				
15:30–16:05	Volker John Some experiences in using ML techniques for the numerical solution of PDEs				
16:10-16:20	Closing Remarks				
16:20		High Tea (I	HC Lounge)		