

SCHEDULE | MONDAY, DECEMBER 8 (LHC - KAUMUDI)

08:30 – 09.10		Registration	
09.10 – 09.30		Inauguration	
Chair: Peter Bastian	09:30 – 10:05	Vincent Heuveline (Uni Heidelberg)	
	Title	Challenges in mathematical modeling and numerical methods in cancer research	
	10:10 – 10:45	A.K.Pani (IIT Bombay & BITs-Goa)	
	Title	On Backward Time-Fractional Diffusion Problems: A Unified Approach	
10:50 – 11:10		Coffee/Tea break	
Chair: Kamana Porwal	11:10 – 12:40	A Posteriori Error Analysis and Adaptive FEM - 1 (4 talks, Room: LHC 105- G N Ramachandran)	
	11:10–11:40	Kamana Porwal (IIT Delhi): Adaptive quadratic finite element method for a unilateral contact problem	
	11:40–12:00	Tooba M. Shaikh (Indian Institute of Science Education and Research Thiruvananthapuram): Adaptive Mixed Finite Element Method for Distributed Optimal Control Problems : Quasi-Optimality	
	12:00–12:20	Arnab Pal (Indian Institute of Science): Convergence and Quasi-Optimality of an AFEM via Inf-Sup Stability for a Dirichlet Boundary Control Problem.	
	12:20–12:40	Arijit Pal (IIT Guwahati): A Posteriori Error Analysis of the Weak Galerkin FEM for Singularly Perturbed 2D Reaction–Diffusion Problems	
Chair: Ratikanta Behera	11:10 – 12:40	HPC/Scientific Machine Learning - 1 (4 talks, Room: LHC 103- Kaumudi)	
	11:10–11:40	Ratikanta Behera (IISc): Neural Network Models for the Dynamic Moore-Penrose Inverse of Tensors	
	11:40–12:00	Pratik Nayak (Technical University of Munich): Batched GPU solvers for large scale simulations	
	12:00–12:20	Sarthak Sharma (National institute of technology warangal): Physics-Informed Deep Learning for Solving Coupled Nonlinear Systems: A PINN-Based Approach for Multiphysics Transport	
	12:20–12:40	Monika Rani (National Institute of Technology Kurukshetra): A Robust Deep Learning Framework Using ANN and PINN for Solving a class of Singularly Perturbed Fredholm Integro-Differential Equations	
Chair: Saumya Bajpai	11:10 – 12:40	Recent Advances in Numerical Methods for Newtonian and Viscoelastic Fluid Models - 1 (4 talks, Room: LHC 106- P C Ray)	
	11:10–11:40	Saumya Bajpai (IIT Goa): Local Discontinuous Galerkin Method for Kelvin-Voigt Viscoelastic Fluid Flow Model	
	11:40–12:00	Deepjyoti Goswami (Tezpur University): Fully discrete error analysis of a two-grid discontinuous method for the Oldroyd model of order one	
	12:00–12:20	Kallol Ray (Indian Institute of Technology Guwahati): $H(\text{div})$ -Conforming DG Method for the Coupled Convective Brinkman–Forchheimer and Double-Diffusion Equations	
	12:20–12:40	Debendra Kumar Swain (IIT Goa): Discontinuous Galerkin two–grid method for the transient Boussinesq equations	
Chair: Murali Mohan	11:10 – 12:40	From Algorithms to Applications: Numerical Methods for PDEs - 1 (4 talks, Room: LHC 107- S Ramanujan)	
	11:10–11:40	G. Murali Mohan Reddy (BITS Pilani Hyderabad): Elliptic reconstruction and a posteriori error estimates for parabolic partial differential equations with small random input data	
	11:40–12:00	Ashifa Khan (Jamia Millia Islamia): Exponentially fitted mesh spline approach for the numerical study of mathematical model arising from a model of neuronal variability.	
	12:00–12:20	Avinash K (Manipal Institute of Technology, MAHE, Manipal): On the Convergence of the Modified Scale-3 Haar Wavelet Method for Solving Elliptic PDEs	

	12:20–12:40	Shishu Pal Singh (Rajiv Gandhi Institute of Petroleum Technology): Finite Difference Method for Global Stabilization of the Viscous Burgers' Equation with Nonlinear Neumann Boundary Feedback Control
	12:40 – 13:50	Lunch
Chair: Hartwig Anzt	13:50 – 14:25	Olaf Ippisch (TU Clausthal)
	<i>Title</i>	<i>Efficient, Hybrid-Parallel Linear Algebra for Sparse Matrices</i>
	14:30 – 15:05	Prabhu Ramachandran (IIT Bombay)
	<i>Title</i>	<i>Adaptive Resolution for SPH with Reproducible Open Source Software</i>
	15:10 – 15:20	Group Photo I
	15:20 – 15:40	Coffee/Tea break
Chair: Praveen C	15:40 – 16:15	Alexander Heinlein (TU Delft)
	<i>Title</i>	<i>Neural Network-Based Models for Physical Systems: Analysis, Domain Decomposition, and Preconditioning</i>
	16:20 – 16:55	Sivaram Ambikasaran (IIT Madras)
	<i>Title</i>	<i>Smoothed Analysis of Kernel Matrix Ranks: Understanding Rank Growth of Kernel Matrices for Randomized Particle Distributions</i>
Chair: Kamana Porwal	17:00 – 18:40	A Posteriori Error Analysis and Adaptive FEM - 2 (4 talks, Room: LHC 105- G N Ramachandran)
	17:00–17:20	Mansi Yadav (IIT Delhi): Pointwise adaptive weak Galerkin methods for the obstacle problem
	17:20–17:40	Subham Nayak (IISER Thiruvananthapuram): Adaptive nonconforming FEM for distributed optimal control problems governed by m-harmonic equations
	17:40–18:00	Nakidi Shravani (BITS Pilani, Hyderabad Campus): A posteriori error estimates for the two-step backward difference formula: application to parabolic PDEs subject to a Robin B.C. with small randomness
	18:00–18:20	Vikas Kumar (Visvesvaraya National Institute of Technology, Nagpur, Maharashtra): H^1 -norm error estimate of a compact ADI finite difference scheme for the 2D multi-term time-fractional convection-diffusion equation governing groundwater pollution
	17:00 – 18:40	HPC/Scientific Machine Learning - 2 (5 talks, Room: LHC 103- Kaumudi)
	17:00–17:20	Ziya Uddin (BML Munjal University, Gurugram, India): Physics Informed Optimal Homotopy Analysis Method (PI-OHAM): A Hybrid Analytical–Computational Framework for Solving Differential Equations
	17:20–17:40	Subhashri A R (Vellore Institute of Technology, Vellore): Global Polynomial Synchronization of Stochastic Reaction Diffusion Neural Networks via Dynamic Hybrid Triggered Control with Cyber-Attacks
	17:40–18:00	Vijay Kag (Robert Bosch Research and Technology Center Bangalore): Learning Hidden Physics and System Parameters with Deep Operator Networks
	18:00–18:20	Nida Izhar Mallick (Jamia Millia Islamia): A simple and efficient iterative scheme for image restoration
Chair: Ratikanta Behera	18:20–18:40	Muhammad Roshan (SRM IST Kattankulathur Chennai): A machine learning approach for dynamic prediction of a physiological flow through an annulus between two peristaltic tubes: Applications in biomedicine
	17:00 – 18:40	Recent Advances in Numerical Methods for Newtonian and Viscoelastic Fluid Models - 2 (5 talks, Room: LHC 106- P C Ray)
	17:00–17:20	Pooja Biswas (Tezpur University): Virtual Element Method for the Oldroyd Model of order one.
	17:20–17:40	Sweta Chakraborty (Tezpur University): A priori error analysis of discontinuous Galerkin method for coupled surface and subsurface flow: Navier-Stokes and Darcy system.

Chair: Murali Mohan	17:40–18:00	Jeremy Rymbai (North-Eastern Hill University (NEHU), Shillong, Meghalaya, India): Nanoparticle aggregation kinematics in hybrid nanofluid over a stretching surface
	18:00–18:20	Hemalatha Veedhuluri (National Institute of Technology, Warangal): Flow separation-induced stability and bioconvection dynamics in water-based AA7075 nanofluid with gyrotactic microorganisms
	18:20–18:40	Himanshu Upreti (BML Munjal University): Thermal Analysis of Casson Hybrid Nanofluid Around a Circular Cylinder Using DTM
	17:00 – 18:40	From Algorithms to Applications: Numerical Methods for PDEs - 2 (5 talks, Room: LHC 107- S Ramanujan)
	17:00–17:20	Vikash Sharma (Department of Mathematical Sciences, Indian Institute of Technology (BHU), Varanasi): L2-3 Approximation of the Generalized Fractional Derivative with Application to 1D and 2D Generalized Time-Fractional Electromagnetic Wave Models
	17:20–17:40	Sahu Nagesh Sumanshankar (Sardar Vallabhbhai National Institute of Technology, Surat): Semi-Analytical Solutions of Counter-Current Imbibition Phenomena Using DTM and RDTM
	17:40–18:00	Jyoti Yadav (Visvesvaraya National Institute of Technology, Nagpur): An Efficient High-Order Scheme for 2D Caputo Time-Fractional CDR Equations with Weak Initial Singularity: Analysis and Computation
	18:00–18:20	Rupal Aggarwal (Manipal University Jaipur): Numerical solution of delay differential equation using wavelet method
	18:20–18:40	Harshita (Motilal Nehru National Institute of Technology, Allahabad Prayagraj): Self-similar solutions for magnetogasdynamic shock waves in rotating self-gravitating perfect gas using Lie group invariance method
19:30	Dinner at VFR	

SCHEDULE | TUESDAY, DECEMBER 9 (LHC - KAUMUDI)

08:45 – 09.00		Registration	
Chair: Volker John	09:00 – 09:35	Dmitri Kuzmin (TU Dortmund)	
	Title	Convex limiting and entropy fixes for finite element discretizations of nonlinear hyperbolic problems	
	09:40 – 10:15	Srinivasan Natesan (IIT Guwahati)	
	Title	Robust Numerical Methods for Singularly Perturbed Biharmonic Problems: Weak Galerkin FEM and Physics-Informed Neural Networks	
	10:20 – 10:55	Martin Falcke (MDC Berlin)	
	Title	The role of sub-dyadic structure for whole cell behavior – multiscale modelling for cardiology	
11:00 – 11:20		Coffee/Tea break	
Chair: Aekta Aggarwal	11:20 – 12:50	Numerical Methods for Hyperbolic Conservation Laws - 1 (4 talks, Room: LHC 105- G N Ramachandran)	
	11:20–11:40	Sanjibaneesudha (Indian Institute of Petroleum and Energy, Visakhapatnam, Andhra Pradesh 530003.): Second order central schemes for 1D systems of nonlocal balance laws.	
	11:40–12:00	Subhodip Ghosh (IISER Thiruvananthapuram): Discontinuous Galerkin methods for Weak and Temple-type Hyperbolic conservation laws	
	12:00–12:20	Balwinder Singh (Indian Institute of Science, Bengaluru): A compactly supported distribution function based contact discontinuity capturing Boltzmann scheme	
	12:20–12:40	Samala Rathana (Indian Institute of Petroleum and Energy Visakhapatnam): Semi-implicit central scheme for hyperbolic systems of balance laws with relaxed source term	
	11:20 – 12:50	HPC/Scientific Machine Learning - 3 (4 talks, Room: LHC 103- Kaumudi)	
	11:20–11:40	Mayank Kumar Bijay (TIFR-ICTS): Neural Networks Predicting Submesoscale Tracer Dispersion	
	11:40–12:00	Anju (VNIT Nagpur): Hybrid Physics-Informed Neural Networks with Adaptive Flux Correction for Hyperbolic PDEs	
	12:00–12:20	Meenu (Vinoba Bhave University, Hazaribag, Jharkhand): Neural Network Stabilization of Chaotic Cancer Dynamics Derived from Perturbation-Reduced Models	
	12:20–12:40	Atul Kaushik (National Institute of Technology Warangal): Neural Network-Based Analysis of MHD Jeffery-Hamel Flow for Couple Stress Fluids in Stretching/Shrinking Channels	
	11:20 – 12:50	Recent Advances in Numerical Methods for Newtonian and Viscoelastic Fluid Models - 3 (4 talks, Room: LHC 106- P C Ray)	
	11:20–11:40	Tapan Kumar Muduli (Visvesvaraya National Institute of Technology (VNIT), Nagpur): Lie symmetry analysis of a nonlinear system of partial integro differential equations arising in thermoviscoelasticity	
	11:40–12:00	Nishant Ranwan (IISER Thiruvananthapuram): The finite element analysis of a fluid–structure interaction problem in fixed domains	
	12:00–12:20	Udeshna Bhattacharya (National Institute of Technology, Silchar): Streaming potential and electro viscous behavior in soft cylindrical nanochannels incorporating slip effects	
	12:20–12:40	Rajesh Chary Kandukoori (National Institute of Technology Warangal): Magneto-Hydrodynamics Ternary Nanofluids Flow over an Exponentially Stretching Porous Sheet with Variable Properties: Entropy Generation	
Chair: Saumya Bajpai			

Chair: Murali Mohan	11:20 – 12:50	From Algorithms to Applications: Numerical Methods for PDEs - 3 (4 talks, Room: LHC 107- S Ramanujan)
	11:20–11:40	Vishal Tiwari (Indian Institute of Technology Ropar): A novel numerical method for the Cahn–Hilliard equation with degenerate mobility and logarithmic potential
	11:40–12:00	Deeksha Singh (IIT Guwahati): An Efficient Newton-ADI scheme for 2D Time-Fractional Reaction-Diffusion Equations with Weak Initial Singularity
	12:00–12:20	Avijit Sarkar (University of Kalyani): On Prey-Predator Dynamics With Hunting Cooperation Among Predators And Allee Effect In Preys
	12:20–12:40	Ravi Shankar Prasad (Sardar Vallabhbhai National Institute of Technology, Surat): Numerical study of brain tumor growth in 2D irregular domain with variable-order time-fractional derivative
12:40 – 14:00 Lunch		
Chair: Joscha Gedicke	14:00 – 14:35	Thomas Wick (Uni Hannover)
	<i>Title</i>	<i>Multigoal-oriented error estimation and adaptivity for coupled problems</i>
	14:40 – 15:15	Martin Weiser (Zuse Institute Berlin)
	<i>Title</i>	<i>Adaptive solvers for cardiac electrophysiology simulations</i>
15:20 – 15:40 Coffee/Tea break		
Chair: Dmitri Kuzmin	15:40 – 16:15	Praveen Chandrashekar (TIFR-CAM Bangalore)
	<i>Title</i>	<i>Continuous Galerkin method for compressible flows</i>
Chair: XXX	16:20 – 16:55	Thomas Richter (University of Magdeburg)
	<i>Title</i>	<i>Numerics of fluid-rigid body interactions</i>
Chair: Aekta Aggarwal	17:00 – 18:30	Numerical Methods for Hyperbolic Conservation Laws - 2(4 talks, Room: LHC 105- G N Ramachandran)
	17:00–17:30	Aekta Aggarwal (IIM Indore): Nonlocal Conservation Laws, Modelling Traffic Flow and Crowd Dynamics
	17:30–17:50	Rahul Barthwal (University of Stuttgart): On a Generalized Riemann problem solver for a rich hyperbolic system
	17:50–18:10	Sujoy Basak (Indian Institute of Technology Delhi): Bound preserving Lax-Wendroff flux reconstruction method for special relativistic hydrodynamics
	18:10–18:30	Sudipta Sahu (Indian Institute of Petroleum and Energy, Visakhapatnam, Andhra Pradesh): IMEX second order central scheme for discrete velocity kinetic models
Chair: Konduri Aditya	17:00 – 18:30	From Theory to Computation: FEM and DG Methods for Multiphysics Problems - 1 (4 talks, Room: LHC 103- Kaumudi)
	17:00–17:30	Konduri Aditya (IISc Bengaluru): Scalable asynchrony-tolerant numerical fluxes for DG solvers
	17:30–17:50	Surabhi Rathore (SISSA, Trieste, Italy): Stabilised Galerkin-FE Approximations with POD-ROM for Real-Time Cardiovascular Flow Simulation
	17:50–18:10	Kedar Wagh (Indian Institute of Science, Bangalore): A kinetic energy preserving discontinuous Galerkin scheme based on discrete kinetic model
	18:10–18:30	Gautam Singh (National Institute of Technology Tiruchirappalli): Direct Discontinuous Galerkin Method for Singularly Perturbed Problems
Chair: Sarvesh Kumar	17:00 – 18:30	Recent Developments on Virtual Element Methods - 1 (4 talks, Room: LHC 106- P C Ray)
	17:00–17:30	Sarvesh Kumar (IIST Thiruvananthapuram): Three and four fields mixed formulations for poroelasticity
	17:30–17:50	Ankit Kumar (BITS Pilani, Pilani Campus): Convergence analysis of the mixed virtual element methods for the Sobolev equation with convection
	17:50–18:10	Nitesh Verma (Universidad del Bio-Bio, Concepcion, Chile): A Virtual Element Method for the Biot–Brinkman Equations Using Nitsche’s Technique
	18:10–18:30	Aswini.N.K (Indian Institute of Space Science and Technology, Thiruvananthapuram.): DGVEM for Parabolic Problems

Chair: Gopikrishnan	17:00 – 18:30	Optimal control of PDEs - 1 (4 talks, Room: LHC 107- S Ramanujan)
	17:00–17:30	Gopikrishnan C (IIT Palakkad): Semi and fully discrete analysis of extended Fisher–Kolmogorov equation with nonstandard FEMs for space discretization
	17:30–17:50	Himani Roul (IISER Thiruvananthapuram): Analysis of Sparse Control in Heart Tissue Dynamics Using Gradient-Driven Functionals
	17:50–18:10	Ankur Upadhyay (IISER Thiruvananthapuram): Non-smooth Time-Space Control-Constrained Optimal Control Problem in a Cardiac Electrophysiology Model
	18:10–18:30	Maria Robert (National Institute of Technology, Calicut): A Lagrange multiplier approach to optimal control of the monodomain model

19:30	Conference Dinner at VFR
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SCHEDULE | WEDNESDAY, DECEMBER 10 (LHC - KAUMUDI)

08:30 – 09.00		Registration
Chair: Thirupathi Gudi	09:00 – 09:35	Hartwig Anzt (TU Munich)
	Title	Mixed Feeling about Mixed Precision: Can we adapt Numerical Algorithms to AI Hardware?
	09:40 – 10:15	G D V Gowda (TIFR-CAM Bengaluru & Mahindra University)
	Title	A convergent MUSCL-Hancock Scheme for Non-Local Conservation Laws
	10:20 – 10:55	Joscha Gedicke (Uni Bonn)
	Title	P_1 and SIP Discretizations for Elliptic Optimal Control with Pointwise State Constraints
11:00 – 11:20		Coffee/Tea break
Chair: Phani Motamarri	11:20 – 12:40	HPC/Scientific Machine Learning - 4 (4 talks, Room: LHC 103- Kaumudi)
	11:20–11:40	Mohd Vaseem (BML Munjal University Gurugram, Haryana): Wavelet-Based Pinn For Micropolar Mepcm Flow Over Paraboloidal Surface
	11:40–12:00	Jain M Francis (National Institute of Technology Karnataka): Capturing Shocks In Weakly Hyperbolic Systems Using Physics-Informed Neural Network Framework
	12:00–12:20	Geetanjli (IIT jodhpur Rajasthan): Computation Of Waveguide Eigenmodes By Physics-Informed Neural Networks
	12:20–12:40	Mahipal Jetta (Mahindra University): On A Fractional Telegraph-Diffusion Model For Image Denoising
Chair: Aditya Konduri	11:20 – 12:40	From Theory to Computation: FEM and DG Methods for Multiphysics Problems - 2 (4 talks, Room: LHC 105- G N Ramachandran)
	11:20–11:40	Aniruddha Seal (IISc, Bengaluru): C0 Interior Penalty Method For Time-Fractional Cahn-Hilliard Equation
	11:40–12:00	Manika Bag (IISER TVM): Well-Posedness Of Three-Dimensional Damped Cahn-Hilliard-Navier-Stokes Equations
	12:00–12:20	Suraj Kumar (IIT Guwahati): A Dimensional-Splitting Non-Symmetric Interior Penalty Galerkin Method For 2D Singularly Perturbed Degenerate Parabolic Problems
	12:20–12:40	Aditi Tomar (IIT Gandhinagar): IMEX-Alikhanov-FEM for time-fractional PDEs/PIDEs
Chair: Sarvesh Kumar	11:20 – 12:40	Recent Developments on Virtual Element Methods - 2 (4 talks, Room: LHC 106- P C Ray)
	11:20–11:40	Ankur (SISSA, Trieste, Italy): A Virtual Element Framework for Modified Poisson–Nernst–Planck–Navier–Stokes of Room-Temperature Ionic Liquids
	11:40–12:00	Priyal Garg (IIT Bhubaneswar): A Meshless Hybrid Approach To The Navier–Stokes Equations
	12:00–12:20	Ambit Kumar Pany (Institute of Mathematics and Applications): Second order backward difference scheme combined with FEM for a 2D Sobolev equation with Burgers’ type non-linearity
	12:20–12:40	Shantanu (Birla Institute of Technology And Science, Pilani, Pilani Campus): Time-Fractional Smoluchowski Coagulation Equation : Analytical Study
Chair: Gopikrishnan	11:20 – 12:40	Optimal control of PDEs - 2 (4 talks, Room: LHC 107- S Ramanujan)
	11:20–11:40	Pratibha Shakya (Indian Institute of Science): Finite Element Method For Parabolic Optimal Control Problem With A Bilinear State Equation
	11:40–12:00	Soundarya G (PSG College of Technology, Coimbatore): Uncertainty-Aware Modeling And Optimal Control Of Ransomware Propagation

	12:00–12:20	Hemaleka A (PSG College of Technology, Coimbatore): Optimal Control Analysis Of A Fractional-Order Tuberculosis Model With Age-Structured Population
	12:20–12:40	Bhargav Kumar K (Birla Institute of Technology and Science - Pilani, Hyderabad Campus): Optimal Control Of Renewal Equation With Generic Cost Functional
Chair: Arun K R	11:20 – 12:40	From Algorithms to Applications: Numerical Methods for PDEs - 4 (4 talks, Room: LHC 108- C V Raman)
	11:20–11:40	Richa Singh (IIT BHU): Fast Higher Order Approximations For A Nonlinear Time-Fractional Biharmonic Equation With Initial Singularity
	11:40–12:00	Mohammad Saif (Jamia Millia Islamia, New Delhi): A Fixed-Point Iterative Method for Solving Fractional Order Boundary Value Problems
	12:00–12:20	Sumit Kumar (Indian Institute of Technology Guwahati): Investigating Secondary And Tertiary Vortex Phenomena in Flow Past a Circular Cylinder using Explicit RK-Type HOC Methods
	12:20–12:40	Himanshu Kumar Dwivedi (Indian Institute of Technology(BHU), Varanasi): A Novel Fast Second Order Approach with High-Order Compact Difference Scheme and its Analysis for the Tempered Fractional Burgers Equation
12:40 – 14:00 Lunch		
Chair: Martin Falcke	14:00 – 14:35	Gernot Plank (Medical University of Graz)
	Title	<i>Computational Models of Cardiac Function - Closing the Gaps between Virtual and Physical Reality</i>
	14:40 – 15:15	Phani Motamarri (IISc Bangalore)
	Title	<i>A subspace iteration eigensolver tolerant to approximate matrix-vector products: Applications to quantum modelling of materials in the exascale era</i>
Chair: Thomas Richter	16:20 – 16:55	Moritz Hauck (Karlsruhe Institute of Technology)
	Title	<i>Iterative solution of Timoshenko beam network models</i>
Chair: Phani Motamarri	17:00 – 18:40	HPC/Scientific Machine Learning - 5 (5 talks, Room: LHC 103- Kaumudi)
	17:00–17:20	Raghvendra Pratap Singh (National Institute of Technology Kurukshetra, Haryana): Boundary Layer Physics-Informed Neural Networks For A Class Of Singularly Perturbed Fredholm Integro-Differential Equations
	17:20–17:40	Pavan Patel (SVNIT SURAT): Data-Driven Recovery Of Longitudinal Dispersion Parameters Via Inverse Physics-Informed Neural Networks
	17:40–18:00	Subhajit Sanfui (Siemens Technology and Services Pvt. Ltd.): Towards Accelerated ODE Solvers on GPU for Industrial Applications
	18:00–18:20	Chetan Singh (Indian Institute Of Technology Delhi): Chew, Goldberger & Low Equations: Eigensystem Analysis And Applications To One-Dimensional Test Problems
	18:20–18:40	Maneesh Kumar Singh (Imperial College London): A New Paradigm For Data Assimilation: The Global Girsanov Nudged Particle Filter
Chair: Mahipal Jetta	17:00 – 18:40	Recent Advances in PDEs, Modelling, and Applied Analysis - 1 (5 talks, Room: LHC 107- S Ramanujan)
	17:00–17:20	Nitin Kumar (Scuola Internazionale Superiore di Studi Avanzati (SISSA), Trieste, Italy): Bifurcation Curve Detection With Deflation For Multi-Parametric PDEs
	17:20–17:40	Radadiya Hardikkumar Sureshbhai (Sardar vallabhbhai national institute of technology -Surat): 2-Stage 4-Dimensional Fuzzy Stochastic Multi-Objective Transportation Problem and its solution by Random Loop-Based Non-Dominated Sorting Evolutionary Algorithm
	17:40–18:00	Kannan R (Indian Institute Of Technology Guwahati.): The Distance To Bounded Realness
	18:00–18:20	Buddhadev Pal (Banaras Hindu University): Almost Ricci–Bourguignon Soliton On Warped Product Space

Chair: Suresh Kumar	18:20–18:40	Nivedita (Indian Institute of Technology Mandi): Existence And Uniqueness Of Identification Problem For Different Kinds Of Abstract Differential Equations Using Perturbation Of Linear Operators
	17:00 – 18:50	Numerical Frontiers in Fluid Dynamics and Flow Simulation - 1 (5 talks, Room: LHC 106- P C Ray)
	17:00–17:20	Rakib Mondal (Birla Institute of Technology and Science, Pilani, K K Birla Goa Campus): Existence And Uniqueness Of C^1 Solution to the BVP for Blood Flow Model with Body Forces
	17:20–17:40	Priyanshu Agrahari (National Institute of Technology Warangal): Influence of Viscous Dissipation on Double-Diffusive Convection: Linear and Nonlinear Stability in a Couple-Stress Fluid-Saturated Porous Layer
	17:40–18:00	Shweta (Birla Institute of Technology And Science, Pilani, Pilani Campus): Analytical Study of the Continuous Redner-Ben-Avraham-Kahng Coagulating Cluster Dynamic Model
Chair: Biswarup Biswas	18:00–18:20	Vivek Lodwal (National Institute of Technology, Warangal): Heat And Mass Transfer Enhancement Of Convection Driven by Thermal And Solutal Buoyancy Under Concentration Modulation
	18:20–18:40	Ritesh Kumar Dubey (SRMIST Chennai): Data Driven Weno Schemes For Hyperbolic Conservation Laws
	17:10 – 18:50	Numerical Methods for Hyperbolic Conservation Laws - 3 (5 talks, Room: LHC 105- G N Ramachandran)
	17:00–17:20	Rakesh Kumar (Mahindra University): Higher Order Accurate Numerical Schemes For Hyperbolic Conservation Laws
	17:20–17:40	Asha Kumari Meena (Central University of Rajasthan): Robust Numerical Schemes For Two-Fluid Ten-Moment Plasma Flow Equations
	17:40–18:00	Deepak Bhoirya (Department of Mathematics, BITS Pilani, Pilani Campus, Rajasthan.): Entropy Stable ADer-DG (Arbitrary High-Order Derivative - Discontinuous Galerkin) Scheme For Conservation Laws
	18:00–18:20	Biswarup Biswas (Mahindra University): Limiter Based Entropy Stable Weno Schemes For Relativistic Hydrodynamic Equations
	18:20–18:40	Bhramarbar Behera (National Institute Of Technology Silchar): Galerkin Finite Element Analysis Of Singularly Perturbed Integro-Differential Convection–Diffusion Problems With Time Delay
19:30	Dinner at VFR	

SCHEDULE | THURSDAY, DECEMBER 11 (LHC - KAUMUDI)

08:30 – 09.00			Registration
Chair: Martin Weiser	09:00 – 09:35	Sandra May (TU Berlin)	
	Title	The DoD Stabilization to solve the small cell problem	
	09:40 – 10:15	Thirupathi Gudi (IISc Bengaluru)	
	Title	C0-IP methods for optimal control problems governed by the PDEs in nondivergence form: Formulations and Approximations.	
10:20 – 10:40			Coffee/Tea break
Chair: Deepjyoti Goswami	10:40 – 12:40	Recent Advances in Numerical Methods for Newtonian and Viscoelastic Fluid Models - 4: Topic (4 talks, Room: LHC 105- G N Ramachandran)	
	10:40–11:00	Ruthra J S (SRM Institute of Science and Technology Kattankulathur): Buoyancy Driven Convection In A Partially Open C-Shaped Enclosure Filled With A Nanofluid	
	11:00–11:20	Om Prakash Meena (Jawaharlal Nehru University (JNU) New Delhi-110067.): Magnetic And Joule Heating Effects On Mixed Convection Flow Across A Vertical Cone	
	11:20–11:40	Antara Wajpe (National Institute of Technology Warangal): Fluid Flow Analysis In Curved Pipes Using Homotopy Analysis Method	
	11:40–12:00	Angel Priya E (SRM Institute of Science and Technology): MHD Darcy–Forchheimer Flow with Chemical Reaction along a Stretching Sheet.	
	12:00–12:20	Sheetal (Malaviya National Institute of Technology Jaipur): Direct Numerical Simulation Of Plane Poiseuille Flow Of A Viscoplastic Fluid In A Channel With Hydrophobic Wavy Walls	
	12:20–12:40	Subrahmanyam Upadhyay (Indian Naval Academy): Wavelet Collocation Method Applied To Study Bioheat Transfer In Skin Tissue	
	Chair: Aditya Konduri	10:40 – 12:40	From Theory to Computation: FEM and DG Methods for Multiphysics Problems - 3 (4 talks, Room: LHC 106- P C Ray)
	10:40–11:00	Rishi Das (IIT Bombay & Monash University, Australia): Darcy-Forchheimer Equations : Robust Stability And Preconditioning	
	11:00–11:20	Kanchan Dwivedi (National Institute of Technology Warangal): Large Time Asymptotics For The Viscous Burgers Equation Under Impulsive Forcing	
Chair: Sheetal Dharmatti	11:20–11:40	Nikhil Kodali (Indian Institute of Science, Bengaluru): Residual-Based Chebyshev Filtered Subspace Iteration For Sparse Hermitian Eigenvalue Problems Tolerant To Inexact Matrix-Vector Products	
	11:40–12:00	Gopika P B (IISER Thiruvananthapuram): Novel Bidomain Partitioned Strategies For The Simulation Of Ventricular Fibrillation Dynamics	
	12:00–12:20	Anoja Vijay (Digital University Kerala): Finite Element Method For Two-Phase Flow Using Volume Of Fluid Method With Stabilization Techniques	
	12:20–12:40	Gourab Panigrahi (Indian Institute of Science): Matrix-Free Algorithms For Fast Electronic Structure Calculations On Distributed Architectures Using Finite-Element Discretization	
	10:40 – 12:40	Numerical Frontiers in Fluid Dynamics and Flow Simulation - 2 (4 talks, Room: LHC 103- Kaumudi)	
	10:40–11:00	Dipti Ranjan Parida (TIFR Centre For Applicable Mathematics, Bangalore): Novel Mathematical Models Capture Energy Transfer Patterns In Wave Turbulence	
	11:00–11:20	Devika Jayan (CHRIST(Deemed to be University),Bangalore): Effect Of Temperature Modulation On Salt-Finger Convection In Micropolar Liquids	
	11:20–11:40	Sukdeb Manna (SRM University AP): A Mathematical Approach To Precision Therapeutics For Cholesterol Regulation	

Chair: Rajan M P	11:40–12:00	Sukhendu Das Adhikary (Visva-Bharati (A Central University)): Turbulence Of Thermoacoustic Internal Gravity Waves In The Lower Atmosphere Through Pde Modelling And Simulation.
	12:00–12:20	Manisha Jangir (National Institute of Technology, Warangal): Magneto-Convection In Anisotropic Non-Darcy Porous Media With Non-Uniform Boundary Heating And Internal Heat Generation
	12:20–12:40	Akhilesh Yadav (Banaras Hindu University): Almost Ricci Solitons On Weakly Ricci Symmetric Perfect Fluid Spacetime.
	10:40 – 12:40	Recent Advances in PDEs, Modelling, and Applied Analysis - 2 (4 talks, Room: LHC 107- S Ramanujan)
	10:40–11:00	Panchal Vijaykumar Amrutlal (Sardar Vallabhbhai National Institute of Technology Surat Gujarat India): Bi-Objective Optimization In Non-Markovian Finite-Capacity Retrial Queue Models With N-Policy
	11:00–11:20	Utsavkumar Dhansukhbhai Patel (Sardar Vallabhbhai National Institute of Technology, Surat): Review On Mathematical Model For Permeable Reactive Barrier To Contain Volatile Organic Compound Remediation.
	11:20–11:40	Monalisa Anand (UPES Dehradun): Influence of Incubation Delays on Covid-19 Transmission in Diabetic and Non-Diabetic Populations
	11:40–12:00	Rakesh Kumar Meena (School of Physical Sciences, Jawaharlal Nehru University, New Delhi): Metaheuristic Optimization And Fuzzy Modelling For M/G/1 Fault-Tolerant Machining System With Vacation
Chair: Mahipal Jetta	12:00–12:20	Vivek Subhedar Pathak (Visvesvaraya National Institute of Technology Nagpur): A high-order numerical method and its analysis for solving a 3D time-fractional advection-diffusion model
	12:20–12:40	Anupam Priyadarshi (Department of Mathematics, Banaras Hindu University Varanasi): From Stability to Chaos: Fractional-Order Modeling of Intra-Guild Predation with Long-Term Ecological Memory
	12:40 – 13:50	Lunch
	13:50 – 14:50	Recent Advances in PDEs, Modelling, and Applied Analysis - 3 (5 talks, Room: LHC 106- P C Ray)
	13:50–14:10	V Umapathi (Department of Mathematics, Bharathiar University.): Existence And Stability Results For Impulsive Fractional Integro-differential Equations Involving The Hadamard Derivative In Sobolev Spaces
	14:10–14:30	Kanail Mahato (Banaras Hindu University): Composition Of Pseudo-Differential Operators Via Coupled Fractional Fourier Transform
	14:30–14:50	Jyotirnanjan Nayak (SRM University, AP.): A Comparative Analysis Of Quadrilateral And Triangular Finite Elements In SIMP-Based Topology Optimization.
	13:50 – 14:50	A Posteriori Error Analysis and Adaptive FEM - 3 (5 talks, Room: LHC 105- G N Ramachandran)
Chair: Rakesh Kumar	13:50–14:10	Evana Islam Sarkar (IIT Bhubaneswar): Finite Element Analysis Of The 3-D Mhd System With P-Laplacian
	14:10–14:30	Priyanka (Indian Institute of Technology (BHU), Varanasi): Error Analysis Of A Fast ADI Compact Finite Difference Method For Two-Dimensional Semi-Linear Time-Fractional Problem With Weak Initial Singularity
	14:30–14:50	Nitin (IIT BHU (Varanasi): A high order numerical method for solving parabolic degenerate convection-diffusion singularly perturbed problem on the Bakhvalov-type meshes
	13:50 – 14:50	Numerical Frontiers in Fluid Dynamics and Flow Simulation - 3 (5 talks, Room: LHC 103- Kaumudi)
	13:50–14:10	Pratham Singh (Indian Institute of Technology Guwahati): Coherent Structure Dynamics Of Heat Transfer In Wakes Of An Inclined Elliptical Cylinder: A Novel Lagrangian Framework
	14:10–14:30	Prashant Kumar Vishwakarma (indian institute of science bangalore): A Bi-Slope Linear Distribution Function-Based Boltzmann Scheme For Fluid Flows
	14:10–14:30	
	14:10–14:30	
Chair: Biswarup Biswas	13:50 – 14:50	
	14:10–14:30	

	14:30–14:50	Aiswarya R Iyer (CHRIST (Deemed to be University)) : Asymptotic Dispersion Behaviour Of Contaminants In Heterogeneous Groundwater Systems Under Directional Inlet Regime
Chair: Suresh Kumar	13:50 – 14:50	Recent Advances in PDEs, Modelling, and Applied Analysis - 4 (5 talks, Room: LHC 107- S Ramanujan)
	13:50–14:10	Aditya Bhattacharya (Amity University, Kolkata) : Determining Effectiveness Of Treatment Measures In Controlling Dengue Outbreaks Using Optimal Control
	14:10–14:30	Pardeep Kumar (Indraprastha College for Women, University of Delhi) : Chaos-Control Of Nanoparticles Transport In Tumors
	14:30–14:50	Sameer Nitin Khandagale (VNIT) : A High-Order Numerical Scheme Based On L_2 - 1_Σ -ADI Difference Method On Nonuniform Meshes For A 2D Variable Coefficients Time Fractional Reaction-Diffusion Equation
Chair: Sandra May	14:50 – 15:25	Christian Engwer (University of Munster)
	<i>Title</i>	<i>Efficient simulation and discretization methods for brain source analysis</i>
	15:30 – 16:05	Volker John (WIAS Berlin)
	<i>Title</i>	<i>Some experiences in using ML techniques for the numerical solution of PDEs</i>
16:10 – 16:20	Closing Remarks	
16:20	High Tea	