



丘成桐数学科学中心
YAU MATHEMATICAL SCIENCES CENTER



偏微分方程数值和机器学习方法 国际研讨会 International Workshop on Numerical and Learning Methods for PDEs

February 9-13, 2026

Room A-103, TSIMF

组织者 ORGANIZERS

Xiao-Chuan Cai(蔡小川), University of Macau

Luca Franco Pavarino, University of Pavia, Italy

Alexander Heinlein, Delft University of Technology, Netherlands

Rongliang Chen(陈荣亮), Shenzhen Institutes of Advanced
Technology Chinese Academy of Sciences



Find more information on tsimf.tsinghua.edu.cn

Contents

About the conference	1
Schedule	6
February 9, 2026 - Monday.....	8
February 10, 2026 - Tuesday.....	9
February 11, 2026 - Wednesday.....	10
February 12, 2026 - Thursday.....	11
February 13, 2026 - Friday.....	12
Titles and Abstracts	13
February 9, 2026 - Monday.....	14
Rolf Krause	14
Fei Wang	14
Chang-Ock Lee	15
Jooyoung Hahn.....	15
Tao Zhou	16
Li Luo.....	16
Ruchi Guo	16
February 10, 2026 - Tuesday.....	18
Xiao-Chuan Cai.....	18
Giovanni Stabile.....	18
Seak Weng Vong.....	19
Siu Long Lei.....	19
Antoine Lechevallier.....	20
Qifeng Liao	20
Yang Xiang.....	21
Edoardo Centofanti	21
February 12, 2026 - Tuesday.....	22
Bangti Jin	22
Stefano Zampini.....	22

Alexander Heinlein	23
Yehua Yang.....	23
Sofia Botti.....	24
Ngoc Monica Mai Huynh.....	24
Zhiqiang Cai.....	25
Xiao-Ping Wang	25
Welcome to TSIMF	27
About Facilities	29
Registration.....	29
Guest Room	29
Library	30
Restaurant	30
Laundry.....	31
Gym	31
Swimming Pool	31
Free Shuttle Bus Service at TSIMF	31
Playground.....	31
Contact Information of Administration Staff	32

About the conference

偏微分方程数值和机器学习方法国际研讨会

International Workshop on Numerical and Learning Methods for PDEs

Date

February 9-13, 2026

Venue

Room A-103, TSIMF

Organizers

Xiao-Chuan Cai(蔡小川), University of Macau, China

Luca Franco Pavarino, University of Pavia, Italy

Alexander Heinlein, Delft University of Technology, Netherlands

Rongliang Chen(陈荣亮), Shenzhen Institutes of Advanced Technology Chinese Academy of Sciences, China

Abstract

The topic of this conference is the integration of traditional numerical methods and modern machine learning techniques for solving Partial Differential Equations (PDEs), which are fundamental to many scientific and engineering problems. The International Workshop on Numerical and Learning Methods for PDEs brings together mathematicians, computer scientists, and domain experts to explore innovative approaches for developing accurate, efficient, and scalable PDE solvers.

The workshop will focus on four key themes:

- 1. Advanced Numerical Methods:** We will discuss recent progress in finite difference, finite element, and spectral methods, tailored for high-performance computing architectures. Topics include domain decomposition, multigrid methods, and high-order schemes for complex nonlinear PDEs, with an emphasis on exascale computing applications.
- 2. Machine Learning for PDEs:** The conference will examine how neural networks, such as physics-informed neural networks and neural operators, advance PDE solutions. Sessions will cover theoretical foundations and practical implementations of these data-driven approaches.
- 3. Hybrid Numerical-ML Approaches:** We will explore methods combining classical numerical techniques with machine learning, including ML-accelerated multiscale modeling, neural network preconditioners, and differentiable programming for PDE-constrained optimization.
- 4. Real-World Applications:** The workshop will highlight applications in computational fluid dynamics, medical imaging, computational cardiology, and climate modeling, demonstrating how hybrid numerical-ML methods address complex challenges.

Through keynote lectures, technical sessions, and interactive discussions, this workshop provides a platform for researchers from academia, national labs, and industry to share insights, collaborate, and shape the future of computational mathematics. Attendees will engage with advanced tools, explore new methodologies, and contribute to discussions on the role of machine learning in PDE research.

Description of the aim

The aim of the International Workshop on Numerical and Learning Methods for PDEs is to unite researchers in numerical analysis, scientific computing, and machine learning to advance methods for solving Partial Differential Equations (PDEs), which are essential for modeling phenomena in science and engineering, such as fluid dynamics, climate systems, and biomedical processes. Despite progress in numerical methods, challenges persist in creating efficient, accurate, and scalable solvers for complex, data-driven, or multiphysics problems. This workshop provides a platform to explore new developments, foster collaboration, and shape future research in PDE solvers.

Objectives

1. **Integrate Numerical and Machine Learning Methods:** The workshop will examine advances in numerical techniques, such as adaptive mesh refinement, domain decomposition, and high-order discretizations, alongside machine learning approaches like physics-informed neural networks, neural operators, and reinforcement learning for PDE control. Emphasis will be placed on hybrid methods, including ML-enhanced multigrid solvers, neural preconditioners, and differentiable programming for inverse problems.
2. **Highlight Applications Across Domains:** Sessions will showcase how advanced PDE solvers address real-world problems, including climate modeling, patient-specific hemodynamics, computational cardiology, aerospace fluid-structure interactions, and seismic imaging. These case studies will discuss both successes and challenges in applying hybrid numerical-ML methods to practical problems.
3. **Encourage Interdisciplinary Collaboration:** The program includes panel discussions, networking sessions, and collaborative workshops to connect mathematicians, computational scientists, and domain experts, fostering partnerships across academia, national labs, and industry.
4. **Shape Future Directions:** Discussions will focus on open challenges, such as theoretical guarantees for ML-based solvers, uncertainty quantification, and algorithms for emerging computing architectures (e.g., quantum or neuromorphic). The workshop aims to produce a white paper outlining research priorities and standardized benchmarks.

Thematic Focus

1. **Scalability:** Algorithms optimized for modern supercomputers and distributed systems.
2. **Robustness:** Methods for handling noisy or incomplete data in real-world applications.
3. **Reproducibility:** Development of open-source tools and benchmarks to support community progress.
4. **Accessibility:** Resources to make numerical-ML methods approachable for diverse researchers.

Expected Outcomes

The workshop seeks to:

Identify promising research directions at the numerical-ML interface. Foster new collaborations across disciplines.

Develop open-source tools and educational resources.

Produce a white paper summarizing key insights and future priorities.

This workshop offers a unique opportunity for researchers at all career stages to contribute to the evolving field of computational mathematics, where numerical and machine learning methods converge to tackle complex PDE-based problems.

Participants

Sofia Botti, Università della Svizzera Italiana (USI), Switzerland

Zhiqiang Cai, Great Bay University, China

Xiao-Chuan Cai, University of Macau, China

Edoardo Centofanti, University of Pavia, Italy

Rongliang Chen, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China

Xingding Chen, Beijing Technology and Business University, China

Xinhai Chen, National University of Defense Technology

Mingqing Chen, University of Macau, China

Tianpei Cheng, Peking University

Zaiheng Cheng, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China

Ruchi Guo, Sichuan University, China

Jooyoung Hahn, Czech Technical University in Prague, Czechia

Runan He, Instituto de Ciencias Matemáticas (ICMAT), Spain

Alexander Heinlein, Delft University of Technology, Netherlands

Ngoc Monica Mai Huynh, University of Milan, Italy

Yi Jiang, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China

Bangti Jin, The Chinese University of Hong Kong, China

Rolf Krause, King Abdullah University of Science and Technology, Saudi Arabia

Antoine Lechevallier, Norce, Norway

Chang-Ock Lee, Korea Advanced Institute of Science and Technology, South Korea

Siu Long LEI, University of Macau, China

Qifeng Liao, ShanghaiTech University, China

Zeng Lin, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China

Yingzhi Liu, University of Macau, China

Li Luo, University of Macau, China

Tianhao Ma, University of Macau, China

Luca Franco Pavarino, University of Pavia, Italy

Shuaichao Pei, University of Macau, China

Fenfen Qi, University of Macau, China

Shanlin Qin, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China

Yuxin Shan, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China

Giovanni Stabile, Sant'Anna School of Advanced Studies, Italy

Jiali Tu, National University of Defense Technology

Seak Weng Vong, University of Macau, China

Fei Wang, Xi'an Jiaotong University, China

Jing-Yuan Wang, University of Macau, China

Xiaoping Wang, The Chinese University of Hong Kong (Shenzhen), China

Xiuping Wang, University of Macau, China

Yang Xiang, The Hong Kong University of Science and Technology, China

Yuejin Xu, University of Macau, China

Liang Yan, Southeast University, China

Zhengzheng Yan, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China

Yehua Yang, University of Macau, China

Zihao Yang, Northwestern Polytechnical University, China

Mohammad Yavartanoo, Beijing Institute of Mathematical Sciences and Applications

Haotian Yi, Tongji University

Gong Yujie, University of Macau, China

Stefano Zampini, King Abdullah University of Science and Technology, Saudi Arabia

Jinpeng Zhang, University of Macau, China

Mei Zhang, Henan Normal University

Qingyang Zhang, National University of Defense Technology

Tao Zhou, Academy of Mathematics and Systems Science, Chinese Academy of Sciences, China

Schedule

Time&Date	Monday (February 9)	Tuesday (February 10)	Wednesday (February 11)	Thursday (February 12)	Friday (February 13)	
7:30-8:30	<i>Breakfast (60 minutes)</i>					
Chair	Xiao-Chuan Cai	Luca Pavarino		Alexander Heinlein	<i>Free Discussion</i>	
08:30-08:40	<i>Openning Remark</i>					
08:40-09:20	Rolf Krause	Xiao-Chuan Cai	Poster Section & Free Discussion	Bangti Jin		
09:20-10:00	Fei Wang	Giovanni Stabile		Stefano Zampini		
10:00-10:30	<i>Coffee Break (within 30 minutes)</i>					
Chair	Tao Zhou	Li Luo	VR/MR Experience & Free Discussion	Zhiqiang Cai		
10:30-11:10	Chang-Ock Lee	Seak Weng Vong		Alexander Heinlein		
11:10-11:50	Jooyoung Hahn	Siu Long Lei		Yehua Yang		
11:50-12:00	<i>Group Photo</i>					
12:00-13:30	<i>Lunch (90 minutes)</i>					
Chair	Rolf Krause	Ngoc Monica Mai Huynh	<i>Free Discussion 13:30-17:00</i>	Stefano Zampini	<i>Free Discussion</i>	
14:00-14:40	Tao Zhou	Antoine Lechevallier		Sofia Botti		
14:40-15:20	Li Luo	Qifeng Liao		Ngoc Monica Mai Huynh		
15:20-15:50	<i>Coffee Break (within 30 minutes)</i>			<i>Coffee Break</i>		
Chair	Fei Wang	Qifeng Liao		Rongliang Chen		
15:50-16:30	Ruchi Guo	Yang Xiang		Zhiqiang Cai		
16:30-17:10		Edoardo Centofanti		Xiao-Ping Wang		
17:30 - 19:00	<i>Dinner (90 minutes)</i>			<i>Banquet 18:00-20:00</i>		<i>Dinner (90 minutes)</i>

February 9, 2026 - Monday

Time	Name	Title
7:30-8:30	<i>Breakfast (60 minutes)</i>	
Chair	Xiao-Chuan Cai University of Macau	
08:30-08:40	Opening Remark	
08:40-09:20	Rolf Krause King Abdullah University of Science and Technology	Parallel Preconditioned Strategies for the Training of Neural Networks
09:20-10:00	Fei Wang Xi'an Jiaotong University	Randomized Neural Networks for Solving PDEs
10:00-10:30	<i>Coffee Break (within 30 minutes)</i>	
Chair	Tao Zhou AMSS, Chinese Academy of Sciences	
10:30-11:10	Chang-Ock Lee Korea Advanced Institute of Science and Technology	Hybrid Least Squares/Gradient Descent Methods for DeepONets
11:10-11:50	Jooyoung Hahn Czech Technical University in Prague	From Laplace Regularization to Neural Solvers for Eikonal Equations
11:50-12:00	Group Photo	
12:00-13:30	<i>Lunch (90 minutes)</i>	
Chair	Rolf Krause King Abdullah University of Science and Technology	
14:00-14:40	Tao Zhou AMSS, Chinese Academy of Sciences	Efficient Deep Learning Methods for Very High Dimensional Quasilinear Parabolic PDEs and HJB Equations
14:40-15:20	Li Luo University of Macau	Nonlinear Preconditioning Algorithms with Learning Capability
15:20-15:50	<i>Coffee Break (within 30 minutes)</i>	
Chair	Fei Wang Xi'an Jiaotong University	
15:50-16:30	Ruchi Guo Sichuan University	Transformer: Structure-conforming Operator Learning
17:30 - 19:00	<i>Dinner (90 minutes)</i>	

February 10, 2026 - Tuesday

Time	Name	Title
7:30-8:30	<i>Breakfast (60 minutes)</i>	
Chair	Luca Pavarino University of Pavia	
08:40-09:20	Xiao-Chuan Cai University of Macau	Learning-accelerated Nonlinear Algebraic Solvers and Applications in Computational Biomechanics
09:20-10:00	Giovanni Stabile Sant'Anna School of Advanced Studies	Nonlinear Model Reduction and Scientific Machine Learning for Environmental and Urban Flows with Advection Dominated Features
10:00-10:30	<i>Coffee Break (within 30 minutes)</i>	
Chair	Li Luo University of Macau	
10:30-11:10	Seak Weng Vong University of Macau	Modified BDF Convolution Quadrature for Multi-singularity Problems Arising from Delay Fractional Diffusion-Wave Equations
11:10-11:50	Siu Long Lei University of Macau	Optimal Preconditioners for Nonsymmetric Multilevel Toeplitz Systems with Application to Solving Non-local Evolutionary Partial Differential Equations
12:00-13:30	<i>Lunch (90 minutes)</i>	
Chair	Ngoc Monica Mai Huynh University of Milan	
14:00-14:40	Antoine Lechevallier NORCE Research AS	Efficient Nonlinear Preconditioning for Reservoir Simulation History Matching Using Random Features Learning
14:40-15:20	Qifeng Liao ShanghaiTech University	A High-dimensional Density Estimation Method and Its Application for Solving PDEs
15:20-15:50	<i>Coffee Break (within 30 minutes)</i>	
Chair	Qifeng Liao ShanghaiTech University	
15:50-16:30	Yang Xiang The Hong Kong University of Science and Technology	Enhancing Stability of Operator Learning for Solving Differential Equations
16:30-17:10	Edoardo Centofanti University of Pavia	Scientific Machine Learning Approaches to Cardiac Inverse Problems for Reconstructing Stimuli and Ischemia from Pseudo-ECG
17:30 - 19:00	<i>Dinner (90 minutes)</i>	

February 11, 2026 - Wednesday

Time	Name	Title
<i>7:30-8:30</i>	<i>Breakfast (60 minutes)</i>	
08:40-09:20	Poster Section & Free Discussion	
09:20-10:00	Mingqing Chen, Zaiheng Cheng, Yujie Gong, Yi Jiang, Zeng Lin, Yingzhi Liu, Tianhao Ma, Shuaichao Pei, Fenfen Qi, Shanlin Qin, Yuxin Shan, Jing-Yuan Wang, Xiuping Wang, Yuejin Xu, Yehua Yang, Zhengzheng Yan, Jinpeng Zhang	
<i>10:00-10:30</i>	<i>Coffee Break (within 30 minutes)</i>	
10:30-11:10	VR/MR Experience & Free Discussion	
11:10-11:50	Yujie Gong, Tianhao Ma, Fenfen Qi, Yuxin Shan, Jing-Yuan Wang	
<i>12:00-13:30</i>	<i>Lunch (90 minutes)</i>	
14:00-14:40	Free Discussion 13:30-17:00	
14:40-15:20		
<i>15:20-15:50</i>		
15:50-16:30		
16:30-17:10		
<i>17:30 - 19:00</i>	<i>Dinner (90 minutes)</i>	

February 12, 2026 - Thursday

Time	Name	Title
7:30-8:30	<i>Breakfast (60 minutes)</i>	
Chair	Alexander Heinlein Delft University of Technology	
08:40-09:20	Bangti Jin The Chinese University of Hong Kong	Neural Solvers for PDEs with Singularities
09:20-10:00	Stefano Zampini King Abdullah University of Science and Technology	On Second-order Solvers for Training Models in Scientific Machine Learning
10:00-10:30	<i>Coffee Break (within 30 minutes)</i>	
Chair	Zhiqiang Cai Great Bay University / Purdue University	
10:30-11:10	Alexander Heinlein Delft University of Technology	Adaptivity in Physics-Informed Neural Networks
11:10-11:50	Yehua Yang University of Macau	Computational Modeling of Brugada Syndrome with ST-Segment Elevation and Ventricular Arrhythmias
12:00-13:30	<i>Lunch (90 minutes)</i>	
Chair	Stefano Zampini King Abdullah University of Science and Technology	
14:00-14:40	Sofia Botti Universita' della Svizzera Italiana	Multiscale Computational Modeling of Heterogeneous hiPSC-CM Cardiac Tissues
14:40-15:20	Ngoc Monica Mai Huynh University of Milan	Adaptive BDDC for Unstructured Ventricular Meshes
15:20-15:50	<i>Coffee Break (within 30 minutes)</i>	
Chair	Rongliang Chen SIAT, Chinese Academy of Sciences	
15:50-16:30	Zhiqiang Cai Great Bay University / Purdue University	Structure-guided Gauss-Newton and Newton Methods for Non-Convex Optimization Problems Arising from ReLU Neural Network Approximation
16:30-17:10	Xiao-Ping Wang The Chinese University of Hong Kong (Shenzhen)	Adaptive Feature Capture Method for Solving Partial Differential Equations with Near Singular Solutions
17:30 - 19:00	<i>Dinner (90 minutes)</i>	

February 13, 2026 - Friday

Time	Name	Title
<i>7:30-8:30</i>		<i>Breakfast (60 minutes)</i>
08:40-09:20		Free Discussion
09:20-10:00		
<i>10:00-10:30</i>		
10:30-11:10		
11:10-11:50		
<i>12:00-13:30</i>		<i>Lunch (90 minutes)</i>
14:00-14:40		Free Discussion
14:40-15:20		
<i>15:20-15:50</i>		
15:50-16:30		
16:30-17:10		
<i>17:30 - 19:00</i>		<i>Dinner (90 minutes)</i>

Titles and Abstracts

February 9, 2026 - Monday

Parallel Preconditioned Strategies for the Training of Neural Networks

Rolf Krause

King Abdullah University of Science and Technology, Thuwal, Saudi Arabia

Training deep neural networks (NNs) gives rise to large-scale, highly nonconvex optimization problems, making optimizer performance sensitive to hyperparameter choice. We present the Additively Preconditioned Trust-Region Strategy (APTS), which is inspired by non-linear domain decomposition methods for the solution of PDEs. In addition, our strategy uses ideas from Trust-Region methods for global convergence control.

Based on a decomposition of the weights, we define local subdomain optimization problems, which provide local nonlinear corrections. We then combine these additively into a global preconditioned trial step. A subsequent global Trust-Region "post-smoothing"-step evaluates the full objective and updates the radius, providing stable progress and mitigating step-size sensitivity.

Building on APTS, we also introduce a non-monotone variant with a windowed acceptance rule that increases step acceptance by permitting controlled non-monotonicity over a recent window.

Numerical examples for the training of neural networks on common datasets as well as for the solution of PDEs with neural networks conclude our presentation.

Randomized Neural Networks for Solving PDEs

Fei Wang

Xi'an Jiaotong University, Xi'an, China

Traditional numerical methods, supported by rigorous mathematical theory, high accuracy, and physical conservation, form the cornerstone of modern scientific computing. Nevertheless, they face intrinsic challenges, including mesh generation for complex geometries, limited ability to capture global structures, repeated reformulation under varying geometries or boundary conditions, the curse of dimensionality, and difficulties in integrating data and uncertainty. Neural-network-based methods have recently emerged as a promising alternative due to their strong expressive power, but conventional training-based approaches remain constrained by nonlinear and non-convex optimization, which limits both accuracy and efficiency.

To overcome these difficulties, we propose a family of Randomized Neural Network (RaNN) methods that integrate the mathematical rigor of classical numerical formulations with the flexibility of neural representations. The framework encompasses RaNN-Petrov-Galerkin (RaNN-PG), local RaNN-DG (LRaNN-DG), LRaNN-HDPG, and LRaNN-finite difference methods. We further introduce an Adaptive-Growth RaNN (AG-RaNN) strategy that uses prior and posterior information to identify informative features, adapt random parameter distributions, and dynamically refine the network architecture, substantially improving approximation accuracy. We also investigate RaNN-based acceleration of operator learning for parameterized PDEs.

Numerical experiments show that RaNN methods are mesh-free, structure-preserving, and highly expressive, achieving high accuracy with relatively few degrees of freedom and extending naturally

to high-dimensional and time-dependent problems. These results highlight RaNN as a promising direction for unifying traditional numerical methods with modern machine learning to enable efficient and accurate PDE solvers.

Hybrid Least Squares/Gradient Descent Methods for DeepONets

Chang-Ock Lee

Korea Advanced Institute of Science and Technology, Daejeon, South Korea

We propose an efficient hybrid least squares/gradient descent method to accelerate DeepONet training. Since the output of DeepONet can be viewed as linear with respect to the last layer parameters of the branch network, these parameters can be optimized using a least squares (LS) solve, and the remaining hidden layer parameters are updated by means of gradient descent form. However, building the LS system for all possible combinations of branch and trunk inputs yields a prohibitively large linear problem that is infeasible to solve directly. To address this issue, our method decomposes the large LS system into two smaller, more manageable subproblems - one for the branch network and one for the trunk network - and solves them separately. This method is generalized to a broader type of L^2 loss with a regularization term for the last layer parameters, including the case of unsupervised learning with physics-informed loss.

From Laplace Regularization to Neural Solvers for Eikonal Equations

Jooyoung Hahn

Czech Technical University in Prague, Prague, Czech Republic

The eikonal equation is a fundamental model for distance and travel-time computation in complex geometries, but reliably approximating its viscosity solution on realistic and complex three-dimensional domains remains challenging. I will first present a Laplacian-regularized finite volume approach on polyhedral meshes, where the eikonal equation is interpreted through a vanishing-viscosity viewpoint and discretized by a cell-centered finite volume method with the Sonner boundary condition ensuring the correct solution on non-convex domains. This algorithm numerically achieves second-order experimental convergence for smooth test cases, scales efficiently in parallel computing, and significantly reduces computational cost compared with time-relaxed formulations when the region of interest is far from the source set.

Building on this PDE-based foundation, I will then discuss three mesh-free deep learning methods that target the same viscosity solution without relying on a mesh. The first is a neural augmented Lagrangian method, which models the solution as an implicit neural representation and recasts the problem as a constrained optimization: it maximizes a geometric functional subject to a Lipschitz-type gradient constraint and a Sonner-type boundary inequality, enforced robustly by an augmented Lagrangian formulation. The second is a viscosity-reduction variational approach for anisotropic eikonal equations, which derives an unconstrained variational problem from the vanishing-viscosity formulation and resolves both nonlinearity and small-viscosity instability via variable splitting and a normalized-output neural network architecture, enabling stable training on discontinuous anisotropic metrics and point-cloud geometry.

The third is a stochastic displacement-based method inspired by the Derivative-Free Loss Method:

instead of minimizing pointwise residuals, it learns local gradient-aligned transport using a Feynman-Kac type stochastic representation, yielding a transport-aware neural solver whose cost is essentially independent of the diffusion scale and which naturally adapts to non-convex domains with obstacles.

Efficient Deep Learning Methods for Very High Dimensional Quasilinear Parabolic PDEs and HJB Equations

Tao Zhou

Academy of Mathematics and Systems Science, Chinese Academy of Sciences, Beijing, China

Solving high-dimensional PDEs with deep learning methods is often computationally and memory intensive, primarily due to the need for automatic differentiation to compute large Hessian matrices. We propose a deep random difference method (DRDM) that addresses these issues by approximating the convection-diffusion operator using first-order random differences, avoiding explicit Hessian computation. When incorporated into a Galerkin framework, the DRDM eliminates the need for pointwise evaluation of expectations, resulting in very efficient training procedure. Rigorous error estimates for DRDM are presented for linear PDEs. We further extend the approach to the Hamilton-Jacobi-Bellman (HJB) equations in stochastic optimal control. Numerical experiments demonstrate the efficiency of DRDM for solving quasilinear parabolic PDEs and HJB equations in dimensions up to 100000.

Nonlinear Preconditioning Algorithms with Learning Capability

Li Luo

University of Macau, Macau, China

Nonlinear preconditioning algorithms have been applied successfully for solving some difficult nonlinear partial differential equations by identifying and balancing the nonlinearities in the system. One of the challenging tasks when applying the methods is to identify the unbalanced nonlinearities. We study some learning-based strategies that identify the bad behavior of a Newton solver from the slow residual subspace of a training problem. Numerical experiments show that the learning-based algorithms are more robust and efficient compared with existing nonlinear solvers.

Transformer: Structure-conforming Operator Learning

Ruchi Guo

Sichuan University, Chengdu, China

The Transformer has emerged as one of the most advanced neural network architectures, with wide applications in large language models (LLMs), AI for Science, and image/video process. Despite its success, its mathematical foundations remain largely open. This research presents our recent progress toward addressing this gap, structured in two parts. First, we introduce a new perspective

based on Petrov-Galerkin projection and Fourier analysis to better interpret the attention mechanism. Building on this framework, we propose a modified Transformer architecture that admits a clearer mathematical interpretation and exhibits a frequency-bootstrapping property. Second, drawing inspiration from direct sampling methods (DSMs) for inverse problems, we develop a novel feature generation approach: data features are constructed by solving PDEs and then incorporated into the attention mechanism. By embedding a learnable nonlocal kernel, the DSM is naturally reformulated as such the modified attention mechanism. We demonstrate the proposed method on electrical impedance tomography (EIT), a prototypical severely ill-posed nonlinear inverse problem, which achieves superior accuracy over its predecessors and contemporary operator learners.

February 10, 2026 - Tuesday

Learning-accelerated Nonlinear Algebraic Solvers and Applications in Computational Biomechanics

Xiao-Chuan Cai

University of Macau, Macau, China

We consider the numerical simulations of blood flows in the human artery with the incompressible Navier-Stokes equations, and the focus is on the situations when the artery is abnormal due to the existence of stenosis and/or aneurysm. The problem is discretized with a fully implicit finite element method and solved by an inexact Newton based nonlinear solver which converges well when the solution is smooth but the convergence becomes unacceptably slow when abnormality of the artery is severe. For such difficult cases, we introduce a nonlinear preconditioning technique to reduce the stagnation and to speedup the convergence of the inexact Newton method based on an unsupervised learning.

Nonlinear Model Reduction and Scientific Machine Learning for Environmental and Urban Flows with Advection Dominated Features

Giovanni Stabile

The Biorobotics Institute, Sant'Anna School of Advanced Studies, Pisa, Italy

The proportion of the global population living in cities is rapidly increasing and is expected to reach 80% by 2050. This trend highlights the urgent need for efficient and reliable models of the urban microclimate, which are essential tools for planners and policymakers striving to design more sustainable and comfortable cities. At the urban scale, pollutant dispersion is strongly influenced by daily weather conditions, requiring computational fluid dynamics (CFD) simulations with fine spatial and temporal resolution and repeated evaluations. These demands lead to very high memory and computational costs, making high-performance computing (HPC) indispensable. In addition, such problems exhibit complex solution manifolds with advection-dominated features, where standard linear compression techniques fail due to slow Kolmogorov n -width decay.

In this talk, I will review recent advances in physics-based nonlinear model order reduction (MOR) for problems characterized by these challenges. While purely data-driven methods - such as autoencoders and their variants - can learn nonlinear latent representations and provide accurate predictions where linear methods break down, they often lack interpretability, struggle outside the training regime, and fail to exploit the underlying physics during the predictive phase.

To address these limitations, I will present two variants of the nonlinear manifold projection approach previously introduced in other works [1,2], each employing distinct strategies for nonlinear dimensionality reduction and hyper-reduction. The methodology is validated across a range of increasingly complex test cases: from twodimensional nonlinear conservation laws and shallow water equations [3], to supersonic flow past a NACA airfoil with varying Mach number, and finally to incompressible turbulent flow around the Ahmed body with varying slant angle [4].

REFERENCES

- [1] Lee, K., and Carlberg, K. T. (2019). Model reduction of dynamical systems on nonlinear manifolds using deep convolutional autoencoders. *Journal of Computational Physics*, 404, 108973.
- [2] Kim, Y., Choi, Y., Widemann, D., and Zohdi, T. (2021). A fast and accurate physics-informed neural network reduced order model with shallow masked autoencoder. *Journal of Computational Physics*, 451, 110841.
- [3] Romor, F., Stabile, G., and Rozza, G. (2023). Non-linear Manifold Reduced-Order Models with Convolutional Autoencoders and Reduced Over-Collocation Method. *Journal of Scientific Computing*, 94(3).
- [4] Romor, F., Stabile, G., and Rozza, G. (2025). Explicable hyper-reduced order models on nonlinearly approximated solution manifolds of compressible and incompressible Navier-Stokes equations. *Journal of Computational Physics*, 113729.

Modified BDF Convolution Quadrature for Multi-singularity Problems Arising from Delay Fractional Diffusion-Wave Equations

Seak Weng Vong

University of Macau, Macau, China

In this talk, we focus on the pointwise-in-time error estimates for fractional diffusion-wave equations in the presence of time delay. The semi-discrete solution is derived through the convolution quadrature with the generating function given by κ -step BDF ($\kappa = 1, 2, 3$). For the sake of restoring the desired κ^{th} -order convergence accuracy of BDF_{κ} , the proper correction formula at the starting $\kappa - 1$ steps is developed. Theoretical result shows that the convergence order is $\min\{(k + 1)\alpha, \kappa\}$ at $k\tau^+$, whereas it is α at 0^+ , where $k \in \mathbb{N}^+$, τ is the time delay, and $\alpha \in (1, 2)$ is the fractional order. Some numerical tests are given to justify the theoretical results. This talk is supported by the University of Macau (File no. MYRG-GRG2024-00100-FST-UMDF)

Optimal Preconditioners for Nonsymmetric Multilevel Toeplitz Systems with Application to Solving Non-local Evolutionary Partial Differential Equations

Siu Long Lei

University of Macau, Macau, China

Preconditioning for multilevel Toeplitz systems has long been a focal point of research in numerical linear algebra. In this work, we develop a novel preconditioning method for a class of nonsymmetric multilevel Toeplitz systems, which includes the all-at-once systems that arise from evolutionary partial differential equations. These systems have recently garnered considerable attention in the literature. To further illustrate our proposed preconditioning strategy, we specifically consider the application of solving a wide range of non-local, time-dependent partial differential equations in a parallel-in-time manner. For these equations, we propose a symmetric positive definite multilevel τ preconditioner that is not only efficient to implement but can also be adapted as an optimal

preconditioner. In this context, the proposed preconditioner is optimal in the sense that it enables mesh-independent convergence when using the preconditioned generalized minimal residual method. Numerical examples are provided to critically analyze the results and underscore the effectiveness of our preconditioning strategy.

This is a joint work with Yuan-Yuan Huang, Sean Y. Hon, and Lot-Kei Chou, and the trip is supported by the research grant MYRG-GRG2024-00237-FST-UMDF from the University of Macau.

Efficient Nonlinear Preconditioning for Reservoir Simulation History Matching Using Random Features Learning

Antoine Lechevallier

NORCE Research AS, Bergen, Norway

Reservoir simulation plays a vital role in subsurface modeling, yet the computational cost of solving large nonlinear systems via Newton's method remains a significant bottleneck, especially in ensemble-based history matching workflows. To address this, machine learning (ML) techniques have been explored to accelerate simulations, with surrogate modeling and nonlinear preconditioning emerging as promising strategies. Building on recent advances in hybrid Newton's method, which integrate ML-based nonlinear preconditioners to improve initial guesses and solver convergence, this work incorporates the local hybrid Newton approach directly into the OPM reservoir simulator. We leverage ensemble-based history matching data to train neural network predictors, focusing on well event nonlinearities, without intrusive modifications to the physical model or solver logic. A key contribution is the application of the SWIM (Sample Where It Matters) method, which drastically reduces training time to under one second on CPU by employing random feature learning, making the overall accelerated history matching process computationally competitive with standard methods. We validate the approach on both the synthetic Drogon field and the Norne field, thus demonstrating improved nonlinear solver performance and runtime efficiency. Our results highlight the practicality and robustness of data-driven nonlinear preconditioning for accelerating reservoir simulations in real-world scenarios.

A High-dimensional Density Estimation Method and Its Application for Solving PDEs

Qifeng Liao

ShanghaiTech University, Shanghai, China

Probability density estimation remains an open challenging problem in computational science and engineering. By coupling the Knothe-Rosenblatt (KR) rearrangement and the flow-based generative model, we developed an invertible transport map, called KRnet, for high-dimensional density estimation. In this talk, we give an overview of KRnet and discuss its adaptive version for the Fokker-Planck equations and stochastic dynamic systems. KRnet for solving Bayesian inverse problems is also studied. This is joint work with Yani Feng, Junjie He, Kejun Tang and Xiaoliang Wan.

Enhancing Stability of Operator Learning for Solving Differential Equations

Yang Xiang

Hong Kong University of Science and Technology, Hong Kong, China

Learning solution operators for differential equations with neural networks has shown great potential in scientific computing, but ensuring their stability under input perturbations remains a critical challenge. This paper presents a robust self-supervised neural operator framework that enhances stability through adversarial training while preserving accuracy. We formulate operator learning as a min-max optimization problem, where the model is trained against worst-case input perturbations to achieve consistent performance under both normal and adversarial conditions. We demonstrate that our method not only achieves good performance on standard inputs, but also maintains high fidelity under adversarial perturbed inputs. The results highlight the importance of stability-aware training in operator learning and provide a foundation for developing reliable neural PDE solvers in real-world applications, where input noise and uncertainties are inevitable.

Scientific Machine Learning Approaches to Cardiac Inverse Problems for Reconstructing Stimuli and Ischemia from Pseudo-ECG

Edoardo Centofanti

University of Pavia, Pavia, Italy

Inverse problems play a crucial role in computational cardiology, where the challenge is to infer hidden pathological or functional features from non-invasive measurements. In this work, we address the inverse reconstruction of ischemic regions and the localization of externally applied stimuli from pseudo-electrocardiographic (pseudo-ECG) signals, using the cardiac monodomain model [1] as the underlying physiological framework.

The forward problem maps spatial patterns of ischemia and initial stimulus configurations to body-surface pseudo-ECG signals. To accelerate this mapping, we employ Latent Dynamics Networks (LDNets) [2] as efficient neural surrogates, enabling fast and accurate simulations. Our analysis spans both 2D square domains and anatomically realistic 3D geometries, including an ellipsoidal mesh that emulates a human cardiac ventricle.

This contribution highlights the growing synergy between deep learning and mechanistic models in tackling complex inverse problems in cardiac electrophysiology. Our work illustrates the promise of neural surrogates not only for accelerating simulations but also for enabling robust inverse reconstructions in potential clinically relevant scenarios. This is a joint work with Giovanni Ziarelli (Politecnico di Milano), Simone Scacchi (University of Milan) and Luca F. Pavarino (University of Pavia).

REFERENCES

- [1] P. Colli Franzone, L.F. Pavarino, and S. Scacchi. *Mathematical cardiac electrophysiology*. Vol. 13. Springer, 2014.
- [2] F. Regazzoni, S. Pagani, M. Salvador, L. Dede', and A. Quarteroni. Learning the intrinsic dynamics of spatio-temporal processes through Latent Dynamics Networks. *Nature Communications*, 15: 1834, 2024.

February 12, 2026 - Tuesday

Neural Solvers for PDEs with Singularities

Bangti Jin

The Chinese University of Hong Kong, Hong Kong, China

Over the last few years, there have been substantial progress and intensive studies on using neural networks for solving PDEs. However, these solvers remain challenging to apply to problems with nonsmooth / singular solutions. In this talk, we present novel neural solvers for PDEs with singularities, including singularity enriched neural networks for Poisson type equations and iterative deep Ritz method. We describe the methods, error analysis, and numerical experiments to illustrate the theory. We also briefly discuss the convergence issue related to the training of the neural networks.

On Second-order Solvers for Training Models in Scientific Machine Learning

Stefano Zampini

King Abdullah University of Science and Technology, Thuwal, Saudi Arabia

In recent years, we have witnessed the emergence of scientific machine learning as a data-driven tool for the analysis, by means of deep-learning techniques, of data produced by computational science and engineering applications. At the core of these methods is the supervised training algorithm to learn the neural network realization, a highly non-convex optimization problem that is usually solved using stochastic gradient methods.

However, distinct from deep-learning practice, scientific machine learning training problems feature a much larger volume of smooth data and better characterizations of the empirical risk functions, which make them suited for conventional solvers for unconstrained optimization.

In this talk, we introduce PETScML, a lightweight software framework built on top of the Portable and Extensible Toolkit for Scientific computation (PETSc) to bridge the gap between deep-learning software and conventional solvers for unconstrained minimization.

Using PETScML, we empirically demonstrate the superior efficacy of a trust region method based on the Gauss-Newton approximation of the Hessian in improving the generalization errors arising from regression tasks when learning surrogate models for a wide range of scientific machine-learning techniques and test cases. All the conventional solvers tested, including L-BFGS and inexact Newton with line-search, compare favorably, either in terms of cost or accuracy, with the adaptive first-order methods used to validate the surrogate models.

Adaptivity in Physics-Informed Neural Networks

Alexander Heinlein

Delft University of Technology, Delft, Netherlands

Physics-informed neural networks (PINNs) are a powerful framework for solving partial differential equations (PDEs), but their accuracy is fundamentally limited by three sources of error: residual sampling, training, and neural network approximation error. In this talk, we focus on adaptive approaches for the first two, and on problems with complex spatial behavior, which pose challenges for standard PINN methods.

First, we show how residual sampling can be improved through adaptive collocation using the Point Adaptive Collocation Method for Artificial Neural Networks (PACMANN), which relocates training points toward regions of high residuals by following residual gradients. To improve the training dynamics and address spectral bias, we consider finite basis PINNs (FBPINNs) based on overlapping domain decomposition, which enable localized representations and improved learning of high-frequency features through an appropriate choice of the domain decomposition.

Computational Modeling of Brugada Syndrome with ST-Segment Elevation and Ventricular Arrhythmias

Yehua Yang

University of Macau, Macau, China

Brugada syndrome (BrS) is characterized by coved-type ST-segment elevation in the right precordial leads and an increased risk of ventricular arrhythmias. The mechanisms underlying these ECG manifestations and arrhythmogenic vulnerability remain debated, with evidence implicating both repolarization and depolarization abnormalities. Accumulating observations suggest that BrS reflects an impaired conduction reserve in the right ventricular outflow tract (RVOT). The aim of the present study is to investigate the mechanistic basis of BrS ECG phenotypes and arrhythmia vulnerability using computational modeling. We develop a patient-specific biventricular model incorporating Purkinje-driven activation and a localized RVOT substrate with combined ionic and structural remodeling. Using a lead-field approach, we simulate ECGs for 120 BrS model configurations by sweeping the scaling factors of G_{Na} , G_{to} , and I_{CaL} , as well as the substrate size. Six representative cases are further examined using the programmed stimulation protocol to assess vulnerability to reentry. Our results show that: (1) coved-type ST-segment elevation with T-wave inversion occurs predominantly for the larger substrate ($R = 30$ mm), under the combined condition of strong Ito augmentation and reductions in I_{CaL} and I_{Na} ; (2) reducing the substrate size or limiting the extent of ionic remodeling attenuates the phenotype, shifting coved-type elevation toward saddleback-type or non-Brugada patterns; (3) sustained reentry is induced under conditions in which a pronounced inverted T wave is observed; and (4) reducing the substrate size or restoring normal conduction within the substrate suppresses reentry.

Multiscale Computational Modeling of Heterogeneous hiPSC-CM Cardiac Tissues

Sofia Botti

Euler Institute, Università della Svizzera Italiana, Lugano, Switzerland

Human induced pluripotent stem cell-derived cardiomyocytes (hiPSC-CMs) provide a powerful platform for investigating human cardiac electrophysiology and for supporting safety pharmacology studies. However, their intrinsic heterogeneity-typically involving mixtures of atrial-like and ventricular-like phenotypes-and the indirect nature of multielectrode array (MEA) [1] recordings make the interpretation of field potential (FP) biomarkers challenging. A quantitative understanding of how MEA derived metrics reflect the underlying action potential (AP) dynamics, which represent the gold standard, is still limited but essential for establishing robust and translatable *in-vitro* readouts [2]. In this work, we present a computational framework that couples the bidomain model with a detailed representation of MEA electrodes to perform an *in-silico* correlation study between FP- and AP-based electrophysiological biomarkers in heterogeneous hiPSC-CM tissues [3]. We first analyze a large set of 900 spatially distributed sampling points to explore the relationship between extracellular potentials - precursors of field potentials - and their corresponding cellular AP features across varying mixtures of atrial-like and ventricular-like cells. We then simulate a full MEA platform comprising 256 electrodes to assess how realistic subsampling, spatial organization, and tissue composition affect the extraction and interpretation of FP biomarkers. Across a broad panel of biomarkers, our results identify the FP metrics that most reliably reflect AP characteristics and demonstrate that the strength of FP-AP correlations increases as the tissue exhibits a more homogeneous ventricular-like phenotype. These findings not only clarify the mechanistic basis of MEA readouts in hiPSC-CM systems but also highlight the predictive potential of our computational tool: by integrating tissue composition, spatial sampling, and electrophysiological modeling, the framework can serve as a virtual platform to anticipate biomarker behavior, optimize MEA-based experimental designs, and ultimately strengthen the translational value of hiPSC-CM assays in preclinical research.

REFERENCES

- [1] M.E. Spira, A. Hai, Multi-electrode array technologies for neuroscience and cardiology. *Nature Nanotechnology* 2013, 8(2): 83-94
- [2] E. Abbate, M. Boulakia, Y. Coudiere, J.F. Gerbeau, P. Zitoun, N. Zenzemi, In silico assessment of the effects of various compounds in MEA/hiPSC-CM assays: Modeling and numerical simulations. *Journal of Pharmacological and Toxicological Methods* 89, 59-72, 2018
- [3] S. Botti, R. Krause, L.F. Pavarino, In-silico Modeling of Multi-Electrode Arrays for Enhancing Cardiac Drug Testing on hiPSC-CMs Heterogeneous Tissues, *Journal of Physiology*, 2025

Adaptive BDDC for Unstructured Ventricular Meshes

Ngoc Monica Mai Huynh

Università degli Studi di Milano, Milano, Italy

Accurately simulating the heart's electrical activity requires solving large, complex systems of equations on detailed, patient-specific geometries. In this talk, I will present adaptive Balancing

Domain Decomposition by Constraints (BDDC) preconditioners developed for the Bidomain model of cardiac electrophysiology - a mathematical model describing how electrical signals propagate through the heart. These adaptive methods improve on standard BDDC techniques by enriching the coarse problem through localized eigenvalue problems, leading to faster and more robust solvers. Using unstructured finite element meshes of the human left ventricle with realistic fiber data, it is possible to show how these preconditioners achieve scalability and efficiency on modern high-performance computing systems, enabling more realistic and computationally feasible heart simulations [1].

This is a joint work with T. Abdelhamid (Menoufya University), S. Scacchi (Università degli Studi di Milano), L.F. Pavarino (Università degli Studi di Pavia), S. Zampini (King Abdullah University of Science and Technology) and R. Chen (Shenzhen Institute of Advanced Technology).

REFERENCES

[1] T. Abdelhamid, N.M.M. Huynh, S. Zampini, R. Chen, L.F. Pavarino and S. Scacchi, Adaptive BDDC preconditioners for the bidomain model on unstructured ventricular finite element meshes, *Computer Methods in Applied Mechanics and Engineering*, 447: 118366, 2025.

Structure-guided Gauss-Newton and Newton Methods for Non-Convex Optimization Problems Arising from ReLU Neural Network Approximation

Zhiqiang Cai

Great Bay University / Purdue University, Dongguan, China / West Lafayette, USA

This talk will present our recent work on structure-guided Gauss-Newton and Newton methods for iteratively solving non-convex optimization problems. Those nonlinear problems are resulted in discretization of the physics-preserved neural network (P^2NN) methods for PDEs, whose solution is non-smooth and/or discontinuous. The modified Gauss-Newton and Newton methods exploit ReLU neural network algebraic structure and geometrical and physical meanings of neural network parameters.

This presentation will use some materials from joint work with J. Chen, J. Choi, T. Ding, A. Doktorova, R. Falgout, C. Herrera, M. Liu, X. Liu, and J. Xia.

Adaptive Feature Capture Method for Solving Partial Differential Equations with Near Singular Solutions

Xiao-Ping Wang

The Chinese University of Hong Kong (Shenzhen), Shenzhen, China

We propose the Adaptive Feature Capture Method (AFCM), a novel machine learning framework that adaptively redistributes neurons and collocation points in high-gradient regions to enhance local expressive power. Inspired by adaptive moving mesh techniques, AFCM employs the gradient norm of an approximate solution as a monitor function to guide the reinitialization of feature function parameters. This ensures that partition hyperplanes and collocation points cluster where they are

most needed, achieving higher resolution without increasing computational overhead. The AFCM extends the capabilities of RFM to handle PDEs with near-singular solutions while preserving its mesh-free efficiency. Numerical experiments demonstrate the method's effectiveness in accurately resolving near-singular problems, even in complex geometries. By bridging the gap between adaptive mesh refinement and randomized neural networks, AFCM offers a robust and scalable approach for solving challenging PDEs in scientific and engineering applications.

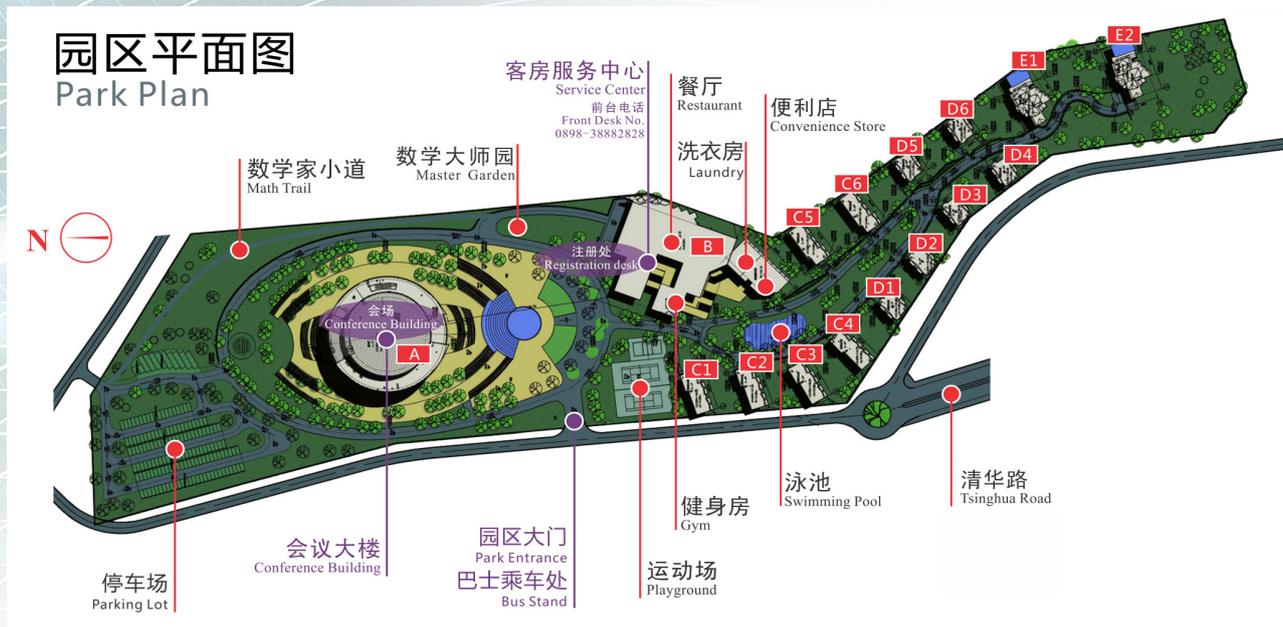
Welcome to TSIMF



The facilities of TSIMF are built on a 23-acre land surrounded by pristine environment at Phoenix Hill of Phoenix Township. The total square footage of all the facilities is over 29,000 square meter that includes state-of-the-art conference facilities (over 10,000 square meter) to hold many international workshops simultaneously, two reading rooms of library, a guest house (over 10,000 square meter) and the associated catering facilities, a large swimming pool, gym and sports court and other recreational facilities.

Management Center of Tsinghua Sanya International Forum is responsible for the construction, operation, management and service of TSIMF. The mission of TSIMF is to become a base for scientific innovations, and for nurturing of innovative human resource; through the interaction between leading mathematicians and core research groups in pure mathematics, applied mathematics, statistics, theoretical physics, applied physics, theoretical biology and other relating disciplines, TSIMF will provide a platform for exploring new directions, developing new methods, nurturing mathematical talents, and working to raise the level of mathematical research in China.

About Facilities



Registration

Conference booklets, room keys and name badges for all participants will be distributed at the front desk. Please take good care of your name badge. It is also your meal card and entrance ticket for all events.

Park-Wide WiFi Information

SSID: TSIMF-WiFi

Password: tsimf123



Family rooms are also equipped with kitchen and refrigerator.

Guest Room

All the rooms are equipped with: free Wi-Fi, TV, air conditioning and other utilities.



Library



Opening Hours: 09:00am-22:00pm

TSIMF library is available during the conference and can be accessed by using your room card. There is no need to sign out books but we ask that you kindly return any borrowed books to the book cart in library before your departure.



In order to give readers a better understanding of the contributions made by the Fields Medalists, the library of Tsinghua Sanya International Mathematics Forum (TSIMF) instituted the Special Collection of Fields Medalists as permanent collection of the library to serve the mathematical researchers and readers.

So far, there are 271 books from 49 authors in the Special Collection of Fields Medalists of TSIMF library. They are on display in room A220. The participants are welcome to visit.



Restaurant

All the meals are provided in the restaurant (Building B1) according to the time schedule.

Breakfast 07:30-08:30

Lunch 12:00-13:30

Dinner 17:30-19:00



Laundry

Opening Hours: 24 hours

The self-service laundry room is located in the Building(B1).



Gym

Opening Hours: 24 hours

The gym is located in the Building 1 (B1), opposite to the reception hall. The gym provides various fitness equipment, as well as pool tables, tennis tables etc.



Playground

Playground is located on the east of the central gate. There you can play basketball, tennis and badminton. Meanwhile, you can borrow table tennis, basketball, tennis balls and badminton at the reception desk.

Swimming Pool

Please enter the pool during the open hours, swimming attire and swim caps are required, if you feel unwell while swimming, please stop swimming immediately and get out of the pool. The depth of the pool is 1.2M-1.8M.

Opening Hours: 13:00-14:00 18:00-21:00



Free Shuttle Bus Service at TSIMF

We provide free shuttle bus for participants and you are always welcome to take our shuttle bus, all you need to do is wave your hands to stop the bus.

Destinations: Conference Building, Reception Room, Restaurant, Swimming Pool, Hotel etc.



Contact Information of Administration Staff

Location of Conference Affairs Office: Room 104, Building A

Tel: 0086-898-38263896

Conference Affairs :

Sarah 陈媛姗

Tel/Wechat:0086-130-2983-0780

Email: tsimf@tsinghua.edu.cn



Shouxi He 何守喜

Tel/Wechat:0086-186-8980-2225

Email: heshouxi@tsinghua.edu.cn



Location of Accommodation Affairs Office: Room 200, Building B1

Tel: 0086-898-38882828

Accommodation Manager: Ms. Li YE 叶莉

Tel/Wechat: 0086-139-7679-8300

Email: yel@tsinghua.edu.cn



*Reception duty hours: 7:00-23:00, chamber service please call: 0086-38882828 (exterior line) 80000 (internal line)

*Room maintainer night duty hours: 23:00-7:00, if you need maintenance services, please call: 0086-38263909 (exterior line) 30162 (internal line)

IT

Yuanhang Zhou 周远航

Tel/Wechat: 0086-133-6898-0169

Email: 13368980169@163.com



Director Assistant of TSIMF

Kai CUI 崔凯

Tel/Wechat: 0086- 136-1120-7077

Email :cuik@tsinghua.edu.cn



Director of TSIMF

Junpeng Zhu 朱俊鹏

Tel: 0086-136-1113-2615

Email: zjp@tsinghua.edu.cn

清华大学三亚国际论坛管理中心 | 三亚清华数学论坛管理中心

Tsinghua Sanya International Mathematics Forum (TSIMF)



0086-898-38882828



0086-898-38883896



0086-898-38883895



tsimf@tsinghua.edu.cn



572000



<https://tsimf.tsinghua.edu.cn>



海南省三亚市天涯区清华路 100 号, 清华三亚国际数学论坛

No.100, Tsinghua Road, Tianya District, Sanya, Hainan, P. R. China.



Wechat



Service Quality
Satisfaction Survey