南方科技大学
SOUTHERN UNIVERSITY OF SCIENCE AND TECHNOLOGY

# THE SECOND INTERNATIONAL WORKSHOP ON IMAGE PROCESSING AND MACHINE LEARNING

Southern University of Science and Technology

OCTOBER 3-6, 2025 | SHENZHEN·CHINA

# CONTENT

南方科技大学 SOUTHERN UNIVERSITY OF SCIENCE AND TECHNOLOGY

# Introduction

This international workshop aims to bring together leading experts, researchers, and practitioners in the fields of image processing and machine learning. We aim to create a platform that facilitates the exchange of the latest advancements, promotes knowledge dissemination, and fosters potential collaborations. This workshop will be held at the Southern University of Science and Technology, Shenzhen, China, from October 3 to October 6, 2025 (arriving on the 3rd and starting on the 4th).

## Organizing Committee (In alphabetical order by last name)

| | |
|---|---|
| * **Raymond Chan** | Lingnan University |
| * **Jean-Michel Morel** | City University of Hong Kong |
| * **Carola-Bibiane Schönlieb** | University of Cambridge |
| * **Gabriele Steidl** | Technische Universität Berlin |
| * **Xue-Cheng Tai** | Norwegian Research Center |
| * **Chao Wang** | Southern University of Science and Technology |

## Secretary

| | |
|---|---|
| * **Hangwei Li** | Southern University of Science and Technology |

**On-site contacts:** Hangwei Li, lihw3@mail.sustech.edu.cn

**Tel:** 86-139-2931-2703

# Conference Schedule

| Date | October 3 | October 4 | October 5 | October 6 |
|---|---|---|---|---|
| 08:50-09:30 | | 8:30-9:00<br>Registration<br>9:00-9:30<br>Opening Ceremony | Michael Ng | Gabriele Steidl |
| 09:30-10:10 | | Weinan E | Hui Ji | Jian Sun |
| 10:10-10:30 | | Coffee break | Coffee break | Coffee break |
| 10:30-11:10 | | Zuowei Shen | Xue-Cheng Tai | Raymond Chan |
| 11:10-11:50 | | Xiaoping Wang | Panel:<br>Alfred M. Bruckstein,<br>Tony Chan, Weinan E,<br>Zuowei Shen,<br>Gabriele Steidl | Chenglong Bao |
| 11:50-12:30 | | Jean-Michel Morel | | Chao Wang |
| 12:30-14:00 | | Lunch | Lunch | Lunch |
| 14:00-14:40 | Registration | Alfred M. Bruckstein | Zaiwen Wen | Free discussion |
| 14:40-15:20 | | Chang-Ock Lee | Xi-Le Zhao | |
| 15:20-15:40 | | Coffee break | Coffee break | |
| 15:40-16:20 | | Ron Kimmel | Sung Ha Kang | |
| 16:20-17:00 | | Jian-Feng Cai | Yifei Lou | |
| 17:00-17:40 | | Jingwei Liang | Angelica Aviles-Rivero | |
| 17:40-20:00 | | 18:20-20:20<br>Banquet | 17:40-19:30<br>Dinner | |

# Agenda

## Friday, October 3

| M1001, College of Science building, Southern University of Science and Technology | |
|---|---|
| 14:00-17:30 | Registration |

## Saturday, October 4

| M1001, College of Science building, Southern University of Science and Technology | | |
|---|---|---|
| **Timeline** | **Title and Speaker** | **Chair** |
| 08:30-09:00 | Registration | |
| 09:00-09:30 | Opening Ceremony | Tony Chan |
| 09:30-10:10 | **Towards an Understanding of the Principles behind Deep Learning**<br>• ***Weinan E*** (Peking University) | |
| 10:10-10:30 | Coffee Break | |
| 10:30-11:10 | **Deep Approximation via Deep Learning**<br>• ***Zuowei Shen*** (National University of Singapore) | Michael Ng |
| 11:10-11:50 | **Adaptive Feature Capture Method for Solving Partial Differential Equations with Near Singular Solutions**<br>• ***Xiaoping Wang*** (The Chinese University of Hong Kong, Shenzhen) | |
| 11:50-12:30 | **Image Resampling Detection via Spectral Correlation with False Alarm Control**<br>• ***Jean-Michel Morel*** (City University of Hong Kong) | |
| 12:30-14:00 | Lunch | |
| 14:00-14:40 | **On Mixture Model Approximations and Designing Swarm Dynamics**<br>• ***Alfred M. Bruckstein*** (Technion) | Xuecheng Tai |
| 14:40-15:20 | **Individual Tooth Segmentation in Human Teeth Images Using Pseudo Edge-Region Obtained by Deep Neural Networks**<br>• ***Chang-Ock Lee*** (Korea Advanced Institute of Science & Technology (KAIST)) | |
| 15:20-15:40 | Coffee Break | |

| Timeline | Title and Speaker | Chair |
|---|---|---|
| 15:40-16:20 | **On Shape Reconstruction & Analysis via Synthetic Stereo, Handling Missing Parts Cuts and Holes**<br>• ***Ron Kimmel*** (Technion) | Gabriele Steidl |
| 16:20-17:00 | **Finding Low-Rank Matrix Weights in DNNs via Riemannian Optimization: RAdaGrad and RAadmW**<br>• ***Jian-Feng Cai*** (The Hong Kong University of Science and Technology) | |
| 17:00-17:40 | **Model Consistency of Iterative Regularization**<br>• ***Jingwei Liang*** (Shanghai Jiao Tong University) | |
| 18:20-20:20 | Banquet (Xinhuacheng Guangfu Prestigious Banquet) | |

## Sunday, October 5

| M1001, College of Science building, Southern University of Science and Technology | | |
|---|---|---|
| **Timeline** | **Title and Speaker** | **Chair** |
| 08:50-09:30 | **Tensor Representations in Data Science**<br>• ***Michael Ng*** (Hong Kong Baptist University) | Jian-Feng Cai |
| 09:30-10:10 | **Self-Supervised Image Denoising: From Gaussian Noise to Real-World Noise**<br>• ***Hui Ji*** (National University of Singapore) | |
| 10:10-10:30 | Coffee Break | |
| 10:30-11:10 | **Mathematical Explanations of Neural Networks and Transformers**<br>• ***Xue-Cheng Tai*** (Norwegian Research Center (NORCE)) | Raymond Chan |
| 11:10-12:30 | **Panel: How Has AI in Imaging Impacted Us and What Does The Future Hold**<br>• ***Alfred M. Bruckstein*** (Technion)<br>• ***Tony Chan*** (University of California, Los Angeles)<br>• ***Weinan E*** (Peking University)<br>• ***Zuowei Shen*** (National University of Singapore)<br>• ***Gabriele Steidl*** (Technische Universität Berlin) | |
| 12:30-14:00 | Lunch | |
| 14:00-14:40 | **Advancing Mathematical Formalization: Tools and Techniques for Lean**<br>• ***Zaiwen Wen*** (Peking University) | Yifei Lou |

| Timeline | Title and Speaker | Chair |
|---|---|---|
| 14:40-15:20 | **Continuous Modeling Perspective for Imaging Science**<br>• ***Xi-Le Zhao*** (University of Electronic Science and Technology of China (UESTC)) | Yifei Lou |
| 15:20-15:40 | Coffee Break | |
| 15:40-16:20 | **Identifying Differential Equations from Single Observation with Numerical Methods: IDENT Review and More**<br>• ***Sung Ha Kang*** (Georgia Institute of Technology) | Jean-Michel Morel |
| 16:20-17:00 | **Graph-Based Active Learning for Nearly Blind Hyperspectral Unmixing**<br>• ***Yifei Lou*** (The University of North Carolina at Chapel Hill) | |
| 17:00-17:40 | **Deep Inverse Problems with Scarce Data**<br>• ***Angelica Aviles-Rivero*** (Tsinghua University) | |
| 17:40-19:30 | Dinner | |

## Monday, October 6

| M1001, College of Science building, Southern University of Science and Technology | | |
|---|---|---|
| **Timeline** | **Title and Speaker** | **Chair** |
| 08:50-09:30 | **Telegrapher's Generative Model via Kac Flows**<br>• ***Gabriele Steidl*** (Technische Universität Berlin) | Chenglong Bao |
| 09:30-10:10 | **Mathematical Foundations of Generative Artificial Intelligence and Its Applications**<br>• ***Jian Sun*** (Xi'an Jiaotong University) | |
| 10:10-10:30 | Coffee Break | |
| 10:30-11:10 | **A Meshless Solver for Blood Flow Simulations in Elastic Vessels Using Physics-Informed Neural Network**<br>• ***Raymond Chan*** (Lingnan University (Hong Kong)) | Sung Ha Kang |
| 11:10-11:50 | **Cross-resolution 3D Map Registration and Applications in Cryo-EM**<br>• ***Chenglong Bao*** (Tsinghua University) | |
| 11:50-12:30 | **Self-supervised Representations for Spectral and Temporal Imaging**<br>• ***Chao Wang*** (Southern University of Science and Technology) | |
| 12:30-14:00 | Lunch | |
| 14:00-17:00 | Free discussion | |

# Plenary Talks

## Towards an Understanding of the Principles behind Deep Learning

**Weinan E**
Peking University

### Abstract:

The field of deep learning is evolving rapidly, driven by the availability of the vast amount of data and computing resources. Deep learning techniques have also evolved in several different ways, including different formulations such GAN and the diffusion model, different architecture such as CNN and transformers, and different training protocols such as BERT and GPT. This evolution has largely been empirical. Consequently there are a lot mysteries, surprises and “black magics” in this field. Is it possible to decipher some kind of guiding principles behind this? In this talk, we will discuss our thoughts along this line. Specifically, we will discuss how simple mathematical concepts such as symmetry and stability can be used as guiding principles for designing and understanding neural network models.

### Biography:

Weinan E is a professor in the Center for Machine Learning Research (CMLR) and the School of Mathematical Sciences at Peking University, as well as a professor emeritus at Princeton University. He is also the inaugural director of the AI for Science Institute in Beijing. He is a member of the Chinese Academy of Sciences; a fellow of SIAM, AMS, IOP, CSIAM, CCF and ORSC.

His main research interest is numerical algorithms, machine learning and multi-scale modeling, with applications to chemistry, material sciences, fluid mechanics, etc. He was a plenary speaker at the 2022 International Congress of Mathematicians (ICM), a keynote speaker at the 2022 International Conference on Machine Learning (ICML) and an invited speaker at ICM2002 and ICIAM 2007. He has also been invited speaker at leading conferences in many other scientific disciplines, including the APS, ACS, AIChe annual meetings, the American Conference of Theoretical Chemistry and the World Congress of Computational Mechanics.

He was awarded the ICIAM Collatz Prize in 2003, the SIAM Kleinman Prize in 2009, the SIAM von Karman Prize in 2014, the SIAM-ETH Peter Henrici Prize in 2019, the ACM Gordon-Bell Prize in 2020, the ICIAM Maxwell Prize in 2023, and the CSIAM Su Buchin Prize in 2024.

# Deep Approximation via Deep Learning

## Zuowei Shen

National University of Singapore

### Abstract:

The primary task of many applications is approximating/estimating a function through samples drawn from a probability distribution on the input space. The deep approximation is to approximate a function by compositions of many layers of simple functions, that can be viewed as a series of nested feature extractors. The key idea of deep learning network is to convert layers of compositions to layers of tuneable parameters that can be adjusted through a learning process, so that it achieves a good approximation with respect to the input data. In this talk, we shall discuss mathematical theory behind this new approach and approximation rate of deep network; we will also show how this new approach differs from the classic approximation theory, and how this new theory can be used to understand and design deep learning networks.

### Biography:

Zuowei Shen is a Distinguished Professor and Director of the Institute for Mathematical Sciences at the National University of Singapore (NUS). He has held key leadership roles at NUS, including Vice Provost, Dean of the Graduate School, and Dean of the Faculty of Science. Awarded the Singapore Public Administration Silver Medal for his service, his research focuses on the mathematical foundations of data science, spanning approximation theory, wavelets, image processing, compressed sensing, and machine learning. He has published over 170 papers, reflecting his interdisciplinary approach rooted in applied mathematics. He has been an invited speaker at major conferences including the International Congress of Mathematicians (ICM) and the International Congress on Industrial and Applied Mathematics (ICIAM). His work has been honored with awards such as the Singapore National Science Award and the SPIE Wavelet Pioneer Award. He is a Fellow of the American Mathematical Society (AMS) and the Society for Industrial and Applied Mathematics (SIAM), and has been elected to the Singapore National Academy of Science, the European Academy of Sciences (EurASc), and The World Academy of Sciences (TWAS). He also serves actively on editorial boards of journals including Forum of Mathematics Pi and several SIAM and AMS publications, as well as on international committees for ICM speaker selection, ICIAM scientific programs and prizes, and TWAS advisory roles in mathematical sciences.

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

## Xiaoping Wang

The Chinese University of Hong Kong, Shenzhen

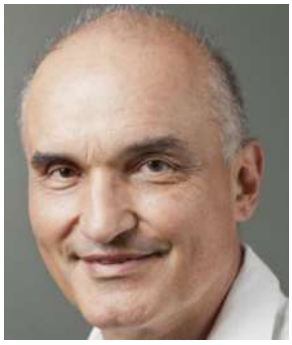
### Abstract:

In this work, 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 em-ploys 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 over-head. 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.

### Biography:

Professor Wang Xiaoping received his Ph.D. degree from the Courant Institute of Mathematical Sciences (NYU) in 1990. He has served as a postdoctoral fellow at the Mathematical Sciences Research Institute (MSRI) in Berkeley and the University of Colorado. Since 1994, he has held various positions at the Department of Mathematics of the Hong Kong University of Science and Technology, including assistant professor, associate professor, professor, chair professor, and department head. He was the founding chairman of the Hong Kong Society of Industrial and Applied Mathematics. In 2007, he received the Feng Kang Prize for Scientific Computing. He was a plenary speaker at the 2016 SIAM Conference on Mathematical Aspects of Materials Science and the 2019 International Congress on Industrial and Applied Mathematics. He is a Changjiang Scholar Chair Professor appointed by the Ministry of Education, a fellow of the China Society for Industrial and Applied Mathematics, and a distinguished talent of the Pearl River Talent Program in Guangdong Province. Currently, he is the Presidential Chair Professor of the School of Science and Engineering at the Chinese University of Hong Kong, Shenzhen.

Professor Wang's current research interests include modeling and simulation of interface problems and multiphase flows, image processing, topology optimization problems in intelligent manufacturing, and numerical methods for micromagnetic computation.



# Image Resampling Detection via Spectral Correlation with False Alarm Control

## Jean Michel-Morel

City University of Hong Kong

### Abstract:

The detection of image resampling is a critical task in digital forensics, as it is essential for identifying manipulated media and verifying authenticity. Traditional approaches mostly rely on the correlations in the spatial domain caused by resampling, while the correlation in the Fourier domain related to the spectrum folding phenomenon during resampling is overlooked. In this talk, I'll present a theoretical study of this phenomenon, and demonstrate that the spectral correlations caused by resampling are exploitable for image resampling detection. I'll describe an unsupervised method to detect anomalous spectral correlations, which consists of preprocessing an image to suppress natural correlations caused by the image content, and validating remaining significant detections using an a contrario framework. The proposed method is suitable for images, even if they are JPEG-compressed. Evaluated on resampled images with different anti-aliasing filters, scaling factors and JPEG compression levels, the proposed method demonstrates comprehensive superiority over the existing methods, and shows robustness to different interpolating filters and image sizes.

### Biography:

Jean-Michel Morel is a mathematician trained in nonlinear analysis during his graduate studies on partial differential equations and variational methods under the guidance of Haïm Brezis. Then he developed an axiomatic theory of image analysis to derive and analyze the new PDEs and variational models arising in these fields. Working on the efficient numerical implementation of these algorithms, he has progressively become a specialist of image processing, and has invented several algorithms now widespread in software and hardware. He is the initiator of nonlocal methods in image processing. Interested in image analysis as well, he has proposed a statistical theory of perception inspired from Gestalt theory and psychophysics. This theory has also found many applications for the automatic detection of objects in images and video and in forgery detection. In recent years, he has focused on the technological, methodological and editorial changes in applied mathematics required by the development of the web, namely the possibility to publish algorithms in online executable form. This led him to found IPOL (image processing online, www.ipol.im).

# On Mixture Model Approximations and Designing Swarm Dynamics

## Alfred M. Bruckstein

Technion

### Abstract:

We discuss the problem of Mixture Model Function Approximation often used in Signal Processing and Image Representation and Coding, and show that the algorithms developed in this field can also be used in designing local sensing based controls for Mobile Agents acting in large Swarms in order to carry out various joint surveillance, and patrol tasks and distributed task allocation, in a Decentralized and Autonomous way.

### Biography:

Alfred M. Bruckstein, a Computer Science Ollendorff Professor Emeritus at the Technion, Haifa, a Visiting Professor at the School of Physical and Mathematical Sciences at Nanyang Technological University, Singapore and a Visiting Researcher at Imperial College in London, is a SIAM Fellow for Contributions to Signal Processing, Image Analysis and Ant Robotics, an IEEE Fellow for Contributions to Signal and Image Representations and Swarm Robotics, and a Fellow of the International CORE Academy of Sciences and Humanities, a Fellow of the Industry Academy of the AIIA, and a Member of the National Academy of AI, as well as a Doctor Honoris Causa of Agora University of Oradea, Romania.

# Individual Tooth Segmentation in Human Teeth Images Using Pseudo Edge-region Obtained by Deep Neural Networks

## Chang-Ock Lee

Korea Advanced Institute of Science and Technology (KAIST)

### Abstract:

In human teeth images taken outside the oral cavity with a general optical camera, it is difficult to segment individual tooth due to common obstacles such as weak edges, intensity inhomogeneities and strong light reflections. In this talk, we propose a method for segmenting individual tooth in human teeth images. The key to this method is to obtain pseudo edge-region using deep neural networks. After an additional step to obtain initial contours for each tooth region, the individual tooth is segmented by applying active contour models. We also present a strategy using existing model-based methods for labeling the data required for neural network training.

### Biography:

Chang-Ock Lee received the Ph.D. degree in mathematics from the University of Wisconsin, Madison, WI, USA, in 1995. From 1995 to 2000, he was an Assistant Professor with the Department of Mathematics, Inha University, Incheon, Korea. In 2000, he joined the Division of Applied Mathematics, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea, where he is currently a Professor of mathematics with the Department of Mathematical Sciences. His research interests include efficient numerical solvers in parallel environment, image processing based on PDEs, and Scientific machine learning. Prof. Lee served as a President for the Korean Society for Industrial and Applied Mathematics (KSIAM) from 2021 to 2022.

# On Shape Reconstruction & Analysis via Synthetic Stereo, Handling Missing Parts Cuts and Holes

## Ron Kimmel

Technion

### Abstract:

Geometry reconstruction is still a core challenge in computer vision, involving the recovery of accurate geometric structures in 3D from 2D image data. Recent innovations have introduced methods that significantly improve reconstruction accuracy and robustness. Stereo vision techniques, particularly when applied to random dot stereograms, underscore the importance of prior information in disambiguating depth cues and enabling reliable shape inference. Building upon this foundation, Gaussian Splatting (3DGS) offers an efficient representation for novel view synthesis using a cloud of 3D Gaussians. However, extracting consistent geometries from these representations remains non-trivial. A practical solution leverages pre-trained stereo-matching networks to extract depth maps from rendered stereo pairs, which are then fused into coherent and realistic 3D meshes. This pipeline achieves impressive results in uncontrolled, real-world environments.

### Biography:

Academic: I have worked in various areas of image processing and analysis in computer vision and computer graphics. My interest in recent years has been shape reconstruction, analysis and learning, medical imaging and computational biometry, and applications of metric and differential geometries. As a full chaired professor at the Technion I founded and headed the Geometric Image Processing (GIP) Lab. I am interested in geometry learning, image understanding and computational medicine. Over the years, I supervised over 50 graduate students, some of whom co-founded successful companies, while others pursue fruitful academic careers. I am Fellow of IEEE and SIAM and was awarded test of time and a couple of best paper awards.

Industry: Intel's first RealSense 3D cameras are based on designs that emerged from my lab at the Technion. Our technology was first licensed by InVision, a company I co-founded with Ben Moshe and my students at the time Michael and Alex Bronstein in 2010. In late 2011 Intel acquired InVision, where I operated as a distinguished academic researcher (part time equivalent to Intel distinguished fellow) for a decade. Many of today's leading robots incorporate the RealSense technology I co-invented - including Unitree's GO2 quadruped and H1 humanoid, Boston Dynamics' Spot, Xiaomi's 1st CyberDog, MIT's Mini Cheetah, Agility Robotics' Digit humanoid, and ANYbotics' ANYmal D, to name just a few. Finally, beyond co-inventing visual sensing technologies, I also co-founded and co-invented CathAlert, VideoCites and Lumana, companies that focus on different dimensions of video analytics.

# Finding Low-Rank Matrix Weights in DNNs via Riemannian Optimization: RAdaGrad and RAadmW

## Jian-Feng Cai

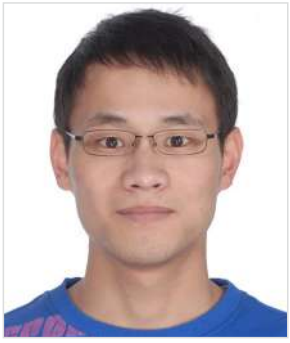
The Hong Kong University of Science and Technology

### Abstract:

Finding low-rank matrix weights is a key technique for addressing the high memory usage and computational demands of large models. Most existing algorithms rely on the factorization of the low-rank matrix weights, which is non-unique and redundant. Their convergence is slow especially when the target low-rank matrices are ill-conditioned, because the convergence rate depends on the condition number of the Jacobian operator for the factorization and the Hessian of the loss function with respect to the weight matrix. To address this challenge, we adopt the Riemannian gradient descent (RGD) algorithm on the Riemannian manifold of fixed-rank matrices to update the entire low-rank weight matrix. This algorithm completely avoids the factorization, thereby eliminating the negative impact of the Jacobian condition number. Furthermore, by leveraging the geometric structure of the Riemannian manifold and selecting an appropriate metric, it mitigates the negative impact of the Hessian condition number. Ultimately, this results in our two plug-and-play optimizers: RAdaGrad and RAdamW, which are RGD with metrics adapted from AdaGrad and AdamW and restricted to the manifold. Our algorithms can be seamlessly integrated with various deep neural network architectures without any modifications. We evaluate the effectiveness of our algorithms through fine-tuning experiments on large language models and diffusion models. Experimental results consistently demonstrate that our algorithms provide superior performance compared to state-of-the-art methods. Additionally, our algorithm is not only effective for fine-tuning large models but is also applicable to deep neural network (DNN) compression.

### Biography:

Jian-Feng Cai is a Professor of Mathematics at the Hong Kong University of Science and Technology (HKUST). He earned his BSc and MSc degrees from Fudan University and his PhD from the Chinese University of Hong Kong under the supervision of Professor Raymond Chan. Following his doctorate, he held postdoctoral positions with Professor Zuowei Shen at the National University of Singapore and with Professor Stanley Osher at UCLA. Before joining HKUST in 2015, he served as an Assistant Professor at the University of Iowa. His research focuses on the mathematical and algorithmic foundations of data science and imaging.



# Model Consistency of Iterative Regularization

## Jingwei Liang

Shanghai Jiao Tong University

### Abstract:

Regularization is vital in inverse problems to ensure well-defined solutions and control over noise. “Model consistency”, which indicates that the reconstructed solution remains robust to small perturbations when the ground truth has low-complexity structure. This property is readily known to hold in variational regularization for linear inverse problems, where a balanced combination of a data-fidelity term and a suitable regularization term preserves key structural features. However, model consistency has remained an open question for iterative regularization methods, which rely on a proper stopping criterion to avoid overfitting. In this talk, based on the concept of partial smoothness I’ll show that iterative schemes can achieve the same model consistency, provided the noise is sufficiently mild and the stopping time is chosen appropriately. I will further discuss a local linear convergence under these conditions.

### Biography:

Jingwei Liang is an Assistant Professor at the Institute of Natural Sciences, Shanghai Jiao Tong University. He received an M.Sc. in Mathematics from Shanghai Jiao Tong University in 2013 and a Ph.D. in Mathematics from the University of Caen Normandy in 2016. From 2017 to 2020, Dr. Liang conducted postdoctoral research in the Department of Applied Mathematics and Theoretical Physics (DAMTP) at the University of Cambridge, and in late 2020 he joined the School of Mathematical Sciences at Queen Mary University of London as a Lecturer in Data Science. He joined Shanghai Jiao Tong University in 2021. Dr. Liang’s primary research interests include mathematical image processing, nonsmooth optimization, and data science.

# Tensor Representations in Data Science

## Michael Ng

Hong Kong Baptist University

### Abstract:

Higher-order tensors are suitable for representing multi-dimensional data in real-world, e.g., color images and videos, low-rank tensor representation has become one of the emerging areas in machine learning and computer vision. However, classical low-rank tensor representations can solely represent multi-dimensional discrete data on meshgrid, which hinders their potential applicability in many scenarios beyond meshgrid. In this talk, we discuss the recent development of tensor representations in data science. Both theoretical results and numerical examples are presented to demonstrate the usefulness of tensor representations.

### Biography:

Michael Kwok Po Ng received the B.Sc. and M.Phil. degrees from The University of Hong Kong, Hong Kong, in 1990 and 1992, respectively, and the Ph.D. degree from The Chinese University of Hong Kong, Hong Kong in 1995. He is currently a Chair Professor in Mathematics and a Chair Professor in Data Science at Hong Kong Baptist University. His research interests include applied and computational mathematics, machine learning and artificial intelligence, and scientific computing.

# Self-Supervised Image Denoising: From Gaussian Noise to Real-World Noise

## Hui Ji

National University of Singapore

### Abstract:

Image denoising is a fundamental task in image restoration and a key component in solving many inverse problems in imaging. Deep learning has achieved remarkable success in denoising, particularly through supervised learning; however, its reliance on ground-truth images for training limits broader applicability in real-world scenarios. Recent research has increasingly shifted towards truth-free learning paradigms, where models are trained directly on noisy data without clean references. In this talk, I will present a sequence of works on self-supervised image denoising, progressively addressing more complex noise models-from i.i.d. Gaussian noise to pixel-wise independent heteroscedastic noise, and ultimately to pixel-wise correlated noise in real-world data. Built upon data augmentation and mask-and-predict training strategies, our approaches enable networks to learn denoising solely from noisy observations. Experimental results show the proposed self-supervised denoisers achieve performance comparable to supervised methods, offering a practical solution for data-limited imaging applications.

### Biography:

Dr. Ji Hui received his Ph.D. in Computer Science from the University of Maryland, College Park, in 2006. He subsequently joined the Department of Mathematics at the National University of Singapore (NUS), where he currently is a full professor. At NUS, he serves as the Director of the Centre for Data Science and Machine Learning (DSML) and oversea the graduate program on DSML. His research interests encompass computational harmonic analysis, imaging science, computational vision, and machine learning.

# Mathematical Explanations of Neural Networks and Transformers

## Xue-Cheng Tai

Norwegian Research Center (NORCE)

### Abstract:

Neural networks such as encoder-decoder architectures, UNet, and Transformers have achieved remarkable success in image processing and sequence modeling, yet a comprehensive mathematical understanding of their structure remains limited. In this talk, we present a unified, operator-theoretic framework that interprets these architectures through the lens of control theory, multigrid methods, and continuous modeling. We show that popular encoder-decoder networks-including Unet-can be derived as time-discretized solutions to control problems using operator-splitting and multigrid decomposition. Specifically, we introduce PottsMGNet, a network derived from the two-phase Potts model, and demonstrate how it generalizes many encoder-decoder designs. We further extend this perspective to Transformers, modeling self-attention as a non-local integral operator within a continuous integro-differential framework, and interpreting normalization as time-dependent constraints. These insights not only offer a rigorous theoretical foundation for key neural architectures but also open new paths for principled architecture design, robustness, and interpretability across tasks in vision and language.

### Biography:

Xue-Cheng Tai currently serves as the Chief Scientist at the Norwegian Research Centre. He previously held the positions of Head of the Department of Mathematics and Chair Professor at Hong Kong Baptist University, as well as Professor in the Department of Mathematics at the University of Bergen, Norway. His long-term research focuses on computational mathematics, image computing and inverse problems, variational optimization algorithms and their applications, variational optimization algorithms for level sets, regional segmentation, and variational computations for multigrid methods. He has made outstanding contributions to fundamental issues in large-scale optimization computations and other areas of computational mathematics, publishing over 260 academic papers and editing several academic monographs. He has organized numerous international professional conferences and serves on the editorial boards of several top-tier journals, including SIAM Journal on Numerical Analysis, SIAM Journal on Imaging Sciences, Journal of Scientific Computing, and SIAM Journal on Numerical Analysis. In 1993, he was awarded the Humboldt Research Fellowship in Germany. In 2009, he received the 8th "Feng Kang Prize" for his outstanding contributions to scientific computing. In 2011, he was honored with the "Nanyang Outstanding Research Award" from Nanyang Technological University in Singapore.

# Panel Discussions

## How Has AI in Imaging Impacted Us and What Does The Future Hold

**Alfred M. Bruckstein**
Technion

**Tony Chan**
University of California, Los Angeles

**Weinan E**
Peking University

**Zuowei Shen**
National University of Singapore

**Gabriele Steidl**
Technische Universität Berlin

**Moderator: Raymond Chan**

# Advancing Mathematical Formalization: Tools and Techniques for Lean

## Zaiwen Wen

Peking University

### Abstract:

This talk explores cutting-edge tools and techniques for mathematical formalization in Lean, beginning with optlib, a Lean library for mathematical optimization (github.com/optsuite/optlib), and ReasLab, an online collaborative IDE for Lean (alpha.reaslab.io). We then present two methodological advances: (1) tree-based premise selection, which uses the core representation of Lean for automate proof premise discovery, and (2) a framework for translating informal proofs into formal proofs via a chain of states, systematically transforming human-written arguments into machine-verifiable proofs. Together, we aim to accelerate formalization workflows and broaden the accessibility of mathematical proof.

### Biography:

Zaiwen Wen, Boya Distinguished Professor at the Beijing International Center for Mathematical Research, Peking University. His primary research interests include optimization algorithms and theory, machine learning and artificial intelligence. He received the China Youth Science and Technology Award in 2016, was selected as a Leading Talent in Technological Innovation of the National "Ten Thousand Talents Program" in 2020, and was appointed as a Distinguished Professor under the Ministry of Education's Changjiang Scholars Program (2023). He currently serves as an editorial board member of JSC, JORSC, and CSIAM-AM, and as Vice President of the Operations Research Society of China.

# Continuous Modeling Perspective for Imaging Science

## Xi-Le Zhao

University of Electronic Science and Technology of China (UESTC)

### Abstract:

To tackle inverse problems in imaging science, the regularizer, serving as an indispensable cornerstone in modeling, are usually introduced. In this talk, we will begin by reviewing the classical regularizers, including local regularizers, nonlocal regularizers, and global regularizers. We then will discuss the limitations of classical hand-crafted regularizers (e.g., expressive capability, applicability, and flexibility). To address the above limitations of classical regularizers, we suggest a unified Continuous Modeling Perspective for imaging science, which continuously represents discrete data by elegantly leveraging tiny neural networks. This paradigm allows us to readily deconstruct and reconstruct the classical regularizers, thus unleashing the potential of regularizers. Extensive experiments demonstrate the promising performance of the continuous modeling perspective.

### Biography:

Xi-Le Zhao is currently a Full Professor with the School of Mathematical Sciences, University of Electronic Science and Technology of China (UESTC). He received his Ph.D. from UESTC. He was a post-doc fellow with Prof. Michael Ng (AMS/SIAM Fellow) at Hong Kong Baptist University from 2013 to 2014. He severed as a visiting scholar with Prof. José Bioucas-Dias (IEEE Fellow) at University of Lisbon from 2016 to 2017. His research interests include mathematics and artificial intelligence. He has over 50 academic papers published in top journals such as SIAM J. Imaging Sci., SIAM J. Scientific Comput., IEEE TPMAI, IEEE TSP, IEEE TIP, and TCI. He has received many awards e.g., the First Prize of Science and Technology Progress Award of Sichuan Province and the Second Prize in the Outstanding Youth Paper Competition awarded by the Chinese Society of Computational Mathematics.

# Identifying Differential Equations from Single Observation with Numerical Methods: IDENT Review and More

## Sung Ha Kang

Georgia Institute of Technology

### Abstract:

We explore identifying underlaying differential equation from given single set of noisy time dependent data. We assume that the governing equation is a linear combination of linear and nonlinear differential term, and the identification can be formulated as a linear system, with the feature matrix multiplied by a coefficient vector.

Starting from numerical time evolution (IDENT), this talk will give an overview of the progress and present some new work.

### Biography:

Sung Ha Kang is Professor of Mathematics at School of Mathematics, Georgia Institute of Technology, Atlanta, USA. She received her PhD degree in Applied Mathematics from University of California, Los Angeles in 2002, following her B.S. degree from Yonsei University, Seoul, Korea. She held an Assistant Professorship at University of Kentucky, 2002-2008, before she joined Georgia Tech. Her research interest includes mathematical approaches to image processing, numerical methods and scientific computing.

# Graph-Based Active Learning for Nearly Blind Hyperspectral Unmixing

## Yifei Lou

The University of North Carolina at Chapel Hill

### Abstract:

Hyperspectral unmixing (HSU) is an effective tool to ascertain the material composition of each pixel in a hyperspectral image with typically hundreds of spectral channels. In this work, we introduce two graph-based semi-supervised unmixing methods. The first one directly applies graph learning to the unmixing problem. The second one solves an optimization problem that combines the linear unmixing model and a graph-based regularization term. Following a semi-supervised framework, our methods require a very small number of training pixels that can be selected by a graph-based active learning method. We assume to obtain the ground-truth information at these selected pixels, which can be either the exact (EXT) abundance value or the one-hot (OH) pseudo-label. In practice, the latter is much easier to obtain, which can be achieved by minimally involving a human in the loop. Compared with other popular blind unmixing methods, our methods significantly improve performance with minimal supervision. Specifically, the experiments demonstrate that the proposed methods improve the state-of-the-art blind unmixing approaches by 50% or more using only 0.4% of training pixels. This is a joint work with Bohan Chen (Caltech), Andrea Bertozzi (UCLA), and Jocelyn Chanussot (Grenoble INP).

### Biography:

Yifei Lou holds a joint position in the Department of Mathematics and the School of Data Science and Society (SDSS) at the University of North Carolina at Chapel Hill. She was on the faculty in the Mathematical Sciences Department at the University of Texas Dallas from 2014 to 2023, first as an Assistant Professor and then as an Associate Professor. She received her Ph.D. in Applied Mathematics from the University of California Los Angeles (UCLA) in 2010. After graduation, she was a postdoctoral fellow at the School of Electrical and Computer Engineering Georgia Institute of Technology, followed by another postdoctoral training at the Department of Mathematics, University of California Irvine from 2012-2014. Dr.~Lou received the National Science Foundation CAREER Award in 2019.

# Deep Inverse Problems with Scarce Data

## Angelica Aviles-Rivero
Tsinghua University

### Abstract:

Solving inverse problems remains a fundamental challenge in computational imaging, often requiring large datasets, carefully tuned regularisation, or extensive supervision. Yet in many real-world scenarios, such resources are unavailable — we may only have a single noisy observation and no access to similar examples. In this talk, we will discuss how we can still meaningfully approach inverse problems under such constraints, by leveraging single-instance priors — structural biases learned from the data point itself.

We will explore the limitations of conventional deep learning pipelines, including their dependence on large-scale training and vulnerability to overfitting in low-data regimes. Then, we will introduce a line of recent work showing that, with the right optimisation and structural strategies, one can build single-instance priors — enabling stable and effective reconstructions even in severely underdetermined settings.

This talk will walk through our journey in rethinking priors: moving from generic plug-and-play formulations to formulations that exploit both spatial and frequency structures in data. The results offer not only practical solutions for data-scarce settings, but also new theoretical insights into how learning and regularisation can be reframed when we have almost no data to learn from.

### Biography:

Angelica Aviles-Rivero is an Assistant Professor at the Yau Mathematical Sciences Center, Tsinghua University. Previously, she was a Senior Research Associate at the Department of Applied Mathematics and Theoretical Physics, University of Cambridge. She is a member of ELLIS. Her research lies at the intersection of applied mathematics and machine learning, focusing on developing data-driven algorithmic techniques that enable computers to extract high-level understanding from vast datasets. Her research has been highlighted, including receiving an Outstanding Paper Award at ICML 2020. She was elected as an officer for the SIAM SIAG/IS secretary position for the term 2023. For more information visit: https://angelicaiaviles.wordpress.com/

# Telegrapher's Generative Model via Kac Flows

## Gabriele Steidl

Technische Universität Berlin

### Abstract:

Abstract:We propose a new generative model based on the damped wave equation, also known as telegrapher's equation. Similar to the diffusion equation and Brownian motion, there is a Feynman-Kac type relation between the telegrapher's equation and the stochastic Kac process in 1D. The Kac flow evolves stepwise linearly in time, so that the probability flow is Lipschitz continuous in the Wasserstein distance and, in contrast to diffusion flows, the norm of the velocity is globally bounded. Furthermore, the Kac model has the diffusion model as its asymptotic limit. We extend these considerations to a multi-dimensional stochastic process which consists of independent 1D Kac processes in each spatial component.

We show that this process gives rise to an absolutely continuous curve in the Wasserstein space and compute the conditional velocity field starting in a Dirac point analytically. Using the framework of flow matching, we train a neural network that approximates the velocity field and use it for sample generation. Our numerical experiments demonstrate the scalability of our approach, and show its advantages over diffusion models.

This is joint work with Richard Duong, Jannis Chemseddine and Peter K. Friz.

### Biography:

Gabriele Steidl completed her PhD at the University of Rostock (Germany). Afterwards, she held positions as assistant and full professor at the TU Darmstadt, the University of Mannheim and the TU Kaiserslautern. Since 2020, she is Professor at the Department of Mathematics at the TU Berlin.

She worked as consultant of the Fraunhofer Institute for Industrial Mathematics and is in the Scientific Advisory Board of the Helmholtz Imaging Platform of the Helmholtz Association. She was a Postdoc, resp. visiting professor at the University of Debrecen (Hungary), the Banach Center Warsaw (Poland), the University of Zurich (Switzerland), the ENS Paris/Cachan, the University of Paris-Est Marne-la-Vallée and the Sorbonne (France).

She is a SIAM Fellow (2022) and Editor-in-Chief of the SIAM Journal on Imaging Sciences.

# Mathematical Foundations of Generative Artificial Intelligence and Its Applications

**Jian Sun**
Xi'an Jiaotong University

## Abstract:

Generative Artificial Intelligence (Generative AI) represents a crucial direction in the current development of Artificial General Intelligence (AGI). It primarily focuses on designing AI algorithms to learn multimodal, high-dimensional complex sample distributions and generate novel samples. It serves as the methodological foundation for current AI applications in areas such as automatic question answering, cross-modal generation, and AI for science. The underlying basis of Generative AI lies in mathematics and statistics. This report introduces the background, mathematical/statistical principles, and challenges of Generative AI. It further presents methods for constructing controllable/conditional generative AI models based on Optimal Transport theory, applied to tasks like medical image generation and multimodal image-text alignment. Finally, it summarizes and discusses the future development and prospects of Generative AI.

## Biography:

Jian Sun, Professor, recipient of the National Science Fund for Distinguished Young Scholars. He has long been engaged in research on mathematical models and algorithms in artificial intelligence (especially image and medical image analysis). His main research areas include inverse imaging problems and computer-aided medical diagnosis, as well as fundamental models and algorithms for generative AI and generalization problems. Related achievements have been published in top journals and conferences such as IEEE TPAMI, IJCV, MIA, NeurIPS, CVPR, ICCV, and MICCAI. He received the Shaanxi Provincial Natural Science First Prize (first awardee) and the National Natural Science Second Prize (second awardee). He previously held postdoctoral or visiting scholar positions at Microsoft Research Asia, École Normale Supérieure (Paris), and the French National Institute for Research in Digital Science and Technology (INRIA). He currently serves as the Associate Dean of the School of Mathematics and Statistics at Xi'an Jiaotong University, a member of the Science and Technology Committee of the Ministry of Education, Executive Vice Director of the Xi'an Institute for Mathematical Sciences and Technology, and an Associate Editor for top international AI journals IEEE TPAMI and IJCV, as well as an Area Chair for conferences including ICCV, ECCV, ICLR, and CVPR.

# A Meshless Solver for Blood Flow Simulations in Elastic Vessels Using Physics-Informed Neural Network

## Raymond Chan

Lingnan University (Hong Kong)

### Abstract:

Investigating blood flow in the cardiovascular system is crucial for assessing cardiovascular health. Computational approaches offer some non-invasive alternatives to measure blood flow dynamics. Numerical simulations based on traditional methods, such as finite-element and other numerical discretizations, have been extensively studied and have yielded excellent results. However, adapting these methods to real-life simulations remains a complex task. In this talk, we give a method that offers flexibility and can efficiently handle real-life simulations. We suggest utilizing the physics-informed neural network (PINN) to solve the Navier-Stokes equation in a deformable domain, specifically addressing the simulation of blood flow in elastic vessels. Our approach models blood flow using an incompressible, viscous Navier-Stokes equation in an Arbitrary Lagrangian-Eulerian form. The mechanical model for the vessel wall structure is formulated by an equation of Newton's second law of momentum and linear elasticity to the force exerted by the fluid flow. Our method is a mesh-free approach that eliminates the need for discretization and meshing of the computational domain. This makes it highly efficient in solving simulations involving complex geometries. We compared our results with finite element methods on regular cylinder vessels as well as vessels with plaque on their walls to highlight the advantages of our method.

### Biography:

Raymond Chan obtained his BSc in Mathematics from The Chinese University of Hong Kong and the PhD degree in Applied Mathematics from New York University. Before joining Lingnan University, he taught at the University of Massachusetts at Amherst, The University of Hong Kong, The Hong Kong University of Science and Technology, The Chinese University of Hong Kong, and City University of Hong Kong. He was the Vice-President (Student Affairs) and the co-Director of the Hong Kong Centre for Cerebro-Cardiovascular Health Engineering. Now he is the Vice-President (Academics) cum Provost at Lingnan University.

He was elected a Fellow of the US Society of Industrial and Applied Mathematics (SIAM) in 2013, a Fellow of the American Mathematical Society in 2021, and a Fellow of the China Society of Industrial and Applied Mathematics in 2022. Chan was the first and is still the only one from an Asian university elected to the SIAM Council since SIAM was established in 1952, and he served for two terms from 2015 to 2020. He is now on the SIAM Board of Trustees. Since 2016, he has been the Vice-President of the International Consortium of Chinese Mathematicians.

# Cross-Resolution 3D Map Registration and Applications in Cryo-EM

## Chenglong Bao

Tsinghua University

### Abstract:

Proteins often exhibit multiple conformations, many of which are crucial to their biological functions. In cryo-EM, common conformations typically have abundant observations and are reconstructed at high resolution, whereas rare conformations suffer from limited data and result in low-resolution structures. Predicting high-resolution structures of these rare conformations remains a significant challenge. In this talk, we introduce a self-supervised approach that leverages a new registration method for aligning three-dimensional maps with differing resolutions. We present a theoretical analysis highlighting the advantages of our model and demonstrate its effectiveness through extensive validation on experimental datasets provided by biological laboratories.

### Biography:

Chenglong Bao is a tenured associate professor at Yau Mathematical Sciences Center, Tsinghua University, an associate professor at the Yanqi Lake Beijing Institute of Mathematical Sciences and Applications, and a principal investigator at the State Key Laboratory of Membrane Biology at Tsinghua University. His research interests focus on artificial intelligence, image processing, and optimization algorithms. He has published more than 50 academic papers in leading journals and conferences, and has received the Youth Science and Technology Award of the China Society for Industrial and Applied Mathematics and the Operations Research Society of China.

# Self-supervised Representations for Spectral and Temporal Imaging

## Chao Wang

Southern University of Science and Technology

### Abstract:

Spectral and temporal imaging problems such as hyperspectral imaging and dynamic medical image reconstruction have been widely encountered in machine learning and computer vision. These areas often encounter challenges associated with high dimensionality and limited ground truth data. In this talk, I will discuss several self-supervised learning strategies that apply to various applications, from remote sensing to computational imaging. The proposed approaches integrate the concept of low-rank matrix factorization, leverage continuity through neural representation, and employ variational techniques from a model-based approach. Extensive experimental results reveal that these self-supervised learning techniques perform competitively, often outperforming traditional supervised learning methods in various real-world imaging scenarios.

### Biography:

Dr. Wang is an Assistant Professor of the Department of Statistics and Data Science at Southern University of Science and Technology (SUSTech). His research directions are mainly image processing, scientific computing, and interdisciplinary data science. Dr. Wang received the best paper awards in both the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) workshop in 2022 and the 15th China Society of Industrial and Applied Mathematics (CSIAM) Annual Conference in 2017, as well as obtained the SIAM Student/Early Career Travel Grant Award twice in 2018 and 2020, respectively.

# About Southern University of Science and Technology


Southern University of Science and Technology (SUSTech) is an innovation-oriented public university founded by Shenzhen government in the background of China's higher education reform. It aspires to be a model and pioneer for promoting higher education reform. It is committed to serving the mission of promoting Shenzhen as a modern, international, and innovative city and China as a creative country.

SUSTech is widely regarded as a trailblazer and innovator in advancing China's higher education. It was officially approved by the Ministry of Education in April 2012. SUSTech bears the responsibility for exploring and developing a modern university system with Chinese characteristics to serve as a model for cultivating innovative talents. SUSTech aims at a globally renowned university that contributes to the advancement of science and technology. It nurtures promising and creative leaders who excel in interdisciplinary research and creating knowledge for the world.

SUSTech draws on the experience of world-class science and engineering universities for its disciplinary establishment and governance. It focuses on science, engineering, and medicine in conjunction with distinctive disciplines, including business, humanities, and social sciences. SUSTech offers undergraduate and postgraduate education while conducting research in a series of innovative disciplines. All of those practices shape SUSTech into a think tank for social progress and a generator of new knowledge and new technology.

SUSTech is building interdisciplinary research centers to generate new scientific and technological wisdom in cross-disciplinary fields such as artificial intelligence, life sciences, Internet of things, robotics, new energy, and intelligent manufacturing.

In the spirit of "For Truth, Innovation, Reform and Excellence with Diligence and Courage," SUSTech highlights "research, innovation, and entrepreneurship" and dedicates to facilitating innovative projects across China and turning Shenzhen into an innovative, modern, and international metropolis.

SUSTech also seeks to become an international high-level research university that gathers first-class faculty and nurtures top-notch innovative talents. It aims to produce internationally recognized academic achievements and advance scientific and technological applications.

# About Department of Statistics and Data Science

Established in April 2019, the Department of Statistics and Data Science aims to institute a world-class learning and research center. The department is committed to cultivating top-notch talents' proactive thoughts, innovative thinking, global vision, as well as their core skills in scientific methodologies. The department now offers two undergraduate programs: major in Statistics, and major in Data Science and Big Data Technology. The department also offers M.Sc. and Ph.D. programs in Probability and Statistics. Key specialized research areas of our faculty members include Mathematical Statistics, Biostatistics, Financial Statistics and Data Science.

We currently have 21 full-time and 4 jointly appointed faculty members, comprising 4 Chair Professors, 4 Professors, 7 Associate Professors and 10 Assistant Professors. All faculty members of the department have extensive overseas study or working experiences, including an invited speaker at the International Congress of Mathematicians, two winners of the prestigious State Natural Science Award (2nd class), two Institute of Mathematical Statistics (IMS) Fellows, an IMS Council member, a Fellow of American Statistical Association, an IMS Medallion Lecturer, a Fellow of the Royal Statistics Society, a Fellow of the British Computer Society.

Thanks to the rich and quality resources of SUSTech, we have established the center for biostatistics and the statistic consulting center. The center for financial statistics and the center for data science will also be in place in the future. By working with SUSTech Global, we provide high-quality and multi-type International Education Training and Development Plans for undergraduates and postgraduates, as well as the opportunities to study in overseas universities. We are committed to enhancing student's social vision and well-rounded thinking.

# Conference Guide

## Conference Venue

* M1001, College of Science building, Southern University of Science and Technology, located near Gate 1 of the campus.

## Accessing the Conference Venue

* To access the campus, please ensure you have your conference badge or a signed copy of your invitation letter. Be prepared to present this identification at either Gate 1 or Gate 2.

## Hotel Information

* **Shenzhen Nanshan Genpla Hotel (Junpu Hotel)**
  **深圳深铁塘朗城君璞酒店**
  **Venue:** 6-16F, Block C of Tanglang Town, No.3333 Liuxian Avenue, Nanshan, Shenzhen, Guangdong
  **Tel:** 0755-86639988

* **Vienna 3 Best Hotel (Shenzhen Southern University of Science and Technology)**
  **维也纳3好酒店（深圳南科大店）**
  **Venue:** No.1148 Xueyuan Avenue, Nanshan, Shenzhen, China
  **Tel:** 181 9406 1779

* **Shenzhen Nanshan Jingfeng Hotel (Xili University Town Branch)**
  **深圳璟峯酒店（西丽大学城店）**
  **Venue:** Section B, Zhongguan Times Plaza, No.4168 Liuxian Avenue, Nanshan District, Shenzhen, Guangdong, China
  **Tel:** 137 2882 8561

## Directions from Hotels to SUSTech

* Genpla (Junpu) Hotel: Take the elevator to the 3rd floor. Walk through Tanglang Station towards Exit C. After exiting, continue straight to SUSTech Gate 1.
* Vienna 3 Best Hotel: Walk along the right side of Xueyuan Avenue until you reach SUSTech Gate 1.
* Jingfeng Hotel: Take the Shenzhen Metro to Tanglang Station and head for Exit C. After exiting, continue straight to SUSTech Gate 1.

Genpla (Junpu) -> SUSTech

Vienna 3 -> SUSTech

## Dining Information

| Date | | Meal | Time | Venue |
|---|---|---|---|---|
| Saturday | October 4 | Lunch | 12：30-14：00 | Student Canteen |
| Saturday | October 4 | Banquet | 18：20-20：20 | Xinhuacheng Guangfu Prestigious Banquet |
| Sunday | October 5 | Lunch | 12：30-14：00 | Student Canteen |
| Sunday | October 5 | Dinner | 17：40-19：30 | Student Canteen |
| Monday | October 6 | Lunch | 12：30-14：00 | Student Canteen |

## WiFi

* For Wi-Fi access, please connect to "SUSTech-WiFi" or "SUSTech-WiFi-5G" network. When prompted to log in, select "Visitor", enter your mobile number, and use the verification code sent via text message.

# Map


南方科技大学
SOUTHERN UNIVERSITY OF SCIENCE AND TECHNOLOGY