

The Second HKSIAM Biennial Meeting

Monday, 28th August 2023

8:30 - 9:00

Registration and Welcome Talk

9:00 - 10:40

Plenary Session
LT1

Chair: Jun Zou

Bjorn Engquist
Global convergence in unconstrained stochastic optimization

Masahiro Yamamoto
Recent results on uniqueness and stability for inverse problems for parabolic, Schrödinger and hyperbolic equations

10:40 - 11:00

Coffee Break

11:00 - 12:30

MS01, Room 201

MS12, Room 202

MS14, Room 203

MS17, Room 209A

MS11, Room 209B

Yayan Lu

Xiaochuan Tian

Huibin Chang

Lina Zhao

David Gu

Yi Zhu

Xiaobo Yin

Faming Fang

Kyungkeun Kang

Na Lei

Guochuan
Thiang

Yufeng Nie

Jun Liu

Seungchan Ko

Xiaoqun Zhang

12:30 - 14:30

Lunch Break

14:30 - 15:20

Plenary Session
LT1
Chair:
Bjorn Engquist

Jong-Shi Pang
On the minimization of piecewise functions:
pseudo stationarity

15:20 - 15:50

Coffee Break

15:50 - 17:50

MS03, Room 201

MS04, Room 202

MS07, Room 203

MS11, Room 209A

MS13, Room 209B

Jing Zhang

Zhi Zhou

Jiang YANG

Min Zhang

Andrej Brojatsch

Yiqing Lin

Dong Wang

Beiping Duan

Gunay Dogan

Andreas
Hauptmann

Leonard Wong

Junxiong Jia

Seungchan Ko

Emil Saucan

Zeljko Kereta

Shuoqing Deng

Marco Inglesia

Zhi Zhou

Remo
Kretschmann

Monday, 28th August 2023
2nd HKSIAM Meeting @ LT1

8:50 - 9:00

Welcome Talk

9:00 - 10:40
Plenary Session

Bjorn Engquist
Global convergence in unconstrained stochastic
optimization

Chair: Jun Zou

Masahiro Yamamoto
Recent results on uniqueness and stability for inverse
problems for parabolic, Schrödinger and hyperbolic
equations

14:30 - 15:20
Plenary Session
Chair:
Bjorn Engquist

Jong-Shi Pang
On the minimization of piecewise functions:
pseudo stationarity

Monday, 28th August 2023

2nd HKSIAM Meeting @ Room 201

11:00 - 11:30, MS01, Ya Yan Lu
Propagating Bound states in the continuum in periodically perturbed slabs

11:30 - 12:00, MS01, Yi Zhu
Conically degenerate spectral points of the periodic Schrodinger operator

12:00 - 12:30, MS01, Guochuan Thiang
Large-scale obstruction to atomic limits

15:50 - 16:20, MS03, Jing Zhang
Stochastic differential games with random coefficients
and stochastic Hamilton-Jacobi-Bellman-Isaacs equations

16:20 - 16:50, MS03, Yiqing Lin
BSDEs with mean reflexion driven by marked point processes

16:50 - 17:20, MS03, Leonard Wong
Bregman-Wasserstein divergence

17:20 - 17:50, MS03, Shuoqing Deng
On optimal time-consistent equilibrium stopping under aggregation of diverse discount rates

Monday, 28th August 2023

2nd HKSIAM Meeting @ Room 202

11:00 - 11:30, MS12, Xiaochuan Tian

Monotone meshfree methods for linear elliptic equations in non-divergence form via nonlocal relaxation

11:30 - 12:00, MS12, Xiaobo Yin

A conforming DG method for nonlocal problem with integrable kernels and its applications

12:00 - 12:30, MS12, Yufeng Nie

Several efficient collocation methods for nonlocal problem with weak singularity

15:50 - 16:20, MS04, Zhi Zhou

Identification of Conductivity in Elliptic equations using Deep Neural Networks

16:20 - 16:50, MS04, Dong Wang

Adversarial Neural Networks for Constrained Optimization Problems

16:50 - 17:20, MS04, Junxiong Jia

Learning prediction policy of prior measures for statistical inverse problems of PDEs

17:20 - 17:50, MS04, Marco Inglesia

Ensemble Kalman Inversion for shape identification

Monday, 28th August 2023

2nd HKSIAM Meeting @ Room 203

11:00 - 11:30, MS14, Huibin Chang
A convergent splitting algorithm for the Euler Elastica model

11:30 - 12:00, MS14, Faming Fang
Knowledge and Data-driven Medical Image Reconstruction

12:00 - 12:30, MS14, Jun Liu
Image deblurring and denoising with the prior setting

15:50 - 16:20, MS07, Jiang YANG
Higher-Order Energy Stable Exponential Time Differencing Runge-Kutta
methods for Gradient Flows

16:20 - 16:50, MS07, Beiping Duan
New artificial tangential motions for parametric finite element
approximation of surface evolution

16:50 - 17:20, MS07, Seungchan Ko
Finite Element Operator Network for Solving Parametric PDEs

17:20 - 17:50, MS07, Zhi Zhou
The energy technique for BDF methods

Monday, 28th August 2023
2nd HKSIAM Meeting @ Room 209A

11:00 - 11:30, MS17, Lina Zhao

Pressure-robust staggered DG methods for the Navier-Stokes equations

11:30 - 12:00, MS17, Kyungkeun Kang

Local boundary regularity of weak solutions for the Stokes and Navier-Stokes equations in the half space

12:00 - 12:30, MS17, Seungchan Ko

Analysis and approximation of incompressible chemically reacting generalized Newtonian fluid

15:50 - 16:20, MS11, Min Zhang

A Novel Extrem compression-rate Image Compression Framework Based on Optimal Transport Mapping

16:20 - 16:50, MS11, Gunay Dogan

Efficient Algorithms to Compute Elastic Shape Distances between Closed Curves

16:50 - 17:20, MS11, Emil Saucan

Can we see shape from data

Monday, 28th August 2023
2nd HKSIAM Meeting @ Room 209B

11:00 - 11:30, MS11, David Gu
Characteristic Class of Fiber Bundle for Meshing

11:30 - 12:00, MS11, Na Lei
Conformal Geometric Methods for Medical Imaging Applications

12:00 - 12:30, MS11, Xiaoqun Zhang
Learnable Fourier interpolation for medical image reconstruction

15:50 - 16:20, MS13, Andrej Brojatsch
On the required number of electrodes in an EIT-related problem

16:20 - 16:50, MS13, Andreas Hauptmann
Learned reconstruction methods and convergent regularization: linear
plug-and-play denoiser

16:50 - 17:20, MS13, Zeljko Kereta
SGD for selected inverse problems in Banach spaces

17:20 - 17:50, MS13, Remo Kretschmann
Bayesian hypothesis testing in statistical inverse problems