

Schedule at a Glance

| Workshop on Recent Advances in Theories and Applications of Data Science December 2-6, 2019 | | | | | |
|--|---------------------------------|-----------------------------|--|------------------------------|----------------------------|
| <i>Time & Date</i> | <i>Monday (Dec. 2)</i> | <i>Tuesday (Dec. 3)</i> | <i>Wednesday (Dec. 4)</i> | <i>Thursday (Dec. 5)</i> | <i>Friday (Dec. 6)</i> |
| 7:30-9:00 | <i>Breakfast</i> | | | | |
| 9:00-9:30 | Opening Ceremony | Song Li | Hong Jiang | Falai Chen | De-Xing Kong |
| 9:30-10:00 | Daoqing Dai | Xue-Cheng Tai | Mingjun Lai | Zhiqiang Xu | Lihua Yang |
| 10:00-10:30 | <i>Photo & Coffee Break</i> | <i>Coffee Break</i> | | | |
| 10:30-11:00 | Bin Han | Yang Wang | Alex Powell | Yufeng Nie | Jiaxin Xie |
| 11:00-11:30 | Xiaoping Yang | Hongwei Li | Jun Xian | Xiaoqun Zhang | Xiaohao Cai |
| 11:30-12:00 | Wengu Chen | Han Feng | Jing Yuan | Xing Zhao | Meng Huang |
| 12:00-14:00 | <i>Lunch</i> | | | | |
| 14:00-14:30 | Ke Wei | Jianfeng Cai | <i>Free Discussion & Sightseeing</i> | Chunlin Wu | <i>Departure</i> |
| 14:30-15:00 | Bing Gao | Hongpeng Sun | | Jinming Wen | |
| 15:00-15:30 | Lingyun Qiu | Jian Wang | | Yi Shen | |
| 15:30-16:00 | <i>Coffee Break</i> | | | <i>Coffee Break</i> | |
| 16:00-16:30 | Leon Bungert | Huibin Chang | | Xinge Li | |
| 16:30-17:00 | Jian Sun | Ya-Feng Liu | | Jiying Liu | |
| 17:00-17:30 | Chong Chen | Wei-Hsuan Yu | | Zhili Xu | |
| 17:30 | <i>Dinner</i> | <i>Banquet</i> | <i>Dinner</i> | | |

7. Workshop Program

| Time & Date | December 2, 2019 (Monday) |
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| Morning Session I Chair: Chong Chen | |
| 9:00-9:30 | Opening Ceremony |
| 9:30-10:00 | Integration Strategy for Data Analysis Daoqing Dai, Sun Yat-sen University |
| 10:00-10:30 | Photo & Coffee Break |
| Morning Session II Chair: Yau Shu Wong | |
| 10:30-11:00 | Gibbs Phenomenon of Wavelets, Framelets and Quasi-projection Approximation Bin Han, University of Alberta |
| 11:00-11:30 | Deformable Image Registration Algorithms Based on Some Novel Variational Frameworks Xiaoping Yang, Nanjing University |
| 11:30-12:00 | Reconstruction of High Dimensional Data via Weighted Norm Minimization Methods Wengu Chen, Institute of Applied Physics and Computational Mathematics |
| 12:00-14:00 | Lunch |
| Afternoon Session I Chair: Xiaoping Yang | |
| 14:00-14:30 | Fast Cadzow's Algorithm and a New Variant Ke Wei, Fudan University |
| 14:30-15:00 | A new model for phase retrieval Bing Gao, Nankai University |
| 15:00-15:30 | The inverse problem for wave equations based on optimal transportation theory and deep learning Lingyun Qiu, Tsinghua University |
| 15:30-16:00 | Coffee Break |
| Afternoon Session II Chair: Hong Jiang | |
| 16:00-16:30 | A new perspective on distance functions via nonlinear spectral theory Leon Bungert, Friedrich-Alexander Universität Erlangen-Nürnberg |
| 16:30-17:00 | Model Meets Deep Learning: Model-driven Deep Learning Approach Jian Sun, Xian Jiaotong University |
| 17:00-17:30 | Joint Image Reconstruction and Motion Estimation in Spatiotemporal Medical Imaging Chong Chen, Chinese Academy of Sciences |
| 17:30 | Dinner |

| Time & Date | December 3, 2019 (Tuesday) |
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| Morning Session I Chair: Daoqing Dai | |
| 9:00-9:30 | One-Bit Compressed Sensing with Projected Subgradient Methods Song Li, Zhejiang University |
| 9:30-10:00 | Convex shape prior for image segmentation problem Xue-Cheng Tai, Hong Kong Baptist University |
| 10:00-10:30 | Coffee Break |
| Morning Session II Chair: Xue-Cheng Tai | |
| 10:30-11:00 | Scattering Transform and Stylometry Analysis in Arts Yang Wang, Hong Kong University of Science and Technology |
| 11:00-11:30 | Restricted Linearized Augmented Lagrangian Method for Euler's Elastica Model Hongwei Li, Capital Normal University |
| 11:30-12:00 | Chebyshev-type Cubature Formulas on Regular Domains Han Feng, City University of Hong Kong |
| 12:00-14:00 | Lunch |
| Afternoon Session I Chair: Shuhua Wei | |
| 14:00-14:30 | Optimal low-rank tensor recovery Jianfeng Cai, Hong Kong University of Science and Technology |
| 14:30-15:00 | Accelerated Dual Optimization to Images Segmentation Hongpeng Sun, Renmin University of China |
| 15:00-15:30 | Some new results on sparsity-constrained information processing Jian Wang, Fudan University |
| 15:30-16:00 | Coffee Break |
| Afternoon Session II Chair: Yang Wang | |
| 16:00-16:30 | Fourier Masked Phase Retrieval: Mask Design, Blind Recovery, and Sparsity Modeling Huibin Chang, Tianjin Normal University |
| 16:30-17:00 | Semidefinite Relaxations for MIMO Detection: Tightness, Tighterness, and Beyond Ya-Feng Liu, Chinese Academy of Sciences |
| 17:00-17:30 | Recent progress on equiangular line Wei-Hsuan Yu, National Central University |
| 17:30 | Banquet |

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| Time & Date | December 4, 2019 (Wednesday) |
| Morning Session I Chair: Song Li | |
| 9:00-9:30 | Lipschitz Learning for Signal Recovery Hong Jiang, Nokia Bell Labs |
| 9:30-10:00 | Compressive sensing for cut improvement and local graph clustering Mingjun Lai, University of Georgia |
| 10:00-10:30 | Coffee Break |
| Morning Session II Chair: Liqun Cao | |
| 10:30-11:00 | Training low-bit neural networks Alex Powell, Vanderbilt University |
| 11:00-11:30 | Reconstruction from convolution random sampling in local shift invariant spaces Jun Xian, Sun Yat-Sen University |
| 11:30-12:00 | High-Performance Dual Optimization Theory and Algorithms to Medical Image Analysis Jing Yuan, Xidian University |
| 12:00-14:00 | Lunch |
| Afternoon Session | |
| 14:00-17:00 | Free Discussion & Sightseeing |
| 17:30 | Dinner |

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| Time & Date | December 5, 2019 (Thursday) |
| Morning Session Chair: Bin Han | |
| 9:00-9:30 | Boundary correspondence of planar domains based on optimal mass transport Falai Chen, University of Science and Technology of China |
| 9:30-10:00 | The recovery of sparse signals from phaseless measurements Zhiqiang Xu, Chinese Academy of Sciences |
| 10:00-10:30 | Coffee Break |
| Morning Session Chair: Zhiqiang Xu | |
| 10:30-11:00 | Neural network based on differential equation Yufeng Nie, Northwestern Polytechnical University |
| 11:00-11:30 | Semi-implicit Back Propagation Xiaoqun Zhang, Shanghai Jiao Tong University |
| 11:30-12:00 | Iterative deep scatter correction (IDSC) using a DNN based high-fidelity measurement model for CT imaging Xing Zhao, Capital Normal University |
| 12:00-14:00 | Lunch |
| Afternoon Session I Chair: Wengu Chen | |
| 14:00-14:30 | On Nonconvex Regularized Models for Image Restoration Problems Chunlin Wu, Nankai University |
| 14:30-15:00 | Signal-Dependent Performance Analysis of Orthogonal Matching Pursuit for Exact Sparse Recovery Jinming Wen, Jinan University |
| 15:00-15:30 | Gradient Descent Method on the Sphere with Sparsity Constrains Yi Shen, Zhejiang Sci-Tech University |
| 15:30-16:00 | Coffee Break |
| Afternoon Session II Chair: Lihua Yang | |
| 16:00-16:30 | Hybrid Regularized Cone-beam Reconstruction for Axially Symmetric Object Tomography Xinge Li, Institute of Applied Physics and Computational Mathematics |
| 16:30-17:00 | Dictionary learning with block total least squares update Jiyong Liu, National University of Defense Technology |
| 17:00-17:30 | The minimizers of the p-frame potential Zili Xu, Chinese Academy of Sciences |
| 17:30 | Dinner |

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| Time & Date | December 6, 2019 (Friday) |
| Morning Session I Chair: Falai Chen | |
| 9:00-9:30 | TBA De-Xing Kong, Zhejiang University |
| 9:30-10:00 | On the Fourier transform and Smoothness Measurement of Graph Signals Lihua Yang, Sun Yat-sen University |
| 10:00-10:30 | Coffee Break |
| Morning Session II Chair: De-Xing Kong | |
| 10:30-11:00 | Subset selection via interlacing families Jiaxin Xie, Beihang University |
| 11:00-11:30 | Bayesian inference in high dimensional inverse problems Xiaohao Cai, University College London |
| 11:30-12:00 | Phase retrieval from the norms of affine transformations Meng Huang, Hong Kong University of Science and Technology |
| 12:00-14:00 | Lunch |
| 14:00 | Departure |