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**CAS AMSS-PolyU Joint Laboratory of Applied Mathematics Workshop 2022**

**22-23 December, 2022 (Zoom)**

This workshop is organized by CAS AMSS-PolyU Joint Laboratory of Applied Mathematics and supported by AMSS, PolyU, AMA and CAS-Croucher Funding Scheme for Joint Laboratories.

Date: 22 – 23 December 2022 (Thu – Friday)

Mode of delivery: Online via Zoom

Meeting link: <https://polyu.hk/Jantp>

Meeting ID | Passcode: 942 5395 7435 | cas2022

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| **Date/ Time** | **Speakers** | **Titles** | **Chairs** |
| ***22 December 2022 (Thursday)*** | | | |
| 9am – 9:15am | Ya-xiang Yuan (AMSS) Xiaojun Chen  (PolyU) | Opening ceremony | Defeng Sun (PolyU) |
| **Session 1:  Differential equations** | | | **Zhonghua Qiao (PolyU)** |
| 9:15am-10:00am | Fanghua Lin (New York University) | TBC |  |
| **Break** | | | |
| 10:15am – 11:00am | Ping Zhang (AMSS) | Gevrey solutions of quasi-linear hyperbolic hydrostatic Navier-Stokes system |  |
| 11:00am- 11:45am | Tong Yang (PolyU) | Analysis on Tollmien-Schlichting waves in MHD and compressible fluid |  |
| **Session 2:  Mathematical Finance** | | | **Zhan Shi (AMSS)** |
| 2:30pm – 3:15pm | Min Dai (PolyU) | Strategic Investment under Uncertainty with First-and Second-mover Advantages |  |
| 3:15pm --4:00pm | Yongsheng Song (AMSS) | The Central Limit Theorem and the Law of Large Numbers under Sublinear Expectations break |  |
| 4:15pm –5:00pm | Nizar Touzi (Ecole Polytechique) | Mean field game of mutual holding and systemic risk |  |
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| ***23 December 2022 (Friday)*** | | | |
| **Session 3:  Statistics** | | | **Xingqiu Zhao (PolyU)** |
| 9:15am-10:00am | Tengyuan Liang (University of Chicago) | Universal Prediction Band and Variance Interpolation via Semi-Definite Programming |  |
| **Break** | | | |
| 10:15am- 11:00am | Jian Huang  (PolyU) | Conditional Deep Generative Learning |  |
| 11:00am- 11:45 | Xinyu Zhang (AMSS) | Optimal parameter-transfer learning by semiparametric model averaging |  |
| **Session 4:  Optimization** | | | **Yu-Hong Dai (AMSS)** |
| 2:30pm – 3:15pm | Xin Liu (AMSS) | Optimization models and approaches for strictly correlated electrons |  |
| 3:15pm--4:00pm | Houduo Qi  ( PolyU) | Euclidean Distance Matrix Optimization and Its Application to Portfolio Theory |  |
| **Break** | | | |
| 4:15pm –5:00pm | Daniel Kuhn (Ecole Polytechique Federale de Lausanne) | A General Framework for Optimal Data-Driven Optimization |  |
| 5:00pm-5:15pm | Closing | | |

Remarks:

* *CAS (Chinese Academy of Sciences)*
* *AMSS (Academy of Mathematics and Systems Science)*
* *PolyU (The Hong Kong Polytechnic University)*
* *AMA (Department of Applied Mathematics, PolyU)*