

# Workshop on Frontier Mathematical Problems in Network Science and Data Geometry

## General Schedule

**January 4, 2015, Sunday**

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**Arrival and registration**

**18:00-19:30    Dinner**

**January 5, 2015, Monday**

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**7:30-8:30    Breakfast**

**8:50-8:55    Opening**

*Chair: Dongyun Yi, National University of Defense Technology, China*

**8:55-9:00    Group Photo**

*Morning Chair: Yicheng Zhang, University of Fribourg, Switzerland*

**9:00-10:00**

**Title: *Is network science more than graph theory?***

**Speaker: *Fatihcan M. Atay, Max Planck Institute for Mathematics in  
the Sciences, Germany***

**10:00-10:20    Discussion**

**10:20-10:40    Tea Break**

**10:40-11:40**

**Title: *Optimal Plate Designs in High Throughput Screening  
Experiments***

**Speaker: *Harvey Qu, Oakland University, USA***

**11:40-12:00 Discussion**

**12:00-14:30 Lunch and Break**

*Afternoon Chair: Harvey Qu, Oakland University, USA*

**14:30-15:30**

**Title:** *Statistical properties and problems analysis of online collective behavior*

**Speaker:** *Jianguo Liu, University of Shanghai for Science and Technology*

**15:30-15:50 Discussion**

**15:50-16:30 Tea Break**

**16:30-17:30**

**Title:** *Uncertainly propagation towards multi-constellation*

**Speaker:** *Xiaojun Duan, National University of Defense Technology*

**17:30-17:50 Discussion**

**18:00-19:30 Dinner (Banquet)**

**January 6, 2015, Tuesday**

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**7:30-8:30 Breakfast**

*Morning Chair: Peter A. Gloor, Massachusetts Institute of Technology, USA*

**9:00-10:00**

**Title:** *Collective dynamics of many-body systems on networks*

**Speaker:** *Seung-Yeal Ha, Seoul National University, Korea*

**10:00-10:20 Discussion**

**10:20-10:40 Tea Break**

**10:40-11:40**

**Title:** *The long term sustainability issues on the internet and possible solutions*

**Speaker:** *Yicheng Zhang, University of Fribourg, Switzerland*

**11:40-12:00 Discussion**

**12:00-14:30 Lunch and Break**

*Afternoon Chair: Seung-Yeal Ha, Seoul National University, Korea*

**14:30-15:30**

**Title:** *On the Lojasiewicz exponent of Kuramoto model*

**Speaker:** *Zhuchun Li, Harbin Institute of Technology*

**15:30-15:50 Discussion**

**15:50-16:30 Tea Break**

**16:30-17:50 Free discussion**

**18:00-19:30 Dinner**

**January 7, 2015, Wednesday**

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**7:30-8:30 Breakfast**

*Morning Chair, Fatihcan M. Atay, Max Planck Institute for  
Mathematics in the Sciences, Germany*

**9:00-10:00**

**Title:** *Measuring and visualizing signals of collective intelligence at*

*large organizations through network science*

**Speaker:** *Peter A. Gloor, Massachusetts Institute of Technology, USA*

**10:00-10:20 Discussion**

**10:20-10:40 Tea Break**

**10:40-11:40**

**Title:** *Mathematical model for volatility flocking in a stock market*

**Speaker:** *Hyeong-Ohk Bae, Ajou University, Korea*

**11:40-12:00 Discussion**

**12:00-14:30 Lunch and Break**

*Afternoon Chair: Hyeong-Ohk Bae, Ajou University, Korea*

**14:30-15:30**

**Title:** *Spectral classes of regular, random, and empirical graphs*

**Speaker:** *Jiao Gu, Shanghai Normal University*

**15:30-15:50 Discussion**

**15:50-16:30 Tea Break**

**16:30-17:50 Free discussion**

**18:00-19:30 Dinner**

**January 8, 2015, Thursday**

**7:30-8:30 Breakfast**

*Morning Chair, Xiaojun Duan, National University of Defense*

*Technology*

**9:00-10:00**

**Title:** *Flocking of the Cucker-Smale model with processing delay*

**Speaker:** *Yicheng Liu, National University of Defense Technology*

**10:00-10:20**    **Discussion**

**10:20-10:40**    **Tea Break**

**10:40-11:40**

**Title:** *Epidemic dynamics on complex networks*

**Speaker:** *Xiaoguang Zhang, Shanxi University*

**11:40-12:00**    **Discussion**

**12:00-14:30**    **Lunch and Break**

*Afternoon Chair: Jiao Gu, Shanghai Normal University*

**14:30-15:30**

**Title:** *Learning Low-dimensional Structures in High-dimensional Data*

**Speaker:** *Chenping Hou, National University of Defense Technology*

**15:30-15:50**    **Discussion**

**15:50-16:30**    **Tea Break**

**16:30-17:50**    **Free discussion**

**18:00-19:30**    **Dinner**

**January 9, 2015, Friday**

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**7:30-8:30**    **Breakfast**

**9:00-12:00**    *Morning Games*

*Badminton, Basketball, Ping-pong, ...*

**12:00-13:30**    **Lunch and Break**

**13:30-17:30**

*Tour and Sightseeing (Join voluntary with your own expense)*

*The Tourist Area of Yalong Bay Tropical Paradise Forest Park*

**18:00-19:30     Dinner**

**January 10, 2015, Saturday, Departure**

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**7:30-8:30     Breakfast**

**No talks and activities**