

# Analysis and Control of Complex Networks: State of the Art and Directions

2019 American Control Conference

Philadelphia, PA, USA

July 9, 2019

## TENTATIVE SCHEDULE

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<b>Breakfast: coffee, tea, pastries</b>	08:00 - 09:00
<b>Opening remarks</b>	09:00 - 09:10
<b>Input-output analysis of dynamical networks</b> <i>Sandip Roy</i>	09:10 - 09:40
<b>Scalable algorithms for resilient distributed coordination in large-scale networks</b> <i>Shreyas Sundaram</i>	09:40 - 10:10
<b>Stability of dynamics on large-scale random networks</b> <i>Mohammed Ali Belabbas</i>	10:10 - 10:40
<b>Coffee break</b>	10:40 - 11:00
<b>Time-varying control scheduling in complex dynamical networks</b> <i>Erfan Nozari</i>	11:00 - 11:30
<b>Algorithms, fundamental limitations, impossibility results for control of networks</b> <i>Alex Olshevsky</i>	11:30 - 12:00
<b>From local network structure to global graph spectrum</b> <i>Victor Preciado</i>	12:00 - 12:30
<b>Lunch break</b>	12:30 - 14:00
<b>Analysis, design, and optimization of complex fractional networks</b> <i>Sergio Pequito</i>	14:00 - 14:30
<b>Fragility and controllability tradeoff in complex networks</b> <i>Fabio Pasqualetti</i>	14:30 - 15:00
<b>Poster session, discussion, and closing remarks</b>	15:00 - 15:55
<b>Closing remarks</b>	15:55 - 16:00

## POSTERS

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- Control, architecture design, and learning in dynamical networks with multiplicative noise**  
*Benjamin Gravell, Yi Guo, Tyler Summers*
- An Input-Output Perspective on Dynamical Networks: Assorted Case Studies**  
*Kasra Koorehdavoudi, Amirkhosro Vosughi, Abdullah Al Maruf, Mengran Xue, Sandip Roy*
- Multi-stage dynamic information flow tracking game for advanced persistent threats**  
*Shana Moothedath, Dinuka Sahabandu, Joey Allen, Andrew Clark, Linda Bushnell, Wenke Lee, and Radha Poovendran*
- Distributed State Estimation and Hypothesis Testing with Extensions to Byzantine-Resilience**  
*Aritra Mitra, Shreyas Sundaram*
- Data-driven control of dynamical networks**  
*Giacomo Baggio, Fabio Pasqualetti*
- A Spectral Graph Clustering Approach to Multiagent Data Association**  
*Kaveh Fathian, Kasra Khossousi, Parker Lusk, Yulun Tian, Jonathan How*