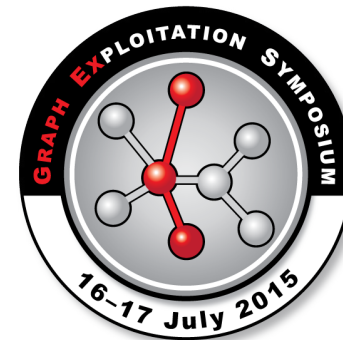


**Graph Exploitation  
Symposium**

MIT Lincoln Laboratory

# GRAPH EXPLOITATION SYMPOSIUM

- Preface
- Acknowledgments
- Agenda



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GES-6

**16–17 July 2015**

**Issued: 31 May 2016**

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## Graph Exploitation Symposium



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# PREFACE

## Graph Exploitation Symposium

The GraphEx Symposium brought together leading experts from universities, industry, and government to discuss the latest research and future directions in network science and analysis. The event was limited to a small group of invited attendees. The symposium took place at the MIT Endicott House.

## Symposium Highlights

The two-day technical program topics of interest included:

- Modeling noise and uncertainty
- Real-world applications of graph-valued data
- Scalable algorithms and architectures for large scale data
- Models and techniques for dynamic graphs
- Anomaly, subgraph, and community detection
- Multi-modal and heterogeneous networks
- Challenge problems for the next decade

*Group Photograph of the GraphEx Symposium attendees*

*Report Documentation and Contract Acknowledgment Pages*

## Graph Exploitation Symposium



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# ACKNOWLEDGMENTS

## **Organizers**

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Albert Reuther

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### *Technical Co-Chairs*

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16 July 2015

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Poster Session

## AGENDA

### 16 July 2015

- |    |  |                 |                                    |
|----|--|-----------------|------------------------------------|
| 01 | Day 1 Keynote<br><i>Data and Decision Analytics</i>                                    | R. Bonneau      | ASD(R&E)                           |
| 02 | <i>Optimal Design of Experiments in the Presence of Network Interference</i>           | E. Airoldi      | Harvard University                 |
| 03 | <i>Some Conceptual Issues Regarding Networks</i>                                       | D. Aldous       | University of California, Berkeley |
| 04 | <i>Tradeoffs in Large Scale Learning: Statistical Accuracy vs. Numerical Precision</i> | S. Kakade       | Microsoft                          |
| 05 | <i>Control of Epidemics on Graphs</i>  | M. Kochenderfer | Stanford University                |
| 06 | <i>Sample Average Approximation and Cascading Failures of Power Grids</i>              | D. Bienstock    | Columbia University                |
| 07 | <i>Temporal Reachability in Dynamic Networks*</i>                                      | N. Lemons       | Los Alamos National Laboratory     |
| 08 | <i>Counter-Adversarial Data Analytics: Machine Learning (and Graph Analysis)</i>       | P. Kegelmeyer   | Sandia National Laboratories       |

\*Presentation not included in proceedings.

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## AGENDA

### 17 July 2015

01	Day 2 Keynote <i>Risk in Networked Systems</i>	M.A. Dahleh	Massachusetts Institute of Technology
02	<i>Permanence: A Vertex-Centric Approach to Evaluating Accuracy of Communities</i>	S. Bhowmick	University of Nebraska, Omaha
03	<i>Communities in Multilayer Networks</i>	P. Mucha	University of North Carolina, Chapel Hill
04	<i>Finding Regions with High Amount of Directed <math>c</math>-Cycles in Diagraphs with Complex-Valued Eigenpairs</i>	C. Klymko	Lawrence Livermore National Laboratory
05	<i>Semi-Automated Family Estimation (SAFE)</i>	D. Shah	MIT Lincoln Laboratory
06	<i>Recommender Systems Using Graph Inferences at LinkedIn</i>	S. Ghosh	LinkedIn
07	<i>Efficient Algorithms for Public-Private Social Networks</i>	S. Lattanzi	Google
08	<i>Graphulo: Graph Analytics in GraphBLAS</i>	V. Gadepally	MIT Lincoln Laboratory

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## AGENDA

### Poster Session

- |    |   |                |                                 |
|----|---|----------------|---------------------------------|
| 01 | <i>Prediction Based Scale Identification of Temporal Graphs</i>                                 | B. Fish        | University of Illinois, Chicago |
| 02 | <i>Identifying the Breaking Point: Phase Shift Behavior in Classifying Graph Models</i>         | L. Weiner      | MIT Lincoln Laboratory          |
| 03 | <i>On the Separability Classes of Communities</i>   | S. Soundarajan | Syracuse University             |
| 04 | <i>Understand Users Interests and Positions via News Comment Board</i>                          | R. Dong        | Northeastern University         |
| 05 | <i>Improved Hidden Clique Detection by Optimal Linear Fusion of Multiple Adjacency Matrices</i> | H. Nayar       | University of Michigan          |
| 06 | <i>A Community Overlap Approach Pinpoints Central Genes and Networks in Heart Failure</i>       | S. Cordero     | Stanford University             |
| 07 | <i>Unsupervised Discovery in Hypergraphs Using Tensor Decompositions</i>                        | J. Ezick       | Reservoir Labs, Inc.            |