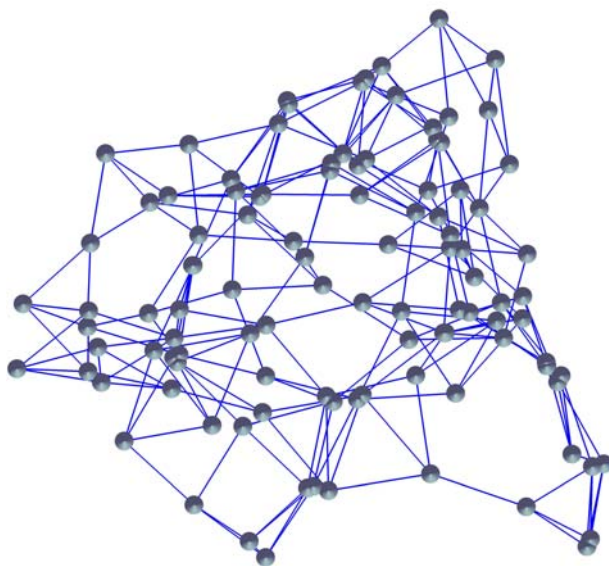




COLUMBIA UNIVERSITY
Data Science Institute



DAPG2015

DARPA GRAPHS/SIMPLEX Workshop:

**Data, Algorithms and
Problems on Graphs**

**The Schapiro Center for Engineering and
Physical Science Research, Davis Auditorium
Monday, September 28, 2015**

AGENDA

8:30AM

CHECK-IN/REGISTRATION

9:00AM

WELCOME REMARKS: Tony Jebara

Associate Professor of Computer Science, Columbia University

9:05AM

INVITED SPEAKER: Duncan Watts

Principal Researcher, Microsoft Research

"An experimental study of collective self-organization in crisis mapping"

9:50AM

Contributed Talk:

"Semi-supervised segmentation of neurons from brainbow images"

Uygar Sumbul (*Presenter*)

Suraj Keshri

Min-hwan Oh

Dawen Cai

John Cunningham

Liam Paninski

10:15AM

Contributed Talk:

"Discovery of protein functions and interactions from structures sequences and text in enzymes, malaria and cancer"

Olivier Lichtarge (*Presenter*)

Angela Wilkins

Scott Spangler

Andreas Lisewski

Shivas Amin

10:40AM

Contributed Talk:

"Robust performance analysis of complex network infrastructures"

Agostino Capponi

11:05AM

Contributed Talk:

"CoupledLP: Link prediction in coupled networks"

Yuxiao Dong (*Presenter*)

Jing Zhang

Jie Tang

Nitesh Chawla

Bai Wang

AGENDA

11:30AM

INVITED SPEAKER: Anima Anandkumar

Assistant Professor of Electrical Engineering and Computer Science, University of California Irvine

"Tensor methods: A new paradigm for training probabilistic models and neural networks"

12:15PM

LUNCH

1:15PM

INVITED SPEAKER: Alireza Tahbaz-Salehi

Daniel W. Stanton Associate Professor of Business, Columbia University

"Supply Chain Disruptions: Evidence from the Great East Japan Earthquake"

2:00PM

Contributed Talk:

"Functional models of mouse visual cortex"

Ekaterina Taralova (Presenter)

Tony Jebara

Rafael Yuste

2:25PM

Contributed Talk:

"Structured regression on partially observed evolving graphs with uncertainty propagation"

Zoran Obradovic (Presenter)

Jelena Stojanovic

Djordje Gligorijevic

Milos Jovanovic

2:50PM

Contributed Talk:

"Network lasso"

David Hallac (Presenter)

Jure Leskovec

Stephen Boyd

3:15PM

POSTER SPOTLIGHT TALKS

4:00PM

POSTER SESSION AND RECEPTION, Davis Lobby

See page 6 for additional details.

DAPG2015 INVITED SPEAKERS



DUNCAN WATTS

Principal Researcher, Microsoft Research

Duncan Watts is a principal researcher at Microsoft Research and a founding member of the MSR-NYC lab. He is also an AD White Professor at Large at Cornell University. Prior to joining MSR in 2012, he was from 2000-2007 a professor of Sociology at Columbia University, and then a principal research scientist at Yahoo! Research, where he directed the Human Social Dynamics group.

His research on social networks and collective dynamics has appeared in a wide range of journals, from Nature, Science, and Physical Review Letters to the American Journal of Sociology and Harvard Business Review, and has been recognized by the 2009 German Physical Society Young Scientist Award for Socio and Econophysics, the 2013 Lagrange-CRT Foundation Prize for Complexity Science, and the 2014 Everett Rogers Prize. He is also the author of three books: Six Degrees: The Science of a Connected Age (W.W. Norton, 2003); Small Worlds: The Dynamics of Networks between Order and Randomness (Princeton University Press, 1999); and most recently Everything is Obvious: Once You Know The Answer (Crown Business, 2011).

He holds a B.Sc. in Physics from the Australian Defence Force Academy, from which he also received his officer's commission in the Royal Australian Navy, and a Ph.D. in Theoretical and Applied Mechanics from Cornell University.

DAPG2015 INVITED SPEAKERS



ANIMASHREE ANANDKUMAR

*Assistant Professor of Electrical Engineering and
Computer Science , University of California Irvine*

Anima Anandkumar is a faculty at the EECS Dept. at U.C.Irvine since August 2010. Her research interests are in the area of large-scale machine learning and high-dimensional statistics. She received her B.Tech in Electrical Engineering from IIT Madras in 2004 and her PhD from Cornell University in 2009. She was a visiting faculty at Microsoft Research New England in 2012 and a postdoctoral researcher at the Stochastic Systems Group at MIT between 2009-2010. She is the recipient of the Alfred. P. Sloan Fellowship, Microsoft Faculty Fellowship, ARO Young Investigator Award, NSF CAREER Award, IBM Fran Allen PhD fellowship, Best thesis award from ACM SIGMETRICS society, and paper awards from the ACM SIGMETRICS and IEEE Signal Processing societies.



ALIREZA TAHBAZ-SALEHI

*Daniel W. Stanton Associate Professor of Business,
Columbia University*

Alireza Tahbaz-Salehi is Daniel W. Stanton Associate Professor of Business at Columbia Business School. His research focuses on the implications of network economies for business cycle fluctuations and financial stability.

CONTRIBUTED POSTERS

- “A novel algorithm for topological persistence, with application to neuroscience”

Greg Henselman (*Presenter*)

Robert Ghrist

- “An integrative approach to constructing microRNA-gene networks in ovarian cancer”

Andrew Quitadamo

Benika Hall

Xinghua Shi (*Presenter*)

- “Application of a system engineering structure for private information sharing and graph theoretic analysis of private health information across public health jurisdictions”

J.C. Smart

Joshua Ripple (*Presenter*)

- “Local construction of bounded-degree network topologies using only incidence information”

Erdem Koyuncu

Hamid Jafarkhani (*Presenter*)

- “Parallel distributed-memory based community detection for large graphs”

Diana Palsetia

William Hendrix

Ankit Agrawal (*Presenter*)

Wei-keng Liao

Alok Choudhary

- “Representing higher order dependencies in networks”

Jian Xu (*Presenter*)

Thanuka Wickramaratne

Nitesh Chawla

- “Simplicial complex sampling in inference using exact sequences”

Michael Robinson

- “Learning a graphical model of Bloomberg financial and news data”

Dwayne Campbell

Henrique Gubert

Tony Jebara

Gideon Mann

Kathleen McKeown

Kui Tang

Rashmi Tonge

Liao Wang

David Yao

ADVISORY COMMITTEE

- **Reza Ghanadan**
Program Manager, DARPA
- **Gideon Mann**
Head of Data Science, Bloomberg, LP

ORGANIZERS

- **Tony Jebara**
Associate Professor of Computer Science, Columbia University
- **Kathleen McKeown**
*Henry and Gertrude Rothschild Professor of Computer Science;
Director of the Data Science Institute, Columbia University*
- **David Yao**
*Piyasombatkul Family Professor of Industrial Engineering and
Operations Research , Columbia University*

NOTES

This image shows a single sheet of white paper with horizontal blue lines, resembling notebook paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



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