

## GABB'17 Final Program

Each talk is 30 minutes (25 minutes presentation + 5 minutes questions).

Except for the keynote, which is allocated 1 hour (50 minutes presentation + 10 minutes questions)

Panel is 45 minutes

Session	Title	Authors
<b>1</b> <b>(8:30am-10am)</b> <b>Chair: Aydin Buluc</b>	Breadth-first search with a multi-core computer	Maryia Belova and Ming Ouyang
	Order or Shuffle: Empirically Evaluating Vertex Order Impact on Parallel Graph Computations	George M Slota, Siva Rajamanickam and Kamesh Madduri
	A Study of Graph Decomposition Algorithms for Parallel Symmetry Breaking	Sayyad Nayyaroddeen, Mahak Gambhir and Kishore Kothapalli
Morning Break (10-10:30am)		
<b>2</b> <b>(10:30am-12)</b> <b>Chair: Chris Long</b>	Constructing Adjacency Arrays from Incidence Arrays	Hayden Jananthan, Karia Dibert and Jeremy Kepner
	Mini-Gunrock: A Lightweight Graph Analytics Framework on the GPU	Yangzihao Wang, Sean Baxter and John Owens
	Algebraic Multigrid for Least Squares Problems on Graphs with Applications to HodgeRank	Charles Colley, Junyuan Lin, Xiaozhe Hu and Shuchin Aeron
Lunch (12-1:30pm)		
<b>3</b> <b>(1:30pm-3pm)</b> <b>Chair: Tim Mattson</b>	<b>Keynote talk:</b> <b>HPC Graph Analytics: Trends and Fallacies</b> In the era of data and ubiquitous computing, solutions to many of the social, scientific, and engineering problems necessitate the analysis and integration of very large data captured in multiple scales. Often, the data we capture are irregular and modeled as graphs. In this talk, I will first present some examples of algorithm reengineering and system support for efficient graph analytics. Then, I will discuss fallacies and shortcomings of the current HPC Graph Analytics trends	<b>Ümit V. Çatalyürek</b> is Professor and Associate Chair of the School of Computational Science and Engineering in the College of Computing at the Georgia Institute of Technology. Dr. Çatalyürek is a recipient of an NSF CAREER award and is the primary investigator of several awards from DOE, NIH, and NSF. Dr. Çatalyürek currently serves as an Associate Editor for Parallel Computing, and as an editorial board member for IEEE TPDS, and the JPDC. He is a Fellow of IEEE, member of ACM and SIAM, and the Chair for IEEE TCPP for 2016-2017. His main research areas are in parallel computing, combinatorial scientific computing and biomedical informatics.
	Deriving Streaming Graph Algorithms from Static Definitions	David Ediger and James Fairbanks

Afternoon Break (3-3:30pm)		
<p style="text-align: center;">4 (3:30pm-5:15pm) Chair: Henning Meyerhenke</p>	Design of the GraphBLAS API for C	Aydin Buluc, Tim Mattson, Scott McMillan, Jose Moreira and Carl Yang
	A Linear Algebra-based Programming Interface for Graph Computations in Scala and Spark	William Horn, Gabriel Tanase, Hao Yu and Pratap Pattnaik
	<p><b>Panel:</b> <i>Computational primitives across application domains: converging or diverging?</i></p> <p>We will prime our discussion by asking whether building blocks used in graph computations have any commonalities with those used in other domains such as machine learning, sparse linear algebra, computational biology and computational chemistry.</p>	<p><b>Panelists:</b> Srinivas Aluru (Georgia Tech), John Feo (PNNL), Esmond Ng (LBNL), Tim Mattson (Intel)</p> <p>Moderator: Aydin Buluc</p>