You are invited to the Third Annual IACS symposium

FRIDAY, JANUARY 24 • 9 am–5:30 pm

WEATHERING THE DATA STORM
The Promise and Challenges of Data Science

SCIENCE CENTER HALL B

RYAN ADAMS
Harvard
LUKE BORNN
Harvard
JEFF HEER
University of Washington
DIANE LAMBERT
Google
FERNANDO PEREZ
UC Berkeley

CLAUDIA PERLICH
Distillery
BONNIE RAY
IBM
CYNTHIA RUDIN
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RACHEL SCHUTT
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Thanks to the support of our generous sponsors, the Symposium is open to the public free of charge. No registration is required.

Spring seminars

IACS Seminars are held in Maxwell Dworkin G115 on Friday at 1 pm during the regular term, preceded by lunch at 12:30 pm. Visit the IACS website to subscribe to our Google calendar or the IACS-Events mailing list. Harvard students can enroll in AC 298r, a course structured around the spring seminars.

Jan 31    Bo Peng, Data Scope Analytics
Feb 14    Leslie Greengard, NYU
Feb 28    Stratos Idreos, Harvard SEAS
Mar 7     Johan Bollen, Indiana University
Mar 14    Raul Jimenez, University of Barcelona
Mar 28    Devavrat Shah, MIT
Apr 4     Yaron Singer, Harvard SEAS
Apr 11    Hadley Wickham, R Studio and Rice University
Apr 25    Spiros Manoridis, Drexel University

computefest.seas.harvard.edu/data-storm
iacs.seas.harvard.edu
computeFest at a glance

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WORKSHOP WEEK

| AWS | MATLAB | MATLAB | MATLAB | GPU |
| AWS Python | Julia Python | FAS HPC | R Python | FAS HPC | GPU |
|--------|---------|---------|---------|-------|
|       | Julia   | FAS HPC |         |       | FAS HPC |
|       | Python  |         |         |       |         |
|       | FAS HPC |         |         |       |         |

STUDENT CHALLENGE

- Computational Science Ventures
- Symposium: Weathering the Data Storm

2014 workshop partners

visit these sites to explore additional training and resources

- Continuum Analytics
  - www.continuum.io
- Julia
  - julialang.org
- Amazon Web Services
  - aws.amazon.com
- FAS Research Computing
  - rc.fas.harvard.edu
- MathWorks
  - mathworks.com
- NVIDIA
  - nvidia.com

More workshops, ComputeFest location finder and wi-fi info
Wednesday 15

9:00 am  Onsite registration
9:30 am  **Programming with MATLAB**
          Adam Filion  
          MathWorks Application Engineer
noon  Break
1:00 pm  Onsite registration
1:30 pm  **Introduction to R**
          Ista Zahn  
          Institute for Quantitative Social Science
          **A Tour of Scientific Programming in Python**
          Ian Stokes-Rees  
          Engineer, Continuum Analytics
          **Best Practices in Using FAS HPC Systems (Odyssey)**
          Paul Edmon  
          FAS Research Computing

Thursday 16

9:00 am  Onsite registration
9:30 am  **Parallel Computing with MATLAB**
          Adam Filion  
          MathWorks Application Engineer
noon  Break
1:00 pm  Onsite registration
1:30 pm  **R Graphics**
          Ista Zahn  
          Institute for Quantitative Social Science
          **Data Visualization in Python**
          Ian Stokes-Rees  
          Engineer, Continuum Analytics.
          **Introduction to Parallel Computing and Programming with OpenMP**
          B. D. Kim and Plamen Krastev  
          FAS Research Computing

Friday 17

9:00 am  Onsite registration
9:30 am  **GPU Computing**
          Jonathan Bentz  
          NVIDIA
noon  Break/GPU Computing lunch
1:00 pm  Onsite registration
1:30 pm  **GPU Computing (part 2)**
          Paul Edmon  
          FAS Research Computing

ComputeFest event locations
Northwest Lab Bldg. 1
52 Oxford St. Workshops.
Parking garage. Go to B1 level.
Maxwell Dworkin G115 2
33 Oxford St. Computational Science Ventures.
Science Center 3
1 Oxford St. Symposium. Hall B.
Bicycle racks available at all locations.

wi-fi @ computefest
Harvard participants: Use your HUID and PIN to register any personal device not registered on the Harvard wireless network.
Guests: Choose the Harvard Guest network. Open a new browser window to register on the network. No password is required.
Computational Science Ventures
an event exploring the frontier where computation and science meet entrepreneurship and opportunity

Organizer and moderator: Alexander Wissner-Gross

Applications to Cyber-Physical Systems

Dynamic Monitoring and Decision Systems for Future Electric Energy Systems: The Case of the Azores Islands, Portugal
Marija Ilic

Building New Markets
Ted Morgan
In 2003 phones were dumb, the carriers ruled the world, and venture capitalists were reluctant to invest in anything mobile after losing bundles in the dot-com crash. Why would anyone start a company in that climate to build mobile infrastructure that relied on phones getting smarter, wi-fi becoming pervasive and everyday consumers caring about location? For five years the founders of a small company evangelized location as a core element of an explosive mobile market. Then, because of one phone call, it all happened. This is the story of Skyhook.

Cyber-Physical Systems and the SmartAmerica Challenge
Sokwoo Rhee
In cyber-physical systems, networking and information technology converges with engineered physical systems to create a new generation of systems that integrate distributed networks of sensors, controls, and processors. These systems are on the cusp of unleashing an extraordinary cycle of innovation in areas such as manufacturing, transportation, utility infrastructures, and buildings. The SmartAmerica Project brings together organizations with cyber-physical systems (CPS) technology, programs, and test beds and connects them via an industrial internet to demonstrate the potential to improve safety, sustainability, efficiency, mobility, and overall quality of life. This presentation will also discuss technical issues for cyber-physical systems and the “Internet of Things,” such as real-time data exchange, deterministic communication, mesh networks, security, open common data architecture, and collaborations among difference industry segments.

9 am–noon
Maxwell Dworkin G115

Marija Ilic
Professor and Director of the Electrical Energy Systems Group, Carnegie Mellon University
Marija Ilic has over 30 years of experience in teaching and research in electrical power system modeling and control. She currently holds a joint appointment in the Electrical and Computer Engineering & Engineering and Public Policy departments at Carnegie Mellon University and directs CMU’s Electric Energy Systems Group (EESG). She is also Honorary Chaired Professor for Control of Future Electricity Network Operations at Delft University of Technology in The Netherlands. Her main interest lies in systems aspects of the operation, planning, and economics of the electric power industry. An IEEE Fellow, she recently co-edited Engineering IT-Enabled Sustainable Electricity Services: The Case of Low-Cost Green Azores Islands (Springer 2013).

Ted Morgan
Co-founder and CEO, Skyhook
Ted Morgan founded Skyhook with Michael Shean in 2003 to capitalize on the explosive growth of wi-fi usage and the emerging demand for location-based services. Previously he served as vice president of marketing for edocs Inc., a provider of customer self-service solutions; group product manager for Open Market, one of the early leaders of the e-commerce revolution; and product manager for Harbinger Net Services in Atlanta. Morgan spent four years in the financial services industry. He holds an undergraduate degree in mathematics from Georgetown University and an MBA from the University of Chicago.

Sokwoo Rhee
Presidential Innovation Fellow
Co-founder and former CTO, Millennial Net, Inc.
Sokwoo Rhee is a Presidential Innovation Fellow working on cyber-physical systems. He co-leads the SmartAmerica Challenge, which brings together and interconnects cyber-physical systems and “Internet of Things” technologies and testbeds across the nation. Rhee is an entrepreneur and executive whose company, Millennial Net, Inc., was one of the first to successfully commercialize low-power wireless mesh/sensor network technology from academia. Earlier, Rhee worked on wireless medical sensors as a research associate at MIT. His work and achievements have been recognized through awards including MIT Technology Review’s Top Innovators under 35. He received his MS and PhD in Mechanical Engineering from MIT, and his BS in Mechanical Engineering from Seoul National University.