

Large Data Management Genomic Biodiversity Summit

Agenda

Sunday, September 21, 2014

6:00 pm **Pre-conference Reception**
Oread Hotel, 1200 Oread Avenue, Lawrence, KS; Valet parking available
Sponsored by Internet2

Monday, September 22, 2014

KU Commons, 1340 Jayhawk Blvd. Lawrence, KS 66045
Parking: Kansas Union (Mississippi Street Garage), 1 block away

8:00 am **Conference Registration Open**

8:00 am **Continental Breakfast**
Sponsored by Microsoft

9:00 am **Welcome**
Joseph Heppert, Associate Vice Chancellor, Office of Research,
University of Kansas
Bob Lim, Chief Information Officer, University of Kansas

9:15 am **Ground Rules and Objectives for Today's Meeting**
Khalil Yazdi, CIO in Residence, Cloud Services Program Development,
Internet 2

9:30 am **Perspectives on Data and Genomic Biodiversity Research**

Big Data and KU Strategic Plan: Jeffrey Vitter, Provost, University of Kansas

New Research Paradigm for Biology: Leonard Krishtalka, Director KU
Biodiversity Institute

Metatranscriptomics and the Microbial Community: Jack Gilbert, Environmental
Microbiologist, Argonne National Laboratory

*Omics³: Integrating genomics, phylogenomics and transcriptomics to investigate
early animal evolution:* Pauly Cartwright, Associate Professor, Ecology and
Evolutionary Biology

- Purpose: Frame opportunities and challenges being posed by innovations in the science:
 - Where is current innovation taking the science in the future from a researcher perspective?
 - What are the challenges these changes are creating for the discipline?
 - Where are key barriers to development and maturation of these research areas?

10:45 am Break

11:00 am Perspectives on Data and Genomic Biodiversity Research (cont)

Microsoft perspectives on developing solutions for research involving big data set:

Bradley Jensen, Principal Academic Relationship Manager, Microsoft

The future of big data traffic along the nation's research computing backbone:

Khalil Yazdi, Internet2

- Purpose: Frame opportunities and challenges being posed by innovations in data storage, transfer and manipulation:
 - Same issues as the science above focused on technology innovation.

11:30 am Lunch - Sponsored by Microsoft

12:30 pm Technical and Research Issues in Large Data Sets

Henry Neeman, Associate Vice President for Research Computing,
University of Oklahoma

Jorge Soberón, Professor, Ecology & Evolutionary Biology and Senior
Curator, KU Biodiversity Institute

- Identify major areas where access to high performance networking and computing capabilities are reshaping the scientific questions being asked and possibly the teams being assembled to address those questions.
- Identify major themes where application of cloud computing and storage, ultra high-speed data transfer and computational capability could foster scientific breakthroughs on a variety of levels...timeline, cost, multidisciplinary, out of the box collaboration, expansion toward novel models of systems.

1:10 pm Deep Dive—Data Challenges

Moderator: Bradley Jensen, Principal Academic Relationship Manager,
Microsoft

Panelists: Leonard Krishtalka, Jack Gilbert, Khalil Yazdi, Jorge
Soberón, Pauly Cartwright, Corrie Saux Moreau - *Assistant
Curator – Insects, Integrative Research Center, Department of
Science and Education, Field Museum of Natural History*

- **Discussion:** Initially with panelists and then with other attendees to identify scientific problems poised to benefit from applications of cloud computing and networking capabilities.
- **Goal:** Identify multiple potential research areas in broad general terms. .

2:15 pm Project Development

Break up into groups: Groups identify facilitators for discussion

- Participants self-organize into project groups each taking one of these topics and formulating more detailed proposal ideas for consideration as Azure/Internet2 research partners.
- Goal: Create a defensible outline for a plan that would benefit from time on the Azure cloud.

3:15 pm Report from Facilitators

3:45 pm Perspective of Technical Solutions to Projects

Internet2 and Microsoft Representatives

4:15 pm Discussion of Next Steps

Summative discussion about potential research follow-up

4:30 pm Adjourn

6:00 pm Post Conference Dine-Around

At registration please sign-up for dinner with colleagues at one of five downtown Lawrence restaurants to continue the conversation.

Please plan on paying your own expenses.

- Zen Zero (Thai)
811 Massachusetts Avenue
Host: Joe Heppert
- Merchant's Pub & Plate (Locally Sourced, American)
746 Massachusetts
Host: Julie Nagel
- 715 (European Bistro)
715 Massachusetts Avenue
Host: Bob Lim
- Free State Brewing Company (American, Breweries)
636 Massachusetts Avenue
Host: Easan Selvan
- Genovese (Italian)
941 Massachusetts
Host: Leonard Krishtalka

Tuesday, September 23, 2014

Using Azure in Higher Education - An informational session provided by Microsoft
US Education & Internet2

<https://msevents.microsoft.com/cui/EventDetail.aspx?culture=en-US&EventID=1032594923&IO=SsLrOjgUXJknoyC4B7X2VA%3d%3d>

Bioscience & Technology Business Center
University of Kansas – West Campus
2029 Becker Drive, Room 109
Lawrence, KS

8:00 am **Continental Breakfast**

8:30 am **Using Azure in Higher Education**

Jason Morales - Education Platform Specialist; *Brent Farr* - Azure
Solution Specialist; *Mike Long* - Azure Technical Specialist

- Microsoft / Internet2 partnership & cloud services
- Setting Up a VM in Azure
- SQL Database-as-a-Service
- HDInsight for provisioning Hadoop clusters
- Machine Learning for cloud based predictive analytics

12:00pm **Conclude**