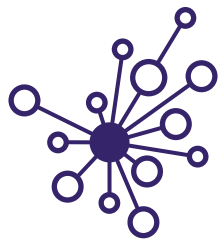


# UW Data Science Poster and Networking Session

February 21, 2017 3:00-5:00pm



UNIVERSITY *of* WASHINGTON

# eScience Institute

ADVANCING DATA-INTENSIVE DISCOVERY IN ALL FIELDS

Welcome to the **UW Data Science Poster and Networking Session!**

This two-hour event is an opportunity for the University of Washington campus community and regional partners to present their activities and connect with others engaged in data-intensive discovery.

Rapid advances in technology are transforming nearly every field from “data-poor” to “data-rich.” The ability to extract knowledge from this abundance of data is the cornerstone of 21st century discovery. At the University of Washington eScience Institute, our mission is to engage researchers across disciplines in developing and applying advanced computational methods and tools to real world problems in data-intensive discovery.

Visit us at: <http://escience.washington.edu/>



ALFRED P. SLOAN  
FOUNDATION



## CONTRIBUTED POSTERS

- 1. Distance Information Is Needed to Uncover Brain Connectivity Patterns**  
Bu, Yunqi\* | Johannes Lederer  
Department of Biostatistics \*yunqibu@uw.edu
- 2. XGBoost: A Scalable Tree Boosting System**  
Chen, Tianqi\* | Tianqi Chen  
Computer Science and Engineering \*tqchen@cs.washington.edu
- 3. Tracking Microbubbles in Physiologically Realistic Flows**  
Clark, Alicia\* |  
Mechanical Engineering \*clarka34@uw.edu
- 4. Children as Data Scientists**  
Dasgupta, Sayamindu\* | Samantha Hautea, Benjamin Mako Hill  
eScience Institute \*sdg1@uw.edu
- 5. Open Sidewalks**  
Disley, Thomas\* | Meg Drouhard, Jess Ford, Kaicheng Tan, Vaughn Iverson, Bryna Hazelton, Nicholas Bolten, Anat Caspi  
eScience Institute \*dislt258@newschool.edu
- 6. Can We Leverage Big Data to "sense the census"?**  
Dottle, Rachel\* | Carlog Espino, Myeong Lee, Imam Subkhan, Ariel Rokem, Jake Vanderplas, Afra Mashhadi  
eScience Institute \*rcd2127@barnard.edu
- 7. A Bayesian Approach to Quantifying Uncertainty from Experimental Noise in DEER Spectroscopy**  
Edwards, Thomas\* | Stefan Stoll  
Chemistry \*edwardst@uw.edu
- 8. Using Interactive Visualization to Analyze Space Assessment Data**  
Faber, Maggie\* |  
UW Libraries \*faberm@uw.edu
- 9. Data Science as Practice and Culture: Ethnographic Inquiries**  
Fiore-Gartland, Brittany\* | Andrew S. Hoffman, Anissa Tanweer, Meg Drouhard, Cecilia Aragon, David Ribes  
Human Centered Design and Engineering \*fioreb@uw.edu
- 10. Scalable Reproducibility of Gene Expression Studies**  
Grechkin, Maxim\* |  
Computer Science and Engineering \*grechkin@cs.washington.edu
- 11. Tactile Maptile: Semantic tactile representation of urban street data**  
Hamilton, Jessica\* |  
Urban Studies/ Taskar Center for Accessible Technology \*Jesshami@uw.edu

**12. Using Docker containers to enhance reproducibility of LINCS data analyses**

Hung, Ling-Hong\* | Ling-Hong Hung, Trevor Meiss, Varun Mittal, Ka Yee Yeung  
Institute of Technology, UW-Tacoma \*lhhung@uw.edu

**13. Hunting Malaria in the Wild with Machine Learning and Computer Vision**

Jaiswal, Mayoore\* | Mayoore Jaiswal, Charles Delahunt, Courosh Mehanian, Liming Hu, Matt Horning,  
Shawn McGuire, Cary Champlin  
Electrical Engineering / Intellectual Ventures Laboratory \*mayoore@uw.edu

**14. ORCA: One Regional Card for All**

Johnson, Carolina\* | Victoria Sass, Alicia Shen, Sean Wang, Bernease Herman, Anthony Arendt, Mark  
Hallenbeck, Anat Caspi  
eScience Institute \*csjohns@uw.edu

**15. Personas and Scenarios to Design Technologies for North Korean Defectors with Depression**

Jung, Hyunggu\* | Woosuk Seo, Michelle Cha  
Department of Biomedical Informatics and Medical Education \*hyunggu@uw.edu

**16. Gaussian Process Interpolation of Galaxy Spectra**

Kalmbach, J. Bryce\* | Andrew Connolly  
Physics \*brycek@uw.edu

**17. Rule-Prediction Index for Quantifying Risk in Type 1 Diabetes Patients**

Kammers, Eric\* | Shuai Huang, Cate Speake  
Industrial & Systems Engineering \*ewk4@uw.edu

**18. Sonar observation of marine organisms in large temporal and spatial scales**

Lee, Wu-Jung\* | Valentina Staneva, Bernease Herman, Aleksandr Aravkin, Dajun Tang, Eric Thorsos,  
Timothy Stanton  
Applied Physics Laboratory \*leewj@uw.edu

**19. Exchange-Traded Funds Price Dynamics: Intraday vs Interday**

Leung, Tim\* | Jack Simonson  
Applied Mathematics \*timleung@uw.edu

**20. Integration of multiple data sources for Gene Network Inference in Genetic Perturbation Data**

Liang, Xiao\* |  
Institute of Technology \*xlianguw@uw.edu

**21. An unexpected unity among methods for interpreting model predictions**

Lundberg, Scott\* | Su-In Lee  
CSE \*slund1@cs.washington.edu

**22. Image Deblurring with Blur Learning**

Maass, Kelsey\* | Aleksandr Aravkin  
Applied Mathematics \*kmaass@uw.edu

**23. Cloud-Enabled Tools for Subsea HD Video Analysis**

Marburg, Aaron\* | Timothy J Crone  
Applied Physics Laboratory \*amarburg@apl.washington.edu

**24. Nearly Isometric Embedding by Relaxation**

McQueen, James\* | James McQueen  
Statistics \*jmcq@uw.edu

**25. Systematic detection of seismic events under Mount St. Helens using an ultra-dense array**

Meng, Xiaofeng\* | Renate Hartog, Brandon Schmandt, Alicia Hotovec-Ellis, Steve Hansen, John Vidale, Jake Vanderplas  
eScience Institute \*xmeng@uw.edu

**26. UNCURL: Prior knowledge and sampling model informed unsupervised learning with single cell RNA-Seq data**

Mukherjee, Sumit\* | Yue Zhang, Sreeram Kannan, Georg Seelig  
Electrical Engineering \*mukhes3@uw.edu

**27. Mining Online Data for Early Identification of Unsafe Foods**

Munsell, Michael\* | Kiren Verma, Cynthia Vint, Kara Woo, Jess Ford, Valentina Staneva, Joseph Hellerstein, Elaine Nsoesie  
eScience Institute \*munsell.michael@gmail.com

**28. Bioinformatics Design of Genetically-Selected Self-assembling Peptides (SAPs) for Nanotechnology and Medicine**

Paliwal, Swapil\* | Emre Oren, David Starkebaum, Sefa Dag and Mehmet Sarikaya  
Materials science and engineering \*swapil@uw.edu

**29. Predicting the structural, functional and phenotypic effects of missense mutations using MutPred2**

Pejaver, Vikas\* | Lilia Iakoucheva, Sean Mooney, Predrag Radivojac  
Biomedical Informatics and Medical Education \*vpejaver@uw.edu

**30. Re-routing Solution and Expensive Ride Analysis for King County Metro Paratransit**

Polimis, Kivan\* | Rohan Aras, Emily Andrulis, Frank Fineis, Kristen Garofali, Valentina Staneva, Joseph Hellerstein, Anat Caspi  
Sociology \*kpolimis@uw.edu

**31. Using "Mathematical Jargon" to Characterize Differences Between Scientific Fields**

Portenoy, Jason\* | Jevin D. West  
Information School \*jporten@uw.edu

**32. Predicting Cancer Outcome with Multispectral Tumor Tissue Images**

Qu, Jin\* |  
Biomedical Informatics and Medical Education \*jinqu@uw.edu

**33. Panoramic light-sheet microscopy for slide-free 3D pathology**

Reder, Nicholas P.\* | Adam K. Glaser, Ye Chen, Erin F. McCarty, Chengbo Yin, Peter Wei, Yu Wang, Lawrence D. True, Jonathan T.C. Liu, and Ariel Rokem  
Department of Pathology \*nreder@u.washington.edu

**34. Multiresolution Approach to Probabilistic Tsunami Hazard Assessment (PTHA)**

Rim, Donsub\* |  
Applied Mathematics \*drim@uw.edu

- 35. Life Cycle Assessment for Low Carbon Construction project: Embodied Carbon Benchmarks**  
Rodriguez, Barbara\* |  
College of the Built Environment \*bxrd@uw.edu
- 36. AFQ-browser: Fueling neuroscience discovery with linked visualizations**  
Rokem, Ariel\* | Joshua Kenyon-Smith, Adam Richie-Halford, Jason Yeatman  
eScience \*arokem@gmail.com
- 37. Bioinformatics Design of Genetically-Selected Self-assembling Peptides (SAPs) for Nanotechnology and Medicine**  
Sarikaya, Mehmet\* | Swapil Paliwal, Emre Oren, David Starkebaum and Sefa Dag  
Mater Sci and Eng \*sarikaya@u.washington.edu
- 38. Constraint Graphs for Distributed Bayesian Network Structure Learning**  
Schreiber, Jacob\* |  
Computer Science \*jmschr@cs.washington.edu
- 39. Measurements of Whitecap Geometry and Steepness from a Ship-based Stereo Video System**  
Schwendeman, Michael\* | Jim Thomson  
Applied Physics Laboratory \*mss28@u.washington.edu
- 40. High Frequency Mean-Reversion Trading**  
Simonson, Jack\* | Tim Leung  
Computational Finance and Risk Management \*simonsoj@uw.edu
- 41. Fast Cloud Deployment of Integrated Postgres, API and a Jupyter Notebook for Geospatial Collaboration**  
Tan, Amanda\* | Rob Fatland, Anthony Arendt  
UW IT \*amandach@uw.edu
- 42. Social Good through Data**  
Taylor, Lillian\* |  
Seattle Data for Good \*Lilliant@avianaglobal.com
- 43. Density Dependence Without Resource Partitioning: Population Ecology on Change.org**  
TeBlunthuis, Nathan\* | Benjamin Mako Hill, Aaron Shaw  
Communication \*groceryheist@gmail.com
- 44. Graph Clustering: Block-models and model free results**  
Wan, Yali\* |  
university of Washington \*yaliwan@uw.edu
- 45. Unsupervised decoding of long-term, naturalistic human neural recordings with automated video and audio annotations**  
Wang, Nancy\* | Ali Farhadi, Jeff Ojemann, Rajesh Rao, Bingni Brunton  
Computer Science & Engineering \*wangnrxr@uw.edu
- 46. Open Data Literacy Project**  
Weber, Nicholas\* | An Yan, Carole L. Palmer  
Information School \*nmeber@uw.edu

**47. Searching for Asteroids with GPUs**

Whidden, Peter\* | Bryce Kalmbach, Andrew Connolly  
Astronomy \*all.cows.like.to.moo@gmail.com

**48. Conjugated Polymer Force Field Optimization with Neutron and X-Ray Scattering**

Wolf, Caitlyn\* | Kiran Kanekal, Yeneneh Yimer, Lilo D. Pozzo  
Chemical Engineering \*caitwolf@uw.edu

**49. Vega-Lite: A Grammar of Interactive Graphics**

Wongsuphasawat, Kanit\* | Arvind Satyanarayan, Dominik Moritz, Kanit Wongsuphasawat, Jeffrey Heer  
Computer Science & Engineering \*kanitw@cs.washington.edu

**50. Voyager 2: Augmenting Visual Analysis with Partial View Specifications**

Wongsuphasawat, Kanit\* | Zening Qu, Dominik Moritz, Riley Chang, Felix Ouk, Anushka Anand, Jock Mackinlay, Bill Howe, Jeffrey Heer  
Computer Science & Engineering \*kanitw@cs.washington.edu

**51. A survey of Research Reproducibility in Geosciences**

Yan, An\* |  
Information School \*yanan15@uw.edu

**52. SeqArray -- A storage-efficient high-performance data format for WGS variant calls**

Zheng, Xiuwen\* | Xiuwen Zheng, Stephanie M. Gogarten, Michael Lawrence, Adrienne Stilp, Matthew P. Conomos, Bruce S. Weir, Cathy Laurie, David Levine  
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