

# **Workshop: AI Ethics and Values in Biomedicine—Technical Challenges and Solutions**

Updated: 12/30/19

**Organizers: Dragutin Petkovic, Lester Kobzik, Reza Ghanadan**

**Friday 01/03/2020  
9:00-12:00**

**Salon 2&3**

**9:00 - 9:20 Welcome and Introduction – D. Petkovic**

**9:20 – 9:45 Social Biases: Propagation and Creation through Predictive Models,  
Claudia Perlich, Senior Data Scientist, Two Sigma; Stern NYU**

**9:45 – 10:10 Stories from the Sewer: A Call to Improve How We Shape Training Sets  
Chris Re, Computer Science, Stanford University**

**10:10 - 10:35 Detecting Bugs in Machine Learning Models Using Data Perturbations  
Sameer Singh, Information and Computer Science, UC Irvine**

**10:35 - 10:50 BREAK**

**10:50 – 11:15 I’m not biased, I’m a computer. Trust me (at your own peril)  
Jessica Tenenbaum, Biostatistics and Bioinformatics, Duke University**

**11:15 – 11:55 Moderated Panel discussion with speakers as panelists  
Moderators: L. Kobzik and D. Petkovic**

**11:55 - 12:00 Discussion summary by workshop moderators**

# PACKAGING BIOCOMPUTING SOFTWARE TO MAXIMIZE DISTRIBUTION AND REUSE

PSB Tutorial Workshop

January 3<sup>rd</sup>, 2020 9:00-12:00 in Plaza Ballroom

## Agenda

9:00 – 9:10	Install Software and Group Introductions	<i>Will Bush</i>
9:10 – 9:20	Intro and Overview of Software Packaging, Distribution, and Its Importance	<i>Will Bush</i>
9:20 – 10:05	Intro to Jupyter Notebooks	<i>Christian Darabos</i>
10:05 – 10:50	R Packages and CRAN Submission	<i>Nicholas Wheeler</i>
10:50 – 11:35	Creating a Reproducible Computing Environment	<i>Brett Beaulieu-Jones</i>
11:35 – 12:00	Distribution and Version Control	<i>Everyone</i>

# **Navigating Ethical Quandaries with the Privacy Dilemma of Biomedical Datasets**

**January 3, 2020 1:30-4:30pm in Salon 2&3**

1:30 – 1:50 Introduction (Meg Doerr and Gamze Gursoy)

1:50 – 2:10 John Wilbanks: Translational bioethics in a monopoly network era

2:10 – 2:30 Jennifer Wagner: Legal Angles and the 'Illusion' of Certainty: Regulation of Diverse Data Sets

2:30 – 2:50 Heidi Sofia: Advancing data sharing with security and privacy at NIH

2:50 – 3:10 Lucila Ohno-Machado: Responsible data sharing: Patient preferences, institutional policies, and privacy technology

3:10– 3:25 Corey Hudson: From buffer overflowing genomics tools to securing genomic pipelines

3:25 – 3:40 Charlotte Brannon: Applications of blockchain technology to genomics

3:40 – 3:45 Lightning Talk, Xiaoqian Jiang: Secure Cohort Identification for Clinical Trial using Heterogeneous Healthcare Data

3:45 – 4:30 Panel Discussion facilitated by Meg Doerr and Steven Brenner

**Introduction to the JBrowse genome browser**  
January 3, 2020 1:30-3:00pm  
Plaza Ballroom

**Schedule**

<b>Time</b>	<b>Presenter</b>	<b>Topic</b>
1:30-1:40	Ian Holmes	Welcome, JBrowse and JBrowse 2 overview
1:40-2:40	Colin Diesh and Garrett Stevens	JBrowse 2 architecture, SV inspector, and detailed overview of JBrowse 2
2:40-3:00	Ian Holmes	Coverage of the JBrowse ecosystem, including plugins, JBrowse Connect, Apollo, and the future.

## Translational Bioinformatics Workshop

### *Biobanks in the Precision Medicine Era*

January 4, 2020 1:30-4:30 in Salon 2&3

#### Workshop Agenda

- 1:30-2:00 Marylyn Ritchie, University of Pennsylvania, *Why use biobanks for precision medicine*
- 2:00-2:30 Matt Nelson, Deerfield, *How pharma uses biobanks for precision medicine*
- 2:30-3:00 Joanna Mountain, 23andMe, *23andMe's Customer-Powered Research*
- 3:00-3:30 Ju Han Kim, Seoul National Univ. College of Medicine, *Towards precision pharmacotherapy from rare and common variants in your personal genome*
- 3:30-4:00 Jason Moore, University of Pennsylvania, *Harnessing AI and Machine Learning in biobanks - the future and the now*
- 4:00-4:30 Discussion