

BIO5 Institute, the Statistics Laboratory and the Southwest Environmental Health Sciences Center (SWEHSC) at the University of Arizona invite you to a one-day symposium titled

## Bayesian Statistics: A Paradigm For 21st Century Science

FRIDAY | APRIL 20, 2018

Check-in 9:30am

Drachman B109 | 10:00am -12:00pm and COM 3117 | 1:00pm - 5:00pm

**RSVP at [bit.ly/2IY21IL](http://bit.ly/2IY21IL)**

This one-day symposium will introduce Bayesian methods to biologists, physicians, and health sciences researchers. The symposium will highlight applications, capabilities, and advantages of the Bayesian paradigm. The symposium will start with a non-technical expository lecture on the Bayesian approach, followed by plenary talks from 3 distinguished scientists and 5 shorter talks from UA faculty, staff and students. Talks will focus on applications rather than statistical theory.

### MORNING SESSION: DRACHMAN B109

**Dean Billheimer, UA StatLab**

Introductory Remarks

**Ed Bedrick, UA StatLab**

An Introduction to Bayesian Statistics

**John Hughes, Independent scholar; formerly U Minnesota**

Bayesian Spatiotemporal Modeling for Detecting Neuronal Activation via Functional Magnetic Resonance Imaging.

**Julia Fisher, UA StatLab**

Variational Bayes for fMRI Data: Detecting Scattered Signal

LUNCH - DRACHMAN B109 SOUTH PATIO

**Participation is free but registration is required to receive lunch RSVP at [bit.ly/2IY21IL](http://bit.ly/2IY21IL).**

Participants will have the opportunity to interact with speakers and learn from Statistics Laboratory faculty and staff about local resources at UA.

### AFTERNOON SESSION: COLLEGE OF MEDICINE (COM) 3117

**Jennifer Barton, UA BIO5 Institute Director**

Welcoming Remarks

**Wes Johnson, UC Irvine**

Gold standards are out and Bayes is in: implementing the cure for imperfect reference tests in diagnostic accuracy studies

**Dean Billheimer, UA StatLab**

How to do BAD: Bayesian Adaptive (Trial) Design

COFFEE BREAK - COM 3117

**Erin Ashbeck, UA Arthritis Center**

Tolerating Cartilage Loss: Predicting Knee Replacement with a Bayesian Discrete Time Survival Model

**Erin Zylstra, UA School of Natural Resources and the Environment**

Hierarchical models to account for imperfect surveys in wildlife ecology.

**David Madigan, Columbia University**

Honest Inference from Observational Studies

