

---

# STATISTICS SEMINAR

---

UW-Department of Statistics

[www.stat.wisc.edu](http://www.stat.wisc.edu)



**Abstract:** In this talk, I'd like to discuss the intertwining importance and connections of three principles of data science in the title and the PCS workflow that is built on the three principles. The principles will be demonstrated in the context of two collaborative projects in neuroscience and genomics for interpretable data results and testable hypothesis generation. If time allows, I will present proposed PCS inference that includes perturbation intervals and PCS hypothesis testing. The PCS inference uses prediction screening and takes into account both data and model perturbations. Finally, a PCS documentation is proposed based on Rmarkdown, iPython, or Jupyter Notebook, with publicly available, reproducible codes and narratives to back up human choices made throughout an analysis. The PCS workflow and documentation are demonstrated in a genomics case study available on Zenodo.

**TITLE:** Three

Principles of Data  
Science: Predictability,  
Computability, and  
Stability (PCS)

**Speaker:**

**Bin Yu**

Departments of Statistics  
and EECS, UC Berkeley

**Time & Place:**

**Thursday, March**

**28, 2019 4pm,**

Room 140 Bardeen

Cookies & Coffee @

**3:30, Rm 1210 MSC**

