

# Xinyi Deng

## ACADEMIC POSITION & CONTACT INFORMATION

Postdoctoral Research Scientist  
Zuckerman Mind Brain Behavior Institute  
Columbia University

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Jerome L. Greene Science Center L5-071  
3227 Broadway, New York, NY 10027

## EDUCATION & TRAINING

**Postdoctoral Training**, Grossman Center for the Statistics of Mind **July 2016–Present**  
Columbia University, New York, NY

Joint affiliations with the group of Dr. Liam Paninski and Department of Statistics

**Ph.D., Mathematics**, specialization in Statistics **May 2016**

Boston University, Boston, MA

Thesis advisor: Dr. Uri Eden

**B.S., Statistics**, *magna cum laude* **May 2011**

American University, Washington, D.C.

Major advisor: Dr. Elizabeth Malloy

## RESEARCH INTERESTS

Point processes, state-space models, theory of neural coding and computation

## PUBLICATIONS

### Preprints and Manuscripts Under Review

1. Hao Chen, Shizhe Chen, and **Xinyi Deng**. (under review) A universal nonparametric event detection framework for Neuropixels data. bioRxiv 654321; doi: 10.1101/123456.

### Peer-Reviewed Journal Articles

1. **Xinyi Deng**, Daniel Liu, Mattias Karlsson, Loren Frank, and Uri Eden. (2016) Rapid classification of hippocampal replay content for real-time applications. *Journal of Neurophysiology*, 116(5), 2221–2235.
2. **Xinyi Deng**, Daniel Liu, Kenneth Kay, Loren Frank, and Uri Eden. (2015) Clusterless decoding of position from multiunit activity using a marked point process filter. *Neural Computation*, 27(7), 1438–1460.
3. **Xinyi Deng**, Emad Eskandar, and Uri Eden. (2013) A point process approach to identifying and tracking transitions in neural spiking dynamics in the subthalamic nucleus of Parkinson’s patients. *Chaos*, 23(4), 046102. (Invited contribution to Focus issue: Rhythms and Dynamic Transitions in Neurological Disease.)
4. Natalia Prado-Oviedo, Elizabeth Malloy, **Xinyi Deng**, and Janine Brown. (2013) Hyperprolactinemia is not associated with hyperestrogenism in noncycling African elephants (*Loxodonta africana*). *General and Comparative Endocrinology*, 189, 7–14.

### Peer-Reviewed Conference Proceedings

1. **Xinyi Deng**, Rose Faghih, Riccardo Barbieri, Angelique Paulk, Wael Asaad, Emery Brown, Darin Dougherty, Alik Widge, Emad Eskandar, and Uri Eden. (2015) Estimating a dynamic state to relate neural spiking activity to behavioral signals during cognitive tasks. *Proceedings of the 37<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society* (pp. 7808–7813). Milan, Italy.

## **Patents and Patent Applications**

1. Alik Widge, Emad Eskandar, Darin Dougherty, Uri Eden, **Xinyi Deng**, Ali Yousefi, and Angelique Paulk. System and methods for monitoring and improving cognitive flexibility. Application number US 15/740975. Published on July 12, 2018.

## **INVITED TALKS & CONFERENCE ACTIVITY**

### **Invited Talks**

- 2019 Seminar, Department of Statistics, Beijing University of Technology, Beijing, China  
Seminar, School of Mathematics and Statistics, Wuhan University, Wuhan, China
- 2018 Invited Talk, Center for Computational Biology, Simons Foundation/Flatiron Institute, New York, NY
- 2016 Invited Talk, Buzsaki Lab, New York University, New York, NY  
Neurostat Seminar, Grossman Center for the Statistics of Mind, Columbia University, New York, NY
- 2015 Statistical Neuroscience Lunch Seminar, Brown Institute for Brain Science, Brown University, Providence, RI  
Invited Session, 37<sup>th</sup> Annual International Conference of the IEEE Engineering In Medicine and Biology Society, Milan, Italy  
Young Investigator Lecture, 7<sup>th</sup> International Workshop on Statistical Analysis of Neuronal Data, Pittsburgh, PA  
Minisymposium, Society for Industrial and Applied Mathematics Conference on Applications of Dynamical Systems, Snowbird, UT
- 2014 Seminar, Department of Mathematics and Statistics, American University, Washington, D.C.

### **Oral Presentations**

- 2014 Joint Statistical Meetings, Boston, MA  
New England Statistics Symposium, Harvard School of Public Health, Boston, MA

### **Poster Presentations**

- 2019 International Workshop on Statistical Analysis of Neuronal Data, Pittsburgh, PA  
Computational and Systems Neuroscience Annual Meeting, Lisbon, Portugal
- 2016 Society for Neuroscience Annual Meeting, San Diego, CA
- 2015 Society for Neuroscience Annual Meeting, Chicago, IL  
Computational Neuroscience Annual Meeting, Prague, Czech Republic
- 2014 Society for Neuroscience Annual Meeting, Washington, D.C.  
Computational Neuroscience Annual Meeting, Quebec City, Canada
- 2013 Rhythmic Dynamics and Cognition Conference, MIT, Cambridge, MA

### **Workshop and Short Course Attendance**

- 2018 Cellular, Computational and Cognitive Neuroscience Summer Program, Princeton University, Princeton, NJ
- 2016 Statistical Challenges in Modern Astronomy VI, Pittsburgh, PA

## **HONORS & AWARDS**

- Chinese Government Award for Outstanding Students Abroad (\$6,000), 2016
- Organization for Computational Neuroscience Travel Award (\$400), 2014
- Hanna Miriam Sandler and Bella Sandler Award (\$2,000), 2011
- Mellon Fund Undergraduate Research Support (\$1,500), 2010
- Frederick Douglass Scholarship (\$15,000 per year), 2007–2011

## **PROFESSIONAL SERVICE**

- Reviewer**, IEEE Engineering In Medicine and Biology Society

**Co-Organizer**, Friday Seminar Series, Center for Theoretical Neuroscience, Columbia University, 2018–2019

TEACHING EXPERIENCE

**Instructor**, Boston University

**July–August, 2012**

MA113 Elementary Statistics (summer term)

**Teaching Assistant**, Boston University

**August 2011–December 2013**