

# Keiland W. Cooper

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## Education

**University of California, Irvine**  
Neuroscience, Ph.D.

In progress

**Indiana University, Bloomington**  
Cognitive Science B.S. *Honors*; Neuroscience Cert.

May the Fourth, 2019

Thesis: Cholinergic modulation may explain hippocampal encoding and retrieval mode switching

## Publications

### *Published*

Hernandez-Perez, J. J., Cooper, K. W., Newman, E. L. (2020). Medial entorhinal cortex activates in a traveling wave in the rat. *eLife*, 9

Cooper, K. W. (2018). Can the Machine Understand: An Evidence Based Approach to the Chinese Room. *IU Journal of Undergraduate Research*, 4(1), 82-85

### *Abstracts*

Hernández J, Cooper K.W., Newman E.L. (2018) Is theta a traveling wave in the medial entorhinal cortex?. Program No. 330.10. Society for Neuroscience

Cooper K. W, Dachapally P.R, Jones M.N (2018) Consequences of Catastrophic Forgetting on Semantic Representations Learned by Deep Neural Embedding Models, Midwest CogSci

Cooper K. W., Hernández J, Newman E.L. (2018) Is theta in the Medial Entorhinal Cortex a Traveling Wave? Society for Neuroscience, Greater Indiana Chapter.

Cooper K. W. (2018) 3D Brain Model Extraction and Virtual Applications. (Panelist) Media School Graduate Association Conference.

Cooper K. W. (2018) FlapAI: Genetically Evolved Neural Networks. Midwest Undergraduate Cognitive Science Conference

Cooper K. W. (2017) Bridging the Gap: Natural Computation and Neural Systems. Indiana University Undergraduate Research Conference.

Cooper K. W., Osborn Z. (2016) Downstream Hippocampal Activity Prediction with Neural Networks. Midwest Undergraduate Cognitive Science Conference.

## Awards

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National Science Foundation, GRFP: <i>Honorable Mention</i>	2019
Cognitive Science Outstanding Research Award	2019
Ewing Prize	2018
Cognitive Science Outstanding Contribution Award	2018
Cognitive Science Research Project Award	2018
Cognitive Science Research Project Award	2017

## Networks

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### *Professional Societies*

Indiana Academy of Science  
Psi Chi  
Sigma Xi  
Sigma Alpha Pi

### *Other*

Continual AI  
Carboncopies, volunteer researcher  
Student Organization for Cognitive Science, President  
ADAPT Consulting, VP of Project Management

### *Conference Committee*

Learning: Fast, Deep, and Shallow  
Midwest Undergraduate Cognitive Science Conference

## Pedagogy & Higher Education

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### *Co-Instructor*

Autonomous Robotics	Indiana University	Sp 2019
Programming in Cognitive and Info Sciences	Indiana University	Sp 2018

### *Teaching Assistant*

Cognitive Psychology	Indiana University	Fa 2018
Introduction to Neuroscience	Indiana University	Fa 2017

### *Committee*

Education Policy Committee	Indiana University
Faculty Council	Indiana University

## Skillset

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### *Laboratory*

Stereotaxic Rodent Neurosurgery, Histological Procedures/Sacrificial Perfusions, Signal Analysis, fMRI Analysis (Brain Voyager/MATLAB), Electrophoresis, Centrifugation, Cell Culturing

### *Computation IT*

Python, MATLAB, HTML5/CSS, R, UNIX/Bash, Git, Adobe Creative Suite  
APACHE/Ubuntu Server, Computer Construction, HPSS/Parallel Programming, SQL

## Outreach & Service

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Hoosier Stars (co-founding Director)  
Brain Club @ The Boys and Girls Club  
Quora Top Writer  
IU Science Fest  
Kirkwood Observatory Guide  
Celebrate Science Indiana

## Trainings, Workshops, etc.

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Nonlinear Dynamics: Mathematical and Computational Approaches, Santa Fe Institute  
Complexity Science Certificate, Santa Fe Institute  
Science Communication workshop, Indiana University  
Science Communication Workshop, Indiana University  
High Performance Computing and Supercomputing Workshop, UITS  
Aseptic Surgery: Proper Practice Training, Indiana University  
Viral Handling; Animal Handling; Institutional Animal Care Training, Indiana University  
FERPA; Data Protection and Privacy, Indiana University  
IUNI Network Science Workshop, Indiana University  
Neurosurgery Shadowing, Riley Hospital

## Press

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Ann Lewandowski (September 28th, 2018) IU undergraduates practice science outreach at Indiana high schools. IDS ([Link](#))  
Alexandra Moussa-Tooks (August 14, 2018) The art of dissemination part 3: Care to share? ScIU ([Link](#))  
Liz Rosdeitcher (2017) Community Partnerships. Psyugrad ([Link](#))

## Erdős Number: 5

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Paul Erdős → Ronald L. Graham → Feng Zhou → Michael J. Kahana → Ehren L. Newman