

# Keiland W. Cooper

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## Education

University of California, Irvine  
Neuroscience, Ph.D.

**In progress**

Indiana University, Bloomington

**May the Fourth, 2019**

Cognitive Science B.S. *with Honors*; Neuroscience Cert.

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>	<b>2019</b>
Cognitive Science Outstanding Research Award, Indiana University	<b>2019</b>
Ewing Prize	<b>2018</b>
Cognitive Science Outstanding Contribution Award, Indiana University	<b>2018</b>
Cognitive Science Research Project Award, Indiana University	<b>2018</b>
Cognitive Science Research Project Award, Indiana University	<b>2017</b>

## 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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### *Undergraduate Co-Instructor*

Autonomous Robotics (CSCI-B355); Indiana University, Spring 2019

Programming in the Cognitive and Info Sciences (COGS-Q 260); Indiana University, Spring 2018

### *Undergraduate Teaching Assistant*

Cognitive Psychology (PSY-P 355); Indiana University, Fall 2018

Introduction to Neuroscience (PSY-P 346), Indiana University, Fall 2017

### *Committee Seats*

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

### *Computational*

Python, MATLAB, HTML5/CSS, R, UNIX/Bash, Git, Adobe Creative Suite

### *IT*

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? SClU ([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