

# Keiland W Cooper

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## Education

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**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

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### *Published*

Valentina Parma, Kathrin Ohla, Maria G Veldhuizen, Masha Y Niv, Christine E Kelly, Alyssa J Bakke, Keiland W Cooper, GCCR Consortium (2020). More than just smell- COVID-19 is associated with severe impairment of smell, taste, and chemesthesis. *Chemical Senses*

Robert Pellegrino, Keiland W Cooper, Antonella Di Pizio, Paule V Joseph, Surabhi Bhutani, Valentina Parma (2020). Corona viruses and the chemical senses: past, present, and future. *Chemical Senses*

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 / Talks

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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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UC Irvine Recruitment Fellowship	2019
National Science Foundation, GRFP: <i>Honorable Mention</i>	2019
Cognitive Science Outstanding Research Award	2019
Ewing Prize in Philosophy	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

## Higher Education & Pedagogy

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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

## Outreach & Service

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AskANeuroscientist *Founder; Live Q/A via in class video-chat (>200 students) and newsletter*  
Hoosier STARS *Co-founding Director; K-12 science outreach reaching >100 students*  
Quora Writer *Answers to neuroscience and AI questions; 500k views*  
CNLM Ambassadors *Area neuroscience outreach to K-12 Orange County schools*  
Brain Club @ The Boys and Girls Club *Taught primary school aged students about the brain*  
IU Science Fest *Lead a booth where people held and learned about sheep brains*  
Celebrate Science Indiana *Large scale outreach event, lead an EEG and sheep brain booth*  
Kirkwood Observatory Guide *Volunteer astronomical guide at the Bloomington observatory*

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

## Trainings, Workshops, etc.

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NIH Grant Writing Workshop	UC Irvine
HHMI Productivity Workshop	UC Irvine
Nonlinear Dynamics: Mathematical and Computational Approaches	Santa Fe Institute
Complexity Science Certificate, Santa Fe Institute	Indiana University
Science Communication Workshop	Indiana University
High Performance Computing and Supercomputing Workshop, UITS	Indiana University
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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- Katie Boateng (June 15, 2020) Episode 64 - An Interview with Some of the Authors. The Smell Podcast ([Link](#))
- Leslie Kay (June 13, 2020) Why COVID-19 Makes People Lose Their Sense of Smell. Scientific American ([Link](#))
- John E Hayes, Valentina Parma (June 4, 2020) COVID-19, smell and taste – how is COVID-19 different from other respiratory diseases? The Smell Podcast ([Link](#))
- Anthony Cusumano (February 2, 2020) What a difference a decade makes. Katalys Tech ([Link](#))
- Kevin Casey (September 30, 2019) 5 AI fears and how to address them. The Enterprisers Project ([Link](#))
- Kevin Casey (September 17, 2019) How to explain natural language processing (NLP) in plain English. The Enterprisers Project ([Link](#))
- David Roe (August 27, 2019) Is Augmented Artificial Intelligence Already Disrupting Artificial Intelligence? CMS Wire ([Link](#))
- Kristine Fellizar (August 7, 2019) Why Is My Arm Asleep? 6 Reasons Your Limbs Go Numb When You're Sleeping. Bustle ([Link](#))
- Lauren Wellbank (August 1, 2019) Neuralink Update: How far off is Elon Musk's high tech vision for our brains? Parentology ([Link](#))
- Tina Arnoldi (July 19, 2019) Ready for Amazon to Read Human Emotions? Theravive ([Link](#))
- 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