

# NSF Perception, Action, and Cognition Program Fall 2017 Newsletter

## Change in PAC Program Staff

After two years serving as a Program Officer with PAC, Kate Arrington returned to Lehigh University, where she is back in the lab conducting research on cognitive control during multitasking. Larry Gottlob has taken over the rotating PO position. Larry is no stranger to this role having served in the position from 2010 - 2013. In addition to the staffing changes, PAC will make the move to the new NSF headquarters in Alexandria, VA in late September.

## Updates for the Research Community

A new program housed in the Engineering Directorate may be of interest to members of our research community. Mind, Machine and Motor Nexus (M3X) seeks to fund research that addresses questions of "human intent, perception, and behavior in interaction with embodied and intelligent engineered systems and as mediated by motor manipulation."

[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=505402](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505402)

The Science of Learning Program has just completed its first year as a core program within Behavioral and Cognitive Sciences. "The goals of the SL Program are to develop basic theoretical insights and fundamental knowledge and learning principles, processes and constraints."

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5567](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5567)

For more funding opportunities within the Social, Behavioral, and Economic Sciences Directorate, check out the following website:

[https://www.nsf.gov/sbe/additional\\_info/sbe\\_opportunities\\_key.jsp](https://www.nsf.gov/sbe/additional_info/sbe_opportunities_key.jsp)

As always, you can check the PAC website for updates to our program description as well as links to the other opportunities for funding at NSF that may be of interest to our broad research community.

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5686](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5686)

## Fiscal Year 2017 PAC Awards

We are excited to announce a new group of research awards for the PAC portfolio from fiscal year 2017. You can find a list of all the awards that PAC made or contributed to on the following pages. If you would like to know more about any of the awards, simply go to <http://nsf.gov/awardsearch/> and enter the 7-digit Award Number in the search field. That will bring up a link to the award. Click on the title to see the public abstract.

## Heartfelt Thanks

We would like to extend our thanks to the many members of our research communities who contributed time and expertise to the merit review process in the last year. Maintaining a rigorous review process while streamlining proposal management requires a large number of ad hoc reviewers and we greatly appreciate the effort of our reviewers and panelists. If you have colleagues that you believe would be interested in reviewing for PAC, please direct them to the PAC website to complete the survey for our reviewer database.

**FY2017 awards:**

**1734166 Melissa Baese-Berk**

Interactions between speech perception and production during second language learning

**1734677 Martin Banks and Gordon Love**

How the eye focuses: Basic mechanisms & opportunities for advanced displays

**1733984 Iris Berent**

**1734068 Alvaro Pascual-Leone; Albert Galaburda**

Collaborative research: role of the motor system in phonological and phonetic processing

**1734217 Klinton Bicknell**

CompCog: Reading as a rational process of visual information gathering

**1655287 Jason Bohland; Cara Stepp**

The effects of delayed auditory feedback on speech sequencing: acoustics, physiology, and computational modeling

**1734245 Naomi Feldman**

SBE-RCUK: CompCog: Modeling the Development of Phonetic Representations

**1655126 Lori Holt**

NSF/SBE-BSF: Trajectories of acquisition, consolidation and retention in incidental auditory category learning

**1655300 Hongjing Lu**

Discovering Hierarchical Representations for Action Understanding

**1734260 Gary Lupyan; Haley Vlach; Gregory Zelinsky**

The effect of nameability on categorization

**1747486 James Magnuson**

Real-world language: Future directions in the science of communication and the communication of science

**1734025 Elizabeth Margulis; Patrick Wong**

**1734063 J. Devin McAuley; Natalie Phillips**

Collaborative Research: The Role of Narrative in Music Perception

**1734264 Ulrich Mayr**

Hierarchical control of sequential skills: Using EEG to decode the underlying representations

**1734304 David Reitter**

CompCog: Computational, distributed accounts of human memory: improving cognitive models

**1732008 Adrian Staub; Lisa Sanders**

Effects of lexical predictability on parafoveal and foveal processing in reading

**1734220 Bradley Wyble**

CompCog: Bridging the gap between behavioral and neural correlates of attention using a computational model of neural mechanisms

**PAC Awards through special funding mechanisms:**

**1708090 Katie Cherry; Matthew Calamia**

RAPID: Disaster Stress Impacts Cognition across the Adult Lifespan

**1745823 Julie Miwa; Almut Hubbach**

EAGER: Linking lynx gene variations to inter-individual differences in cognitive function

**1653457 Timothy Brady**

CAREER: Spatial Ensemble Structure in Visual Working Memory

**1651330 Benjamin Rottman**

CAREER: Causal Reasoning in Daily Life and its Role in Science Literacy

**1650438 Corey White**

CAREER: Validating and applying a new class of drift-diffusion models for investigating individual differences in executive control

**PAC contributions to awards made by other programs:**

**1654929 Mei-Hua Lee; Ferdinando Mussa-Ivaldi (DEVELOPMENTAL SCIENCES)**

Motor Exploration and Motor Learning During Child Development

**1651105 Elliott Moreton; Katya Pertsova (LINGUISTICS)**

**1650957 Joseph Pater; Lisa Sanders**

Collaborative Research: Inside Phonological Learning

**1651100 Terra Edwards (LINGUISTICS)**

What You See Is What You Feel: Sign Language Phonology in a ProTactile World

**1736394 Bruce Hansen (COGNITIVE NEUROSCIENCE)**

**1736274 Michelle Greene**

Collaborative Research: RUI: Uncovering the Neural Dynamics of Scene Categorization through Electroencephalography, Machine Learning, and Neuromodulation

**1718550 Thomas Griffiths (ROBUST INTELLIGENCE)**

RI: Small: CompCog: Leveraging Deep Neural Networks for Understanding Human Cognition

**1661016 David Poeppel (DIVISION OF RESEARCH ON LEARNING)**

Brain-to-brain synchrony in STEM learning

**1706964 Beth Smith (DISABILITY AND REHABILITATION ENGINEERING)**

Infant-Robot Interaction as an Early Intervention Strategy

**1724135 Neville Hogan**

**1723998 Dagmar Sternad (COLLABORATIVE RESEARCH IN COMPUTATIONAL NEUROSCIENCE)**

US-German-Israeli Collaborative Research Proposal: Hierarchical Coordination of Complex Action

**Workshops and conferences PAC supported or contributed to:**

**1734081 Andrew Leber**

25th Annual Workshop on Object Perception, Attention, & Memory

**1748038 Tony Ro (COGNITIVE NEUROSCIENCE)**

The Neural Basis of Attention: A Festschrift in Honor of Robert Rafal

**1744637 Ramesh Balasubramaniam (Co-Funded with Mind, Machine, and Motor Nexus)**

Workshop on Cognition at the Intersection of Human-Robot Interaction

**PAC also awarded 9 supplements for Research Experiences for Undergraduates**