NSF Perception, Action, and Cognition Program FY2020 Newsletter

First and foremost, we would like to extend our heartfelt 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 requires a large number of ad hoc reviewers. And this Spring, reviewers donated their time and expertise despite the added stress and responsibilities brought on by COVID-19 (on-line teaching, Zoom burnout, etc.). The dedication of the PAC community takes our breath away.

The big news this year (other than COVID-19) is that Larry Gottlob has retired. He's back in Kentucky, mostly enjoying his grandsons. PAC is fortunate to have a new, dynamite Program Director: Mike Hout (http://michaelhout.com/), with expertise in visual cognition.

Opportunities for the PAC Community

1. **Science of Learning and Augmented Intelligence:** Supports "potentially transformative research that develops basic theoretical insights and fundamental knowledge about principles, processes and mechanisms of learning, and about augmented intelligence - how human cognitive function can be augmented through interactions with others, contextual variations, and technological advances."

2. **Mind, Machine and Motor Nexus (M3X):** A program in the Engineering directorate that funds research addressing questions of "human intent, perception, and behavior in interaction with embodied and intelligent engineered systems and as mediated by motor manipulation."

3. **Human Networks and Data Science:** This program supports the use of large and multifaceted data to examine an expansive and fast-evolving set of complex human networks and systems. It has a new Program Director who is familiar to many of you – Trish van Zandt, from the Ohio State University.

4. The **Dear Colleague Letter, Stimulating Integrative Research in Computational Cognition (CompCog)** may be of interest.

5. **Integrative Strategies for Understanding Neural and Cognitive Systems (NCS)** is likely to be of interest to members of the PAC community. Although this link is for the FY20 competition, any new competition for FY21 will be posted on the same page.

6. **The Future of Work at the Human-Technology Frontier.** Although this is for the FY20 competition, any new competition for FY21 will be posted on the same page.

7. The **Key to Funding Opportunities** page identifies more funding opportunities within the Social, Behavioral, and Economic Sciences directorate. Check back periodically because new opportunities will be posted as they are released.

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

Before submitting any proposal to NSF:

1. Check the specific program webpage for the description and the link to the solicitation (if there is one). There are often changes to the requirements and description. Don't use old information!
2. Check the **Proposal and Award Policies and Procedures Guide**, which updates *every* year.
3. It's always a good idea to email a one-page description of your proposed work to **all** potentially relevant Program Officers (in one email), to find out if you're planning on submitting to the best-fit program for your work. Using the Project Summary as a model is often useful.

Fiscal Year 2020 PAC Awards

We are excited to announce a new group of research awards for the PAC portfolio from fiscal year 2020. 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 visit the NSF Award Search 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.

Proposal	PI Name	Proposal Title
1946308	Alvarez, George A.	COMPCOG: Intuitive Physics without Intuition or Physics: Leveraging Deep Neural Networks to Model Human Physical Reasoning
1946784	Bernstein, Michael	Collaborative Research: Effects of cross-race contact on perceptual expertise, expectancies, and individuated face processing
1946788	Correll, Joshua	Collaborative Research: Effects of cross-race contact on perceptual expertise, expectancies, and individuated face processing
2029245	Bohland, Jason W.	The effects of delayed auditory feedback on speech sequencing: acoustics, physiology, and computational modeling
1946039	Crystal, Jonathon D.	Replay of episodic memories
2020914	Dillon, Brian	CompCog: Collaborative Research: Testing quantitative predictions of sentence processing theories with a large-scale eye-tracking database

Proposal	PI Name	Proposal Title
2020945	Linzen, Tal	CompCog: Collaborative Research: Testing quantitative predictions of sentence processing theories with a large-scale eye-tracking database
2020875	Duchaine, Bradley	Collaborative Research: Eye movements and retinotopic face encoding in children, adults, and developmental prosopagnosia
2021095	Peterson, Matthew F.	Collaborative Research: Eye movements and retinotopic face encoding in children, adults, and developmental prosopagnosia
2021053	Firestone, Chaz	Perceiving high-level relations
2021060	Gureckis, Todd	CompCog: Towards a computational cognitive science of helping
1946767	Hampton, Robert R.	Memory systems, metacognition, and cognitive control
2010742	Hartshorne, Joshua	CompCog: Large-scale, empirically based, publicly accessible database of argument structure to support experimental and computational research
2019445	Henderson, John M.	Attentional Guidance in Real-World Scenes: The Role of Meaning
2029373	Hoeft, Fumiko	RAPID: Assessing and preventing detrimental impacts on literacy acquisition during COVID-19-related school closures
2021124	Ivanova, Iva	Cognitive factors in bilingual lexical alignment
2011716	Iversen, John R.	CRCNS US-Japan Research Proposal: A computational neuroscience approach to skill acquisition and transfer from visuo-haptic VR to the real-world
2020906	Jones, Matthew C.	CompCog: Bridging Levels of Analysis: Characterizing Algorithmic Models by Extreme Bayesian Priors
2027822	Jonides, John	RAPID: Factors that affect understanding the risks of COVID-19
2034013	Kunda, Maithilee	NSF2026: EAGER: Collaborative Research: Enhancing Employment for Neurodiverse Individuals through Next-Generation, AI-Enabled Assessments of Visuospatial Cognition
2033896	Warren, Zachary	NSF2020: EAGER: Collaborative Research: Enhancing Employment for Neurodiverse Individuals through Next-Generation, AI-Enabled Assessments of Visuospatial Cognition
2021038	Leber, Andrew B.	Developing a comprehensive profile of attentional control strategy
2020805	Levi, Susannah	SBP: How does improved speech perception impact higher-level processing?
2019995	Liu, Taosheng	The profile of feature-based attention: A new framework

Proposal	PI Name	Proposal Title
1945436	Loui, Psyche	CAREER: Prediction and Reward in Auditory Statistical Learning
2020969	Lupyan, Gary	What are we learning from language?
1949127	Magnuson, James S.	Computational approaches to human spoken word recognition
1947447	Margulis, Elizabeth H.	Collaborative Research: The Role of Narrative in Music Perception
2038048	McCarley, Jason S.	International Symposium on Aviation Psychology
2031708	McClure, Samuel M.	RAPID: Emotional and neural influences on decision-making in the context of COVID-19
1949631	Nozari, Nazbanou	Executive control in sentence production
1946505	Peterson, Mary A.	Females of Vision, et al (FoVea): Enhancing the Success, Visibility, and Impact of Women in Vision Science
1946882	Roberts, Gareth	Key factors in the emergence of combinatorial structure: An experimental and computational approach
2013317	Rucci, Michele	Center for Vision Science Symposium: Active Vision
1942151	Scheirer, Walter J.	CAREER: Learning at the Edge: an Extreme Value Theory for Visual Recognition
1945303	Schloss, Karen B.	CAREER: Understanding visual reasoning for visual communication
2032183	Schotter, Elizabeth R.	Neural underpinnings of attention in the real world: Insights from co-registration of eye movements and EEG
1943767	Soltani, Alireza	CAREER: Role of attention in reward learning
2020982	Soto, Fabian A.	Determining the independence of face dimensions through an extended multidimensional signal detection theory
1945069	Toscano, Joseph	CAREER: Integrating information across levels of processing during real-time spoken language comprehension
2019959	Yau, Jeffrey	Visuospatial modulation of bimanual touch perception in real and virtual environments

PAC contributions to awards made by other programs:

Social Psychology

Proposal	PI Name	Proposal Title
1941624	Ferguson, Melissa J.	Collaborative Research: Using behavioral, computational, and neural approaches to understand correction of first impressions.

Proposal	PI Name	Proposal Title
1941694	Moskowitz, Gordon B.	Collaborative Research: Using behavioral, computational, and neural approaches to understand correction of first impressions.

Linguistics

Proposal	PI Name	Proposal Title
2029637	Hartshorne, Joshua	Collaborative Research: A virtual workshop on conducting language research online: Enhancing the resilience of the language sciences in a time of social distancing
2029640	de Leeuw, Joshua R.	Collaborative Research: A virtual workshop on conducting language research online: Enhancing the resilience of the language sciences in a time of social distancing
2017086	Trueswell, John C.	Conference: Language Acquisition and Language Processing: Finding New Connections

Robust Intelligence

Proposal	PI Name	Proposal Title
2029637	Hartshorne, Joshua	Collaborative Research: A virtual workshop on conducting language research online: Enhancing the resilience of the language sciences in a time of social distancing
2029640	de Leeuw, Joshua R.	Collaborative Research: A virtual workshop on conducting language research online: Enhancing the resilience of the language sciences in a time of social distancing
2017086	Trueswell, John C.	Conference: Language Acquisition and Language Processing: Finding New Connections

PAC also funded approximately 20 stipends for Research Experiences for Undergraduates

We hope you find this summary useful. Send us your best work and please continue to be generous and accommodating reviewers.

IMPORTANT NOTICE: NSF mail is still going to many people's spam folder. Please set an exception for NSF.GOV in your email system and check that your correct email address is in the NSF database (with no auto-forward involved). Of course, if NSF emails are being filtered as spam, you won't know it because you won't receive this newsletter. Sigh.

Thank you again for all your work of behalf of the field. As always, feel free to be in touch with your comments, questions, or concerns.

Betty Tuller and Mike Hout
Program Directors
Perception, Action, and Cognition