NSF Perception, Action, and Cognition Program FY2019 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 while streamlining proposal management requires a large number of ad hoc reviewers and we greatly appreciate the effort of our reviewers and panelists. It would be impossible to evaluate these proposals without all of you giving so freely of your time and expertise. if you would be interested in reviewing for PAC, or have a colleague who might be interested, please **complete the survey** for our reviewer database.

IMPORTANT NOTICE: At the top of every NSF webpage, it says "In October 2018, NSF implemented the Domain-based Message Authentication, Reporting & Conformance (DMARC) email changes required by the Department of Homeland Security (DHS) to improve email security. Some email routing practices (such as auto-forwarding to personal email accounts and sending messages through third-party providers) may cause messages to be flagged as potentially fraudulent by DMARC security checks and blocked. If your email is auto-forwarded to another account, such as a personal email account, you may not receive emails from NSF in that forwarded account. More information about DMARC and email delivery from NSF."

What this means is that much NSF email is now going to people's spam folder and we have no way of knowing whether or not you ever received the message. If this is the case with your email, please update your address in the NSF database so there is no auto-forward involved. Of course, if this is the case you won't know it because you won't receive this newsletter. Sigh.

Opportunities for the PAC Community

1. **Science of Learning and Augmented Intelligence** (formerly the Science of Learning program): 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:** The evolution of the former RIDIR (Resource Implementations for Data Intensive Research in the Social, Behavioral, and Economic Sciences) competition, this program supports the use of large and multifaceted data to examine an expansive and fast-evolving set of complex human networks and systems.

4. **Ethical and Responsible Research:** The former Cultivating Cultures for Ethical STEM Program supports research on how to help scientists do work that is more replicable, reproducible, and ethical.

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

6. **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 FY19 competition, any new competition for FY20 will be posted on the same page.

7. **The Future of Work at the Human-Technology Frontier.** Although this is for the FY19 competition, any new competition for FY20 will be posted on the same page.

8. Click **here** for more funding opportunities within the Social, Behavioral, and Economic Sciences directorate.

9. As always, 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.

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.

Fiscal Year 2019 PAC Awards

We are excited to announce a new group of research awards for the PAC portfolio from fiscal year 2019. 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 click **here** 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.

1921492	***Brown-Schmidt, Sarah***	***Perspective-taking in Conversation***
1921735	***Buetti, Simona***	***CompCog: Template Contrast and Saliency (TCAS) Toolbox: a tool to visualize parallel attentive evaluation of scenes***
1848903	***Chrastil, Elizabeth***	***Cognitive graphs: The geometry of spatial knowledge***
1921771	***Eskew, Rhea***	***Higher-Order Color: From Cones to Postreceptoral Mechanisms***
1923065	***Gollan, Tamar H.***	***Controlling Two Languages***
1848939	***Golomb, Julie D.***	***Visual feature perception during dynamic spatial attention and distraction***
1921644	***Gutchess, Angela***	***Perceptual and Mnemonic Differences Across Cultures***
1940705	***Hartshorne, Joshua***	***CompCog: Large-scale, empirically based, publicly accessible database of argument structure to support experimental and computational research***
1848972	***Healey, Karl***	***CompCog: The Role of Control Processes in the Dynamics of Episodic Memory Search***
1849236	***MacDonald, Maryellen C.***	***Using Language Production as a Learning Intervention***
1921501	***McDermott, Joshua***	***Computational auditory scene analysis as causal inference***
1921678	***Paller, Ken A.***	***Learning, Creative Problem-Solving, REM Sleep, and Dreaming***
1848930	***Pfordresher, Peter Q.***	***Cognitive and motor factors in vocal imitation***
1921415	***Shomstein, Sarah***	***Guidance of attention by task-irrelevant information***
1849169	***Song, Joo-Hyun***	***SBE-UKRI: Integrating vision and action through selection history***
1849418	***Todd, James T.***	***Perception of 3D shape and material properties from patterns of image shading***
1847891	***Torres-Oviedo, Gelsy***	***CAREER: Novel human-in-the loop approach to increase locomotor learning.***
1846764	***Trueblood, Jennifer***	***CAREER: The Dynamics of Contextual Sensitivity in Multi-alternative Choice***
1847007	***Tullis, Jonathan***	***CAREER: That reminds me: The causes and consequences of remindings***
1849446	***Warren, William H.***	***Self-Organization and Collective Decision-Making in Human Crowds***

1849067	*Wiener, Martin*	*The Role of the Motor system in the Perception of Time*
1848783	*Wolfe, Jeremy M.*	*Multiple Object Awareness*

PAC contributions to awards made by other programs:

Cognitive Neuroscience

1847603	*Brandon Turner*	*CAREER: On the Neural and Mechanistic Bases of Higher-order Cognition*
1850738	*Viola Stoermer*	*Mechanisms supporting feature-based attention*

Collaborative Research in Computational Neuroscience (CRCNS)

1912280	*Serre, Thomas*	*CRCNS US-France Research Proposal: Oscillatory processes for visual reasoning in deep neural networks*

Convergence: RAISE

1932619	*Chiba, Andrea*	*Convergence: RAISE: WIN: a Window Into Neuroregulation*
1931978	*Hempstead, Mark*	*Convergence: RAISE: A Flexible Framework for Instrumented Learning Environments: Enhanced Learning Through Advanced Sensing, Processing, and Cognitive Technologies*

Decision, Risk, and Management Science

1854763/1854762	*Mario Fific/Joseph Houpt*	*Collaborative Research: Determining the Fundamental Cognitive Properties of Decision Making*

Developmental Sciences

1901661	*Felix Warneken*	*SBE-RCUK Lead Agency: The Cognitive Foundations of Human Reciprocity*

Linguistics

1918556/1918252/1918261	*Emmorey, Karen/Caselli, Naomi/Goldberg, Ariel*	*Collaborative Research: Quantifying systematicity, iconicity, and arbitrariness in the American Sign Language Lexicon*
1843454	*Cynthia Clopper*	*Geographic mobility, lexical processing dynamics, and perceptual adaptation*

Robust Intelligence

1941178/1941160	***Gimpel, Kevin /Ettinger, Allyson***	***EAGER: Collaborative Research: World Modeling for Natural Language Understanding***

SBE Postdoctoral Research Fellowships

1911790	***Michael Tessler***	***Inferring Implicit Comparison Classes in Natural Language Understanding***
1911776	***Stephen Adamo***	***Target template and subsequent search misses: The underlying mechanism of multiple-target search errors.***

PAC-funded travel for students to attend conferences

1941078	***Iversen, John R.***	***US Trainee Travel Awards to attend the 2nd Timing Research Forum***
1913737	***Shiffrin, Richard M.***	***Student Travel Awards to the Sackler Colloquium: Brain Produces Mind by Modeling***

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.

Thank you again for all your work of behalf of the field,

Betty Tuller and Larry Gottlob
Program Directors
Perception, Action, and Cognition