

The National Academies of
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DIVISION OF BEHAVIORAL AND SOCIAL SCIENCES AND EDUCATION

Board on Behavioral, Cognitive, and Sensory Sciences

**DECADAL SURVEY OF SOCIAL AND BEHAVIORAL SCIENCES
FOR APPLICATIONS TO NATIONAL SECURITY**

AGENDA

LEARNING FROM THE SCIENCE OF COGNITION AND PERCEPTION

FOR DECISION-MAKING: A WORKSHOP

January 24, 2018

**Keck Center, First Floor
500 Fifth Street, NW
Washington, DC
Room 100**

8:30 a.m. **Workshop Registration Opens**

9:00 a.m. Workshops Commence

9:00 a.m. **Welcome and Overview of Events**

Sujeeta Bhatt, Study Director

Audience information

Paul Sackett, University of Minnesota, SBS Decadal Survey Chair

Welcome

William "Bruno" Millonig, Acting Director of National Intelligence for Science and Technology, Office of the Director of National Intelligence

Sponsor perspective and context for study and workshops

9:30 a.m. **Opening Remarks**

Jeremy Wolfe, Harvard Medical School, Workshop Committee Chair

9:35 a.m. **Data and Analysis in the Intelligence Community**

Thomas Fingar, Stanford University

Research Panel Presentations and Discussion

9:55 a.m. **Panel 1: Forecasting and Anticipatory Thinking**

This panel will discuss methods of improving the accuracy of human forecasts from large dispersed crowds. In addition, it will cover research on anticipatory thinking or mental simulations, planning, and preparing for events. What differentiates experts from novices in both of these domains? What aspects of these skills can be trained? How can people be prepared to forecast and think about a broad range of possible futures, especially low probability, high impact events?

How is research in this area likely to progress in the near future? What research questions need to be addressed? What new methodologies and tools are available?

Moderators: Sallie Keller, Virginia Polytechnic Institute and State University

Barbara Mellers, University of Pennsylvania

Title: Returns to Precision

Gary Klein, Macrocognition

Title: Challenges for Engaging in Anticipatory Thinking

Alyson Wilson, North Carolina State University

Title: Prediction and Anticipatory Thinking

10:45 a.m.

Discussion and Q&A

Moderators, Presenters, and Members of the Committee on a Decadal Survey of Social and Behavioral Sciences for Applications to National Security

11:45 a.m.

LUNCH (cafeteria is on the 3rd floor or food trucks are on 7th St, NW between F and G Streets)

12:45 p.m.

Panel 2: Trust

This panel will consider the state of the science on trust in three respects: What is known about an individual's level of trust with respect to data and sources; with respect to automated analyses – output of machines and models; and with respect to people.

How is research in this area likely to progress in the near future? What research questions need to be addressed? What new methodologies and tools are available?

Moderators: Fran Moore, CENTRA Technology, Inc.

David Dunning, University of Michigan

Title: Interpersonal Trust: Current Findings and Mysteries

Roger Mayer, North Carolina State University

Title: The Importance of Interpersonal Trust: Now More than Ever

Adam Waytz, Northwestern

Title: Humans and Machines

Victoria Stodden, University of Illinois

Title: Trust in Research Findings

1:45 p.m.

Discussion and Q&A

Moderators, Presenters, and Members of the Committee on a Decadal Survey of Social and Behavioral Sciences for Applications to National Security

2:30 p.m.

BREAK

2:45 p.m. **Panel 3: Perceptual and cognitive constraints on and aids for analysis and presentation**

This panel will consider the state of the science on perception and cognition as it applies toward how individuals make sense of information. How do they deal with massive amounts or high dimensional data? What techniques can be used to reduce or analyze data to information that can be used for anomaly detection or decision making? What is known about presentation to make information more memorable? Do certain forms of presentations play into people's biases?

How is research in this area likely to progress in the near future? What research questions need to be addressed? What new methodologies and tools are available?

Moderators: Barbara Dosher, University of California, Irvine

Edward Awh, University of Chicago

Title: Capacity Limits in Online Memory and Attention

Danielle Albers Szafir, University of Colorado, Boulder

Title: Visualization and Perception across Scales

Remco Chang, Tufts University

Title: From Vision Science to Data Science: Applying Perception to Problems in Big Data

Peter L.T. Pirolli, Florida Institute for Human and Machine Cognition

Title: Integrated Cognitive Models for Collaborative Human-AI Sensemaking

3:45 p.m.

Discussion and Q&A

Moderators, Presenters, and Members of the Committee on a Decadal Survey of Social and Behavioral Sciences for Applications to National Security

4:40 p.m.

Closing Remarks from Workshop Committee

Jeremy Wolfe, Harvard Medical School, Workshop Committee Chair

Barbara Dosher, University of California, Irvine

Sallie Keller, Virginia Polytechnic Institute and State University

Fran Moore, CENTRA Technology, Inc.

Alyson Wilson, North Carolina State University

5:00 p.m.

ADJOURN

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Office of the Director of National Intelligence (ODNI)

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