

Hybrid cognitive, behavioral, and neural modeling for performance prediction

1. **Research Title:** Hybrid cognitive, behavioral, and neural modeling for performance prediction.
2. **Individual Sponsor:** List the AFRL research topic sponsor's contact information

Dr. Scott Galster
 711 HPW/RHCP
 2510 Fifth Street
 WPAFB, OH 45433
Scott.galster@us.af.mil

3. **Academic Area/Field and Education Level**

Cognitive Neuroscience, Experimental/Quantitative Psychology (MS or PhD level)

4. **Objectives:** The objective of this research is to develop a hierarchical model framework that incorporates cognitive, behavioral, and neural data sources for predicting performance.
5. **Description:** Traditionally, there have been two qualitatively different approaches to computational modeling of human cognition that have evolved from two virtually exclusive groups of researchers; Mathematical psychologists and Cognitive Neuroscientists. A new framework is needed that imposes mutual constraints between variants of mechanistic behavioral models, the sensor data, and the cognitive state of the individual seamlessly so performance prediction, even in the absence of some data sources can predict performance in an acceptable manner.
6. **Research Classification/Restrictions:** unclassified/unrestricted
7. **Eligible Research Institutions:** Indicate to what organizations this topic should be provided



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