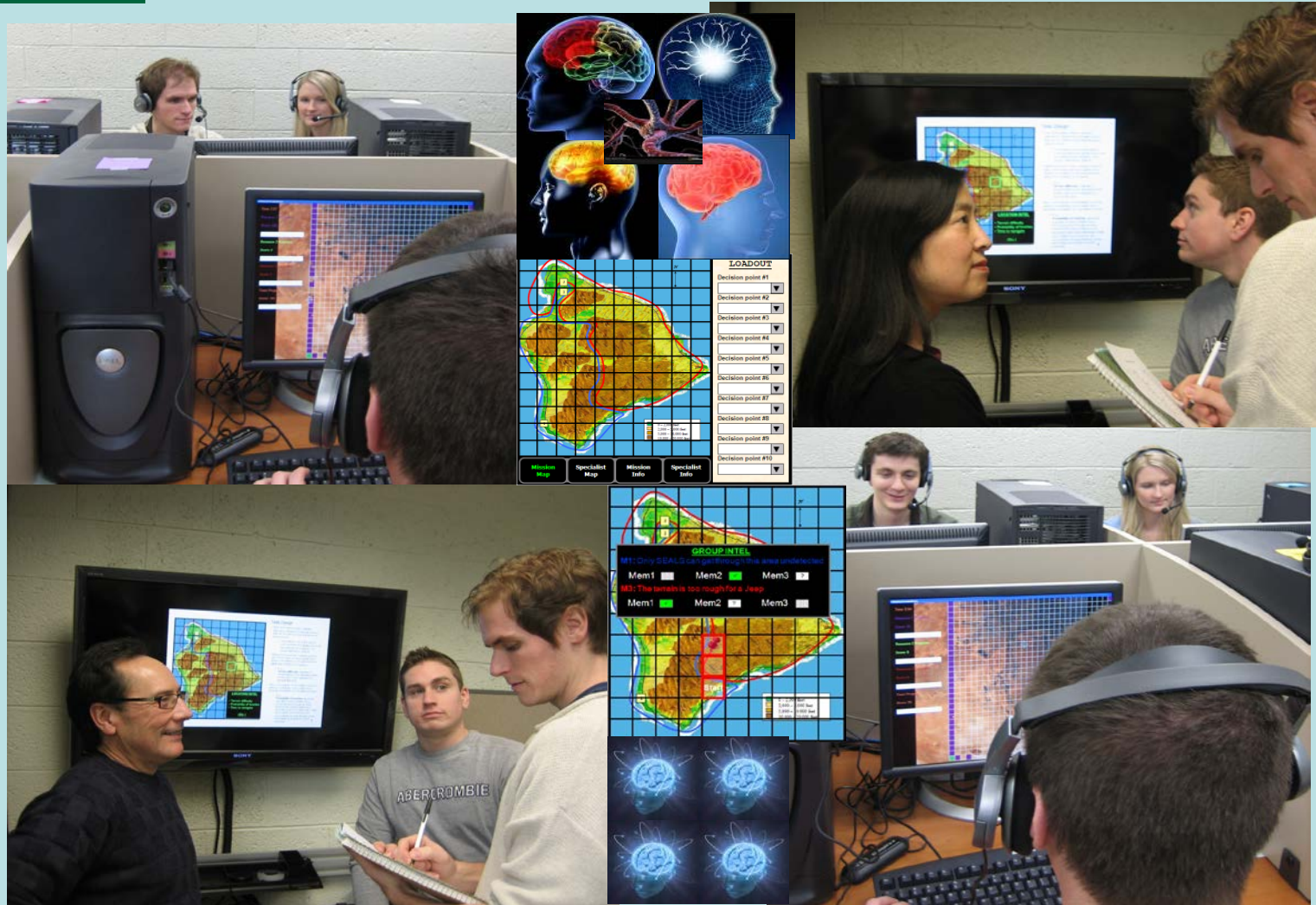




Kozlowski, S. W. J. (PI), & Chao, G. T. (Co-PI). *Team knowledge: Origins, emergence, and measurement*. Office of Naval Research (N00014-09-1-0519). January 2009 to May 2014 [\$1,365,614 total costs].

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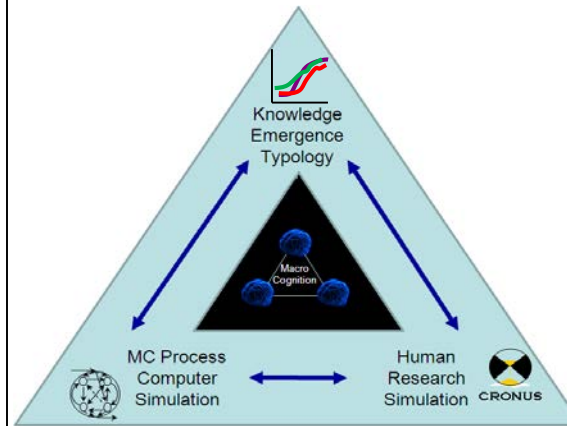
Project Objectives:

- Teams fail to acquire & share all relevant information for decision making, yielding sub-optimal decisions
- Research program to develop:
 - Generalizable metrics - emergence of team knowledge
 - Diagnostic of team learning & information sharing
 - Research-based principles, tools, & decision aids
 - Agent interventions; agent design principles

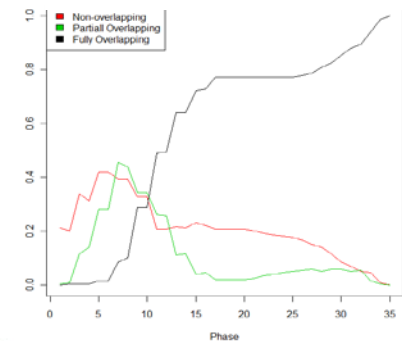
Theory driven, research based, application relevant

Technical Approach:

- *Measurement Typology* linked to theory to capture the acquisition & emergence of team knowledge
- *Computational Process Model* linked to the measurement typology to simulate the dynamics of team knowledge emergence
- *Agent-Based Simulation* to instantiate the process model, validate the typology, & identify leverage points to enhance team knowledge emergence
- *Human Research Task Simulation* to evaluate simulation-based / embedded interventions designed to enhance team learning & problem solving



Knowledge Emergence Diagnostics



Accomplishments/Impact/Transitions:

- *Measurement Typology* [Developed; Validated]
- *Computational Process Model* [Developed; Validated]
- *Agent-Based Simulation* [Ver. 1 (data); Ver. 2 (information); Developed; Validated; Diagnostics]
- *Human Research Task Simulation* [Designed; Developed; Piloted; Implemented]
- *Human Research – Embedded Interventions*
 - Learning Agents – guide knowledge acquisition
 - Sharing Agents – guide collaborative knowledge building
 - Decision Agents – guide solutions & consensus

Approach measures, tracks, targets, & enhances the emergence of team knowledge for decision making

Theory and Research



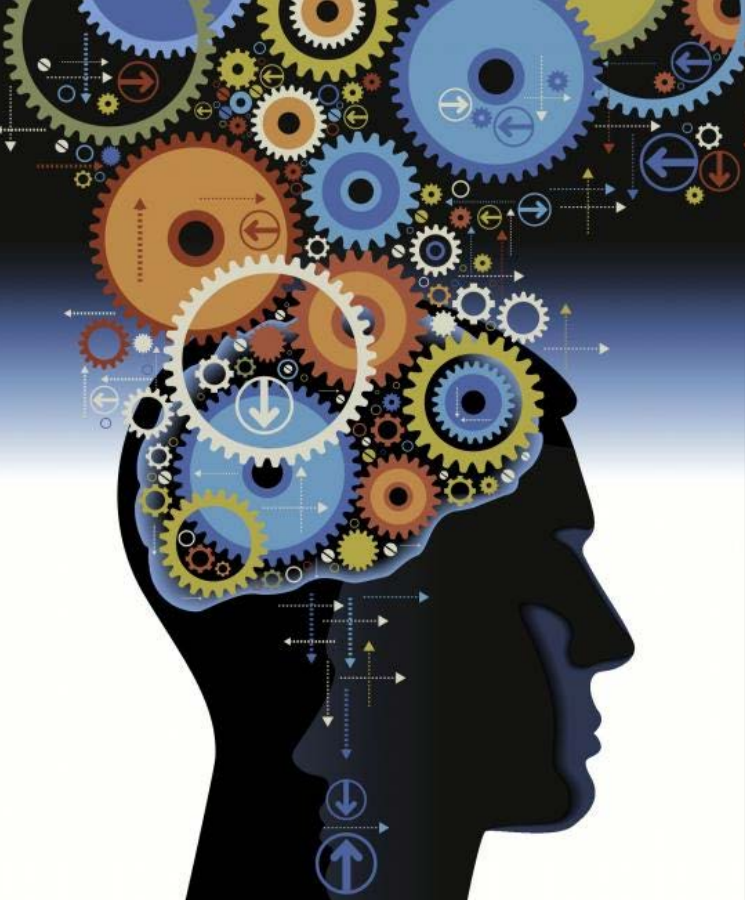
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Awarded *Best Paper of 2013* by the Editorial Board of *Organizational Research Methods*.

Awarded the *William A. Owens Scholarly Achievement Award* in recognition of the best publication (appearing in a refereed journal) in the field of industrial and organizational psychology during the past full year (2013) by the Society for Industrial and Organizational Psychology.

Awarded an *Emerald Citation of Excellence for 2016* (based on 2013 publications).

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A METHODOLOGICAL FRAMEWORK FOR STUDYING MULTILEVEL EMERGENT DYNAMICS

29th Annual Conference of the Society for Industrial &
Organizational Psychology

May 16, 2014

James A. Grand



Michael T. Braun



Steve W.J. Kozlowski
Georgia T. Chao



Goran Kuljanin



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