

**AFRL FY16 Research Topic Template – DAGSI – AFIT - USAFA**

**1. Research Title: Dynamical Team Assessment**

**2. Individual Sponsor:**

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**3. Academic Area/Field and Education Level: Psychology (Human Factors)/Master's or Doctorate**

**4. Objectives: Develop and validate novel metrics of critical team processes that could be derived in near-real-time.**

**5. Description: Many (if not most) contemporary air force operations are performed by teams. However, our current understanding of team dynamics (e.g., communication, action, cognition), their objective measurement, and their relation to team performance outcomes is limited. The objective of this research topic is to address these issues across 3 related areas. First, novel metrics that can be employed to quantify the maturation and quality of team dynamics need to be developed and validated. We believe that a particularly promising avenue in this regard involves the application of advanced statistical assessment and classification of team physio-behavioral responses (e.g., communication, kinematics, cardiac rhythm, eye-gaze behavior, brain activity) using nonlinear dynamical analyses. Second, the relations between those metrics and team outcomes must be established. Third, these metrics must be applied to develop and validate real-time classifiers and/or predictors of team state and performance from the identified physio-behavioral responses for use in critical, high-tempo task environments (e.g., cyber defense, remotely piloted vehicle navigation, ISR).**

**6. Research Classification/Restrictions: Unclassified/unrestricted**

**7. Eligible Research Institutions: Indicate to what organizations this topic should be provided. Check all that apply.**

DAGSI

AFIT (only)

USAFA (only)

If you are submitting a topic for the USAFA, please indicate if you are also interested in sponsoring a USAF Cadet in summer of 2014 (Avg Cost for USAF Cadet for 33 days was \$5000)

Yes     No

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