

AFRL RESEARCH TOPIC CALL FOR FY13

1. **Research Title:** Information Fusion of Space Data
2. **Individual Sponsor:** *List the AFRL research topic sponsor's contact information:*

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3. **Academic Area/Field and Education Level:** Computer Science/Computer Engineering (MS or PhD)
4. **Objectives:** RHCV requires a diverse collection of ground-based satellite images for research involving space situational awareness (SSA) and visualization. The objective of this research is to develop and demonstrate a native (in-house) capability to directly collect, process, analyze, and display ground-based images of satellites and space phenomena. These data will be utilized as inputs into branch SSA and visualization research activities. The research involves the selection (or fabrication) and installation of an appropriate collection of imaging hardware, software, and computational components that will make up a research image collection and processing testbed. In addition to providing timely and applicable research data, funding the proposed research will greatly improve RHCV's ability to demonstrate the nature of the research cycle, from initial data collection, through processing and analysis, and into the SSA and visualization research products
5. **Description:** Researcher will develop and evaluate techniques and algorithms for fusion of a variety of space data in support of Space Situational Awareness activities. Data may include multispectral images of a single space entity, multiple images of a single space entity taken over time, multiple images of a space entity taken at the same time from different locations, or similar instances. The results of this research will demonstrate practical mechanisms for visualizing fused space imagery. Imagery and non-image data may be collected using RHCV's newly installed 17" telescope, along with data from national or international research collaborators.
6. **Research Classification/Restrictions:** None
7. **Eligible Research Institutions:** (Check all that apply.)

Universities (DAGSI) AFIT (only) USAFA

8. **Interest in Summer USAFA Cadet:**

If you are submitting a topic for the USAFA, please indicate if you are also interested in sponsoring a USAFA Cadet in summer of 2013. (**Avg Cost for USAFA Cadet for 33 days is \$5000**):

I would like to sponsor an USAFA Cadet in the summer of 2013: Yes No