

SSR-RC 2007 Funding Cycle Directions for Submitting Research Topics and Research Proposals

Background. The Safety Security Rescue Research Center is an NSF industry/university cooperative research center focused on transferring research results in information and intelligent systems from faculty to industry members. USF leads the consortium, which has the University of Minnesota, Carnegie Mellon University, and University of Pennsylvania as partners. The NSF I/UCRC simplifies faculty involvement by creating a system for recruiting and interacting with industries and agencies and providing a fixed intellectual property agreement.

Industry and agency members pool funds to select projects of interest each year. Projects are 9-12 months in duration and funded at the \$40K-\$90K range (excluding overhead).

The projects typically fall into three categories:

- a. Application. A project that applies some aspect of your research to a more industry-oriented application or need.
- b. Multidisciplinary. A small project that requires some form of multidisciplinary interaction or field data collection opportunity with an agency.
- c. Exploratory. An interesting idea that a university is better suited for conducting a “quick look.”

The projects primarily fund a single graduate student with a bit of funding for faculty supervision, some equipment and some travel. These students are often first year PhD students who conduct the project as a way of being introduced to the faculty member’s research.

Action items. The funding cycle begins with interactions between faculty and industry to identify topics that they are willing to fund. The faculty are then asked to put the most promising topics into a one page proposal form and to present the proposal at the industry consortium meeting at the end of November.

Due Dates:

Oct. 17 (One to two paragraphs) Submit a topic (title and 1 paragraph description) related to homeland security for a 9-12 month project to support 1 graduate student that might be of interest to industry or federal agency, PLUS a link to your web page/publications. Submit electronically to Anna Abraham via email.

Oct. 31 The center collates the feedback from industry and agencies on the topic and outbriefs you and arranges direct conversations with interested industry.

Nov. 6. (One page form) You submit a one page proposal form with rough budget. The form is attached so you can see how easy it is.

Nov. 29 Funding decision. The industry members of the center will make their decision to fund projects starting in Jan 2007 on Nov 29 and you will be informed immediately. About 1/3 of the projects submitted each year get selected for funding.

Jan 2007. Funded projects start.

Ad hoc recruiting and funding over Jan-Dec 2007. Recruiting for members that would fund your project continues and if funding is obtained, you can start immediately.

Current Industry and Interests. Current industry and agency members are: Edgewood Chemical Biological Center, Army Research Organization, Army Research Laboratory, Mining Safety and Health Administration, Automatika (robots), CHI Systems (AI and training software), DTI (systems), F4W (wireless networks), Lockheed Martin (robots), iSENSYS (helicopters), Radiance Technologies (sensors, systems integration), Tessera (microelectronics), Wintec Arrowmaker (training, systems integration).

Topics of known interest (but not limited to) are

- *unmanned systems*- ground, sea, and aerial vehicles, human-robot interaction
- *computer vision*- video surveillance and tracking, recognition of intent, unmanned systems
- *networks and communications*- modeling, bandwidth reduction, MANETs
- *sensors and perception*- CBRNE sensors, nanotechnology and MEMS, sensor networks and data mining
- *training and protocols*- decision making aids, distance learning, cognitive assistance

The center is currently or has previously funded:

D. Armitage (Lakeland) on network communications and bandwidth reduction

H. Arslan (EE) on channel modeling for underground and collapsed structures,

J. Burke (Psy) on training for rescue and bomb squad robots,

D. Goldgof (CSE), H. Jeanty (CSE), R. Kasturi (CSE), S. Sarkar(CSE) on computer vision techniques for avoiding collisions with unmanned aerial vehicles and for outdoor video surveillance

R. Murphy (CSE) on field data collection, testing of robots, and human-robot interaction

N. Ranganathan (CSE) on adapting computer vision algorithms for micro image processors that can run on micro aerial vehicles

K. Valavanis (CSE) on unmanned aerial vehicle control

E. Rasmussen (Public Health) for conducting the Strong Angel III information technology field exercises recently reported in the New York Times,

E. Steimle (Marine Sciences) for development of unmanned surface vehicles for disaster response.