Florida International University: HRD 0833093 – Center for Innovative Information Systems Engineering

The following panel summary is based on presentations (including discussions and Q&A sessions) given by FIU faculty during their NSF Reverse Site Visit.

Research Activities and Accomplishments
The FIU Center for Innovative Information Systems Engineering is centered on four research thrusts that cross the boundaries of computer science & engineering, information processing, situational awareness, assistive technology, and neuroscience. The four key research areas include (1) Effective Access to Complex Multimodal Data with Applications in Disaster Mitigation; (2) Integrated Approach to Information Processing in Neuroscience; (3) Human Computer Interaction for Universal Access; and (4) Complex System Modeling, Analysis, and Realization. The proposed cross-disciplinary research has the potential to make significant contributions to key areas (e.g., evaluation neurological disorders) of concern for the nation’s science and medical professionals as well as the general public. The panel made the following observations regarding the key strengths and weaknesses of the current program efforts:

Strengths
- Solid results in terms of applied/engineering research contributions (e.g., BCIN, Information Processing in Neuroscience).
- Ongoing development/engineering work with medical/health professionals

Weaknesses
- Based on presentation, the overall program lacks research contributions to fundamental computer science. What is the relationship between phase I results and development work being conducted within phase II?
- Lack of research-related synergistic activities (e.g., hosting workshops, building alliances with related research groups at national and international level)

Education, Outreach Activities, and Accomplishments
The FIU CREST center’s strong partnership with CA-HSI Broadening Participation in Computing Alliance, the Latin American Grid, and the FIU Partnership for International Research and Education provides a solid foundation for training scientists capable of effectively conducting cross-disciplinary research. Curriculum development (MS in Information Technology and EEL 6836) is also strong and will be a key component in achieving overall educational goals.

STEM Workforce Development
The FIU CREST center has impacted 169 students, including 56 PhD graduates and 63 MS graduates. Such students are now working in positions, including tenure-track and research faculty, research scientists, postdoctoral positions, as well as industry.

Institutional Impact
The FIU CREST has had significant impact on faculty recruitment (10 new faculty hires) and faculty competitiveness (4 NSF CAREER Awards and 1 DoE ECPI awardee). CREST faculty have obtained 24.3M in
new awards and established a 26-member I/UCRC. Moreover, the CREST program has resulted in a significant increase in the number of Hispanics enrolled in the FIU PhD programs.

Panel Recommendations
The RSV panel has concluded that the FIU CREST team has successfully met the goals of the NSF CREST program and the objectives of the FIU Center for Innovative Information Systems Engineering. A key concern, however, is the long-term viability and lack of strategic sustainability plan to maintain the FIU CREST center at the end of NSF Phase II support. The panel makes the following recommendations, aimed at addressing the sustainability issues:

- Develop a detailed synergistic vision/mission/goal statement for the FIU Center for Innovative Information Systems Engineering.
- Develop a strategic plan for sustainability. The plan should include specific strategies for (1) partnering with the university (including other disciplines within the university); (2) building alliances with key external research groups; (3) building new industry relationships while effectively leveraging ongoing industry partnerships through existing NSF I/UCRC.
- Strengthen involvement of FIU undergraduate students; e.g., partnering undergraduate students with established PhD students.
- Pursue synergistic activities. For example, hosting on-campus industry/academia workshops with the aim of (1) highlighting research and development at the CREST center; (2) understanding how industry challenges can be addressed by research being conducting within the CREST center; and (3) establishing meaningful partnerships with industry and academic groups.
SIGNATURES

By signing below you agree with the scribe summaries, as provided, for all 3, 2011 CREST Reverse Site Visit evaluations.

Laveen Kanal

Dmitri Perkins

Jacquelyn Madry-Taylor

Mahmoud Quweider

Vassiliki Ikonomidou

Ramesh Kolluru

Date 4/26/2011

Date 4/26/2011

Date 4/26/2011

Date 4/26/2011

Date 4/26/2011

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