Engineering and Technology Education STEM Learning Community

Purpose/Background
The purpose of the Engineering and Technology Education STEM Learning Community was to develop a community of scholars who were interested in conducting research in the area of engineering education.

Goals:
The mission of the Engineering and Technology Education STEM Learning Community will be to:

a. To investigate the methodologies through which students learn in a STEM environment, with special attention to engineering and technology modalities.
b. To develop methodologies that advance classroom instruction in STEM instruction utilized in K-12 schools, with special attention to engineering and technology modalities.
c. To assess the success of STEM curricula at the local, state, national, and international levels.

Description of Project
A collaborative faculty research group has been formed representing two colleges and four departments at UGA. The following faculty members are active participants in the Engineering and Technology Education STEM Learning Community.

Membership:
- Robert Wicklein, Professor – Technological Studies, College of Education (coordinator)
- Roger Hill, Professor – Technological Studies, College of Education
- John Mativo, Assistant Professor – Technological Studies, College of Education
- Ikseon Choi, Associate Professor – Instructional Technology, College of Education
- Sidney Thompson, Professor – Engineering, College of Agriculture
- Timothy Foutz, Professor – Engineering, College of Agriculture
- William Kissalita, Professor – Engineering, College of Agriculture
• David Gattie, Associate Professor – Engineering, College of Agriculture
• Nadia Kellam, Assistant Professor – Engineering, College of Agriculture
• Joachim Walther, Assistant Professor – Engineering, College of Agriculture
• Maria Navarro, Assistant Professor – Ag. Lead., Educ., & Comm., College of Agriculture

Description of Learning Community Progress:

The following are activities that our learning community has conducted since being funded:

1. Choi, Kellam, and Gattie have been funded by the National Science Foundation on the proposal Case Based e-Learning for Solving Real World Engineering Design Problems ($150,000).

2. Wicklein, Choi, and Mativo are conducting planning to develop a Discovery Research – K-12 proposal for NSF funding (due 1/10/2010).

3. Engineering and Technology Education STEM Learning Community/Engineering Education Research Group are meeting on a regular basis to plan and discuss research opportunities related to the groups goals and mission.

4. Mini-conference (1.5 days) for all associated and interested faculty and graduate students related to NSF grant opportunities – 4/30-5/1/2009.
   a. Dr. Dan Householder – NSF Project Officer served as a consultant for this mini-conference.
      i. Householder provided valuable ideas and feedback regarding potential funding sources at NSF and reviewed on-going proposal development of faculty.
   b. Faculty members, graduate students, college and school administrators, and office staff participated in this mini-conference.

Conclusions and Recommendations

The Engineering and Technology Education STEM Learning Community is continuing to collaborate and work together to develop and engage in research efforts related to the broad field of engineering education. On-going proposal developments is being developed to be submitted in the near future (e.g., Discovery Research K-12 (DR-K12) – 08-609 and Math and Science Partnership (MSP) – 09-507.