A great year for mini grant awards!

There were 26 applications this year. Of the applicants, seven were awarded with monies totalling $15,000! There has been an incredible growth in applications in the last few years, and the projects have been incredible. ACITC would like to share the reports of the 2012 awardees and what they have done with their grant money.

Dr. Alison Betz, School of Behavior Analysis
The Scott Center for Autism Treatment

The ACITC Travel grant I received in 2012 helped fund the travel expenses for a doctoral student and myself for an annual conference and workshop in our field. Specifically, Catherine Martinez and I attended the Annual Association for Behavior Analysis International (ABAI) conference. During this conference we both attended a workshop that focused on teaching attendees how to make staff training videos using i-Movie. The workshop was extremely helpful for both our research and clinical work at The Scott Center for Autism Treatment. Specifically, following the workshop, Ms. Martinez and I have created several high-quality training videos for the graduate student training that occurs twice per year at The Scott Center. In addition, I have used the skills I learned to create video models that are used in mine and my students’ research evaluating the effects of video modeling on teaching social and play skills to children with autism; one studying is currently under review for publication in a top tier behavioral journal. I am very grateful that I received this grant and appreciate the knowledge I gained from the workshop it funded.

Ismael Cremer
College of Aeronautics
iPads in education

In 2012 the College of Aero were awarded 3 iPads through the ACITC minigrants. The iPads were used and rotated by the faculty in COA and were used to promote apps in Aviation, and to supplement technology in the classroom. Furthermore, the iPads were a great tool for recording lectures both live, and at home to be posted online for students to review. As of 2013, there has been almost 300 videos recorded by the faculty and have been viewed over 5000 times by students.

We have used these video lectures for supplemental material in classes abroad such as in Panama.

With the addition of Apple TV's in the classrooms of Skurla, the iPads can be used to wirelessly project content to the projector screen. It makes it engaging due to the touch screen capabilities of the iPad, and helps reduce the number of items a faculty member has to bring into the classroom.
Dr. Kurt Winkelmann

The 2012 ACTIC minigrant award helped to improve the General Chemistry laboratory courses. Minigrant funds provided support for an undergraduate student to prepare fifty-two videos designed for students to view before or during their lab sessions. Each video showed how to perform a step in the experiment procedure. Dr. Winkelmann updated the lab manual’s instructions to include links to each video. During the 2012-2013 academic year, 800 students enrolled in these two classes and benefited from the video tutorials. In total, the fifty-two videos have been viewed over 5000 times on YouTube. Lab instructors report that students ask fewer questions about the procedures and arrive at the lab session better prepared for their experiment.

Castaway CTD: Practical Oceanography for Undergraduate Courses

Dr. Kevin B. Johnson

An essential piece of equipment used in oceanography, and often applied in the study of ecology and meteorology, is the “CTD”, which measures conductivity (C), a proxy for salinity, temperature (T), and Depth (D) continuously while passing through a water column. This reveals a profile, which can be graphed as curves showing changes in temperature and salinity from shallow to deep, effectively characterizing a coastal water column. Profiles help oceanographers determine distances to the ocean, recent rainfall, degree of wind mixing, likely species, and much more. The use of this instrument has exposed oceanography students to cutting edge equipment and the interpretation of CTD data. This will form a foundation for their oceanography preparation. Great oceanographers, such as those in training, are adept at interpreting CTD profiles.

Recent technology has ushered the development of a compact digital CTD, complete with self-contained GPS logs. This handheld CTD can easily be deployed from a small boat or dock. This practical tool has enabled us to provide oceanography students at Florida Tech with experience collecting and analyzing their own CTD data as freshmen. This early exposure will prepare them to work with basic oceanographic data in the future.

Dr. Sahoo

The ACITC grant of 2012 involved writing of appropriate algorithms for various resistance programs in order to determine the resistance and power requirements of ships.

In this respect the following have been carried out:

1) Holtrop Method has been programmed using MATLAB and results with standard examples show no adverse errors so far. This has been by students undertaking the course OCE 4575.

2) Wave resistance theory has also been programmed in MATLAB and shown to be working perfectly as far as Wigley hulls are concerned. This program needs further refinement to make it user friendly and also needs further modifications for use by practical ship shapes.

3) Van Oortmerssen’s Numerical method which has also been completed and is being tested against published results.