

ECETDHA Business Meeting
CIEC – Orlando, FL

Tuesday, Feb. 3, 2009
5:00pm – 6:30pm

ECETDHA Business Meeting
Tuesday, February 3rd at 5:00pm – 6:30pm
CIEC 2009 – Orlando, FL

Agenda

1. Call to Order (R. Land)
2. Approval of June Meeting Minutes* (R. Land)
3. Treasurer's Report* (W. Buchanan)
4. Mini-Grant Awards* (R. Land)
 - a. Status report on June 2008 award
 - b. December 2008 award announcement
5. Report on CTAA Activities (T. Hall)
6. Assessment Testing Project Update* (R. Land)
 - a. Body-of-Knowledge defn's; core/specialty topics; etc.
 - b. Generated questions
 - c. Third-party independent review
 - d. Beta testing plans and call for volunteers
 - e. Planned schedule
7. Discussion of Future of EET/ECET – Plans for ETLI
8. Nomination/Election of New Officers (R. Land)
9. Comments for Good of the Association
10. Adjournment of Business Meeting

* – Indicates attachments

Electrical and Computer Engineering Technology
Department Heads' Association Semi-Annual Business Meeting
ASEE Annual Meeting 2008 ** Pittsburgh, PA
Tuesday, June 24, 2008 at 7:00 a.m.

Minutes

The meeting was called to order by the Chair, Ron Land, at 7:00 a.m. The agenda for the meeting was distributed to all in attendance and approved. The meeting was begun with an introduction of all in attendance. The 21 attendees were:

| <u>Name</u> | <u>Affiliation</u> |
|--------------------|--------------------------|
| Nasser Alaraje | Michigan Tech. Univ. |
| Charles Bachman | Southern Polytechnic |
| Walter Buchanan | Texas A&M University |
| Rasoul Esfahani | DeVry Univ. - Columbus |
| Ilya Grinberg | Buffalo State Univ. |
| John Hackworth | Old Dominion University |
| Tom Hall | Northwestern State Univ. |
| Bob Herrick | Purdue University |
| Mark Hoebr | Erie Community College |
| Steve Hsiung | Old Dominion University |
| Saeed Khan | Kansas State at Salina |
| Warren Koontz | Rochester Inst. of Tech. |
| Ron Land | Penn State University |
| Jim Lookadoo | Pittsburg State Univ. |
| Jay Porter | Texas A&M University |
| Ron Rockland | NJIT |
| Scott Segalewitz | University of Dayton |
| Carl Spezia | Southern Illinois Univ. |
| Gary Steffen | IPFW |
| John Stratton | Rochester Inst. of Tech. |
| Chih-ping (CP) Yeh | Wayne State University |

■ Approval of the minutes of the February 12, 2008 meeting in New Orleans was obtained by Ron Land.

The Treasurer's Report prepared by Walter Buchanan was reviewed and approved. The Association's current account balance stands at \$5,213.70. Membership as of this date stands at 92, an association record!

■ Ron Land reported on the Mini-Grants Awards Program as follows:

December 2007 awards

Two mini-grants were awarded in December, one to professor Steve Hsiung of Old Dominion University and one to professor Dan Barbuto of Dutchess Community College. Professor Hsiung's award provided partial funding for a workshop, conducted at the ASEE conference, to demonstrate and distribute a PIC Microcontroller training system. Professor Hsiung was present at the meeting and gave a brief overview of the results of the workshop. In summary, 22

people representing 20 different institutions attended the workshop. All attendees received both the PIC microcontroller training board and peripherals along with the training materials developed by professor Hsiung.

Professor Barbuto's grant provided partial funding for development of an inexpensive PLC training platform and associated training materials. Details of the project will be presented at the 2008 SAME-TEC (Semiconductors, Automated Manufacturing, Electronics-Training & Education Conference) in Austin, Texas in July. Details of both projects can be found on the ECETDHA page of the ETD website at <<<http://engtech.org/>>> by following the Organizations link to the ECET section.

June 2008 award announcement

One mini-grant was awarded in June, and it went to Professor Daren Wilcox and his honor student, Joshua Galloway, both of Southern Polytechnic State University. This mini-grant partially funds the development, as a senior honors project, of an inexpensive, autonomous robot capable of finding and marking the location of unexploded land mines without being destroyed. If successful, it is hoped that the project might provide a prototype device for use in underdeveloped countries plagued by unexploded mines and where economics prohibit the use of expensive methods. Again, details of the proposal can be found at the same website noted above. The CTAA Report was made by Tom Hall as follows:

■ Tom Hall reported on CTAA activities of interest to the Association:

PEV Assignments: Last year only 36 IEEE PEVs were needed, so many did not receive an assignment. This year more than 50 will be assigned. As always, first priority in assignments goes to the newly training PEVs.

PAVE Training: This was the first full year of ABET PAVE training for new PEVs. Overall, the training—with on-line prework and follow-on face-to-face training appears to be excellent. CTAA gathered data on problem areas from trainers, mentors, and trainees to forward to ABET for continuous improvement.

Program-specific Criteria: CTAA completed its review of the Computer Engineering Technology program criteria and forwarded same through IEEE channels to ABET. This coming year, the Electromechanical and Telecommunications ET program criteria will be reviewed. Requests for comments will be forwarded to the ECETDHA membership.

■ Ron Land gave an update of the Assessment Testing Project as follows:

The project to develop a nationally-normed assessment test is well underway with more than twenty volunteers from ECETDHA involved. A body of knowledge has been defined and organized according to "core" and "specialty" topics. Core topics represent those areas

of study that would be expected to be part of any electrical or electronics engineering technology program, regardless of its particular academic orientation. Specialty topics would be those areas that may or may not be covered by a specific program, and test elements in these areas would be taken at the discretion of the school and program using the test. Body of knowledge development, training on question writing practices, and question review processes have all been conducted via periodic web-based conference sessions, and that process will be continued throughout the remainder of the project. Current efforts are focused on developing questions for the core topics test.

As of the time of this meeting approximately 90 core topic questions have been created by ECETDHA volunteers, and initial review process to accept those questions has started. About 20 of the questions have gone through a group consensus review and have been approved. A face-to-face session to continue reviewing of existing questions is scheduled following this business meeting. From this point forward, question generation and question review and approval process will continue in parallel, again using primarily on-line conferencing methods.

Full details of the activities of the group involved in this project, as well as details of the body of knowledge and the questions that have been produced are available at:

www.personal.psu.edu/rel9/EET_Test/ {upper & lower case matter}

■ Ron Land asked for approval to change the Bylaws as follows:

Two changes to the bylaws are up for approval. One is in response to a suggestion made at the last business meeting, which was to separate the office of secretary/treasurer into two positions - secretary and treasurer. The second was to correct the terms of office and years of election of members of the executive committee. The changes were necessary to make the election cycles and terms of office consistent with the adjustment in positions that occurred in 2007 to accommodate the early retirement of the past Association chair. The proposed changes were distributed to the entire membership in March of 2008 for consideration.

The membership voted to approve the bylaws changes. The new bylaws will be posted on the Association website (see above for URL).

■ Ron Land conducted a discussion and vote on change to mini-grant guidelines as follows:

In reviewing mini-grant proposals, the executive committee recognized that, while the current guidelines require proposers to provide some of the funds for a project, they do not specifically require that the proposer provide at least half of the required project funding. The executive committee felt that the sharing

requirement was intended to mean that the Association would share costs of an approved project up to 50% of the expected expense of a project but not more. Thus, the proposed guidelines modify the sharing language to clarify that funding from the Association will not exceed half of the anticipated cost of a proposal.

The guidelines were also modified to provide greater clarity regarding what the executive committee considers when evaluating grant proposals. This change identifies five criteria that will be considered. They are: breadth of appeal, innovation and creativity, practicality, affordability, and timeliness of the proposed project.

The proposed changes to the guidelines were approved. The new guidelines will be posted on the Association website (see above for URL).

■ Bob Herrick of Purdue conducted a discussion on the future of EET/ECET for what was the right strategy for program evolution.

It was decided that strategies for increasing enrollment were critical and that a forum with representatives from industry would be necessary to discuss the best strategy to move forward. Those with thoughts about how to pursue this issue or who are interested in participating/organizing such a forum are encouraged to contact Bob.

■ Ron Land reported on the nomination/election of new officers. Gary Steffen was nominated for Secretary. We will be doing an e-mail vote when we also have the nominees for the program reps.

The meeting was adjourned at 8:15 a.m.

Respectfully submitted,

A handwritten signature in black ink that reads "Walter Buchanan". The signature is written in a cursive, slightly slanted style.

Walter Buchanan,
Secretary-Treasurer

Treasurer's Report – June 24th, 2008 – ASEE Conference – Pittsburgh, PA

Statement of Receipts – Dec. 19, 2008

Membership Dues Received:

| | |
|-------------------|------------|
| July - Sept. 2006 | \$975.00 |
| Oct. - Dec. 2006 | \$300.00 |
| Jan. - Mar. 2007 | \$75.00 |
| Apr. - June 2007 | \$300.00 |
| July - Sept. 2007 | \$1,025.00 |
| Oct. - Dec. 2007 | \$575.00 |
| Jan. - Mar. 2008 | \$275.00 |
| Apr. - June 2008 | \$350.00 |
| July - Sept. 2008 | \$1025.00 |
| Sept. - Dec. 2008 | \$325.00 |

Total Membership Receipts: \$5,300.00

Interest Received:

| | |
|-------------------|---------|
| July - Sept. 2006 | \$19.43 |
| Oct. - Dec. 2006 | \$22.72 |
| Jan. - Mar. 2007 | \$23.37 |
| Apr. - June 2007 | \$22.41 |
| July - Sept. 2007 | \$22.37 |
| Oct. - Dec. 2007 | \$20.18 |
| Jan. - Mar. 2008 | \$15.94 |
| Apr. - June 2008 | \$15.68 |
| July - Sept. 2008 | \$13.39 |

Total Interest Received: \$175.49

Total Receipts: \$5,475.49

Statement of Expenditures – Sept. 08, 2008

Expenditures:

| | |
|--|------------|
| Conference Expenses-Land (CTAA 1/07) | \$330.15 |
| Endorsement Stamp | \$14.94 |
| Conference Expenses- Land (CTAA 6/07) | \$416.02 |
| Money Order Fees | \$5.00 |
| Conference Expenses- Land (SME 8/07) | \$828.45 |
| Conference Expenses - Land (CTAA 1/08) | \$495.50 |
| Mini-Grant - Dan Barbuto (+ bank fee) | \$652.00 |
| Mini-Grant - Dr. Steve Hsiung (+ bank fee) | \$962.00 |
| Mini-Grant – Prof. D. Wilcox - APSU (+ bank fee) | \$1,000.00 |
| Mileage expensis – Ron Land (CTAA) | \$76.56 |

Total Expenditures: \$4,780.62

Statement of Cash Flows – June 23, 2008

Beginning Cash Balance June 30, 2006:

| | |
|--------------------|------------|
| Membership Dues: | \$4,896.34 |
| Interest Received: | \$5,300.00 |
| | \$175.49 |

Total Cash Received: \$5,475.49

Expenditures: \$4,780.62

Net Addition to Fund: \$694.876

Cash in Bank: \$5,591.21

Status Report: 2008 Mini-grant Project Awards

- SPSU Autonomous Mine-Locating Robot

The project abstract and conclusion are summarized below. A full report, presented at ASEE's Southeast Section meeting, and the full honors thesis report are available on the ETD web site. <<<http://www.engtech.org/organizations.php#ECETDHA>>>

Abstract:

An ECET Honors student will develop a prototype for an autonomous landmine and unexploded ordinance (UXO) seeking robot. The system functionality will include the ability to: locate metallic landmines within a defined area/environment, mark the location of those landmines, and avoid destructing the robot. The main goal is to construct the robot on an inexpensive platform that could be used by under-developed nations in their humanitarian de-mining efforts. It is hoped that the project will define an inexpensive technology that can be employed by the humanitarian de-mining efforts in more than 100 landmine/unexploded ordinance affected countries in the world (US Department of State Fact Sheet, 2 July 2003). In addition, the project will afford the student the opportunity to explore the field of robotics, provide experience with mechanical systems, and printed-circuit-board layout/production. The project will be submitted in the SPSU Honors program with departmental honors.

Project Conclusion:

The robot was tested in manual mode with a high degree of success. The majority of the missed landmine simulates were missed because they did not pass under the robot's metal detector. This could be rectified by increasing the size of the metal detector or by decreasing the width of the rows in the search pattern. No false detections occurred during the test, and the robot never lost communication with the controlling laptop except when the laptop battery failed. This shows that the robot could easily function as a teleoperated metal detector in its current state, and it could be used to magnetically map an affected area from a safe distance.

The network portion of the project functioned as intended. The system was able to communicate bi-directionally over a wireless network, and the robot performed move commands with a high degree of accuracy. However, the autonomous portion of the control program did not perform consistently in simulation. The simulated robot and controlling program hung up intermittently when reaching the end of a search row.

The router and wireless network functioned well under intended circumstances. With no RF interference, the system functioned without drop outs. Near the university, stray radio frequencies (RF) in the 2.4 GHz range caused frequent loss of connection; however, such interference would not be expected in a remote mine field and should not pose a problem for intended operation of the robot.

Overall, the system showed it could perform the function of sweeping a mine field under manual control, and given more time, the system could perform this function autonomously. For \$250 and the price of a laptop, the robot could provide a landmine removal team with an idea of what actually exists in a suspected minefield. The system provides proof of concept.

- Mini-Grants Awarded in December 2008:

Three awards were granted in December 2008. Brief descriptions are provided below. The complete proposals are posted on the ECETDHA website. <<<http://www.engtech.org/organizations.php#ECETDHA>>>

University of Dayton – Development and fabrication of a low-cost single-channel amplifier and signal conditioning unit to support teaching of automated data acquisition and measurement/instrumentation systems in ET programs. Grant amount – \$700

University of Memphis – Development and assembly of supplemental training kits and equipment for a summer training program for high school girls to introduce them to engineering/technology activities and to give them hands-on experience with technical devices. Grant amount – \$391

University of Massachusetts-Lowell – Design and fabrication of a printed circuit board implementing a microwave circuit capable of illustrating characteristics of transmission lines. The purpose is to create a tool that will help students understand industry-wide standards related to microwave circuitry and to experience real-world requirements necessary to design, manufacture and test such circuits. Grant amount – \$1000.

ECETDHA Project to Develop a Nationally-Normed Assessment Test for EET Programs

Prepared by Ron Land, Chair – ECETDHA

11/07/08

The project to develop a nationally-normed assessment test for electrical and electronics engineering technology programs is well underway with more than twenty volunteers from ECETDHA involved. A body of knowledge (BOK) was developed in early spring of 2008. Topics in the BOK were defined and organized according to “core” and “specialty” topics. Core topics were chosen to represent those areas of study that would be expected to be part of any electrical or electronics engineering technology program, regardless of its particular academic orientation. Specialty topics are those areas that may or may not be covered by a specific program, and test elements in these areas would be taken at the discretion of the school and program using the test. Body of knowledge development and training on question writing practices and question review processes were also completed during the spring.

Since completion of training and BOK development, volunteers have been creating and submitting questions, and those questions have been undergoing panel reviews via periodic web-based conference sessions. During this first project phase, all questions are focused on ‘core’ topics. Specialty areas will be addressed at a later date once the efficacy of the ‘core’ test is verified. The question writing and review sessions are continuing at this time.

Currently, approximately 340 ‘core’ questions have been created, of which approximately 310 have been reviewed and approved. There is still some activity to develop additional core questions, but at this point the development team feels that the existing questions provide an adequate pool from which to develop a prototype test of core concepts. Thus, at this point activities have been redirected to two tasks: (1) identifying a group of 6 – 8 volunteers from the Association who have not been party to question development to act as an independent review and certification team for questions prior to test assembly, and (2) to begin identifying programs willing to participate in a beta test of the prototype in the spring. The plan is to assemble the review team for a two-day session in Detroit by late January or early February, and to target the beta test activity for sometime in the March to April time frame. As of the end of December, 7 Association members have indicated a willingness to serve as independent reviewers and 9 program directors have indicated interest in participating in the beta test.

Full details of the activities of the group involved in this project, as well as details of the BOK, reviewed and un-reviewed questions, and guideline documents are available via a group website. Those wishing access to the site should contact the Chair of the ECETDHA, Ron Land, at REL9@PSU.EDU.

Current Officers and Terms:

| <u>Position</u> | <u>Current Officer Holder</u> | <u>Term Expires</u> |
|-----------------------|-------------------------------|-----------------------------|
| Chair | Ron Land | June 2009 |
| Chair-elect | Scott Segalewitz | Moves to Chair in June 2009 |
| Immediate Past Chair | Tom Hall | June 2009 |
| Treasurer | Walt Buchanan | June 2009 |
| Secretary | Gary Steffen | June 2010 |
| 4-Year Representative | CP Yeh | June 2010 |
| 2-Year Representative | Surrinder Jain | June 2010 |

ECETDHA Membership History

| No. | Institution | 02_03 | 03_04 | 04_05 | 05_06 | 06_07 | 07_08 | Member | 2008-2009 Member | Lapsed/Attendee/Inquiree |
|-----|---|-------|-------|-------|-------|-------|-------|---------------------|-------------------------------|------------------------------------|
| 1 | Alabama A&M University | | | | | | | Peter Romine | | PROMINE@AAMU.EDU |
| 2 | Albany Technical College, GA | | | x | x | | | Bill Sutton | BSUTTON@ALBANYTECH.EDU | |
| 3 | Alfred State College, NY | | x | x | x | x | x | David J. Hunt | | HUNTDJ@ALFREDSTATE.EDU |
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| 57 | Ferris State University, MI | x | x | x | x | x | x | Claire Cook | COOKC@FERRIS.EDU | |
| 58 | Florence-Darlington TC, SC | | x | x | x | x | x | Kamil Zakhour | KAMIL.ZAKHOUR@FDTC.EDU | |
| 59 | Florida A&M University | | | | | x | x | Tom Bellarmine | GNANASIGAMANI.BELLAR@FAMU.EDU | |
| 60 | Grambling State University, LA | | x | | | | | Johnny Patterson | | PATTERSONJ@GRAM.EDU |
| 61 | Gulf Coast Community College, FL | | | x | x | | | Claude Mott | | CMOTT@GULFCOAST.EDU |
| 62 | Idaho State University | | | x | x | x | x | R. Scott Rasmussen | | RASMSCOT@ISU.EDU |
| 63 | Illinois Valley Community College | | | | | | | James Gibson | JIM_GIBSON@IVCC.EDU | |
| 64 | ITT Technical Institute | | | | | | | Steve Shen | | SSHEN@ITT-TECH.EDU |
| 65 | IPFW | x | x | x | x | x | x | Harold Broberg | BROBERG@IPFW.EDU | |
| 66 | IUPUI | x | x | x | x | x | x | Rich Pfile | RPFIL@IUPUI.EDU | |
| 67 | Iowa Western Community College | x | x | x | x | x | x | Doug Corteville | DCORTEVILLE@IWCC.EDU | |
| 68 | Kansas State University - Salina | x | x | x | x | x | x | Saeed Khan | SAEED@SAL.KSU.EDU | |
| 69 | Kean University, NJ | | | | | | | Kamal Shahrab | | SHAHRABI@KEAN.EDU |
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| 73 | Linn State Technical College, MO | | | | | | | David Phillips | | DAVID.PHILLIPS@LINNSTATE.EDU |
| 74 | Louisiana Tech University | x | x | x | x | x | x | Jim Eads | EADSW@LATECH.EDU | |
| 75 | Macomb Community College, MI | | | | | | | Peter Klein | KLEINP@MACOMB.EDU | |
| 76 | Marion Technical College, OH | | | | | x | | Ed Margraff | | MARGRAFFE@MTC.EDU |
| 77 | Metropolitan State Coll. of Denver | | | | | x | x | Richard Pozzi | POZZIR@MSCD.EDU | |
| 78 | Miami University - Hamilton, OH | | x | | | | x | Ayo Abatan | ABATANAO@MUOHIO.EDU | |
| 79 | Michigan Technological University | | | | x | x | x | Nasser Alaraje | ALARAJE@MTU.EDU | |
| 80 | Middlesex County College, NJ | | x | x | | | | Jack L. Waintraub | | JACK_WAINTRAUB@MIDDLESEXCC.EDU |
| 81 | Milwaukee School of Engineering | | x | x | | | x | Owe G. Petersen | PETERSEN@MSOE.EDU | |
| 82 | Minnesota State University | x | x | x | x | x | x | William Hudson | WILLIAM.HUDSON@MNSU.EDU | |
| 83 | Missouri Western State University | x | x | x | x | x | x | Virendra K. Varma | VARMA@MISSOURIWESTERN.EDU | |
| 84 | Monroe Community College, NY | | | | x | x | | Robert Novak | | RNOVAK@MONROECC.EDU |
| 85 | Morehead State University, KY | | | | | | x | Ahmad Zargari | | A.ZARGARI@MOREHEADSTATE.EDU |
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