

ECETDHA Business Meeting  
ASEE – Pittsburgh, PA

Tuesday, June 24, 2008  
7:00am – 8:15am



ECETDHA Business Meeting  
Tuesday, June 24<sup>th</sup> at 7:00am – 8:15am  
ASEE 2008 – Pittsburgh, PA

Agenda

1. Call to Order (R. Land)
2. Approval of February Meeting Minutes\* (R. Land)
3. Treasurer's Report\* (W. Buchanan)
4. Mini-Grant Awards (R. Land)
  - a. Status report on December 2007 awards\*
  - b. June 2008 award announcement\*
5. Report on CTAA Activities (T. Hall)
6. Assessment Testing Project Update (R. Land)
  - a. Body-of-Knowledge Definition
  - b. Core/specialty topics
  - c. Sample questions
  - d. Schedule Review/Update
  - e. See <[www.personal.psu.edu/re19/EET\\_Test/](http://www.personal.psu.edu/re19/EET_Test/)> {upper & lower case matter}
7. Approval of Change to Bylaws\* (R. Land)
8. Discussion and vote on change to mini-grant guidelines\* (R. Land)
9. Discussion of Future of EET/ECET – What is the Right Strategy for Program Evolution? (B. Herrick)
10. Nomination/Election of New Officers (R. Land)
11. Comments for Good of the Association
12. Adjournment of Business Meeting

\* – Indicates attachments



Electrical and Computer Engineering Technology Department Heads' Association  
Semi-Annual Business Meeting \*\* CIEC 2008 \*\* New Orleans, LA

Tuesday, February 12, 2008 at 5:00 p.m.

Minutes

The meeting was called to order by the Chair, Ron Land, at 5:00 p.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 19 attendees (a CIEC record) were:

<u>Name</u>	<u>Affiliation</u>
IPFW	Gary Steffen
IUPUI	Rich Pfile
Northwestern State U.	Tom Hall
Old Dominion University	John Hackworth
Penn State- New Kensington	Ron Land
Purdue University	Bob Herrick
RIT	John Stratton
RIT	Mike Eastman
RIT	Steve Ciccarelli
SME	Debbie Clark
SME	Kris Beauchamp
Southern Poly	Charlie Bachman
Texas A&M University	Jay Porter
Texas A&M University	Walter Buchanan
University of Dayton	Scott Segalewitz
University of Maine	Scott Dunning
Weber State University	Bill Clapp
Weber State University	Steve Green
Western Carolina University	Ken Burbank

Approval of the minutes of the June 26, 2007 meeting in Honolulu 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 \$4,647.76. Membership as of this date stands at 76.

Ron Land reported on the Mini-Grants Awards Program. The first awards were made in January, 2008. The Association's mini-grant program officially got off the ground last December with the acceptance of our first set of proposals. Seven proposals were submitted from seven different schools (Purdue, Old Dominion, Rochester Institute of Technology, Texas A&M -Corpus Christi, Dutchess Community College, Florida A&M, and University of Central Missouri). Funding requests ranged from a minimum of \$590 to the maximum permitted award of \$1000. All were quality proposals, but the Association guidelines permit no more than two awards each cycle. The awards in this inaugural cycle went to Dr. Steve Hsiung of Old Dominion University and Professor Dan Barbuto of Dutchess County Community College. Dr. Hsiung's award will support a workshop at ASEE's 2008 Annual Conference to demonstrate and distribute a newly-developed PIC microcontroller training system and associated curricular materials. Professor Barbuto's award will support the design and development of an inexpensive PLC trainer setup, including associated teaching materials, test programs, and demonstration circuits. Design and construction details and related curricular materials will be made available to Association members at the project's completion. Congratulations to both Steve and Dan. Full details of the proposal process and requirements can be found through the Association's link on the ETD website <<<http://www.engtech.org/>>>. Complete details of Steve's and Dan's projects can be found there as well.

The planned update to grant award guidelines is as follows. The process of evaluating this first set of grant requests highlighted some weakness in the evaluation process. In their current form, the grant guidelines have only one specific requirement for proposals to be considered, and that is the project must have promise of "benefit to the Association." While clearly an important constraint, this one criterion provides little guidance to the executive committee regarding exactly what should be considered in determining the expected "benefit." As a result, the Chair with the help and concurrence of the executive committee will be proposing an update to the guidelines this spring. The proposed update will be e-mailed to the membership well in advance of the June meeting at ASEE in Pittsburgh so that an approval vote can be taken at that time.

Ron Land reported on the nomination/election of new officers. Elections are due next year, i.e., Secretary, Treasurer, 4-Year Rep., and 2-Year Rep. Be thinking of nominations or volunteering. Current officers and terms are as follows:

<u>Position</u>	<u>Current Officer Holder</u>	<u>Term Expires</u>
Chair	Ron Land	June 2010
Chair-elect	Scott Segalewitz	Begins June 2008
Immed. Past Chair	Tom Hall	June 2010
Sec. /Treasurer	Walter Buchanan	June 2009
4-Year Rep	Charlie Bachman	June 2009
2-Year Rep	Surrinder Jain	June 2009

The CTAA Report was made by Tom Hall as follows:

1. Program evaluator education

- ABET has assumed responsibility of training for new PEVs.
- The good news is that ABET is paying for most of the transportation and lodging costs associated with this training.
- PEVs must complete on-line pre-training exercise before attending the face-to-face training.
- The face-to-face training is conducted as a mock visit.
- IEEE continues to work on its own on-line training. This will be used for refresher training and for new PEVs to received additional training prior to their face-to-face ABET training.

2. Program criteria reviews

- The changes in the EET program criteria were forwarded to the IEEE Educational Activities Board last summer.
- Input has been collected for changes to the Computer ET program criteria and presented to CTAA. The proposed changes in wording will be presented to the ECETDHA membership this spring.
- CTAA agreed to move the review of program criteria forward one semester. The members should receive a request to comment on the EMET and TET program criteria later this semester.

3. PEV selection

- PEV applications will be submitted directly to ABET in the future rather than to the societies
- Selections will be based on the ABET Competency Model

Ron Land reported on IEEE Educational Resources as follows:

1. 'Try Engineering' webpage <<<http://www.tryengineering.org/home.php>>>
  - Lesson plans for a variety of technical topics - particularly good for introductory courses to intrigue new students or for introducing secondary school students to engineering and technology
  - Recruiting tools (introduce your local HS guidance counselors, teachers, and parents to these so they can pass them along to their students):
    - + "Explore Engineering"
    - + Play 'engineering' games
    - + Ask real engineers your question
    - + Find a university
    - + Investigate the lives of real engineers
  - Your organization can add programs to the site to advertise them to potential students
  - IEEE is also looking for input re. other useful information and/or specific topics that could be added to the site
2. Teacher In-service Program for HS - training for IEEE volunteers to work with HS teachers to bring engineering & technology subjects to pre-university students
3. Real-world Engineering Projects - call for projects from university faculty to design exciting, relevant projects for freshman engineering & technology students that require them to use critical thinking skills to solve engineering problems in a meaningful context and excite them about careers in technical fields.

Ron Land reported on the "External P&T Reviewer Database" and where we are going from here. He also reported on the second Interface Article from the Association. It will also appear on the ETD Listserv.

Ron Land plus Debbie Clark and Kris Beauchamp of SME reported on the Assessment Test Project. As of late December, the project to develop a prototype assessment test for electronic and electrical engineering technology graduates officially became a reality. Thanks to the sponsorship and endorsement of IEEE's outgoing Vice President of Educational Activities, Dr. Moshe Kam, the Institute has authorized \$75k to fund this project. Staff members from the Society of Manufacturing Engineers test development group, along with representatives of the IEEE, have been assigned the role of managing and guiding the development process, and volunteers from the Association have signed on to develop the technical details of a 'body of knowledge' to be covered by the test and to develop actual test questions. The management team and body-of-knowledge teams are listed below.

Current plans call for a draft of a prototype test to be available for review late this summer and ready for a trial run by the end of the year. Full details of the project plan can be found on the Engineering Technology Division website <<<http://www.engtech.org/>>>. Just click on the 'Organizations' tab at the top of the page and follow the link to 'ECET.'

Project Management Team:

- Debbie Clark (chair) - SME
- John Pan - SME
- Arnie Peskin - IEEE
- Carolyn Solimine - IEEE
- Tom Hall - IEEE/ECETDHA
- Ron Land - ECETDHA

Body of Knowledge Team:

- Bill Clapp, Weber State University
- Charlie Bachman, Southern Polytechnic State University
- Scott Dunning, University of Maine
- Michael Eastman, Rochester Institute of Technology
- Tom Hall, Northwestern State Univ.
- Ron Land, Penn State University-New Kensington Campus
- Beshara Sholy, Saint Louis University
- John Hackworth, Old Dominion University
- William Stanley, Old Dominion University
- Dave Loker, Penn State-Erie (part-time)
- Bob Dreyer, Chattanooga State Technical Community College (part-time)

The meeting was adjourned at 7:00 p.m.

Respectfully submitted,

A handwritten signature in black ink that reads "Walter Buchanan". The signature is written in a cursive style with a large initial "W".

Walter Buchanan,  
Secretary-Treasurer

**Treasurer's Report – June 24<sup>th</sup>, 2008 – ASEE Conference – Pittsburgh, PA**

**Statement of Receipts – May 30, 2008**

<u>Membership Dues Received:</u>	
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
<u>Total Membership Receipts:</u>	<b>\$3,875.00</b>
 <u>Interest Received:</u>	
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
<u>Total Interest Received:</u>	<b>\$146.42</b>
<u>Total Receipts:</u>	<b>\$4,021.42</b>

**Statement of Expenditures – May 30, 2008**

<u>Expenditures:</u>	
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
<u>Total Expenditures:</u>	<b>\$3,704.06</b>

**Statement of Cash Flows – May 30, 2008**

<u>Beginning Cash Balance June 30, 2006:</u>	\$4,896.34
Membership Dues:	\$3,875.00
Interest Received:	\$146.42
<u>Total Cash Received:</u>	<b>\$4,021.42</b>
<u>Expenditures:</u>	<b>\$3,704.06</b>
<u>Net Addition to Fund:</u>	<b>\$317.36</b>
<u>Cash in Bank:</u>	<b>\$5,213.70</b>



Status Report on Mini-grant Project Awards from December 2007

- Short presentation by Steve Hsiung re. Microcontroller Training System & Workshop
- Presentation by Dan Barbuto re. Hands-on Training for PLCs (see following document)



## Hands-On Activities with Programmable Logic Controllers (PLCs)

Notes: Professor Barbuto will be presenting this work at the SAME-TEC (Semiconductors, Automated Manufacturing, Electronics-Training & Education Conference) in July in Austin Texas. A link to the conference page is: [http://www.matec.org/convention/docs/session\\_mechatronics.pdf](http://www.matec.org/convention/docs/session_mechatronics.pdf).

The files referenced in *italics* in the following outline can be found on the ECETDHA page of the ETD website <<<http://www.engtech.org/>>>. Click on the Organizations tab and follow the link to the ECET and then the link to the Dutchess CC Mini-grant. The files are all contained in a .zip file.

SAME-TEC 2008 Austin, TX  
Mechatronics Workshop Thurs 7-31-08

Dan Barbuto, [barbuto@sunydutchess.edu](mailto:barbuto@sunydutchess.edu)  
Dutchess Community College Electrical Technology  
Program Chair & Assistant Professor  
Poughkeepsie, NY 12601

### Why this lab activity is important

- There is a demand for technicians with PLC experience
- Demand in many different sectors
  - large and small companies doing manufacturing, distribution, power generation... anything with automated processes
  - Does not 'marry' curriculum to one sector – serves many sectors

Demand increase... enrollment increase

- Basic PLC skills in demand to enable effective troubleshooting and system startup
  - PLC connections
  - Hardware/ Software diagnostics
  - Basic PLC Programming Skills (ladder logic, PLC notations, download/upload programs)
- Hands-on learning activities teach these skills best.
- Many Electrical Technology (ELT) programs are looking for more hands on learning – HOW?
- Building lab activities can be very time consuming
  - Acquire materials, software, create teaching materials
- Buying lab activities can be expensive and large
  - Comes complete with all hardware, software, teaching materials, but high budget and space requirements

### PLC Lab Bench Hardware

- Small PLC
  - I used A-B Micrologix series
  - A few I/O points (approx. 10-14), on the CPU block
- Switches, Indicating Lights (oiltight \$\$)
- Additional Sensors & Actuators
  - IR beam break, fan motor, pump motor, analog input device...
- Terminal Block
- Accessories
  - DIN Rail, wire trough, plywood, wire labels, fuse, switch...
- ***Complete list of materials included with this presentation. [PLC lab bench materials list.doc]***

- Approximate cost of \$1200 per PLC lab bench
  - Approximately \$600 for the PLC
  - without alternate acquisition of select materials

#### Students wire all components

- Worthy exercise for traditional students
  - may or may not have experience wiring real devices
  - Gives the feel for remote location of components vs. symbols in ladder logic
- Teaches good wiring habits, such as labeling wires on both ends
- Much easier and less time consuming than instructor building benches
- ***Wiring Diagram included with this presentation (using the Allen-Bradley/ Rockwell Automation Micrologix 1200 PLC [1200 plc wiring diagram.bmp]***
- Ladder Logic Software
  - License arrangements vary
  - Software shows PLC actions on screen

#### PLC Lab Bench Teaching Materials

- ***Lecture notes included with this presentation [PLC lab bench lecture notes.doc]***
  - Vocabulary, memory types, I/O internal circuitry
- ***Lab Procedure included with this presentation [PLC Lab procedure.doc]***
- Text used with PLC Activity: Modern Control Technology; Killian

#### Lab Bench Activity Examples

- Motor Start/ Stop (basic):
  - ***Screen shot of ladder logic & Micrologix software file included [motor start stop example screen shot.bmp & motor start stop.RSS]***
  - Contacts, seal-in circuit, inverse logic
- Sump Pump (basic)
  - ***Screen shot of ladder logic & Micrologix software file included [sump pump latching example screen shot.bmp & SUMP PUMP w Latching Out.RSS]***
  - Hysteresis, interconnected contacts (high-low switch)
- Batch Mixer (intermediate)
  - ***Screen shots of ladder logic & Micrologix software file included [tank circuit a.bmp, tank circuit b.bmp, & tank circuit.RSS]***
  - Counter, timer, memory locations

Electrical and Computer Engineering Technology Department Heads Association :  
MiniGrant Sponsorship Application for Project

Project Title: Departmental Honors Thesis Project: ECET Honors Robotics Exploration

Project Director:

Student: Joshua Galloway

Advisor: Assistant Professor Daren R. Wilcox  
Electrical and Computer Engineering Technology  
Southern Polytechnic State University

1100 S. Marietta Parkway

Marietta, GA 30060-2896

678-915-7269

dwilcox@spsu.edu

Abstract:

The ECET Honors student Joshua Galloway will attempt to develop a prototype for an autonomous landmine and unexploded ordinance (UXO) seeking robot. The system is to provide functionality including: locating metallic landmines within a defined area/environment, marking the location of said landmines, and avoiding destruction of the robot. The main goal is to construct the robot on an inexpensive platform, which could be used by under-developed nations in their humanitarian de-mining efforts. 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 (PCB) layout/production. The project is to be completed by the end of Fall Semester 2008 for submission to the SPSU Honors program for graduation with departmental honors. The research will be documented in an undergraduate honors thesis. It is the hope of the research to identify an inexpensive technology that can be employed by the humanitarian de-mining effort of the more than 100 landmine/unexploded ordinance affected countries in the world (US Department of State Fact Sheet, 2 July 2003).

Justification & Project Results:

Robotics is a growing field in the engineering technology educational community, and has many humanitarian applications. Applications aimed at removing people from potentially hazardous or deadly situations are laudable in their own right, and the purposed project is in keeping with this ideal. The project would benefit the ECET community by increasing awareness of its contribution to potentially life-saving research, and at SPSU in particular, it would open the door for similar projects. Project outcomes should provide a working prototype of the base robotics platform with an identification of the most appropriate technology for inexpensive detection of mine and mine-like targets as well as significant documentation in the form of an undergraduate thesis.

Anticipated Timeline:

- April 08 - Submit proposals to obtain funding and have the HNRS Thesis course entered in the Fall 08 catalog
- June 08 - Begin searching for robot chassis as well as contacting appropriate Department of Defense organizations associated with landmine and UXO detection
- July 08 - Near completion of the robot chassis, and begin testing mine detection modules
- September 08 - Complete chassis and decide on mine detection module to be used in final project; begin development of PIC18 or appropriate microcontroller based embedded system for autonomous action
- October 08 - Produce one-off PCB and begin project synthesis followed by testing
- November/Dec 08 - Complete prototype and generate undergraduate thesis for documentation

Anticipated Budget:

Small robotic chassis (x3): \$150  
Ultrasonic Range Finders (x4): \$150  
Actuators (x2): \$300  
GPS Unit: \$100  
Accelerometer Dual Axis: \$70  
Liquid Crystal Display: \$30  
Batteries: \$200  
Battery Charger: \$80  
Integrated Circuits for Control Logic and Power Distribution: \$200  
Mine Detector/Sensor: \$100  
PCB and Manufacturing Materials: \$100  
Approximate Total: \$1480.00

Requested Grant: \$1000.00

**BY-LAWS**

**ELECTRICAL AND COMPUTER ENGINEERING TECHNOLOGY  
DEPARTMENT HEADS ASSOCIATION**

Notes:

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1. Edited for inclusive language; approved by the membership June, 1992
2. Edited to change the Chair's term of office to two years; approved by the membership June, 1992
3. Edited to change the name from *Electrical/Electronics Engineering Technology Department Heads Association (E/EETDHA)* to *Electrical and Computer Engineering Technology Department Heads Association (ECETDHA)*, approved by the attending members at the 06/19/00 meeting, St. Louis, MO.
4. Draft CHANGES: Edited to change terms of some officers and to convert office of Vice-Chair to Chair-Elect. Edited to allow membership to be contacted by other forms than regular mail, June, 2001, Lyle McCurdy.
5. Version for approval at ASEE 2004 Annual Meeting with above changes incorporated, M. Needler, 6-17-04. Approved by the membership, 6-23-04.
6. Edited to incorporate a single grade of membership as approved by the voting members attending the semi-annual meeting in Salt Lake City, T. Hall, 6-23-04.
7. Edited following 2005 meeting at CIEC, Savannah, to correct/update language in some paragraphs and to place the requirement that members represent programs located within regionally accredited schools, colleges, or universities. T. Hall, 2-7-05
8. Proposals to (1) change term of office of institutional representatives; (2) assign chairmanships of standing committee; (3) identify time frame for appointment of standing committee members each year; and (4) consolidation and reformatting of descriptions of standing committees to improve clarity. R. Land. Approved 6/26/07
9. Proposal to (1) split Secretary/Treasurer position into two separate officer positions; (2) modify dates of election and terms of service of officers to be consistent with historical chronology of elections; and (3) make minor editorial changes to correct errors in text.



**BYLAWS**  
**ELECTRICAL AND COMPUTER ENGINEERING TECHNOLOGY**  
**DEPARTMENT HEADS ASSOCIATION**

Approved June 26, 2007

**I. Name and Purpose**

1. The name of this organization shall be the Electrical and Computer Engineering Technology Department Heads Association (ECETDHA), hereinafter referred to as the Association.
2. The purpose of the Association shall be the advancement, understanding, and appreciation of electrical, electronic, and related engineering technology programs at all levels.
3. It is further the purpose of the Association to provide a mechanism whereby the collection and dissemination of data, opinions, and viewpoints of engineering technology program administrators may be brought to bear in advancing the above stated goal and meeting such other goals as are deemed appropriate by the Association.

**II. Membership and Eligibility**

Upon payment of dues, a one fiscal year membership shall be provided to Department Heads, Directors, Coordinators, Program Chairs (or similarly named leaders) of post-secondary programs in Electrical and Computer Engineering Technology that are the responsibility of the Committee on Technology Accreditation Activities (CTAA) of the Institute of Electrical and Electronic Engineers (IEEE). Members must represent programs from institutions that are accredited by one of the Regional Institutional Accrediting Agencies recognized by the U.S. Department of Education.

**III. Administrative Year**

The administrative and fiscal year of the Association shall be the twelve month period beginning July 1 and ending the following June 30.

**IV. Executive Committee**

1. The Association shall have an Executive Committee. The Executive Committee will consist of the following members:
  - (a) The Chair of the Association
  - (b) The Chair-Elect of the Association
  - (c) The Treasurer of the Association
  - (d) The Secretary of the Association
  - (e) The most immediate Past Chair of the Association who is a member and who is willing to serve on the Executive Committee
  - (e) A representative of a two-year ECET program who is a member of the Association and is willing to serve on the Executive Committee,
  - (f) A representative of a four-year ECET program who is a member of the association and is willing to serve on the Executive Committee.

2. The Executive Committee shall have sole responsibility for the financial operation and management of the Association's affairs.

## **V. Officers and Duties**

1. There shall be four officers of the Association -- a Chair, a Chair-Elect, a Treasurer, and a Secretary. *{ Correction -- Membership requirement will be retained. }*

2. The Association shall also have two institutional representatives, one from a two-year degree granting institution of engineering technology, and one from a four-year degree granting institution of engineering technology. Institutional representatives must be members of the Association.

3. Officer duties:

- (a) The Chair shall preside at meetings of the Executive Committee, and shall be responsible for the management of the Association and for meeting the needs of the constituency the association represents. The Chair, subject to the approval of the Executive Committee, shall make such appointments to ad hoc and standing committees of the Association as necessary in furtherance of the aims and objectives of the Association. The Chair shall also be responsible for notifying the membership of the spring and fall deadlines to apply for Association mini-grant funds. The notifications should be sent out at least one month prior to the application deadlines specified in the Association's Mini-grant Guidelines, and should be done via electronic means to ensure timely delivery.
- (b) The Chair-Elect shall perform the duties of the Chair in the latter's absence. In addition, the Chair-Elect shall assume such other duties as are delegated by the Chair.
- (c) The Treasurer is responsible for the production, maintenance, and reporting of accurate financial records of the Association. The Treasurer is also responsible for the necessary and appropriate transfer of funds, the arranging of audits, and the submission of financial reports as required or directed by the Executive Committee. The Treasurer shall also monitor and maintain appropriate financial records pertaining to grants awarded by the Association, as specified by the Association's Mini-grant Guidelines. The Treasurer will also assume such additional duties as are delegated by the Chair.
- (d) The Secretary is responsible for taking, organizing, and disseminating to the membership minutes of all Association business meetings. The Secretary shall also maintain a list of current Association members and an archive of lapsed memberships for the previous three years. The Secretary shall also be responsible for maintaining and disseminating to the membership documentation produced as a result of grants awarded by the Association. In the event that the Secretary cannot attend a scheduled Association business meeting, it shall be the Secretary's responsibility to arrange, in consultation with the Chair, for an alternate to take minutes for the meeting. The Secretary will also assume such additional duties as are delegated by the Chair.
- (e) The institutional representatives will serve to provide input from their respective institutions to the Executive Committee. They may also serve to disseminate information to their respective institutions.

## **VI. Terms of Office**

1. The term of the office of all officers and institutional representatives of the Association shall begin July 1 of the year in which they are elected and shall end two years later, expiring on June 30 of the second year of the term, except as noted below. All elections will be completed by no later than the end of the June business meeting of the Association.
2. The Chair Elect shall serve two years as Chair-Elect, the following two years as Chair, and then two additional years as Past Chair of the Association.
3. Elections for Chair-Elect and the Treasurer shall be held in odd-numbered years.
4. Elections for Secretary and Institutional Representatives shall be held in even-numbered years.
5. To ensure full staffing of the Executive Committee at all times, the sitting Chair shall not be eligible for election to consecutive terms. He or she may, however, be re-elected to the Chair position in non-consecutive terms.
6. Consecutive election to the position of Treasurer, Secretary, or Institutional Representative is permitted.
7. Officers shall, in any case, continue until their successors are duly elected and take office.

## **VII. Standing Committees**

1. The following shall be the Standing Committees of the Association:
  - (a) Membership Committee
  - (b) Nominating Committee
  - (c) Publications Committee
2. Duties and Makeup of the Standing Committees are:
  - (a) Membership Committee:
    - Shall review all applications for membership in the Association and will verify the validity and correctness of the information of all applications for the Association. It shall also verify that the applicant satisfies the criteria for membership and report to the Secretary the results of such application reviews.
    - The Membership Committee shall consist of a Chair and such other members as deemed necessary by the Executive Committee of the Association. The Chair shall be the Secretary of the Association.
  - (b) Nominating Committee:
    - Shall assist in making nominations and appointments for all elected and appointed positions and committees of the Association.
    - Nominating Committee duties shall include:
      - i. Establishing and maintaining an active and up-to-date file of members of the Association who, actually or potentially, constitute the most promising group from which effective management and spokespersons can be drawn.
      - ii. Encouraging of qualified individuals to accept committee assignments or other positions of responsibility that further the growth and understanding of the Association and its goals.

- iii. Upon request from incoming officers and committee chairs, suggesting names of qualified individuals for positions to be filled.
  - iv. Prior to March 1 of each year, submitting to the Association Secretary a written list containing at least one eligible candidate for each officer and institutional representative position of the Association that is due for election in that year.
  - v. Ascertaining that eligible candidates for election meet the Association's requirements and are willing to serve if elected.
- Membership of the Nominating Committee shall consist of a Chair and at least two other members of the Association. The Chair of the Nominating Committee shall be the most immediate Past Chair of the Association who is able and willing to serve in this capacity. Additional members of the Nominating Committee shall be appointed by the Chair of the Association. With the exception of the individual serving in the capacity of Nominating Committee Chair, no member of the Nominating Committee shall be a current member of the Executive Committee of the Association.
- (c) Publications Committee:
- Shall prepare and arrange for suitable means for dissemination of newsworthy items and notifications to the membership of the Association.
  - Membership of the Publications Committee shall consist of a Chair and such other members as are deemed necessary by the Executive Committee. The Chair shall be the current Chair of the Association.
3. Appointments to standing committees shall ordinarily be for the duration of the current administrative year, but shall, in any case, extend until successor appointments have been made. Committee Chairs will make replacement appointments as soon as practical following the Association's Annual Meeting in June.
  4. Except as may be otherwise specified in the Association Bylaws, the committee chairs shall appoint their committee members subject to the ratification of such appointments by the Executive Committee of the Association.
  5. If a designated member of the Executive Committee is not able to chair a standing committee as specified above, an alternative member of the Executive Committee shall be assigned to chair that committee and shall be responsible for liaison between it and the Executive Committee.
  6. A standing committee Chair may request that the Secretary place items on the agenda for an Executive Committee meeting.

## **VIII. Affiliation with Other Organizations**

The Association may affiliate with other groups or organizations provided the proposed affiliation has been reported on favorably by at least a two-thirds majority of the Executive Committee of the Association and that this affiliation has also been ratified by a majority of the Association members voting at a regularly scheduled meeting of the Association.

## **IX. Meetings**

1. The Association shall hold its Annual Meeting in June of each year in conjunction with the annual meeting of the American Society for Engineering Education (ASEE). A second meeting will generally be scheduled to coincide with the ASEE's CIEC conference held in the January/February timeframe each year.
2. The Association shall hold such additional meetings as are required, provided that notice of such other meetings is given at least 30 days prior to the meeting.
3. Association business shall normally be conducted at the Annual Meeting or at any other meeting for which the required notice has been given. Association business however, may be transacted at any other meeting sponsored by the Executive Committee of the Association.
4. A majority of the members of the Executive Committee shall constitute a quorum at an Executive Committee meeting at which Association business is transacted and that requires a vote to be taken.

#### **X. Finances and Dues**

1. The Treasurer shall be responsible for the preparation of a budget detailing the current financial status and the actual fiscal operation of the Association for the previous administrative year, and indicating the expected expenditures for the coming sixth months. The budget shall detail line items of income and expense and shall be presented to the Executive Committee of the Association at each scheduled business meeting.
2. Dues for membership in the Association shall be fixed by the Executive Committee of the Association with due regard for the proposed budget for the subsequent fiscal year's operations.
3. Supplementary reports indicating the Association's financial status shall be prepared by the Treasurer and presented to the Executive Committee as requested.
4. The Association is authorized to seek and accept gifts and grants from other organizations and individuals in furtherance of the aims and goals of the Association.

#### **XI. Election of Officers and Institutional Representatives**

1. Nominations submitted by the Nominating Committee shall be made known to the voting membership of the Association through the means most suitably determined by the Publications Committee on or before April 1 of each year.
2. Additional nominations may be made by a petition signed by at least five voting members of the Association or five percent of the voting membership, whichever is greater, not later than May 1 of each year.
3. In the event there is no contest for any office, the election for that office shall take place at the Annual Meeting by voice vote.
4. In the event there is more than one nominee for any elective position, the election for that position shall be conducted by means of a ballot sent to all voting members. These ballots shall be distributed no later than May 15<sup>th</sup> and must be returned no later than June 1.
5. The ballot distributed to members shall also list, for information, the names of the nominees for all uncontested positions.
6. Only votes for nominated candidates shall be counted.

7. A plurality of the votes cast shall be necessary for the election of an officer. The candidates who receive the highest number of votes for the Institutional Representative positions shall be the representatives elected.
8. Should a vacancy occur in the office of Chair of the Association, the Chair-Elect shall move to the Chair position. A vacancy in any other office or in the positions of Institutional Representative shall be filled through appointment by the Chair with the approval of the Executive Committee. Such appointments shall complete the unfinished term of the replaced officer.

## **XII. Amendments to the Bylaws**

1. Recommended amendments to the Bylaws and the reasons for such shall be sent to all voting members of the Association at least thirty days in advance of the Annual Meeting or any other meeting called by the Executive Committee.
2. An affirmative vote of at least two-thirds of the eligible voting members present at an Annual Meeting shall be required for enactment.

Proposed Changes to --

GUIDELINES FOR ECETDHA MINI-GRANTS

Approved June 26<sup>th</sup> 2007

The Electrical and Computer Engineering Technology Department Heads Association (ECETDHA) sponsors a mini-grant program that provides members of ECETDHA, and/or faculty and staff in their organizations, an opportunity to receive partial funding for projects that will benefit the Association or advance its goals. These guidelines define what is required to apply for a grant and the obligations of grant recipients to present final results from funded grant activities.

Types of Projects to be Funded

It is the Association's intent to provide considerable latitude in the projects that it chooses to fund. Given that the membership in the Association represents a variety of related but substantively different educational disciplines, it is not necessary that a project benefit the entire spectrum of the Association to receive funding. However, it is expected that a funded project benefit a significant portion of the membership. The benefits could be to a particular educational discipline, the development and use of specific teaching methods, or broader topics benefitting the full spectrum of Association membership. It is also possible that projects be of primary use to a particular college or system as long as the information from the project will also be of interest to the larger ECETDHA community.

To ensure that funded projects meet these requirements, the review committee will use a 5-point Likert scale to score all proposals according to their impact on the following criteria, weighted as indicated:

- Breadth of appeal of the project to Association members (30%)
- Innovation and creativity of the proposed project (20%)
- Practicality of use or adoption of the project by Association members (20%)
- Affordability of the project for use or adoption by Association members (20%)
- Timeliness of the project (10%)

To receive funding, a project must earn at least an average score of 3 when all scoring components are aggregated. If several submitted proposals achieve this threshold score, the Association will award funds to the project earning the highest score from the assessment process. Additionally, at its discretion and if funds permit, the Association may choose to fund the proposal earning the second highest assessment score.

Funding Amounts

Grants of any value up to a maximum of \$1000 per project will be awarded. However, it is the intent of the Association that grant funds provide no more than 50% of the required funding for the proposed project. Therefore, applications for grants must include a budget that shows need for additional funding in an amount at least equal to the amount requested from the Association. The requestor is expected to find funds for the remaining requirements of the project from other sources.

Project Results

If awarded funds, the director of a project must, at the conclusion of the project, provide the Association with a report describing the outcome of the project. The report will be made available to the Association membership to ensure broad awareness of the potential benefits accruing from the project. Further, though not required, it is hoped that most projects will result in publication of papers and/or presentation of results at the ASEE's annual conference, the CIEC, the FIE, or possibly submission of an article to the *Journal of Engineering Technology*.

Contents of a Grant Proposal

A proposal request should include:

1. Identification of Project Director, including address, phone number, and e-mail address.
2. An abstract introducing the project and clearly stating the issues motivating the project.

3. A justification statement that defines the purpose of the project, objectives to be achieved, and benefits to the electrical and computer engineering technology community.
4. Specific project results anticipated upon completion of the project.
5. Anticipated time line (two years maximum) clearly identifying key tasks, milestones, and phases of the project.
6. Anticipate budget showing use of the grant funds and a statement of where funds over and above the grant funds will be obtained.

Requests should typically require no more than three (3) typed pages, not including a one page budget statement.

#### Submission Deadlines

Applications for grants will be accepted twice each year, once prior to the Association's summer business meeting held at the ASEE annual conference and once prior to the Association's winter business meeting held at the CIEC. Summer applications are due by May 1<sup>st</sup>, and winter applications by December 1<sup>st</sup>. Applications should be provided in electronic form to the ECETDHA Chair. Awards of funds will be decided prior to the upcoming Association business meeting, and any award of funds will be announced at the business meeting.

#### Review Committee

Review and approval of funding requests will be the responsibility of the Executive Committee of the Association. A unanimous vote of the Committee will be required for approval of funding. The Chair of the Association will forward requests for funding to committee members no less than one month prior to the next Association business meeting. Deliberations will be coordinated by the Chair, and decisions made in time to be announced at the upcoming business meeting.

#### Sample Funding Request

A sample funding application is attached.

#### Unused Funds

If the project is not completed, funds must be returned to the Secretary/Treasurer of the Association.

#### Other Funds

Applicants for funding may use ECETDHA's funding of a project to recruit funds from other sources.

#### Revisions

Suggestions on project modifications may be made by the Association's review committee, but any such recommendations do not have to be followed for a project to receive funding.

#### Restrictions

Other than being used in a prudent manner for the approved project, there are no restrictions on the use of grant money.

#### Copies of Final Report

The project director should provide the ECETDHA with at least 3 copies of the completed project report for inclusion in the ECETDHA archives and working files.

#### Process for Notification of Grant Awards

- o The Chair of the Association will notify the Project Director of a successful grant application upon approval by the grant review committee.
- o The Project Director will inform the Chair of the Association where the check should be sent, and provide written agreement to provide the Association copies of the final project report or article and the anticipated date of the report availability.

- The Association Chair will notify the Association Secretary/Treasurer of the approval of the project and where the grant check should be sent.
- The Association Secretary/Treasurer, or his/her successor, will monitor the projects and maintain appropriate files of completed projects to encourage those directors who have not yet completed their projects to do so.
- The Association Secretary/Treasurer will include, as part of the standard Treasurer's report, the status of all in-progress projects at each Association business meeting.



SAMPLE REQUEST FOR AN ECETDHA MINI-GRANT

ALPHA INSTITUTE OF ENGINEERING TECHNOLOGY  
ENGINEERING TECHNOLOGY DEPARTMENT  
222 West Pike, Anywhere, NI, 54321

PROPOSAL FOR AN ECETDHA MINI-GRANT

ELECTROMECHANICAL MACHINES LABORATORY SURVEY

John Q. Smith  
Associate Professor  
Telephone 222-333-4444  
Fax 222-333-5555

December 1, 2007

**Abstract:** The grant is requested to fund a survey of colleges to determine the requirements for state-of-the-art requirements for electric motors and controls which are to be used in the teaching of courses in electric motors, controls and an introduction to robotics.

**Justification:**

Instruction in electrical machines has changed significantly in the last two decades. The graduate of an ET curriculum is now required to know general information about fractional horsepower control motors, stepper motors and solid state motor control, in contrast to being required to design motors and generators of several horsepower.

It is the intent of this proposal to survey colleges offering both AAS and BS programs in EET to determine:

1. The amount of instruction in machines now undertaken.
2. The type of equipment now available in their labs.
3. The type of equipment which should be available
4. The suitability of textbooks available in this discipline.

The purpose of the survey is to help in the updating of various engineering technology curricula in electric motors and controls, by providing information from other institutions to their instruction and equipment available.

**Intended Report:**

A report will be generated which will summarize the information provided by the colleges responding to the survey, to draw any conclusions which are apparent from the survey results, and to make projections for any requirements which appear to be in order.

It is intended that the report will be in a form suitable for publication in the *Journal of Engineering Technology*.

**Time Line:**

Development of Survey	Spring 2008
Mailing of Survey	Sept. 2008
Return of Survey	Dec. 2008
Compilation of Data	Spring 2009
Writing of Report	Fall 2009
Submission of Article	Dec. 2009

Budget:

As seen on the budget attached, the mini-grant will help the institution and the faculty member to fund mailing and duplication costs. The additional funds to complete the project will come from the Alpha Institute operating funds.

Postage:	600 colleges @ \$0.40	\$240
Paper and Duplication:		\$360
Telephone:		\$100
-----		
Supplies and Misc.		\$700

(\$ Requested \$350.00 from ECETDHA)

Faculty and clerical time and \$350 of handling cost will be cost-shared by Alpha Institute.

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
Secretary/Treasurer	Walt Buchanan	June 2008
4-Year Representative	Charlie Bachman	June 2008
2-Year Representative	Surrinder Jain	June 2008



## ECETDHA Membership History

No.	Institution	02_03	03_04	04_05	05_06	06_07	Member	2007-2008 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	David J. Hunt	HUNTDJ@ALFREDSTATE.EDU	
4	Amarillo College, TX						Douglas Pickle	PICKLE-DL@ACTX.EDU	
5	Arizona State University		x	x	x	x	Lakshmi Munukutla	LAKSHMI.MUNUKUTLA@ASU.EDU	
6	Augusta Technical College, GA						Kim Gaines	KGAINES@AUGUSTATECH.EDU	
7	Austin Peay State University, TN					x	Adel Salama		SALAMAA@APSU.EDU
8	Baker College - Owosso, MI			x	x		Tom Cunningham	THOMAS.CUNNINGHAM@BAKER.EDU	
9	Bloomsburg University, PA						Robert P. Marande	RMARANDE@BLOOMU.EDU	
10	Bluefield State College, WV						Roy Pruett	RPRUETT@BLUEFIELDSTATE.EDU	
11	Bronx Community College, NY						Andrew Akinmoladun		ANDREW.AKINMOLADUN@BCC.CUNY.EDU
12	Buffalo State College, NY				x	x	Ilya Grinberg	GRINBEIY@BUFFALOSTATE.EDU	
13	Cal Poly Pomona	x	x	x	x	x	Gerald Herder	GKHERDER@CSUPOMONA.EDU	
14	California University of PA	x	x	x	x	x	Stanley Komacek	KOMACEK@CUP.EDU	
15	Camden County College, NJ						Lawrence Chatman		LCHATMAN@CAMDENCC.EDU
16	Central Connecticut State University		x	x			V. Rajaravivarma	RAJARAVIVARMAV@CCSU.EDU	
17	Chattanooga State T.C., TN				x	x	Robert Dreyer	ROBERT.DREYER@CHATTANOOGASTATE.EDU	
18	Cleveland State University, OH			x	x		Harry W. Fox		H.FOX@CSUOHIO.EDU
19	College of the North Atlantic, CAN						Norris Eaton		NORRIS.EATON@CNA.NL.CA
20	Columbus State CC, OH						Joan Young		JYOUNG@CSCC.EDU
21	County College of Morris, NJ	x	x	x			Venancio Fuentes		VFUENTES@CCM.EDU
22	County College of Southern Nevada						Randy Harwood		RANDY.HARWOOD@CCSN.EDU
23	Delaware Tech. C. C.		x	x	x	x	Lester Link		L.LINK@COLLEGE.DTCC.EDU
24	Delgado Community College, LA				x	x	Ramon Ariza		RARIZA@DCC.EDU
25	DeVry CET/EET Program Dir., IL						Edward A. Wilson		EWILSON@DEVRYCOLS.EDU
26	DeVry University - Atlanta			x	x	x	George Austin		GAUSTIN@FACULTY.ATL.DEVRY.EDU
27	DeVry University - Chicago			x	x		Aram Agajanian	AAGAJANIAN@DEVRY.EDU	
28	DeVry University - Columbus		x	x	x	x	Rasoul Esfahani	RESFAHANI@DEVRYCOLS.EDU	
29	DeVry University - Dallas			x	x	x	Cristian Penciu	CPENCIU@DAL.DEVRY.EDU	
30	DeVry University - Denver		x	x	x	x	Martha Keul	MKEUL@DEN.DEVRY.EDU	
31	DeVry University - DuPage			x	x		John Kronenburger		JKRONENB@DPG.DEVRY.EDU
32	DeVry University - Georgia						Keith Wright	KWRIGHT@DEVRY.EDU	
33	DeVry University - Houston			x	x	x	Luis Pablo Grijalva		LGRIJALVA@HOU.DEVRY.EDU
34	DeVry University - Kansas City			x	x	x	Peter Kerckhoff	PKERCKHOFF@KC.DEVRY.EDU	
35	DeVry University - New Jersey			x	x	x	Wieslaw Bury		WBURY@NJ.DEVRY.EDU
36	DeVry Inst. of Technology, LIC, NY		x	x	x		Muhammad Malik		MMALIK@NY.DEVRY.EDU
37	DeVry University - No. California				x		Mike Zohourian		MZOHOURI@NY.DEVRY.EDU
38	DeVry University - Orlando					x	Jack Alsaka	<a href="mailto:JALSAKA@ORL.DEVRY.EDU">JALSAKA@ORL.DEVRY.EDU</a>	
39	DeVry University - Phila.			x	x	x	Suga N. Suganthan	NSUGANTHAN@PHI.DEVRY.EDU	
40	DeVry University - Phoenix		x	x	x	x	Gary E. Bryan	GBRYAN@DEVRY.EDU	
41	DeVry University - Seattle			x	x	x	Jimmie Russell	JRUSSELL@SEA.DEVRY.EDU	
42	DeVry University - So. California		x	x	x		Amir Nilpour	ANILPOU@SOCAL.DEVRY.EDU	
43	DeVry University - Tinley Park						Colleen Vaughan		CVAUGHAN@DPG.DEVRY.EDU
44	Dutchess Community College, NY						Leah Akins	AKINS@SUNYDUTCHESS.EDU	
45	East Carolina University						Andrew Jackson	JACKSONA@ECU.EDU	
46	Eastern Michigan University				x	x	Bob Lahidji	BOB.LAHIDJI@EMICH.EDU	
47	Edmonds Community College, WA						Mark Kaye Bredeson	MBREDESO@EDCC.EDU	
48	Embry-Riddle Aeronautical Univ., FL				x	x	Nolan Coleman	COLEMANN@ERAU.EDU	
49	Essex County College, NJ						Bernard Zivotofski		ZIVOTOFISKY@ESSEX.EDU
50	Excelsior College, NY			x	x	x	Sohail Anwar	SXA15@PSU.EDU	
51	Fairleigh Dickinson University, NJ	x					Mel Lewis		MLEWIS@FDU.EDU
52	Fairmont State University, WV			x	x	x	James Goodwin	JGOODWIN@MAIL.FSCWV.EDU	
53	Ferris State University, MI	x	x	x	x	x	Clare Cook	COOKC@FERRIS.EDU	
54	Florence-Darlington TC, SC		x	x	x	x	Kamil Zakhour	KAMIL.ZAKHOUR@FDTC.EDU	
55	Florida A&M University		x	x	x	x	Tom Bellarmine	GNANASIGAMANI.BELLAR@FAMU.EDU	
56	Grambling State University, LA		x				Johnny Patterson		PATTERSONJ@GRAM.EDU
57	Gulf Coast Community College, FL			x	x		Claude Mott	CMOTT@GULFCAST.EDU	
58	Idaho State University			x	x	x	R. Scott Rasmussen	RASMSCOT@ISU.EDU	
59	ITT Technical Institute						Steve Shen		SSHEN@ITT-TECH.EDU
60	IPFW	x	x	x	x	x	Harold Broberg	BROBERG@IPFW.EDU	
61	IUPUI	x	x	x	x	x	Rich Pfile	RPFILE@IUPUI.EDU	
62	Iowa Western Community College						Doug Corteville		DCORTEVILLE@IWCC.EDU
63	Kansas State University - Salina					x	Saeed Khan	SAEED@SAL.KSU.EDU	
64	Kean University, NJ						Kamal Shahabi		SHAHABI@KEAN.EDU
65	Kirkwood Community College, IA			x			David Newmister		DNEWMIS@KIRKWOOD.EDU
66	Lake Land College, IL				x		Michael Beavers		MBEAVERS@LAKELAND.CC.IL.US
67	Lakeland Community College, OH						David Bittner		DBITTNER@LAKELANDCC.EDU
68	Linn State Technical College, MO						David Phillips		DAVID.PHILLIPS@LINNSTATE.EDU
69	Louisiana Tech University	x	x	x	x	x	Jim Eads	EADSW@LATECH.EDU	
70	Marion Technical College, OH					x	Ed Margraff		MARGRAFFE@MTC.EDU
71	Metropolitan State Coll. of Denver					x	Parris Neal	PNEAL1@MSCD.EDU	
72	Miami University - Hamilton, OH		x			x	Ayo Abatan	ABATANAO@MUOHIO.EDU	
73	Michigan Technological University				x	x	Nasser Alaraje	ALARAJE@MTU.EDU	
74	Middlesex County College, NJ		x	x			Jack L. Waintraub		JACK_WAINTRAUB@MIDDLESEXCC.EDU
75	Milwaukee School of Engineering		x	x		x	Owe G. Petersen	PETERSEN@MSOE.EDU	
76	Minnesota State University	x	x	x	x	x	William Hudson	WILLIAM.HUDSON@MNSU.EDU	
77	Missouri Western State University	x	x	x	x	x	Virendra K. Varma	VARMA@MISSOURIWESTERN.EDU	
78	Monroe Community College, NY			x	x		Robert Novak		RNOVAK@MONROECC.EDU
79	Morehead State University, KY						Ahmad Zargari	A.ZARGARI@MOREHEADSTATE.EDU	
80	Mount Hood CC, OR						Jack Fassel		FASSELJ@MHCC.EDU
81	Nashville State Technical CC, TN				x		Bill Maxwell		BILL.MAXWELL@NSCC.EDU
82	National University, CA				x	x	Shekar Viswanathan		SVISWANA@NU.EDU
83	New England Inst. of Tech., RI						Vin Scotto		VSCOTTO@NEIT.EDU
84	NJIT		x	x	x	x	Robert English	ENGLISH@ADM.NJIT.EDU	
85	Norfolk State University, VA						John H. Spurlin		JSPURLIN@NSU.EDU
86	North Carolina A&T University		x				Derrek B. Dunn	DBDUNN@NCAT.EDU	
87	Northeastern University, MA	x	x	x	x		Jerry Tapper	JTAPPER@COE.NEU.EDU	
88	Northern Essex C.C., MA			x	x	x	Paul Chanley	PCHANLEY@NECC.MASS.EDU	
89	Northern Michigan University						Michael D. Rudisill	MRUDISIL@NMU.EDU	
90	Northern New Mexico College						Tom Click	TCLICK@NNMC.EDU	
91	Northwestern State University, LA	x	x	x	x	x	Tom Hall	HALLT@NSULA.EDU	
92	NYC College of Technology						Djafar Mynbaev		DMYNBAEV@CITYTECH.CUNY.EDU
93	Oklahoma State U.-Oklahoma City			x	x	x	Neal Willison	NAW@OSUOKC.EDU	
94	Old Dominion University, VA		x	x	x	x	John Hackworth	JHACKWOR@ODU.EDU	
95	Oregon Institute of Technology			x			Andy Sedlock		SEDLLOCKA@OIT.EDU
96	Owens CC - Findlay, OH						Glenn Rettig		GRETTIG@OWENS.EDU
97	Owens Community College - Toledo						Nerur Satish		NSATISH@OWENS.EDU
98	Palo Alto College, TX				x		Doroteo Chavarria		DCHAVARR@ACCD.EDU
99	Passaic County Comm. Coll., NJ						Hisam Dada		HDADA@PCCC.EDU
100	Pellissippi State Technical CC, TN				x		Ken Swayne		KESWAYNE@PSTCC.EDU
101	Penn State - Berks						Janelle Larson	JBL6@PSU.EDU	
102	Penn State - Erie	x	x	x	x	x	David Laker	DRL2@PSU.EDU	
103	Penn State - Harrisburg	x	x	x	x	x	Jerry Shoup	JFS1@PSU.EDU	
104	Penn State (ETC)	x	x	x	x	x	Ron Land	REL9@PSU.EDU	
105	Pittsburg State University, KS			x	x		Randy Winzer	RWINZER@PITTSTATE.EDU	
106	Prairie View A&M University, TX					x	Cajetan Akujobi	CMAKUJUBI@PVAMU.EDU	
107	Prentice Hall, VT						Benjamin Leonard		BENJAMIN_LEONARD@PRENHALL.EDU
108	Purdue University - West Lafayette	x	x	x	x	x	Robert J. Herrick	RHERRICK@PURDUE.EDU	
109	Purdue University - Calumet		x		x		Mohammad Zahraee		ZAHRAEE@CALUMET.PURDUE.EDU
110	Purdue University - North Central						Chris Smith		CSMITH@PNC.EDU
111	Queensborough Comm. College, NY		x	x	x	x	Stuart M. Asser	SASSER@QCC.CUNY.EDU	
112	Rhodes State College, OH			x	x		Thomas Selis	SELIS.T@RHODESSTATE.EDU	
113	RIT	x	x	x	x	x	Mike Eastman	MGEIEE@RIT.EDU	

114	Rogue Community College, OR						Dave McKeen		DMCKEEN@ROGUECC.EDU
115	Saint Louis University	x	x	x	x	x	Beshara Sholy		SHOLYBI@SLU.EDU
116	Savannah State University						Kuppuswamy Jayaraman	JAYARAMK@SAVSTATE.EDU	
117	Seattle Central Comm. Coll., WA		x	x			Lisa Sandoval		LSANDOVAL@SCCD.CTC.EDU
118	Seminole Community College, FL				x		Benjamin Taylor		TAYLORB@SCC-FL.EDU
119	Shawnee State University, OH			x	x	x	Carl Hilgarth		CHILGARTH@SHAWNEE.EDU
120	Sinclair Community College, OH	x	x	x	x	x	Jeff Donbar	JEFFREY.DONBAR@SINCLAIR.EDU	
121	South Dakota State University			x	x	x	Teresa J.K. Hall	TERESA_HALL@SDSTATE.EDU	
122	Southern Illinois University			x	x		Ron Marusarz		MARUSARZ@ENGR.SIU.EDU
123	Southern Poly, GA		x	x	x	x	Charles Bachman	CBACHMAN@SPSU.EDU	
124	Southern University and A&M, LA				x		Manjit S. Randhawa	RANDHAWA@ENGR.SUBR.EDU	
125	S.western Indian Poly Institute, NM						Nader Vadiee		NVADIEE@SPIP.BIA.EDU
126	Southwest Tennessee Comm. Coll.				x	x	Lisa G. Jones	LGJONES@SOUTHWEST.TN.EDU	
127	Springfield Technical CC, MA				x	x	Gary J. Mullett		GMULLETT@STCC.EDU
128	Stark State College, OH					x	Frank A. Fuller	FFULLER@STARKSTATE.EDU	
129	Suffolk County Comm. Coll., MA						Peter Maritato		MARITAP@SUNUSUFFOLK.EDU
130	SUNY Inst. of Tech., Utica/Rome					x	Raymond Jesaitis	RAY@SUNYIT.EDU	
131	Technical Career Institutes, NY	x	x	x	x		Seyed Ahiavi		SAKHAVI@TCICOLLEGE.EDU
132	Technical Coll. of Lowcountry, SC						Everett Feight		EFEIGHT@TCL.EDU
133	Texas A&M Univ - College Station	x	x	x	x	x	Jay Porter	PORTER@ENTC.TAMU.EDU	
134	Texas A&M Univ-Corpus Christi						Ruby Mehrubeoglu	RUBY.MEHRUBEOGLU@TAMUCC.EDU	
135	Texas A&M University - Galveston						Vijay Panchang	PANCHANV@TAMUG.EDU	
136	Texas Southern University				x	x	David Olowokere	OLOWOKEREDO@TSU.EDU	
137	Texas Tech University				x	x	Larry B. Masten		LARRY.MASTEN@COE.TTU.EDU
138	Tri-County Technical College, SC						Ron Talley		RTALLEY@TCTC.EDU
139	Union County College, NJ			x	x	x	Nicholas Gilbert	GILBERT@UCC.EDU	
140	University of Akron, OH						John Edgerton		JEDGERTON@UAKRON.EDU
141	University of Arkansas-Little Rock				x	x	Swami Midturi		SMXMTURI@UALR.EDU
142	University of Central Missouri						Gerald Kangas	GKANGAS@UCMO.EDU	
143	University of Cincinnati					x	Max Rabiee		RABIEEM@UCMAIL.UC.EDU
144	University of Dayton, OH	x	x	x	x	x	Scott Segalewitz	SEGALEWITZ@UDAYTON.EDU	
145	U. of Hartford, Coll. of ET&A	x	x	x	x	x	Hisham Alnajjar	ALNAJJAR@HARTFORD.EDU	
146	University of Houston				x	x	Enrique Barbieri	EBARBIERI@CENTRAL.UH.EDU	
147	University of Maine		x	x	x	x	Spider Williams	SPIDER@EECE.MAINE.EDU	
148	University of Memphis				x	x	Deborah Hochstein		D-HOCHSTEIN@MEMPHIS.EDU
149	University of Northern Iowa						Recayl Pecen		PECEN@UNI.EDU
150	University of North Texas						Nourredine Boubekri	BOUBEKRI@UNT.EDU	
151	University of Pittsburgh - Johnstown		x	x	x	x	Greg Dick	GMD@PITT.EDU	
152	University of Southern Mississippi			x	x		Randy Buchanan	RANDY.BUCHANAN@USM.EDU	
153	University of Toledo						Dan Solarek		DSOLAREK@ENG.UTOLEDO.EDU
154	University of West Florida			x	x	x	Karen Rasmussen		KRASMUSS@UWFF.EDU
155	Vaughn College of A&T, NY		x	x	x	x	Kalpana Jain	KALPANA.JAIN@VAUGHN.EDU	
156	Vermont Technical College			x	x	x	Michael Marceau	MMARCEAU@VTC.EDU	
157	Virginia State University						Dr. Keith Williamson	KWILLIAMSON@VSU.EDU	
158	Wayne State University, MI						Chih-Ping Yeh	YEH@ENG.WAYNE.EDU	
159	Weber State University, UT	x	x	x	x	x	William G. Clapp	WCLAPP@WEBER.EDU	
160	Wentworth Inst. of Technology, MA				x	x	Sandeep Diwali	DILWALIS@WIT.EDU	
161	Westchester CC, NY					x	Raymond Mignogna		RAYMOND.MIGNOGNA@SUNYWCC.EDU
162	Western Carolina University	x	x	x			Ken Burbank	KBURBANK@EMAIL.WCU.EDU	
163	Western Washington University				x	x	Todd Morton		TODD.MORTON@CC.WWU.EDU
164	WVU Institute of Technology					x	Thomas Minnich		TMINNICH@WVUTECH.EDU
Totals =		28	53	82	91	84		91	73