

ECETDHA Business Meeting
ASEE Conference – Austin, TX

Tuesday, June 16, 2009
7:00am – 8:15am

ECETDHA Business Meeting
Tuesday, June 16th at 7:00am – 8:15am
ASEE 2009 – Austin, TX

Agenda

1. Call to Order (R. Land)
2. Introductions⁺
3. Approval of February Meeting Minutes* (R. Land)
4. Treasurer's Report* (W. Buchanan)
5. Mini-Grant Awards* (R. Land)
 - a. Status report on January 2009 award⁺
 - b. June 2009 award announcement
6. Report on CTAA Activities (T. Hall)
7. Discussion of Effectiveness of TC2K Accreditation Practices (C. Hickman, IEEE) *⁺
8. Assessment Testing Project Update* (R. Land)
 - a. Beta test – preliminary results
 - b. Plan of action – open discussion
9. Nomination/Election of Chair-elect & Treasurer (R. Land)
10. Announcement: Consolidation of NETEC & MERC⁺
11. Comments for Good of the Association
12. Adjournment of Business Meeting

* – Indicates attachments.

⁺ - Some information added after the meeting in Austin; information was discussed, but hardcopy was not available at the time of the meeting.

Electrical and Computer Engineering Technology
Department Heads' Association Semi-Annual Business Meeting
CIEC Meeting 2009
Royal Plaza Hotel
Orlando, FL
Tuesday, February 3, 2009
at 5:00 p.m.

Minutes

1. Call to Order (R. Land)

The meeting was called to order by the Chair, Ron Land, at 5:03 p.m. The agenda and handouts for the meeting were distributed to all in attendance and approved.

The meeting began with an introduction of all in attendance.

The 13 attendees were:

Name & Affiliation

Walter Buchanan - Texas A&M University
Tom Hall - Northwestern State Univ.
Bob Herrick - Purdue University
Ron Land - Penn State University
Ron Rockland - NJIT
Scott Segalewitz - University of Dayton
Gary Steffen - IPFW
John Stratton - Rochester Inst. of Tech.
Ken Burbank - Western Carolina University
Byron Garry - SDSU
Mike Eastman - Rochester Inst. of Tech.
Rich Pfile - IUPUI
Scott Danielson - ASU

2. Approval of Minutes (R. Land)

Approval of the minutes of the June 24, 2009 meeting in Pittsburg, PA was obtained by Ron Land.

3. Treasurer's Report (W. Buchannan)

The Treasurer's Report prepared by Walter Buchanan was reviewed and approved. The Association's current account balance stands at \$5,591.21. This year's membership is currently running ahead of last year's record breaking membership.

4. Mini-Grant Awards (R. Land)

a. Status report on June 2008 award

Ron Land expressed that reports for the 2008 mini-grants can be found on the ECETDHA website. One Honors Thesis "ECET Honors Robotics Exploration" was awarded in June and the report showed success.

b. December 2008 Award Announced

Ron Land reported that seven applications for the mini-grant were received and evaluated. Three of the applications were awarded as follows:

1. Professor Scott Schneider of The University of Dayton -- Professor Schneider has been awarded \$700 for the 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.
2. Professor Jerry Newman of The University of Memphis -- Professor Newman has been awarded \$391 for the development and assembly of supplemental training kits and equipment for a summer training program for high school girls to introduce them to engineering/technology and to give them hands-on experience with technical devices.
3. Professor Luciano Boglione of The University of Massachusetts at Lowell -- Professor Boglione has been awarded \$1000 for the 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

The deadline for the next round of Mini-Grants will be May 1, 2009. A call will be placed on the listserv.

5. Report on CTAA Activities (T. Hall)

Tom Hall expressed that ABET has now taken over the training of new program evaluators. This training includes an online portion and a two day mock visit. IEEE has one additional step for new program evaluators to learn specific criteria. There were sixteen new program evaluators. The first year of ABET evaluator training was met with success but suggestions for changes have been made. A total of 55 program evaluators were assigned this past year to 58 different programs (28 were 2 year programs).

ABET will be trying to get into international program evaluation. A concern was expressed on how we will look for international applicants.

Currently there are no differences between an academic and industrial PEV. Their pay rates are the same. Industrial PEVs makeup only 15% of the total number of evaluators but a 50-50 split is the written goal. The commissioner balance is good with a 50-50 balance of industrial to academic representation.

6. Assessment Testing Project Update (R. Land)

Ron Land mentioned that last June 20 volunteers came together to identify the body of knowledge. This body was broken into core topics. The more advanced topics were set aside to first focus on the core topics. More than a dozen people were involved in repeated phone conversations in the development of 340 core test questions. Each question underwent an examination process where at least three reviewers were involved. SME believes this is an adequate number for an initial core exam. A third level question review process is being arranged and should take place in Detroit at the end of February. Once this meeting is complete, a beta trial will be piloted this spring.

This exam will be online and assessment results will be available within days. SME can slice the assessment data however we like and students will be provided their individual results. There are 10 programs

interested in the beta exam and we are hoping to have 100 students take the beta.

A secure test development website has been setup containing the multiple choice core questions. If the core question exam is a success, we can expand the topic areas in phase II and look for additional funding for specialty exams.

7. Discussion of Future of EET/ECET - Plans for ETLI (R. Land)

Bob Herrick had a good session on the future of EET/ECET and will hopefully have future follow up sessions. The current focus of ETLI is ET 2020. What will be ET in 2020? This will investigate the relationship between Engineering Technology and Engineering. Hopefully this discussion takes ideas and will turn them into action.

A panel is being formed with industry and government representatives on ETLI. This panel will hopefully address the lack of government classification for ET. We are looking for industry people to be involved on the committee.

8. Nomination/Election of New Officers (R. Land)

Ron Land reviewed the current list of officers and expressed our stability. Ron and Tom Hall will discuss nominations for the "Chair-Elect" position.

9. Comments for Good of the Association

The question was raised "Are we ever involved with the Dean's council?" Tom Hall articulated that ETLI asked a number of council members to meet with us two years ago and maybe we should invite them to a future event. He expressed that this group is standalone and is not really associated with ASEE or IEEE. It might be sponsored by the IEEE in the future because of their increasing role in higher education.

10. Adjournment

The meeting was adjourned at 6:01 p.m.

Respectfully submitted,



Gary Steffen
Secretary

Treasurer's Report
 ECETDHA
 Statement of Receipts and Disbursements
 July 1, 2008 – May 31, 2009

Balance in Bank July 1, 2008		\$5,304.38
Membership Dues Received		
July-Sept 08	\$ 1,050.00	
Oct.-Dec.-08	350.00	
Jan 09-Mar 09	700.00	
Apr 09-May 09	<u>200.00</u>	
Total Dues	\$2,300.00	
Interest Received		
July-Sept. 08	\$ 13.39	
Oct.-Dec. 08	13.89	
Jan. 09-Mar. 09	<u>11.79</u>	
Total Interest	\$ 39.07	
Total Receipts	<u>\$2,339.07</u>	
Total Cash Available		\$7,643.45
Disbursements:		
Mini Grant - Southern Poly	\$1,000.00	
Mini Grant – UMass-Lowell	1,000.00	
Mini Grant – Univ. of Dayton	700.00	
Mini Grant - Univ. of Memphis	391.00	
Mileage - Land (CTAA)	76.56	
Expenses - Land (CTAA)	446.50	
Conf. Hotel - Land (CTAA)	201.57	
Bank Fees	<u>\$ 5.00</u>	
Total Disbursed	\$3,820.63	
Cash on Hand May 31, 2009		\$3,822.82

Status Report: Mini-grant Project Awards
Details of all proposals can be found at the ETD website
<< <http://www.engtech.org/organizations.php#ECETDHA> >>

January 2009 Awards – Status Report

- University of Dayton: Single-channel Amplifier/Signal Conditioner

Project Update from Scott Schneider:

Development of a Low-Cost Amplifier and Signal Conditioning Module

Project Update – Final electrical design modifications for manufacturability of a low-cost amplifier and signal conditioning module have been completed. During these final design reviews, the additional functionality of a user selectable bridge completion circuit was added to the original design. Furthermore, the decision has been made to mount several of the components using sockets to allow for part replacement and to enable the amplifier gain and bridge resistance to be modified without having to rework the board. These design changes have been made by an electrical engineering technology student under the supervision of an engineering technology faculty member. The student has verified the functionality of the design changes on a breadboard and then incorporated them into the final printed circuit board (PCB) layout.

The PCB design was implemented using the in-house PCB mill. All components were purchased and a final bill of materials was generated for the revised amplifier and signal conditioning module design. The layout of the implemented PCB design was functionally analyzed and from this review several layout modifications were needed for better part positioning to improve the module's usability. During the summer 2009 semester another engineering technology student will make the necessary layout modifications and complete a final PCB prototype using the in-house PCB mill. The functionality of this final prototype will be analyzed using common transducers used in the measurement and data acquisition course. Once this final layout has been verified, the design will be fabricated in quantity using an external board manufacturer for the PCBs and engineering technology students for the board stuffing. Simultaneously, an engineering technology student will design and fabricate the mounting base for the modules. It is expected that the amplifier and signal conditioning modules will be completed in time for their usage in the measurement and data acquisition course offered in the fall 2009 semester.

- University of Memphis: Training Kits of Summer HS Recruitment Efforts

STATUS REPORT from Jerry Newman:

Two weekly sessions of "Girls in Manufacturing" were held June 1-5 & 8-12, 2009. A total of 28 girls participated – 15 in the first session and 13 in week two. Soldering was added to the program for this, the 3rd year of GiM. The ECETDHA mini-grant covered 50% of a two-year cost of adding the construction of an electronic kit (see attachment). The LED Chaser Kit uses a 3-transistor direct-coupled oscillator to flash sequentially, 3 groups of 2 LEDs. The girls are introduced to transistors, capacitors, resistors, and LEDs and very basic theory of operation. Total funds for soldering equipment and kits thus far: \$503.98.

Each girl must have a 3.0 GPA to qualify for the GiM program and be in 10th, 11th, or 12th grade. The intent is to interest them in Engineering Science or Engineering Technology.

Their five day schedule of the program includes:

1. Orientation
2. Bio Diesel
3. Intro to Soldering
4. Constructing an Electronic Kit

5. AutoCAD
6. CNC
7. Welding
8. Robotics
9. Casting
10. Production Control
11. Field Trip to Cummins (One sponsor of program)
12. Three guest speakers (Engineers and Technologists) @ lunch time
13. Girls prepare PPT presentations for parents on what they did and liked best.
14. Mini-Commencement for girls and displays of their individual projects.

Professor Newman plans to present a paper next year on GiM at the ASEE national conference.

Kit Assembly Instructions
C6825 SUPER LED CHASER KIT

Page 1 of 2

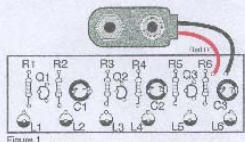


Figure 1
Parts Layout

PARTS LIST

C1-C3 100µF Radial Capacitor
 L1-L6 Red LEDs
 Q1-Q3 MPSA06 NPN Transistors
 R1, R3 3.3KΩ Resistor (Orange, Orange, Red)
 R2 200Ω Resistor (Red, Black, Brown)
 R5 7.5KΩ Resistor (Violet, Green, Red)
 R4, R6 390Ω Resistor (Orange, White, Brown)
 Misc. Battery Snap and PC board

FOIL PATTERN OF PC BOARD

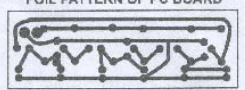
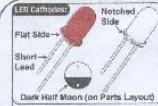


Figure 2
Foil Pattern

LED Cathodes



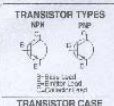
There are three main ways to determine the cathode side of the LED. The Parts Layout will indicate the cathode side of the LED by a dark half moon shape. On the physical part, usually, the cathode can be identified by one of three ways:

- 1) The lens of the LED has a flat side when viewed from the top (sometimes difficult to see).
- 2) The shorter lead of the LED.
- 3) If there is no flat side on the LED, there will be a notch in the lens of the LED.

Please Note: Some LEDs may have both a flat side and a notched side. With these LEDs, always use the flat side to locate the cathode of the LED.

Figure 3
LED Cathode Information

TRANSISTOR TYPES



TRANSISTOR CASE




Figure 4
Transistor Information

RESISTOR COLOR CODE

BAND	1st Digit	2nd Digit	MULTIPLIER
BROWN	1	3	10 ¹
RED	2	2	10 ⁰
ORANGE	3	3	10 ²
YELLOW	4	4	10 ³
GREEN	5	5	10 ⁴
BLUE	6	6	10 ⁵
VIOLET	7	7	10 ⁶
SLIVER	8	8	10 ⁷
WHITE	9	9	10 ⁸

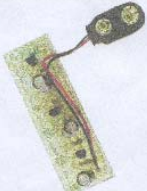
Figure 5
Resistor Color Code

CHANEY electronics

SUPER LED CHASER KIT RED

Electronic Project KIT SKILL LEVEL 2

C6825



CAUTIONS

If the reaction component in this kit emits heat, do not touch it. Solder contains lead and should not be inhaled. Do not put components in your mouth. Always wash your hands after working with the components. Students under the age of 13 should not build this kit.

Made in the U.S.A. Rev 03/17/09LHM

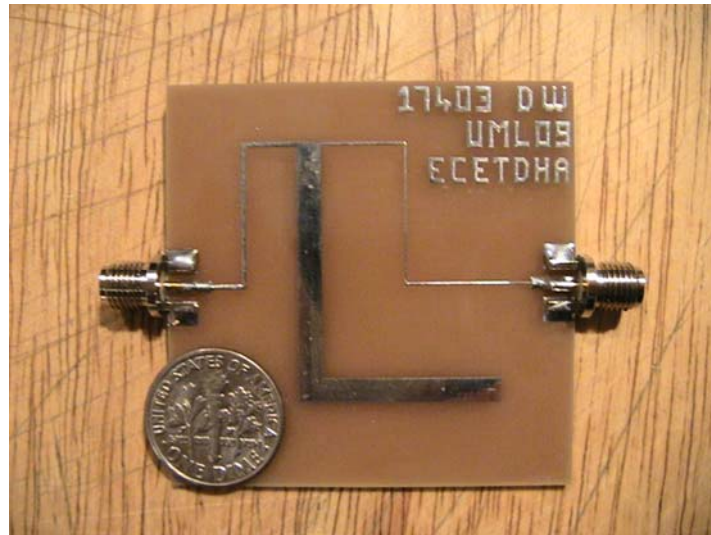
- University of Massachusetts-Lowell: Transmission Line Demonstration Board

STATUS REPORT from Luciano Bognione:

The project entitled "A Microwave Engineering Technology Application of Printed Circuit Boards" has been carried out as part of my class 17.403, Foundations of Microwave Design. The project has been received very enthusiastically by the students. Printed circuit boards have been designed at 1.5GHz and laid out by the students with commercially available software. A picture of a manufactured board is attached to this email. A comparison of measured and simulated results has also been executed to verify the validity of the design.

As part of the funded project, students have also provided feedback on the experience by filling out an online form. A final report will be written to describe the project in more detail and to discuss the student feedback. A version of the final report will also be prepared in a form suitable for publication in the Journal of Engineering Technology as planned.

I would like to thank ECETDHA for this opportunity. I would also be interested in executing this project on a yearly basis with the support of the Association, perhaps by securing a percentage (e.g. 50%) to be matched by the PI's University or another organization to be identified by the PI.



June 2009 Award

Abstract:

The grant is requested to fund the development of a DC-based small-power wind turbine (WT) emulator/simulator in MATLAB/Simulink. The emulator will be part of the new course-supporting an integrated laboratory for a new concentration in renewable energy technology in an Applied Engineering Technology program. The new integrated laboratory is designed to be used for the energy conversion, electric machines and power electronics courses. The model of the WT and the control of the DC motor are implemented in MATLAB/Simulink. The developed WT emulator allows a Wind Energy Conversion System (WECS) to be analyzed without the need of a real wind turbine. The WECS considered in this project is composed by a DC motor coupled with a double fed induction machine (DFIM). The DC motor and its control actuate as the WT and the DFIM actuates as the generator. The wind speed simulation application developed by the author emulates the behavior of the actual wind velocity and provides the input to the DC motor controller simulating the WT. The simulations and experimental results are obtained for 300 W and 150 W prototypes.

Memo from Chuck Hickmann re. IEEE Interest in Experience with EAC2000 & TC2K

Memo to: ECETDHA Members
Subject: Feedback on ABET Accreditation Standards and Procedures
Date: June 10, 2009
From: Ron Land, ECETDHA President
Chuck Hickman, Director of University Programs, IEEE

During the ECETDHA business meeting next Tuesday morning in Austin, time has been reserved for open discussion about ABET accreditation for Engineering Technology Programs. As you know, the current standards were implemented in 2000, with the goal of shifting the focus of the accreditation process away from program “inputs” and towards the assessment of learning outcomes. An important component of this initiative was the desire to encourage innovation in the content, design and delivery of programs at both the two and four-year degree levels.

Recently, the IEEE Accreditation Policy Committee(APC) has begun to consider the actual impact of the current standards on demand for accreditation, the level of innovation in accredited programs, and the value which ABET processes contribute to academic programs, industry stakeholders and the profession broadly. Obtaining input from department chairs, program directors, deans and other key stakeholders is an important element of the APC deliberations. At the March ECEDHA meeting of department chairs at four-year institutions, a member of the IEEE APC presented data which show the proportion of “Next General Review” actions at four-year programs has dropped significantly under the new standards, and that the number of “Interim Report” findings has increased correspondingly. This led to an animated discussion with the audience covering: the difficulty many four-year programs experience in satisfying ABET criterion #3 (program outcomes); the perceived growth in staff members and consultants devoted to assisting schools in preparing for ABET accreditation; the overall value of accreditation to engineering programs relative to the direct and allocated costs of the process; whether the complexity of the standards, as they are understood by programs and individual faculty, have enabled or suppressed innovation in content, design and delivery of the curriculum; the current relevance of ABET accreditation to industry and the profession; and whether the use of new technologies might provide an opportunity to simplify and automate parts of the review process.

The IEEE Committee on Technology Accreditation Activities—an operating group that reports to the APC—recognizes that accreditation issues (and levels of satisfaction with the ABET process) at four-year programs may not be the same as those at technical and community colleges. The purpose of this message is to ask you to reflect on the most recent accreditation experience of your program, and come to Austin prepared to respond to these questions:

- What impact are ABET standards concerning educational objectives (criterion #2) and program outcomes (criterion #3) having on the ability of your program to seek and/or maintain ABET accreditation?
- Does the value of ABET accreditation to your program exceed the direct and allocated costs associated with participating in this process? Why or why not?
- What impact does the requirement in ABET criterion #3 that graduates of accredited programs possess knowledges and skills commonly referred to “a through k” have on curriculum innovation in your program? Positive impact? Negative impact? Or no impact either way?

Though the time available from group dialog during the ECETDHA session may not permit everyone to express their views, we hope to at least gain a general sense of the community on these questions. We will also welcome feedback in a less structured, more individual basis, throughout the ASEE conference. We look forward to seeing you in Austin.

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

Since the winter meeting of the Association at CIEC, the Assessment Test Project has completed four significant milestones. In late February, a team of 8 volunteers assembled in Detroit for an entire weekend to review, categorize and rank all 300+ test questions that had been developed by Association members for the core test. Following the review session, SME assembled a prototype test consisting of 120 questions selected from the pool of questions. Selected questions covered the 7 'core' topics (basic electrical concepts, AC concepts, basic analysis methods, analog electronics, digital electronics, μ processors/ μ controllers, I&C methods) and were chosen to span the range from 'easy' to 'difficult' in each area and in counts proportional to the 'Body of Knowledge' document developed last year.

While the prototype was being developed, a cohort of programs were recruited to act as beta testers of the prototype. A total of 13 programs from 8 different states and one foreign country agreed to participate in the beta test, and ultimately over 120 students took the test. The majority of the students were from 4-year programs; however, approximately 10% of the test takers came from 2-year programs. The final test was completed just Wednesday of last week.

At this point, the only available results are course aggregates scores. These are shown on the following page. Complete analysis of the test results is currently being conducted by SME and its data analysts and should be available by the end of June. These will include:

- **Overall Diagnostic Report & Psychometrics (All groups)**
Scoring information: Number of test takers; length of assessment; number of sites, number of states, number of individuals/test takers; Average, minimum and maximum total scores; analysis by body of knowledge – group min, max, average and standard deviation.
- **Comparison of 2-year and 4-year program results diagnostics**
Scoring information: Same as above.
- **Psychometrics/Composites for all as well as for 2- vs. 4-year programs**
Exam dates, # of candidates, pass rate & reliability. Also items for first priority review – showing pass/seen, difficulty and effectiveness – distractor comparisons (Since no passing rate for this test, pass rate will be 0.)
- **Individual school /group reports**
Group examination analysis: number of candidates/low score/mean/high score/number of questions/standard deviation/standard error of the measurement/KR20. Also breaks out the exam performance by BOK, the total # of items in section – total items seen by the group and total items passed by group and the percentage.
- **Coordinator report**
Report for proctor or professor listing student names/ID/test code number/status/score – number correct out of 120.
- **Student examination analysis**
Site code; name; id; test code; test date; pass score (0 in this case), pass percent (same), score (viz., $58/120=48.3\%$). Also breaks out the exam by BOK, # of items in section, # of items passed, and the percentage.
- **Analysis of individual questions**
Analysis of each question – were distractors effective? Look at the overall performance of each question w.r.t. exam dates, # of candidates, pass rate & reliability, etc.

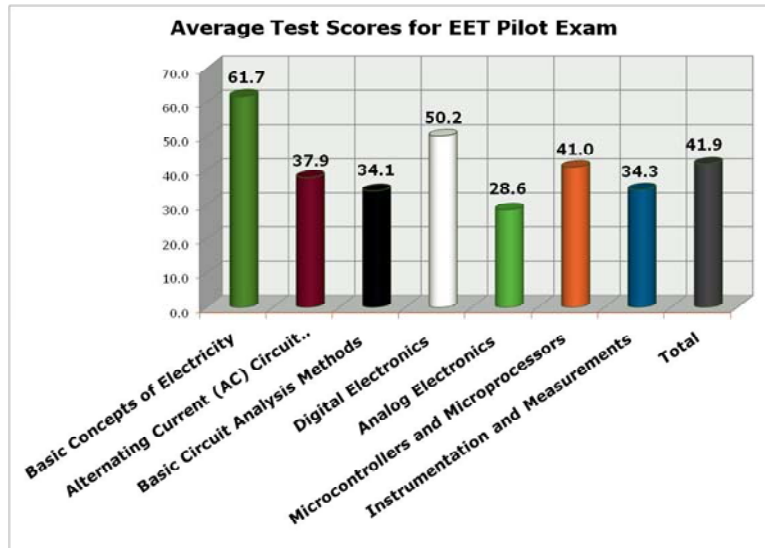
The next steps in the project are:

- **RECRUIT VOLUNTEERS TO REVIEW AND ASSESS THE SME TEST ANALYSES**
- **EVALUATE THE EFFICACY OF THE TEST AS AN ASSESSMENT TOOL**
- Edit/modify test questions, overall content, and test format as required for second trial

- Disseminate report/information on test results
- Determine schedule for second trial
- Market second trial and recruit participants for second trial

Electrical/Electronics Engineering Technology EET Pilot Overview

Level:	Post-Secondary
Length of Assessment:	120 items
Number of Sites Administering Exam:	13
Number of States Involved in Pilot:	8
Number of Individuals in Pilot:	124
Average Total Score:	41.9%
Minimum Total Score:	20.8%
Maximum Total Score:	73.3%



Additional Results

Count of questions in each section:

Category	# of Items
Basic Concepts of Electricity	16
Alternating Current (AC) Circuit Concepts	16
Basic Circuit Analysis Methods	8
Digital Electronics	26
Analog Electronics	21
Microcontrollers and Microprocessors	19
Instrumentation and Measurements	14

Times for online tests:

Lowest time:	32 minutes
Highest time:	179 minutes
Average time:	99 minutes
Total time allowed:	180 minutes

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

Note from Jack Waintraub re. Consolidatio of NETEC & MERC Data Repositories

Ron:

I would appreciate it if you could announce at the Department Heads meeting on Tuesday morning that the Electronic clearinghouses of MERC and NETEC have been merged to serve as a resource for all technology education disciplines. The combined clearinghouse is based at Sinclair Community College in Dayton Ohio and continues to be supported by NSF, specifically, the ATE program. IEEE is a partner to this project. An agreement was recently finalized between NCME and IEEE, that spells out the services to the electrical engineering technology and engineering community provided by the clearinghouse.

You may check out the websites of the clearinghouse : www.neteconline.org National Engineering Technology Clearinghouse (NETEC) or www.merconline.net Manufacturing Education Resource Center (MERC).

(Since the merger of the two clearinghouses is finalized, there will be a single URL in the near future).

If you need more information, please, do not hesitate to contact me by phone at: (732)547-9839.

Have a great meeting,
Jack Waintraub
Project Co-PI and Chair of Advisory Committee

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			Kaven Williams	KAWILLIAMS@ALBANYTECH.EDU	
3	Alfred State College, NY		x	x	x	x	x	David J. Hunt		HUNTDJ@ALFREDSTATE.EDU
4	Amarillo College, TX					x	x	Douglas Pickle		PICKLE-DL@ACTX.EDU
5	Arkansas State University							Robert Engerlken	BDEGENS@ASTATE.EDU	
6	Arizona State University		x	x	x	x	x	Lakshmi Munukutla	LAKSHMI.MUNUKUTLA@ASU.EDU	
7	Augusta Technical College, GA						x	Kim Gaines	KGAINES@AUGUSTATECH.EDU	
8	Austin Peay State University, TN					x		Adel Salama		SALAMAA@APSU.EDU
9	Baker College - Owosso, MI		x		x		x	Tom Cunningham		THOMAS.CUNNINGHAM@BAKER.EDU
10	Bloomsburg University, PA						x	Robert P. Marande	RMARANDE@BLOOMU.EDU	
11	Bluefield State College, WV						x	Roy Pruett	RPRUETT@BLUEFIELDSTATE.EDU	
12	Bristol Community College, MA (09-10)							Peter Schuyler	PETER.SCHUYLER@BRISTOLCC.EDU	
13	Bronx Community College, NY							Andrew Akinmoladun		ANDREW.AKINMOLADUN@BCC.CUNY.EDU
14	Buffalo State College, NY				x	x	x	Ilya Grinberg	GRINBEI@BUFFALOSTATE.EDU	
15	Cal Poly Pomona	x	x	x	x	x	x	Gerald Herder		GKHERDER@CSUPOMONA.EDU
16	California University of PA	x	x	x	x	x	x	Stanley Komacek		KOMACEK@CUP.EDU
17	Camden County College, NJ							Lawrence Chatman		LCHATMAN@CAMDENC.CC.EDU
18	Central Connecticut State University		x	x			x	V. Rajaravivarma		RAJARAVIVARMAV@CCSU.EDU
19	Chattanooga State T.C., TN				x	x	x	Robert Dreyer		ROBERT.DREYER@CHATTANOOGASTATE.EDU
20	Cleveland State University, OH			x	x			Harry W. Fox		H.FOX@CSUOHIO.EDU
21	College of the North Atlantic, CAN							Norris Eaton		NORRIS.EATON@CNA.NL.CA
22	Collin College, TX (09-10)							William Blitt	BBLITT@CCCD.EDU	
23	Columbus State Comm. College., OH							Joan Young		JYOUNG@CSCC.EDU
24	County College of Morris, NJ	x	x	x				Venancio Fuentes		VFUENTES@CCM.EDU
25	County College of Southern Nevada							Randy Harwood		RANDY.HARWOOD@CCSN.EDU
26	Delaware Tech. C. C.		x	x	x	x		Lester Link		LLINK@COLLEGE.DTCC.EDU
27	Delgado Community College, LA				x	x		Ramon Ariza		RARIZA@DCC.EDU
28	DeVry CET/EET Program Dir., CA							Norman Grossman		NGROSSMAN@DEVRY.EDU
29	DeVry College of New York, NY		x	x	x			Shekar Pradhan		SPRADHAN@DEVRY.EDU
30	DeVry University - Addison, IL			x	x			John Kronenburger	JKRONENB@DEVRY.EDU	
31	DeVry University - Arlington, VA							Peg Pankowski	MPANKOWSKI@DEVRY.EDU	
32	DeVry University - Chicago (09-10)			x	x		x	Susan Brauer	SBRAUER@DEVRY.EDU	
33	DeVry University - Columbus		x	x	x	x	x	Rasoul Esfahani	RESFAHANI@DEVRY.EDU	
34	DeVry University - Decatur, GA (09-10)			x	x	x	x	Keith Wright	KWRIGHT@DEVRY.EDU	
35	DeVry University - Federal Way, WA			x	x	x	x	Jimmie Russell	JRUSSELL@DEVRY.EDU	
36	DeVry University - Fremont/Sacramento				x			Mike Zohourian	MZOHOURI@DEVRY.EDU	
37	DeVry University - Ft. Washington, PA			x	x	x	x	Suga N. Suganthan	NSUGANTHAN@DEVRY.EDU	
38	DeVry University - Houston			x	x	x		Teddy Ivanitzki		TIVANITZKI@DEVRY.EDU
39	DeVry University - Irving, TX			x	x	x	x	Cristian Penciu	CPENCIU@DEVRY.EDU	
40	DeVry University - Kansas City, MO			x	x	x	x	Don Weiss	DWEISS@DEVRY.EDU	
41	DeVry University - Long Beach, CA							William S. Sullivan	WSULLIVAN@DEVRY.EDU	
42	DeVry University - Miramar, FL							Raef Yassin		RYASSIN@DEVRY.EDU
43	DeVry University - N. Brunswick, NJ			x	x	x		Tom Kist	TKIST@DEVRY.EDU	
44	DeVry University - Nevada							Richard A. Johnson	RAJOHNSON@DEVRY.EDU	
45	DeVry University - Orlando					x	x	Tony Guzman	TGUZMAN@DEVRY.EDU	
46	DeVry University - Phoenix		x	x	x	x	x	Gary E. Bryan	GBRYAN@DEVRY.EDU	
47	DeVry University - So. California		x	x	x	x	x	Amir Nilipour	ANILIPOUR@DEVRY.EDU	
48	DeVry University - Tinley Park, IL							Craig Waldvogel		CWALDVOGEL@DEVRY.EDU
49	DeVry University - Westminster, CO		x	x	x	x	x	Martha Keul	MKEUL@DEVRY.EDU	
50	Drexel University, PA (09-10)							Vladimir Genis	GENIXV@DREXEL.EDU	
51	Dutchess Community College, NY						x	Leah Akins	AKINS@SUNYDUTCHESS.EDU	
52	East Carolina University						x	Andrew Jackson		JACKSONA@ECU.EDU
53	Eastern Michigan University				x	x	x	Bob Lahidji	BOB.LAHIDJI@EMICH.EDU	
54	Edmonds Community College, WA						x	Mark Kaye Bredeson		MBREDESO@EDCC.EDU
55	Embry-Riddle Aeronautical Univ., FL				x	x	x	Nolan Coleman	COLEMANN@ERAU.EDU	
56	Erie Community College, NY (09-10)							Anthony Dalessio	DALESSIO@ECC.EDU	
57	Essex County College, NJ							Bernard Zivotofski		ZIVOTOFOSKY@ESSEX.EDU
58	Excelsior College, NY			x	x	x	x	Sohail Anwar		SXA15@PSU.EDU
59	Fairleigh Dickinson University, NJ	x						Mel Lewis		MLEWIS@FDU.EDU
60	Fairmont State University, WV			x	x	x	x	James Goodwin	JGOODWIN@MAIL.FSCWV.EDU	
61	Ferris State University, MI	x	x	x	x	x	x	Clare Cook	COOKC@FERRIS.EDU	
62	Florence-Darlington TC, SC (09-10)		x	x	x	x	x	Kamil Zakhour	KAMIL.ZAKHOUR@FDTC.EDU	
63	Florida A&M University		x			x	x	Tom Bellarmine	GNANASIGAMANI.BELLAR@FAMU.EDU	
64	Grambling State University, LA		x					Olusegun Adeyemi	ADEYEMIO@GRAM.EDU	
65	Gulf Coast Community College, FL			x	x			Claude Mott		CMOTT@GULFCOAST.EDU
66	Idaho State University			x	x	x	x	R. Scott Rasmussen		RASMSCOT@ISU.EDU
67	Illinois Valley Community College							James Gibson	JIM_GIBSON@IVCC.EDU	
68	ITT Technical Institute							Steve Shen		SSHEN@ITT-TECH.EDU
69	IPFW	x	x	x	x	x	x	Harold Broberg	BROBERG@IPFW.EDU	
70	IUPUI	x	x	x	x	x	x	Rich Pfile	RPFIL@IUPUI.EDU	RPFIL@IUPUI.EDU
71	Iowa Western Community College	x	x	x	x	x		Doug Corteville	DCORTEVILLE@IWCC.EDU	
72	Kansas State University - Salina	x	x	x	x	x	x	Saeed Khan	SAEED@SAL.KSU.EDU	
73	Kean University, NJ							Kamal Shahrabi		SHAHRABI@KEAN.EDU
74	Kent State University, OH (09-10)							Verna Fitzsimmons	VFITZSIM@KENT.EDU	
75	Kirkwood Community College, IA			x				David Newmister		DNEWMIS@KIRKWOOD.EDU
76	Lake Land College, IL				x			Michael Beavers		MBEAVERS@LAKELAND.CC.IL.US
77	Lakeland Community College, OH							David Bittner		DBITTNER@LAKELANDCC.EDU
78	Linn State Technical College, MO							David Phillips		DAVID.PHILLIPS@LINNSTATE.EDU
79	Louisiana Tech University	x	x	x	x	x	x	Jim Eads	EADSJW@LATECH.EDU	
80	Macomb Community College, MI							Peter Klein	KLEINP@MACOMB.EDU	
81	Marion Technical College, OH					x		Ed Margraff		MARGRAFFE@MTC.EDU
82	Metropolitan State Coll. of Denver					x	x	Richard Pozzi	POZZIR@MSCD.EDU	
83	Miami University - Hamilton, OH		x			x	x	Ayo Abatan	ABATANA@MUOHIO.EDU	
84	Michigan Technological University				x	x	x	Nasser Alaraje	ALARAJE@MTU.EDU	

No.	Institution	02_03	03_04	04_05	05_06	06_07	07_08	Member	2008-2009 Member	Lapsed/Attendee/Inquiree
85	Middlesex County College, NJ		x	x				Jack L. Waintraub		JACK_WAINTRAUB@MIDDLESEXCC.EDU
86	Milwaukee School of Engineering		x	x		x	x	Owe G. Petersen	PETERSEN@MSOE.EDU	
87	Minnesota State University	x	x	x	x	x	x	William Hudson	WILLIAM.HUDSON@MNSU.EDU	
88	Missouri Western State University	x	x	x	x	x	x	Virendra K. Varma	VARMA@MISSOURIWESTERN.EDU	
89	Monroe Community College, NY			x	x			Robert Novak		RNOVAK@MONROECC.EDU
90	Morehead State University, KY						x	Ahmad Zargari		A.ZARGARI@MOREHEADSTATE.EDU
91	Mount Hood Community College, OR							Jack Fassel		FASSELJ@MHCC.EDU
92	Nashville State Technical CC, TN				x			Bill Maxwell		BILL.MAXWELL@NSCC.EDU
93	National University, CA				x	x		Shekar Viswanathan		SVISWANA@NU.EDU
94	New England Institute of Tech, RI							Dan Masterson	DMASTERSON@NEIT.EDU	
95	NJIT		x	x	x	x	x	Robert Rockland	ROCKLAND@NJIT.EDU	
96	Norfolk State University, VA (09-10)							John H. Spurlin	JSPURLIN@NSU.EDU	
97	North Carolina A&T University		x				x	Derrek B. Dunn		DBDUNN@NCAT.EDU
98	Northeastern University, MA	x	x	x	x			Jerry Tapper		JTAPPER@COE.NEU.EDU
99	Northern Essex C.C., MA			x	x	x	x	Paul Chanley		PCHANLEY@NECC.MASS.EDU
100	Northern Michigan University						x	Michael D. Rudisill	MRUDISIL@NMU.EDU	
101	Northern New Mexico College						x	Tom Click	TCLICK@NNMC.EDU	
102	Northwestern State University, LA	x	x	x	x	x	x	Tom Hall	HALLT@NSULA.EDU	
103	NYC College of Technology					x		Djafar Mynbaev		DMYINBAEV@CITYTECH.CUNY.EDU
104	Oklahoma State U.-Oklahoma City			x	x	x	x	Neal Willison	NAW@OSUOKC.EDU	
105	Old Dominion University, VA		x	x	x	x	x	John Hackworth	JHACKWOR@ODU.EDU	
106	Onondaga Community College, NY						x	Ramesh Gaonkar	GAONKAR@SUNYOCC.EDU	
107	Oregon Institute of Technology			x				Andy Sedlock		SEDLACKA@OIT.EDU
108	Owens CC - Findlay, OH			x				Glenn Rettig		GRETTIG@OWENS.EDU
109	Owens Community College - Toledo			x				Nerur Satish		NSATISH@OWENS.EDU
110	Palo Alto College, TX			x	x			Doroteo Chavarria		DCHAVARR@ACCD.EDU
111	Passaic County Comm. Coll., NJ							Hisam Dada		HDADA@PCCC.EDU
112	Pellissippi State Technical CC, TN			x				Ken Swayne		KESWAYNE@PSTCC.EDU
113	Penn State - Berks						x	Janelle Larson	JBL6@PSU.EDU	
114	Penn State - Erie	x	x	x	x	x	x	David Loker	DRL3@PSU.EDU	
115	Penn State - Harrisburg (09-10)	x	x	x	x	x	x	Jerry Shoup	JFS1@PSU.EDU	
116	Penn State (ETCE)	x	x	x	x	x	x	Ron Land	REL9@PSU.EDU	
117	Pittsburg State University, KS	x	x	x	x	x	x	Randy Winzer	RWINZER@PITTSTATE.EDU	
118	Prairie View A&M University, TX					x	x	Cajetan Akujobi	CMAKUJUOBI@PVAMU.EDU	
119	Prentice Hall, VT							Benjamin Leonard		BENJAMIN_LEONARD@PRENHALL.EDU
120	Purdue University - Anderson							Jeff Dyer	JLDYER@PURDUE.EDU	
121	Purdue University - Calumet		x		x			Essaid Bouktache	BOUKTAE@CALUMET.PURDUE.EDU	
122	Purdue University - North Central							Chris Smith		CSMITH@PNC.EDU
123	Purdue University - West Lafayette	x	x	x	x	x	x	Robert J. Herrick	RHERRICK@PURDUE.EDU	
124	Queensborough Comm. College, NY		x	x	x	x	x	Stuart M. Asser	SASSER@QCC.CUNY.EDU	
125	Rhodes State College, OH			x	x		x	Thomas Sells		SELIS.T@RHODESSTATE.EDU
126	Rochester Institute of Technology	x	x	x	x	x	x	Mike Eastman	MGEIEE@RIT.EDU	
127	Roque Community College, OR							Dave McKeen		DMCKEEN@ROGUECC.EDU
128	Saint Louis University	x	x	x	x	x		Beshara Sholy		SHOLYBI@SLU.EDU
129	San Diego City College							Fred Julian	FJULIAN@SDCCD.EDU	
130	Savannah State University						x	Jonathan Lambright	LAMBRIJ@SAVSTATE.EDU	
131	Seattle Central Comm. Coll., WA		x	x				Lisa Sandoval		LSANDOVAL@SCCD.CTC.EDU
132	Seminole Community College, FL				x			Benjamin Taylor		TAYLORB@SCC-FL.EDU
133	Shawnee State University, OH			x	x	x		Carl Hilgarth		CHILGARTH@SHAWNEE.EDU
134	Sinclair Community College, OH	x	x	x	x	x	x	Don Homan	DONALD.HOMAN@SINCLAIR.EDU	
135	South Dakota State University (09-10)			x	x	x	x	Teresa J.K. Hall	TERESA_HALL@SDSTATE.EDU	
136	Southern Illinois University			x	x			Ron Marusarz	MARUSARZ@ENGR.SIU.EDU	
137	Southern Poly, GA		x	x	x	x	x	Charles Bachman	CBACHMAN@SPSU.EDU	
138	Southern University and A&M, LA				x		x	Manjit S. Randhawa		RANDHAWA@ENGR.SUBR.EDU
139	Southwestern Indian Poly Institute, NM							Nader Vadiee		NVADIEE@SPIP.BIA.EDU
140	Southwest Tennessee Comm. Coll.				x	x	x	Lisa G. Jones		LGJONES@SOUTHWEST.TN.EDU
141	Springfield Technical CC, MA (09-10)				x	x		Gary J. Mullett	GMULLETT@STCC.EDU	
142	Stark State College, OH					x	x	Frank A. Fuller		FFULLER@STARKSTATE.EDU
143	Suffolk County Comm. Coll., MA							Peter Maritato		MARITAP@SUNUSUFFOLK.EDU
144	SUNY Inst. of Tech., Utica/Rome					x	x	Raymond Jesaitis		RAY@SUNYIT.EDU
145	Technical Career Institutes, NY	x	x	x	x			Seyed Ahnavi		SAKHAVI@TCICOLLEGE.EDU
146	Tech College of the Lowcountry, SC			x				Everett Feight		EFEIGHT@TCL.EDU
147	Texas A&M Univ.- College Station	x	x	x	x	x	x	Jay Porter	PORTER@ENTC.TAMU.EDU	
148	Texas A&M University-Corpus Christi						x	Ruby Mehrubeoglu		RUBY.MEHRUBEGLU@TAMUCC.EDU
149	Texas A&M University - Galveston						x	Vijay Panchang		PANCHANV@TAMUG.EDU
150	Texas Southern University				x	x	x	David Olowokere		OLOWOKEREDO@TSU.EDU
151	Texas Tech University				x	x		Larry B. Masten		LARRY.MASTEN@COE.TTU.EDU
152	Tri-County Technical College, SC							Ron Talley		RTALLEY@TCTC.EDU
153	Union County College, NJ			x	x	x	x	Nicholas Gilbert	GILBERT@UCC.EDU	
154	University of Akron, OH							John Edgerton		JEDGERTON@UAKRON.EDU
155	University of Arkansas-Little Rock				x	x		M. M. Bakr	MMBAKR@UALR.EDU	
156	University of Central Missouri						x	Gerald Kangas		GKANGAS@UCMO.EDU
157	University of Cincinnati					x		Max Rabiee		RABIEEM@UCMAIL.UC.EDU
158	University of Dayton, OH	x	x	x	x	x	x	Scott Segalewitz	SEGALEWITZ@UDAYTON.EDU	
159	U. of Hartford, Coll. of ET&A	x	x	x	x	x	x	Hisham Alnajjar	ALNAJJAR@HARTFORD.EDU	
160	University of Houston (09-10)				x	x	x	Enrique Barbieri	EBARBIERI@CENTRAL.UH.EDU	
161	University of Maine		x	x		x	x	Spider Williams		SPIDER@EECE.MAINE.EDU
162	University of Massachusetts, Lowell							Luciano Boglione	LUCIANO_BOGLIONE@UML.EDU	
163	University of Memphis			x	x			Deborah Hochstein		D-HOCHSTEIN@MEMPHIS.EDU
164	University of Northern Iowa							Recayi Pecen		PECEN@UNI.EDU
165	University of North Texas						x	Noureddine Boubekri	BOUBEKRI@UNT.EDU	
166	University of Pittsburgh - Johnstown		x	x	x	x	x	Greg Dick	GMD@PITT.EDU	
167	University of Southern Mississippi			x	x	x	x	Randy Buchanan	RANDY.BUCHANAN@USM.EDU	
168	University of Toledo							Dan Solarek		DSOLAREK@ENG.UTOLEDO.EDU
169	University of West Florida			x	x	x		Karen Rasmussen		KRASMUSS@UWF.EDU
170	Vaughn College of A&T, NY		x	x	x	x	x	Kalpna Jain	KALPANA.JAIN@VAUGHN.EDU	
171	Vermont Technical College			x	x	x	x	Michael Marceau	MMARCEAU@VTC.EDU	
172	Virginia State University						x	Dr. Keith Williamson		KWILLIAMSON@VSU.EDU

No.	Institution	02_03	03_04	04_05	05_06	06_07	07_08	Member	2008-2009 Member	Lapsed/Attendee/Inquiree
173	Wayne State University, MI						x	Chih-Ping Yeh	YEH@ENG.WAYNE.EDU	
174	Weber State University, UT	x	x	x	x	x	x	William G. Clapp	WCLAPP@WEBER.EDU	
175	Wentworth Inst. of Technology, MA				x	x	x	Sandeep Dilwali	DILWALIS@WIT.EDU	
176	Westchester Community College, NY				x			Raymond Mignogna		RAYMOND.MIGNOGNA@SUNYWCC.EDU
177	Western Carolina University (09-10)	x	x	x			x	Robert Adams	RADAMS@EMAIL.WCU.EDU	
178	Western Washington University		x		x	x		Todd Morton	TODD.MORTON@CC.WWU.EDU	
179	WVU Institute of Technology					x		Thomas Minnich		TMINNICH@WVUTECH.EDU
		28	53	82	91	84	92		94	86

