

ACCE News

Newsletter of the
American College of Clinical Engineering

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November/
December 2007

Preview of ACCE at HIMSS 2008

The American College of Clinical Engineering will once again have a strong presence at the upcoming HIMSS 2008 Conference in Orlando, Florida the last week of February.

Our activities begin on Sunday, February 24, 2008 with a star-studded Clinical Engineering Symposium sponsored by ACCE and HIMSS. The program builds on the theme of CE and IT integration – how so many emerging and integrated technologies are creating a landscape for further CE-IT integration.

We are delighted with our speakers for this year's symposium:

- Kenneth Maddock, BSEET, Corporate Director of Biomedical Technology Services, Baylor Healthcare
- Nathaniel Sims, MD, Clinician, teacher, cardiac anesthesiologist and medical advisor, Biomedical Engineering and Anesthesia, Massachusetts General Hospital and Assistant Professor of Anesthesia, Harvard Medical School
- Michael Dempsey, Investigator at CIMIT, Biomedical Engineering and Anesthesia, Massachusetts General Hospital
- Gary Buss, Systems Designer, RTKL Associates
- Todd Cooper, President, Breakthrough Solutions, Inc
- Jack Harrington, Senior Director, Integrated Solutions, Philips Medical Systems
- Rick Hampton, Wireless Communications Manager, Partners Healthcare System
- Michael Fraai, M.S., C.C.E, Director, Biomedical Engineering, Brigham and Woman's Hospital
- Michael Robkin, Principal Enterprise Architect, Kaiser Permanente Information

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Calendar: Key ACCE Events at HIMSS 2008

| Date | Time | Event |
|------------------------------|----------------|--|
| Saturday, February 23, 2008 | 8:30am-3:00pm | Annual AHTF Board meeting |
| Saturday, February 23, 2008 | 6:00pm-10:00pm | ACCE Board meeting & joint ACCE/AHTF Dinner |
| Sunday, February 24, 2008 | 7:30am-8:30am | Registration/Breakfast |
| Sunday, February 24, 2008 | 8:30am-4:30pm | CE-IT Leadership Symposium Separate Ticket Required |
| Sunday, February 24, 2008 | 4:00pm-5:00pm | Special Interest Group (SIG) Communities "Open House" including · IHE Patient Care Domain (PCD) SIG · CE – IT Convergence SIG |
| Sunday, February 24, 2008 | 5:00pm-8:00pm | HIMSS Reception |
| Monday, February 25, 2008 | 6:30pm-10:00pm | ACCE Annual Membership Meeting & Reception |
| Tuesday, February 26, 2008 | 6:00pm-9:00pm | Awards Banquet: Separate Ticket Required · CE-IT Synergies Award co-sponsored by ACCE & HIMSS |
| Wednesday, February 27, 2008 | 7:00am-9:00am | ACCE HIMSS Breakfast |

Editor Wanted

ACCE News is looking for a co-editor to volunteer to edit 3 issues of the ACCE nNewsletter per year. If interested, please contact the current editor, Ted Cohen, or managing Editor Jim Keller.

Also, if you would like to write an occasional articles for ACCE News, please let us know and we will gladly work with you.

Ted Cohen

Theodore.cohen@ucdmc.ucdavis.edu

Membership Dues Due Soon

ACCE annual membership renewal is due in January. Like last year, we will not be sending out renewal forms; instead, everyone will once again renew on-line.

Look for notices and email reminders after the New Year.

As always, please feel free to contact Al Levenson at

Secretariat@ACCENet.org

if you have any questions.

Al Levenson

Secretariat@ACCENet.org



ACCE Mission

1. To establish a standard of competence and to promote excellence in Clinical Engineering Practice
2. To promote safe and effective application of Science and Technology to patient care
3. To define the body of knowledge on which the profession is based
4. To represent the professional interests of Clinical Engineers

CCE Certification: New Applicants and Renewals

1. The next CCE exam will be given in November 2008 in 28 cities around the US. The deadline for applications is September 1, 2008. Please see the website: <http://www.acce-htf.org/certification> to view the handbook and application for this exam.
2. In 2007 the mix of questions on the CCE exam changed slightly as the exam content was adjusted to track the changing clinical engineering body of knowledge. This change occurred after ACCE released the results of its periodic "Body of Knowledge" survey. The US Board of Examiners for Clinical Engineering, chaired by Patrick Lynch, made the adjustments in the mix of questions and the changes have been published in the 2007 CCE Handbook which is available on the ACCE-HTF website.
3. CCE Renewals: CCE renewal is required once every three years. The CCE renewal Handbook and Renewal Application Form can be downloaded from the CE certification website: <http://www.acce-htf.org/certification>. The renewal fee can be paid by check or by credit card on the ACCE HTF website.
4. Any questions can be directed to Cheryl Shaw, the certification program's secretariat, at certification@acce-htf.org.

ACCE News

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Perspectives from ECRI Institute: The Top Ten Health Technology Hazards

Over its almost forty years of existence, ECRI Institute has developed a tremendous amount of knowledge about medical device safety. Much of this has come from the work of our *Health Devices* comparative evaluation program, investigations from our longstanding international problem reporting system, research and analysis from our accident and forensic investigation services, and our recent experience in running Pennsylvania's Patient Safety Reporting System. We recently distilled some of that knowledge to publish a guidance article in the November 2007 issue of *Health Devices* listing our top ten health technology hazards. We listed ten high-impact hazards to help healthcare facilities prioritize their efforts to protect patients and staff from the types of injuries that can occur during the use of medical devices and systems.

Medical devices and systems are designed to aid in the diagnosis and treatment of a multitude of conditions that patients experience. In the vast majority of cases, these technologies do just that—that is, a device or system is used correctly and it functions as intended. There are exceptions, however. And patients and staff do get injured during the use of medical technologies. Clearly, healthcare facilities should strive to eliminate all health technology hazards, but it simply is not possible to address all potential sources of injury or damage at once. Thus, hospitals should start by focusing on those hazards that warrant the most attention. The items on our top 10 list are those that ECRI Institute believes

should be receiving attention at virtually all healthcare facilities.

When compiling our list, we considered both the prevalence and severity of the adverse event. That is, we selected items representing threats to patient (and staff) safety that occur frequently or that could lead to severe harm—or both. We based our selections on our experience in investigating and consulting on device-related incidents, as well as on information found in ECRI Institute's medical device reporting databases and in other problem reporting databases. For each item on the list, our article describes the hazard, presents recommendations for avoiding it, and points to useful articles and PowerPoint presentations with more information on the topic.

The top 10 hazards (listed in alphabetical order) include:

- Alarm hazards
- Burns during electrosurgery
- Burns during magnetic resonance imaging
- Caster failures
- Infusion pump programming errors
- Misconnection of blood pressure monitors to IV lines
- Needlesticks and other sharps injuries
- Radiation dose in computed tomography
- Radiation therapy errors
- Surgical fires



Jim Keller is ECRI Institute Vice President for Health Technology Evaluation and Safety, and a past Member at Large for ACCE's Board

Members of ECRI Institute's SELECTPlus, Health Devices Gold, and Health Devices System programs can access the article on the top ten health technology hazards on their membership Web sites at www.ecri.org. You can contact me at (610) 825-6000, ext. 5279 or jkeller@ecri.org if you would like information on how to access this article.

Jim Keller

jkeller@ecri.org



View from the Penalty Box: Yearning for Healthcare Leadership

As the year 2007 comes to a close, many of us may be saying where did it go? In my case, I am very happy to see it go and look forward to a new year with better health. Hospitals are a great place to work but not too much fun when you are a patient. Hopefully I can avoid any in-patient stays this coming year.

My reading has moved from being technology based to more medically based and the more that I read the more confused I become. Engineers are great writers when compared with doctors. In one article I read it stated that implantable defibrillators in women had a 226% greater chance of death than those without implanted defibs. Several articles on vitamins and various supplements talked about increased risks of death. I may only be an engineer but death is one of two sure things in life and we cannot increase our risk as it is a certainty. We can shorten our lives with our choices but to my knowledge there is nothing we can do to avoid death. If you do, can we go into business together?

I recently attended a seminar on a "new" technology where various options for the technology were presented. All are products on the market but, to me, all fell far short of what a product should be. None covered all the various identified problems that they were supposed to solve. Most had a reported return on investment of over 5 years, there were no direct patient billing, so no income, but the technology "would allow for the better utilization of existing devices". Another session I listened to had people trying to explain why their devices could not be linked to electronic medical records. Everything from HIPAA to proprietary software was cited as the

reasons but when you asked if they were compliant with the HIMSS IHE standards they all said "yes". How can they be compliant and not communicate? What I am trying to say, in a manner not to upset vendors, is that all too many of them do not understand the problems in healthcare nor what they are supposed to be complying with. As clinical engineers, we have to communicate our requirements to vendors, especially the designers, of the exact problems and what has to work with what. The sales/marketing forces will agree to anything to get the sale and when they cannot deliver, generally discovered long after the installation is done, blame the shortfall on communication errors. The error was and will continue to be we believed them instead of checking it fully ourselves.

Over the next few months we will be hearing many conflicting claims from politicians, most trying to avoid making the hard decisions, on healthcare, education, debt and getting along with one another. What we need is someone who can make decisions, who has the courage to tell us the truth and keeps their promises. There are some very hard decisions that will have to be made on healthcare and we, as a profession and personally, have to get involved or we will have nothing. If we do not watch what we do the medical tourist business will increase and many procedures will shift to lower priced locations around the world. How long will it be before the health insurance companies start to sign agreements with off-shore hospitals on many of the more expensive procedures? They will probably make deals with airlines to get a discount or commission on the fares. As someone once said, it is not about

healthcare it is about profits for those involved. Drug companies fight getting our prescriptions from Canada claiming that the quality is not the same but in many cases the drugs are manufactured in a third country and shipped to both Canada and the US, the only difference in the drugs is what we are charged. If you don't believe that drugs are very profitable just count the ads on TV some night, there are generally more ads for drugs than cars. As once said, by a past president of this country, "It's the money stupid". A sad but an oh so true statement

This past year increased my awareness of what healthcare is, where it is headed and what we, as a profession, have to do to make things better. We have a lot of problems to overcome. We have a treasure trove of talent that is not being utilized to make things better. We are bogged down in traditions and not pushing the envelope on the management of technology. But we can and will do better but we all must get involved.

I wish you and your families health, wealth, and peace in 2008.

Dave Harrington

david.harrington@techmed.linccs.com



ACCE Healthcare Technology Foundation Update: Nominees Sought for Clinical Engineering Awards

The following is an update on the activities of the ACCE Healthcare Technology Foundation (AHTF).

Clinical Engineering Excellence Award

The deadline for this new award is at hand! The Clinical Engineering Excellence Award (CE²) will promote excellence in clinical engineering through recognition of best practices in broad institutional leadership. The award will identify clinical engineering professionals that demonstrate leadership excellence through the award itself, by supporting the award recipient's further professional education, and by widely sharing the ways in which they practice leadership in their institutions.

The focus of CE² is on individual achievements at the institutional level that go beyond high quality clinical engineering. The CE² Award seeks individuals whose leadership is functional rather than merely their position in the organization chart. Included in this is their impact on the public through their institutional activities. This leadership should be evident in processes, outcomes, and/or relationships associated with the management and advancement of technology throughout the health care delivery system.

The CE² evaluations will be conducted by a panel of experts that are charged with the implementation and administration of an assessment methodology and scoring guidelines. This award has received substantial individual and corporate funding. The latter is

based on the recognition that high quality clinical engineering has considerable value to high quality vendors selling equipment into the hospital environment.

The application materials and additional information are at the Foundation's website at <http://www.acce-htf.org/leadershipaward.asp> or through the link from the ACCE web site.

Marvin Shepherd Patient Safety Award

The call for nominations for the next Marvin Shepherd Patient Safety Award is included in ACCE's award announcements at their website. The goal of this award program is to annually identify the best qualified recipient(s) for their contributions to the advancement of patient safety. The individual selected could be an inventor, incident investigator, author, educator, technology manager, active promoter of safe use of technology in healthcare, and/or a

person with similar patient safety accomplishments. This award, and all of the ACCE awards, needs your nominations.
Donations

As always, donations to the Foundation are welcome at any time, and they are tax deductible. Your donations are used to fund professionally relevant activities such as those described above, as well as Certification in Clinical Engineering (CCE). Donations can be made "in honor/recognition of..." with the honoree receiving an announcement to this effect from the Foundation. This is a fine way to recognize your professional colleagues, beyond another coffee mug or unhealthy meal.

William Hyman, ScD, PE, Secretary

secretary@acce-htf.org

Wayne Morse MSBME CCE, President

president@acce-htf.org

ACCE at HIMSS 2008 continued

(Continued from page 1)

Technology/Kaiser Foundation Hospitals

- John Hansmann, FHIMSS, CPHIMS, DSHS, Region Manager, Management Engineering, Intermountain Healthcare-Urban South Region

Tickets in the past have sold out before the day of the event, so it is a great idea to buy them as soon as possible. Tickets can be purchased at the HIMSS 2008 website (<http://www.himss.org>) in the conference registration portal.

On Monday, February 25, ACCE will host our annual member meeting and reception. The reception is always a great networking opportunity amongst the clinical engineering community and

we will hold a brief business meeting to update members on current strategic initiatives. We will conclude the meeting with our annual awards ceremony. This is the first year the ACCE annual membership meeting will be at HIMSS.

In addition to the many, many ACCE sponsored events, we expect that ACCE members will find several key educational programs at HIMSS that impact our daily lives at work. HIMSS has created a special clinical engineering track to guide attendees and suggest possibly interesting educational sessions. We look forward to seeing you at HIMSS.

Jennifer Jackson

jenniferljackson@yahoo.com



ACCE October Board Meeting Summary

The October Board Meeting for the ACCE took place on Thursday October 18 via teleconference. Board Members present were Steve Grimes, Jennifer Jackson, Izabella Gieras, Barbara Maguire, Paul Sherman, Julio Huerta, Bill Rice, Colleen Ward. Education Committee Chair Arif Subhan also attended.

Minutes from June 2007 meeting were approved. (Note: August meeting was rescheduled to September and then cancelled.)

President's Report

Steve Grimes requested that all Committee Chairs draft a Mission Statement and Goals and Objectives for their respective Committees and consider how the Committee contributes toward ACCE overall goals.

President Elect Report

Jennifer Jackson provided the program for the HIMMS-ACCE Symposium. The program is titled: "The Organizational Response to Technical Change", and all speakers have been confirmed. It should be a great program.

Jennifer asked if there was interest to organize a Symposium at AAMI in 2008 as was done in the past. Plans need to be started soon if we are to have a Symposium there.

Also, the Membership Committee submitted 7 new applicants for Board approval.

Education Committee Report

Arif Subhan presented a proposal for advertising for the Teleconferences and CCE Exam. It was agreed that this advertising was important and should be included in consideration as part of the Budget 2008. The Board also discussed other target audiences for the Teleconference series,

such as Aramark, VA, etc.

Vice President's Report

Mario **Casteneda** was unable to attend, but provided a written report outlining the steps he has taken in order to transition into his new role.

Past President Izabella Gieras provided the following Committee updates:

Finance Committee

The Committee is working on compiling 12 month (Oct 2006-Sept 2007) for the revenue and expenses accounts from Bank of America to use in drafting the 2008 budget. The data from Bank of America will be uploaded to Quickbooks.

Strategic Planning Committee

A draft ACCE strategic plan is in place and is under review by the committee. The plan includes:

- * Reaching out to ACCE's international membership
- * Clinical Systems Engineer certification
- * Future of clinical engineering presentation and what should be incorporated into the ACCE strategic plan

IHE Task Force

There are ten participating vendors scheduled for the connectathon in January and Showcase at HIMSS Orlando. The committee has added Spacelabs as a monitoring company, Capsule and Neotool as middleware providers and most importantly, Epic as an EMR vendor. On October 10, Ray Zambuto gave a presentation to the Connectivity Industry Consortium in NY on bringing point of care clinical lab in the US into the IHE platform to join Europe and the Far East.

Secretary's Report

Barbara Maguire confirmed that events were being finalized for HIMMS 2008, including the ACCE breakfast scheduled for Wednesday February 27 at 7am and the ACCE Membership Meeting and Reception scheduled for Monday February 25.

Treasurer: Julio Huerta

Julio confirmed that the transition to him as new Treasurer is well underway. He will coordinate with Al Levenson (Past Treasurer) in order to complete the process. The Board thanks Al for his dedicated service.

Julio suggested considering a sliding scale for pricing of the CCE Study Guide. "Once we agree on a reasonable and equitable price for the US market, we can adjust it using the Purchasing Power Parity indicator for each country that places an order. That way everyone pays a price commensurate to their ability to pay."

New Business

Bill Rice requested consideration of ACCE representation on the NFPA Standards Committee to provide input into development and revision of standards. Steve discussed the plans currently in place to form a standing Committee to review and provide input into any standards of relevance to the Clinical Engineering profession.

The next ACCE Board meeting is scheduled for Thursday December 20, 2007.

Barbara Maguire, ACCE Secretary

bnaquire@amedlink.com

2007-2008 Educational Teleconference Program

12/20/2007

Evaluating Medical Equipment Battery Failures Using Failure Mode and Effects Analysis (FMEA)

Arif Subhan, MS, CCE

Senior Clinical Engineer, Master-plan

FMEA, which has been embraced by the Joint Commission, is an effective tool that prevents failures before harm is done. The presentation will provide some simple examples of how FMEA can be applied to medical equipment battery failures.

1/17/2008

Is There a Relationship Between Equipment Design and Use Error? A Human Factors Engineering Tutorial

Frank R. Painter, MS, CCE

Director, Clinical Engineering Program

University of Connecticut

Why is human factors engineering critical to the design and development of medical equipment? How can a clinical engineer determine how much human factors engineering went into a piece of equipment and why it is important to know this?

2/21/2008

Responding to Medical Device Incidents

William A. Hyman, ScD

Professor, Biomedical Engineering
Texas A&M University

3/20/2008

(Topic to be announced)

Julian M. Goldman, MD

MGH Anesthesia and Biomedical Engineering, Director, CIMIT Program on Interoperability

The teleconferences are held the 3rd Thursday of each month at 12 Noon Eastern Time (9:00AM Pacific Time etc) for one hour. Registrants will receive the call-in number and presentation material prior to each session. For ACCE members, the cost of each session is \$150 per site. For non-members the cost of each teleconference is \$195* per site. This allows for up to four participants per site, each additional participant is \$10. Each registrant receives a CEU certificate from the University of Arkansas for Medical Sciences for each session they participate in. CDs of each Teleconference will also be available for \$50 each.

Teleconferences Registration Form

Please register us for the following sessions:

___ August 16, 07 ___ December 20, 07

___ September 20, 07 ___ January 17, 08

___ October 18, 07 ___ February 21, 08

___ November 15, 07 ___ March 20, 08

Total: _ sessions @ \$150/\$195 each = \$

(Please PRINT)

Contact Name: _____

Organization: _____

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___ Check Payable to: **ACCE**

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CC# _____

Exp date: _____

Fax registration form to:

(480) 247-5040 **or**

Mail to: Alan Levenson, ACCE Secretariat

5200 Butler Pike

Plymouth Meeting, PA 19462-1298

CCE Review Course on CDs

Purchase the CCE Review Course on CDs. This review was taped live at a five-session, 8-hour CCE Review Course, presented by a faculty of clinical engineers who have broad experience working in hospitals, independent service organizations, consulting, government, and industry. Topics of the CCE examination are reviewed by a subject specialist and the 8 hour audio course includes Q&A from the audience, Power Point Presentations, reference list, and sample questions. Topics covered in the course are: Introduction to the CCE Exam, CE Program Management, Financial & Service Contract Management, Technical Supervision, CMMS, Technology Assessment, Product/Vendor Selection, Capital Planning, Clinical Trials Management, Building Plan Review, Building Design and Human Factors, Regulatory/QA Issues, Risk Management/Safety, Education, Product Development, Repair/Systems Thinking and other miscellaneous Clinical Engineering topics. The Audio Course is available for \$300 (ACCE members) and \$345* (nonmembers). For more information or to purchase please contact Alan Levenson at secretariat@accenet.org. Additional information is also available on the ACCE website: <http://www.accenet.org>

The ACCE Board and Committee Chairs

| | |
|--|---|
| President | Stephen Grimes |
| President Elect | Jennifer Jackson |
| Vice President | Mario Castaneda |
| Secretary | Barbara Maguire |
| Treasurer | Julio Huerta |
| Member-at-Large | Colleen Ward |
| Member-at-Large | Tony Easty |
| Member-at-Large | Paul Sherman |
| Past President | Izabella Gieras |
| Education Committee Chair | Arif Subhan |
| Membership Committee Chair | Jennifer McGill |
| HIPAA Task Force Chair | Stephen Grimes |
| Advocacy Committee Chair | Nancy Pressly |
| IHE PCD Task Force Co-chairs | Todd Cooper, Ray Zambuto, Elliot Sloane |
| International Committee Chair | Tony Easty |
| Medical Errors Task Force Chair | Elliot Sloane |
| Nominations Committee Chair | Izabella Gieras |
| Professional Practices Committee Chair | Paul Sherman |
| Body of Knowledge Committee Chair | Kelley Harris |
| Strategic Development Committee Chair | Izabella Gieras |
| Secretariat | Alan Levenson |

ACCE Clinical Engineering Certification Study Guide

The American College of Clinical Engineering has completed a Study Guide for the Clinical Engineering Certification examination offered by the Healthcare Technology Certification Commission established under the ACCE Healthcare Technology Foundation. The Study Guide is available through ACCE for \$30. To order a copy of the Guide, please make out a check payable to ACCE and send to:

Alan Levenson, ACCE Secretariat
5200 Butler Pike
Plymouth Meeting, PA 19462

Or e-mail Secretariat@ACCENet.org and include credit card information (name on card, type of card, card number, and expiration date). Applications are now being accepted for the **November 2008** exam. Applications and the applicant handbook can be found at www.ACCENet.org/certification.

The ACCE Study Guide was written by an independent group of clinical engineers not associated with the exam process

Calendar of Events

- February 24–28, 2008

HIMSS 2008, including the ACCE sponsored Clinical Engineering Symposium on February 24

Orlando, FL

- February 25, 2008

ACCE Annual Membership Meeting and Symposium at HIMSS

Orlando, FL

- February 24-28, 2008

HIMSS 2008

Orlando, FL

- June 24-28, 2008

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