I happened to be browsing on the web a few weeks ago and came across CNN Money’s latest list of Best 100 Jobs in America. I was pleased to see that Biomedical Engineer was number one on the list. It wasn’t too surprising since last year the New York Times also listed Biomedical Engineer number one on its Top Ten List of “where the jobs are”. Both lists refer to Biomedical Engineers as those who design and build innovative devices such as “artificial limbs and organs and new-generation imaging machines”. They also described their work to improve processes (e.g., for genomic testing) and in the development of drugs. Even though our work in clinical engineering is often referred to as biomedical engineering, our traditional hospital-based responsibilities weren’t covered in the CNN Money or New York Times descriptions of number their one jobs. Oh well.

Then I took closer look at the CNN Money list. When I got to number 54 on the list, I almost jumped out of my chair. There it was, Clinical Engineer! Or more specifically, Clinical Engineer, Medical Devices. I was impressed that CNN Money even knew about our profession. I was shocked and of course extremely pleased to see it on a list of Top 100 Best Jobs. Clinical engineers were described as those who (1) “design, develop, and evaluate the efficiency and safety of biomedical and diagnostic equipment” and (2) “research new materials and offer advice on how to use them, and also install and repair them”. It was a pretty good description, especially the part about evaluating equipment and providing advice on its use, installation, and repair.

More good news came the next day. CNN Money published a list of the Fastest-Growing Jobs. Number two on the list was amazingly Clinical Engineer, right behind Home Care Nurse at number one. It made the cut based on an expected 10 year growth rate from the U.S. Department of Labor’s Bureau of Labor Statistics of 61%! I don’t have a good feel for how this growth rate is determined or how accurate it might be. I suspect at least from recent history and the number of actual clinical engineers in hospitals that it might be a little high, but it really doesn’t matter. This type of national and mainstream recognition is a tremendous opportunity for our profession, and it’s our responsibility as members of the American College of Clinical Engineering to take advantage of this opportunity to help make that 61% projection come true. Of course this will be good for the profession and may be a little self-serving, but in my opinion, our healthcare organizations need the kind of growth projected for clinical engineering in order to effectively manage their technologies over the next ten years.

So what can we do to make sure the projected growth rate actually happens? Promoting the heck out of the recognition from CNN Money is a good way to start. ACCE’s promotional literature is being revised as we speak to include references to the CNN Money rankings. We’ll be doing the same on our organization’s website. Any time that you have an opportunity to present at conference or at a meeting of your colleagues bring up the rankings. It’s sure to make an impression among those not in our profession and believe-it-or-not will give you more cache because you’re a member of what is now such a desirable profession. Also, ACCE will be working on executive-level communications that
describe our profession and its currently highly desirable status and most importantly provides information on the tremendous value that clinical engineers provide to their healthcare organizations.

I did not have an opportunity to attend the recent Medical Device Connectivity Conference and Exposition in Boston for which ACCE was a supporting organization. However, I've had a chance to review some of the presentation materials. Clinical engineers and/or ACCE members were well represented among the meeting's presenters. They did an excellent job of sharing the valuable work they are doing now and that our healthcare organizations will need much more of over the next ten years. Excellent examples are Jennifer Jackson from Cedar Sinai Medical Center, Past-President of ACCE, Ted Cohen from UC Davis Medical Center, and Barbara Majchrowski from ECRI Institute. Jennifer spoke about her hospital’s new approach to management of medical device systems, Ted described the use of computerized maintenance management systems to help manage network connected medical systems, and Barbara addressed the challenge of connectivity with physiologic monitoring systems. We need more examples of these types of clinical engineering contributions to our healthcare organizations. This information should be built into ACCE's promotional efforts about clinical engineers, particularly to the executive offices. This is where the jobs will be created, jobs that will be needed to achieve the Bureau of Labor Statistics' 10 year projected growth rates for clinical engineering.

I’d like to see us create a resource on ACCE’s website with more examples of valuable and cutting edge services that clinical engineering professionals are providing for their healthcare organizations. These can be used as more fodder for our promotional material about the value of clinical engineering. They can also serve as ideas for other clinical engineers who are looking to expand the scope of services and value that they provide for their organizations. Examples may include integration of infusion pumps with electronic medical records, implementation of alarm management systems, development of a test lab for networked medical technology, implementation of the IEC 80001 standard, and management of remote/home monitoring technology. These examples could be written up in one or several paragraph descriptions or vignettes about the projects/initiatives with summaries for how they have impacted healthcare organizations.

Here’s an example of what one might look like:

The Johns Hopkins Hospital recently won ECRI Institute’s 2012 Health Devices Achievement Award for its comprehensive study of alarm fatigue. It was a patient safety initiative co-led by Andrew Currie, Director of Clinical Engineering for Hopkins. The project led to demonstrable improvements in the management of clinical alarms within its care units. During seven-day analyses of baseline alarm data in two of its intensive care units (ICUs), the hospital recorded an average of 317 alarms per bed per day in one ICU and 771 alarms per bed per day in another. Such a large volume of alarms is a major contributor to alarm fatigue. To address this problem, Johns Hopkins Hospital formed a multidisciplinary Alarm Management Committee, with leadership from clinical engineering, to study the type, frequency, and duration of alarms that occur within particular care units and then develop, test, and apply changes that would positively affect patient care. This included:

- Developing a fault tree analysis to identify all possible failure modes associated with a missed alarm.
- Making modest changes—changes that were determined to be safe—to the default settings for the monitor alarms on each care unit. Changes to defaults were intended to reduce nuisance alarms and/or clinically insignificant alarms, without compromising patient safety.
- Analyzing and implementing methods for adjunct alarm notification

The committee also collected and analyzed alarms data after interventions were made in order to confirm and quantify improvements. For example, the pilot program for this initiative, which was conducted in a 15-bed medical progressive care unit, yielded “a 43% reduction in critical physiological monitor alarms from the baseline data collected approximately one year prior” (Am J Crit Care 2010 Jan;19(1):28-34).

As I mentioned in my last President’s article, ACCE is a volunteer-run organization. We have many dedicated members
Welcome New Members

Let’s welcome our newest members, recommended by Membership Committee and approved by the Board of Directors on November 27, 2012:

**Individual Members:**

Renato Garcia Ojeda - Associate Professor/Head of Clinical Engineering & Biomedical Engineering at Universidade Federal de Santa Catarina, SC, Brazil

**Associate Members:**

Timothy Z. Smith – Biomedical Equipment Test Engineer at Air Force Medical Evaluation Support (SAIC)/MD, USA

**Candidate Members:**

Juliana Angel Velez – grad student at UCONN and intern at MASS General Hospital, Boston, MA

Jaspreet Mankoo – grad student at UCONN and intern at VA Boston Healthcare, MA, USA

Edward J. Ryan IV – grad student at UCONN and intern at Hartford Hospital, Hartford, CT

**Organizational Members:**

Cedars-Sinai Medical Center (Los Angeles, CA):

Jennifer Jackson—Director of Clinical Engineering and Device Integration (Individual representative)

Vahan Adamov—Senior Clinical Systems Engineer (Associate representative)

Oliver Clark—Systems Engineer (Associate representative)

Vere Davis—Project Specialist (Associate representative)

Kyle Gilstrap—Clinical Systems Engineer (Associate representative)

Sirvart Karaoglanyan—Clinical Systems Engineer (Associate representative)

Jeannie Massey—Clinical Systems Engineer (Associate representative)

Jolene Phillips—Project Specialist (Associate Representative)

Would You Like to Write for ACCE News?

The ACCE News is always looking for good, short (~ 500—1,500 words), previously unpublished articles. Short technical articles, case studies, controversial issues, opinion pieces (in good taste of course), Other Clinical Engineering-related material is always welcome. If you have any ideas about a one-time article or a continuing series or a column, please contact one of the editors and we will discuss it with you.

Thanks for making the ACCE News your quality newsletter.

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President’s Message (Continued from page 2)

participating on our Board, committees, and/or other activities. Despite the great participation from our members we have plenty of opportunities for contribution from more. The latest opportunity is the “gift” that we’ve been given from the CNN Money job rankings for clinical engineering. I’ve just scratched the surface with my comments and ideas above for how we can do a better job of promoting our profession by taking advantage of our new high ranking status.

To get it done right, we also need your help and your ideas. Feel free to e-mail me to let me know how you’d like to help or what ideas you might have.

Best wishes to you and your families during the upcoming holiday season.

Jim Keller
president@accenet.org

(Continued from page 2)

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Jeannie Massey—Clinical Systems Engineer (Associate representative)

Jolene Phillips—Project Specialist (Associate Representative)
In 2012, the Institute of Biomaterials and Biomedical Engineering (IBBME) celebrates its 50th anniversary at the University of Toronto. Offering the most established Clinical Engineering program of its kind in Canada—it became a MHSc degree program in 1984—at one of the first biomedical engineering programs in the country, clinical engineering at IBBME enjoys an international profile.

It’s the impact of the program, both in financial and in human terms, that can’t be understated, argues Tony Easty, IBBME Professor and long-time member of the ACCE. “In the twenty-six years of the program,” Easty says, “our students have gone on to have an impact in pretty much every corner of health care.”

In Canada, IBBME is likewise distinguished for offering the only formal MHSc clinical engineering program, a program “unique in Canada,” states Easty. And while the program may be unique, it’s hardly a niche program—as illustrated by figures recently released from the United States government.

Growing Talent

Earlier this year, the U.S. Bureau of Labor Statistics pointed to biomedical engineering as the top occupational growth field, with a whopping 72% growth rate per year beginning in 2008 and anticipated to continue through 2018. CNN Money also recently posted a growth rate of 61.7% through 2020.

Nowhere is this growth as evident as through the exponential expansion of Canada’s premier Clinical Engineering program. Between 2010 and 2011 alone, IBBME’s Clinical Engineering program grew by almost 28%. The figures are staggering given the competitiveness of the program. The rigorous recruitment process requires a grade point average of 3.8 and a candidate interview before gaining admission. With only twenty spots offered in the program per year, competition for the program is stiff.

The popularity of the program prompted IBBME to add a new PhD stream (PhD in Biomedical Engineering, Clinical Engineering concentration), with its first students enrolled in 2011. In 2014, IBBME will roll out its own undergraduate biomedical engineering program. Already the largest and most comprehensive biomedical engineering school in Canada, the program is poised to grow even more.

Professionalization and entrepreneurship

The popularity of the program can be attributed to numerous factors—its high profile faculty, program structure, and the kind of institutional support offered to students. Ultimately, IBBME is known for professionalizing its students. In fact, through offering its two-year MHSc program, IBBME helps its students prepare for the CE certification process—a certification that actively broadens students’ post-graduation opportunities.

Tony Easty, the man responsible for harmonizing Canada’s clinical engineering certification with US Board certification standards, recalls that Canada’s own accreditation system had fallen dormant before he kick-started the process of moving IBBME in line with the Health Technology Certification Commission’s rigorous accreditation process, as established by ACCE, four years ago.

Easty’s association with the ACCE goes back at least fifteen years, when he first recognized that this was an organization focused specifically on clinical engineering—a low-profile field in Canada at the
An Impact in Every Corner  
Canada’s unique Clinical Engineering program celebrates 50 years of biomedical engineering excellence

(Continued from page 4)

doin their careers,” says Easty.

Moving towards commercialization and entrepreneurship

IBBME is also unique in Canada for its formal partnerships with organizations working to bring innovations in clinical and biomedical engineering to the marketplace faster. In the past two years IBBME has formalized three such partnerships with the Centre for the Commercialization of Regenerative Medicine (CCRM), Techna, hosted by the University Hospital Network (UHN) in Toronto, and the Centre for Research in Advanced Neural Implant Applications (CRANIA), a project led by IBBME’s Milos Popovic.

Tony Easty plays a pivotal role in another of those ventures. EXCITE is a partnership between the government of Ontario and MaRS, a not-for-profit organization dedicated to helping develop the commercial potential of Toronto’s $1 billion in annual science and technology research spending by providing resources, funding and training opportunities. The EXCITE project aims to launch new and “disruptive” health care technologies into the marketplace while providing a thorough analysis of the impact these new products are having on health care overall, as well as the patient’s care and experience.

The EXCITE project represents yet another avenue for IBBME’s celebrated clinical engineering students to explore.

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Program Website:  
www.ibbme.utoronto.ca

Students enrolled in the IBBE program at the University of Toronto have long been active with ACCE. The following are past award recipients of the ACCE Student Paper competition:

2012—Christopher Colvin (2nd)  
2011—Sharareh Taghipour (3rd)  
2010—Sharareh Taghipour (1st)  
2010—Wallace Wee (2nd)

Amir Manbachi pictured with Stryker Cranial Mask.
AAMI Update:

A Push for Uniform Job Titles and Descriptions, Developing a Recommended Practice for Device Maintenance, and More

HTM Job Titles

AAMI has established a task force to draft a series of suggested job titles and descriptions for those in healthcare technology management.

The task force consists of about 10 members, including clinical engineers, biomedical equipment technicians, and educators. Its work began in the wake of Future Forum II, a three-day meeting hosted by AAMI in September at which a group of HTM professionals discussed how best to advance and elevate the field. They agreed that one priority was to develop uniform job titles and descriptions.

The task force is examining existing job descriptions and titles, considering how they can best be updated to reflect changes in roles and responsibilities as the delivery of healthcare evolves. Underlying this effort is what many HTM professionals see as a need to take a more proactive posture in hospitals and other healthcare facilities.

“Have we have to take on a leadership role as opposed to our traditional advisor role,” Daniel DeMaria, biomedical engineering manager at Olathe Medical Center in Olathe, KS, said at the forum.

The task force’s work is expected to continue well into 2013.

Recommended Practice for Device Maintenance

The AAMI Medical Equipment Management Committee is developing a recommended practice on device maintenance. The committee was due to hold its first meeting on the issue during AAMI’s Standards Week, which runs Dec. 3-7 in Daytona Beach, FL.

The recommended practice will be designed to help HTM managers develop the process and methodology for equipment evaluation and maintenance strategy. The document is expected to address questions about manufacturer recommendations on maintenance, including how to develop alternate procedures.

The recommended practice is being developed as HTM departments continue to wrestle with ramifications from a year-old memo from the Centers for Medicare & Medicaid Services (CMS). That memo emphasized that hospitals have little discretion when it comes to setting preventative maintenance schedules and must follow manufacturer recommendations in most cases.

AAMI and others have asked CMS to reconsider that memo, supplying the agency with information on some of the evidence-based maintenance practices that many HTM departments have used. CMS has since said it is working on an update to that memo.

For more information about the committee’s effort, contact Susan Gillespie at sgillespie@aami.org.

October FDA Interoperability Summit

In October, AAMI and the U.S. Food and Drug Administration hosted a summit on medical device interoperability. The goal of the two-day summit was to engage a diverse group of stakeholders in a wide-ranging discussion about interoperability challenges and to identify priority issues for follow-up work. The list of priorities that came out of that summit stems from several themes, including the need for more standardization and adoption of a systems approach to the challenge.

The summit, held in Herndon, VA, was attended by more than 260 people, including HTM professionals, medical device manufacturers, regulators, clinicians, and information technology vendors. The summit was followed by an invitation-only wireless workshop at which 100 experts discussed challenges and solutions to how hospitals could implement wireless networks. The workshop was jointly convened by AAMI, the American College of Clinical Engineering, ECRI Institute, and the American Society for Healthcare Engineering.

“The wireless workshop was a key companion event to the summit because wireless issues are pervasive and persistent in healthcare organizations,” said AAMI President Mary Logan. “You can’t achieve the desired state with integration unless you have highly secure and dependable wireless networks.”

A summary of the summit and workshop will be featured in publications under development by AAMI. The publications will be posted by January at www.aami.org/publications/summits/

HTM and Sustainability

Is healthcare doing all it can to be environmentally friendly?

AAMI has created an ad-hoc working group that will take the lead on developing environmentally conscious standards on sustainability for manufacturers and hospitals.

Experts say that HTM professionals are well positioned to advance the cause of sustainability by helping their facilities purchase more environmentally friendly products, and reducing the waste stream.

For more information about the working group’s efforts, contact Cliff Bernier at cbernier@aami.org.

For inquiries about this AAMI update, contact Sean Loughlin at sloughlin@aami.org.
The View from the Penalty Box

Well the election is over and the commercials have stopped, which is great. From a personal standpoint, I am not thrilled with the outcome of several races, but there have been worse choices. Here in Massachusetts, we had 3 ballot questions of interest. The first was a question about the right of an owner to be able to have their car serviced by a private shop, and the manufacturers have to offer, for sale, the diagnostic software to those shops that qualify. Now we need to see if we can move this line of thought to medical devices. The second question was the right to die with physician assistance. As I write this, the vote is too close to call. The big pitch against this proposal was the commercials stating that physicians are not too accurate about knowing how long a patient has. The bill states that this period must be less than 6 months. The third question was to legalize medical marijuana, and that passed, so maybe we are not in the dark ages here in Massachusetts any longer.

Most of what I am doing in “retirement” is working on international projects. These projects are split into two groups: production facilities for IV solutions and hospital/clinics. The one standout feature that I am seeing with the hospitals and clinics is that the clinical people want devices that are simple to use and work well in less than ideal environments. While here in the US hospitals and clinics seem to have the latest and greatest technology that in many cases is difficult to use, expensive to maintain, and all too often clinically questionable. Maybe this is why the US is so far down in the rankings of infant mortality, life expectancy, and continuing care. We do rank at the very top of the charts in cost of care. No other country is close. We need to get working on reducing the cost of care, while at the same time improving it. On the other side of the business, the IV production, we have found that the international standards are easier to comply with, are less expensive to work with, and the products generally exceed our quality requirements. Over 20 years ago, I sat on the GMP panel for the FDA when it was proposed that instead of writing all sorts of requirements the US just adopt the ISO and cGMP standards. The vote was 9 to 1 against the proposal, suggesting the FDA should proceeded with all the standard writing. Unfortunately, that left companies to have two sets of rules if they were going to sell internationally, which drove up costs.

Another benefit that retirement has provided is the time to read a lot of the newsletters that are on line, I must look at over 20 a day. While most of the items are duplications of material published in other newsletters, there is always something new. When looking at the newsletters targeting the manufacturing side of healthcare, many of the articles are about new devices/drugs that are under development and show promise but are still a few years away from general use. Other articles talk about the drugs/devices that are discontinued because of problems. Costs are never mentioned, which seems strange to me as most of the companies are publicly traded on the stock market, and investors need to know the track records of companies getting their products to market.

In a letter to the editor of the Boston Globe, a physician stated that 20 to 40 percent of medical diagnoses prove wrong at autopsy. To me, that is a little late to get a firm diagnosis, but we as clinical engineers have a similar track record with known and pressing problems that do not get solved. Just compare the top 10 problems published by ECRI Institute every year, and very few of these problems have been corrected.

Back when I was a product manager for a monitoring company, we would meet with our clients in various parts of the country every year to get their input on the strengths and weaknesses of the hardware; too many alarms and too many controls were the biggest complaints. Other input was “it would be nice if------” or “could you do this----”. All too often these comments led to more controls and alarms while adding very little to healthcare except increased costs.

In a recent conference presentation, Dr. David Holmes presented the fact that healthcare goals developed in 1927 still have not been met. He talked about all the engineering developments, but the same problems with healthcare still exist 85 years later. Combine that with articles in the early 1970’s about too many alarms, the 1980’s on infusion pump problems, the 1990’s on interconnects, and the first decade of the 21st century with problems with radiation exposure to kids in CT, to EHR and too many alarms. We have our work clearly laid out for us, but all too many will get caught up in petty problems, like current leakage testing and lose sight of what has to get done. Hey, fellow engineers, there is a group of your colleagues that are getting to the point where we will need the technology, so please have it ready for us. We do not want to be one of the 40% whose diagnosis is found incorrect at the autopsy.

Maybe the players and owners will finally agree and there will be a NHL hockey season, but if not please support the minor league teams in your area. These guys play a good level of hockey and always give their best.

Have a great holiday season.

Dave Harrington
dave@sbtech.com
Secretary’s Report

It has been an exciting and great start for the new Board that took up their positions in September 2012. We took the opportunity to review our ACCE Bylaws, Board member assignments, and our relationship with other organizations and businesses, in order to plan next steps in improving our relations with others and better serve our members.

One of the most exciting opportunities related to advocating for the importance of Clinical Engineering to the industry was CNN/Money naming the job of a Clinical Engineer as one of the “best and fastest-growing jobs in America”, which brings significant benefits to society and offers “outstanding” career opportunities.

ACCE also supported the 4th Annual Medical Device Connectivity Conference (MDCC). Held on November 1-2, 2012, the conference focused on interoperability issues, challenges, open source solutions, governance gap, EHRs and Meaningful Use, clinical documentation and data validation, cyber security, wireless environments, the development of a multi-vendor system, and many other topics. The keynote speakers included Tim Gee, Julian Goldman, MD, Ed Cantwell, Kevin Fu, Ph.D, Carol Davis-Smith, CCE, William Hyman, ScD, and Barbara Majchrowski, MHSc, PEng.

We have also been working on scheduling and planning our activities for HIMSS 13 in New Orleans – some of which include the joint CE-IT reception, ACCE booth, ACCE Reception and the Awards function to honor all our award recipients for this year.

Our 2012-13 ACCE Educational Teleconference Series was off to a great start in September, and the attendance has been increasing over the past few months, thanks to the diligent efforts of our Education Chair, Ilir Kullolli, and our speakers. We have had 3 sessions so far this year, starting September 2012, and the next teleconference is scheduled for December 13, 2012 on Device Integration and EMR.

Many clinical engineers who are preparing for the November CCE Exam also registered for the 10-week session of the CCE Study Course Teleconference Series, conducted by Matthew Baretich, Tobey Clark, Ted Cohen, Frank Painter. The course started on August 15, 2012 and ended October 17, 2012. We had many successful sessions with excellent attendance.

President Jim Keller has successfully collaborated on an agreement with the Journal of Clinical Engineering to share ACCE newsletter material with the Journal.

Under the leadership of Tobey Clark, the ACCE International Committee and faculty members Mario Castañeda, Tom Judd, and Ismael Cordero were busy preparing for the ACEW 2012 Peru - Advanced Healthcare Technology Management & Clinical Engineering Workshop - Leadership and Innovation, successfully conducted from November 12th to 16th, 2012 in Lima.

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Healthcare Technology Foundation News

Joining over 17,000 physician and nursing professionals, three Healthcare Technology Foundation (HTF) board members made presentations and were part of a panel in the Cardiac Monitoring and Alarm Fatigue session on November 6, 2012 at the American Heart Association (AHA) annual meeting in Los Angeles, CA. Advisory Board member and ACCE President, Jim Keller, opened the session with Defining the Problem, Board member Marge Funk PhD, followed with Toward a Possible Solution: Are We Over monitoring?, and HTF President Tobey Clark spoke on Responsibilities of Industry and Setting Standards. The HTF Clinical Alarms Task Force continues to meet regularly to develop contributions to healthcare directed toward the reduction of alarm hazards.

It is the end of that tax year! Don’t forget about HTF for your donation opportunities.

Henry Stankiewicz, Jr. MSBME, CCE
Vice President, HTF
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Please visit our website: http://www.thehtf.org
Healthcare Technology Foundation and ACCE Presence at MDCC 2012

The Fourth annual Medical Device Connectivity Conference (MDCC) was held in the Martin Conference Center at the Harvard Medical School on November 1-2, 2012. Tim Gee, Chairperson of the Conference, Connectologist and Principal, Medical Connectivity Consulting, set the stage with his opening remarks to the two-day event. Three themes were emphasized: (1) the current progress of medical device data streaming into the EMR, (2) the increasing need to manage alarms and technology changes in wireless and software, and (3) how hospitals and manufacturers are facing these challenges. He asked for a robust dialog with the speakers and the audience.

The first speaker, Julian Goldman, MD, the Medical Director of Biomedical Engineering for Partners Healthcare Systems, put the medical device interoperability issue very succinctly: it is a “wicked problem”. The Wikipedia definition of this term served as a theme not only for his talk but also for all of day one. We are facing a problem that is “difficult to solve because of incomplete, contradictory, and changing requirements”. His talk really nailed the current state of the interoperability issue.

He also discussed how CIMIT, the Center for Integration of Medicine and Innovative Technology, is trying to lay groundwork for device interoperability. He hosted a well-received tour and demonstrations at his center the previous evening, a tour I missed this year. During the tour, the past year’s interoperability solutions with various medical devices were demonstrated. The feedback I received from those attending was consistent with my view the prior year.

The first talk by a Health Technology Foundation (HTF) board member, and also ACCE member, was later in the morning. William Hyman, ScD, Professor Emeritus Department of Biomedical Engineering, Texas A&M University and Past President of HTF, gave an update on Meaningful Use (MU) Stage 2. Dr. Hyman was stuck in New York City due to Hurricane Sandy and presented his talk remotely. He still managed to hold the audience’s attention as he described how the government regulates its defined MU of an EMR. Of particular interest was the discussion of the possible or actual impact on medical device connectivity.

Carol Davis-Smith, an ACCE member, then summarized the AAMI/FDA Interoperability Summit that occurred on October 2-3, 2012. The summit covered the issues surrounding interoperability, the integration of medical devices, with a focus on patient safety. Much like the goals of this conference, AAMI and the FDA convened their meeting to improve device integration and enhance patient safety.

Ms. Davis-Smith’s presentation can best be summed up by a quote from Mary Logan, President of AAMI, in AAMI News (October 2012/Volume 47/No. 10) “Interoperability is a huge space still under development”.

The afternoon of day one also included topics such as clinical device data validation, cyber security issues, general and patient monitoring connectivity and transition. The day one program wrapped up with a talk on medical grade wireless requirements and then a panel discussion on the wireless spectrum.

The morning of day two had two tracks: one for healthcare providers and one for manufacturers. It is perhaps ironic that these two groups were segregated since connectivity success depends on mutual support. At the healthcare provider track two HTF board and ACCE members gave well-received presentations. Ted Cohen, Director of CE at UC Davis, spoke about the expanding role of computerized maintenance management systems to include medical device—IT system-level documentation. Then, later that morning, Jennifer Jackson, Director of CE and Device Integration at Cedars-Sinai, described medical device integration at a large medical center. Through a first hand account of her career progression, Ms. Jackson described her professional evolution and the corresponding evolution of medical device system integration at Cedars-Sinai.

The morning also had well received topics on Wireless Issues presented by Alan Lipshultz, Clinical Engineering–IT convergence by Robert Rinck, a Clinical Documentation case study presented by Mark Herder, and Connectivity Lessons learned by Paul Frisch.

Day two’s topics and presentations provided a very valuable “cook book” experiences to the audience. However, it may be the kind of cookbook where the recipes aren’t readily replicated in every kitchen. “You have seen one hospital, you have seen one hospital”.

Judging by the questions and the interactions during the sessions and the breaks we, as Clinical Engineering professionals, have much work to do to ensure accurate, safe and sustainable medical device integration. Conferences like this one, with the necessary drive and resources, will give us the tools to succeed.

During both days, an exhibit area enabled the attendees to speak with connectivity and wireless vendors and sponsors of the conference. Laird Technologies, Frost and Sullivan and Medical Connectivity Consulting were noted in the conference brochure for their support.

The conference ended with a two optional workshops. Workshop one was “Design Techniques to Build Safety-Critical Back-end as a Service Cloud Solutions”. Session two was “Medical Device Wireless Enablement”.

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Perspectives from ECRI Institute: Top Ten Hazards for 2012

ECRI Institute’s annual Top 10 list of health technology hazards highlights the technology safety topics that we believe warrant particular attention in 2013. Our latest list, published in the November 2012 Health Devices, includes some hazards that we see occurring with regularity, some that we believe will become more prevalent as the technology landscape evolves, and some that are well-known, but that periodically warrant renewed attention because of their potential to cause harm.

The first three hazards on our list for 2013 are all familiar topics:

- Alarms hazards (hazard no. 1) continue to be a high-impact patient safety concern and thus remain at the top of our list. Our recommendations this year focus on management strategies that can reduce the alarm burden and facilitate more effective responses to conditions that warrant attention.
- Medication administration errors using infusion pumps (hazard no. 2) likewise remain a pressing issue. This year we discuss the role that integrating infusion pumps (e.g., with electronic ordering, administration, and documentation systems) can play in reducing errors. This multiyear process, which we believe is the next step in infusion safety, will require plenty of involvement from clinical engineers.
- Radiation exposure hazards, specifically the high doses of CT scans, have been covered in previous lists. For 2013, we recommend looking more broadly at the factors that can contribute to unnecessary radiation exposures, or even cause radiation burns, with any modality (hazard no. 3). Modifying dose settings (particularly for pediatric patients), avoiding repeat imaging, and tracking dose during fluoroscopy are among the topics discussed.

Elsewhere on the list, health IT topics received particular emphasis. While these complex technologies offer great promise for improving patient care, they also can create new paths to failure. The predicted growth in health IT, combined with the potential for IT-related failures to affect many patients before being noticed, should motivate hospitals to consider health IT implementations when prioritizing their safety initiatives. The health IT topics on our 2013 list are:

- Patient/data mismatches in EHRs and other health IT systems (hazard no. 4)
- Interoperability failures with medical devices and health IT systems (hazard no. 5)
- Caregiver distractions from smartphones and other mobile devices (hazard no. 9)

The rest of the list includes a mix of old and new topics:

- Air embolism hazards (hazard no. 6). Though generally a known complication of certain procedures, recent fatalities illustrate the need for renewed focus.
- Inattention to the needs of pediatric patients when using “adult” technologies (hazard no. 7).
- Managing infection risks associated with endoscopic devices and surgical instruments (hazard no. 8).
- Surgical fires (hazard no. 10).

As in previous years, ECRI Institute staff identified topics for inclusion on the list by examining problem reports; reviewing the literature; and speaking with healthcare professionals. We then ranked the topics by weighing factors such as the hazard’s potential for harm, its frequency and breadth, the difficulty of recognizing or rectifying the problem, and whether failures would attract widespread news coverage. We also considered whether raising awareness of the hazard could help reduce future occurrences.

We encourage hospitals to use our list as a starting point for patient safety discussions. The article is available as a free download at www.ecri.org/2013hazards. Members of ECRI Institute’s Health Devices, Health Devices Gold, and SELECT-plus programs can access both the article and our web-based survey tool on their member websites. The survey tool, which includes all-new functionality for 2013, allows hospitals to quickly assess their risk of experiencing each hazard.

Feel free to contact me if you have any questions about the list, or if there’s a topic that you think belongs on the list for 2014.

Rob Schluth
Senior Project Officer for ECRI Institute’s Health Devices Group, lead author for the Top Ten article rschluth@ecri.org
ACCE Advocacy Awards: Call for Nominations

Dear ACCE Friends:

On behalf of the ACCE Board and the ACCE Advocacy Committee, I ask you to please take time to nominate worthy colleagues today or contact students to submit their papers. Just complete the nomination form (recommended individual(s), justification(s) or papers) and email them to advocacychair@accenet.org by January 30, 2013.

The awards winners will be announced in February, and be presented at either HIMSS 2013 (New Orleans, LA) or AAMI 2013 (Long Beach, CA).

Thank you,

Ilir Kullolli
Vice President

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<tr>
<th>Year</th>
<th>Lifetime Achievement Award</th>
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<td>2012</td>
<td>David Simmons</td>
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<td>Malcolm Ridgeway, Yadin David</td>
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<td>2009</td>
<td>William Hyman</td>
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<td>David Harrington, Ted Cohen</td>
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<td>Alan Lipschutz</td>
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<td>Carolyn Mahoney, John Reis</td>
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ACCE Advocacy Awards: Call for Nominations

Professional Achievement in Technology/Professional Development
Criteria: The award will be given to an individual for his/her contributions to the CE profession of a professional or technical nature, such as research or development of a new technique or product, a paper of significance on a technical issue, or ‘trailblazing’ work in a new application of clinical engineering.

2012 Jonathan Gaev
2011 Rick Hampton
2010 Gary Evans
2009 Julian Goldman, MD
2008 Frank Painter
2007 Todd Cooper
2006 Matt Baretich
2005 Stephen Grimes
2003 Malcolm Ridgeway
2002 Joseph Bronzino
2001 Eric Rosow, Joseph Adam
1999 Ira Soller

2012 Kurt Finke
2011 Hank Stankiewicz
2010 Caroline Campbell
2009 Mark Bateman
2008 Tobey Clark, Ismael Cordero
2007 Richard Congdon
2005 Manny Furst
2003 Kenneth Maddock
2001 Binseng Wang, Al Levenson
1999 Binseng Wang, Dave Dickey, Larry Hertzler

Professional Achievement in Management/Managerial Excellence
The award will be given to an individual for his/her contributions to the CE profession of a managerial nature, such as a paper of significance, solving of a problem or issue for the profession, or the application of new techniques to CE with measurable positive results.

2012 Elena Simoncini
2011 Pratyusha Mattegunta
2010 Sharareh Taghipour
2009 Danielle McGeary
2008 Raquel Lopez
2006 Mary Fazio
2005 Brandi Spencer
2003 Kristi Hinner

Student Paper Competition
Criteria: The award will be given to an individual currently a student in a CE or related graduate program that wrote a paper that contributes significantly to the body of knowledge in CE.

2012 William Gentes
2011 Niranjan Khambete (India)
2010 Saide Cali (Brazil)
2009 Andrei Issakov (WHO)
2008 Adrianna Velazquez (Mexico)

Antonio Hernandez International Clinical Engineering (individual)
Criteria: The award will be presented to one deserving international engineer who has advanced health technology management in their country to improve quality, service, and affordability. The individual would typically be recognized by their country’s health leaders or global organizations through leadership roles in their country’s national and or activities in the region.

ACCE/HTF International ACEW (organizational)
Criteria: This Award is given to the organization demonstrating significant improvements in national health technology management (HTM) structure/outcomes since ACCE and partners conducted Advanced Clinical Engineering Workshops (ACEW) in their countries. This award is a joint Award between ACCE and the Healthcare Technology Foundation.

2012 University of Cape Town (South Africa) - Mladen Poluta
2011 CENETEC (Mexico) - Maria Luisa González Retiz
2010 CENGETS (Peru) - Luis Vilcahuaman, Rossana Rivas
International Committee Report: A Very Active September in Chile

The end of September is also the end of the winter in the Southern Cone in Latin America. This end of the season was also the time for a series of clinical and biomedical engineering events linked to the III Chilean Biomedical Engineering Conference (JCIB) held in Valparaiso, Chile from September 26 to 28. The conference was attended by more than 300 participants, including one important group in particular, students. During the past ten years, the biomedical and clinical engineering professions have been growing rapidly in the region. The evidence of the development was reflected in the quality of presentations at the Conference. In Chile, the University of Valparaiso is taking a leadership role on this field, and we should highlight the work of Professor Guillermo Avendaño and his group.

Binseng Wang, Suly Chi, and I were attending the conference. Also, there were several ACCE International Members present. During the event, I had the opportunity to participate in meetings with different groups and delegates of biomedical organizations.

I was invited to the CORAL (Latin American Regional Chapter of Biomedical Engineering) sessions with delegates from the Biomedical Engineering Societies of Argentina, Brazil, Chile, Colombia, Cuba, Mexico, Peru, and Uruguay (Venezuela, Costa Rica, and Panama were not present). CORAL represents IFMBE and IEEE/EMBS in the region. CORAL is a solid organization with more than 30 years of activity. Currently, it is growing in membership and increasing its national chapters. CORAL is looking to strengthen its relationship and collaborations with ACCE. Their priorities are training in CE and HTM Certification programs.

I held meetings with Ratko Magjarević, newly elected president of the IFMBE. The IFMBE is undergoing a reorganization oriented to having more regional groups (chapters) and representation in the committees. Ratko informed me that IFMBE membership benefits include the access to the journal and publication from the editorial Springer. Ratko is willing to attend the ACCE annual meeting to present the new organization and discuss potential areas of collaboration between the organizations, including the work with WHO.

IFMBE has prioritized the training programs and the certification of professionals in the field of Clinical Engineering.

I worked sessions with Martha Zequera, IEEE/EMBS Representative for Region 9 (Latin America & the Caribbean). Martha is supporting CE activities in the national societies and in regions at large. Martha is a highly regarded professor at the Javeriana University in Bogota, my Alma mater. She is willing to join efforts on the priorities set by CORAL.

(Continued on page 14)
I also held meetings with Renato Garcia, President of CORAL and Director of the Biomedical Engineering Center from the Federal University of Santa Catarina in Florianopolis, Brazil. In addition to work in CORAL, Renato wants to have a closer collaboration with ACCE on expanding CE in Brazil. He will extend an invitation to some ACCE members at the beginning of 2013 to Florianopolis for drafting a collaboration program with ACCE, including an ACEW in 2013 as a follow-up to the ACEW of 2006. Based on the conversations held during the conference, we are expecting an increase of ACCE International activities for 2013.

Suly Chi, ACCE Secretariat, also participated on the III Chilean Biomedical Engineering Conference (JCIB) held in Valparaiso, Chile from September 26 to 28. During the event, Suly carried out an outstanding campaign promoting ACCE and CE among the participants. There were several applicants for membership, including some biomedical societies, as institutional members.

Based on ACCE information on products and services presented by Suly to the participants, one of the activities that called attention were the educational programs, specifically, the “Educational Teleconferences.” Some expressed interest in participating, but were concerned about the cost of the international telephone calls. To lower calling costs, Suly presented the alternative of only connecting via computer (no telephone involved) as we have the capability to broadcast to their individual computers. Participants cannot talk back, but they can ask questions in the chat room (where our moderator can present the question, so he/she can answer their questions). The proposal was well accepted. Due to the fact that this form of communication will not generate additional cost to ACCE, the International Committee presented a motion to the ACCE Board to lower the registration fee for the international members from countries that have economic constraints. The motion was approved by the Board. Allowing some international members to participate at a lower rate would be a gain for both sides, the International Members and ACCE.

On behalf of the International Committee members, I want to congratulate Suly for the great work she is doing in supporting the ACCE International Members and the International Committee Activities.

Antonio Hernandez, ACCE-IC Chair
hernandezantonio@comcast.net

ACCE Change in Membership Fee
Effective January 1, 2013

Our goal at ACCE is to ensure that clinical engineers, healthcare technology management, and healthcare industry professionals will always have the best resources and options available. ACCE has continued to meet and exceed the expectations of our members, thanks to the dedication and participation of our Officers and Committees.

Unfortunately, additional increases in operating costs and materials have also resulted. Effective January 1, 2013, the base fees for Individual, Fellow, and Associate ACCE memberships will increase from US $60.00 to $75.00, an increase of US $15.00. This is the first increase in ACCE membership fees in well over ten years. Proportional fee increases will apply to those countries receiving discounts according to the Membership fee per country on the ACCE membership website.

We wish to thank you for your valued involvement with ACCE and know that you will understand the necessity for this price increase.

Additionally, ACCE is also extending a 50% discount on Educational Webinar registration fees to International Members from countries other than column 1 (differentiated rate), listed on the ACCE website.

If you have any questions regarding this increase or any other matters, please feel free to contact us.

Sincerely,

Pratyusha Mattegunta
ACCE Secretary
secretary@accenet.org

For more information on membership fee updates, check the ACCE Membership page.
For those unfamiliar with the University of Connecticut (UConn) Clinical Engineering program, it is one of few programs in North America providing a Master’s program specifically in Clinical Engineering. Based out of the Storrs campus, the two-year, fully funded program prepares students for a career in healthcare technology management through both technical and practical coursework in cooperation with a hospital-based internship. Each of the students is employed in a two-year clinical engineering internship at one of eleven hospitals throughout New England.

As the holidays approach, 2nd year students are beginning their search for full time employment in preparation for their May 2013 graduation. Resumes of these students can be found at www.ceeducation.org.

Applications for incoming students to this program are due on January 1, 2013. Students are required to interview for the internship positions; 10 positions will be available for Fall 2013. Interviews for the open internship positions will be conducted in March, 2013. Contact John Enderle, PhD (jenderle@bme.uconn.edu) at the University of Connecticut to learn more about the admissions process. Contact Frank Painter (frpainter@engr.uconn.edu) to learn more about the Uconn Clinical Engineering internship program.

Jared Ruckman
Co-editor, ACCE Newsletter

Journal of Clinical Engineering
Call for Papers

The Journal of Clinical Engineering, which prints the ACCE News in each issue, is interested in papers from you. If you have an urge to write, and good clinical engineering activities or thoughts to share, please consider JCE as one of your outlets. One type of article not seen in a while is the Department Overview which presents how your department is structured and how it performs its functions. Shorter “Perspective” pieces are also welcome. You can discuss manuscript ideas with fellow member William Hyman, who is one of the editors of JCE. He can be reached at whyman@tamu.edu.

Completed manuscripts can be sent to William or Michael Leven-Epstein at lecomm1@aol.com.
ACCE Becomes a HIMSS Non-Profit Partner

ACCE recently became a non-profit partner of the Healthcare Information and Management Systems Society (HIMSS) a cause-based, not-for-profit organization exclusively focused on providing global leadership for the optimal use of information technology (IT) and management systems for the betterment of healthcare. This membership formalizes and enhances ACCE’s existing collaboration with HIMSS and will bring more opportunities for our two communities to work together.

As in the past, ACCE is a collaborator for the HIMSS13 Annual Conference & Exhibition that takes place March 3-7th in New Orleans. More than 37,000 healthcare industry professionals are expected to attend to discuss health information technology issues and review innovative solutions designed to transform healthcare. Through our collaboration, ACCE members will receive the member rate. Also, the Clinical Engineering and IT Symposium takes place in conjunction with HIMSS13, which ACCE collaborates on.

An additional benefit of becoming a HIMSS non-profit partner is a new opportunity that fits our busy lifestyle - HIMSS Online Membership! The online membership costs only $30/year and provides access to many of HIMSS resources. At work...at home...or on the go, you’re just a click away from the latest healthcare IT trends, best practices and lessons learned. As a virtual HIMSS member, you can gain in-depth knowledge, facts, plans and tools you’ll need to move in healthcare.

As we’ve just started this new partnership, there is much more to come – stay tuned!

Stephanie Denvir
Director of Strategic Partnerships, HIMSS
sdenvir@himss.org

ACCE Calendar

Teleconferences

December 13, 2012
Device Integration and EMR

January 10, 2013
Medical Device Alarm Management

February 14, 2013
Wireless Networks: Security and Proprietary vs. Non-proprietary

March 14, 2013
Succession Planning/Developing Leadership

Click here for more information on the ACCE Teleconference series.

Events

March 3-7, 2013
HIMMS Conference 2013 (New Orleans, LA)

June 1-3, 2012
AAMI Conference & Expo (Long Beach, CA)

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President Elect...........................................Paul Sherman
Vice President..........................................Ilir Kullolli
Secretary ..................................................Pratyusha Mattegunta
Treasurer .................................................Colleen Ward
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Member-at-Large...................................... Jon Blasingame
Member-at-Large...................................... Ismael Cordero
Member-at-Large...................................... Alan Lipschultz
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Membership Committee Chair .....................James Wear
Advocacy Committee Chair ....................... Tom Judd
IHE PCD Task Force Co-chairs
.................................................... Todd Cooper, Ray Zambuto, Elliot Sloane
International Committee Chair ................. Antonio Hernandez
Nominations Committee Chair ...................Mario Castaneda
Body of Knowledge Committee Chair ........... Colleen Ward
Strategic Development Committee Chair .........Mario Castaneda
Secretariat ..............................................Suly Chi