Izabella’s Last President’s Message

We had so many wonderful activities these past couple of months; it is hard to decide where to start. I cannot tell you how proud I am of ACCE in terms of its growth, professional partnerships and numerous accomplishments in the healthcare arena. The newsletter editors did a fabulous job including all the latest happenings in this issue of ACCE News.

It was wonderful to see so many of you at the ACCE activities in Washington D.C. during the AAMI Conference and Expo this past June. We missed those who were unable to attend and hope to share some of the highlights with you in this newsletter. The conference started on a very successful note with the 9th Annual Clinical Engineering Symposium focusing on “Building a Better Healthcare System – Clinical Engineering’s Role” presented by the ACCE. The ACCE Symposium Planning Committee once again did an excellent job producing a one-of-a-kind symposium program. And, of course, special thanks to all the symposium presenters who did an outstanding job! The symposium was one of our biggest yet, having close to 250 attendees. The presentations are available on a CD provided with the conference registration.

The Dwight E. Harken, MD, Memorial Lecture and Awards Luncheon recognized Mr. Robert Pagett for the 2006 AAMI Foundation/ACCE Robert L. Morris Humanitarian Award (see story on page 11) and Mr. Tom Judd for the 2006 AAMI/Institute for Technology in Health Care Clinical Applications Award. Both individuals are very deserving of the awards and have greatly contributed to the betterment of the healthcare environment across the world. Right after the luncheon, many of the ACCE members rushed over to a nearby hotel for the CCE Review Course. The program was very well structured and attracted 29 clinical engineers who are working toward future certification. Many of the participants also plan to attend the CCE Educational Teleconference Series developed by the CCE Education Committee scheduled to start August 29. We look forward to quite a few clinical engineers registering to take the CCE exam this November.

The evening of June 25 was a special night as close to 100 ACCE members and special guests from across the globe attended the ACCE Reception and the Annual Membership Meeting. The evening began with a reception sponsored by Four Rivers Software, followed by a membership meeting highlighting ACCE’s accomplishments over the past few years. I reported on the four core purposes developed by the ACCE Strategic Development Committee in 2005, namely Advocacy, Representation, Value and Education. The strategic vision for our organization was outlined, followed by a dynamic discussion with valuable feedback. That presentation will soon be available on ACCE’s website. Throughout the evening several distinguished individuals were recognized for their outstanding contributions to the clinical engineering profession. It was also the third time that the ACCE had the honor of presenting a very prestigious award, the ACCE Lifetime Achievement Award, recognizing an individual for their long-term accomplishments in (Continued on page 2)
**President’s Message continued**

(Continued from page 1)

the clinical engineering profession. In 2006, the award was presented to Marv Shepherd. Marv’s extensive experience in clinical engineering truly exemplifies an individual who through his creativity, innovation and commitment greatly contributed, and continues to contribute, to improving the safety and effectiveness of the healthcare environment. Please read more on the awards in this newsletter. I also had the pleasure of recognizing two outgoing ACCE Board members, Antonio Hernandez and Jim Keller. Each received a plaque for their outstanding work as Members-At-Large.

The 2006 ACCE Annual Membership Meeting represented a very special evening for me as I am getting close to completing my second and last term as the president of the ACCE. I would not have been able to do so without the strong leadership we have within our ACCE Board of Directors, Committees, ACCE Secretariat, Newsletter staff, AHTF, professional partners, and of course, all of you. I would like to commend you all for your dedication and passion for our organization and our profession. I would like to especially thank Ray Zambuto for his leadership as the immediate Past President these past 2 years and his continued work on the IHE PCD initiatives and the convergence between Clinical Engineering and IT.

We have an outstanding Board of Directors slate for the 2006/2007 term. I look forward to assuming the position of the immediate Past President when the incoming ACCE Board of Directors is announced in the first part of August, 2006.

I wish you all the best in your present and future professional endeavors!

Izabella Gieras, ACCE President
igieras@beaumontservices.com

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**CCE Certification—What You Need to Know**

1) The written exam will be given in 29 cities throughout the US on November 18, 2006. Application deadline is September 28.

2) For an extra fee, the written exam can be given in almost any city in the US or in almost any major city in the world.

3) Applications are being accepted now for the November 18 exam. Please include references and transcripts with application.

4) The handbook that describes the process, and the application that needs to be completed, can be found on the certification website: www.acce-htf.org/certification.

5) A study guide has been recommended by several who recently passed the CCE exam and became certified. Walter Burdett of the VA Medical Center in Syracuse, NY said "The Study Guide was an excellent fit to the style, vocabulary, content and level of difficulty of the written exam. The bibliography was very useful.

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**ACCE News**

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Perspectives from ECRI: Beaumont Hospital Wins Health Devices Achievement Award

In the March/April issue of ACCE News I wrote about ECRI’s celebration of the 35th anniversary of its Health Devices program. One of the ways that we decided to celebrate the anniversary was to establish a new annual award to honor the achievements of the hospitals that support the Health Devices program. The award is designed to recognize excellence in the field of health technology management and is called the Health Devices Achievement Award. Each year the award will be presented to the applicant that describes the most exceptional example of an initiative undertaken at their healthcare facility to improve patient safety, reduce costs, or otherwise facilitate better overall management of health technology.

I am pleased to announce that Beaumont Hospital in Royal Oak, Michigan, is the winner of the first annual Health Devices Achievement Award. The award-winning application was submitted by a team led by Salil Balar, MS, MBA, a clinical engineer in Beaumont’s Clinical Engineering and Technology Management Department. It described the deployment of a new communication system that helped Beaumont Hospital drastically reduce response times to telemetry monitoring alarms. Once a problem for the facility, telemetry alarm response times were reduced from more than 9 minutes to well under 39 seconds—a 93% improvement.

According to Salil, “The entire Beaumont project team was thrilled to receive such a prestigious award. The strong collaboration between clinical, biomedical and human factors engineers, as well as Cardiology and other clinical staff representing Beaumont Hospital and the Beaumont Technology Usability Center (BTUC) led to the success of this project. Beaumont is committed to the highest standards of safety and quality. We appreciate this recognition of our efforts. We had an amazing team and great support from the leadership.”

The Beaumont team reported that, with its emphasis on human factors analysis, it was able to effect a change in nurse and telemetry technician practices “by providing technology that supported technician and nurse operations, rather than requiring the employees to adapt to the device’s features.” This project is an exceptional example of how well-focused technology management can lead to better patient care. In judging Beaumont’s submission, ECRI staff and members of the Health Devices Group’s external advisory board were particularly impressed with how the initiative improved internal communication between clinical staff, increased staff productivity, streamlined the process of responding to telemetry alarms, and ultimately enhanced patient safety in a significant way.

ECRI formally announced the winner of the award at the Association for the Advancement of Medical Instrumentation (AAMI) annual conference during a special afternoon reception on June 25, 2006, and at the annual ACCE membership meeting also on June 25th. “It was a great honor to have the award presented at the ACCE Annual Membership Meeting on June 25 in Washington DC and share our Beaumont success with others”, said Izabella Gieras, CCE, Beaumont’s clinical engineering manager and president of the American College of Clinical Engineering.

Please refer to the following link on ECRI’s Web site for more information on the award and to see more photographs from the award presentation ceremony: http://www.ecri.org/Newsroom/Document_Detail.aspx?docid=20060629_249.

So, please join me in congratulating the team from Beaumont Hospital for its exceptional efforts. We’d also like to acknowledge all the other hospitals who applied for the Health Devices Achievement Award. The quality of the submissions for the inaugural award was outstanding, covering a wide variety of initiatives for improving patient safety and many other important aspects of hospital operations.

(Continued on page 4)
View from the Penalty Box: AAMI Followup

For those of you who were at AAMI and the ACCE meetings in Washington, I hope that you have dried out. It sure rained often and a lot. To me the meetings were outstanding this year with many very good presentations, but, as always, the conversations in the halls and “Malt Shoppe” were very informative. It was great to catch up with so many people and to learn what they are doing to advance our profession. I encourage more of you to publish what you are doing.

One of the major topics in all venues was the potential for Clinical Engineering to be part of the IT departments. If this happens it could be a problem since our cultures are so different. When the CE department gets a call we generally respond within minutes if a patient is involved, and no more than 2 hours if there is no patient involvement. On the other hand, the call to the IT department will get a response of “sometime before Tuesday noon.” What they do not say is which Tuesday. Also, when a patient is involved we cannot start off the trouble-shooting by hitting “Ctrl-Alt-Delete” or by hitting the reset button.

Yes, there must be interactions between the departments but each department has very specific tasks and demands. Just by our name, Clinical Engineering, we reference the patient while IT refers to information which in the digital age means “zeros” and “ones.” Our jobs are not zero and ones but many numbers, shades of numbers and a living, breathing person who needs our help quickly and accurately to get healthy or just to live.

Another trend at the show that I noted was the interest in training, not so much for devicespecific training but for general training and updating of our staffs and ourselves. This is a very good trend as it shows that we are not sitting on our hands waiting for something to happen but actively trying to expand our field and bring more people into this profession.

There was a lot of discussion on the new “research” showing that hospitals “saved” 122,000 lives by following procedures, which previous “research” indicated these patients would have died if the procedures were not followed. Somebody got paid for this study? Aren’t we supposed to follow procedures and save lives? In the article that I saw, there were no descriptions of what the changes in procedures were.

All of us have seen or experienced “brain cramps” in our work. Sometimes we try to do too much with too little information and other times too little with too much information. As Clinical Engineers we have a very unique ability to balance our information and actions to provide the best possible care for the most people possible. It would be great if we had the funding to purchase and install all the slick devices on the market but this is not an ideal world we work in. So we use our knowledge and experience to try to get the best possible mix of technology to the patient’s side at the right time. Our success rates are very high and we get little or no credit doing our job, other than the pleasure of seeing a person get better in spite of what our healthcare system might do to them.

Somebody once asked me where I get the material I write about in this column. The answer is simple, I listen and read a lot, and select topics that can be presented in a few sentences, since I am not a deep thinker, I try to cause the reader to think about what is printed and maybe to get a chuckle or two. It is simple and everyone can write so please think about doing some articles, reports or just comments. Get your voices heard.

I would also like to thank Ted and Melissa for the great job they have done on the ACCE Newsletter. Also, Alan has done a great job with the Secretariat and we cannot forget Izabella and all her efforts over these past two years. Great job done by all and thank you all for promoting our profession.

The AAMI and ACCE meetings are in Boston next year. Anyone interested in having a clambake on one of the harbor islands? They run about $45.00 per person including the boat.

The hockey season is over, and the Cup has moved north to Raleigh, NC, that sounds strange, north to Raleigh. Maybe next year it will make it to a colder place. What was interesting during the playoffs was the speed at which the teams were playing and the long stretches between whistleblows. That is how hockey should be played, but unfortunately the game changed some years back to clutch and grab. Could it be the lawyers started to play and changed the rules or was it the IT people? But now it looks like it is back to its original form of speed and continuous play.

Have a great summer.!
Dave Harrington
dharrington@techmed.com

ECRI continued

(Continued from page 3)

Note: The BTUC is a unique, multidisciplinary team of clinical and human factors engineers, and other healthcare experts, affiliated with Beaumont Hospitals whose mission is to advance excellence in healthcare by improving medical technology and its use. It works with manufacturer design teams seeking product evaluations, usability testing, risk assessment, clinical trials protocols and prototype development services.

Jim Keller, Vice President, ECRI
jkeller@ecri.org

Salil Balar, Clinical Engineer
Beaumont Services Company
At the ACCE annual membership meeting, Yadin David, the ACCE Healthcare Technology Foundation’s (AHTF) president, shared the following update on the Foundation’s activities.

The Foundation continues to be a positive entity enjoying more interaction with industry and individuals as well as receiving more media coverage than ever before. Foundation initiatives are posted on the updated www.accefoundation.org Website under the direction of Wayne Morse. Public service continues to be a significant function and is clearly illustrated through the creation of a bilingual brochure - “Can I bring my own medical device with me to the hospital?” The brochure project was led by Ode Keil, Bryanne Patail and Marv Shepherd. Furthermore, additional public education material about the safe use of medical equipment at home has been generated.

The support for the Certification in Clinical Engineering (CCE) program continues to be strong and the first certification preparation workshop was offered in Washington, DC and was very well attended. The Clinical Alarms Management initiative, which is led by Tobey Clark, produced a well written manuscript that includes information from over 1,000 responses to a national survey of care-givers and clinical engineering professionals. The manuscript will be submitted for publication in Nursing and clinical engineering periodicals. These initiatives were covered recently in articles that appeared in the March issue of the Journal of Clinical Engineering, ACCE Newsletter and the May issue of 24x7. In addition, the Foundation entered into a promotional relationship with Medical Design Excellence Awards and Canon Communications placing our Foundation’s logo in front of thousands of vendors and readers of MD&DI magazine.

Since its inception about 5 years ago, the Foundation has received commitment donations of over $150,000. In addition, every board member personally supports the Foundation mission with their time and money. Recent, large, anonymous, designated contributions have created unique opportunities for ACCE to strengthen its relationship with HIMSS, especially within the area of device interface standards and clinical engineering’s role in IT within the healthcare enterprise. Also, the medical devices and IT industries found the new initiative - Clinical Engineering Excellence (CE2) - attractive and have committed $40,000 towards that program’s objectives.

The Foundation is dependent on the talent of its membership, and even though one can not be more proud of each member of the team, it is critical to assure renewal and operations continuity. Thus, a succession plan was put in place and a change in the by-laws was approved in order to increase the number of board members. Marvin Shepherd and Ira Tackel retired their positions while Henry Montenegro, Henry Stankiewicz, James Wear, David Dickey and Denise Korniewicz joined the Board of Directors. Wayne Morse will become the Foundation’s president next September, Jennifer Ott will become the Vice President, Henry Montenegro the Treasurer and Jim Wear the new Secretary. Yadin David will be the first Past-President, the same position he held about 15 years ago in the then, almost new, ACCE organization.

The Board wishes to thank its retiring members for the exemplary service and ACCE membership for their support. It is especially heartwarming to note that based on the results of the ACCE membership survey, about 90% of the membership support the Foundation’s mission and 60% would like to contribute.

Yadin David, President, AHTF
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Jennifer Ott, AHTF Secretary
Jennifer.ott@tenetstl.com

Congratulations to New CCEs

Seven clinical engineers recently completed and passed the oral portion of the CCE exam and previously passed the written portion. Congratulations to these new CCEs:
Les Atles, CCE
Dave Dickey, CCE
Isabella Gieras, CCE
Azhar Siddiqui, CCE
Ronald Snodgrass, CCE
 Rick Tevis, CCE
Pipper White, CCE

Thus brings to 140 the number of CCEs certified under the program.
Body of Knowledge Survey Results Summary

Note: The ACCE Body of Knowledge (BOK) Survey Committee has been diligently working on completing the 2005 Body of Knowledge Survey, and is now proud to report the results to the clinical engineering community.

The purpose of the 2005 Body of Knowledge (BOK) Survey was to document the scope of practice for clinical engineers during their day-to-day work. The results were compiled and analyzed for use by the Clinical Engineering Board of Examiners in designing the content for the Clinical Engineering Certification exam. These results will be used to ensure that the certification exam closely matches the body of knowledge that clinical engineers need in order to effectively function in their jobs.

The survey was conducted by sending out a widespread request for participation to individuals in the clinical engineering community. We received 172 completed survey responses, which represents a 47% increase from the last time this survey was conducted in 2001.

The 2005 survey was split into four sections: Demographics, Knowledge, Categories of Work, and Responsibilities. This represented a different structure from the 2001 survey. The BOK Committee chose to shorten the demographics section to allow for more questions related to actual exam content. The committee also adjusted the sections of the survey to encompass a broader range of knowledge, categories, and responsibilities. Perhaps the most significant change made to the structure of the survey was asking the respondents to rank both the importance and frequency of use for each Knowledge and Responsibility topic.

Demographics: Of the 172 completed responses, 116 (67.1%) respondents indicated that they live in the United States, 20 (12.1%) indicated that they live outside the United States, and 36 (20.8%) respondents did not answer. A majority (100 respondents, or 57.8%) have 20 or more years of experience, 39 (22.5%) respondents have 10 – 19 years of experience, and 26 (15.1%) respondents have less than 10 years of experience. This is also a very highly educated group with 11 respondents (6.4%) having a doctorate, 95 (55.2%) having master’s degrees, and 49 (28.5%) having bachelor’s degrees. Finally, 105 respondents (61.1%) indicated that they work in a hospital, clinic, or health system, and the remaining were employed by, or as, consultants (17), independent service organizations (15), government agencies (8), medical equipment manufacturers (5), academia (4), and various other employers (16).

Knowledge: The purpose of the Knowledge section was to assess the background knowledge required by Clinical Engineers in order to successfully complete the tasks identified in the Responsibilities sections. Respondents indicated, for each subject, its level of importance, as well as the frequency with which this knowledge is used in day-to-day duties and responsibilities.

As expected, based on the 2001 survey, respondents indicated that knowledge of Physiological Monitoring, General Medical/Nursing Equipment, and Surgical Equipment topped the list in terms of both importance and frequency of use. Medical Imaging, Anesthesia, Respiratory Therapy, Presentation Skills, Management Theory, Medical Terminology, Anatomy and Physiology, and Computer Networking rounded out the top 10. Very few clinical engineers felt that knowledge in the areas of Telemedicine, Computer Programming, Materials Engineering, Implants or Chemistry was important or used frequently in their jobs.

The following additional observations were made when comparing the 2005 results with those from the 2001 survey:

Many new categories (added in the 2005 survey and not included in the...
Body of Knowledge: 2001 compared to 2005

(Continued from page 6)

2001 survey) are in the top half of the results (i.e. greater than 50% of respondents ranked the topic as Important or Extremely Important). These categories include Medical Terminology, Anatomy and Physiology, Management Theory, Presentation Skills, Accounting and Finance, Human Factors Engineering, Consumables, and Electronics.

Medical Imaging and Computer Networking were in both the 2001 and 2005 surveys. However, in 2005 the respondents ranked these categories with much greater importance. (Note: Medical Imaging was in several separate categories (e.g. Radiology, MRI, Nuclear Medicine) in the 2001 survey.)

Categories of Work: The respondents were asked to identify the percentage of time spent on each of eight major categories of work (Figure 1): Technology Management, Service Delivery Management, Product Development, Testing, Evaluation & Modification, IT/Telecom, Education of Others, Facilities Management, Risk Management/Safety, General Management, and Other. Respondents indicated that the greatest amount of their time is spent on Technology Management (26.5% of their time, on average) and Service Delivery Management (19.0% of their time), with the least amount of time spent on Facilities Management (5.4% of their time).

Responsibilities: Each Category of Work was broken down into its constituent elements (activities), and for each activity, respondents indicated its level of importance, and the frequency with which they were actively involved in work related to that activity.

The ranking of each topic was calculated using a weighting algorithm: the number of responses for each choice was multiplied by the corresponding weight (Tables 2 and 3), and then divided by the total number of responses for that topic.

Table 4 summarizes the activities in each Category of Work that received the highest importance and frequency rankings.

In conclusion, the Body of Knowledge Survey has collected a significant amount of information that will help to bring valuable insight into the practice of the Clinical Engineering profession. To this end, it will be used by the Clinical Engineering Board of Examiners to update the scope of the Clinical Engineering Certification Exam, so that it continues to match what it is that we, as Clinical Engineers, do on a daily basis in our jobs. Thank you to all who took the time to participate in this very important survey!

For a more in-depth look at the all of the data, as well as additional analyses, please visit the ACCE website (www.accenet.org) and view the full Body of Knowledge report.

Thanks to the Body of Knowledge Committee, chaired by Kelley Harris, for their work on this important project.

Colleen Ward, ACCE Vice President
colleen.ward@ucdmc.ucdavis.edu

<table>
<thead>
<tr>
<th>FREQUENCY</th>
<th>WEIGHT</th>
</tr>
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<tbody>
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<td>Never use</td>
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</tr>
<tr>
<td>Frequently (annually or less)</td>
<td>1</td>
</tr>
<tr>
<td>Sometimes (e.g. monthly)</td>
<td>2</td>
</tr>
<tr>
<td>Frequently (e.g. daily/weekly)</td>
<td>3</td>
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Table 2: Weighting scale for Frequency

<table>
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</thead>
<tbody>
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<td>Not Important</td>
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</tr>
<tr>
<td>Little Importance</td>
<td>1</td>
</tr>
<tr>
<td>Important</td>
<td>2</td>
</tr>
<tr>
<td>Extremely Important</td>
<td>3</td>
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</table>

Table 3: Weighting scale for Importance

<table>
<thead>
<tr>
<th>CATEGORIES OF WORK</th>
<th>TOPIC</th>
<th>RANKINGS</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>IMPOR-TANCE</td>
<td>FRE-QUENCY</td>
</tr>
<tr>
<td>Technology Mgmt.</td>
<td>Product Selection / Vendor Selection</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>Technology Assessment</td>
<td>2.4</td>
</tr>
<tr>
<td>Service Delivery Mgmt.</td>
<td>Technician / Service Supervision Equipment Repair and Maintenance</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>Equipment Acceptance</td>
<td>2.2</td>
</tr>
<tr>
<td>Product Development, Testing, Evaluation, &amp; Modification</td>
<td>Regulatory Compliance Activities</td>
<td>1.9</td>
</tr>
<tr>
<td>IT / Telecom</td>
<td>Integration of Medical Device Data</td>
<td>2.0</td>
</tr>
<tr>
<td>Education of Others</td>
<td>Technician Education</td>
<td>2.3</td>
</tr>
<tr>
<td>Facilities Mgmt.</td>
<td>Facility Emergency Preparedness Activities</td>
<td>1.8</td>
</tr>
<tr>
<td>Risk Mgmt. / Safety</td>
<td>Patient Safety</td>
<td>2.7</td>
</tr>
<tr>
<td>General Mgmt.</td>
<td>Budget Development / Execution</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Table 4: Topics of highest importance and frequency within each category of work
The following 2006 ACCE Awards were presented at the annual membership meeting in June:

The DEVTEQ Patient Safety Award is given to an individual who has excelled in the safety area of clinical technology. This year’s award was presented to two individuals, Larry Fennigkoh, Ph.D., and Leonard Klebanow. Larry is being recognized for his publication “Human Factors and the Control of Medical Errors” which appeared in the July/August 2005 issue of Biomedical Instrumentation and Technology. Leonard is being recognized for his many years spent improving patient safety at SUNY Downstate Medical Center.

Shepherd Awarded for Achievements

For the third time, ACCE has the honor of presenting a very prestigious award, the ACCE Lifetime Achievement Award, recognizing individuals for their life-long accomplishments and contributions to the clinical engineering profession. This year the award goes to Marvin Shepherd.

Mr. Shepherd’s extensive experience in clinical engineering truly exemplifies an individual who, through his creativity, leadership, innovation and commitment, greatly contributed and continues to contribute to improving the safety and effectiveness of the healthcare environment. Mr. Shepherd consults on medical device safety issues to hospitals, manufacturers, government agencies and conducts seminars on medical device safety, risk management and human error. Mr. Shepherd also serves as an expert witness in accident cases involving medical devices. He has been involved in many professional activities including serving on the AHTF Board of Directors and on the editorial review board for the Journal of Clinical Engineering. Mr. Shepherd’s passion for a safe patient and user healthcare system is highlighted by his vast publications and presentations on electrical safety, incident investigations, managing unusual risks of technology and more, on a national as well as international level.

Also, on a personal note, Marv and I worked together in 2006 on an Argentina ACEW. I particularly enjoyed our common adventures drinking Argentine and Chilean wine and who could forget the Pisco Sour on our last day in Santiago! Marv is a remarkable person and very deserving of this honorable recognition. Please join me in congratulating Marv on this award!

Izabella Gieras, ACCE President

The ACCE Challenge award is given to an individual, who is not currently an ACCE member, for his or her achievements in the field of medical technology. This year’s awards were presented to Naida Grunden and Mike Doron. Naida is being recognized for her article “Industrial Techniques Help Reduce Hospital Acquired Infections” which appeared in the September/October issue of Biomedical Instrumentation and Technology. Mike is being recognized for his many years of being active in new equipment evaluation and installation as well as the design and development of test fixtures and test procedures.

The Thomas O’Dea Advocacy award is given to an individual who has written articles and/or given presentations that have advanced the field of clinical engineering – particularly in exposing the profession to people in other fields. This year two awards were presented, to Elliott Sloane, Ph.D., and Ray Zambuto, CCE. Elliott is being recognized for his leadership in the effort to integrate clinical engineering into HIMSS which has lead to recognition and cooperation on a national level. His publications and presentations to IT professionals represent a major breakthrough in cooperation between the CE and IT professions. Ray is being recognized for his groundbreaking work with HIMSS to advance cooperation and understanding between the CE and IT professions. This includes his work on the IHE Patient Care Devices committee and his publication “Impact of the Convergence of Medical and IT Systems” which was published in the March/April 2005 issue of Inside ASHE.

The Professional Achievement in Technology Award is given to an individual for his or her contributions to the clinical engineering profession of a technical nature, such as research or development of a new technique or product or a paper of significance on a technical issue. This award was presented to Matthew Baretich, P.E., Ph.D., CCE. Matt has made several significant contributions to the clinical engineering field, but he is being recognized in particular for his article “Six Things We Can Do About Medical Device Errors” which was published in the June 2005 issue of 24x7.

The Best Student Paper Award is awarded to a student author of a paper pertinent to the clinical engineering field. This award was presented to Mary Fazio for her paper “Design and Development of a Model to Optimize the Clinical Engineering Department Size within a Hospital”. This paper was presented at the Northeast Bioengineering Conference in April, 2006.

Nancy Pressley

ACCE Advocacy Committee Chair

Page 8
Tubing Misconnections in Healthcare

Tubing and catheter misconnection errors are an important and often under-reported occurrence in healthcare settings. A proactive analysis of these errors and increased awareness can facilitate substantial improvements in patient safety. The JCAHO issued a Sentinel Event Alert, Issue 36, on April 3, 2006. This Alert addresses misconnections between tubings with connectors, catheters and other disposable devices that have resulted in nine misconnection cases reported to date to the JCAHO’s Sentinel Event database. These incidents resulted in eight deaths and one instance of permanent loss of function and affected seven adults and two infants. The Alert describes the type of misconnections, identifies root causes, risk reduction strategies and provides recommendations from JCAHO to reduce tubing misconnection errors.

Many of the existing tubings and catheters have alike connectors that can be easily used to connect many devices, components and accessories within the different clinical applications (i.e. enteral, intravenous, gas). However, such convenience can also lead to mistakenly connecting the wrong device, and then delivering substances to the patient through the wrong clinical application. Adverse events related to misconnections have been reported in many professional publications and organizations such as the recently published Alert.

ECRI published a guidance document in its March 2006 Health Devices journal on preventing misconnections of lines and cables. The document describes specific steps healthcare institutions can take to perform appropriate risk assessments and implement necessary mitigation techniques. ECRI goes on to outline two general preventive approaches, 1. Equipment Design Solutions – changes made by manufacturers to the design of their products, and 2. Administrative Controls implemented in the form of general hospital practices and specific work practices. The former approach requires changes made by device manufacturers to the design of devices which physically forces not allowing misconnections to occur. This approach requires enforcement from regulatory entities such as the FDA, JCAHO and/or others. The FDA is aware of the importance of this initiative to move forward, however it might take some time before a formal regulation is promulgated. There are presently no standards dictating designs for the different clinical applications. However, several standard committees are developing such guidelines. The Association for the Advancement of Medical Instrumentation (AAMI) recently formed a committee to create a standard entitled “Medical Device Tubings Connectors Standard to Prevent Misconnections” and the European Committee for Standardization (CEN) has a working draft of a standard entitled “Small Bore Connections for Liquids and Gases in Healthcare Applications”. In addition to the present lack of standards, nursing shortage and fatigue, inadequate clinician awareness and patient mobility within the hospital also contribute to reported misconnection mishaps.

The recent JCAHO Alert on misconnections proposed 10 recommendations and strategies for healthcare organizations to reduce tubing misconnection errors. These recommendations and strategies incorporate appropriate purchasing steps when selecting new tubings and catheters, risk assessment and usability testing, tracing patient lines at the bedside, educational initiatives, and most importantly, awareness of the potential for misconnections by all caregivers, patients and families.

The work on misconnections is a multidisciplinary activity. This is yet another activity where Clinical Engineers should get involved in developing strategies for improving the safety and effectiveness of the healthcare environment.

References
Isabella Gieras, ACCE President igieras@beaumontservices.com
Subha Bhaskaran, Clinical Engineer Beaumont Services Company

Hernandez, Keller End ACCE Board Terms

ACCE thanks Jim Keller and Antonio Hernandez for their hard work as members of its Board of Directors. ACCE has many opportunities for members to be active including the board of directors, writing for the Newsletter, Web page writing and editing, advocacy, professional practice standards, IHE, education and much, much more.

Contact any board member for more information. See page 15 for a peek at the this year’s nominees for the upcoming board election.
Update on the IT Front: Busier than Ever

The last two months have been busy for ACCE members involved in Information Technology areas. In early June, over 1,000 healthcare leaders gathered for National Health IT Week in Washington, DC. The highlights of the week were HIMSS Advocacy Day on Capital Hill, the HIMSS – Modern Healthcare CEO IT Achievement Awards Dinner, the National Health IT Day and the 2006 HIMSS Summit. ACCE was a National Health IT Week Partner organization and a Collaborating Organization in the HIMSS Summit.

This year, the CEO-IT Award was presented to Glenn Steele, Jr, MD, PhD, CEO of Geisinger Health System in Danville Pennsylvania. Dr. Steele’s award was based on his leadership and commitment to the development of IT to advance his organization’s strategic goals, and in recognition of his philosophy to develop and maintain an interoperable approach to management, engaging all levels in the transition from paper to digital systems.

National Health IT Day and the HIMSS Summit presentations were led by a Who’s Who in healthcare IT leadership, including Dr. David Brailor – Vice Chair of the American Health Information Community (AHIC) and former National Coordinator for Healthcare IT, Dr. Carolyn Clancy – Director of the Agency for Healthcare Research and Quality (AHRQ), Dr. Mark McClellan – Administrator, Centers for Medicare & Medicaid Services (CMS), Senators Edward “Ted” Kennedy (D-MA) and Debbie Stabenow (D-MI) and Former Speaker of the House of Representatives, Newt Gingrich.

In between these presentations, interactive sessions and town meetings were held on a variety of subjects, including: the use of IT to drive down costs in healthcare, the progress on prototypes for a National Health Information Network (NHIN), the various “Breakthrough” priorities of the AHIC: Biosurveillance, Electronic Health Records, Consumer Empowerment, and Chronic Care.

ACCE participated in a “Meet and Greet” breakfast for some of the speakers and other partners. This gave the opportunity to further “show the flag” for clinical engineering to the wider healthcare community.

A week later, the June rush continued with the Healthcare Information Technology Standards Panel (HITSP) meeting. HITSP, now representing over 150 stakeholder organizations from every facet of healthcare from producer to consumer, is closing out its first year at the end of September. HITSP is concerned with the harmonization of standards in healthcare for the exchange of information. Having initially developed a library of over 400 standards, it has so far pared the list down to about 90 that will be used in the four initial AHIC priorities. Reports are due from the technical committees in September.

Late in the month, the IHE-PCD (Integrating the Healthcare Enterprise – Patient Care Devices domain) held its second face-to-face meeting of the Planning and Technical Committees. Despite the heavy rain that pelted the Washington DC region, the committees were able to meet at National Institute of Standards and Technology (NIST) headquarters in Gaithersburg MD. This was the final review to set the agenda for the five year roadmap of PCD activities, establish a “storyboard” for the Connectathon and Interoperability showcases in 2007, and iron out the last questions in the technical framework for interoperability for 2006, prior to the public comment period. Technical Committee Co-Chairs Todd Cooper and Jack Harrington worked late into the night with representatives of users and vendors to have the documents in a useful condition by the end of the week.

At this same meeting, Domain Co-Chair Ray Zamuto announced that Dr. Emanuel (Manny) Furst would become the Technical Manager for the Connectathon and that HIMSS had joined ACCE as Co-Sponsor of the Domain, greatly easing the financial burden on ACCE. In August, after the public comment period, a small group of committee members will meet in Chicago to review and respond to the comments. By mid-September, preparations will begin for 2008.

Anyone who has interest in these areas or who would like more information can contact Ray Zamuto.

Ray Zamuto, Past President
rzamuto@techmed.com

Ad Manager Named

The ACCE Newsletter staff is pleased to announce that Dave Smith is the new ACCE newsletter advertising manager. Dave works for Facilities Development, Inc. (FDI) in Phoenix and will be responsible for soliciting advertising for the ACCE Newsletter and website. Please welcome Dave to his new ACCE role. Dave can be reached by phone at 602-212-3589 or by e-mail at dsmit@diplean.com.

Potential advertising sources include medical device manufacturers, independent service organizations, clinical engineering-related publications, consulting services, and healthcare institutions (e.g., job postings). Please contact Dave if you are interested in advertising in the Newsletter or on the ACCE website.
Robert (Bob) Pagett, the president of Assist International, received the Robert L. Morris AAMI Foundation/ACCE Humanitarian Award at the AAMI conference in June.

Dave Harrington, a past Morris award recipient, describes why Bob Pagett is very deserving of this award. “As a past recipient of the Morris award, and having worked with Bob Pagett on projects over the past 15 years, it gave me great pleasure to place his name in nomination. One of the great pleasures that I had was working with both Bob’s (Morris and Pagett) on the installation of a cardiac cath lab in Calcutta in honor of Mother Teresa. It was probably the most complex installation that any of us had ever done.”

While Assist International performs many humanitarian functions, their prime involvement with clinical engineers has been in the many medical programs that have been completed over the years. Bob Morris worked with Assist International on over eight trips including projects in India, China, Mongolia, Ethiopia and Turkey and was planning the installation of an ICU in Tibet. Assist International moved up its timetable on the Tibet project in an effort to bring Bob with them, but Bob’s cancer was too far along and Bob was only present in the hearts and minds of the team members that completed in installation.

Harrington further stated: “Bob Morris remarked to me that he enjoyed working with Assist International on the projects as they were well organized, had no political overtones and always included one or more clinical engineers. Assist always got the clinical engineers involved early in the planning process, so when we got to the location the equipment was ready to install and the user training could be done. I am not sure what Bob Morris enjoyed most; the installation, the training or the look on the local peoples’ faces after they saw what had been accomplished. Before he died, Bob asked me to be sure to keep working with Assist International as they did things right and always presented the clinical engineer in a very positive light.”

Over the past 15 years, Bob Pagett has introduced many clinical engineers and BMETs to the wonderful feeling of doing for others with numerous humanitarian projects. Harrington goes on to say, “I have seen the change in people on their first ventures to do an installation in some place they never heard of before. The nervousness on the plane, the uneasy feeling at the customs stations as their passports are looked at by several unsmiling people, to the shock of the hotel room and the first meal of mystery meat. When the project is completed and they see people being helped that would probably die without what we just installed and the final in-country dinner where our new friends tell us how much we have done for them and how they will remember us for years. Bob always presented the clinical engineers on the teams as the key players in any installation. He made it clear to team members and the local people that the clinical engineers were in charge and that they were to support us as needed.”

Bob Pagett and Assist International have brought so many clinical engineers into the humanitarian field that collectively have helped millions that would otherwise have had little or no help. Most important is that 99% of those who have been involved with Assist International projects ask when they can go again, not where but when.

Congratulations to Bob Padgett on winning this very important award.

Editor’s note: This article was edited by ACCE Newsletter co-editor Ted Cohen, based on material submitted by Dave Harrington in his nomination letter for Bob Pagett.

Dave Harrington
dharrington@techmed.com

Ted Cohen, ACCE Newsletter coeditor
theodore.cohen@ucdmc.ucdavis.edu
The 2006 ACCE Educational teleconference Series continues:

8/17/2006

The Convergence between Information Systems and Clinical Equipment Management.

Pat Lynch will share his successful experiences in the integration between IT and CE departments and its impact on operations and patient safety.

9/21/2006

Operating Room of the Future.

Julian Goldman and Warren Sandberg from Massachusetts General Hospital will share their experiences in the design and deployment of the OR of the future including the interconnectivity of medical technologies to increase process flow, patient and user safety and effectiveness.

10/19/2006

Patient Safety; Incident investigation and reporting.

Glenn Scales from Duke University Medical Center will lead a presentation on incident investigations, reporting of incidents, sharing of the recommendations and their implementations.

11/16/2006

The impact of wireless implementations on patient safety in healthcare.

Rick Hampton from Massachusetts General Hospital will present on wireless implementations in healthcare and their impact on patient safety.

12/14/2006

Emergency Planning.

Yadin David of Texas Children’s Hospital and Douglas Dreps, Memorial Hermann Hospital will help clinical engineering staff better understand their role in emergency preparedness planning and will be based on experience gained from operating before, during and after an extraordinary natural disaster at two hospitals in Houston, Texas.

1/18/2007

Economical impact on clinical engineering.

Wayne Morse of Morse Medical, Inc. will discuss the needs of the present and future healthcare system.

2/15/2007

Radiology – Latest developments in PACS.

Todd Starnes from Catawba Valley Medical Center will review the latest developments in PACS. The speaker will address the interconnection of PACS with other clinical applications in healthcare.

The CCE Education Committee organized the first CCE Review Course for Clinical Engineers who plan to take the CCE Examination offered by the Healthcare Technology Certification Commission (HTCC). There were twenty-nine Clinical Engineers who attended the course.

The participants evaluated the course as “very good.” Based on the comments from the participants and faculty, ACCE is organizing an extended CCE Review Course Teleconference Series. This will allow more time to discuss different clinical engineering topics in depth and allow clinical engineering practitioners from across the country to attend. The 8-hour Teleconference Series will be spread over 5 weekly sessions. The sessions are scheduled to begin August 29, 2006 and will continue weekly till September 26, 2006. See the ad on page 20 or check ACCE’s website, www.accenet.org for more details.

Arif Subhan
ARIF@masterplan-inc.com
ACCE Board Highlights for June 2006

The AAMI conference is always a great opportunity for the ACCE Board to get together for a face-to-face meeting. This year, AAMI was in Washington, DC and the ACCE Board meeting was held in a private dining area of a local Dupont Circle restaurant – Galileo Restaurant. Many of our committee chairpersons joined our dinner to celebrate a fabulous year and discuss some of the current issues facing our organization.

The group discussed our excellent relationship with HIMSS and there was much discussion about how to develop even stronger partnerships with HIMSS and other related organizations. Currently, there are opportunities to connect to CHIME (College of Healthcare Information Management Executives) and some of our members have been laying the groundwork to establish a HIMSS Special Interest Group (SIG) that will address the area of communications and collaborations for clinical engineering and information technology professionals. All that were present at the meeting agreed that these are partnerships that we need to continue to develop.

The Board passed a motion to have HIMSS become a co-sponsor of the IHE Patient Care Devices domain. With this partnership, HIMSS has agreed to provide significant budgetary help and logistical support for the IHE PCD program.

The Board reviewed the Nominating Committee’s Slate for the 2006 Board of Directors. A motion was made and passed to accept the slate and present it at the following day’s Membership Meeting for vote.

A draft of the Body of Knowledge survey was circulated and we are looking forward to finalizing the report (see related summary article in this Newsletter).

Isabella sadly reported that Joe Skochdopole resigned as ACCE Treasurer for personal reasons. We all agreed that his contributions were extremely valuable and we will miss him in this role. A motion was made and passed to install Al Levenson as Treasurer for the remainder of Joe’s term.

Isabella also reported that the Finance Committee has convened and is starting to meet regularly. The committee members are: Isabella Gieras, Elliot Sloane, Ray Zambuto, Wayne Morse, and Yadin David. They are in the process of formalizing the roles and responsibilities of the committee. One of the current tasks of the committee is to review the job description of Treasurer and make recommendations to the Board and membership if any changes are required.

The Board also discussed the current state of the Membership Committee. Gord McNamee, chair of that committee, has the task to define strategic initiatives for retaining members and encouraging them to get involved with ACCE initiatives.

The meeting ended with good spirits and great dessert. Looking forward to our meeting next year!

Jennifer Leigh Jackson, ACCE Secretary
jljackson@partners.org
ACCE has scheduled a “CCE Review Course Teleconference Series” to help clinical engineers who are interested in taking the CCE examination. This course is designed and presented by a group of experienced clinical engineers. It will provide you with an overview of the certification topics, help you identify areas in which you need further review and help you prepare for the CCE examination.

The topics covered in the course are:

1. Introduction to the CCE Exam
2. Management
   2.1 Overall CE Program Management
   2.2 Financial & Service Contract Management
   2.3 Technical Supervision
   2.4 CMMS
3. Technology Assessment
   3.1 Product/Vendor Selection
   3.2 Capital Planning
   3.3 Clinical Trials Management
   3.4 Building Plan Review
   3.5 Building Design
   3.6 Human Factors
4. Regulatory/QA Issues
5. Risk Management/Safety
6. Education
7. Product Development
8. Repair/Systems Thinking
9. Miscellaneous Other Clinical Engineering topics

Faculty:
Matthew F. Baretich, PhD, PE, CCE, President Baretich Engineering, Inc.
Ted Cohen, MS, CCE
Manager, Clinical Engineering
University of California Davis Health System
David Harrington, PhD
Director, Staff Development & Training, Technology in Medicine
Jennifer Leigh Jackson, BS, MBA, CCE
Assistant Director, Biomedical Engineering, Brigham and Women’s Hospital
Jennifer McGill, MEng, CCE
Senior Project Engineer, ECRI
Malcolm Ridgway, PhD, CCE
Senior Vice President, Technology Management, Masterplan
Paul Sherman, CCE
Biomedical Engineer VA Center for Engineering & Occupational Safety and Health
Michael Soltys, MS, CCE
Director Corporate Clinical Engineering, University of Pennsylvania Health System
Arif Subhan, MS, CCE
Senior Clinical Engineer, Masterplan
James P. Welch, CCE
Masimo Corporation

These teleconferences will be held at 12 Noon Eastern Time (9:00 AM Pacific Time etc) on five Tuesdays: August 29, September 5, 12, 19, 26. The first session will be 120 minutes, followed by four sessions of 90 minutes each. The course series costs $300 for ACCE members and $345 for non-members. Each presentation will be followed by a Q and A session. Registrants will receive the call-in number and presentation material prior to each session. Audiotapes for the Teleconference will also be available for a fee.

Note: This teleconference series may be cancelled if the number of attendees is less than that determined by ACCE. Please enroll no later than August 15.

To enroll fax or mail the form below, go to http://www.accenet.org or contact:
ACCE – CCE Teleconference Series
5200 Butler Pike
Plymouth Meeting PA 19462-1298
Questions: Contact Al Levenson at secretariat@accenet.org, 610-825-6067

Disclaimer:
This course is prepared and offered by individuals who are not involved in the certification test preparation.

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**Review Course Registration Form**

$300 (ACCE Member)  $345 (Non Members)*

*Special ACCE Membership Offer – Attend the course and receive ACCE Membership at 25% discount. You need to qualify for ACCE membership and complete the application form. See the membership section at www.accenet.org for details.

**Payment Information**

Total Amount Enclosed _______________

check payable to: ACCE

Purchase Order PO #: _______________

Credit Card: CC #: _______________

Exp date: _______________

Fax registration form to: (400) 247-5040 or mail to: Alan Levenson
ACCE Secretariat
5200 Butler Pike
Plymouth Meeting, PA 19462-1298

Questions: Alan Levenson
Email: secretariat@accenet.org
Phone (Voice): (610) 825-6067
ACCE Nominees for the Board of Directors Election August 2006

President
Stephen L. Grimes
Vanderbilt University M.C.

President-Elect
Jennifer L. Jackson
Farmers Healthcare

Vice President
Colleen Ward
U.C. Davis Medical Center

Secretary
Kelly Harris
Aramark

Treasurer
Alan Levenson

At Large Board Member
Ted Cohen
U.C. Davis Medical Center

At Large Board Member
William Rice
BSA Health System

Report of the Nominating Committee:
The above candidates, having expressed their desire to serve the College have been nominated for the offices as indicated. Additional Nominations were solicited at the Annual Membership Meeting on June 25, 2006, Washington D.C. No additional nominations were received.

The following officers and directors are continuing in unexpired terms:
Member at Large—Tony Easty—University Health Network
Member at Large—Paul Sherman, V.A. Center for Engineering and Occupational Safety and Health

Izabella Gieras will continue on the Board, becoming Past President after the election.

Respectfully Submitted,

ACCE Nominating Committee 2006
Ray Zambuto (Chair), Izabella Gieras, Elliot Sloane, Matt Baretich, Marvin Shepherd.
Calendar of Events

- August 22, 2006
  Next ACCE Educational Teleconference (see page 14)

- August 24, 2006, noon ET
  CHIME/ACCE Webinar
  Speaker: Steve Grimes

- August 29, 2006– Sept 29
  Teleconference Course for CCE Review
  (see page 13 )

- August 31–September 3, 2006
  International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS)
  New York, NY

- November 18, 2006
  CCE Written Exam
  Various US locations

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 2006 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.

The ACCE Board and Committee Chairs
President .................................................... Izabella Gieras
President Elect ........................................... Stephen Grimes
Vice President ........................................... Colleen Ward
Secretary .................................................. Jennifer Jackson
Treasurer ................................................... Alan Levenson
Member-at-Large ........................................... Ted Cohen
Member-at-Large ........................................... Tony Easty
Member-at-Large ........................................... Paul Sherman
Member-at-Large ........................................... Bill Rice
Past President ............................................. Ray Zambuto
CCE Education Committee Chair .................. Arif Subhan
Membership Committee Chair ..................... Gordon McNamee
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
Education Committee Chair ....................... James Wear
Medical Errors Task Force Chair ................... Elliot Sloane
Nominations Committee Chair ..................... Ray Zambuto
Professional Practices Committee Chair ........ Paul Sherman
Body of Knowledge Committee Chair ............ Kelley Harris
Strategic Development Committee Chair ........ Ray Zambuto
Secretariat .................................................. Alan Levenson

We're on the Web!
http://www.accenet.org

NEWSLETTER OF THE
AMERICAN COLLEGE OF CLINICAL ENGINEERING

ACCE Healthcare Technology Foundation (AHTF)