ACCE News

Newsletter of the American College of Clinical Engineering

January—February 2023 Volume 33 Issue 1

In this issue

ACCE
AMERICAN COLLEGE OF CLINICAL ENGINEERING

President's Message

Dear ACCE Community,

I wish you all a very Happy 2023 New Year and I pray that it is a year filled with great health, happiness, and prosperity. I also hope you were able to unwind through the holidays and get some time off to spend with family and loved ones.

This is the year we are truly trying to return to normal. However, a major concern for health systems and many service providers across the globe is cost efficiency! We are seeing mass layoffs, restructuring, and other changes across the healthcare sector. When I look at the ACCE Educational Webinar Series topics, the majority of these webinars align with the very pressing needs that the HTM/CE community faces. I strongly recommend you attend these webinars and make use of the valuable information shared by our expert speakers.

The ACCE team is going to be at HIMSS23 in Chicago, IL in April. I'm personally very excited about the theme of our symposium this year, which is to foster collaboration between information technology and clinical engineering professionals. While many education sessions in past conferences have addressed this topic, I haven't yet come across a session or symposium that truly addresses how IT and HTM/CE can actually make changes. An example of where change can happen includes the running of tabletop exercises to more effectively support the growing cyber risks of IoMT. The sessions in this year's CE-IT symposium aren't just visionary but reflect vetted best practices of our industry. Please take a look at our eblast and website for more information. ACCE is a contributor organization of HIMSS23, and ACCE members receive discounted registration.

There is a lot in store for 2023. This includes AAMI Exchange 2023, MD EXPO shows, and other state association conferences. ACCE is always looking to support calls for proposals and connecting experts to co-present when needed. Continuing the efforts to improve the CCE process, and recruit more potential CCE candidates, there is now a task force that is working together to apply the recommendations from the 2022 CCE audit. The Board is also reviewing its goals so we can be at the forefront of active engagement with our members and the larger HTM/CE community!

In closing, I want to express my sincere gratitude to all of you for your continued efforts in the ACCE community and wish you a great year!

Priya Upendra, President
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CCE Exam Prep: Pre-purchase Evaluations

In this column we are providing sample questions and information regarding preparation for the CCE exam. The sample questions are based on topics from the ACCE Body of Knowledge survey and the CCE Study Guide, version 10. Note that the instructors for the ACCE CCE Prep courses, and the writers for this column, do NOT have any affiliation with the CCE Board of Examiners and have no access to the actual exam questions. If you have specific topics you would like us cover please contact editor@accenet.org.

Prepurchase evaluations:

Question 1: When making a major system purchase, the final decision on which system to buy should be based on which of the following:

A. Initial capital costs only (low bid)

B. Lifetime costs

C. Performance assessment

D. B and C

Question 2: A pre-purchase performance evaluation is being performed on 3 different companies' new infusion pumps. Clinical Engineering is asked to assess these pumps to see if they meet their published specs. What types of assessment is practical for CE to assess and how?

A. Literature search looking for published evaluations, product recalls and alerts.

B. A review of the pumps service manual and a complete PM as documented in that.

C. Do a lab research project to create and compare "trumpet curves" for each pump

D. All of the above

E. A and B

Question 3: Hospital X is replacing their infusion pumps with some new pumps that will be connected to the Electronic Health Record (EHR). Which of the following people should be included on the prepurchase evaluation team?

A. Clinical users, Pharmacist, Supply chain management, Clinical engineering

B. Vendor representatives from the current pumps company

C. IT staff

D. All of the above

E. A and C

Explanations: When a major system purchase is going to be made by a healthcare delivery organization, Clinical Engineering is often going to lead, or at least assist in, the assessment of the product and the criteria to be used for determining the appropriate product and vendor to supply that product. Such assessment is called a prepurchase evaluation. Criteria for that evaluation should include price and performance. Price should include all cost factors over the lifetime (e.g., depreciation period) of the system, or at least over the next 5 years. These cost factors include: Original capital cost, installation costs, training costs, estimated repair and maintenance costs over the system lifetime, and consumable costs, if any.

For example, for a CT scanner the costs would include, among several other factors, the estimated CT x-ray tube replacement costs based on the estimated costs of the tubes and estimated number of scans per year and tube life. These costs can add up to more than the initial capital costs. For an infusion pump evaluation the total cost of ownership would include a lifetime of consumables (i.e., infusion sets). Of course, the system being evaluated also needs to meet all performance requirements. Therefore, the best answer to question 1 above is "D", lifetime costs and performance assessment.

When evaluating a product, such as an infusion pump in the question 2 example, it is appropriate to review the literature, search for product problems (e.g., alerts and recalls), review the service manual and if given the opportunity, perform the manual's preventive maintenance procedure, as well as conduct a clinical trial, It is generally not cost or time effective to conduct a research project and spend an inordinate amount of time performing detailed lab tests, such as "trumpet" tests for infusion pumps, unless there is a specific issue that you are trying to better understand. Therefore, for question 2, the best answer is "E".

Depending on the project, the prepurchase evaluation team may include staff who are clinical users, Pharmacy, IT, Clinical Engineering, Health Physics, Supply Chain Management, Facilities, and hospital administration among others. It is not appropriate to include vendors who will also be likely potential bidders on the project. Therefore, for question 3 the best answer is "E".

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ACCE News

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ACCE News

Newsletter of the American College of Clinical Engineering

November—December 2022 Volume 32 Issue 6

In this issue

President's Message

Dear ACCE Community,

I hope you are all doing well and are excited for the holiday season. 2022 flew by really fast and it still surprises me that we "sort-of" overcame the 2-year struggle with the pandemic! I hope each and every one of you are safe and healthy, and are preparing for end of year commitments and excitement. Another food for thought as we approach the holiday season – we spend more than 1/3rd of our day at work and many of us take work back home, it's so critical to maintain a balance and avoid burn-out. So please take time off to relax, rewind, and enjoy time with yourself and loved ones!

We celebrated Veteran's Day last month and I would like to express my sincere gratitude and admiration to each of you that has served in the United States Armed Forces. Our community is comprised of many veterans and you carry your selfless service from the field to patient care delivery. Please accept my heartfelt thank you for the sacrifices you and your loved ones have made to serve the country and keep us all safe!

I also want to take this opportunity to wish you all a belated Happy Thanksgiving! Thank you for all for your engagement with ACCE and your support over the years. It helps me and the numerous experts that volunteer their time to help maintain the professional community and standard of excellence among clinical engineers.

I have a few updates I would like to share with you all. The 2022-2023 Board is active and we've had a few discussions about ongoing events for the remainder of 2022 and events upcoming in 2023. A major effort in progress is the revamp of the CCE certification process. I'm very grateful to have Board members, Bofa, and other experts who have received and reviewed recommendations from our auditors and are planning improvement actions. This effort is critical to help individuals continue maintaining a competitive edge in the field of clinical engineering. Many thanks to our Board Member, Katherine Navarro, for coordinating these efforts between these groups on behalf of the ACCE Board.

We have a few more educational and complimentary webinars to be hosted by the Education Committee for the rest of this year. Through feedback received from our members, we've constantly evolved our content delivery to meet the needs of the community and ensuring we're keeping up with new trends.

There are two calls for awards I'd like to share with you all. We are receiving nominations for the 2023 Advocacy Awards until December 12th and submissions for the 2023 Student Paper Competition until January 31st. I encourage you and your team members to nominate anyone you or they think is well-deserving of these recognitions. If you have any questions about the submissions, feel free to reach out to us.

We are a member comprised community and always welcome blogs, articles, insights in our publications. If you have content to share, please connect with Suly Chi (secretariat@accenet.org).

Again, I thank you all for your efforts in HTM/CE and look forward to wrapping up 2022 and having a prosperous start to 2023!

Priya Upendra, President
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ACCE

ACCE News is published 6 times per year and each issue is 10-20 pages long. It takes the co-editor ~ 10-20 hours of work per issue. The ACCE News co-editor is responsible for editing 3 issues per year and duties include the following:

- Notifying regular article contributors of upcoming submission deadlines
- Editing submitted articles
- Follow up with authors about turning in articles and corrections and clarifications
- Editing photos and graphics
- Editing pages so that articles fit on the page
- Writing headlines and subheads
- Submission of draft newsletters for review and edit suggestions by ACCE Secretariat, ACCE President, ACCE Newsletter co-editor(s) and Managing Editor
- Completing final editing for submission for publication
- Occasionally writing articles

Currently the software used for this process is Microsoft Publisher

Minimum Requirements: Member of ACCE and excellent command of written English

Interested: Please contact Ted Cohen or Ismael Cordero at editor@accenet.org

Join ACCE at HIMSS 2023 in Chicago

Join American College of Clinical Engineering at HIMSS 2023

Member discount available!

ACCE is an official Collaborator of HIMSS23. As such, our members receive the HIMSS member rate to attend. To register, visit HIMSS23 General Registration and sign in. Once on the General Registration page, select the Chapter or Collaborator tab on the left-hand side. Select your preferred HIMSS23 Pass and enter ACCE as the Referring Collaborator Organization to receive the HIMSS member rate on registration.

2023 ACCE CE-IT Symposium (pre-HIMSS23) (Complimentary)

Securing IoMT Proactively - Collaboration Between Information Technology and Clinical Engineering Professionals

Monday, April 17, 2023 / 8:30am -4:00pm,
Hyatt Regency McCormick Place, West Building, Level 1/ Grand Park D (CC12D)
2233 South Martin Luther King Dr, Chicago, IL 60616

Click here to register

Internet of Medical Things (IoMT) devices continue their rapid expansion in various healthcare settings. While this exciting technology evolution provides opportunities for new clinical workflows and patient care applications, it also introduces new technology management challenges and the potential for cybersecurity risks.

Clinical Engineering and IT play a central role in ensuring IoMT expansion is appropriately managed and that the related cybersecurity risks are identified, assessed, and controlled. This however is not an easy feat in practice. Proactively securing IoMT is a formidable challenge for any healthcare organization. A successful IoMT security program involves not only the right technologies, but the right personnel, expertise, and processes to ensure long term success.

Join this ACCE HIMSS CE/IT symposium to learn more about proactively securing IoMT, get tips on CE/IT collaboration, hear from industry thought leaders, and get involved with some hands-on learning through cybersecurity table top exercises.

Program: Click **here** for the detailed program and speakers.

Click here for Schedule at a glance

Click here to REGISTER for HIMSS Conference and pre-conference symposium

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International Committee Report

The International Committee (IC) held its first 2023 bimonthly meeting on January 20, 2023. Prior to our meeting, Binseng Wang presented a webinar entitled Clinical Engineering – An Overview and Future Perspectives to the Bosnia Herzegovina Medical and Biological Engineering Society (DMBIUBIH), with which ACCE has signed a collaboration and mutual assistance agreement.

IC also submitted a support letter for a nomination for the Antonio Hernandez international award. In addition, the IC submitted a nomination for the ACCE/HTF international institutional award.

During our meeting, IC members discussed creating a guidance document for prospective speakers in our international webinars with the aim of making the communication more effective and also reducing risks of copyright infringements. This guidance, once finalized, will be offered to all future webinar presenters.

IC is also pursuing additional collaboration and mutual assistance agreements with similar associations in other countries. Once an initial agreement is reached, IC will submit it to ACCE Board for review and approval.

Three additional webinars have been scheduled for DMBIUBIH. The first one is entitled Clinical Equipment Support: Laboratory-The Biomed Workshop, to be delivered by Lou Schonder on 2/9/2023. The second one will be Building a case for medical device cybersecurity, to be delivered by Priyanka Upendra on 2/23/23, while the last one will be Evidence-based maintenance, to be delivered by Binseng Wang on 3/9/23.

Again, IC would like to invite ACCE members outside of the IC to offer webinars they believe are of potential interest to our international colleagues. The current list of webinars being offered is available on the ACCE's website: https://accenet.org/International/Pages/Webinars.aspx. Those interested should contact one of the IC members and provide a short description similar to what is available on the ACCE webpage. Potential presenters are reminded that such activities are strictly voluntary and do not involve any honorarium or coverage of travel expenses by ACCE.

Binseng Wang, IC Chair
International.chair@accenet.org

WHO Collaborating Center for HTM

This is an update for the World Health Organization (WHO) Collaborating Center for Health Technology Management at the University of Vermont.

The Ministry of Health & Wellness in Jamaica developed a national policy for Maintenance Management of Medical Devices in June 2022. With support from the Pan American Health Organization (PAHO), the WHO Collaborating Center for HTM at the University of Vermont (UVM), Technical Services Partnership reviewed the draft policy, conducted an on-site survey of primary to tertiary care in Jamaica, and participated in a retreat to finalize the policy. In 2023, Jamaica will develop national policies related to assessment and management of health technologies with the support of PAHO and the collaborating center. The second initiative is to build capacity in the health system in these two important areas.

Other activities planned by PAHO for the collaborating center include two virtual workshops on HTM and technical training in February and March respectively for Belize followed by on-site training. In Suriname, the virtual workshop on Showing the value of Health Technology Management took place on January 24, 2023 with additional HTM training planned for this former Dutch colony.

The collaborating center continues to work on the WHO COVID-19 Respiratory Equipment Training videos project. The initiative is led by ACCE member Adriana Velazquez, Team Lead Medical Devices, and In Vitro Diagnostics, at WHO. ACCE members Bill Gentles and Tobey Clark have been coordinators of the video series involving over 100 contributors from 20+ countries.

The focus over the past six months has been on supporting the translation of the medical devices training videos into French. Humatem, a French NGO specialized in medical devices, is translating the videos with continued digital production by O'Connell Creative based in Canada. Completion is expected in early 2023. A second focus of the training videos project has been on the production of an electrical safety training video showing both testing techniques using an electrical safety analyzer, and, for the global areas where an ESA is not economically available, testing using a DMM and fabricated apparatus. The English version of this video should also be released in early 2023. Other work has included some updates of clinical use videos and reviewing, collecting, and arranging data associated with the training videos in a secure location managed by WHO.

Over 15,000 individuals have enrolled on the OpenWHO website for the training courses with many more expected when the French translation is

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ECRI Perspectives: Top Ten Hazards

Hello from ECRI and a happy belated New Year from scenic Plymouth Meeting, PA. where we're wrapping up our 2023 resolutions and looking forward to another year of reducing preventable harm in healthcare by releasing our Top Ten Hazards list for 2023. We publish this list to help healthcare facilities identify and mitigate high-impact sources of danger or difficulty with health technologies.

This year, we're doubling down on helping clinical engineers reduce preventable harm by issuing a Challenge to Industry along with several of our listed hazards. As always, our report highlights steps that healthcare facilities and care providers can take to improve technology safety and reduce preventable harm, regardless of whether care is provided in a hospital, an ambulatory care center, a patient's home, or some other setting. But healthcare technology managers, care providers, and other device users can't do it alone. With the COVID-19 pandemic leaving healthcare facilities understaffed and healthcare workers overstressed, it's more important than ever that medical technologies be designed in ways that help ensure their safe use. That's why, for 2023, we're extending a challenge to our industry colleagues: We believe some of the hazards on our list could be mitigated—and possibly even eliminated—by improved device designs or manufacturing practices. For example:

Reaching out to patients who are using recalled medical devices in the home: Too often, users of recalled devices don't learn about the recall in a timely manner, and whatever information they do receive may be too technical for them to understand, creating both confusion and anxiety. Without a clear understanding of the risks, patients may be harmed by continuing to use an unsafe device—or by inappropriately stopping use of a device whose benefits outweigh the risks. Medical device manufacturers can be more proactive in creating clear, easy-to-understand recall notices and getting those notices into the hands of the people using their devices. Clinical engineers can also benefit from easier-to understand recall notices, as we've been clearing up confusing or vague language in technical bulletins for decades in our Alerts publications.

Shining a light on defective or deficient consumables: The number of defective single-use medical devices in the supply chain appears to be growing. Disposable products and other types of single-use medical devices play a role in virtually every patient encounter, meaning that product defects can have a broad negative impact on patient care. They can cause delays and can lead to waste, incorrect treatment, healthcare-acquired infections, or other patient harm. Anyone who's ever helped Supply Chain chase down a single defective lot of needle-free connectors or has been asked to vet an alternate supplier of ventilator tubing knows the greatest impact on patient safety will come from manufacturers improving their quality control (QC) practices to prevent defective products from reaching the market.

Reducing the risk of air embolus during use of inflatable pressure infusers (IPIs): When an IPI is used to squeeze fluid from an infusion bag into a patient, it's possible for residual air within the IV solution bag to be delivered to the patient if both of the following conditions are present: (1) the air is not purged from the bag before use and (2) the bag is allowed to be compressed completely flat by the IPI during use. A 500 mL IV bag will typically contain about 50 to 60 mL of residual air. Suppliers can help reduce this risk by exploring IPIs that incorporate a means to prevent air from being infused—for example, by detecting air in the line, or by preventing the bag from being fully compressed.

Clarifying ventilator cleaning and disinfection instructions: The cleaning and disinfection recommendations provided for different models of ventilators are inconsistent from one vendor to the next (and in some cases incomplete or confusing) regarding which components need cleaning/disinfection, how to clean/disinfect them, and how frequently this should be done. Suppliers should improve the clarity and availability of their instructions for cleaning and disinfecting ventilator components, and ensure that they conform to ECRI's recommendations, which have been adopted and republished by the American Association for Respiratory Care (AARC).

If you're ever in the neighborhood, we'd love to show you around our gorgeous new laboratory space. But, in the meantime, wash your hands, keep on excelling, and, as always, tell us what you're seeing.

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WHO Continued

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completed. The videos are also available on YouTube. The links are below:

Open WHO

YouTube Training

Collaborating center co-director Tobey Clark also taught a masters-level, biomedical engineering course entitled "Advanced Biomedical Equipment" at ESPOL, the national polytechnic university, in Guayaquil, Ecuador in partnership with Rossana Rivas of Peru. Clark is a University of Vermont Lecturer in both Electrical and Biomedical Engineering who teaches Clinical Engineering. Clark also teaches in the Biomedical & Health Sciences department instructing two online medical equipment courses.

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AAMI Update: Reflecting on 2022 Medical Device Standards, AAMI Looks Ahead to HTM and More

The AAMI Standards team reflected on the events and accomplishments throughout 2022 and identified our top 10 highlights.

New published standards: 2022 saw the publication of numerous important standards documents, including the new edition of ANSI/AAMI ST91:2021 (Flexible and semi-rigid endoscope processing in health care facilities) and the brand-new documents ANSI/AAMI ST98:2022 (Cleaning validation of health care products—Requirements for development and validation of a cleaning process for medical devices) and AAMI CR34971:2022 (Guidance on the Application of ISO 14971 to Artificial Intelligence and Machine Learning).

New national adoptions of international documents: The U.S. adoptions of several important amendments to the IEC 60601-1 series, which covers basic safety and essential performance of medical electrical equipment, were completed and published in 2022.

In-person international meetings: After two years of International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC) prohibitions on meeting in person, AAMI convened hybrid plenaries of several ISO and IEC committees for which we administer the Secretariat role.

AAMI leadership in standards governance: Two AAMI Standards staff members, Amanda Benedict and Hae Choe, were appointed to first terms for American National Standards Institute (ANSI) and IEC governance board roles.

AAMI Standards Insider webinars: This popular quarterly webinar series carried over from 2021 and continued to provide relevant, timely standards news and AAMI information to the AAMI community throughout 2022.

AAMI Standards in conference programs: AAMI Standards staff developed and delivered education program content for a number of important industry conferences in 2022, including Healthcare Sterile Processing Association (HSPA), Association for Professionals in Infection Control and Epidemiology (APIC), California Central Service Association (CCSA), Minnesota–Healthcare Sterile Processing Association (HSPA), International Meeting on Radiation Processing (IMRP), APIC CDS, the Society for Standards Professionals (SES), and more!

Record-setting attendance at the AAMI/FDA/BSI ISC 2022: The largest audience yet attended the 2022 edition of the AAMI/FDA/BSI International Conference on Standards and Regulation for Medical Devices, both via the in-person conference in Arlington, VA, and live-streaming to regulators around the world.

"Right-sizing" AAMI Standards Program administration: We're pleased to wrap up the year with a realignment that will mean more resources allocated to directly supporting the AAMI Standards committees.

Kilmer Conference 2022: AAMI staff were thrilled to help shape the incredible Kilmer Conference program again in 2022, and we look forward to the future of Kilmer.

New participants in AAMI Standards: We happily welcomed many new members—representing all key stakeholder categories—to AAMI Standards groups in 2022, including the Medical Equipment Management (EQ) Committee and the Cloud Computing Working Group (SM-WG 10).

The year 2023 is expected to be extremely action packed and productive for the AAMI Standards Program. Here is a look at the top 10 new items, events, and resources that should be on your radar for the year ahead.

Improved "regulatory readiness" of standards: Efforts are underway to develop guidance on writing standards content that lends itself better to uniform interpretation and conformity assessment. This is expected to make standards easier to use for both industry and regulatory stakeholders.

Availability of redlines/change summaries: In collaboration with AAMI's Publications team, we expect to be able to provide additional content for revisions of AAMI standards and other technical documents.

A new look for AAMI Standards Monitor Online: AAMI's comprehensive periodic resource for standards news, featuring calls for comments on public review documents and other opportunities to engage in standards activities, will be getting a substantial facelift in 2023. Readers can expect improved organization and usefulness of standards news content.

New AAMI Committee Central platform: We know that this one is at the top of the wish list for many (okay, pretty much all) of our standards group members. We're thrilled to announce that work is underway to identify a new, more user-friendly technology solution for AAMI's Standards development platform. We expect to be able to launch the new tool before the end of 2023.

In-person AAMI Standards committee meetings: We're looking forward to continuing to host AAMI Standards group meetings onsite at our offices in Arlington, VA! Also in the works for 2023 are "plenaries" for several of our committees and their affiliated working groups, including AAMI Software & Information Technology (SM) and Biological Evaluation (BE).

Updates to AAMI Standards co-chair and new member resources: Did you know that AAMI has training and orientation for new standards group members and leaders? These resources will be getting a dynamic multimedia makeover in 2023 to align with the current edition of our Standards Program Policies & Procedures, integrate tutorials on use of the standards development plat-

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Paul Sherman: Recipient of the 2023 ACCE/ HIMSS Excellence in CE-IT Synergies Award

Paul Sherman, CCE FACCE
2023 ACCE-HIMSS Excellence in Clinical Engineering and Information Technology Synergies Award Recipient

ACCE is exceedingly pleased to recognize Paul Sherman with the ACCE/HIMSS Clinical Engineering award. Paul dedicated his 30+ years advancing clinical engineering management standards and communication protocols in device integration. Paul has been known in the CE-IT community since its inception, and his work has affected millions. He is undoubtedly a worthy recipient of this award.

During his long tenure at Veterans Health Administration (VHA), Paul led the software development to track medical implants and several other key CE-IT developments in risk management and medical records management. He also managed multiple workforce groups such as Biomedical Engineering Resources Survey, VHA medical equipment management guidebook, Biomedical Engineering Advisory Board, and Biomedical Engineering Hybrid Title 38 Professional Standards Board.

In 2012, Paul founded Sherman Engineering LLC where he helped create a support program teaching returning veterans and displaced workers about electronic medical records

After his departure from VHA, Paul became the technical program manager for Integrating the Healthcare Enterprise - Patient Care Device (IHE-PCD) to develop new communication protocols enabling seamless communication between medical devices and IT systems. In addition, Paul has served as a committee member and president of ACCE.

Paul is an advocate of the clinical engineering discipline helping define clinical workflows so clinicians can use ever increasing medical device data. Through his active engagement at HIMSS, Paul resolved several challenges surrounding interoperability and improving user requirements for interoperability adoption.

Throughout his decades of service in this community, Paul has bridged the technical understanding between clinical and information technology pillars to support the safe and reliable use of medical devices and clinical technologies. He participated in several work groups and task forces that facilitated the design, development, and implementation to offer EMR system training access and resources (EMR-STAR), an open-source training module for new healthcare workforce employees. This effort has helped healthcare workers with a path to learn and access EMR systems to effectively become experts through the course of their career.

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AAMI continued: More Standards for HTM in 2023

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forms, and generally help members to navigate engaging in standards activities.

New editions of AAMI EQ56, AAMI PB70, and AAMI HE75: These critically important standards for medical equipment management programs, protective barriers, and human factors engineering, respectively, are nearing completion of their revisions. AAMI expects to be able to publish the new editions in 2023.

Combination products going international: Although it's too soon to speculate on specifics, there is significant interest in developing international standards and technical documents for combination products. Potential pathways have been identified to elevate AAMI technical documents within the international standards arena.

More standards education and articles: AAMI's support of standardization includes development of resources that facilitate stakeholder adoption of standards and other technical documents. We will continue our efforts to develop education and communications pieces that make it easier for organizations and individuals to understand what's coming in standards development, implement new and revised standards and technical documents, and manage standards engagement.

More standards for healthcare technology management (HTM): The AAMI Medical Equipment Management (EQ) Committee and its affiliated working groups will be starting work on several new projects for standardization in important areas of HTM, including health technology acquisition and HTM education programs.

AAMI Staff

From the Education Committee Desk

The 2022-2023 Educational Webinar Series will continue with session #6 on 02/09/23, with Mr. Herman McKenzie to discuss the Joint Commission 2023 Updates.

And then join session #7 on March 09, 2023, with Nader Hammoud, Angela Bennett and Roberto Torres in a panel discussion on the hot topic of Staffing Models and Justification to Management.

The Education Committee thanks our 2022-2023 webinar panelists for sessions 4 and 5: Hank Stankiewicz & Shelly Leacock; and Keith Whitby & Eric Aring.

And we thank again our co-sponsors for your continuous support to the ACCE community and supporting the profession, your generous sponsorship allows us to bring the most updated education to our community at no charge helping our members and collaborators to advance the Clinical Engineering profession. – THANK YOU!

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UCONN: New Clinical Engineering Graduates

Another year of change brought the University of Connecticut (UCONN) Clinical Engineering Internship program a new cohort of 1st Year interns, loss of a host location, return of a host location, and lots of interest in potentially becoming a host location. To the latter points, I want to wholeheartedly thank the internship hosts for making this program possible. Thank you to them, not just financially but with the experience, expertise, and commitment they bring to the interns each and every day.

Over this past year, the interns once again found themselves on the frontlines helping their health systems flex capacity and learning how to "learn on the fly" side-by-side with their health system co-workers. Masking, remote access, and other accommodations have all become part of the daily routine, as have flexibility and adaptability.

The fall 2022 semester was marked by a return to a fully in-person Clinical Engineering Week! To make it even better, we were able to align the week with the return of the New England Society of Clinical Engineering (NESCE) symposium. The interns had education and exhibit hall assignments to help them navigate the symposium and develop the skills necessary to get the most out of conference attendance. Post symposium, we gathered on the UCONN campus (Storrs, CT) for administrative updates from the university and career planning/coaching presentations. If all goes well, we anticipate alignment with the NESCE Symposium going forward.

The spring 2023 semester includes another fully in-person Clinical Engineering week on the UCONN campus. The agenda will be packed with intern presentations that highlight their experiences and showcase their work at their respective host sites. Job search and career planning resources will also be on the agenda as will panel discussions with UCONN CE Internship program graduates. The panel discussions are always a favorite since they serve not only as encouragement of what comes after the internship but also immediately expand the interns' professional networks.

Our 2nd Year interns will graduate in May 2023 and are exploring job opportunities across the country. I encourage you to reach out to all of these about-to-be graduates on LinkedIn to congratulate them, get to know them, and share your experience and expertise with them. If you have an open clinical engineer position on your team, I'd be happy to make an email introduction!

Again, I want to thank the health systems that host the UCONN Clinical Engineering interns. These organizations derive great value from having the interns as part of their teams but do so by providing great value to the interns. I encourage you to reach out to myself or the CE leaders at these health systems to learn how your health systems might benefit from hosting a UCONN CE intern.

Thank you for all you do every day. Be well.

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UMass Memorial Health
VA Greater Los Angeles Medical Center
VA North Texas Health System
Yale New Haven Health

UCONN and the health systems listed above partnered to provide paid Clinical Engineering internships providing valuable experiences to the students and valuable entry-level clinical engineering workforce to these hospitals.

UCONN May 2023 Clinical Engineering Graduates	
Sarah Basenese	Heather Heidenreich
Shawn Byrne	Camila Leyva
Stefani Chiarelli	Zachary (Zach) Newman
Erin Coon	Abigail (Abby) O'Sullivan
Charlotte Cooperman	Tehya Pavelka
Molly Donahue	Matthew Vinacco
Jacob Girard	

Congratulations to the UCONN students who will be graduating from the Clinical Engineering graduate program this Spring 2023.

IFMBE Clinical Engineering Division

Clinical Engineering is ready for the Digital Paradigm

Clinical engineering is a field that involves the application of engineering principles and technology to healthcare. Recently, it has undergone a significant transformation due to advancements in digital technology. The digital era has brought new opportunities and challenges for clinical engineers, impacting how healthcare is delivered.

One of the most significant changes brought about by the digital era is the increased use of electronic health records (EHRs). EHRs have replaced paper-based records and have made it possible for healthcare providers to access patient information quickly and easily. This has dramatically improved healthcare delivery efficiency and effectiveness and made it easier for clinical engineers to monitor and maintain medical equipment.

Another significant development in the digital era is the use of telemedicine. Telemedicine allows healthcare providers to remotely diagnose and treat patients using video conferencing and other digital technologies. This technology has expanded access to healthcare, particularly for people living in remote or underserved areas. It also has allowed clinical engineers to remotely monitor and maintain medical equipment, improving healthcare delivery efficiency and effectiveness. The digital era has also brought about advances in medical imaging technology. Medical imaging technologies such as computed tomography (CT) and magnetic resonance imaging (MRI) have greatly improved the accuracy and effectiveness of diagnostic imaging. Clinical engineers are essential in maintaining and troubleshooting these technologies, ensuring that they operate correctly and are providing accurate images.

The digital era shows challenges on different fronts. One of them is related to the increasing complexity of medical equipment. With the advent of digital technology, medical equipment has become more sophisticated and specialized. In order to ensure the proper and safe use of medical equipment, clinical engineers must have a deep understanding of the technology they are working with. They also must be updated on the latest advancements in medical equipment, including facilities, communication protocols, and support systems. The digital era has also brought about new security challenges. With the increasing use of digital technology in healthcare, there is a greater risk of data breaches and cyberattacks. Clinical engineers have an essential role in ensuring the security of medical equipment and patient data. This includes ensuring that the equipment is protected against unauthorized access and that patient data is kept confidential.

And how are we preparing to face the digital era challenges? First, we need a full understanding how the digital paradigm impacts healthcare providers, the role of technologies within this environment, and the healthcare technologies that will set the standards for care delivery. The selection of topics of importance, design of academic and professional education programs in this field, and their implementation, monitoring and evaluation are the steps to follow to build a reference framework that is useful for clinical engineers. The Clinical Engineering Division (CED) and its strategic partners have offered expert presentations on digital health issues as webinars. Aware that these are the first steps, it has planned activities that reinforce knowledge and skills and forums for discussion and reflection on the impacts on the different fronts that the digital paradigm will touch.

Fabiola Martinez-Licona
IFMBE/CED Chair
fabimx@gmail.com

ACCE Membership Renewal

Thank you for being an ACCE member! It's time to renew your membership. If you have not yet renewed for 2023, renewal is due now!

To renew your 2023 membership online with PayPal, please click here or go to https://accenet.org/Members/Pages/default.aspx?from=login .

To renew by postal mail, please remit your renewal check to:

ACCE
2880 Bicentennial Pkwy, Ste 100#249
Henderson, NV 89044

If you need an e-invoice, please contact the ACCE Secretariat at secretariat@accenet.org

Welcome New Members

We welcome our newest members, approved by the Membership Committee, and supported by the Board of Directors:

Name	Class	Job Title	Organization	Country
Iyad Mobarek	Individual	Chief Technical Officer	Ascend Healthcare Solutions	Saudi Arabia
Farhan Ahmed	Individual	Biomedical Engineer	DANAHER/ Radiometer	UAE
Sasha Cox	Individual	Biomedical Equip Specialist-Compliance & Quality	Sutter Health	CA/USA
Arael J. Monroe	Institutional/Associate	Biomedical Engineer	VA Ohio	OH/USA
Shane Azizi	Institutional/Associate	Director, Clinical Engineering	Michigan Medicine	MI/USA

Congratulations to the following member who was upgraded to Individual Level.

Nithya Kubendran, CCE, Supervisory Biomedical Engineer at US Department of Veterans Affairs, San Diego

Volunteers Wanted

If you would you like to volunteer for ACCE, please complete this volunteer survey.

Volunteers are needed to write ACCE News articles (click here for author guidelines), participate on a variety of committees, and assist in various other roles.

As we enter 2023, there are many challenges and opportunities in CE. Send us a short write-up of some of your experiences with AI/ML, cybersecurity, home health devices, telemedicine or whatever other interesting new experiences in CE have come your way.

For more information, contact secretariat@accenet.org or editor@accenet.org.

Welcome New HTCC Secretariat

The ACCE Healthcare Technology Certification Commission (HTCC) welcomes the new HTCC Secretariat: Julia Mazzoleni.

You may reach Julia at:

Email: htcc-secretariat@accenet.org or certification@accenet.org
Voice mail 610-567-1300

And ACCE thanks outgoing HTCC Secretariat, Sandy Allen, for her dedicated support as HTCC Secretariat from January 2017 -January 15, 2023.

Happy retirement, Sandy.

Julia Mazzoleni

Sandy Allen

CALL FOR NOMINATIONS!

CLINICAL ENGINEERING HALL OF FAME, CLASS OF 2023

Nomination form: https://www.surveymonkey.com/r/2023CE-HOF

Deadline: February 12, 2023

The Clinical Engineering Hall of Fame is a recognition program and virtual museum established by ACCE with the purpose of celebrating the application of engineering and managerial skills to support and advance patient care through technology and honoring the individuals who made extraordinary contributions to this effort. We encourage you to take time to nominate individuals who have made outstanding and notable contributions to the evolution and advancement of Clinical Engineering. Please be as detailed as possible and include supporting information, documents, and justifications.

See the eligibility requirements and nomination form and email your completed nomination package to CE-HOF@accenet.org, or use this online nomination form, by February 12, 2023.

Inductions to the CE Hall of Fame will be on June 17, 2023 at the ACCE Members Meeting/Awards reception in Long Beach, California.

Mark Bruley, FACCE

CE-HOF Nominations Review Committee Chair

CE-HOF@accenet.org

Global Clinical Engineering Journal

Health Technology & Innovation Improving Patient Outcomes

The open access Global Clinical Engneering Journal publishes high quality, timely, peer-reviewed manuscripts about the intersection of technology, engineering and informatics related to health, wellness, disease management, and patient-care outcomes around the world. Wider global community participation is further facilitated through this no-fee publication.

The vision of the Journal is to become the preferred international forum for facilitating the exchange, knowledge sharing, and engagement of practitioners across the globe. We will achieve that vision through a diverse range of high quality contributions of professionals from across the domains of clinical engineering, health-related technology, informatics and patient-care outcomes.

The purpose of the Journal is to collect, review, select, promote, and share original manuscripts, articles, technical papers, letters, scientific opinions, professional development tools, applications, and technical data relating to the clinical engineering and health technology fields.

The goal of the Journal is to advance and disseminate knowledge, to promote professional networking among practitioners and other stakeholders in academia, industry, government, and other decision-makers. We encourage work submissions by both young and senior researchers and practitioners. Our goal encompasses the promotion of education, training and ethical professional practice among members of this professional community.

TOPICS

- Adverse events
- Artificial intelligence
- Artificial organs & Tissue
- Biomedical engineering
- Clinical engineering
- Disaster preparedness
- Engineering education
- Error mitigation
- Forensic engineering
- Health Informatics
- Home care
- Human factor engineering
- Implants
- Innovation and adoption
- Maintenance
- Metrology & device performance
- Professional development & credentialing
- Quality and outcomes
- Regulation science
- Risk control
- Safety
- Social impact and Ethics
- Software applications
- Systems management
- Technology assessment
- Technology integration
- Technology life cycle
- Technology management methodologies
- Telehealth and telemedicine

EDITOR-IN-CHIEF: **Dr Yadin David**

ISDN: 2578-2562

www.globalCE.org

Journal of Clinical Engineering Subscriptions for ACCE Members

The Journal of Clinical Engineering is a compilation of articles, papers, and extensive manuscripts relevant to clinical/biomedical engineering or biomedical technology. Subject matter directly relates to the engineering or technology involved in patient care and treatment or technology in the broad field of health care delivery.

ACCE members receive a discounted subscription to the Journal of Clinical Engineering for only $99! (Originally $351). You must login to the ACCE website to view the code. Then visit LWW.com to enter code.

ACCE CALENDAR

https://accenet.org/NewsEvents/Pages/Calendar.aspx

09 February 2023 12:00 PM-1:00 PM: **Educational webinar session #6: 2023 The Joint Commission (TJC) Update**
Faculty: Herman McKenzie
Click here for more information and to register

09 March 2023, 12:00 PM-1:00 PM: **Educational Webinar session #7: Staffing Models and Justification to Management**

06 April 2023, 12:00 PM-1:00 PM: **AAMI/ACCE Joint Webinar: Adopting the AAMI Failure Code White Paper**
Faculty: Matt Baretich & Carol Davis-Smith
Free registration (Note: AAMI membership is not required)

17 April-21 April 2023: **HIMSS 2023**
Location: McCormick Place, Chicago, IL

17 April 2023, 8:30 AM-4:10 PM: **2023 ACCE CE-IT Symposium** (pre-HIMSS23): Securing IoMT Proactively - Collaboration Between Information Technology and CE Professionals
Location: Chicago, IL
Register here

27 April 2023, 12:00 PM-1:00 PM: **Educational Webinar session #8: KPI - Above and Beyond Regulatory Compliance**
Faculty: Dean Skillicorn, Perry Kirwan, Courtney Nanney & Samantha Jacques

11 May 2023, 12:00 PM-1:00 PM: **Educational Webinar session #9: Lessons Learned from ACCE CE-IT Symposium @HIMSS23**

08 June 2023, 12:00 PM-1:00 PM: **Educational webinar session #10: CMMS Standardization and implementation - best practices and lessons learned**

16 June-19 June 2023: **AAMI Exchange 2023**
Location: Long Beach Convention Center, Long Beach CA

17 June 2023, 7:30 AM-10:00 AM: **Clinical Engineering Symposium by ACCE at AAMI eXchange 23**
Location: Long Beach Convention Center, Long Beach CA

17 June 2023, 7:30 PM-10:30 PM: **ACCE 33rd Members Meeting/Awards Reception**
Location: Hyatt Regency, Long Beach, CA

14 June-17 June 2024: **AAMI Exchange 2024**
Location: Phoenix, AZ

ACCE
AMERICAN COLLEGE OF CLINICAL ENGINEERING

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