

# HCTG Newsletter



## Message from the Chair

It's fall here in the northern hemisphere, and that means the annual meeting is here! It has been 3 years since I was last able to attend in person, so I am more excited than ever to see many of you and to engage with the exceptional HCTG program that you all make possible. A huge thank you to all that submitted this year, those that volunteered as reviewers, and to Shijing Liu and Megan Gregory for all their efforts in organizing our program (details on page 8).

I hope to see many of you at our Annual HCTG Business Meeting. We have lots of great things planned during the meeting, including the announcement of our newest Early Career awards (see details about last year's Early Career Practitioner Awardee on page 6). Please come and say hello to your HCTG officers (find out a bit more about each of us below). I also hope to see you at the annual PDTG / HCTG joint Networking Reception. Thank you to Stan Caplan for making this event possible (details on page 12).

The HCTG is working to gather data and create new offerings to continue to improve our ability to meet the needs of the HCTG members. As part of that effort, we are currently asking students for input. If you are a student member of HCTG, or a potential student member, please fill out our two-question survey. If you have ideas about the HCTG you'd like to share, please send me an email and let's talk. Stay tuned for more on this.

I look forward to seeing many of you in Atlanta!

Nicole Werner  
[newerner@iu.edu](mailto:newerner@iu.edu)

## Attend the HCTG Business Meeting at HFES 2022!

The Health Care Technical Group, 2022

***Join us on Wednesday, October 12th at 5:30 PM EDT to learn more about what the HCTG has been up to and get a chance to chat with the officers at HFES 2022!***

At this year's annual meeting, don't forget to attend our Annual HCTG Business Meeting! It is a great time to learn more about what the HCTG has been up to and to meet and greet new and old friends. Our meeting will be held at the Marriott Marquis Hotel in Atlanta on Wednesday, October 12th at 5:30 PM EDT.

Not only will we have snacks and refreshments, but this year, participate in our version of HCTG Bingo for some fun prizes. We will also present the current state of the HCTG and our goals to better support our HCTG members. There will also be opportunities for the HCTG community to make any additional announcements.

During our meeting we will also announce the recipients of our awards including our Best Student Paper, Early Career, and Travel Awards. Our student paper awardees will also make lightning presentations on their awarded work.

# Meet Your HCTG Officers

Please feel free to chat with us at HFES 2022 or connect with us!

## NICOLE WERNER

Chair  
Indiana University



Dr. Werner is an Associate Professor in the Department of Health and Wellness Design at the Indiana University School of Public Health-Bloomington committed to transforming the healthcare journey through human-centered sociotechnical system design to improve the health and well-being of older and vulnerable populations and their care partners.

Her research program applies human factors principles to conduct research aimed at the human-centered discovery, design, evaluation, and implementation of translation-ready technology interventions. This work has included developing innovative approaches to user-centered design in community settings; employing novel concepts



of healthcare work distribution; and engaging end-user representatives such as older adults, care partners, and community resource providers as active members of the design team. Her research spans clinical and community settings to improve health for older adults and their care partners with a particular focus on people living with Alzheimer's disease and related dementias and their care partners.

member of HFES since 2008 when was an undergraduate psychology student.

A fun fact about Dr. Werner is that she has been stung by both a sting ray and a box jellyfish and lived to tell the tale! Her Twitter is @werner\_ne.



She received her PhD in Human Factors and Applied Cognition from George Mason University in 2014 and has been a



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### Technical Group INFO

HUMAN FACTORS AND ERGONOMICS SOCIETY  
HEALTH CARE TECHNICAL GROUP

[HCTG Website](#)  
[HCTG Twitter](#)  
[HCTG LinkedIn](#)  
[HCTG E-mail](#)

### 2021 - 2023 HCTG Officers

CHAIR	Nicole Werner
CHAIR-ELECT	Abigail Wooldridge
PROGRAM CHAIR	Shijing Liu
PROGRAM CO-CHAIR	Megan Gregory
SECRETARY /	
TREASURER	David Neyens
NEWSLETTER	
EDITOR	Vickie Nguyen
COMMUNICATIONS	
DIRECTOR	Jukrin Moon
STUDENT AFFAIRS	
CHAIR	Megan Salwei
AWARDS AND	
SCHOLARSHIP	Changwon Son
CHAIR	



## ABIGAIL WOOLDRIDGE

Chair-Elect  
University of Illinois at Urbana-Champaign



Abigail R. Wooldridge is an Assistant Professor in the Department of Industrial and Enterprise Systems Engineering, where she directs the Human Factors in Sociotechnical Systems Laboratory. Her research focuses on engineering sociotechnical systems to support teams and improve equity and justice, particularly in health care and health-related settings. She has courtesy appointments in Computer Science, Kinesiology and Community Health, School of Information Sciences, Beckman Institute for Advanced Science and Technology, Coordinated Science Laboratory and Biomedical and Translational Sciences at Carle Illinois College of Medicine.

Dr. Wooldridge received her PhD from the University of Wisconsin-Madison focused on Human Factors and Ergonomics; she also has worked in industry, with experience in process improvement consulting, decision support and surgical scheduling. Her work appears in Ergonomics, Applied Ergonomics, Cognition, Technology and Work, Applied Clinical Informatics, Internal and Emergency Medicine, Health Affairs, PLOS One and more.

Her edited volume, *Advancing Diversity, Inclusion, and Social Justice Through Human Systems Engineering*, received the Choice Outstanding Academic Title 2020 Award. She recently was awarded the Presidential Medallion from University of Illinois System President Tim Killeen and the inaugural Robert L. Wears Early Career Award by the Health Care Technical Group of the Human Factors and Ergonomics Society.

## DAVID NEYENS

Secretary / Treasurer  
Clemson University



David Neyens is an Associate Professor in the Department of Industrial Engineering and Department of Bioengineering at Clemson University in South Carolina where he is the Director of the Ergonomics and Applied Statistics (EAST).

As the HCTG Treasurer & Secretary, Dr. Neyens hopes to help efficiently and effectively use HCTG's resources to accomplish the TG's goals and activities.

A fun fact about Dr. Neyens is that he has been a member of HFES for about 20 years.

## SHIJING LIU

Program Chair  
Fresenius Medical Care



Shijing Liu is the Senior Manager of Program Applications and Human Factors Engineering at Fresenius Medical Care located in Waltham, Massachusetts. Her research supports the product development of medical devices for patients suffering from chronic kidney failure.

Shijing goals as Program Chair are to organize the submission and review process and develop HCTG sessions for the annual meeting. She would also like to bring students, professionals, and practitioners together and create a better attendee experience for the HCTG.

A fun fact about Dr. Liu is that she has been a member of HFES since 2012. Connect with her on LinkedIn at <https://www.linkedin.com/in/shijing-liu>.

## MEGAN GREGORY

Program Chair-Elect  
University of Florida



Megan Gregory, Ph.D., is an Associate Professor in the Department of Health Outcomes and Biomedical Informatics in the University of Florida's College of Medicine in Gainesville, Florida. Her work seeks to improve patient safety and healthcare quality by increasing healthcare teamwork, and by optimizing the use of simulation-based training and virtual reality to teach nontechnical skills. She also contributes to the science of implementation of clinical informatics tools.

She has been a member of HFES for about 10 years, and is excited to contribute as Program Chair – Elect for the Health Care TG. A fun fact about Dr. Gregory is that her interest in healthcare improvement stems from her own month-long experience as an inpatient after a car accident as a teen. Her Twitter is @DrMeganGregory.

## CHANGWON SON

Awards and Scholarship Chair  
Texas Tech University



Changwon Son is an Assistant Professor in the Department of Industrial, Manufacturing, & Systems Engineering at Texas Tech University in Lubbock, Texas where he leads the Safety, Human factors, And Resilience Engineering (SHARE) Lab (<https://www.thesharelab.org>). His research is on disaster ergonomics, resilience engineering, systems safety, occupational safety, and health.

Dr. Son's goals during his HCTG Officer term is to increase awareness of HCTG through administering awards. He has been an HFES member since 2016. Some fun facts about Changwon is that he can perform the Korean mask dance and he used to be a 100m sprinter in middle school. Connect with Dr. Son on LinkedIn at <https://www.linkedin.com/in/changwonson/>.

## MEGAN SALWEI

Student Affairs Chair  
Vanderbilt University



Megan Salwei is a Research Assistant Professor in the Center for Research and Innovation in Systems Safety (CRISS), Department of Anesthesiology and Department of Biomedical Informatics at the Vanderbilt University Medical Center in Nashville, Tennessee.

Her research is focused on the design and integration of information-rich technologies to support decision making and improve patient safety. Megan is interested in the design of health IT to support teamwork in healthcare, not just between clinicians, but between the entire healthcare team - clinicians, patients, and their family caregivers. She is currently working on a project to improve personalized decision-making for newly diagnosed breast cancer patients.

Megan's goals during her HCTG Officer term is to encourage student participation in HFES and ensure HFES support of student work. She has been a member of HFES since 2016. A fun fact about Dr. Salwei is that she received her bachelor's, master's, and PhD from the University of Wisconsin-Madison. Go Badgers! Her Twitter is @MeganSalwei.

## JUKRIN MOON

Communications Director  
University of Wisconsin-Madison



Jukrin Moon is a Postdoctoral Research Associate in the Systems Approach to Medication Safety "SAMS" Lab led by Dr. Michelle A. Chui at The University of Wisconsin-Madison, School of Pharmacy. She is a human-systems engineer professionally trained in both human factors and systems engineering. Jukrin earned her BS, MS, and PhD in Industrial and Systems Engineering from the Korea Advanced Institute of Science and Technology (KAIST) and Texas A&M University. Her research interests are centered around improving work system designs to better support humans-in-the-wild in making safety-critical decisions.

She has received national awards by the Human Factors and Ergonomics Society (HFES Student Member with Honors), the Institute for Operations Research and Management Sciences (INFORMS Seth Bonder Foundation Grant), and the Resilience Engineering Association (REA Young Talent Award). Jukrin has been an HFES member since 2016. She was a student affiliate member during her tenure as a doctoral student and then became an early career associate member as a postdoctoral researcher since 2021.

As the Communications Director, Jukrin aims to promote the HCTG in social media platforms by (1) announcing formal/informal events and calls for proposals/awards, (2) sharing recent accomplishments of the members and their labs, and (3) engaging the relevant communities through polls/surveys. Some fun facts about Jukrin are that she is a coffee addict who enjoys listening to music, taking Pilates classes, and walking around the city of Madison in her free time. Connect with Jukrin on LinkedIn at <https://www.linkedin.com/in/jukrinmoon>. Dr. Moon's Twitter is @moonjukrin.

## VICKIE NGUYEN

Newsletter Editor  
Bold Insight



Vickie Nguyen is a User Experience Researcher at Bold Insight, a full service UX and human factors research agency specializing in large scale and global research spanning the entire product development process, based out of Chicago, Illinois. Her background is in Psychology and she has a PhD in Biomedical Informatics. She currently works on medical and consumer devices, but her past research was on decision making, teamwork, and simulations in critical care environments.



# Practitioner's Corner

Laura Barg-Walkow, Children's Hospital Colorado

*For this newsletter, we learn about the work our 2021 Early Career Practitioner Awardee is conducting at the Children's Hospital Colorado.*

Children's Hospital Colorado (CHCO) is a large freestanding pediatric hospital with multiple locations which includes a Level 1 trauma center. At CHCO, I am the sole Human Factors Engineer. I am embedded on our Patient Safety team comprising Patient Safety Specialists, Medication Safety Specialists, and Process Improvement Specialists. My team comes from a range of backgrounds including nursing, pharmacy, and lean-six sigma. I partner with a range of stakeholders and end users throughout the entire healthcare system to support clinical operations.

The primary goal of my work remains the same as other human factors professionals: improve safety, satisfaction, and efficiency through understanding interactions between people, tasks, tools, and contexts. However,

operational time constraints generally do not support detailed, thorough research projects like we learned in school; in some cases, I've had to cobble together methods or use abbreviated tools to get to "good enough" results. Practicing in a hospital setting highlights the direct links between our field of work and impacts on people—both staff and patients.

My three main bodies of work can be summarized as: 1) consultations to team members on projects and tools, 2) reducing hospital acquired conditions (HACs), and 3) risk assessments/event investigations.

For consultations, I provide ad hoc guidance to individuals and teams (e.g., developing survey questions, form design, applying knowledge of human capabilities and limitations to

committees, one-off studies). I have worked on ad hoc projects in nearly every department of the hospital, such as: food services, laboratory, pharmacy, materials management, and all inpatient units. An example of this work was designing and testing a change to the emergency drug code sheet to aid a new dosing decision point during a code response with high urgency and criticality. I also was extensively involved in CHCO's Covid-19 pandemic response in multiple capacities.

HAC reduction is typically an ongoing consultation with well-defined project teams. This includes assessing process flow and barriers as well as implementing new interventions. For example, the hospital implemented "buddy checks" for peripheral IV site assessments for reducing peripheral IV infiltrations and extravasations (PIVE).

I shared findings from the visual inspection literature and knowledge of top-down processing to guide the redesigned intervention.

Risk mitigation includes both proactive (e.g., risk assessments) and reactive (e.g., event investigations) work to improve safety. This involves identifying factors that have or could contribute to events and providing robust recommendations for system improvement. For example, we used a mixed methods approach—pairing risk assessments with observations, surveys, semi-structured interviews, and call/alert data—to guide decisions on technology options on barcoding medication technology. We worked with

both the vendor and CHCO alongside the assessment to implement multiple interventions to ensure safe implementation.

There is a growing demand in hospitals for embedded human factors professionals. In particular, pediatric hospitals have embraced the value of human factors, specifically due to pediatric-specific considerations unique to healthcare environments (e.g., weight-based medication dosing, patient age/size/developmental ranges from micro preemies through older adults). The variation in breadth, depth, context, and timelines for projects in a healthcare setting means that there is no “typical day.”

Working in a hospital is exciting, demanding, ever-changing, and—most importantly—incredibly meaningful and fulfilling. I love being able to make an impact for our frontline team members, families, and patients.



**Laura Barg-Walkow** is a Human Factors Engineer at Children's Hospital Colorado



# Children's Hospital Colorado



# Special Journal Issue Spotlight

## Online First Special Human Factors Issue: IEA Health Care 2021

Access all articles [here!](#)


Some of the Articles Titles Below

### Improving Healthcare Practice Through the Implementation of Human Factors and Ergonomics Principles


Yuval Bitan<sup>1</sup> , Ben-Gurion University of the Negev, Be'er Sheva, Israel, Farzan Sasangohar<sup>2</sup> , Texas A&M University, College Station, TX, USA

**Objective:** Present a collection of papers focusing on our field. Healthcare is in desperate need of the






### Objective Nontechnical Skills Measurement Using Sensor-based Behavior Metrics in Surgical Teams

Jackie S. Cha , Department of Industrial Engineering, Clemson University, SC, USA, School of Industrial Engineering, Purdue University, West Lafayette, IN, USA, Dimitrios I. Athanasiadis, Department of Surgery, Indiana University School of Medicine, Indianapolis, IN, USA, Yuhao Peng, School of Industrial Engineering, Purdue University, West Lafayette, IN, USA

### Older Adult Patients and Care Partners as Knowledge Brokers in Fragmented Health Care

Kathryn L. Wust , Pascale Carayon, Nicole E. Werner and Peter L. T. Hoonakker, University of Wisconsin-Madison, USA, Megan E. Salwei, Vanderbilt University Medical Center, Nashville, Tennessee, USA, Rachel Rutkowski, Hanna J. Barton, Paula v. W. Dail, Barbara King, Brian W. Patterson, Michael S. Pulia, Manish N. Shah

### Interactions in Sociotechnical Systems: Achieving Balance in the Use of an Augmented Reality Mobile Application

Abigail R. Wooldridge , University of Illinois at Urbana-Champaign, IL, USA, John Morgan, Grainger, Lake Forest, IL, USA, Widya A. Ramadhani , University of Illinois at Urbana-Champaign, IL, USA, Keith Hanson , Elsa Vazquez-Melendez, Harleena Kendhari, Nadia Shaikh, Teresa Riech  and Matthew Mischler ,





We are delighted to announce that 7 discussion panels, 30 lectures, and 18 posters have been accepted for the HFES 66th International Annual Meeting.

The HCTG sessions have been developed and we will have 12 sessions at the annual meeting. There will be 7 discussion panels, including a variety of topics, such as patient safety and ergonomics, fatigue and burnout, decision making, and innovation in health care.

There will be 5 lecture sessions, including teamwork and workload in health care, telehealth, patient-centered care, wearable devices, physical design, and ergonomics in health care. All posters will be presented at the poster reception.

We sincerely appreciate your continued support of HCTG community. If you have any questions or concerns, please contact Dr. Shijing Liu or Dr. Megan Gregory.

# Message from the HCTG Program Chairs

*We are thrilled to share our HCTG track at this year's Annual Meeting scheduled from October 10 - 14, 2022 at the Marriott Marquis Hotel in Atlanta, Georgia, USA.*

The submission and review process for our technical group has been successfully completed. We greatly appreciate your support and patience, and special thanks to our reviewers who have worked diligently on reviewing the submitted manuscripts.

This year we received 64 submissions and more than 70 volunteers agreed to review the submissions for HCTG.



Shijing Liu  
Program Chair



Megan Gregory  
Program Co-Chair

**CONNECT WITH THE HCTG!**

*There are many ways you can connect with us for our latest updates:*

Follow us on Twitter [@HFESHealthTG](https://twitter.com/HFESHealthTG) & use the #HFHCTG

Join us on [LinkedIn](#)

Share content with us: [HCTG Content Form](#)

The HCTG continues to grow its presence on [Twitter](#) and [LinkedIn](#). As one of the largest TGs within HFES, we have access to an extensive network of professionals.

HCTG social media platforms are available to members to share announcements and accomplishments with a broad audience.

We encourage our members to submit to the HCTG weekly spotlight. This initiative features individual contributors, labs, projects, and recent publications. <https://forms.gle/mNfAC7dqx1iePRb58>



Jukrin Moon  
Communications  
Director



Sudeep Hegde & Katie Tippey, 2022 Student Design Challenge Co-Chairs

*We had a lot of great submissions for the Student Design Challenge held during the 2022 Health Care Symposium.*

Each finalist team received a \$200 prize, with the winners receiving an additional \$200. Congratulations to our finalists!

Thank you to our judges!



Sudeep Hegde  
SDC Chair



Katie Tippey  
SDC Co-Chair



## FIRST PLACE

### MYgraine

Hannah Lettie, Lydia Melles, Maddie McCarty, Kassidy Simpson  
George Mason University



## FINALIST

### PT Phone Home

John Cliburn, Harris Kelly, Noah Sutton  
George Mason University



## FINALIST

### UHealth

Haley Hoffman, Miranda Marron, Megan M. McCray, Kouadio Niamba  
University of South Dakota

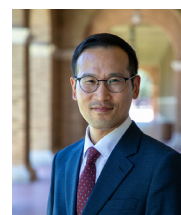


# HCTG Scholarships

*The Health Care Technical Group (HCTG) is pleased to announce the recipients of the travel awards for this year's HFES Annual Meeting.*

To encourage and support its members to attend the annual meeting, HCTG dedicated a total of \$3,000 for travel scholarships to student members, members in transition, and practitioners (non-academic) in the healthcare industry. To be eligible for the award, TG members must have an accepted paper or poster that will be presented at the annual meeting.

Congratulations to our travel award recipients!



Changwon Son  
Awards and  
Scholarship



**Shiyu Deng**

PhD Student  
Virginia Tech



**Carolina Carvalho  
Manhães Leite**

PhD Student  
University of Illinois  
Urbana-Champaign



**Alec John Gonzales**

PhD Student  
Clemson University



**Courtney Rogers**

PhD Student  
University of Virginia



**Kaitlyn Hale-Lopez**

PhD Student  
University of Illinois  
Urbana-Champaign



**Kathryn Wust**

PhD Student  
University of  
Wisconsin-Madison



# Networking Receptions at HFES 2022

**TUESDAY,  
OCTOBER  
11, 2022  
7 - 9 PM  
(EDT)  
AT  
HUDSON  
GRILLE**

## *PDTG / HCTG Joint Networking Reception*

Stan Caplan, Usability Associates

This year the popular annual PDTG / HCTG Networking Reception will be held at the Hudson Grille, just a short walk from Marriott Marquis Hotel. On their covered outdoor heated patio, you will be able to meet and greet with old and new friends. Invitees include current members of the two TGs as well as prospective members of one or both of them. Free drinks, a generous amount of complimentary food, and door prizes will be given. Bring your business cards so you will be eligible to win one of the many door prizes. The Reception is made possible by the generosity of caring sponsors. Please be sure to thank people who are representing them.



Stan Caplan  
PDTG / HCTG  
Networking Reception  
Co-Organizer

**OCTOBER  
11 - 13,  
2022**

## *COAG Socials and Activities*

HFES Council of Affinity Groups

Please join us at the following socials and activities during the annual meeting to learn more about the different HFES Affinity Groups!

**HFE WOMAN Social** - Tue Oct 11th | 5:00 PM - 6:00 PM | Room A702

**Disability & Chronic Illness AG Meeting** - Tue Oct 11th | 6:00 PM - 7:30 PM | Room A707

**HFES BIPOC Social** - Tue Oct 11th | 6:30 PM - 8:00 PM | Room L401

**HFES LGBTQ+ Social** - Tue Oct 11th | 7:00 PM - 9:00 PM

**COAG Social** - Wed Oct 12th | 7:00 - 9:00 PM

**"Bring Your Whole Self" Panel** - Thu Oct 13th | 1:30 PM - 3:00 PM | L405 / L406

# HCTG Job Postings

## HFES 2022 CAREER CENTER HOURS:

Tuesday, October 11th:  
12:00 PM - 6:00 PM

Wednesday, October 12th  
8:30 AM - 6:00 PM

Thursday, October 13th  
8:30 AM - 6:00 PM

Friday, October 14th  
8:30 AM - 11:00 AM

## HFES 2022 CAREER CENTER LOCATION:

Atlanta Marriott Marquis Hotel  
Ballroom C

## HFES 2022 CAREER CENTER ONSITE COMPANIES:

The Boeing Company

Bold Insight

Exponent

John Deere

Lextant

NAVAIR

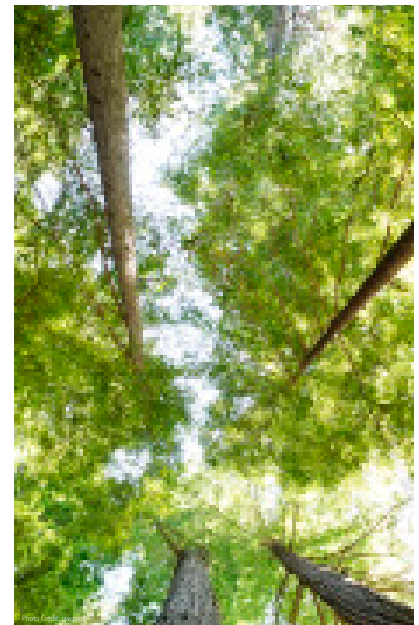
Pacific Science & Engineering Group

US Navy Aerospace Experimental Psychologists

## FOR MORE JOB POSTINGS:

[HFES Career Center](#)

[HCTG Website](#)



## Resources

### HFES GROUPS OF INTEREST

[Diversity and Inclusion Committee Chair](#)

Carolyn Sommerich

[Societal Impact Committee Chair](#)

Rod Roscoe

[Aging Technical Group Chair](#)

Jing Feng

**Council of Affinity Groups (COAG)**

[COAG Chair](#)

Ashley Hughes

[Disability & Chronic Conditions Chair](#)

Rupa Valdez

[LGBTQ+ Co-Chairs](#)

Julia Trippe & Sylvain Bruni

[BIPOC Chair](#)

Gwendolyn Malone

[HFE WOMAN \(Women's Group\) Chair](#)

Christy Harper



## PAPERS / PROPOSALS / CHALLENGES

10 / 14: 2023 HFES Health Care Symposium - Call for Submissions Deadline

## UPCOMING WEBINAR

11 / 08: Human Factors in Pediatric Simulation: Creating Safer Care  
4 - 8 PM (PT) / 7 - 11 PM (ET)  
HFES

## CONFERENCES

2022  
11 / 05 - 11 / 09: [AMIA - DC](#)

2023  
02 / 15 - 02 / 17: [HSPI - Louisville](#)

03 / 26 - 03 / 29: [HCS - Orlando](#)

04 / 17 - 04 / 21: [HIMSS - Chicago](#)

04 / 23 - 04 / 28: [CHI - Hamburg, Germany](#)