# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule at a Glance</td>
<td>4</td>
</tr>
<tr>
<td>Program Committee</td>
<td>6</td>
</tr>
<tr>
<td>General Information &amp; Resources</td>
<td>7</td>
</tr>
<tr>
<td>Sponsors</td>
<td>8</td>
</tr>
<tr>
<td>Exhibitors</td>
<td>9</td>
</tr>
<tr>
<td>Hotel Floor Plan</td>
<td>10</td>
</tr>
<tr>
<td>Full Program</td>
<td>12</td>
</tr>
<tr>
<td>Posters</td>
<td>32</td>
</tr>
</tbody>
</table>
# Schedule-at-a-Glance

## Sunday, March 20, 2022

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 AM - 6:30 PM</td>
<td>Registration Open</td>
<td>1st Flr. Reg. Counter</td>
</tr>
<tr>
<td>8:00 AM - 5:00 PM</td>
<td>Full Day Workshop: Show Me, Don’t Tell Me: Methods of Contextual Inquiry</td>
<td>Churchill A1</td>
</tr>
<tr>
<td>8:00 AM - 5:00 PM</td>
<td>Full Day Workshop: User Interface Requirements for Medical Devices</td>
<td>Churchill B1</td>
</tr>
<tr>
<td>6:00 PM - 7:00 PM</td>
<td>Opening Reception</td>
<td>Grand Ballroom B</td>
</tr>
</tbody>
</table>

## Monday, March 21, 2022

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 AM - 5:00 PM</td>
<td>Registration Open</td>
<td>1st Floor Reg. Counter</td>
</tr>
<tr>
<td>8:30 AM - 10:00 AM</td>
<td>Keynote Lecture</td>
<td>Grand Ballroom A-B</td>
</tr>
<tr>
<td>10:00 AM - 5:00 PM</td>
<td>Exhibits Open</td>
<td>Chemin Royale Foyer</td>
</tr>
<tr>
<td>10:00 AM - 6:00 PM</td>
<td>Career Fair</td>
<td>Prince of Wales</td>
</tr>
<tr>
<td>10:30 AM - 12:00 PM</td>
<td>Concurrent Track Sessions</td>
<td>Various Locations, Check Full Program for Details</td>
</tr>
<tr>
<td>12:00 PM - 1:30 PM</td>
<td>Lunch (provided)</td>
<td>Grand Ballroom B-C</td>
</tr>
<tr>
<td>1:30 PM - 3:00 PM</td>
<td>Concurrent Track Sessions</td>
<td>Various Locations, Check Full Program for Details</td>
</tr>
<tr>
<td>3:00 PM - 3:30 PM</td>
<td>Break</td>
<td>Chemin Royale Foyer</td>
</tr>
<tr>
<td>3:30 PM - 4:30 PM</td>
<td>Concurrent Track Sessions</td>
<td>Various Locations, Check Full Program for Details</td>
</tr>
<tr>
<td>4:30 PM - 6:00 PM</td>
<td>Poster Presentations/Reception</td>
<td>Grand Ballroom D</td>
</tr>
<tr>
<td>TUESDAY, MARCH 22, 2022</td>
<td>WEDNESDAY, MARCH 23, 2022</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>---------------------------</td>
<td></td>
</tr>
<tr>
<td>7:30 AM - 5:00 PM</td>
<td>8:00 AM - 12:00PM</td>
<td></td>
</tr>
<tr>
<td><strong>Registration Open</strong></td>
<td><strong>Exhibits Open</strong></td>
<td></td>
</tr>
<tr>
<td><strong>1st Floor Reg. Counter</strong></td>
<td><strong>Chemin Royale Foyer</strong></td>
<td></td>
</tr>
<tr>
<td>8:00 AM - 5:00 PM</td>
<td>8:00 AM - 12:00PM</td>
<td></td>
</tr>
<tr>
<td><strong>Exhibits Open</strong></td>
<td><strong>Registration Open</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Chemin Royale Foyer</strong></td>
<td><strong>1st Floor Reg. Counter</strong></td>
<td></td>
</tr>
<tr>
<td>8:30 AM - 10:00 AM</td>
<td>8:00 AM - 9:00 AM</td>
<td></td>
</tr>
<tr>
<td><strong>Concurrent Track Sessions</strong></td>
<td><strong>Concurrent Track Sessions</strong></td>
<td></td>
</tr>
<tr>
<td>Various Locations, Check Full Program for Details</td>
<td>Various Locations, Check Full Program for Details</td>
<td></td>
</tr>
<tr>
<td>10:00 AM - 10:30 AM</td>
<td>9:00 AM - 9:30 AM</td>
<td></td>
</tr>
<tr>
<td><strong>Break</strong></td>
<td><strong>Break</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Chemin Royale Foyer</strong></td>
<td><strong>Chemin Royale Foyer</strong></td>
<td></td>
</tr>
<tr>
<td>10:00 AM - 6:00 PM</td>
<td>9:00 AM - 12:00 PM</td>
<td></td>
</tr>
<tr>
<td><strong>Career Fair</strong></td>
<td><strong>Career Fair</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Prince of Wales</strong></td>
<td><strong>Prince of Wales</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Career Fair sponsored by Intuitive</strong></td>
<td><strong>Career Fair sponsored by Intuitive</strong></td>
<td></td>
</tr>
<tr>
<td>10:30 AM - 12:00 PM</td>
<td>9:30 AM - 11:00 AM</td>
<td></td>
</tr>
<tr>
<td><strong>Concurrent Track Sessions</strong></td>
<td><strong>Concurrent Track Sessions</strong></td>
<td></td>
</tr>
<tr>
<td>Various Locations, Check Full Program for Details</td>
<td>Various Locations, Check Full Program for Details</td>
<td></td>
</tr>
<tr>
<td>12:00 PM - 1:30 PM</td>
<td>11:00 AM - 11:30 AM</td>
<td></td>
</tr>
<tr>
<td><strong>Break - Lunch on own</strong></td>
<td><strong>Break</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Chemin Royale Foyer</strong></td>
<td><strong>Chemin Royale Foyer</strong></td>
<td></td>
</tr>
<tr>
<td>1:30 PM - 3:00 PM</td>
<td>11:30 AM - 1:00 PM</td>
<td></td>
</tr>
<tr>
<td><strong>Concurrent Track Sessions</strong></td>
<td><strong>Concurrent Track Sessions</strong></td>
<td></td>
</tr>
<tr>
<td>Various Locations, Check Full Program for Details</td>
<td>Various Locations, Check Full Program for Details</td>
<td></td>
</tr>
<tr>
<td>3:00 PM - 3:30 PM</td>
<td>1:00 PM</td>
<td></td>
</tr>
<tr>
<td><strong>Break</strong></td>
<td><strong>Adjourn</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Chemin Royale Foyer</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:30 PM - 4:30 PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Concurrent Track Sessions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Various Locations, Check Full Program for Details</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:30 PM - 6:00 PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Poster Presentations/Reception</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand Ballroom D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00 PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Roots of Music Fundraiser at d.b.a. LIVE</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PROGRAM CHAIRS

PROGRAM CHAIR
Joseph Keebler, Embry-Riddle Aeronautical University

CO-CHAIR
Anthony Andre, Interface Analysis Associates

DIGITAL HEALTH
Janey Barnes, User-View, Inc.
Korey Johnson, Bold Insight

EDUCATION AND SIMULATION
Tim Elgin, University of Iowa
Rosemarie Fernandez, University of Florida

HOSPITAL ENVIRONMENTS
Brittany L. Anderson-Montoya, Atrium Health
Kylie Gomes, MedStar Health

MEDICAL AND DRUG DELIVERY DEVICES
Natalie Abts, Genentech
Shannon Hoste, Agilis Consulting

PATIENT SAFETY RESEARCH AND INITIATIVES
Enid Montague, DePaul University
Kate MacNamee, Ximedica

To find out more or submit your paper, go to elsevier.com/locate/HFH

Covers human factors, usability and ergonomics (safety, health) issues in the healthcare domain

Topics include:
- Mobile Health (mHealth)
- Telehealth and Telemedicine
- Remote Patient Monitoring
- Clinical Decision Support
- Healthcare Workflows
- Healthcare Systems Design and Evaluation
- Healthcare Information Technology
- Usability and User Experience
- Resilience

Article types include:
- Case Studies
- Regulatory Strategy
- Best Practices and Methods
- Perspectives and White Papers
- Design Guidelines
- Emerging Technologies
- Interventions
- Calls for Action

NEW Open Access Journal

Editor-in-Chief: Applied
Anthony D. Andre

Editor-in-Chief: Research
Farzan Sasangohar

HUMAN FACTORS IN HEALTHCARE
GENERAL INFORMATION & RESOURCES

Meeting Facilities
All International Symposium on Human Factors and Ergonomics in Health Care activities will take place at the Hilton New Orleans Riverside Hotel unless otherwise noted in the program. A map of the meeting space can be found on page 10-11.

Registration Location and Hours
Registration is open during the following hours at the 1st Floor Registration Counter
- Saturday, March 19: 3:00 pm - 6:00 pm
- Sunday, March 20: 7:00 am - 6:30 pm
- Monday, March 21: 7:00 am - 5:00 pm
- Tuesday, March 22: 7:30 am - 5:00 pm
- Wednesday, March 23: 8:00 am - 12:00 pm

On-Site Career Fair
The Career Fair will be located in the Prince of Wales room, located on the 2nd floor and is open during the following hours:
- Sunday, March 21: 10:00 am - 6:00 pm
- Monday, March 22: 10:00 am - 6:00 pm
- Tuesday, March 23: 9:00 am - 12:00 pm

Employers who have a current job posting or that are registered to search resumes in the HFES Online Job Board may reserve an interview table at the Career Fair, pending availability. If you have not already reserved space, you may reserve an interview space at the HFES Information Desk. The scheduling of interviews is the sole responsibility of the employer.

HFES Members: You may post your resume in the Online Career Center free of charge. Visit hfes.org and click ‘Career Center.’

Job seekers also may view videos and review papers on topics such as Creating Powerful Resumes, Writing a Successful Cover Letter, 10 Tips for Negotiating a Salary, and more at the online HFES Career Learning Center.

Career Fair sponsored by Intuitive

Internet Access
Complimentary WiFi is provided in the meeting space for HFES attendees. To connect to the internet, please select the following:
- Network: Hilton Meetings
- Access Code: HCS2022

Sponsored by Bold Insight

Audio/Visual Preview Room
The Audio/Visual Preview Room is located in the Chequers Room located on the X Floor, and has been reserved for presenters who wish to preview their materials. Computers will be available for A/V preview only during the following hours:
- Monday, March 21: 8:00 am - 5:00 pm
- Tuesday, March 22: 7:30 am - 5:00 pm
- Wednesday, March 23: 7:30 am - 11:30 am

Gender Neutral Bathroom
There is a gender neutral restroom located on the 3rd floor of the Hilton New Orleans Riverside Hotel.

Mother’s Nursing Room
Located on the 2nd floor in the Cambridge room.
- Sunday, March 19: 8:00 am - 6:00 pm
- Monday, March 20: 8:00 am - 6:00 pm
- Tuesday, March 22: 8:00 am - 6:00 pm
- Wednesday, March 23: 8:00 am - 12:00 pm
EXHIBITORS

Agilis Consulting Group

BCPE

CASTLEIRB

EMERGO by UL

Exponent

fieldWORK

PA

noble®

an Aptar pharma company

RARE PATIENT VOICE LLC

Also Non-Rare!

resight global

THAY MEDICAL

thrive
SECOND FLOOR
### WORKSHOPS

**MARCH 20, 2022**

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
</table>
| 8:00 AM – 5:00 PM | **Show Me, Don’t Tell Me: Methods of Contextual Inquiry**  
Session Type: Workshop  
Room: Churchill A2  
Presenters: Keith Karn, Human Factors in Context; Sean Hagen, BlackHagen Design |
| 8:00 AM – 5:00 PM | **User Interface Requirements for Medical Devices**  
Session Type: Workshop  
Room: Churchill B1  
Presenters: Michael Wiklund, Emergo by UL; Erin Davis, Emergo by UL |
| 1:30 PM– 5:30 PM | **Supporting Healthcare Research and Medical Device Testing Using Wearable Eye Tracking Devices: A Hands-on Training Workshop with Research Collective and Tobii Pro**  
Session Type: Workshop  
Room: Churchill A2  
Presenters: Joseph Pauszek, Research Collective; L. Bryant Foster, Research Collective; Wilkey Wong, Tobii Pro |

### PLENARY SESSION

**MARCH 21, 2022**

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
</table>
| 8:30 AM – 10:00 AM | **The Long Walk: Bringing a Complex Medical Device to Market**  
Matthew B. Weinger, MD, MS, Vanderbilt University Medical Center  
Room: Grand Ballroom A/B  
In this presentation, Dr. Weinger, a prominent physician and human factors engineer, will tell the quarter century long story of his efforts to create a commercial product that would improve the safety and usability of drug infusion therapy for acute care use.  
Based on his frustration with mid-1990’s infusion pumps, Dr. Weinger and a colleague conceived of a better technology for medication administration in anesthesiology. The resulting saga spans three start-up companies, two FDA approved devices, a bankruptcy, and ultimately a viable commercial product.  
He will describe some of the key human factors decisions that were made along the way and the complex tradeoffs required during commercial development of a complex commercial medical product, particularly in a start-up company. |
### DIGITAL HEALTH

**MARCH 21, 2022**

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
</table>
| 10:30 AM - 12:00 PM   | Design and UX in Digital Health  
  **Session Type:** Track Keynote  
  **Room:** Grand Salon B  
  **Chairs:** Janey Barnes, User-View, Inc; Korey Johnson, Bold Insight  
  The Three Promises of Product Pioneers  
  Paul Mullen, Graduate of GE Healthcare  
  UX for Healthcare Analytics Using a Mental Model  
  Kimberly Dunwoody, IBM |
| 1:30 PM - 3:00 PM     | Managing and Adapting through Change in Health Care Environments  
  **Session Type:** Oral Presentations  
  **Room:** Grand Salon B  
  **Chair:** Ross Speir, Veterans Administration, VHA Human Factors Engineering  
  Digital Health and Patient Safety - 3 Case Studies from an Embedded Human Factors Engineer  
  Melinda Jamil, Advocate Aurora Health  
  Proposing a Change Management Model for Artificial Intelligence Technology Implementation in the Operating Room  
  Tianqi Smith, Mayo Clinic; Hamid Norasi, Mayo Clinic; Kelly Herbst, Mayo Clinic; M. Susan Hallbeck, Mayo Clinic; Sean Cleary, Mayo Clinic  
  Adapting the Digital Clinical Workflow in COVID and Beyond: Real-World Case Studies  
  Khan Siddiqui, Hyperfine; Jannis Brea, Tesseract Health |
| 3:30 PM - 4:30 PM     | 2022 Student Design Competition  
  **Session Type:** Competition  
  **Room:** Grand Salon B  
  **Hosts:** Sudeep Hegde, Clemson University; Kathryn Tippey, WillowTree Apps |

**MARCH 22, 2022**

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
</table>
| 8:30 AM - 10:00 AM    | Implementing New Tools in High Stakes Workflows  
  **Session Type:** Oral Presentations  
  **Room:** Grand Salon B  
  **Chair:** Michelle Jahn Holbrook, Bold Insight  
  Kelly Neville, The MITRE Corporation; Poornima Madhavan, MITRE; Bianica Pires, MITRE; Matthew Booth, The Ohio State University; Emily Barrett, MITRE; Heather Rosso, MITRE; Neil Dwivedi, MITRE; Kris Rosfjord, MITRE; Emily Patterson, The Ohio State University  
  Communicating Level of Certainty Associated with Human Factors Findings and Recommendations in Healthcare  
  Helen Fuller, Veterans Health Administration; Kathleen Adams, Veterans Health Administration |
<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
</table>
| 10:30 AM - 12:00 PM | **HF/E in a Connected World**  
**Session Type:** Oral Presentations  
**Room:** Grand Salon B  
**Chair:** Mike Kasamanian, HFCSI  
**In the Face of New Challenges: Effective Human Factors Engineering for Software as Medical Device Products**  
Trine Groenborg, Novo Nordisk A/S  
**Accelerating the Continuous Improvement of Connected Medical Devices Using Product Analytics**  
Randy Horton, Orthogonal; Bob Moll, Orthogonal  
**Connected Medical Products Require Connected Medical Users: Finding the Gaps in User Group Technical Capabilities and Strategies to Test Them**  
Lauren Jensen, PhD, Agilis Consulting Group; Blake Starnes, Agilis Consulting Group |
| 1:30 PM - 3:00 PM | **User-Centered Design and Software Interfaces**  
**Session Type:** Oral Presentations  
**Room:** Grand Salon B  
**Chair:** Christopher W. Bonk, MedStar Health National Center for Human Factors in Healthcare  
**Design of a Decision Support Based Mobile Application for Mental Health Crisis**  
Amanda Johnson, Capstone Behavioral Healthcare; Ann Bisantz, University at Buffalo; Amy Reynolds, University at Buffalo; Scott Meier, University at Buffalo  
**User-Centered Design Process Toward the Development of a Standards-Based Medication Recommender**  
Bilikis Akindele, Optum; Dominic King, Optum; Janey Barnes, User-View, Inc  
**Monitoring Health Information Technology Patient Safety Events from Patient Portal Use: Pre and Post COVID-19**  
Dean Karavite, Children’s Hospital of Philadelphia |
| 3:30 PM - 4:30 PM | **Socio-Technical Factors for Telehealth Success**  
**Session Type:** Oral Presentations  
**Room:** Grand Salon B  
**Chair:** Kaitlin Carter, Bold Insight  
**Socio-Technical Factors for Telehealth Success**  
Raj Ratwani, MedStar Health National Center for Human Factors in Healthcare; Jessica Howe, MedStar Health National Center for Human Factors in Healthcare |
<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM - 9:00 AM</td>
<td><strong>The Time is Now for Healthcare and AI: Don’t Leave It Up to the Programmers</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Session Type:</strong> Oral Presentations</td>
</tr>
<tr>
<td></td>
<td><strong>Room:</strong> Grand Salon B</td>
</tr>
<tr>
<td></td>
<td><strong>Chair:</strong> Janey Barnes, User-View, Inc</td>
</tr>
<tr>
<td></td>
<td><strong>The Time is Now for Healthcare and AI: Don’t Leave It Up to the Programmers</strong></td>
</tr>
<tr>
<td></td>
<td>Gavin Lew, Bold Insight, ReSight Global</td>
</tr>
<tr>
<td>9:30 AM - 11:00 AM</td>
<td><strong>The Doctor Will See You Now: Care Without Boundaries</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Session Type:</strong> Oral Presentations</td>
</tr>
<tr>
<td></td>
<td><strong>Room:</strong> Grand Salon B</td>
</tr>
<tr>
<td></td>
<td><strong>Chair:</strong> Blake Lesselroth, OUHSC</td>
</tr>
<tr>
<td></td>
<td><strong>AW-Shift! Visualizing Pressure Distribution for Wheelchair Users and Their Clinicians Anywhere, Anytime</strong></td>
</tr>
<tr>
<td></td>
<td>Alexandra Soleil Bornstein, Minneapolis Veterans Affairs Health Care System; Tamara Vos-Draper, University of Minnesota, Minneapolis Veterans Affairs Health Care System</td>
</tr>
<tr>
<td></td>
<td><strong>Understanding Health Self-management Challenges and Needs for Older Adults with and without Mobility and Sensory Disabilities</strong></td>
</tr>
<tr>
<td></td>
<td>Qiong Nie, UIUC; Wendy Rogers, UIUC</td>
</tr>
<tr>
<td></td>
<td><strong>Tweeting About Telemedicine: Public Sentiment Towards Virtual Care</strong></td>
</tr>
<tr>
<td></td>
<td>Crystal M. Fausett, Embry-Riddle Aeronautical University; Sabina M. Patel, Embry-Riddle Aeronautical University; Joseph R. Keebler, Embry-Riddle Aeronautical University</td>
</tr>
<tr>
<td>11:30 AM - 1:00 PM</td>
<td><strong>Human-Centered Digital Design</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Session Type:</strong> Oral Presentations</td>
</tr>
<tr>
<td></td>
<td><strong>Room:</strong> Grand Salon B</td>
</tr>
<tr>
<td></td>
<td><strong>Chair:</strong> Jessica Howe, MedStar Health National Center for Human Factors in Healthcare</td>
</tr>
<tr>
<td></td>
<td><strong>Application of Human-centered Design Approach to the Development of a Point-of-use (POU) System Interface.</strong></td>
</tr>
<tr>
<td></td>
<td>Elena Boselli, University of Illinois at Chicago; Abid Rehman, University of Illinois at Urbana-Champaign; Robert Strouse, independent consultant; Linda Forst, University of Illinois at Chicago; Ian Papautsky, University of Illinois at Chicago; Elizabeth Lerner Papautsky, University of Illinois at Chicago</td>
</tr>
<tr>
<td></td>
<td><strong>Design Considerations for Digital Telemetry Products Used by Patients with Complex Psychological User Needs</strong></td>
</tr>
<tr>
<td></td>
<td>Stephanie Witman, Bold Insight; Phobey Cass, Bold Insight</td>
</tr>
<tr>
<td></td>
<td><strong>Of the People: Creating Electronic Consult Design Guidelines Using Human-Centered Participatory Methods</strong></td>
</tr>
<tr>
<td></td>
<td>Blake Lesselroth, University of Oklahoma School of Community Medicine, Department of Medical Informatics; Ross Speir, Veterans Administration, VHA Human Factors Engineering; Tim Arnold, Veterans Administration, VHA Human Factors Engineering; Kathleen Adams, Veterans Administration, VHA Human Factors Engineering</td>
</tr>
<tr>
<td>TIME</td>
<td>SESSION DETAILS</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 10:30 AM - 12:00 PM | Using a Hybrid Decision Making Model to Inform Qualitative Data Coding  
**Session Type:** Track Keynote  
**Room:** Grand Salon D  
**Chair:** TBA  
Using a Hybrid Decision Making Model to Inform Qualitative Data Coding  
Shilo Anders, Vanderbilt University Medical Center; Vanderbilt University; Carrie Reale, Vanderbilt University Medical Center; Megan Salwei, Vanderbilt University Medical Center; Jason Slagle, Vanderbilt University Medical Center; Laura Militello, Applied Decision Science; Christen Sushereba, Applied Decision Science; Matthew B. Weinger, CRISS/VUMC, Anesthesiology/VUMC |
| 1:30 PM - 3:00 PM  | Emergency Room Team Training Collaborative: Improving Closed Loop Communication Effectiveness  
**Session Type:** Discussion Panel  
**Room:** Grand Salon D  
**Chair:** TBA  
Panelists: Jennifer Yee, Ohio State University College of Medicine; Megan Gregory, Ohio State University College of Medicine; Paul Barach, Thomas Jefferson University, Wayne State University; Rami Rami Ahmed, Indiana University School of Medicine |
| 3:30 PM - 4:30 PM  | Data-Driven Improvements for Patient Outcomes  
**Session Type:** Oral Presentations  
**Room:** Grand Salon D  
**Chair:** TBA  
Can Behavioural Science Be the Key to Unlocking Patient Adherence? Evidence-led Development of Effective Medical Devices and Engaging Digital Health Solutions  
Andrea Pisa, Crux Product Design Ltd  
SEIPS 101 in Practice: Applying a New Model and Tools to Two Research Projects  
Dean Karavite, Children’s Hospital of Philadelphia; Alex Fidel, Children’s Hospital of Philadelphia; Irir Rasooly, Children’s Hospital of Philadelphia; Naveen Muthu, Children’s Hospital of Philadelphia |
<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 AM - 10:00 AM</td>
<td><strong>Strengthening Teams Through Training</strong>&lt;br&gt;&lt;br&gt;<strong>Session Type:</strong> Oral Presentations&lt;br&gt;&lt;br&gt;<strong>Room:</strong> Grand Salon D&lt;br&gt;&lt;br&gt;<strong>Chair:</strong> TBA&lt;br&gt;&lt;br&gt;<strong>Team Coordination Dynamics Measurement in Enroute Care Training: Defining Requirements and Usability Study</strong>&lt;br&gt;Jennifer Winner, 711 Human Performance Wing - US Air Force Research Laboratory; Jayde King, 711 Human Performance Wing - US Air Force Research Laboratory; Jamie Gorman, Georgia Institute of Technology; David Grimm, Georgia Institute of Technology  &lt;br&gt;&lt;br&gt;<strong>Team Building in the Digital Age: Leveraging an Escape Room to Advance Healthcare Teams</strong>&lt;br&gt;Kimberly N. Williams, Embry-Riddle Aeronautical University; Andrew C. Griggs, Embry-Riddle Aeronautical University; Elizabeth H. Lazzara, Embry-Riddle Aeronautical University  &lt;br&gt;&lt;br&gt;<strong>Designing Simulation Curriculum to Evaluate Both Technical and Human Factors in Robotic Surgery</strong>&lt;br&gt;Nicholas Laconi, University of Florida; Rosemarie Fernandez, University of Florida; Lindsey Goldstein, University of Florida; George Sarosi, University of Florida</td>
</tr>
<tr>
<td>10:30 AM - 12:00 PM</td>
<td><strong>AR &amp; VR for Training</strong>&lt;br&gt;&lt;br&gt;<strong>Session Type:</strong> Oral Presentations&lt;br&gt;&lt;br&gt;<strong>Room:</strong> Grand Salon D&lt;br&gt;&lt;br&gt;<strong>Chair:</strong> TBA&lt;br&gt;&lt;br&gt;<strong>Effects of Optical See-Through Head-Mounted Display Use on Situation Awareness and Perceived Workload during Simulated Laparoscopic Surgery Tasks</strong>&lt;br&gt;Yaoyu Fu, University at Buffalo; Lora Cavuoto, University at Buffalo  &lt;br&gt;&lt;br&gt;<strong>Framework for Optimal Placement of Haptic Devices in a Virtual Open Surgery Trainer to Achieve Maximum Workspace Fidelity</strong>&lt;br&gt;Kangji Huang, UT Arlington; Ganesh Sankaranarayanan, UT Southwestern Medical Center; Suvranu De, Rensselaer Polytechnic Institute; Alan Bowling, UT Arlington</td>
</tr>
<tr>
<td>1:30 PM - 3:00 PM</td>
<td><strong>Is Simulation an Option? Evaluating Simulation for Training Scenarios</strong>&lt;br&gt;&lt;br&gt;<strong>Session Type:</strong> Oral Presentations&lt;br&gt;&lt;br&gt;<strong>Room:</strong> Grand Salon D&lt;br&gt;&lt;br&gt;<strong>Chair:</strong> TBA&lt;br&gt;&lt;br&gt;<strong>Performance Based Evaluation of Cricothyroidotomy Simulators for Training</strong>&lt;br&gt;James Bliss, Leidos, Inc.; Kent Etherton, Leidos, Inc.; Douglas Hodge, Boots Consulting, Inc.; Jennifer Winner, Air Force Research Laboratory  &lt;br&gt;&lt;br&gt;<strong>A Low-Resource, Multilevel Framework for Virtual Training Evaluation</strong>&lt;br&gt;Megan Gregory, The Ohio State University College of Medicine; Saurabh Rahurkar, The Ohio State University College of Medicine; Cynthia Shellhaas, The Ohio State University Wexner Medical Center; Jennifer Mitzman, The Ohio State University College of Medicine; Jay Read, The Ohio State University College of Medicine; Nicole McGarity, The Ohio State University College of Medicine; Allison Stevens, Ohio Department of Health; Becky Sanders, Indiana Rural Health Association, Upper Midwest Telehealth Resource Center; Sheryl Pfeil, The Ohio State University College of Medicine, The Ohio State University Wexner Medical Center</td>
</tr>
</tbody>
</table>
## PROGRAM

### MARCH 22, 2022

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
</table>
| 3:30 PM - 4:30 PM | Design and Deployment of a Safety Management System as a Means to Health System Clinical Integration  
**Session Type:** Oral Presentations  
**Room:** Grand Salon D  
**Chair:** TBA  
**Design and Deployment of a Safety Management System as a Means to Health System Clinical Integration**  
Oren Guttman, MD, MBA, Jefferson Health; Josh Clark, MHA, RN, Jefferson Health; Jonathan Gleason, MD, Prisma Health |

### MARCH 23, 2022

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
</table>
| 8:00 AM - 9:00 AM | You’re on Mute: Remote Training Methods  
**Session Type:** Oral Presentations  
**Room:** Grand Salon D  
**Chair:** TBA  
**Remote Telemetry Monitoring Task: Obtaining Baseline Performance**  
Harsh Kamalesh Sanghavi, Carilion Clinic; Yuhao Peng, Carilion Clinic; Matthew Jesso, Carilion Clinic; Laurie Wolf, Carilion Clinic  
**Trauma-Informed Telemedicine: A Novel Simulation for Teaching Webside Manner**  
Blake Lesselroth, University of Oklahoma-Tulsa School of Community Medicine, Department of Medical Informatics; Liz Kollaja, OUHSC, Office of the Dean; Kristin Rodriguez, University of Oklahoma-Tulsa School of Community Medicine, OU Tulsa Simulation Center; Shannon Ijams, University of Oklahoma-Tulsa School of Community Medicine, Department of Family and Community Medicine; Helen Monkman, University of Victoria, British Columbia; School of Health Information Science; Frances Wen, University of Oklahoma-Tulsa School of Community Medicine, Department of Family and Community Medicine; Andrew Liew, University of Oklahoma-Tulsa School of Community Medicine, Department of Psychiatry; Juell Homco, University of Oklahoma-Tulsa School of Community Medicine, Department of Medical Informatics; Mary Gowin, University of Oklahoma Health Sciences Center, Department of Family Medicine; Ryan Palmer, Kennedy and Company, Inc.; Martina Jelley, University of Oklahoma Health Sciences Center, Department of Internal Medicine  
**Simulation Interview for Studying Anesthesiologist Decision Making**  
Laura Militello, Applied Decision Science; Shilo Anders, Center for Research and Innovation in Systems Safety, Department of Anesthesiology & Biomedical Informatics, Vanderbilt University Medical Center, Department of Computer Science, Vanderbilt University; Christen Sushereba, Applied Decision Science; Carrie Reale, Department of Anesthesiology, Biomedical Informatics, & CS; Jason Slagle, Vanderbilt University Medical Center, Department of Anesthesiology; Matthew B. Weinger, Center for Research and Innovation in Systems Safety, Department of Anesthesiology, Biomedical Informatics, & Medical Education, Vanderbilt University Medical Center |
<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
</table>
| **9:30 AM - 11:00 AM** | **Now That I Have Your Attention ....**  
**Session Type:** Oral Presentations  
**Room:** Grand Salon D  
**Chair:** TBA  
**Bye, Call Us If You Have A Problem: Why Patients Are Clinically Non-Adherent in Their Healthcare Journeys**  
Jessica Willing-Pichs, Ximedica (Veranex); Celeste Greenbaum, Ximedica (Veranex)  
**Nuisance Alarm Effects on Remote Telemetry Monitoring Task Performance: How Noisy Can It Be?**  
Yuhao Peng, Carilion Clinic; Matthew Jesso, Carilion Clinic; Harsh Sanghavi, Carilion Clinic; Laurie Wolf, Carilion Clinic  
**Human Factors in Training Researchers and Clinicians on Best Practices in Data Science**  
Colleen Gaynor, Children’s Hospital of Philadelphia; Colleen Gaynor, Children’s Hospital of Philadelphia |
| **11:30 AM - 1:00 PM** | **Documenting the Cognitive Demands, Skills, and Assessment Approaches for Endotracheal Intubation Across Medical Specialties**  
**Session Type:** Oral Presentations  
**Room:** Grand Salon D  
**Chair:** TBA  
**Documenting the Cognitive Demands, Skills, and Assessment Approaches for Endotracheal Intubation Across Medical Specialties**  
Taylor Kunkes, University at Buffalo; Alyssa Dzik, University at Buffalo; Basiel Makled, U.S. Army Combat Capabilities Development Command - Soldier Center; Jack Norfleet, U.S. Army Combat Capabilities Development Command - Soldier Center; Steven Schwartzberg, University at Buffalo; Lora Cauuto, University at Buffalo |
## Program

### Hospital Environments

**March 21, 2022**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Details</th>
</tr>
</thead>
</table>
| 10:30 AM - 12:00 PM | “Have You Done Anything Useful Recently?” Frontline Human Factors in Theory and Practice  
**Session Type:** Track Keynote
**Room:** Grand Salon C
**Chairs:** Brittany Anderson-Montoya, Atrium Health; Kylie Gomes, MedStar Health
**Panelists:** Ken Catchpole, Medical University of South Carolina |
| 1:30 PM - 3:00 PM  | Human Factors in Nursing and Future Directions  
**Session Type:** Oral Presentations  
**Room:** Grand Salon C  
**Chair:** Sadaf Kazi, MedStar Health National Center for Human Factors in Healthcare, Georgetown University School of Medicine  
**Human Factors in Nursing and Future Directions**  
Sadaf Kazi, MedStar Health National Center for Human Factors in Healthcare, Georgetown University School of Medicine; Linsey Steege, University of Wisconsin-Madison; Ella Franklin, MedStar Health National Center for Human Factors in Healthcare; Charlene Weir, University of Utah School of Medicine |
| 3:30 PM - 4:30 PM  | Design With the Outcome in Mind: Reducing Mistakes and Increasing Representation in Medicine  
**Session Type:** Oral Presentations  
**Room:** Grand Salon C  
**Chair:** Kylie Gomes, MedStar Health  
**Adverse Events in Maternal Care - Investigating Racial/Ethnic Disparities at the System Level**  
Myrtede Alfred, University of Toronto; Dulaney Wilson, Medical University of South Carolina  
**A Human-Centered Space Design of Sterile Core within the L&D Operating Rooms**  
Yushi Yang, Johns Hopkins Health System; Tanesha Stokes, Johns Hopkins Health System; Janis Meise, Johns Hopkins Health System; Susan Will, Johns Hopkins Health System  
**Winning with Binning: Successfully Addressing Breastmilk Administration Errors in the NICU**  
Sarah Fouquet, Children’s Mercy Hospital; University of Missouri, Kansas City; Andrew |
<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
</table>
| **8:30 AM - 10:00 AM** | **Close the Door and Don’t Let Them in!! External Environment Factors in the SEIPS Framework and the Impact on Frontline Processes**  
Session Type: Discussion Panel  
Room: Grand Salon C  
Chair: TBA  
Panelists: Y. Raymond Chan, Children’s Mercy - Kansas City, University of Missouri - Kansas City; Brandon Kennedy, Children’s Mercy - Kansas City, University of Missouri - Kansas City; James Won, Children’s Hospital of Philadelphia; Laurie Wolf, Carilion Clinic; Brittany Anderson-Montoya, Atrium Health; Joy Rivera, Froedtert Hospital |
| **10:30 AM - 12:00 PM** | **All the Signs Were There: Recognizing and Addressing Risks for Patients and Clinicians**  
Session Type: Oral Presentations  
Room: Grand Salon C  
Chair: Brittany Anderson-Montoya, Atrium Health  
Do You Hear what I Hear? Alarm Fatigue and Patient Safety  
James Won, Children’s Hospital of Philadelphia  
Burnout: Challenges, Interventions, and Empathy  
Sarah Fouquet, Children’s Mercy Hospital  
Storytime from a Pediatric Hospital: Crib Rails, Surgical tables, and Neonatal Code Dosing  
Laura Barg-Walkow, Children’s Hospital Colorado; Stacy Beavers, Children’s Hospital Colorado; Michelle Fennell, Children’s Hospital Colorado; Emma L. Ross, Children’s Hospital Colorado  
Revisiting the Independent Double Check - A SEIPS Investigation  
Leah Konwinski, Spectrum Health |
| **1:30 PM - 3:00 PM** | **In the Operating Room**  
Session Type: Oral Presentations  
Room: Grand Salon C  
Chair: Sabina Patel, San Jose State University  
Reduction of Postural Risks in Surgeons by Using an Exoscope During the Deep Inferior Epigastric ( DIEP) Flap Surgery  
Tianke Wang, Mayo Clinic; Hamid Norasi, Mayo Clinic; Susan Hallbeck, Mayo Clinic; Minh-Doan Nguyen, Mayo Clinic; Christin Harless, Mayo Clinic  
Medication Icon Labels Improve Discrimination and Safety in the Operating Room  
Connor Lusk, Medical University of South Carolina; Dave Neyens, Clemson University; Swati Goel, Clemson University; Nicolas Elrod, Medical University of South Carolina; Amanjot Painia, Medical University of South Carolina; Riley Graham, Medical University of South Carolina; Sahar Mihandoust, Clemson University; Anjali Joseph, Clemson University; Jake Abernathy, Ill, Johns Hopkins University School of Medicine; Ken Catchpole, Medical University of South Carolina  
Surgeon’s Intraoperative Workload During Robotic Radical Prostatectomy: Multi-port Robot Versus Single-port Robot  
Hamid Norasi, Mayo Clinic; Katherine E. Law, Mayo Clinic; Emmanuel Tetteh, Mayo Clinic; Matthew Tollefson, Mayo Clinic; Susan Hallbeck, Mayo Clinic |
## MARCH 22, 2022

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
</table>
| 3:30 PM - 4:30 PM  | **Hospital Environments Potpourri**  
**Session Type:** Oral Presentations  
**Room:** Grand Salon C  
**Chair:** Crystal Fausett, Embry-Riddle Aeronautical University  
**Reducing Surgeon’s Trunk Discomfort in Vascular Surgery with Passive Exoskeletons: a Simulation Study**  
Emmanuel Tetteh, Mayo Clinic, Iowa State University; Susan Hallbeck, Mayo Clinic, Iowa State University; Gary Mirka, Iowa State University, Mayo Clinic  
**The Final Inch - What Pop-up COVID Testing Tells us about Community Engagement**  
Dante Della Vella, Ohio State University; Mike Rayo, Ohio State University  
**Characterizing and Contextualizing the Use of the Surgical Safety Checklist in General Surgery: A Multi-Method Study**  
Jeunice Vianca Evangelista, University of Toronto; Institute of Health Policy, Management and Evaluation; Cherryl Li, University of Toronto; Kimberley-Dale Rebecca Ng, North York General Hospital; Mark Fan, North York General Hospital; Patricia Trbovich, University of Toronto |

## MARCH 23, 2022

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
</table>
| 8:00 AM - 9:00 AM  | **Breaking Down Barriers: Removing Roadblocks to Better Patient Care**  
**Session Type:** Oral Presentations  
**Room:** Grand Salon C  
**Chair:** Myrtelee Alfred, Medical University of South Carolina  
**From “Bench” to Bedside: Science-based Alarm Management with High IMPActS**  
Michael Rayo, The Ohio State University  
**Understanding Facilitators and Barriers to Telehealth Referral to In-Person Care and Implications for Patient Safety**  
**Patient IDs Please - The Case of Wristbands vs. ID Patches**  
Eryn Godwin, Children’s Mercy Hospital; Sarah Fouquet, Children’s Mercy Hospital; Kelly Grabendike, Children’s Mercy Hospital; Jessica Olson, Children’s Mercy Hospital; Erica Adams, Children’s Mercy Hospital; Leah Hunt, Children’s Mercy Hospital; Rhonda Hennigh-Smith, Children’s Mercy Hospital |
| 9:30 AM - 11:00 AM | Addressing Patient Safety Challenges in the Pandemic: Case Studies on Applying Human Factors Principles to Embed Patient Safety and Experience at the Clinical Front Line During a Pandemic  
**Session Type:** Discussion Panel  
**Room:** Grand Salon C  
**Chair:** TBA  
**Panelists:** Mark Chignell, University of Toronto; Lili Liu, University of Waterloo; Monika Kastner, North York General Hospital; Fahad Razak, St. Michael’s Hospital, University of Toronto |
| 11:30 AM - 1:00 PM | Hospital Operations: What Human Factors Practitioners Can Expect Working in Hospitals  
**Session Type:** Oral Presentations  
**Room:** Grand Salon C  
**Chair:** Kristen Webster, Cincinnati Children’s Hospital Medical Center, Cincinnati, OH  
**Hospital Operations: What Human Factors Practitioners Can Expect Working in Hospitals**  
Kristen Webster, Cincinnati Children’s Hospital Medical Center, Cincinnati, OH; Laura Barg-Walkow, Boston Children’s Hospital; Sarah Fouquet, Children’s Mercy Hospital |
| **MARCH 21, 2022** | **MEDICAL AND DRUG DELIVERY DEVICES** sponsored by Emergo |
| **TIME** | **SESSION DETAILS** |
| 10:30 AM - 12:00 PM | Greater Than the Sum of Its Parts: Human Factors as a Transdiscipline  
**Session Type:** Track Keynote  
**Room:** Grand Ballroom A  
**Chair:** Shannon Hoste, Agilis Consulting Group  
Greater Than the Sum of Its Parts: Human Factors as a Transdiscipline  
Russell Branaghan, Research Collective |
| 1:30 PM - 3:00 PM | The Ivory Tower: Are Only Educated Scholars Being Prescribed Medication?  
**Session Type:** Oral Presentations  
**Room:** Grand Ballroom A  
**Chair:** Joe Cesa, Medtronic  
The Ivory Tower: Are Only Educated Scholars Being Prescribed Medication?  
Liz Mauer, Human Factors MD; Christina Mendat, Human Factors MD  
Gender Inclusivity in User Research  
Nadya Ganem, IBM, Tufts University; Beth Loring, Loring Human Factors, Inc.  
Well, It Depends: HF Consultants Discuss Embracing Multiple Human Factors Strategies to Get the Job Done  
Jessie Huisinga, Agilis Consulting Group; Elise Rukavina, Tensentric |
## MARCH 21, 2022

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:30 PM – 4:30 PM</td>
<td><strong>Human Factors Research and Regulatory Science</strong>&lt;br&gt;<strong>Session Type:</strong> Discussion Panel&lt;br&gt;<strong>Room:</strong> Grand Ballroom A&lt;br&gt;<strong>Chair:</strong> Shannon Hoste, Agilis Consulting Group&lt;br&gt;<strong>Panelists:</strong> Molly Story, Sanofi; Mary Beth Privitera, HS Design; Shannon Clark, User Wise</td>
</tr>
</tbody>
</table>

## MARCH 22, 2022

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 AM - 10:00 AM</td>
<td><strong>Making Your Task (Analysis) List</strong>&lt;br&gt;<strong>Session Type:</strong> Oral Presentations&lt;br&gt;<strong>Room:</strong> Grand Ballroom A&lt;br&gt;<strong>Chair:</strong> Joshua Biro, Clemson University&lt;br&gt;<strong>Don’t Underestimate the Value of Task Analysis</strong>&lt;br&gt;Laurie Reed, Loring Human Factors, Inc.&lt;br&gt;<strong>Is Your Use Related Risk Analysis Half Empty or Half Full?</strong>&lt;br&gt;MaryBeth Privitera, HS-design</td>
</tr>
<tr>
<td>10:30 AM - 12:00 PM</td>
<td><strong>Did You Read the Instructions?</strong>&lt;br&gt;<strong>Session Type:</strong> Oral Presentations&lt;br&gt;<strong>Room:</strong> Grand Ballroom A&lt;br&gt;<strong>Chair:</strong> Connor Lusk, Medical University of South Carolina&lt;br&gt;<strong>Making Electronic Instructions For Use (eIFUs) Work: Knowing When and How to Apply Them</strong>&lt;br&gt;Yvonne Limpens, Emergo by UL; Cory Costantino, Emergo by UL&lt;br&gt;<strong>Instructions for Use Scorecard</strong>&lt;br&gt;Korey Johnson, Bold Insight; Katie Pingrey, Bold Insight; James Kershner, Bold Insight&lt;br&gt;<strong>The Do’s and Don’ts of Designing Effective Instructions for Use for Lay Users</strong>&lt;br&gt;Savannah Esteve, UserWise, Inc.; Shannon Clark, UserWise, Inc.; Denise Forkey, UserWise, Inc.</td>
</tr>
<tr>
<td>Time</td>
<td>Session Details</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 1:30 PM - 3:00 PM | **Creating Safe and Effective Participant Experiences**  
**Session Type:** Oral Presentations  
**Room:** Grand Ballroom A  
**Chair:** Sami Durrani, Eli Lilly and Company  
**Conducting User Experience Interviews During a Clinical Trial**  
Beth Loring, Loring Human Factors, Inc.  
**Understanding How the Simulated Use Environment Could Trigger Traumatic Responses in Vulnerable Participant Populations: A Case Study Approach**  
Tommaso Lombardi, Farm, a Flex Company; Laura Thomson, Farm, a Flex Company; Lisa Gunther-LaVergne, Farm, a Flex Company  
**Considerations and Learnings for Orally Administered Products Indicated for Pediatrics and Adults Who Have Difficulty Swallowing**  
Tiffany McIntire, F. Hoffmann-La Roche Ltd; Claire Roberts, Kinneir DuFort |
| 3:30 PM - 4:30 PM | **Hello from the Other Side: Cross-Industry Trends in FDA Feedback from HF Consultants**  
**Session Type:** Discussion Panel  
**Room:** Grand Ballroom A  
**Chair:** Sara McNew, Design Science  
**Panelists:** Sara McNew, Design Science; Allison Strochlic, Emergo by UL; Anthony Andre, Interface Analysis Associates; Christina Mendat, Human Factors MD; Wayne Ho, Healthcare Human Factors, Toronto General Hospital |
| MARCH 23, 2022 | **TIME** | **SESSION DETAILS** |
| 8:00 AM - 9:00 AM | **Conducting Usability Tests with Participant Teams: Case Studies and Lessons Learned**  
**Session Type:** Discussion Panel  
**Room:** Grand Ballroom A  
**Chair:** Allison Strochlic, Emergo by UL  
**Panelists:** Allison Strochlic, Emergo by UL; Sami Durrani, Eli Lilly and Company; Leah Swanson, Baxter Healthcare; Joe Cesa, Medtronic |
| 9:30 AM - 11:00 AM | **Improving Adherence and Acceptance Through Better Understanding**  
**Session Type:** Oral Presentations  
**Room:** Grand Ballroom A  
**Chair:** Tiffany McIntire, Tiffany Kay McIntire  
**Designing a Child-Friendly, Comic Book Style IFU to Improve Pediatric Engagement in Medication Administration**  
Joy Borgardt, AbbVie; Trevor Johnson, IPSOS; Martin Venna, IPSOS; Mary Farrell, IPSOS; Chris Dodge, IPSOS; Mike Murphy, IPSOS  
**Technology Acceptance Across Systems and Roles: A Survey of Anesthesia Providers Evaluating a Device Designed to Improve Syringe Organization During a Surgical Case**  
Joshua Biro, Clemson University; Stephanie Munie, Medical University of South Carolina; Chen Chia Wang, Johns Hopkins University; Harrison Sims, Johns Hopkins University; Connor Lusk, Medical University of South Carolina; David Neyens, Clemson University; James H. Abernathy III, Johns Hopkins University; Ken R. Catchpole, Medical University of South Carolina  
**Designing Usable Instructions for Use for Medical Devices**  
Anders Orn, Research Collective; Emily Hildebrand, Research Collective |
<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
</table>
| 10:30 AM - 12:00 PM | **The Case for a Patient-Centric Approach to Healthcare**  
**Session Type:** Track Keynote  
**Room:** Grand Salon A  
**Chair:** TBA  
**The Case for a Patient-Centric Approach to Healthcare**  
Brenda Jones, The Joint Commission, BLJ Healthcare Consultant |
| 1:30 PM - 3:00 PM  | **Bridging the Human-AI Gap**  
**Session Type:** Oral Presentations  
**Room:** Grand Salon A  
**Chair:** TBA  
**Over Triage: Injury Classification Mistake or Hindsight Bias?**  
Richard Simonson, Embry-Riddle Aeronautical University; Joseph Keebler, Embry- 
Riddle Aeronautical University; Rosemarie Fernandez, University of Florida; Elizabeth  
Lazzara, Embry-Riddle Aeronautical University; Alex Chaparro, Embry-Riddle  
Aeronautical University  
**Gaps Technology Can't Bridge - Why Technology by Itself Cannot Solve Medication  
Safety Challenges**  
Yuval Bitan, Ben Gurion University of the Negev  
**What Apes Can Teach Healthcare about Equity and AI**  
Kate MacNamee, Butterfly Network |
| 3:30 PM - 4:30 PM  | **Review of Automated Quality Assurance Safety Checklists in Radiation Oncology : A  
Human Factors Evaluation Study**  
**Session Type:** Oral Presentations  
**Room:** Grand Salon A  
**Chair:** TBA  
**Review of Automated Quality Assurance Safety Checklists in Radiation Oncology : A  
Human Factors Evaluation Study**  
Karthik Adapa, University of North Carolina-Chapel Hill, UNC; Shiva Das, UNC; Fei  
Yu, UNC; Prithima Mosaly, Ben Allegretti Consulting Inc; Carlton Moore, UNC; Lukasz  
Mazur, UNC |
<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 AM - 10:00 AM</td>
<td><strong>Communication Is Key: the Impact of Common Language and Communication on Patient Outcomes</strong>&lt;br&gt;<strong>Session Type:</strong> Oral Presentations&lt;br&gt;<strong>Room:</strong> Grand Salon A&lt;br&gt;<strong>Chair:</strong> TBA&lt;br&gt;<strong>Bridging Conversation Islands to Connect Healthcare: Introducing Unique Co-occurring Word Networks to Find Distinct Themes</strong>&lt;br&gt;Tim Arnold, Veterans Health Administration&lt;br&gt;<strong>Developing a Common Language for Common Goals: Strategies for Integrating User Experience and Human Factors Research</strong>&lt;br&gt;Lauren Jensen, PhD, Agilis Consulting Group; Rachel Talbott, Agilis Consulting; Ben Purrenhage, Tekna&lt;br&gt;<strong>From Reactive to Proactive Safety: Joint Activity Monitoring for Infection Prevention</strong>&lt;br&gt;Dane Morey, The Ohio State University; Michael Rayo, The Ohio State University; Mengyun Li, The Ohio State University</td>
</tr>
<tr>
<td>10:30 AM - 12:00 PM</td>
<td><strong>The Patient’s Role in Care and Treatment</strong>&lt;br&gt;<strong>Session Type:</strong> Oral Presentations&lt;br&gt;<strong>Room:</strong> Grand Salon A&lt;br&gt;<strong>Chair:</strong> TBA&lt;br&gt;<strong>Assessing Patient Engagement: A Review and Synthesis of the Measurement Tools</strong>&lt;br&gt;In Gyu Lee, Johns Hopkins University School of Medicine; Yea-Jen Hsu, Johns Hopkins Bloomberg School of Public Health; Samuel Kim, Johns Hopkins University School of Medicine; Amro Khasawneh, University of North Carolina Chapel Hill; Divya Manoharan, Johns Hopkins University School of Medicine; Traci Speed, Johns Hopkins University School of Medicine; Ronen Shechter, Johns Hopkins University School of Medicine; Jill Marsteller, Johns Hopkins Bloomberg School of Public Health; Eileen McDonald, Johns Hopkins Bloomberg School of Public Health, Center for Injury Research and Policy; Jamia Saunders, Johns Hopkins University School of Medicine; Marie Hanna, Johns Hopkins University School of Medicine; Anping Xie, Johns Hopkins University School of Medicine&lt;br&gt;<strong>Patient Perceptions of Telehealth Early COVID to Now</strong>&lt;br&gt;Wes Michael, Rare Patient Voice</td>
</tr>
<tr>
<td>TIME</td>
<td>SESSION DETAILS</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1:30 PM - 3:00 PM</td>
<td><strong>Patient Safety Potpourri</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Session Type:</strong> Oral Presentations</td>
</tr>
<tr>
<td></td>
<td><strong>Room:</strong> Grand Salon A</td>
</tr>
<tr>
<td></td>
<td><strong>Chair:</strong> TBA</td>
</tr>
<tr>
<td></td>
<td><strong>Using Journey Mapping to Visualize Patient Experiences for Quality Improvement Initiatives</strong></td>
</tr>
<tr>
<td></td>
<td>Kyle Maddox, Office of Health Informatics, Veterans Health Administration, Department of Veterans Affairs; Anthony Masalonis, Spectrum Software Technology, Inc., Subcontractor to Visionary Consulting Partners, LLC; Aneesa Motiwala, Spectrum Software Technology, Inc., Subcontractor to Visionary Consulting Partners, LLC; Kathleen Adams, Office of Health Informatics, Veterans Health Administration, Department of Veterans Affairs; Nakina Eugene, Visionary Consulting Partners, LLC; Office of Health Informatics, Veterans Health Administration, Department of Veterans Affairs; Ross Speir, Office of Health Informatics, Veterans Health Administration, Department of Veterans Affairs</td>
</tr>
<tr>
<td></td>
<td><strong>The Effects of Changeovers and Other Distractions During Post-Operative Counts in General Surgery</strong></td>
</tr>
<tr>
<td></td>
<td>Suzan Ayas, University of Toronto; Birsen Donmez, University of Toronto; Kate Kazlovich, University of Toronto; Selena Lombardi, University of Toronto; Ashna Jain, University of Toronto</td>
</tr>
<tr>
<td></td>
<td><strong>Team Adaptation in Primary Care: Examining the Impact of COVID-19</strong></td>
</tr>
<tr>
<td></td>
<td>Ashley M. Hughes, University of Illinois at Chicago, Edward Hines JR VA Medical Center; Kelley Arredondo, Michael E. DeBakey VA Medical Center, Baylor College of Medicine; Trang Pham, University of Illinois at Chicago; Houston Lester, Baylor College of Medicine; Fred Oswald, Rice University; Richard SoRelle, Baylor College of Medicine; Sylvia Hysong, Center of Innovations in Quality, Effectiveness and Safety, Michael E. DeBakey VA Medical Center</td>
</tr>
<tr>
<td></td>
<td><strong>Pharmaceutical Safety for Geriatric Populations</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Session Type:</strong> Oral Presentations</td>
</tr>
<tr>
<td></td>
<td><strong>Room:</strong> Grand Salon A</td>
</tr>
<tr>
<td></td>
<td><strong>Chair:</strong> TBA</td>
</tr>
<tr>
<td></td>
<td><strong>Eye-tracking for Macroergonomics in the Wild: Exploring Its Use for Understanding Older Adults’ Over-the-Counter Medication Selection Behavior in Community Pharmacies and Its Implications for Other Health Care Settings</strong></td>
</tr>
<tr>
<td></td>
<td>Jukrin Moon, University of Wisconsin-Madison, School of Pharmacy; Maria E. Bove, University of Wisconsin-Madison, School of Pharmacy; Ashley O. Morris, University of Wisconsin-Madison, School of Pharmacy; Aaron M. Gilson, University of Wisconsin-Madison, School of Pharmacy; Jamie A. Stone, University of Wisconsin-Madison, School of Pharmacy; Taylor L. Wattersen, University of Wisconsin-Madison, School of Pharmacy; Michelle A. Chui, University of Wisconsin-Madison, School of Pharmacy</td>
</tr>
<tr>
<td></td>
<td><strong>Senior Section 2.0: Intersecting Implementation Science and Human Factors to Adapt Our Community Pharmacy Intervention to Improve Over-the-Counter Medication Safety Among Older Adults</strong></td>
</tr>
<tr>
<td></td>
<td>Ashley O. Morris, University of Wisconsin-Madison, University of Wisconsin-Madison, School of Pharmacy; Maria E. Bove, University of Wisconsin-Madison, School of Pharmacy; Jukrin Moon, University of Wisconsin-Madison, School of Pharmacy; Jamie A. Stone, University of Wisconsin-Madison, School of Pharmacy; Aaron M. Gilson, University of Wisconsin-Madison, School of Pharmacy; Taylor L. Wattersen, University of Wisconsin-Madison, School of Pharmacy; Michelle A. Chui, University of Wisconsin-Madison, School of Pharmacy</td>
</tr>
</tbody>
</table>
THRIVE is a strategic design firm that helps ambitious leaders build experiences that people love through Informed Design™. Our work gives leaders, teams, and organizations the courage and conviction to move confidently forward and design what’s next.

We have extensive experience applying human factors to products ranging from medical devices used by specialized healthcare professionals in clinical environments to combination products used by laypeople in the home. Regardless of the type of product you’re developing or the users you’re creating it for, we’re here to help.

Reach out to THRIVE today.
404.228.7342
business@thrivethinking.com
www.thrivethinking.com

Atlanta | Chicago

Our Humans Factors Engineering Expertise:

- Program planning and strategy
- Known problems analyses
- Task analyses
- Use-related risk analyses
- Expert reviews / heuristic analyses
- Generative research
- Formative testing
- HF validation testing
- HFE/UE reporting
- Regulatory advising
  And more…

WWW.THRIVETHINKING.COM
<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION DETAILS</th>
</tr>
</thead>
</table>
| 9:30 AM - 11:00 AM | **Decision-Making in Pharmaceuticals**  
 **Session Type:** Oral Presentations  
 **Room:** Grand Salon A  
 **Chair:** TBA  
 **A Cognitive Task Analysis of Clinicians’ Decision-Making for Drug-Drug Interactions in Clinical Practice**  
 Alissa Russ-Jara, Department of Veterans Affairs, Purdue University; Karen Arthur, Richard L. Roudebush VA Medical Center; Nervana Elkhadrage, nelkhadr@uwyo.edu, University of Wyoming; Julie Diiulio, Applied Decision Science; Laura Militello, Applied Decision Science; Amanda Ifeachor, Richard L. Roudebush VA Medical Center; Peter Glassman, VA Pharmacy Benefits Management Services; Alan Zillich, Department of Pharmacy Practice, College of Pharmacy, Purdue University; Michael Weiner, Center for Health Information and Communication, Health Services Research; Department of Veterans Affairs  
  
 **Developing a Cognitive Process Model to Describe How Health Care Professionals Identify and Mitigate Adverse Drug Reactions**  
 Khoa Nguyen, University of Florida; Laura Militello, Applied Decision Science; Amanda Ifeachor, Richard L. Roudebush VA Medical Center; Karen Arthur, Richard L. Roudebush VA Medical Center; Peter Glassman, Pharmacy Benefits Management Services, Department of Veterans Affairs; Alan Zillich, Department of Pharmacy Practice, College of Pharmacy, Purdue University; Michael Weiner, Center of Health Information and Communication, U.S. Department of Veterans Affairs, Veterans Health Administration; Alissa Russ-Jara, Department of Pharmacy Practice, College of Pharmacy, Purdue University  
  
 **Understanding the Use of Pharmacological Knowledge Base Tool Use for Safe Medication Management**  
 Shilo Anders, Vanderbilt University Medical Center, Vanderbilt University; Courtney Van Houten, IBM; Yasemin Akdas, Vanderbilt University Medical Center; Joyce Harris, Vanderbilt University Medical Center; Christopher Simpson, Vanderbilt University Medical Center; Karlis Draulis, IBM; Laurie Novak, Vanderbilt University Medical Center, Vanderbilt University  |
| 11:30 AM - 1:00 PM | **Development and Validation of a Self-Report Scale to Measure COVID-19 Vaccine Hesitancy**  
 **Session Type:** Oral Presentations  
 **Room:** Grand Salon A  
 **Chair:** TBA  
 **Development and Validation of a Self-Report Scale to Measure COVID-19 Vaccine Hesitancy**  
 Megan Gregory, The Ohio State University College of Medicine; Sarah MacEwan, The Ohio State University College of Medicine; Jonathan Powell, National Registry of Emergency Medical Technicians, The Ohio State University College of Public Health; Eben Kenah, The Ohio State University; Ashish Panchal, The Ohio State University, National Registry of Emergency Medical Technicians; Ann Scheck McAlearney, The Ohio State University College of Medicine |
ACCELERATE DEVELOPMENT AND DELIVERY OF YOUR MODERN MEDICINES

Kymanox provides comprehensive human factors engineering, regulatory, compliance, strategy, and project management solutions to advance treatments from bench to patient. Our leadership includes previous FDA human factors leadership, entrepreneurs, inventors, and talented engineers to ensure your products have commercial success.

Learn more at www.kymanox.com
+1 919-246-4896 | sales@kymanox.com
POSTER GALLERY

MARCH 21, 2022

4:30 PM - 6:30 PM GRAND BALLROOM D

DIGITAL HEALTH

1. **COVID-19 Effects on Work-from-Home Office Workers: Evaluation of Physical Activity from Objective and Subjective Metrics**
   Alec Gonzales, Clemson University; Jia-Hua Lin, Department of Labor and Industries, SHARP; Jackie Cha, Clemson University

   Samantha Silver, Key Lime Interactive; Jose Rodriguez, Key Lime Interactive; Erryca Robicheaux, Key Lime Interactive

3. **Impact of Health Informatics on Patients’ Perception of Health Care Services: Trends Over Time of Health Information Technology Use**
   Safa ELKEFI, Stevens Institute of Technology; Onur Asan, Stevens Institute of Technology; Thy Do, The University of Western Australia

   Vikram Siberry, Georgetown University School of Medicine; Deliya Wesley, Mathematica; Raj Ratwani, MedStar Health National Center for Human Factors in Healthcare

5. **Needs Assessment for a Mobile Health App for Tracking Cardiotoxicity Symptoms: A “Game-Changer”**
   Abigail Berk, The Ohio State University College of Medicine; Wedien Cao, The Ohio State University College of Medicine; Lang Li, The Ohio State University College of Medicine; Daniel Addison, The Ohio State University College of Medicine; The Ohio State University James Cancer Center; Megan Gregory, The Ohio State University College of Medicine

6. **A Quantitative Study on Alert Fatigue in a Novel Experimental Design**
   Julie Harrison, Georgia Institute of Technology; Zachary Tidler, Georgia Institute of Technology; Terri Dunbar, Georgia Institute of Technology; David Grimm, Georgia Institute of Technology; Shiwen Zhou, Georgia Institute of Technology; Stanley Joseph, Georgia Institute of Technology

7. **Role Network Analysis to Inform the Design of a Clinical Deterioration Response System for Cancer Patients**
   Eve Vazquez, Vanderbilt University Medical Center; University of Central Florida; Shilo Anders, Vanderbilt University Medical Center; Carrie Reale, Vanderbilt University Medical Center; Laurie Lovett-Novak, Vanderbilt University Medical Center; Joyce Harris, Vanderbilt University Medical Center; Jason Slagle, Vanderbilt University Medical Center; Dan France, Vanderbilt University Medical Center; Mathew Weinger, Vanderbilt University Medical Center; Megan Salwei, Vanderbilt University Medical Center

8. **The Usability of a Smartphone-Based Fall Risk Health Application for Adult Wheelchair Users**
   Mikaela Frechette, University of Illinois at Urbana-Champaign, Siebel Center for Design; Jason Fanning, Wake Forest University; Katherine Hsieh, Wake Forest School of Medicine; Laura Rice, University of Illinois at Urbana-Champaign; Jacob Sosnoff, University of Kansas Medical Center

9. **Use of Technology for Health-Related Tasks Among Older Adults: A Trend Analysis of Pre-&-during COVID Era**
   Avishek Choudhury, Stevens Institute of Technology; Onur Asan, Stevens Institute of Technology
## EDUCATION AND SIMULATION

1. **Human Factors in Training Researchers and Clinicians on Best Practices in Data Science**  
   Colleen Gaynor, Children’s Hospital of Philadelphia; Colleen Gaynor, Children’s Hospital of Philadelphia  

2. **Identifying Optimal Training Tasks and Scheduling Times to Improve Robotic-Assisted Surgery Training**  
   Alec Gonzales, Clemson University; Akshay Shah, Clemson University; Qi Luo, Clemson University; Jackie Cha, Clemson University  

3. **Simulation for Effective Pediatric Assessment and Response in Trauma**  
   Karen Tew, University of Florida; Maritza Plaza-Verduin, University of Florida; Brenda Fahy, University of Florida; Mary Patterson, University of Florida; Rosemarie Fernandez, University of Florida

## HOSPITAL ENVIRONMENTS

1. **A Human Factors Assessment of the Impact of Telehealth Implementation on Nurses During the COVID Pandemic**  
   Christopher W. Bonk, MedStar Health National Center for Human Factors in Healthcare; Christian Boxley, MedStar Health National Center for Human Factors in Healthcare; Kylie Gomes, MedStar Health National Center for Human Factors in Healthcare; Ram Dixit, MedStar Health National Center for Human Factors in Healthcare; Max Smith, MedStar Health Institute for Innovation, Georgetown University School of Medicine; David Brennan, MedStar Health Institute for Innovation; Julia McSorley, MedStar Health Institute for Innovation; Raj Ratwani, MedStar Health National Center for Human Factors in Healthcare, Georgetown University School of Medicine; Ethan Booker, MedStar Health Institute for Innovation; Sadaf Kazi, MedStar Health National Center for Human Factors in Healthcare, Georgetown University School of Medicine

2. **Predicting Total Joint Replacement’s Length of Stay (LOS) For a Rural Perioperative Surgical Home**  
   Srinivasan Sridhar, Montana State University; Bernadette McCrory, Montana State University; Amy Mouat-Hunter, Bozeman Health Deaconess Hospital; Bradley Whitaker, Montana State University

3. **Understanding Work-Related Injury Risk Among Rural Rehabilitation Clinicians**  
   Jiahui Ma, Montana State University; Macy Fitzgerald, Montana State University; Sage Kittleman, Montana State University; Bernadette McCrory, Montana State University

4. **Virtual Family-Centered Rounds During the COVID-19 Pandemic - Technology Usability Analysis**  
   Maryam Attef, Carleton University; Catherine Dulude, Children’s Hospital of Eastern Ontario (CHEO); Chantal Trudel, School of Industrial Design, Carleton University; Melanie Buba, Children’s Hospital of Eastern Ontario (CHEO)
# Medical and Drug-Delivery Devices

1. **Conducting and Reporting a Summative Validation on a Complex System, with Participant Teams, in Record Time... DURING A PANDEMIC**  
   Joe Cesa, Medtronic; Maureen Halligan, Cambridge Consultants; Adrienne Erdman, Cambridge Consultants

2. **Development of a Second-Generation Self-Injection Syringe Testing System**  
   Scott Tew, University of Utah, Dept. of Mechanical Engineering; Kevin Cluff, BioWork Engineering, LLC; Frank Drews, University of Utah, Dept. of Psychology; Ed Halpern, AbbVie; Andrew Merryweather, University of Utah

3. **“How was I supposed to know?” Designing Injection Device Instructions for Use for Injection-naive**  
   Alexandra Benbadis, Sanofi; Jacqueline Edwards, Emergo by UL

4. **Human Factors Analysis to Design the User Interface for Multi-Purpose Neonatal Incubator**  
   Hyeonkyeong Choi, Yonsei University; Wonseuk Jang, Yonsei University; Sangeun Park, Yonsei University

5. **Instructions for Use Design: Understanding International Regulatory Guidance for Multi-country Product Launches**  
   Michelle Jahn Holbrook, Bold Insight; Katie Pingrey, Bold Insight

6. **Opportunities for the Digitalization of Human Factors Engineering in Medical Product Development**  
   Michael Wiklund, Emergo by UL; Erin Davis, Emergo by UL

7. **Process Improvement for Formative and Summative Testing in Medical Device Design**  
   Michael Fedele, Beckman Coulter

8. **Providing Training that Approximates Reality: Considerations in Validation Study Design**  
   Emily Hildebrand, Research Collective; Nashahita Deboo, Genentech; Stephanie Smith, Genentech

9. **Use-Related Risk Analysis of Complex Interconnected Medical Devices**  
   Denise Forkey, UserWise, Inc.; Shannon Clark, UserWise, Inc.

10. **Will the Real Critical Tasks Please Stand Up: How to Define & Evaluate Critical Tasks for Agency Success**  
    Tara (Daugherty) Long, Kymanox; QuynhNh Hu Nguyen, Kymanox

11. **Yes, And? Applying Improvisational Theater Techniques to Usability Study Moderation**  
    Matthew Marber, Essential Design; Ellie Rundell, Essential Design

# Patient Safety Resource and Initiatives

1. **Developing an Online Human Factors Methods Library Using GIT**  
   Dean Karavite, Children’s Hospital of Philadelphia; Alex Fidel, Children’s Hospital of Philadelphia; Muthu Naveen, Children’s Hospital of Philadelphia

2. **A Framework to Assess Resilience in Health Care Patient Prioritization**  
   Viviana Maura Dos Santos, Texas Tech University; Federal University of Rio de Janeiro; Paulo Victor Rodrigues De Carvalho, Instituto de Engenharia Nuclear (IEN); Catherine Burns, Center for Bioengineering and Biotechnology - University of Waterloo; Mario Cesar Rodriguez Vidal, Federal University of Rio de Janeiro; Changwon Son, Texas Tech University; Alessandro Jatob, Osvaldo Cruz Foundation

3. **Role of Trust in AI Driven Healthcare Systems: Discussion from the Perspective of Patient Safety**  
   Mehmet Unver, University of Hertfordshire; Onur Asan, Stevens Institute of Technology
THANK YOU TO OUR PLATINUM SPONSOR

INTUITIVE
## POSTER GALLERY

**MARCH 22, 2022**

<table>
<thead>
<tr>
<th>4:30 PM - 6:30 PM</th>
<th>GRAND BALLROOM C-D</th>
</tr>
</thead>
</table>

### DIGITAL HEALTH

1. **Card-Sorting Tasks to Explore Clinicians’ Strategies for Organizing and Reconciling Medications From Internal and External Sources**
   Himalaya Patel, United States Department of Veterans Affairs; April Savoy, Indiana University-Purdue University; Khoa A. Nguyen, University of Florida; Jason J. Saleem, University of Louisville; Steven L. Sanchez, U.S. Department of Veterans Affairs (VA); Eugene A. Adjei, U.S. Department of Veterans Affairs (VA); Morgan H. Traylor, U.S. Department of Veterans Affairs (VA); Richard L. Roudebush VA Medical Center; Laura G. Militello, Applied Decision Science, LLC; Julie Diulio, Applied Decision Science, LLC; Michael Weiner, U.S. Department of Veterans Affairs (VA); Vincent S. Fan, VA Puget Sound Health Care System, University of Washington; Bryan S. Gibson, VA Health Services Research and Development; Amanda S. Mixon, VA Tennessee Valley Healthcare System; Alissa L. Russ-Jara, Purdue University

2. **Considerations of Rapid Prototyping and Testing for Medical Device Design**
   Sangeun Park, Yonsei University; Wonseuk Jang, Yonsei University

3. **Designing Decision Support Tools for Public Health Professionals**
   Holland Vasquez, University of Toronto; Birsen Donmez, University of Toronto; Emilie Pianarosa, University of Toronto; Renee Sirbu, University of Toronto; Lori Diemert, University of Toronto; Laura Rosella, University of Toronto

4. **Evaluation of Mobile App for Breast Cancer Clinical Patient Navigators**
   Elizabeth Papautsky, University of Illinois at Chicago; Tan Lu, Avident Health LLC; Yilin Li, University of Illinois at Chicago; Patrick Farha, Avident Health LLC; Maen Farha, Avident Health LLC

5. **Factors Influencing the Willingness to Download COVID-19 Contact Tracing Apps: The Moderating Effect of Persuasive Design and Smartphone Usage Experience**
   Kiemute Oyibo, University of Waterloo; Plinio Pelegrini Morita, University of Waterloo

6. **Hypercoach: Correlating Hypertensive Patients’ Beliefs with their Clinical Outcomes after using an mHealth app to Coach them on Improving their Self-management of Hypertension**
   Karim Zahed, Texas A&M University; Carl Markert, Texas A&M University; Farzan Sasangohar, Texas A&M University

7. **Seeing the Bigger Picture: Mixed Methods Analysis of Ethnographic Observations Supplementing Event Reporting Dataset to Understand Barriers and Opportunities Within a Centralized Remote Telemetry Unit**
   Matthew Jess, Carilion Clinic; Harsh Sanghavi, Carilion Clinic; Yuhao Peng, Carilion Clinic; Laurie Wolf, Carilion Clinic

8. **User-Centered Interface Design for Neuroimaging Research and Training in a High-Performance Computing Environment**
   Sudeep Hegde, Clemson University; Karishma Patil, Clemson University; Abigail Rowell, Clemson University; Grigori Yourganov, Clemson University; John Absher, Prisma Health

9. **Wearable Devices’ Use in Geriatric Care Between Patient-centeredness and Psychology of Patients.**
   Safa El Kefi, Stevens Institute of Technology; Onur Asan, Stevens Institute of Technology
### MARCH 22, 2022

<table>
<thead>
<tr>
<th>4:30 PM - 6:30 PM</th>
<th>GRAND BALLROOM C-D</th>
</tr>
</thead>
</table>

#### EDUCATION AND SIMULATION

1. **Multi-sensor Model for Performance Decrements Prediction in High Cognitive Workload of Surgeons**  
   Jing Yang, Purdue University, Industrial Engineering; Denny Yu, Purdue University, Industrial Engineering

2. **Relating Healthcare Workers Mental Models to the Transmission of Infectious Agents During Patient Care**  
   Sweta Parmar, Georgia Institute of Technology, Emory University; Joel Mumma, Emory University; Rebecca MacKay, Emory University; Rodrigo Garcia, Emory University; Brandon Berryhill, Emory University; Kylie Burke, Emory University; Anagha Nair, Emory University; Paige Gannon, Emory University

#### HOSPITAL ENVIRONMENTS

1. **Communication Effectiveness in Healthcare Multiteam Systems**  
   Daniel Ingels, University of Texas MD Anderson Cancer Center, Rice University; Eduardo Salas, Rice University; Stephanie Zajac, University of Texas MD Anderson Cancer Center

2. **COVID-19 Testing: Human Factors Behind the Scenes at the Lab**  
   Melinda Jamil, Advocate Aurora Health

3. **COVID-19 Vaccination Clinic Success: An Interdisciplinary Application of Simulation and Modeling**  
   Tammy Toscos, Parkview Health; Victor Cornet, Parkview Health; Michelle Charles, Parkview Health; Erica Cumbee, Parkview Health; Charlotte Gabet, Parkview Health; Ethel Massing, Parkview Health; Scott Stienecker, Parkview Health

4. **A Rural Community Hospital’s Perioperative Surgical Home Model Compared to a Traditional Surgical System**  
   Srinivasan Sridhar, Montana State University; Bernadette McCrory, Montana State University; Amy Mouat-Hunter, Bozeman Health Deaconess Hospital; Nicole Carnegie, Montana State University
**POSTER GALLERY**

**MARCH 22, 2022**

<table>
<thead>
<tr>
<th>4:30 PM - 6:30 PM</th>
<th>GRAND BALLROOM C-D</th>
</tr>
</thead>
</table>

**MEDICAL AND DRUG-DELIVERY DEVICES**

1. **Applying Human Factor Engineering Methods for Risk Analysis of the Breast Imaging Diagnostic System**  
   Jiyun Jeong, Yonsei University; Wonseuk Jang, Yonsei University; Sangeun Park, Yonsei University

2. **Are “Naive” Participants as Naive as We Think? An Exploration of Negative Transfer in Experienced Versus Naive Users**  
   Laura Birmingham, Emergo by UL; Stephanie Larsen, Emergo by UL

3. **Challenges of Simulated Use Testing for Surgical Devices**  
   Joseph Johnson, BlackHagen Design; Rich Newman, BlackHagen Design

4. **Conducting HF Validation Testing of Combination Products: Unique Challenges and Special Considerations**  
   Andrea Dwyer, Emergo by UL

5. **Diminishing Returns on Increasing Participant Sample Sizes**  
   Alida Pelli, Emergo by UL

6. **Human Centered Design Approaches for the Design of Infant Thermoregulation Devices**  
   Karen Becker, GE Healthcare; Dowell Michelle, GE Healthcare; Lakshmi R, GE Healthcare

7. **Human Factors Validation Using A Remote Human Factors Testing Approach**  
   Anil Kumar, San Jose State University; Kevin Cluff, Noble; Tim McLeroy, Noble; Hali Osborne, San Jose State University; Shadeeda Shahin, San Jose State University

8. **Learnings and Recommendations on the Role of Human Factors for on-market Products**  
   Rachel Poker, AstraZeneca

9. **Simulating Emergency Medical Situations in Usability Testing**  
   Stephanie DeMarco Bartlett, Essential; Jonathan Avedikian, Essential

10. **Vials - User Interfaces, User Interactions, and User Centered Design Work**  
    Thomas Stuedeli, F. Hoffmann-La Roche Ltd, Human Factors Engineering
MARCH 22, 2022
4:30 PM - 6:30 PM  GRAND BALLROOM C-D

**PATIENT SAFETY RESEARCH AND INITIATIVES**

1. **Analysis of Emergency Vehicle Traffic Interactions Captured through Naturalistic Driving Data: Implications for Emergency Medical Transportation**
   Jacob Valente, Virginia Tech Transportation Institute, Virginia Polytechnic Institute and State University; Martha Gizaw, Virginia Tech Transportation Institute, Virginia Polytechnic Institute and State University; Kamil Kawka, Virginia Polytechnic Institute and State University; Miguel Perez, Virginia Tech Transportation Institute, Virginia Polytechnic Institute and State University

2. **Anti-Counterfeiting Warnings: Do They Influence Consumer Behavior and Perception of Overt Indicators?**
   Elizabeth Sterling, University of South Dakota; Douglas Peterson, University of South Dakota

3. **Evolution of Compensatory Driving Behaviors Pre- and Post-Rotator Cuff Repair: Implications for Return-To-Driving Recommendations**
   Mariette Metrey, Virginia Tech Transportation Institute, Virginia Tech-Wake Forest University School of Biomedical Engineering and Sciences; Ariel Badger, Virginia Tech Carilion School of Medicine; Linsen Samuel, Carilion Clinic Institute for Orthopaedics and Neurosciences; Allison Tegge, Virginia Tech Carilion School of Medicine; Miguel Perez, Virginia Tech Transportation Institute, Virginia Tech Department of Biomedical Engineering and Mechanics; John Tuttle, Carilion Clinic Institute for Orthopaedics and Neurosciences; Peter Apel, Carilion Clinic Institute for Orthopaedics and Neurosciences

   Megan Salwei, Vanderbilt University Medical Center; Amye Tevaarwerk, University of Wisconsin-Madison; Cibele Carroll, University of Wisconsin-Madison; Mary Sesto, University of Wisconsin-Madison