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Important Sessions

Join us for Breakfast: 6:30 – 8:00 AM 10/11/2017 Rm 310

October 10th – E1: 3:30 – 05:30 PM Rm 205
October 11th – E2: 9:15 – 10:45 AM Rm 213
E3: 2:00 – 03:45 PM Rm 306

Full Story on Page 1
From the Editor

By Michael Rupp, Ph.D.

Hi everyone. Thank you for reading our HFES Student Newsletter. We hope you enjoy reading this newsletter and that it functions as a helpful resource for students. Please let Brittany and I know if there are any topics you would like to see included in a future issue or if you want to contribute. In addition to this newsletter, Brittany and I have found that talking to fellow students at our HFES Annual Meeting is another great way to gain insight on student-related issues. Because of this, we included a primer to the HFES meeting in this issue of the newsletter. Whether this will be your first or fifteenth time, we hope this guide will be useful for you. We are looking forward to meeting new people and catching up with old friends in our HF/E community. In the meantime, I wanted to share the details of the ETG sessions at this year’s meeting. Overall, we have three great sessions, and do not forget to join us for breakfast at our TG business meeting. We hope you say, “Hi” to us in Austin.

2017 Education Technical Group Sessions

<table>
<thead>
<tr>
<th>Tuesday, October 10th</th>
<th>Wednesday, October 11th</th>
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<tbody>
<tr>
<td>E1: 3:30 – 5:30 PM – Design, Development, and Theory: Understanding the Dynamics Facing Us in the Classroom (Room 205; Chair Heather Lum, Ph.D.)</td>
<td>E2: 9:15 – 10:45 AM – Encouraging Cooperation Across Student Chapters in the Southeast Region: A Panel Discussion (Room 213; Chair Anthony Baker)</td>
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<tr>
<td>Paper 1: C. D’Souza: Topics in Inclusive Design for the Graduate Human Factors Engineering Curriculum.</td>
<td>Alternative Format: A. Baker (Embry-Riddle Aeronautical University), F. Scholcover (North Carolina State University), W. Leidheiser (Clemson University), S. Long (Old Dominion University), J. Farnsworth (North Carolina State University), L. Mataenas (North Carolina State University), S. Cauffman (North Carolina State University), S. McGlynn (Georgia Institute of Technology), S. Williams (University of Central Florida).</td>
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<tr>
<td>Paper 2: S. Ahmed: Theory of Sustained Optimal Challenge in Teaching and Learning.</td>
<td>E3: 2:00 – 3:45 PM – 50 Years of Human Factors Psychology at Texas Tech University (Room 306; Chair Martina Klein)</td>
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<tr>
<td>Paper 3: D. Vazquez, and N Kelling. Psycognia: The Development of a Passive Gaming Environment for Use in Undergraduate Psychology Classes.</td>
<td>Discussion Panel: M. Klein (Texas Tech University), C. Halcomb (Wichita State University), P. DeLucia (Texas Tech University), G. Liddell (Human Interfaces), B. Chaparro (Wichita State University), M. Endsley (SA Technologies).</td>
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How to Navigate the Annual Meeting

By Shelby Long

Even as an undergraduate student working in my first human factors lab, I knew the annual HFES meeting would soon become a staple in my fall plans. From listening to the older students, I knew the conference was a must-do. My first year attending did not disappoint. From fan-girling about meeting authors to learning about cutting edge research occurring internationally, the experience was incredibly positive and overwhelming. This sentiment is one I see repeated year-after-year for first-year attendees. In this article, I hope to share what I have learned to help you make the most of your conference experience. This guide will assume a full week’s attendance from Monday to Friday of the conference week.

Logistics. Because the conference is held in a new city every year, it can often be confusing to navigate around the hotel, even for the organizers. Therefore, we recommend looking up the hotel layout before you arrive to learn your surroundings. Also, it is important to research the area surrounding the conference hotel and student hotel to familiarize yourself with nearby restaurants and activities.

We recommend checking in early, downloading the conference app, and checking HFES on social media to learn about any activities and events you might want to attend. For more information about local events and activities around Austin for 2017, check out these links: (1) http://www.hfes.org/web/HFESMeetings/2017AMLocalattractions.html

and (2) http://www.atlasobscura.com/things-to-do/austin-texas

Funding. Presenting a poster or lecture is an amazing opportunity to disseminate your research and further your career, but attending the conference can be expensive. To alleviate this, there are several funding opportunities. For presenters at HFES, various technical groups create honorariums and travel grants, some specifically for students. These are typically posted in the summer or early fall. Additionally, your school department or student government association may provide financial assistance to make conference attendance possible. Finally, check the meeting website, as there will be postings for roommate assistance and other ways to bring down the cost of attendance. Finally, working as a student volunteer will help you save money on your registration. Calls for student volunteers are usually posted in late spring via the HFES Bulletin.

Food. Another major conference expense is food. We suggest bringing snacks and checking with your hotel to know if you will have a refrigerator to store food. Finally, there will be many events around the conference where food will be served. Networking will not only let you meet new people but allow you to save money.

Symposia, Discussions, and Special Events. Each presenter is invited to write a five page paper or a short abstract. Copies of these may be in your swag bag you will receive upon check-in or downloadable from the conference app or website. However, sometimes they only choose to publish a short abstract. We recommend reading the papers of talks you plan to attend early through the proceedings or HFES app. For multi-presenter talks, such as symposiums, a five page paper is published for all speakers. We recommend prioritizing these over talks that have a full paper you can read at any time. The symposiums are live events with notable people. Also, Wednesday is UX Day an all-day event with UX activities.

Exhibitor Hall. The Exhibitor Hall often opens on the Tuesday of the conference. This hall consists of companies selling equipment and books, holding special give-away drawings, and hosting other special events. Often, this area will serve coffee, tea, and water. We recommend checking here.
Finally, on the last day of the conference, book sellers may discount their wares for the sharp-eyed student.

**Networking Opportunities.** The main reason to attend the conference is for networking opportunities. There are two types of opportunities: (1) **Formal Networking** and (2) **Informal Networking.** Formal networking opportunities are created by the conference itself; informal networking events are hosted after-hours or occur indirectly during the conference.

**Formal Networking**

*Opening gala and Student Reception*

Formal networking opportunities begin on the first official night of the conference with the Opening Gala on Monday from 6:30 – 9:30pm. The first half of Monday is quiet, allowing for early check-in, volunteering, and workshops. We encourage checking in prior to the gala, so you can get your HFES nametag to wear during the gala. The gala is usually held in a large ballroom or outside area. Light food is served (e.g., meat skewers, vegetable crudité, mini-burgers), and there is usually a cash bar to sell soda, water, and adult beverages. Frequently, it is ambiguous what to do or where to go. Large tables with chairs, several food stations, and bars will be setup. The drink lines quickly become lengthy. We recommend getting there early if you choose to purchase a drink. If not, there may be water coolers or water pitchers setup on the outskirts of the ballroom. This is a great time to introduce yourself to other attendees and hop around between tables. If you are slightly less adventurous, this is a great time to reconnect with colleagues.

First-year students often have a first-timer reception held before the Opening gala. This is another opportunity to network and make friends with other students. If you are traveling alone, you can create a networking group with students from the gala.

The student reception is similar, but it is held on Wednesday evening. During this time, food will be served, and there will be a short networking time. Student and chapter awards are given out during this time.

**In informal Networking**

*National Ergonomics Month Expo*

This low-key but fun event is typically held on Monday before the opening gala. Often, there are many giveaways and you can learn how people are celebrating National Ergonomics Month. It’s a great way to meet students at other universities and learn about their student chapter’s action plans.

*Attending Talks and Posters*

Asking presenters interesting questions is a good way to start a conversation. This will help others to remember you. It will give you topics for later conversations at networking events.

**Networking Lunches**

Networking lunches occur throughout the conference and are a great way to meet other Human Factors professionals. These often require prior registration and space fills quickly, so check on the HFES website and bulletins for information. Two of the largest lunches are the Woman’s Networking Luncheon (see [http://www.hfes.org/web/HFESBulletin/november2016Bulletin.html#NetworkingLunch](http://www.hfes.org/web/HFESBulletin/november2016Bulletin.html#NetworkingLunch)) and the Mentor-Mentee Lunches hosted by Dr. Haydee Cuevas. Usually a full meal is served, and these are hosted at nice restaurants. At these events you will be paired with a mentor or a group of mentors in different career fields. This allows you to ask questions, hear stories, and learn about many different subfields. Attending a luncheon is highly recommended for structured facetime with potential mentors.

**Technical Group (TG) Business Meetings**

Many people do not think of TG meetings as a networking opportunity, but they are a great opportunity to meet people who are passionate about the same research as you. To find information on these, check the HFES website and program. On-site meetings often have snacks, and off-site meetings are often at restaurants. Once you are there, plan to stay for the entire meeting. The TG meetings involve discussion of plans for the next meeting, elect officers, and share important sessions for people to attend. Becoming involved with a TG is a great way to meet potential mentors.
or around the conference when you run into the presenter again. During poster sessions, there are often coffee breaks that allow for informal networking. Finally, be sure to check out the Posters with Fellows event to have an opportunity to network with senior members of the society.

**HFES Notice Board**

Around the HFES meeting, you will see several large bulletin boards. These share upcoming events and other postings. Many times TG happy hours, alumni meetings, and other special events will be posted. Make sure to peruse these throughout the conference.

**Technical Tours**

Technical tours are another way to meet like-minded people. The goal of a technical tour is to see a company or lab related to Human Factors or performing interesting Human Factors work. These can be good ways to inquire about future careers and learn what other people in the field are doing. Tours consist of meeting and taking a bus to the tour site. A boxed sandwich lunch is often served. Because you are on a bus, you have the opportunity to network with others. The only two downsides to a tour are that they take a long time (about half a day), and they can be pricey depending on the tour location. Volunteering for a tour slot can help get you around the cost.

**Happy Hours**

Another way to meet future employers and colleagues is to attend Happy Hours. Several TG and organizations such as product design, usability, the UCF Student Chapter, and others plan formal networking events. These events are often held from Tuesday to Thursday and provide food and sometimes drinks. They may also have giveaways and other goodies. You can find out about these through HFES listervs, the Notice Board, and through other students. The Happy Hours are must-attend events, and many times you can offer to volunteer to help with the event next year. Also check with other exhibitors such as the BCPE which also often hold their own networking receptions with food and drink.

**Volunteering and Career Center**

Volunteering is an excellent way to meet others and get a reduction on your conference fee. Volunteer spots are announced in the HFES emails from Carlos, the HFES Bulletin, and the TGs. These are often decided in advance of the conference, so look for these in early spring. Some volunteer roles include; helping at poster sessions, the Career Center, the Ribbon Desk, and during tours. Helping with the poster sessions means you get to network with other students and presenters. Working at the ribbon desk means you talk to the attendees as they check-in. Working in the Career Center means meeting various employers and learning what type of applicants they are considering. Bringing copies of your resume and interviewing at the Career Center is also encouraged to prepare for future internships and careers (see last edition of this newsletter).

**Chair and Co-Chair positions**

Similar to volunteering, serving as a chair or co-chair for a session gives you an opportunity to meet others, but it is not an official volunteer role. If you are interested in this position, check with the TG. Chairs and co-chairs typically help presenters load their presentation on the lectern for a session, introduce presenters and keeping the official time to ensure each session runs smoothly.

I hope this information will help you enjoy the conference this year.
As a second-year doctoral student in the Human Factors Psychology Program at Texas Tech University, I am conducting research on automated vehicles and driver vigilance. Through this, I am working toward developing a better understanding of the attentional demands placed on drivers who operate automated vehicles. The demands placed on drivers operating non-automated vehicles are much different than those of operating automated vehicles. That is, while drivers of non-automated vehicles are operators, performing manual actions in concert with perceptual and cognitive activities that inform those actions, drivers of automated vehicles are placed in a supervisory role, which entails monitoring the driving environment and intervening in instances where the automation fails to adapt to it.

I am investigating these differences from the perspective of vigilance. The vigilance decrement, which is the decline in signal detection performance over time during long, monotonous tasks, is a topic of great interest among Human Factors researchers. Driving an automated vehicle bears much resemblance to vigilance tasks present in other domains (e.g., baggage screening). The driver must selectively attend to objects in and around the roadway that could impose danger (e.g., pedestrians and other cars) and respond to infrequent, unpredictable instances where those objects could cross into the trajectory of the vehicle and require an intervention beyond the capabilities of the automation. Importantly, drivers often must carry out this task for long periods of time.

Using a STISIM Drive® driving simulator, I have completed one study and am currently conducting a second study to investigate the vigilance decrement associated with driving automated vehicles. In the first study, participants “drove” a simulated vehicle, which—for 40 minutes—automatically maintained a constant speed and lane position, down a straight, one-lane road. Every two seconds, a car stopped at the side of the road appeared out of dense fog. Most of these cars were stopped safely, but some were slightly pulled out into the roadway. Participants were asked to press a button on the steering wheel if they saw one of these unsafely-stopped cars. I found that, across the 40-minute drive, participants’ ability to detect these cars declined by roughly 20%, replicating the decrement found in traditional vigilance studies. Moreover, NASA-TLX and Short Stress State Questionnaire scores indicated that this task was demanding and effortful; these are characteristics of traditional vigilance tasks.

In the second, ongoing study, I manipulate the rate at which the cars appear and the spatial certainty of the cars. If participants’ detection performance declines to a greater degree when cars appear at a fast rate and when their location on the roadway is uncertain (i.e., randomly appearing on the left and right sides of the roadway), the decrement may be due to the demanding nature of the task and a resultant dwindling of the cognitive resources available for sustained attention. Alternatively, if detection performance declines to a greater degree when cars appear at a slow rate and their location is certain (i.e., alternating between the left and right sides of the roadway), the decrement may have occurred due to low cognitive demand and subsequent disengagement from the monitoring task.

Future studies are aimed at delineating how driver vigilance differs between automated and non-automated driving. While fully-autonomous vehicles that can adapt to their environment and respond to any potential accident is the ultimate goal of automakers, the current state of technology and regulations is such that the driver still must intervene, taking over manual control to avoid collisions. Therefore, understanding if, how much, and why the vigilance decrement occurs among drivers of automated vehicles is of great importance and could lead to better design of automated driving systems.
The student chapter of HFES at North Carolina A&T State University is proud to share its accomplishments and future endeavors. We have worked tirelessly to provide our members with many opportunities for community service, exposure to current research and innovation, networking with company representatives, and opportunities for professional development. As life-long learners and scholars, we do not hesitate to raise awareness of the HF/E profession, as it is present everywhere.

We are pleased to have hosted Dr. Ronald Shapiro in celebration of National Ergonomics Month (October) for his presentation titled “Education by Entertainment”. We invited all STEM-related majors to attend as well as those from NC State, Greensboro College, Bennett College, UNC Greensboro, and UNC Chapel Hill. This event was supplemented by a research poster symposium and dining reception for an exchange of knowledge and networking amongst our guests. We also collaborated with the Aggie Robotics Club in providing a Tech Talk for students to learn more about the Autonomous Control and Information Technology Institute program. This way, students networked with other disciplines to expand or realize collaborative research opportunities. Another opportunity for networking involved our chapter hosting Procter and Gamble information sessions as well as a workshop with Intel during our celebration of National Engineers Week. We also hosted Dr. Nancy Cooke, president of the national HFES executive council, on our campus as she was invited to deliver a midday tech talk and keynote address during our Industrial and Systems Engineering Annual Scholarship and Awards Banquet. As a distinguished professor and program chair of Human Systems Engineering, we strongly believed that Dr. Cooke’s experience and practical knowledge within this domain was an invaluable experience for our current student body. Dr. Cooke’s contributions were perfect examples of academic curiosity.
Our student chapter also boasts engaging a multidisciplinary general body membership consisting of civil, electrical, industrial & systems, biomedical, and computer engineering majors. In an effort to train our students to work in multidisciplinary teams and to learn to communicate with those of other educational backgrounds, our chapter put together a team comprised of industrial & systems engineering students as well as computer engineering students to participate in the 2017 HFES Health Care Symposium Student Design Competition. Each team was challenged with inventing a mobile application that will help to advance the health care field and improve the responsibility taken on by informal, at-home caregivers. Our team proudly advanced to be semi-finalists in this international competition. From this experience, we competed in our university’s Graduate Student Advisory Council poster design competition. We also applied for a mini grant to further our efforts, and submitted our research for publication. We look forward to entering into this competition again.

To further encourage research and professional development, we provided our members many opportunities to showcase their own research on multiple platforms throughout the year. These include attending the HFES Annual Meeting in Washington, DC, presenting research posters in the Systems Engineering Research Conference, earning safety certificates from the Business and Industry Safety and Environmental Conference, and having our graduate students participate as judges in the UNC Charlotte Research Poster Competition for the National Science Foundation Louis Stokes Alliances for Minority Participation Program.

In the spring 2017 semester, we hosted a Women’s Empowerment Conference. It was the first of its kind at our university. Our planning committee consisted of all females who served as presidents and founders of their own respective student organizations throughout the College of Engineering. This conference consisted of Design Thinking, Cultural Awareness, and Career Navigation workshops administered by various company representatives, a keynote speaker, a symposium allowing students to deliver business proposals on their newly innovated products, and a Q&A panel. The goal was to create an inspiring conference that will target our female students pursuing STEM-related majors here at A&T and empower them to pursue and thrive in male-dominated fields. By providing them with examples of women executives within a vast array of industries, we hope to inspire our own students to achieve in every opportunity.

Our chapter’s community relations are paramount in our quest to serve and raise awareness of our field globally. We are pleased to say that our chapter has completed a great deal of volunteer work which included donating to the Martin Luther King Canned Food Drive in conjunction with the Office of Student Development here on campus. We also participated in the School Supplies Drive by donating over 300 items and earned over 96 hours of community service with our support of the Hurricane Matthew Relief effort in raising over 600 items.

As a way to acknowledge and celebrate the diversity within the Industrial and Systems Engineering Department and College of Engineering at NC A&T, our student chapter routinely puts together a potluck and membership drive to bring all students and faculty together for food and fun. Students are encouraged to bring an entrée and/or dessert representative of their respective country. Foods from West Africa, India, South America, Middle East, Asia, and Mexico are shared. Complementary interactive games raise awareness and encourage hands-on experience of HF/E.

Our chapter’s co-advisors, Dr. Younho Seong and Dr. Steven Jiang, and department chair, Dr. Tonya Smith-Jackson, support our efforts and are integral in helping us achieve all past and future events. Having been awarded the Silver level for the HFES Student Chapter of the Year for 2017, we look forward to continuing this legacy. We are looking to collaborate with other chapters in the near future. Our chapter has launched a website for all to be kept up to date on our activities (http://hfes.ncat.edu/) and we encourage all readers to contact us, as the possibilities are endless.
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