From the Editor

By Brittany Neilson, M.A.

Hi everyone! Thank you for reading our HFES Student Newsletter. We distribute this newsletter biannually with the purposes of providing 1) a resource for student issues of interest and 2) a medium for students to share their knowledge of various topics with others.

We were overwhelmed with the interest from students in contributing to this issue of the HFES Student Newsletter. Thank you to everyone who expressed interest in writing an article. We encourage your continued involvement in this newsletter. Ultimately, this newsletter cannot function without your contribution and interest.

As Co-Chairs for the Student Newsletter, Mike Rupp and I hope to increase readership of this newsletter. We have decided to first focus on providing content that is of interest to student members. After reading this newsletter, we ask that you please complete this survey (https://goo.gl/n61g1t) to allow us to better serve your content needs in future newsletters.

Our second focus is to increase our dissemination efforts of the newsletter. We can use your help with this goal. Please feel free to share this newsletter with anyone who may be interested in its content, and let us know if there are specific organizations or forums that may benefit from this newsletter.

Our last goal is to enhance this design and feel of this newsletter to increase reader engagement. We are seeking people who may be interested in layout design to help with this effort. If you are interested in helping, please email both Mike Rupp and I. Our contact information is provided on the last page of this newsletter.

We hope you enjoy reading this newsletter and that it functions as a helpful resource for students. In addition to this newsletter, we have found that talking to fellow students at our HFES Annual Meeting is another great way to gain insight on student-related issues. We are looking forward to meeting new people and catching up with old friends in our HF/E community at the annual meeting in Austin, Texas.
Virtual Career Panel: Q&A with HF/E Young Professionals

By Michael Rupp, M.S. and Brittany Neilson, M.A.

A recent poll indicated that our newsletter readers were interested in more content related to careers in human factors and ergonomics. For this issue, we decided to ask young professionals who successfully navigated the job market in academia, government, and industry some questions. These questions were tailored to each individual and their present job, and how to prepare for a career in their sector of HF/E. We hope you find this content to be useful as you prepare to enter the HF/E job market!

Beyond Hitting the “Like” Button: Tips For Working at a Top Tech Company

By Paul Derby

Q1. What attracted you to Facebook? In no order...

a. Learning from others: I’ve always thought of the top tech companies as places where some of the smartest and most talented people exist. In regard to Facebook, I was right. Right now, I’m working with some of the most accomplished people I’ve met. Accomplishments range from impressive educational opportunities, previous work experience, or other life experiences.

b. The allure of Facebook: You really have no idea what’s happening until you’re in. It’s amazing how much thought goes into Facebook. I didn’t know what team I would join until my second week. This seemed exciting to me. I’m currently working on a team that I didn’t know existed.

c. Learning about consumer product design: At Honeywell, I specifically worked in industrial and commercial products. Working at Facebook gave me an opportunity to learn about the design of different products.

d. Location: I appreciated the ability to work in the same location as the rest of my team, specifically product designers, researchers, product managers, and engineers. Previously, my product teams were spread out globally and had to take meetings early in the morning and late in the evening to accommodate their schedules.

Q2. What attracted you to the Summit Learning Platform team at Facebook?

a. Impact: On my team, I have the opportunity to make a positive impact on both students and teachers. I’m a part of an educational movement to shift roles in the classroom, where students become responsible for their own learning and teachers become empowered to focus their attention on students who need their help.

b. Team size: At the time, it was a relatively small team. As the first researcher, I established the role of research within the design of the Summit Learning Platform.

c. Passion: Education has been my personal and academic passion. I found ways to explore education literature and topics during graduate school through my dissertation. Now I am able to help a team build a tool to facilitate learning.

Q3. What does a typical day at Facebook entail?

Fortunately, I do not have a typical day. However, I can break my day down into the following categories:

a. Research planning: Planning involves selecting methods, writing discussion guides/protocols, recruiting participants, planning travel (as needed), coordinating with Summit Public Schools counterparts. Because of the pace of my team, my projects tend to be very scoped, which allows me conduct a study and report out on it relatively quickly.

b. Research execution: Unless I’m conducting remote research, most of my projects happen on-site at schools. At a school, I could be doing any of the following: observing classrooms, intercepting students, interviewing teachers/students, and conducting concept or usability evaluations.

c. Research analysis & reporting: Part of the analysis happens with my team (debriefs) and
part happens on my own (listening to interviews, reading notes, writing the report). A report may be very simple (e.g. list of insights) or detailed (e.g., discussion of themes & recommendations). However, my reports are rarely formal. The report has two functions: allows me the opportunity to internalize what I heard/observed and to update the rest of team about what I learned. My reports are hardly ever for those who directly need to consume the information. For these stakeholders, I prefer to share through small group discussions.

d. **Collaboration:** Collaboration is key. Collaboration is not only important with my teammates (e.g., designers, product managers, researchers, & engineers), but also with my counterparts at Summit Public Schools (teachers, researchers, leaders). I may be working with others on initiatives that benefit Facebook (e.g., orientation) or Summit Publics Schools.

Q4. Did you know you wanted to go into industry while you were a student? If so, how did you prepare?

a. I knew that I wanted to work in industry the entire time. I found a way to take a year-long internship with Honeywell in Minnesota and sustain that internship until I joined the company full-time. At that time, I felt like it was a priority for me to gain industry experience.

b. Even though this worked for me, I would recommend to others to find diverse internships. Graduate school is a great time to experiment with different career paths and this experimentation is relatively low-risk. This will definitely help students decide what they want to do later on.

Q5. What was the most challenging part of the interview process?

a. The most challenging part of the interview process was preparation. During any interview, you may need to recall details related to previous studies you’ve conducted, what methods you chose, why you chose those methods, and why you didn’t choose other methods. You may also need to talk about how you would conduct a future study. These will both be difficult to do on the spot if you haven’t prepared for that discussion.

b. My preparation for my interview included documenting the details of past studies and how they impacted my stakeholders’ decisions. It also included documenting a framework for UX research. What methods do I conduct when and why? I feel comfortable talking about these under normally, but I knew it would be difficult for me to remember details under pressure.

Q5. Can you describe your current projects? In addition to this, can you speak to the versatility in the projects you work on?

a. I help facilitate the UX research process throughout the product design and development process. This includes up-front exploratory research, concept evaluations, usability evaluations, and feature pilots. This means that I’m involved with a new feature from conception to full release (and beyond).

b. Currently, projects I’m working on are related to the design and development of features to help students set goals and for teachers to better facilitate projects in the classroom.

Q6. What advice can you give to those interested in working in industry and at Facebook more specifically?

Find opportunities to learn about product design. This could be through internships, hackathon projects on campus, or collaboration with other groups on campus. Specifically, find opportunities to conduct research that impacts product design, such as conducting user interviews or usability evaluations. The biggest challenge I see for new graduates is that companies are looking for researchers with industry experience. Some graduate students conduct very interesting academic research throughout graduate schools, but that does not always apply to industry. Being able to conduct both basic and applied research will make you a much more attractive candidate.
Applying for Industry Positions and Landing a Job at Apple

By Angie Avera

Q1. What companies did you interview with?

Apple (2 positions), UL-Wiklund, Newell (internship), & Houston Methodist Hospital (internship)

Q2. Can you briefly describe the interview process that you experienced? If there were differences among the various interviews, what were those differences?

For my internship at Houston Methodist Hospital, the UX Research Manager, who was an alumnus of my university and had recently seen me present my research at a local conference, contacted me about the position. The first interview was a one-on-one meeting with the UX Research Manager. This was a relaxed meeting over lunch where we discussed my school projects, my expectations for an internship, and the types of duties I might have if I was brought on. This experience gave me the opportunity to learn more about how the IT team was utilizing HF research and demonstrate through conversation my understanding of the importance of usability research in software design.

For my follow-up interview, I met with a group of six team members at one time. Ahead of time, I was asked to prepare a 15-minute presentation of research that I had conducted start-to-finish and then answer questions from the group. This interview was a different style, taking place in a conference room and including IT employees with various IT roles, which allowed me to demonstrate my research abilities and presentation skills to people of various (non-research) backgrounds. I received an offer by phone the next day.

My four other interview processes began at the career center on-site at the HFES International Conference in DC last year. If you’ve never visited the career center, each job listing is posted on a board. If you would like to apply for a job, you place your resume in a corresponding folder, and you will be contacted if they would like to set up an interview on-site. I received notices for interviews for two Apple positions, one position at UL-Wiklund, and one at Newell.

These first interviews were short (maybe 15-30 minutes), and they all consisted of questions about my experiences, skills, projects and publications, general inquiries about HF research design (such as how to design studies to eliminate bias), application questions (such as “how would you design research to answer x question”), general interview questions (such as “tell me about a time you had to work with a team”), and an opportunity for me to ask questions about the company and position. For two positions, only one person interviewed me, and for the other two, a pair of people interviewed me. Every initial interview began with the interviewer asking me to tell them a little about my research interests and myself. One interview turned out to be for a position I likely didn’t have enough experience for, which was stressful, but I still was able to practice interviewing.

Following the initial meetings, I was asked to meet with the two interviewers again on-site at the conference for one position, but this time for coffee in the morning rather than at the career center. In this second interview, which lasted about 45 minutes, we discussed the company and position more in-depth, and the interviewers continued to ask me about my projects and experience. I had received a tentative offer that day and was followed up with via email by a Director of that company and kept in contact through that channel.

For another position, I was told at the end of the first interview that they would not be conducting any second round interviews on-site but rather would be in touch after the conference. This company contacted me about four months later asking if I would like to be included in the second round of interviews for the position.

For the third position, I received text messages asking me back to the career center two more times to meet with a total of four more HF team members at the conference. Each meeting was another short interview. I answered similar questions about myself and my projects, as well as a question about why I wanted the job, but also had new ones come up each time – such as one about the statistics I’d chosen for a specific project and one asking me how I would design the research for a “next step” in that project. A couple of weeks after the conference, I
was contacted by a recruiter to schedule an interview on-site. The company flew me out to their offices for the final round of interviews about one month after the conference. In these interviews, I met one-on-one with five employees who held different job roles. Each individual interview varied in length and topics, based on their backgrounds.

**Q3. What did you do to prepare for interviews?**

I researched each company before the interviews to get the best understanding possible about: 1) the type of products they work on, 2) the workplace culture, and 3) their HF group, so that I could determine how I could best contribute to the position. I also thoroughly reviewed my own resume and especially re-familiarizing myself with all of my past projects. This meant reviewing my research presentations and publications and going back through the process from start-to-finish on each project, so that I could speak to any part of the project in an interview. I also ran through different types of questions with someone to practice how I might answer and get feedback on my delivery. After the first interview, I also had a clear idea of what to say when asked to “tell me a bit about yourself and your research interests” that brought in both personal and professional elements that have shaped my research interests.

For the second-round interview at the hospital, I had to prepare a presentation of my research, which was about technology hardware. I made sure to tailor the presentation to an audience not as familiar with my area of research. My audience did not consist of fellow researchers, and therefore, I didn’t spend too much time on the statistics but rather on the story and application of the research. I practiced this for timing and clarity in front of others numerous times.

For the on-site final round interview that I flew out for, I asked the recruiter for as much information as I could in order to help get mentally prepared for what to expect. I also updated my resume up to that point, rather than relying on the resume the company had seen a few months prior. To prepare for this interview, I wrote down the main experiences (personal and professional) that I wanted to talk about at some point during the interview that I felt best showcase my abilities, skills and personality. I then tried to think about how these situations could be used to answer various question types in order to plan for ways to thoughtfully answer questions by drawing on and showcasing my experience. I also spoke with my mentors in industry (at HP and Paypal) before this interview to get their advice and input.

**Q4. Was there anything in the interviews that you did not anticipate? If so, what advice would you give students to prepare for it?**

Sometimes interviewers asked tough questions about how to design research to answer a big design question, which you may not expect in an interview for your first job. My advice in these situations is to go back to the basics – who is your user, what type of methods would work best here (heuristics, usability, etc.), what are your metrics, etc. You are a researcher, and those research principles don’t change, regardless of the project. Review basic principles of research before your interview, so that you can go back to those when asked these big questions. Also, don’t panic if you don’t know something. You can always ask follow-up questions or be honest that to answer part of a question, this may be an instance in which you need to seek out help from someone else. Be confident when saying you don’t know something, and that you are sure you could find out by asking for help or researching the topic. Saying you would need to leverage someone else’s expertise is sometimes better than answering as if you know everything (especially in situations in which you don’t). It shows that you are a team player, resourceful, and honest.

Even though I reviewed my resume carefully, I still did not anticipate being asked about certain things, such as specific outreach or projects from early in my college career. Some interviewers love to pick out things that stand out to them for a particular reason, and you can’t always anticipate that. To prepare for this, it is very important that you carefully look over your resume and ensure that you can speak to each thing on there.

One last thing that threw me off is that in my second round interview in which I flew out for is that I found out upon arrival that I was scheduled to meet with a VP. At first, I was very nervous to meet with someone so distinguished in the company, but I became more excited to showcase my readiness as the meeting came closer. To my surprise again, however, the VP was unable to attend the meeting,
and his assistant interviewed me instead. At first, my mind wanted to swirl with doubt about what this could mean – were my other meetings not going well, and he could no longer spare the time for someone who wasn’t going to be hired? Or, if I didn’t meet the VP, and other applicants did, would they have the advantage – but I had to reel it in and ended up having a great interview with the assistant. The lesson here is that you never know who you are going to be meeting with in the company, and ultimately, it doesn’t matter. You need to be ready to demonstrate your fit to anyone.

Q5. What do you think set you apart from the other Apple applicants, which resulted in you getting a job offer?

I can’t really say for sure, as I don’t have any insight into the other applicants. I do think having already had an internship as a researcher and being able to speak about my experience planning and conducting usability assessments in that position as well as about workplace lessons learned (such as how to present research to stakeholders, how to convey the value of research to a reluctant team, etc.), definitely helped. Also, having had the opportunity to work on numerous projects in the technology domain gave me a lot of specific projects to draw from in the interviews. I was fortunate enough to have worked on smartwatch and keyboard research with my professors in our labs at school, as well as on various projects with HP, including two that looked specifically at touchpad devices. Lastly, how you conduct yourself in an interview and your ability to establish a good rapport with people who would potentially be your future coworkers is important. I tried to present myself as professional, skilled, and confident as well as friendly and willing to admit that I am still learning.

Q6. What advice can you give to students interested in working in industry?

1. Get a mentor (or two, or three)! Having someone in industry who can help you find or create research opportunities, help you navigate the process of applying for internships and jobs and be a sounding board for all of the choices we have to make while in school, is invaluable.

2. Get as much hands on experience as you can – conducting usability tests, performance tests, heuristic analyses, prototyping and other skills that are expected of professionals in industry. Also, try and focus on doing applied research. If you want to work in the technology field, for example, try and work on (or create) projects that directly correlate to technology by working on software, VR, smart technology, input devices, gaming, etc. Submitting this research to conferences and journals is also important. Presenting your research at HFES, for example, shows that you are conducting solid research (as it has been peer-reviewed), and that you are knowledgeable on the projects you claim.

3. Reach out to people in industry and try to work on collaborative projects. Having those company names on your resume makes you stand out! Contact alumni from your program or nearby companies, and ask if there is anything you can help out with as a student – it may seem scary, but it’s worth asking if you’re able to land a project! Our program at UHCL has good relationships with various companies who offer our students projects regularly. Projects with industry as a student are very important for those of us who want to move into industry once we graduate.

4. Also LinkedIn plug - during my interview process, people from the companies I interviewed with were looking at my LinkedIn, so be sure to keep that updated as well.
The Journey from Graduate School to Government to Industry

Author Preferred to Be Anonymous

Q1. Why did you decide to pursue a career in industry vs. academia or government? [maybe provide a little back of a background]

I found the tech industry very appealing. It is that more often than not you get to work with people of backgrounds that are different than your own. For example, I regularly collaborate on projects with people with business backgrounds, design, software engineering, and marketing. I always appreciate the different perspective that this brings to projects. I also enjoy industry because it is less rigid than government (maybe not academia) in that you can use a wider variety of skills and pursue different projects outside of your traditional academic discipline. For example, if I wanted to build my own testing materials on a website, I am free to do that, if I want to build my own server, I can do that as well and be recognized as going above and beyond the typical duties expected of me. It is easier to be recognize for being innovative in industry than it is in academia or government. Your worth isn’t being defined as the number of publications or grants that you are earning, it is primarily the work that you’re doing that gets recognition. Though in industry it would help if you could get a patent or two, but that typically isn’t seen as a requirement for UX.

Q2. You have had experience in both government and industry. Can you compare them? How are they different or similar?

When applying to graduate schools I was mostly looking towards applied cognition since I was primarily interested in going to academia to pursue research. Over time, I saw the culture around research and I felt like there was much too much politics involved in things like getting tenure or publications. It mattered if you were the researcher at a well-known institution or if you were well-known more than if you were a researcher who produced good work. I felt like it was very much the same within the government as well. When I started to look at industry it seemed like there was similar politics in play, but it was more interpersonal and actually being liked as a person rather than if you came from a prestigious institution.

Q3. What was the industry interview process like and what challenged you the most?

The interview process for industry was the hardest part. There is much ambiguity around what the company is looking for with a new hire. Often they aren’t allowed to disclose too many details about the types of projects that you would be working on so the interview can be very much a guessing game and hoping that you have the right background for what they’re looking for. My advice to anyone who is trying to get hired in industry is to be as consistent as possible in your interviews. Try to talk about projects that directly relate to things that the company does. Focus on the types of methodologies that you specialize in and highlight those. Often delivering results in industry doesn’t require a long publication and revision process, so I wouldn’t focus on talking about publications at all. It’s typically delivering a presentation, report, wireframe, and that’s it. You would then work with the team to get your solutions implemented and move on to the next projects. A project can last as few as two weeks including data collection and report/deliverable generation. Rarely, in industry, will you have a six month long study with the next six months to dissect the data, write up five publications etc., in that time frame, you could have 20 different studies completed in industry. For example, last week I was told that we need data on some features in our product; I created the list of tasks for the subjects to go through, and started data collection the next day.

Q4. What was most surprising or challenging about your current position?

Coming from government and academia I was surprised about the amount of positive feedback I would receive on my work. There is some critiques but it’s often just to improve things slightly or modify small things. I feel like when you come from academia and government, you start to develop imposter’s syndrome since you’re often competing with peers who excelled and can nitpick the tiniest detail on your project. Within industry, you’re seen as the expert, and there are fewer critiques on those insignificant details.
Q5. What type of projects are you currently working on?

I am primarily working on projects that help improve the designs of a software product in order to give the users a better experience. I consider myself a design researcher. Often I will participate in design activities or suggest how to best redesign a feature I gathered data for. Typically most would call it User Experience or User Research. Many of these projects involve interviewing customers about their environment for our product, the uses of our product within their company and how it relates to other products, conducting an in person test to identify usability issues with novice users, and performing a remote usability test to compare different designs and their effectiveness. Much of the work is qualitative in nature. Though quantitative research is valued, less importance is given to achieving statistical significance. When making design decisions having a statistically significant improvement may not always be the best solution to an issue, you have to consider the potential impact of those changes.

Q6. How did you pick the specific company you are working with now?

I chose the current company that I am working for based on the culture of the company. I saw how they spoke to me and interacted with one another. I’ve interviewed with a lot of different companies and the ones I would recommend staying away from are the ones where during the interview process they make you feel like you’re not good enough to work there. Realistically, you want to be treated like an equal in the company that you’re working for. When you interview in industry, certain companies gave off an air of superiority in their interviewing process where you are just another interviewee that they have to get through and they are just looking to fill a spot. The aspect that’s missing in those interviews is the realization that you are an individual with feelings and aspirations. Typically very combative and competitive companies will have an air of superiority during the interview process whereas a more down to earth company will treat you like you’re an equal during the process. They’ll give you time to breath. They will realize that you’re human and you have your limits. These are things that you want to look for when interviewing for an industry position. You want to make sure that the company’s culture will be one that fits with your personality.

Working as a Government Contractor at NASA Johnson Space Center

By Natalia Russi-Vigoya

Q1. Wyle labs is a contractor at JSC. Can you describe how your work as a contractor may be different than working as a civil servant for a government agency?

The main difference is that as a contractor, you are subject to both the health of your own company and the renewal of the government contract. As a civil servant, you are subject to the whims of the federal government. The good news is that NASA has awarded a contract to KBRwyle for engineering services to support > 20 NASA exploration missions. Other differences include chain of command and benefits. The government has its own management structure different than that of the contractors. At JSC, contractors interact with first-and second-level managers within their own company but also work within the civil servant management structure. Civil servants may have some additional benefits (e.g., more vacation time, or a more comprehensive benefits package).

Q2. Since you have work experience in both industry and government, can you compare your experience working in both and share some of the pros and cons of both sectors of HF/E?

Working for the government has been a bit different than working for a big tech industry firm. A lot of the government research projects require IRB approval, and research development can take months for final approval. There are also many different government contracted companies that you have to work with and follow many different regulations. JSC has many different contractors (e.g., KBRWyle, Lockheed Martin, Honeywell, and Jacobs), so you have to make sure that implementations by the different parties have verifications and meet requirements. You may
work on many different projects but all may be focused on one vehicle; in my case, the Orion vehicle. We seek to make the crew interactions effective, efficient, and satisfactory, but the ultimate priority is to make sure that the crew is safe. Meetings and presentations are normally long, because everyone needs a detailed understanding of what everyone else is doing.

Working for a big tech company also requires you to follow many regulations and work with people from many different backgrounds, but everything moves really fast. Research development cannot take a month, and data collection needs to be done as fast as possible. Higher-up management does not expect presentations that are longer than 5 slides. Because they consider you the expert, they usually expect that your research can give them an answer. Your decisions can impact millions of products, and future generations of products. There are many people within the company that may understand human factors but may relate to the user experience.

In both cases, you have to think about the future and seize the opportunity for innovation. While at HP Inc. I participated in 10 collaborative patents. At NASA, I participated in the NASA Innovation Mission Day. In this day there were many activities that encourage government employees and contractors to think about innovation, and your role as a human factors practitioner.

Q3. Did you know you wanted to go into government or work at JSC while you were a student? If so, how did you prepare?

No, I had no idea that I would be working on NASA projects, nor that I was going to be a contractor for the government. The only thing I was certain about is that I love Human Factors and that my background in Industrial Engineering has always inspired me to make things better. At Texas Tech University, I prepared to become a Human Factors professional by achieving my Masters and PhD in Industrial Engineering, which focused on Ergonomics and Human Factors. Although my dissertation focused on human factors in general aviation, I researched other human factors topics that different industries cared about, like decision-making, situation awareness, experience, and workload.

Q4. Can you describe your current projects?

I work with the Orion team. Most of my time, I work on research and development for Orion visual displays. The other time, I work on the overall Orion system and its interaction with the human, requirements and verifications. On a recent project, we were assessing how well the crew could interact with the displays and controls used to monitor and operate the spacecraft. More information can be found on our government website: NASA Simulates Orion Spacecraft Launch Conditions for Crew; Daily Mail: NASA’S astronauts get their first (virtual) ride in Orion; Astro Biology Magazine: NASA Simulates Orion Spacecraft Launch Conditions for Crew; New Atlas: NASA puts the shakes on Orion astronauts.

Q 5. What advice can you give to those interested in working in government and at JSC more specifically?

My advice for those who are interested in working for the government is the same advice that I give to those who are interested in any other field. There are three important characteristics that you need:

(1) Be eager to learn: Not everything is set in stone. As the world evolves, you need to evolve too. You don’t learn everything in school so seek out alternative resources that help you understand different system and the best ways to communicate your research.

(2) Be bold: Never undermine yourself; don’t be afraid to ask questions; don’t be afraid to share your opinion and get involved by challenging projects.

(3) Prepare yourself: Even though you don’t learn everything in school, the principles never change. Take as many Human Factors classes as you can; get involved in many human factors related activities in your school, and learn from different perspectives and fields.

Q6. Is there anything I didn’t ask that you would like to share?

I really enjoy what I do and it motivates me to learn more about human factors every day. I also really enjoy networking with individuals whom share my passion for Human Factors. My door is always open, so if you feel that I can help you, or just want to say hi, please feel free to reach out through LinkedIn: https://www.linkedin.com/in/nataliarussivigoya
Navigating the Academic Path

G. M. Hancock

I was very lucky in that I knew I wanted to go into academia from the start! I love learning, and becoming a professional academic means that I can focus on learning for the rest of my career. I was also drawn to an academic position for the autonomy it affords. Administration rarely dictates your area of focus or your methodology as long as you are producing quality work. I strongly believe we need to ensure the continuation of our HF discipline. As a field, we are great and growing stronger every day, but we need more people to go into academia to ensure that future HF professionals in all the major occupational domains are trained properly.

Q1. What was the interview process like for you; what challenged you the most and what was the most surprising?

In hindsight, the process went very well. I am very excited that I secured not only a job after graduation, but my first choice professional position. However, in the midst of the job hunt, I was a wreck of anxiety. You submit your application materials and have sporadic feedback (if any at all) about your applications. You have to proceed regardless — so a healthy dose of complete and utter terror is very normal! The most surprising aspect for me was how time-consuming the application process was. I knew from interviewing others (my professors, program alumni, peers, and already employed friends) that the time course was going to be lengthy. However, for me at least, job applications became a full time job alongside trying to complete my dissertation. I therefore recommend the individuals start developing their job application materials (cover letters, teaching philosophies, research statements, etc.) about one year prior to expected application submissions. By having the general frameworks established early, you then have more time once the announcements are posted to tailor your materials to the job position, university, program, and associated faculty. Also, you have more time to solicit feedback from several useful sources once your application materials are complete. Tailoring your application materials is time-consuming but compulsory for success. Ask yourself: how do I fulfill each and every one of the criteria specified in the position announcement? How does my research relate to the interests of other faculty or projects in the department? What classes does the department currently offer that I could or would like to teach at both the undergraduate and graduate levels? What classes are not currently offered in the curriculum that I would like to develop? By having a more developed idea of how you would fit into the department, your specific application materials will help to make you stand out. To help with the time-management aspects of the search, I recommend starting a Microsoft Excel spreadsheet with the institutions, deadlines, specific materials to be submitted, and method of submission (link to online submission portal, mailing address for print submissions, etc.). Such a system allows you to organize your materials and your time effectively so that all materials are submitted to the appropriate location at the appropriate time.

Q2. How did you pick the schools you applied to work at?

As I knew that I wanted a long-term career in academia, I looked exclusively at tenure-track faculty positions, and used a number of online resources to facilitate my search. I feel that a degree in Human Factors Psychology affords an enviable amount of versatility when applying for jobs. As HF is so interdisciplinary, I was able to apply for positions in several associated fields including: Psychology (General, Cognitive, Experimental, and- of course -HF), Engineering, and Computer Science. One of my peers was also applying for professor positions in Business Schools. Our research is applicable to so many colleges and departments, so I recommend casting a wide net because you can always make a case for why you are a strong candidate for a particular position.

Q3. What resources did you find the most helpful during your job search?

At the start of my search, I found several online resources that were particularly useful: HigherEdJobs.com, Chronicle Vitae, Psychoneuroxy,
and the APA Psychology Careers (PsychCareers) Website. Later in the search process, I found the Psychology Jobs Wiki (http://psychjobsearch.wikidot.com/) was a very useful research. This website is an online forum in which applicants will post all of the open faculty positions, and update it whenever phone or campus interview requests are made. These updates will allow you to keep track of where the schools are in their search process, and prioritize your own application efforts accordingly. Each institution has different deadlines and periods of time between when you apply and when you hear back from them.

I also highly recommend Dr. Karen Kelsky’s book The Professor Is In. When reading this book, it important to understand the specific perspective Dr. Kelsky offers: she is a cultural anthropologist who earned tenure, served on several academic hiring committees, and who chose to leave academia to begin a successful blog and consulting service (also called The Professor Is In). I would therefore recommend knowing your field so you know when her insights do and do not apply to you. She (refreshingly) does not sugarcoat anything, so I recommend setting the ground rule of no more than three chapters at a time so as not to be overwhelmed. She enumerates the most common mistakes people make during the application and interview processes and successful methods for avoiding these pitfalls. I would most certainly have fallen prey to one of these missteps if I had not read her book – but seriously, no more than three chapters at a time!

With all of this being said, your advisor is of course your go-to resource for advice. He or she knows the field, you, your research, and your work habits. They are therefore best qualified to help you present yourself most effectively. I also recommend talking to other professors in your department, especially new hires and those who have served on hiring committees before. Their input allows you to get the perspective of professionals who make hiring decisions at the faculty level, and those who have just successfully navigated the process on which you are embarking.

Q4. You did both a job talk and a teaching demonstration during your interviews. Can you talk a bit about how they differed and how you approached them?

Both of these talks are of course meant to showcase your effectiveness as a communicator. You are evaluated on how clearly and concisely can you convey concepts, theories, results, and applications to your audience. The teaching demonstration is generally geared toward undergraduate students, while your job talk should target upper-level graduate students and faculty members. The same undergraduate, graduate, and faculty members will most likely attend both talks, but you should tailor your level of information (detail) and your communication style to the appropriate audience.

❖ Job Talk: The job talk is a showcase of your research interests, projects, future directions, and how each of these elements makes you a good fit for the department. Always bear in mind the job criteria from the announcement and tailor your presentation as closely as possible to those criteria. My job talk was 45 minutes to 1 hour in duration, and I talked about several studies. It is absolutely alright to focus on one very involved study, but make sure you use your time wisely and plan your presentation accordingly. You always want to make sure you are showcasing your range, but never go over time! Also make sure you leave sufficient time for questions as you are also evaluated on your ability to comprehensively answer questions from faculty and students.

❖ Teaching Demonstration: The teaching demonstration is meant to assess how well you impart information, not to your peers as in the job talk, but to students who are still learning basic, foundational theories and concepts. The question and answer section is particularly important here as it allows the faculty to see how well you address unexpected questions and gives them some impression of how you would fulfill the role of mentor.
Q5. Many people pursue a post-doc immediately after a Ph.D., did you feel it was more difficult without completing one first? And how did you prepare while a student for your career?

I personally did not feel I had to complete a post-doc. I felt my program really prepared me for the job market and the type of position for which I was applying. During my time as a graduate student, I focused on completing milestones that I could use in my applications. The best way to convince someone you are qualified for the particular position you are applying for is to show them all of the ways you are already performing that job. For instance, by the time I graduated, I had published several peer-reviewed journal articles with three as first author. I had taught three different classes as Instructor of Record over eight semesters, and I had submitted a grant proposal. I do not think you need all of these accomplishments before you can apply, but they provide evidence that you have successful experience completing tasks that are touchstones of the position. I focused on showcasing these in my application and cover letters. If your program does not require you to undertake any of these projects, I recommend seeking out opportunities to teach, publish, and apply for external funding during your student career. The Ergonomist and Ergonomics in Design are two publications that afford opportunities for student authors to submit articles related to a host of human factors issues. For funding opportunities, after investigating all the typical sources (grants.gov, NSF, etc.), make sure to consult the American Psychological Association (APA), the American Psychological Associate of Graduate Students (APAGS), Psi Chi honor society, HFES, and any grants within your own institution.

Q6. Is there anything I didn’t ask that you would like to share?

I would first like to reiterate what I said about starting the whole application process earlier than you would normally expect. Establish good rapport with the faculty or professionals that will be writing your letters of recommendation. Write and edit comprehensive, concise application materials (i.e., up-to-date CV, cover letter, teaching philosophy, research statement, etc.). Secondly, never sell yourself short. The criteria put forth in the job announcement may not be written in stone, and the employers may not know exactly what they are looking for in a candidate. Therefore, do not be afraid to submit your application to any position that you are interested in. You could be exactly what they want, and – if not – the worst-case scenario is an email saying another candidate was a better fit. Rest assured that Human Factors is a wide field that is growing more popular every day; there will be a position for you. Finally, persist. Everything may not happen exactly the way you predict it will, but if you persist you can eventually accomplish your goal.

Student Chapter Showcase: California State University, Long Beach

By Jillian Keeler

The local HFES student chapter at California State University, Long Beach (CSULB) is dedicated to engaging its students and community through events and activities aimed at promoting the field of human factors. Over the past couple of months, we have held several exciting events. Our chapter's first big event occurred during the 2016 Annual HFES Conference in Washington, D.C., where alumni and current students were in attendance. On one of the days of the conference, the chapter hosted an alumni lunch at Old Ebbitt Grill, a restaurant within walking distance from the White House! The lunch acted as a great opportunity for current and past students to connect and network.

For our monthly meetings, we organized multiple exciting talks and activities. In September, students participated in the annual Usability Scavenger Hunt. The hunt gives students fifteen minutes to search nearby facilities on campus for examples of good and poor usability. The event serves as a way to introduce new students to human factors concepts, as well as a hands-on experience for those who are already familiar. Students then present their findings and can win unique prizes. Furthermore, several
students discussed their summer internship experiences for the Human Systems Integration (HSI) division at NASA Ames Research Center and other organizations. Also, a contest was held to determine the design for our chapter’s t-shirts this year. Funds from the sales of the t-shirts will be going towards future chapter events. In October, we had a social event where the chapter went as a group to see Sully, film based on Captain "Sully" Sullenberger's experiences after his landing of the US Airways Flight 1549 on the Hudson River. Afterward, the chapter went to dinner and discussed the film and its implications for human factors.

In mid-October, the chapter volunteered for the outreach program Engineering Girls @ The Beach. The program occurs multiple times a year in Long Beach, California and is aimed at encouraging middle-school girls to pursue STEM degrees and careers. Multiple organizations from CSULB participate and add their own unique learning experiences for the girls. Our student chapter contributes to these events by giving a mini-lecture on human factors concepts, setting up a station where girls can create paper aircraft, and giving them a chance to see what it’s like to be an air traffic controller with the computer based Air Traffic Scenarios Test (ATST).

Additionally, the chapter hosted several fundraising events throughout the fall semester. We partook in two separate on-camera audience fundraisers, including a taping of Funderdome in late October and a taping of To Tell the Truth in mid-November of last year. Through these tapings, the chapter raised over four-hundred dollars! Also, we held a make-a-cup fundraiser on campus where students could customize ceramic and metal travel mugs to bolster funds for our upcoming events, including our annual HFES regional conference.

During early November, the student chapter received a tour of facilities at Edwards Air Force Base near Lancaster, California. Students saw several next generation aircraft including General Dynamics F-16 Fighting Falcon, Lockheed Martin F-35 Lightning II, and Boeing C-17 Globemaster III. Those in attendance also talked to some of the human factors practitioners and pilots employed at the base. Additionally, we tested a pair of brand-new night vision goggles!

Our chapter’s upcoming events include another Engineering Girls session at the end of February, a tour of the Jet Propulsion Laboratory (JPL) in Pasadena, California during April, and a tour of Southern California TRACON (SCT) towards the end of the semester. On March 18th, we will host our annual HFES regional conference in the University Student Union (USU) at CSULB. This event will introduce students to potential employers and give them an opportunity to hear what it’s like to work as a human factors practitioner in varying fields. The event also acts as a local forum for the exchange of ideas in all areas of human factors. Invited speakers for the event include John Sulaitis (Principal UX Consultant for Mindset Strategy & Design, LLC), Steven Vargas (Human Factors Design Engineer for Medtronic, Inc.) and Dr. Gregg Bendrick (Chief Medical Officer and Senior Flight Surgeon for the NASA Armstrong Flight Research Center).

We look forward to continuing our chapter's momentum in engaging and promoting human factors issues!

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**Research Corner**

*by Alexander Scott*

**San Jose State University**

**VECTR Lab**

The members of the Virtual Environments, Cognition, and Training Research (VECTR) Lab are currently involved in a National Science Foundation sponsored effort to improve outcomes in cyber security. To advance this effort VECTR Lab is investigating the elements of expert cognition that contribute to success in a CND context. Understanding the cognitive aspects of CND can improve security outcomes by informing tool development, assessing CND professionals, and developing training programs. Representing an interdepartmental effort characteristic of Human Factors, our lab is staffed by Human Factors, Psychology, and Computer Science undergraduate and graduate researchers.
With a constantly evolving threat landscape and a workflow characterized by high workload, CND is a field that is well approached by Human Factors researchers. The cyber security threat is a growing concern for organizations and governments. In order to assist human operators in protecting their networks, organizations are continually implementing highly complex socio-technical systems. While these entities build their defenses, malicious actors attack networks with increasing frequency and sophistication. Cyber defenders, the individuals responsible for keeping networks secure, utilize automated detection systems to monitor network activity to find, identify, and respond to threats. With automated tools serving primarily as decision support and diagnostic aids, human cyber defenders represent the last line of defense, making the critical decisions that impact security outcomes. Therefore, successful defense against cyber-attacks depends on human decision making.

In order to improve the security of organizations, this research sets out to identify the cognitive outcomes that predict successful threat response. Through industry partnerships, including a Fortune 500 company, our lab is investigating the mental models, decision making strategies, and elements of situational awareness utilized by expert cyber defenders. Our lab is extracting these elements through Cognitive Task Analysis (CTA): a suite of inquiry techniques designed to yield the cognitive outcomes of humans that predict success. Additionally, CTA is especially useful in extracting largely automatic thought processes that can’t be observed or easily vocalized by experts. CTA will allow our lab to define the outcomes that predict successful threat response, create assessments of cyber defender cognition, and develop training techniques that accelerate the development of the CND expertise.

Beyond improving the security outcomes and skill development of those currently in the field of CND, this research has a broader impact in addressing the increasing need for a well-trained CND workforce. The training developed, focused on the cognitive rather than technical aspect of CND, will make CND careers more accessible to individuals beyond traditional computer science career paths. Overall, this research provides a potential strategic advantage for cyber defenders faced with an increasingly sophisticated threat landscape.

This exciting opportunity to contribute to the field of Human Factors and CND is in the first year of a 5-year long National Science Foundation (NSF) project. The past months have been filled with reviewing past contributions to the field and populating our knowledge of the industry CND environment through our industry contacts. Collaboration with industry experts and researchers is an opportunity that we are always interested in exploring.

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