

Spring 2017

Volunteer Research Experience Surveying Humpback Whales in Coastal Ecuador, by Shailja Gangrade



This past July, I spent three weeks in the Galapagos Islands and Ecuador exploring marine life and later focusing on surveying humpback whale populations during their breeding season in the southern Pacific. I began my travels on three of the Galapagos Islands: Santa Cruz, Isabela, and San Cristobal. There, I delved into the coastal communities and their

conservation practices. During my brief visit, I gained a new consciousness of sorts. The Galapagos is the only place I have ever travelled to where the human species does not seem to be in control of the land and the sea: the animals and plants do. Yes, the dozens of tour operations and countless westernized restaurants create this surface layer of modernization and development, but the islands and surrounding coastal waters serve as the Galapagos national park and marine reserve, a preserved habitat for all the wildlife.

I spent my days snorkeling in various parts of the island, understanding how the marine species interact and thrive. After exploring the Galapagos, I headed to mainland Ecuador and its coast to join a biological researcher and professor named Dr. Judith Denkinger and her team with a project called CETACEA Ecuador. The field station we stayed in was located in Caimito, a village about an hour south of Atacames. In the middle of the Choco Forest, the field station sits atop a tree-covered hill and overlooks the rolling tropical landscape. The house relies on a few electric lines, water tanks for showers, and dry toilets. Its rustic style reminded me to really appreciate all the materialistic items I own at home.



Every day we would have fresh bananas, papaya, and cherimoya (also known as soursop) picked from the plants around us. Some of the freshest and tastiest fruit I've ever had!

Although some days we could see whales breach from standing on the beach, we would go out anywhere from 3 to 12 miles off the coast to capture the whales in two ways: photo identification and hydrophone acoustic data. Whenever we saw some activity, we noted how many whales we saw, the GPS coordinates, and the type of behavior the activity may have indicated. We would boat over to the whales, snap our pictures, while also plunging our hydrophone down into the water and listening to their conversations. It was amazing to see whales breaching right next to you while also listening to their sophisticated sounds.

Acoustic signaling between whales is complex. Whales use muscular contractions to move air over internal body parts that vibrate and make sound. Check out this TED talk about why whales sing (<https://ed.ted.com/lessons/how-do-whales-sing-stephanie-sardelis>). Whale songs are variable and can be repeated for hours. Males are the only ones that sing these repeated patterns and our study was looking at how these songs relate to behavior. It is believed that males use these songs to deter other males from mating with a certain female. Phrases of songs can be shared between different populations, in a phenomenon called cultural transmission. The acoustic signals, because of their unique nature, can illuminate certain features of social behavior and therefore genetic tendencies of the whales.



I learned many lessons during my research experience and travels. Most explicitly, I learned about humpback whale population dynamics and how researchers look into understanding these large marine mammals. Their breeding patterns and social interactions are really important to understand the health of the general ecosystem as well. Most importantly though, I learned most about what conducting research looks like in a developing country. The coast of Ecuador is highly undeveloped and consists of fishing villages that rely on daily catches as well as

local harvests to support their small economies. Academic research in Ecuador is not widely funded like here in the U.S., and they rely on much fewer materials and resources to conduct their studies. I also learned how much the people of Ecuador live off the land and the sea. Not much on the coast is highly commercialized at all—it is raw and beautiful, and this translates into how they view wildlife and their conservation practices.

However, coastal management can be difficult. Because of the lack of development, a lack of enforcement exists. The coastal waters are part of the Galera-San Francisco Marine Reserve and therefore there are catch limits as well as restrictions to what stocks can be fished. For example, juvenile populations must be thrown back into the water and should not contribute to exploitable stock; however, when we saw the fishermen's catch of the day come in, we would often see juvenile lobsters entangled in their nets. Lack of education about conservation practices also contributes to this potential exploitation. Community education is difficult though. As Dr.



Denkinger noted, there is a slight cultural barrier between the researchers coming from Quito and the villagers who rely on the catches for income. The potential to educate the village communities is there and is something the CETACEA project is trying to encompass as part of its mission.

This trip has really solidified my passion to study coastal marine populations. I now know that I definitely want to work toward conserving coastal marine resources (organisms, water, food) and understanding coastal

management practices better so that research can continue to be conducted on amazing species such as humpback whales.

¡Aprendi mucho en Ecuador y espero volver algun dia a la costa hermosa mirar las ballenas jorobadas!

Engineers Without Borders in Malawi, by Jordan Shuff



This August, I had the opportunity to travel to Malawi, a country in South-East Africa, with a team of four students from Engineers Without Borders. During this trip, we worked with 2 communities—Mphero and Chilimani—to help engineer solutions to their water needs. Last year, we drilled two successful borehole wells in Mphero, a village that had never seen water inside its boundaries. We returned to Mphero to monitor this project, and were excited to find our system was still

functioning and the Water Committee we formed was up to date on all their maintenance training. We also began a new partnership with Chilimani, a community forced to walk very long distances for water, so we conducted a number of assessment activities to determine how best to solve their water needs. As project manager for the team, I had spent a lot of time prepping for this trip, but nothing could have prepared me for when we landed on the ground. Malawi is known as the “Warm Heart of Africa,” and we received the warmest of welcomes when we arrived in the village- complete with singing, dancing, and chanting!



We started off greeting the chiefs and leaders of the communities who took us on a tour of the communities, stopping so we could analyze the existing water sources. The next day, we had a team of geophysicists arrive from Zambia, who we helped conduct electromagnetic and vertical electric soundings to identify potential “hotspots” for ground water. Using these techniques, we identified four potential drilling spots for our implementation next year. We also conducted household survey to allow us to better

understand the culture and needs of the community. This was one of my favorite parts because we got to sit down with many community members and get to know and they welcomed us into their households. Additionally, we performed water quality testing at Chancellor College, a nearby university in Zomba. Not only was it awesome to learn some chemistry, we got to connect with students and professor who live in a completely different culture and learn from them.

While we completed a lot of work during the trip, we still had some time for fun! After many invitations, we agreed to go to the finals for the inter-village soccer league. Little did we know, that we were VIP’s for the game! They had us take a penalty kick and greet all the players to initiate the game. During half time, we got up to dance since there was music playing, and we were quickly surrounded by 1,000 pair of curious eyes. It was an incredible experience! We also go to spend one day in Liwonde National Park, where we saw hippos, zebras, and elephants- oh my!!

After spending the majority of our trip in the villages, we headed to the city of Blantyre for the last two days. Here, we met with numerous drillers, contractors, and suppliers to identify who we want to partner with to supply water to Chilimani. Over the course of two weeks, we went from being strangers in a community, to having lifelong friends there and being prepared to return and implement a solution to the community’s water problem.

UD Chorale Tour and Beyond, by Thomas Schreck



In the summer of 2017, the UD Chorale, directed by UD professor Paul D. Head, embarked on an international tour consisting of various projects that took us to four countries. Following the trip, I participated in the annual Delaware Choral Academy in Aix-en-Provence, France. Over the course of the trip, I had the opportunity to collaborate and connect with numerous musicians

from all over the world in various capacities. One of the most fulfilling aspects of the tour for me was the chance to see how music connects people.

Each day of the tour presented new opportunities and challenges. Although we had been intensely preparing all year, the sheer amount of music that we had to perform in the various concerts was immense. While in Jerusalem, the choir rehearsed Carl Orff's *Carmina Burana*, an intense and demanding choral-orchestral work, with the Jerusalem Symphony Orchestra. After a few long days of rehearsal, we performed the work throughout Israel in beautiful concert halls filled with receptive audiences. After our final concert with the JSO, the Chorale continued to tour and give concerts throughout Israel. The country was incredibly beautiful and filled with a rich history. Having the opportunity to learn about the history of the region firsthand was eye-opening.



On the way to the choir's next engagement in Malta, we had the opportunity to stop in Greece for just over a day. Although the time spent in Athens was short, the experience was invaluable. While in Athens, we exchanged and performed with the choir from The American College of Greece. The students were eager to meet us and immediately started to get to know us. We had the chance to compare and discuss our experiences as university students and sing songs from each of our cultures. After the initial exchange, we performed a concert together at

the college's open-air amphitheater. Despite our short stay in Athens, we learned a great deal about students much like ourselves and made lifelong connections with other musicians from across the globe.

After departing from Athens, the choir arrived in Malta for a week of collaborations and rehearsals as we prepared for our competition in Germany. We worked with a choir from Malta and we had the opportunity to perform two concerts in a beautiful church located in Victoria, Malta. Preparations for the competition were intense, and everyone came together to hold each other accountable and collectively strive to be the best that we could be.

When we arrived in Frankfurt and competed in the Mainhausen International Choral Festival, it was clear that all of our hard work and dedication had paid off. Despite not winning the competition, the electricity that we spread throughout the room was palpable. The performances were wrought with passion and emotion. I have been performing in choirs for years, but I have never felt a connection to a group of people like I did on that day. We also made friends with musicians from all over the world during the competition, bonding over our shared love of music.

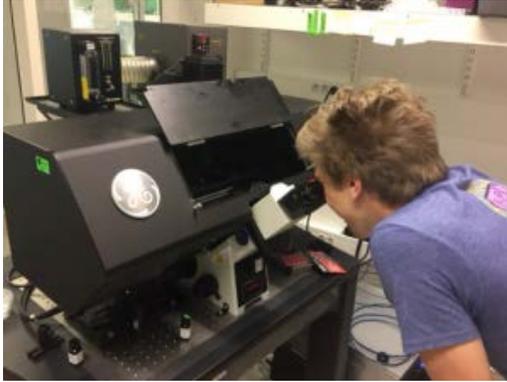
The final leg of the tour was the Choral Symposium in France. We had the opportunity to immerse ourselves in French culture while studying and performing choral music from various time periods and genres. The concerts were powerful, and I had the opportunity to work with inspiring singers and faculty under the direction of Dr. Paul Head.

Summer Internship at the Pasteur Institute in Paris, France, by Eric Rouviere



I received the Honor Enrichment Award to help fund my summer internship in Paris, France. I was “un stagiaire” at the Pasteur Institute, a science institute that is famous for its contributions to pathology and medicine such as the development of vaccines and the isolation of the HIV virus. While many labs at Pasteur study infectious diseases, I worked in a bacterial morphology lab studying how bacteria maintain their rod shape through growth and division. My project was heavily based in microscopy and microbiology. To characterize the molecular system that governs bacterial cell shape, I used the techniques I acquired in BISC 411 and the lab that I work at here at UD. In the photo below I am seen admiring my efforts in molecular biology by imaging *E. coli* cells I genetically modified.

Located in the 14th arrondissement of Paris, eating lunch on the rooftop of my research building gave great views of Paris’s left bank with the Eiffel Tower and Les Invalides and Le Panthéon in the distance. In line with French culinary



excellence (and substantial French subsidies), the cafeteria at Pasteur was outstanding. For three euros one can buy a meal with a salad, a main course, a dessert, and cheese and bread, something I will miss dearly as I return to having to cook for myself.

For housing, I lived at the Cité Internationale Universitaire de Paris, which is a campus for foreign students to live while studying in Paris. With 130 nationalities represented it was a great place to meet new and interesting people from all walks of life. Each

nation has a house that lodges students from that country and each dorm is built in the style of the country of origin making the Cité U a well-known site for architecture. During the weekends I spent my time exploring the city and getting to know each arrondissement as well as traveling to nearby countries. After my 11 weeks abroad I know Paris “like my pocket” as the French say and my French has improved greatly. This, in combination with the excellent science experience, made this summer a superb summer on all fronts.



Volunteering at an Orphanage in Thailand, by Rachel McCabe



When I received the news that I was able to travel to Thailand for a service trip to volunteer at an orphanage, I was ecstatic. I went into the experience hoping to be able to help these children or leave an impression on them in some way. However, by the end of my two week stay, I feel that they were the ones that changed me. Chiang Mai, Thailand, was above and beyond what I expected. Although the breath taking sites, elaborate temples, rich culture, and delicious food were enough to make my trip amazing, volunteering at the orphanage in the town of Doi Suket was the highlight of every day.

My first day, I was slightly nervous to meet everyone. However, from the moment I arrived, I could feel the love and warm welcoming from each of the 39 children in the home. Within a few minutes, I was learning their favorite card games, playing uno, playing soccer, helping with homework and folding paper into intricate designs.

In what seemed like no time at all, they screamed to me "Dinner!" and two of the girls grabbed either hand of mine, a person they just met a few hours prior, to lead me into their dining room. Saying goodbye, or "Sawasdee Ka," was hard to do even on my first day. Some of the children at the home were orphaned and some had families in small villages far away and were sent to live there so they could get a better education. As a volunteer I was able to provide a lot of love, attention, and compassion that the two couples running the children's home could not single handedly provide equally to every child, and in exchange they showed me love, kindness, and a new perspective on life. Living in America it is easy to forget just how fortunate we are, and our society encourages us to strive to have more and more. These children did not have much, but they were so grateful for what they did have. I saw that they were genuinely thankful when you would bring a new deck of cards or a pack of paper. I could only say a handful of Thai words, and they could only say a handful of English words, but somehow this did not matter in the slightest. Over the course of two weeks, I gained many heartwarming friendships, made memories that will last me a lifetime, and learned to feel fortunate for what I have every day of my life.



Chorale Summer Tour- Around the World in 52 days, by Alyssa Lubrano



On May 20th 2017, I boarded a plane to Israel to begin a nearly two month journey abroad with the UD Chorale. We worked all semester to prepare repertoire for our trip, starting with Carl Orff's *Carmina Burana* to be performed at concert halls across Israel with the Jerusalem Symphony Orchestra. This was an exciting experience, as we had the opportunity to work with

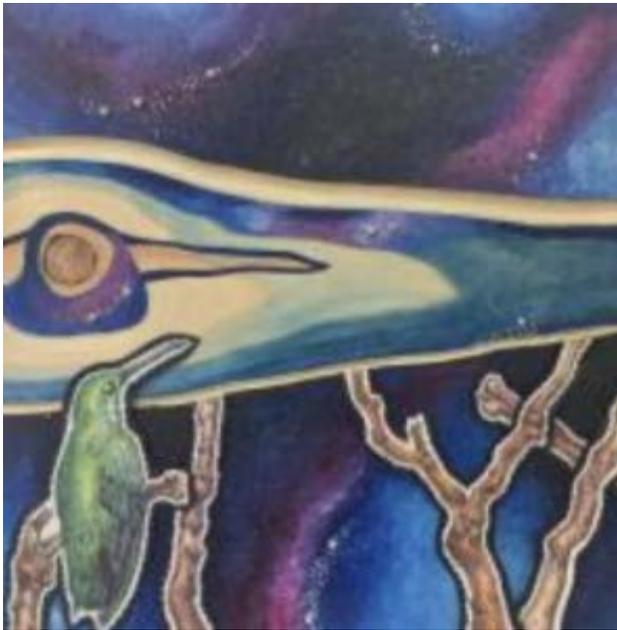
professional musicians and rehearse with a guest conductor to put on three incredible concerts! We also performed several concerts in beautiful venues across Israel that featured only the UD chorale doing our own repertoire from throughout the semester. It was incredible to see the audience react to our performances. I've never experienced such consistently excited and gracious audiences in my life!

We then traveled to Malta to perform with the famous Maltese composer and conductor, Joseph Vella. We premiered two of his works, collaborating with his own professional choir and orchestra. Traveling to Malta was something I never thought I would do, and thanks to this trip I was able to experience the beautiful island of Gozo, the incredible Maltese food, and of course perform in a stunning church. After these performances, we traveled to Germany to compete in the International Mainhausen Choral Competition. We competed in two categories— classical and jazz. I can definitely say that this was one of the most musically enriching experiences of my life. We worked tirelessly to come as close to perfect on both of our sets as possible, reaching a highly refined level of musicality that was thrilling to perform. Most members of the UD Chorale had never sung jazz, and I personally never knew how difficult jazz is to sing. Mastering a new style of music that was outside of our comfort zones was an experience that I will never forget. Dr. Paul Head, the director of Chorale, believed in us and would not lower his expectations, which made us determined to rise to the challenge. We received second place awards in both categories, and I am so proud to have been a part of the experience!



The last segment of our trip took place in Aix-en-Provence, France. This was a bit different from the rest of the tour, as it was the France Symposium that occurs annually, and is open to singers from any school or state. This was exciting because after moving around so frequently, we finally were able to settle into a beautiful apartment in France, where myself and 5 other members of the UD Chorale stayed. We rehearsed every day and met UD Chorale alumni, singers from schools across the country, and former students of Dr. Head from back when he taught high school. It was incredible to make connections with all of these new people, who all became close friends so quickly. We performed in intimate churches across the south of France and went on several excursions throughout the two weeks, visiting attractions such as Cassis, the Pont du Gard, and lavender fields in the S eneque Abbey. Performing in France was a beautiful way to end this tour (although I never wanted it to actually end)! I am so grateful to Dr. Head and the Honors Department for this life changing experience. It is truly one that I will never forget!

Internship With 100th Monkey Studio in Portland, Oregon, by Lauren Gaston



Thanks to the Honors Enrichment Award I had the opportunity to intern at the 100th Monkey Studio in Portland, Oregon for the summer. My internship explored both art therapy and art education as potential career options, as well as developed my curatorial and fine arts skills. Over the course of the summer, I gained experience with a variety of art therapy and studio groups. From day one of my internship, I worked in sessions with Full Life, an organization that helps adults of all ages with chronic illnesses, and physical or developmental disabilities. Initially, Beth Ann, my supervisor and one of the founders of the studio, took charge of the sessions. Beth Ann is a registered Art Therapist and shared many of her techniques with me and the other

interns, allowing us to successfully connect with the participants and make their experience in the studio fulfilling. Throughout the three months, Beth Ann gradually involved herself less and less so that the interns were eventually leading the sessions by themselves. I typically worked with this group twice a week which allowed me to get to know the participants and gain an understanding of how the open studio sessions affect their lives. Although it was difficult to

notice while in the internship, the responsibility of leading sessions increased my confidence and ease of interacting with participants from all sessions.



Through the internship, I was exposed to a variety of clients in sessions such as Teen Art Journaling, Supported Open Studio, Mindful Creative Expression, Adult Journal Group, Exploring Transitions; Adult Insight Oriented Workshops, and Family Open Studio. The variety of these sessions introduced me to a wide range of clients that art therapists can interact with and support. During biweekly meetings with the interns, Beth Ann



shared her experiences with individual and family art therapy. Since I am not a registered art therapist, I was unable to perform any art therapy services but the shared experiences gave incredible insight into what it's like to be an art therapist and what private art therapy sessions are like. I had the unique opportunity over the summer to participate in a studio show titled "Gender Summit". Participants in the show were required to come to the studio to work on their pieces. During these sessions, participants shared their experiences with gender differences and talked about their gender expression. In the beginning of August, I helped prepare and set the Gender Summit show up, giving me valuable experience that most art students don't have access to until their final year of college or after.

Outside of the internship, I took advantage of Portland's vibrant arts community. I lived at Portland State University during my internship and had the opportunity to explore the arts of Portland every day. In my free time, I took a wheel throwing class at Georgies Ceramics & Clay studio. Currently, I am using the skills I learned in the wheel throwing class to inform my work in an independent study I am taking this semester. The class reignited my love for ceramics and opened a third possible career I wish to pursue, ceramics art and education. Although my time in Portland was at times challenging, I cannot imagine a better opportunity to explore what having a career in art therapy and/or art education is like. I wouldn't have been able to intern at the 100th Monkey Studio if not for the Honors Enrichment Award and I am grateful to the Honors Program donors for their generosity and support.

Summer Internship with KaTO Architecture, by Linda Gallagher



This past summer, I had the opportunity to work alongside professionals of KaTO architecture, a nonprofit, humanitarian architect firm based out of Richmond, VA. As a member of a diverse design team, my structural engineering skills were both challenged and enriched in redesigning a school for a village in La Romana, Dominican Republic. KaTO was founded by Kyle Murphy, an ambitious and altruistic designer whose purpose in founding this organization is to

use architecture as a catalyst to further education in third world nations. KaTO works with individual communities across Central and South America to provide educational opportunities in villages where such facilities are lacking. I had the opportunity to work with fellow interns and community members on redesigning FUCPE, an existing yet impoverished elementary school located in the Dominican Republic, to design an inspirational and safe elementary school and community center.

The first week of this summer was spent traveling to the Dominican Republic with the design team and meeting community members of La Romana. Here, we discussed the most important aspect of the project: the community's vision. We talked about social, medical and political issues in the region and discussed how we could go about addressing such problems through the power of architecture. Community members discussed several problems in the area, including a lack of access to medical facilities, a poor existing school building, and an absence of pride in their village. We spent mornings talking through these issues, and afternoons brainstorming in our temporary studio. We met with local architects, artists and political figures. We discovered that the community needed more than just an amped up elementary school. So often in underprivileged environments, schooling does not extend beyond 5th grade, however administrators of FUCPE hoped to change this. As a team, we landed on the idea to not only redesign the existing elementary school, but incorporate a middle / high school, community center and clinic, all in one.



Soon after, we returned to our home base in Richmond, Virginia and started developing our design. Weeks were spent constructing physical and digital models, and piecing together parts of each interns' designs in order to come up with a final product. Following this process came my favorite part: the structural engineering side. I worked with two fellow interns under a Walter P. Moore certified engineer in creating a structurally sound building. It was incredibly interesting being faced with

unfamiliar challenges related to local environmental patterns, material availability and level of skilled labor, all of which became major concerns. My main focus throughout the course of the summer lay in the structure's column, beam and footing design, areas of engineering that I was previously unfamiliar with. Working on a team of such motivated and inspirational designers and engineers made this summer one for the books. I look forward to revisiting La Romana, seeing the new and improved FUCPE, and most importantly, reconnecting with a group of people that I will never forget.

Friends for Asia Medical Internship in Chiang Mai, Thailand, By Amy Elfond



After an eventful Saturday and Sunday of exploring a city I will call home for the next twenty days, I woke up with excitement at 7:30am on a Monday morning, ready to start my surgical rotation for the week. We all gather into the crowded red taxi truck to get dropped off at the different hospitals we are assigned to for the week. The job consisted of observing and shadowing doctors, studying real cases, and interacting with patients. The first week took place in McCormick Hospital. During the time period of 8:30am to

4pm, my time was spent mostly in the Operating Room watching incredible procedures, or in the break room laughing and snacking with the nurses, physician assistants, and surgeons. Here is a list of surgeries we were able to observe.

- C- section (4 of them!)
- Debris removal from a thumb after a motorcycle accident
- Spinal tumor removal/spinal decompression at C6-C7
- Craniotomy a.k.a. BRAIN SURGERY
- Hysterectomy
- Gallbladder removal
- Endoscopy searing for stomach ulcer and taking a biopsy of the stomach lining to test for H-pylori bacteria in the gut
- Appendectomy
- Shockwave Lithotripsy; kidney stone destruction through the ureter of a male patient
- Hemorrhoidectomy... this one was not fun
- Explore laparoscopy due to chronic pain in the abdomen



During the surgical procedures, the interns and I were able to stand behind the surgeon, free to ask questions. The language barrier was eminent, however, the staff wanted us to learn as much as possible and tried hard to communicate through body language and drawing pictures.

There were many differences I observed from the OR at Christiana Hospital to the one in Chiang Mai. First, they didn't wear closed toed shoes! The shoes worn in the operating room were open toed cushioned sandals. Another difference that was obvious was the emphasis on community. Everyday, the hospital staff breaks all together for lunch and there are no surgeries scheduled from about noon to 1:30pm. Lunch consists of papaya salad, noodles, or rice and curry. Everyone eats together, family style, and catches up with one another. This sense of community is something I observed in the upcoming week as well.

The second week, I was assigned to Maharaj Hospital to volunteer in the Rehabilitation Unit. This rotation consisted of shadowing physical therapists and occupational therapists by assisting in stretching, transporting, feeding, and cooperating with the patients. It was an inpatient setting, meaning the patients lived at the hospital for a specific period of time. Their injuries were all neurological; mostly stroke related or from a motor vehicle accident resulting in partial paralysis or total loss of function in parts of the body. Some had the ability to slowly regain function, but others were in the clinic with their families being educated on how they were going to live the rest of their lives with a disability.

This experience in the rehabilitation unit gave me a new perspective on disability as well as end of life care. It also strengthened my views on the importance of family and a support group in

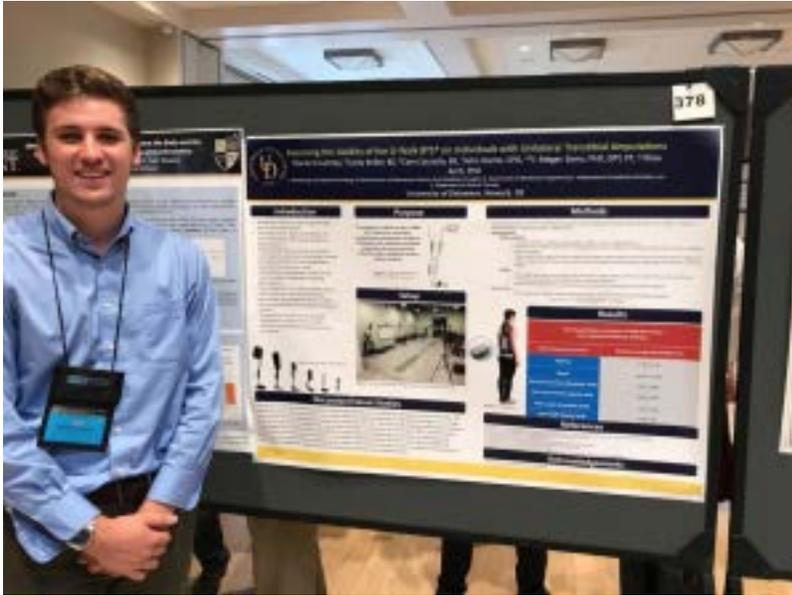
ones life. The therapists were extremely motivating, positive and encouraging. It was easy to tell how much they cared for their patients. My favorite part of volunteering in this unit was Friday afternoon music therapy. The patients sang, played instruments, and even danced along to Thai and American songs. It was beautiful to see the positive energy flowing through the room. I even got a chance to show off my beginner guitar skills as well. Saying goodbye to the patients and therapists was difficult for they made Anna, a fellow intern, and I feel a part of their community.



Aside from working in the hospital, afternoons consisted of visiting gorgeous Buddhist temples, taking yoga classes, and indulging in endless amounts of Pad Thai and Mango Sticky Rice. On the weekends the interns and I were able to travel. We visited a village called Pai in the mountains of northern Thailand and had the opportunity to rent motorbikes for the day... I never felt more alive. We visited an ethical elephant camp as well and gave the elephants mud baths and jumped off waterfalls.

I want to say a BIG thank you to the Honors College for providing me with this opportunity. I had an unforgettable experience that solidified my decision in wanting to become a physician and gained a more global perspective on healthcare.

Biomechanics Research Conference by Dan Courtney



In the beginning of August, I went on a four-day trip out west to the University of Colorado Boulder for the American Society of Biomechanics research conference. It was an incredible experience to be able to fully explore the modern-day biomechanics field and receive valuable feedback regarding my own research.

Throughout the trip, we went to lectures on various topics. The topics I found most interesting to discuss were those on running, orthoses/exoskeletons, and

prostheses. Running is of interest to me because I enjoy the activity and am always looking for ways to improve my gait mechanics and minimize metabolic energy spent. My favorite lecture in the field was regarding how humans could theoretically break the two-hour marathon mark. I also enjoyed learning about engineered external devices, particularly for stroke subjects, because I have assisted many students in my lab with data collections on computer modeled lower-limb support prototypes. Lastly, I was very surprised to realize that many others across the world were also working with subjects with transtibial amputations. It was very interesting to see that some biomechanics prioritized low metabolic rate while others felt that symmetry or other parameters were more important to prevent falls.

The particular topic that I presented on was Assessing the Validity of the G-Walk BTS® on Individuals with Unilateral Transtibial Amputations. I collected this data over the previous summer, and since then I have drafted a paper for journal submission and presented my findings twice before in a podium presentation at Center of Biomedical Engineering Research and a poster format at the conclusion of INBRE. However, both of those events were at the University of Delaware, and I was eager to see what feedback experts from around the world had for me. I was surprised at how interested others were in my topic, as I had many graduate students, professors, and industry individuals coming to ask me about my work. Most of them were happy with what I had done, given that it could potentially give quantitative values for physical therapists in the field to prescribe the correct prosthetic if the device is validated. Quantitative values of such specificity have never been able to be generated before in a quick and relatively inexpensive manner, which gave me encouragement to continue my work.



Additionally, this conference gave me a great opportunity to better explore my interests and network with likeminded peers. Being an exercise science major, I am extremely interested in mobility and metabolic work, topics that were discussed in great detail across many different topics. Furthermore, I was able to meet a medical student from the University of Washington and discuss the connections between medicine and biomechanics. This peaked my enthusiasm because I plan on attending medical school next year and would love to continue to conduct research to supplement my classroom learning.

Aside from the conference itself, it was incredible to take in the rocky mountain views during our walk to and from the conference each day. The University of Colorado had a beautiful campus and the food in the

area was exceptional. I cannot thank the University of Delaware Honors Program enough for this unique experience that I would not have been able to attend without them. I look forward to sharing what I learned during the conference in my research and classes for my final year of undergraduate.

International Meeting for Autism Research, by Mike Hoffman & Susanna Trost



My trip to San Francisco for the International Meeting For Autism Research (IMFAR) was an awesome, interesting and very informative experience to say the least. I attended this conference to present my research and senior thesis on “Differences in fNIRS-Based Cortical Activation During Interpersonal Synchrony Tasks Between Children with and without

Autism”, and also to learn about all of the other research being done around the world on Autism.

To start the trip our flight was delayed for about three hours and we had to transfer to a different plane. This was a problem because originally I was supposed to have three hours at the hotel before I would present my research poster. By the time I arrived at the Marriot Marquis I had to run to check in and get changed in order to present my poster. I was worried enough as it was presenting for the first time in front of professionals who would actually know what I was talking about, but adding the stress of getting there on time made it even more memorable (*nothing ever goes as planned*). Lesson #1 I learned on the trip for future reference: don’t travel by plane on the same day you’re supposed to present. Not all was bad though since we got to talk to other passengers who were attending the conference, some who held high positions in organization around the country.

The presentation itself went well. Our research is one of the first using functional near-infrared spectroscopy (fNIRS) on individuals with Autism so there were a lot of researchers coming up to me asking questions about fNIRS as they were about to start studies using it. Ours was one of the only posters thus year but I bet next year that number will exponentially increase. The next day I presented with other people from my lab that went to the conference and looked around at other posters. It baffled me how much research on autism was being conducted around the world and how much it varied. I learned so much talking to others about their posters and met a lot of

people from all over the world from Israel, Germany, China, England, and from other schools. ~Mike Hoffman

This past weekend was one I will remember for a very long time. For months, my lab had prepared to travel to the International Meeting for Autism Research (IMFAR) in San Francisco to share the research we have been working on over the past year. Despite some unexpected delays, we made it to San Francisco on Thursday with enough time for my lab mate Mike Hoffman to present for the last thirty minutes of his session. He successfully shared his poster, and we were able to meet notable researchers in the field. It was an exhausting first day, but I was excited to present my research the following day and continue to take advantage of everything the conference had to offer.

The posters from my lab group were the only ones with research involving functional near-infrared spectroscopy (fNIRS), and conference attendees were very excited to learn about our work. Many people even asked for suggestions on how they can implement fNIRS in their own labs. It was amazing to share my research and the progress I have made after many months of hard work. I especially enjoyed being able to interact with some of the top researchers, and it was an incredible to discuss my work with authors who I actually cited in my thesis. Although I was nervous to present in front of so many people, I am now more confident in my presentation skills as I move on to graduate school.

To make the most of our time in San Francisco, we woke up early on Friday to explore the city before the conference. We walked across the beautiful Golden Gate Bridge, and took a ferry back to San Francisco, enjoying views of the bridge and Alcatraz along the way. The walk was tiring (we walked all 1.7 miles!), but definitely worth it. After an exciting morning, I headed back to the conference to present my poster. ~Susanna Trost



The trip wasn't all business though. In our short time there we woke up really early in order to walk the Golden Gate Bridge, which was an amazing view that I will never forget.



After that we took a ferry past Alcatraz and ended up on pier 39. Pier 39 was packed with people with shops and places to eat, but

the best part was all the sea lions that were just chilling on docks by the pier. They would push each other off and were never quiet.



Following the conclusion of the conference on our last day we went to the San Francisco Giants baseball game in which the game took 5 ½ hours going into the 17th inning, but we left after the 9th because we had an early flight the next day.

Overall I had a great experience my first time on the west coast and made plenty of connection. I learned so much more about Autism and the future direction the field is heading. ~Mike Hoffman

