

My Ocean Technician Career Path

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Oceanography is a young and exciting field, full of opportunities for new discoveries and fueled by a global community of passionate and like-minded people dedicated to better understanding our planet. It's a field that I've chosen to dedicate myself to because I feel that my contributions are meaningful and rewarding. Today, I proudly work as a SUBSEA Ocean Technician at the University of Hawaii at Manoa. My role in the Schmidt funded SUBSEA

project is to assist a team of international collaborators collect data at sea using a variety of cutting-edge methods and technology. It's my sincere hope that I can inspire interest in this exciting field and maybe even highlight some opportunities for those seeking to get involved in oceanographic research or marine technology by writing about how I got where I am today.

When my interest in geosciences was first sparked in high school I never imagined where it would take me. I was in my Junior year at the Science and Engineering Magnet at Townview when I had the flexibility to pick an elective course that I was actually interested in. Out of all the courses I could choose from, I chose AP Environmental Science (APES) since I knew the teacher was fun and I liked getting out of the classroom to be outside. What I didn't count on was that the class would be the perfect combination of all of my interests up until that point. It seamlessly combined themes of chemistry, physics, biology, and even computer science while giving me the opportunity to practically apply the lessons I was learning in the field. I loved APES so much that by the time I had graduated high school I had completed two "eco challenges" with a small team and helped start an environmental science club. I enjoyed environmental science because I felt that it allowed me to be creative with my technical problem solving while still keeping me rooted in the hard sciences. My advice for those still in high school is that it's never too early to start understanding what interests you and to build on those interests where possible.

When it came time for me to choose a college major, I was torn on what discipline I wanted to dedicate my next four years (or even possibly my career) to. I was considering majoring in chemistry, physics, engineering, and even math but after lots of research and recommendations from advisors, I chose to study oceanography. I chose oceanography because it had all the best parts of the hard sciences I was interested in, was vital to our understanding of issues such as climate change, had a surprising number of career opportunities, and I could sail around the

world while working with a community of adventurous and passionate people. I ended up studying at Texas A&M University for 5 years and graduated with a BS in oceanography, a minor in mathematics, and a scholarship sponsored fifth-year MS in business. While getting my bachelor's degree, I spent three years working in a chemical oceanography laboratory assisting with trace gas sample collection at sea and laboratory analysis of samples. It was in this lab and working under my research advisor that I was first introduced to the expansive world of ocean research. I also spent two summers working remotely for Los Alamos National Laboratory, learning the basics of biogeochemical modelling and model development in the Arctic region. To summarize three years in one sentence, I learned how research cruises were conducted, how samples were collected and processed, and how oceanographic data was analyzed to draw scientific conclusions. By the time I graduated from Texas A&M, I had multiple interdisciplinary laboratory, field, and research experiences. I had studied under brilliant researchers, formed a network of lifelong friends, and learned so much from my successes and failures. My advice for those still in college is to get involved with working opportunities such as internships, research positions, or jobs that bring you into contact with those whose careers interest you. Often this leads to fun and rewarding relationships that can teach you a lot in a short period of time.



After graduating with my master's degree, I had to figure out how I wanted to get involved in oceanographic research. Should I jump straight into a PhD since most of my experience was already in research? Or should I move into a more technical role and help oceanographers collect their data while getting to sail around the world? I didn't have the answers at the time so at the recommendation of a friend I decided to take a gap year after graduation and apply for the MATE internship. I was lucky enough to have my application accepted and I was given the opportunity to sail aboard the R/V Kilo Moana while working with the Hawaii Ocean Time-series (HOT), a historic project well respected throughout the oceanographic community. My aim with this internship was to determine if I actually enjoyed technical field work enough to delay starting a PhD. Needless to say, within one week of my first cruise I was hooked on the idea of working as a tech. A job that allows you to troubleshoot a complex instrument one minute, then grapple a free-floating array the next, and then performing laboratory analysis on collected samples by the end of the day all while sailing to a new country is exciting to say the least. I loved the exposure to different types of research, the diversity of tasks a tech was expected to undertake, the freedom to travel, and the opportunity to learn from brilliant problem solvers.



As a result of this first MATE internship with the HOT team, I applied for the long-term MATE internship to further develop my now growing technical skills and learn more from the tech community at large. I was fortunate enough to be accepted and during this internship I had the opportunity to support several research cruises as an intern working with the University of Delaware, Bermuda Institute of

Ocean Sciences, and once again the Hawaii Ocean Time-series. During these months I learned the basics of troubleshooting instruments, safely conducting deck operations, and working collaboratively with both ship crew and science teams. Towards the end of my internship, I applied for and managed to secure a position with the new Schmidt sciences funded SUBSEA project operating out of the University of Hawaii. The requirements for this position perfectly complemented my familiarity with the HOT team, the technical and seagoing skills I had developed as a MATE intern, and my prior research experience as an undergrad. For those interested in a career at sea within marine technology, I strongly recommend applying to the MATE internship. It's a unique program that provides invaluable hands-on experience and a realistic understanding of both the challenges and rewards of working on research vessels. It's also a great way to meet an amazing community of people within the marine technician field.

Looking back, I'm grateful for every opportunity that led me here. Each of these experiences has deepened my appreciation for the complexity of our oceans, and reinforced my belief in the importance of collaborative, hands-on science. Oceanography has given me a sense of purpose and a community that inspires me to keep learning and contributing. I hope to encourage others to explore the unknown, embrace new challenges, and find their own place in this dynamic and vital field. There is still much to understand about our planet's oceans and I'm proud to be part of a team working to understand them.