STEM SPOTLIGHT

Paul S. Simone, Jr.

Assistant Professor
The University of Memphis
and Foundation Instruments

Bachelor of Science in Chemistry
Master of Science in Chemistry
PhD in Chemistry
University of Memphis

Q: How did you select your college major?

A: Growing up, I was fascinated with the idea of mixing different materials together and seeing a reaction occur, a great example is mixing acidic solutions with baking soda to evolve a gas. As a kid, it was something I couldn't explain, but chemistry could. In my junior year of college, I found my calling in the analytical chemistry classes. After working in the industry, I returned to the University of Memphis for graduate school and now am incredibly fortunate to be a professor at the University of Memphis as well.

Q: What was the biggest influence in your selection of major/career?

A: The biggest influences in my career have been my teachers and professors. The first influence was my high school chemistry teacher, Dr. Frank Swicker, who brought his experiences in industry and graduate school to the chemistry class. I can point to three professors at the University of Memphis who profoundly influenced my career in environmental and analytical chemistry, Dr. Richard Petersen, Dr. Chhabil Dass and Dr. Gary Emmert. Dr. Petersen and Dr. Dass had significant influence in the classroom. Dr. Emmert was my doctoral advisor and currently is an outstanding mentor on how to be a research professor at the University of Memphis in the Mobile Analytical Monitoring and Miniaturization Laboratory (MAMML).

Q: If you could go back to high school and select any elective course to take that would have better prepared you for college, what would it be?

A: Without a doubt, I would pay more attention in high school English. As a high school student, I thought a scientist simply had to be good at "science," and that could not be farther from the truth. A scientist must also be able to communicate ideas, procedures and results, which all require good written and oral communication skills. A revolutionary idea or object is simply a figment of the imagination if it cannot be explained or reproduced.

Q: What is your favorite aspect of your job?

A: I am both a professor an entrepreneur. There is a lot of creativity and curiosity needed to conduct research, develop new ideas and knowledge, and to create new products to be commercially sold. Conducting research at a

university or within a company is about taking an idea and turning it into reality. Every day is a new experience whether it is answering old questions, raising new questions or communicating a new idea. In MAMML, we develop new technology and then apply it to solve problems drinking water utilities are facing today and in the future as regulations evolve.

Q: How do you/your company make a positive impact on society/ our community?

A: I am in a unique position at the University of Memphis. As a professor, I have impact on the students I teach in classes and on the graduate students in MAMML that I work with every day. As an entrepreneur, the ideas we develop in MAMML are then commercialized and sold by Foundation Instruments to drinking water utilities and engineering firms to improve water quality for all people. It is an opportunity well suited to a metropolitan research university like the University of Memphis.

Q: What's the most interesting thing you have been able to do in your professional career?

A: As part of an American Water Works Association and Water Research Foundation project, I drove to about 30 water utilities across Tennessee, Arkansas, Missouri, Illinois, Texas and Oklahoma, and worked by phone with many more. The interesting part of it was that every utility was different and that a drinking water plant is tailored to work with the source water of the particular town. I met many utility superintendents, drinking water operators and analysts. Every person wanted to provide the best quality of water possible to their customers. At each utility, all wanted to aid in the research project to aid in the pursuit of new knowledge. Engaging the drinking water community and talking to the drinking water professionals was a fantastic learning opportunity and experience.

Q: What makes you get up each morning excited about your profession?

A: The professor and entrepreneur aspects of my career means I get to work at the nexus of chemistry, engineering and regulations and would not trade it for anything. Every day is part of a journey and something new. Each day I get to work with outstanding students and colleagues to make ideas work in the laboratory (and beyond), discover new phenomena to explore in the laboratory, and communicate/sell finished projects to the drinking water community.

Q: What advice would you like to share with K-12 students who are considering your profession?

A: Don't be afraid to try something because you are afraid it might fail. Failure is a fact of life – but what is important is how you handle that failure. Do you give up and go home? Or do you get back up and try again? Progress happens in the laboratory because of hard work and perseverance in the face of failure.