

This section will give teachers and students the chance to get “up close and personal” with the many scientists and education personnel associated with this journal. It will feature a discussion on current NASA projects, as well as a few non-scientific questions.



Dr. Tiffany A. Moisan (center) on an oceanographic cruise on Lake Superior aboard the R/V *Blue Heron*.

Brian Campbell: *What and where is your current research position?*

Tiffany Moisan: I am a Researcher at the NASA Goddard Space Flight Center and am responsible for the Phytoplankton Photophysiology Laboratory. It is located on the Eastern Shore of Virginia, which is home to beautiful wildlife and a wonderful quality of life.

BC: *Why did you decide to become a scientist?*

TM: I've wanted to be a scientist ever since I was a young girl. I remember looking through shell books and I've always loved the ocean. I became really serious about science during my undergraduate education at Texas A&M University where I worked in an oceanographic laboratory for four years. It was then that I decided to become a phytoplankton ecologist and

pursue higher degrees, including a Master's (Old Dominion University) and a Ph.D. (Scripps Institution of Oceanography, University of California). During that time, I went to the Antarctic to study phytoplankton and was able to see penguins and whales and all sorts of beautiful wildlife.

BC: *What are some of the major projects you have worked on?*

TM: My major project that I am currently working on is the Biophysical Interactions in Coastal Margin Ecosystems (BIOME) program, which has several scientists and educators working on it from Virginia, Maryland, New Jersey, and Pennsylvania. It has several facets about it that address different temporal and spatial scales. We utilize seasonal oceanographic cruises along the Delmarva Peninsula studying the biology, chemistry, and physics of the region. We also have biweekly cruises off the coast of Virginia at the Wallops Flight Facility. We will be using NASA ocean color satellites to overlook the area that spans out into the Atlantic Ocean and also NOAA sea-surface temperature satellites. Our surface autonomous vehicle, affectionately called OASIS (Ocean Atmosphere Sensor Integration System) will traverse waters in the area, giving real-time data like the weather forecaster does on TV.

BC: *What are your current projects?*

TM: Scientists must acquire money from funding agencies such as NASA, Office of Naval Research, National Science Foundation, and others. We currently have the BIOME Project funded through NOAA and NASA. We also have an educational project funded through NASA that is responsible (with NOAA) for funding this journal.

BC: *What does NASA have to offer the oceanographic community?*

TM: NASA contributes a tremendous and valuable data set—called “ocean color”—to the oceanographic community. Ocean color is the characteristic hue of the ocean according to the presence and concentration of specific minerals or substances, such as chlorophyll. Together with global or regional maps of pigment distribution of phytoplankton all over the world and other products, NASA gives unprecedented global coverage of phytoplankton information to scientists and the public. NASA also has Earth scientists who study the ocean using satellites and who look at things like colored dissolved organic matter, ocean biology, calibration of the satellite, modeling of the physics of the ocean, etc. Check out our Web site at www.nasa.gov. We have a great team of people working on Earth science.

BC: *On a more personal note, what are some of your hobbies?*

TM: My main hobby is my children: four-year-old Katie, and one-year-old, Alyssa, who keep me jumping and running around. We do yoga together! I also love gourmet cooking, growing orchids, biking, and swimming as well.

BC: *Where are your favorite travel destinations (for work or pleasure)?*

TM: Work has taken me all over the world and I’ve had a blast traveling. I’ve been to the Antarctic Ocean during austral

winter¹ where I saw many Adélie penguins and Minke whales. The icebergs were incredible and each had something unique. I lived on the continent of Antarctica in McMurdo Sound, spending Christmas and New Year’s Day there. I had a great time there, too. I went camping in the Dry Valleys while on an expedition to Lake Fryxell. I flew around in helicopters and sampled the ocean and even landed on an iceberg and went hiking on it!!!

BC: *What would you tell our young students wishing to pursue a career in oceanography at NASA?*

TM: Reach for the stars and give it your best shot. Be conscious about learning and fostering both your creativity and your skills. Learn to take criticism constructively. Embarking on a career in science requires a lot of dedication and schooling. I think the best advice that I’ve gotten in my life is “Don’t rote memorize—learn concepts and ideas!” The sciences are becoming very interdisciplinary and cross cutting between each. You no longer do just “biology,” but instead, you focus on the relationship between biology and chemistry or physics. It is best to take as many science classes that you can fit into your schedule. Also, it is important to have a good background in mathematics and programming. Choose your career based on how much fun you have—all will come naturally after that.

1 Winter in the Southern Hemisphere.