

## NSWS Carderock Underwater Glider Team

### Toby Jean Ratcliffe



Mrs. Ratcliffe graduated in 1975 with a Bachelor's degree in Physics from Cornell University. In the fall of that year she joined the David Taylor Naval Ship R&D Center, now the Naval Surface Warfare Center (NSWC) – Carderock Division in Bethesda, Maryland. She received her Master's Degree in Ocean Engineering from the George Washington University in 1987. Mrs. Ratcliffe currently leads a Test and Evaluation group in the Maneuvering and Control Division of the Hydromechanics Department. Her group is responsible for running scale-model

experiments to evaluate new designs of Navy ships and submarines.

Mrs. Ratcliffe is the National Defense Education Program (NDEP) Outreach Coordinator for NSWC-Carderock Division. The mission of NDEP is to partner teams of teachers and Department of Defense scientists and engineers to bring an invigorated science and mathematics curriculum to the classroom. Currently Mrs. Ratcliffe oversees Carderock scientists and engineers as classroom mentors under the NDEP program. In her spare time, Mrs. Ratcliffe enjoys sailing and dragon boat racing. From 2005-2006 she and her husband and their 2 teenage girls sailed to the Mediterranean Sea and back to the United States, visiting the countries of Portugal, Spain and Italy as well as many of their offshore islands.

### Tyson Tuchscherer



Tyson Tuchscherer taught mathematics and science at both middle and high school levels for over 18 years, including three years in Australia. As a teacher, he coached MATHCOUNTS and mentored students entering science and engineering fairs. He created math problems for Oregon State mathematics assessments and for the MATHCOUNTS National School Handbook.

Selected as a tier-one candidate for NASA's Educator Astronaut Program, Mr. Tuchscherer was invited to become a member of the Network of Educator Astronaut Teachers. In 2005, he was honored with an Albert Einstein Distinguished Educator Fellowship and selected by NASA to work with the NASA Explorer Schools Program as a math and science specialist. After his fellowship, he worked as Special Assistant to the Director of the National Defense Education Program. Mr. Tuchscherer currently is an Education Specialist for the Navy supporting science, technology, engineering and mathematics outreach efforts. He is married and has three children. Education: Oregon State University B.S., Microbiology, 1972, Certification - Science Education 1974.

### Michael Britt-Crane



Michael Britt-Crane is a mechanical engineer at the Naval Surface Warfare Center Carderock Division (NSWCCD) near Washington DC. He studied Mechanical Engineering at the University of Virginia. At NSWCCD he designs models, instrumentation, and hardware for model scale experiments. He is also involved in educational outreach programs including Sea Perch, Calculator Robots, rapid prototyping, and the new sea glider activity with middle and high schools in

Maryland, DC, and Virginia.

## **John Hamilton**



A native of Charleston, South Carolina, Mr. Hamilton studied physics at Emory University and earned a Master's degree in physics at Emory in 1985. He has worked as a physics instructor at Morehouse College, was a staff physicist at the David Taylor Research Center and currently works in Ocean Engineering at the Naval Surface Warfare Center Carderock Division.

His areas of expertise include: Data Acquisition Programming In LabVIEW, BASIC, FORTRAN, and C; Electronics Instrumentation, analog and digital circuit design, and Sensors; Fluid Mechanics; Optics, Photonics, and Lasers; and Process Control Using PID Loop Controllers.