Dear MAMEA members,

I hope everyone had a safe, relaxing, and enjoyable holiday break! It was great seeing how many MAMEA members attended the NSTA regional conference here in Richmond, VA. We had a lot of our people present! I hope everyone that was able to attend learned a lot of new and had a good idea. I know I was exhausted after the early morning 8:00 am sessions and going until after 7 pm every night.

Friday night of the conference, MAMEA co-sponsored an ice cream social with the Virginia Office of Environmental Education (VAOEE). It was a wonderful networking opportunity and we had a beautiful banner up with approximately 100 people attending the event.

Saturday afternoon following the end of NSTA, we had our Board business meeting at the VAOEE thanks to Sheila Barnett. During the meeting, the Board voted to approve a splitting of tasks between the MAMEA Secretary and the new Membership Chair. MAMEA is also a Charter Member of the Virginia No Child Left Inside Coalition. Following the conclusion of the Board meeting, we had a member dinner at Casa Del Barco. Here is a list of your new Board members: Dawn Sherwood - President; Sarah Nuss – Past-President; Andy Gould - President-Elect (North Carolina is the site of our 2015 MAMEA conference); Jackie Takacs-Treasurer; Jacyln Beck - Virginia Representative; Kendyll Collins - North Carolina representative

Thank you for allowing me to be your President. Myself and the Board are looking forward to working together and assisting with state mini-conferences and other professional development opportunities.

Best,

Dawn Sherwood
MAMEA President
The “Catholic STEM” Marine ROV Challenge – Anatomy of a Project

by Melinda Mericle & Heather Mericle-Sherburne

The Catholic STEM Marine ROV Challenge was a joint venture between Star of the Sea Catholic School and St. John the Apostle Catholic School during the 2013-2014 academic year. From November 2nd when the grant was awarded (see Masthead Winter 2013, Vol 33, Issue 4, pg 6 & 7) through January 2014, we researched various ROV programs including MIT’s Sea Perch, ROV in a Bucket, NOAA’s ROV Lesson and MATE’s ROV program. We settled on the MATE program because it requires the students to develop their own ROV design based on the mission tasks they must complete. In contrast, MIT’s Sea Perch project requires the students to build a step-by-step model.

Initially, we had planned on starting the program in March/April 2014. However, when our new 100-gallon tank arrived, student excitement convinced us to start sooner and our Catholic STEM Program’s MATE ROV project officially launched on January 21st. Initial funding for startup materials came from tuition students paid for the 8 weeks of 2-hour classes which met on Tuesdays from 3:00-5:00 pm. We held two Training Sessions during the 2013-2014 academic year, and have offered one Session thus far for the 2014-2015 academic year. In addition to these classes, the students who formed “Team REDЯ” in March 2014, worked hard perfecting their ROV in the five weeks prior to competition. In addition to students from grades 3-7, Team REDЯ included a 1st grade student who built all of the props for the missions. Team REDЯ competed in the Scout Division at the 2014 MATE Mid-Atlantic Regional at Old Dominion University on April 26th. And, they are planning ahead for the 2015 MATE Mid-Atlantic Regional, when they want to compete in the Ranger division, moving up two levels in the competition.

A Journey through the 2013-2014 Season

The MATE ROV Program was opened to students in grades 3-8; with students in grades 3-5 required to provide a teacher’s recommendation. Initially, we anticipated between 15-20 students with a cap at 20. But, 25 students registered for this session and, instead of wait-listing 5... Continued on page 3
Continued from page 2

students, we added an additional ROV set-up to Training Session 1. Session 1 included twenty-one students from Star of the Sea School and four students from St John the Apostle, with students from grades 3 (1), 5 (4), 6 (10) and 7 (10), a total of 18 boys and 7 girls. The first Session included a PowerPoint presentation introducing what an underwater ROV is and the various uses for ROVs. Students worked in teams of five to design and construct a ROV.

On February 11th, the students had the opportunity to hear from Ms. Rhonda Muniz and Mr. Mark Pidcoe, trainers from SEABotIX who were in the area for training sessions for the U.S. Navy. This opportunity was arranged by the parent of one of our 6th grade students. Mr. Pidcoe and Ms. Muniz provided details on the usage of ROVs in industry and the military, as well as information on design considerations for the different types of ROVs. Ms. Muniz was able to share ROV footage from her expedition with Dr. Robert Ballard. Students teams worked on their ROV designs, and Mark and Rhonda examined the ROV’s designed by each group, and providing feedback on their strong points, as well as possible problem areas. Armed with this valuable critique, several teams redesigned their ROVs in the next class session.

...Continued on page 18
Aquarium on Wheels Alumni Paddlers Program – Keeping Youth Involved

by Maria Madero, Education Specialist, National Aquarium Youth Programs

The Aquarium on Wheels Program (AOW) at the National Aquarium is an after-school and summer work-study program for selected Baltimore City/County high school students. The program combines scientific research, conservation activities, job training, and the theater arts to promote environmental stewardship. Upon graduating high school, the students also graduate out of the AOW Program, ending their opportunities to stay engaged with the Aquarium and outdoor experiences. I wanted to offer an opportunity that would extend relationships and build capacity among the urban youth who had participated in our AOW program. These alumni, now attending colleges in the Maryland area and elsewhere, had been asking for a program that would allow them to continue environmental education and service opportunities facilitated by the Aquarium. (See Masthead, Vol. 33, issue 4, pg. 6 & 7).

While the AOW program for high school students is operationally funded by the Aquarium, grants are required to offer additional opportunities such as engaging the alumni who have graduated out of the program. Fortunately, for the 2013-2014 program year, we were able to obtain funding via MAMEA Educational Project Grant. With the MAMEA grant funding, we implemented the AOW Alumni Paddlers project. The project offered an intensive, two-day experience that enabled AOW alumni to reconnect and explore the Chesapeake Bay watershed, canoeing on the Susquehanna River and camping at Pequea Creek Campground in Pennsylvania.

Accompany by Kathy Fuller (Youth Programs Coordinator), Ros Steward (Events & Outreach Coordinator) and myself, the adventure began on Saturday, August 9th. The AOW Alumni met at the National Aquarium for the initial trek up to the Susquehanna River. At the Eden Mill Nature Center, we rented canoes and after canoe instruction, set out on the river. Students took note of plant and wildlife sightings while they paddled and learned about the history of the Susquehanna River and its inhabitants. Then, we retired to the Pequea Creek Campground in the late afternoon. Our paddlers set up their tents and prepped a fire for meals. The AOW Alumni led various teambuilding activities. After breakfast on Sunday, the group returned to the National Aquarium. Over the course of this two-day immersive camping and canoeing experience, AOW Alumni identified aquatic animals, birds and other animals while promoting responsibility and environmental stewardship. The trip also gave AOW Alumni -- who are now in college -- the responsibility to mentor younger students, those graduating seniors from the 2014 program. All the students strengthened existing friendships and made new ones, and developed leadership, team building and problem solving skills.

By offering this project, we were able to remove several barriers that make it hard for program Alumni to pursue their interest in and connection to the environment.

Continued on page 20

AOW Alumni from class 2007-2014 demonstrate teamwork in order to safely navigate the Susquehanna River by canoe.
(Clockwise from top): AOW Alumni from class 2007-2014 and AOW supervisors, Kathy Fuller, and Maria Madero, posing for a picture at the end of a wonderful weekend canoeing and camping on the Susquehanna River; Ashley Battle-Chan and Maya Garrison, AOW class of 2014, and Brieanna Smith, AOW class of 2012, using teamwork to set up their tents for the evening and make their campsite feel like a home away from home; Eden Mill Director, Frank Marsden, teaching Brieanna Smith, AOW class of 2012, and Maya Garrison, AOW class of 2014, about the many different species that inhabit the Susquehanna River; Chanel Moore and Bri’Anna Horne, AOW class of 2012, were working great together as a team to navigate the Susquehanna River.
“Living on the Ocean Planet” Video Contest

The National Ocean Sciences Bowl® (NOSB), in partnership with the National Marine Educators Association (NMEA), is sponsoring the 2015 Living on the Ocean Planet video contest.

Any students currently enrolled in high school are eligible to submit a one to three minute video on this year’s contest theme “The Science of Oil in the Ocean.” This theme includes many science disciplines and encourages increased awareness and understanding of the origins of oil in the ocean; transport, breakdown, and remediation of oil in the ocean; the impact of oil on organisms, ecosystems, and humans; and policy related to oil production, spills, and restoration. Prizes will be awarded to the top submissions at both the regional and national level. Each member of the 1st national place video team will receive a Kodak Playsport to encourage future multi-media endeavors!

The submission deadline is March 20, 2015.

For more information please visit http://nosb.org/compete/nosb-video-contest/.

Save the Date!

President-elect and MAMEA 2015 Conference Chair, Andy Gould of the North Carolina Aquarium at Fort Fisher, is working out the details for next year’s MAMEA Fall Conference.

Dates: Nov. 6-7, 2015 (field trips on Nov. 8, 2015)

Location: Wilmington, NC

If you are interested in helping with the conference, please contact Andy at andy.gould@ncaquariums.com.
2015 Living on the Ocean Planet Video Contest

THE SCIENCE OF OIL IN THE OCEAN


Presented by:

[Logos of the organizations]
It's never too early to start planning for next summer. The 2015 National Marine Educators Association's (NMEA) Annual Conference will be held June 29 - July 2 at the Newport Marriott right in the middle of downtown Newport. Sessions and plenaries will include speakers that draw from around New England and beyond through our rich connection to the sea. Field trips will include explorations of local flora and fauna, tours of the historic mansions, learning about the sailing tradition of Newport and much more! You are invited to join an exciting and dynamic group of educators at the NMEA 2015 National Conference in scenic, historic downtown Newport, Rhode Island! Formal and informal marine educators from across the U.S. and around the world will come together to help promote the mission of "making known the world of water, both fresh and salt.” NMEA 2015 is proudly being hosted by the Southeastern New England Marine Educators (SENEME).

State Chapter Updates

Delaware

Bay to Bay: A multidisciplinary watershed investigation across the Delmarva Peninsula
Six days of intensive field work, activities, and watershed, ecosystem, and social science content across the Delmarva Peninsula. Includes all meals and overnight lodging in Easton, MD and Lewes, DE, and boundless resources. This course can be used for Delaware clock hour credits.
WHO: 7th and 8th grade science teachers in Delaware
WHEN: Sunday, July 12 – Friday, July 17, 2014
WHERE: A transect across the Delmarva Peninsula – Poplar Island, MD to Cape Henlopen, DE
COST: TBD, $50 or less
REGISTRATION: Limited to 16 participants
For more information, contact Chris Petrone at petrone@udel.edu or visit http://www.deseagrant.org/baytobay.

Delaware National Estuarine Research Reserve Wetland Walk
Join a naturalist for an approximately 1/4 mile guided walk as we explore the St. Jones saltmarsh. The walk will meet at the St. Jones Reserve. Wear comfortable shoes and dress warmly. Please no strollers.
WHEN: Saturday, March 21, 2015
TIME: 2:00pm-3:00pm
WHERE: DNERR St. Jones Reserve, 818 Kitts Hummock Road, Dover, DE
REGISTRATION: Required
For more information, contact Maggie Pletta at margaret.pletta@state.de.us.

MADE CLEAR Climate Science Academy – Cohort 3
MADE CLEAR is now accepting applications for our 3rd cohort of Climate Science Academy educators. You will learn about climate change through presentations by climate science experts, hands-on activities, authentic data analysis, and on-line simulations. You will collaborate with colleagues from Delaware and Maryland, reviewing NGSS-aligned climate education resources and developing a plan to incorporate them into your classroom instruction.
WHO: 8th grade science teachers in Delaware and Maryland
WHEN: (tentative) April 18, April 30, May 9, June 23, July 6, July 22
COST: Free (A stipend is available for those that complete the entire program)
REGISTRATION: Required
For more information, contact Melissa Rogers at mrogers@umces.edu or visit http://www.madeclear.org.

University of Delaware TIDE Camp (Taking an Interest in Delaware’s Estuary)
The TIDE Program is a 13-day instructional camp for high school students. This summer program focuses on the atmospheric, oceanic, and biogeochemical processes at work in the Delaware Bay. Camp academic activities include classroom instruction, discussions, lectures and visits to modern oceanographic/atmospheric laboratories, as well as field excursions to the Delaware Bay for sampling and exploration. Students will spend time at the College of Earth, Ocean, and Environment's campuses in Newark and Lewes, Delaware.
WHO: Rising high school sophomores to seniors, nationwide
WHEN: Sunday, July 26 – Friday, August 7, 2015
WHERE: University of Delaware campuses in Newark and Lewes
COST: $2,000
REGISTRATION: Required. Deadline is mid-March.
For more information, contact Frank Newton at fanewt@udel.edu, and visit http://www.ceoe.udel.edu/tide.
How Do We Explore?

Professional Development - Part Two

for Educators of Grades 5-12

Saturday, March 28, 2015

8:00 am - 4:00 pm

In partnership with and hosted by
National Aquarium
Baltimore, Maryland

All life on Earth relies on the ocean—yet, the ocean is 95 percent unexplored, unknown and unseen by human eyes...

Join NOAA’s Office of Ocean Exploration and Research’s Melissa Ryan as you are introduced to Volume 2 of the Okeanos Explorer Education Materials Collection: How Do We Explore?

Learn how to use standards-based lessons and online resources that guide classroom discovery into the innovative exploration strategies, underwater robots and other ocean tools used onboard the NOAA Ship Okeanos Explorer. Topics include selecting sites for exploration in a largely unknown ocean, underwater mapping, and exploring the water column. Deep ocean exploration with remotely operated vehicles and telepresence technology that enables participation during ocean exploration missions from shore in real time is also addressed.

This is Part Two of a two-part professional development series, Part One in which you should have already participated. If space is available, educators who have not yet participated in Part One are welcome to register for Part Two.

Registration is required and space is limited. Educators attending the full day will receive Volume 2 of the Okeanos Explorer Education Materials Collection, How Do We Explore?, other resources, a NOAA Ocean Exploration Certificate of Participation, a continental breakfast, and lunch. Educators who have completed both Why Do We Explore? (Part One) and How Do We Explore? (Part Two) will receive a $100 stipend.

Registration Deadline is March 6, 2015

To register, contact the Central Reservations Office at 410.576.3833.

There is a $10 registration fee which will be returned upon completion of the workshop.

Questions? Contact David Christopher at 410.576.8799 or dchristopher@aquarium.org
MAMEA President Dawn Sherwood Named Conservation Teacher of the Year

Congratulations to MAMEA President, Dawn Sherwood, as she was recognized as the Conservation Teacher of the Year, from the Virginia Association of Soil and Water Conservation Districts (VASWCD). Each year the VASWCD recognizes an outstanding elementary and secondary teacher with the VASWCD Teacher Award. The purpose of this contest is to recognize the outstanding conservation education efforts of our nation's teachers. Dawn received her award at the VASWCD annual meeting held in Roanoke, VA on December 7 – 9, 2014.

Dawn Sherwood is pictured below with (left to right) with Judith Fitzpatrick of Short Pump Elementary (recipient for elementary category), Lindy Durham of Henricopolis SWCD, and Dawn Sherwood of Highland Springs High School (recipient for secondary category). Photo courtesy of Beth Skolik.
SAVE THE DATE!

Annual Mid-Atlantic Regional ROV Underwater Robotics Competition

Saturday, May 2, 2015 - 8 a.m.-4 p.m.
Old Dominion University Recreation and Wellness Center - Norfolk, Virginia

FREE Teacher and Scout Leader Workshops at Nauticus!
Get Familiar with Remotely Operated Vehicles (ROVs)
Saturday, January 24, 2015 (Teachers)
Saturday, January 31, 2015 (Girl/Boy Scout Leaders)
9 a.m.-1 p.m. | Limit 25

For more information and to register, contact:
Susie Hill
Nauticus Education Specialist/Special Programs Manager
(757) 664-1041 | rebecca.hill@norfolk.gov
midatlantic.marinetech2.org/2015challenge
State Chapter Updates

District of Columbia

Upcoming Field Trip: Behind Scenes at the National Zoo - explore the "wet" side of the zoo
Join Zoo staff for a special MAMEA behind-scenes tour of Amazonia and the American Trail
• Talk with keepers
• Check out the life-support systems
• See animal feedings and trainings
• Learn about life in and along the Amazon and what it takes to keep healthy populations of seals, sea lions, and otters
This field trip will take place on a Saturday in late winter/early spring.
Registration will be required and participation will be capped at 20. The tour will last approximately 3 hours.

MSI-REaCH - Reconstructing Earth’s Climate History: An Advanced professional development program for faculty at minority-serving institutions
Expand your knowledge of Earth’s climate record and build scientific skills through a week of hands-on paleoclimate investigations. You will analyze data from sediment cores collected by the International Ocean Discovery Program.
WHEN: June 21-27, 2015
WHERE: Gulf Coast Repository at Texas A&M in College Station TX
For more information contact Beth Mills at mills@ametsoc.org.

North Carolina

Collaborations on the Coast
This conference will provide opportunities for teachers of all kinds to bring sea turtles, citizen science, and new techniques into their respective classrooms. Climate change tools, STEM, and volunteer programs are just a few of the exciting topics that will be covered in round table discussions. Conference activities will also include bird watching, a green building your, stargazing, and a nocturnal island adventure.
WHEN: February 28th-March 1st 2015
WHERE: The Bald Head Island Conservancy, Bald Head Island, NC 28461
COST: $25 per person for MAMEA members; $35 per person for non-members
REGISTRATION: Visit http://www.mamea.org and email kcollins@scaquarium.org with questions

For more information, visit http://www.ngwa.org/
2014-2015 Educational Grant Awardees: Maureen Barrett & Christina Romano

The 2014/15 Education Project Grant for a Classroom Teacher was awarded to Maureen Barrett from Harrington Middle School in Mt. Laurel, NJ. Ms. Barrett is the 7th Grade STEM Teacher and Advisor for both MATE (Marine Advanced Technology Education) and SeaPerch Clubs at her school.

Barrett will use her MAMEA grant to augment her school’s ROV (remotely operated vehicle) projects for the 7th grade STEM program. This program focuses on ocean exploration and reaches 450 students each year. While learning about how and why humans explore the ocean, the students work in teams to build remotely operated vehicles. “Students build up to 36 ROVs per marking period,” says Barrett, “and the students’ designs are becoming more and more sophisticated each year.” The MAMEA funds will allow her to purchase a larger variety of PVC connectors, allowing the students’ intricate designs to come to fruition. Additionally, Maureen advises two afterschool underwater robotics clubs, SeaPerch and MATE, which involve an additional 40 7th and 8th grade students. She’ll also purchase color PCV which will be used by the after school robotic teams. Their ROVs would be built using blue and yellow PVC, so that the Mt. Laurel Middle School’s school colors will distinguish their entries at regional and state robotics competitions.

In addition to designing and building their ROVs, throughout the project,

Maureen Barrett, 7th Grade STEM Teacher and Advisor for both MATE and SeaPerch Clubs at her school, Harrington Middle School in Mt. Laurel, NJ

Maureen Barrett (far left) has a history of STEM education, here she is with her STEM team and school superintendent in 2011.
student teams will complete assessment worksheets that require reflection and assessment of their team communication and collaboration skills. And, they will create video journals using iMovie to document the steps they follow through the “Engineering Design Loop” in their ROV building process: identify problem/challenge, research, brainstorm, design sketch, build, test/evaluate, redesign, share solution. Ms. Barrett will have students participate in a class discussion focusing on the success or failure of their mission, addressing design issues, piloting, electrical and mechanical problems. And, Maureen is in search of a full-size indoor pool for an evening ocean exploration event in which students run all 36 ROVs at once. She wants students to present what they have learned and give their family members an opportunity to pilot the very ROVs designed and build by their youngsters.

Maureen plans to get the absolute most out of this MAMEA investment. The PVC pipe and connectors used in student ROVs will not be glued together, so the fittings she purchases with grant funds can be used by students in subsequent marking periods.

The MAMEA 2014/14 Informal Education Grant was awarded to Christina Romano, an Education and Outreach Specialist with the SciTech Program at Towson University in Baltimore.

The Towson University’s Center for STEM Excellence provides outreach programs to Maryland’s K–12 schools. The Center’s Bioscience Education and Outreach Program team is committed to engaging, exciting and educating Maryland’s elementary, middle and high school students using hands-on science. One of the Center’s long-standing and well known programs is SciTech, a learning lab which offers students the opportunity to experience bioscience first-hand in a dedicated laboratory led by expert instructors. Located at the Columbus Center in Baltimore’s Inner Harbor, SciTech has served over 25,000 students since its inception. Christina’s MAMEA grant will support the development and testing of a new lab for use in the SciTech program. Her Ice Core De-
Have YOU got a great educational project idea that needs funding?

MAMEA is looking for great ideas to support for its 2015/16 grant cycle!

You can get your next educational project off the drawing board and into reality, engaging students or fellow educators. Be ready for the next round of MAMEA Educational Project grants - start working on your proposal now! See pages 2 and 4 for updates from the past year recipients.

• Two grants for up to $1,000 are available annually. One grant is awarded for formal educators (classrooms, K-16) and one for informal educators (museum, aquarium, zoo, science center, government agency staff).
• Projects must focus on marine or aquatic topics.
• To be eligible, applicants must be current MAMEA members with at least one year’s membership.
• To be competitive, projects should meet the program structure described on the MAMEA Grants page at http://www.mamea.org/minigrant.html. To read about projects that have received MAMEA support in the past, see http://www.mamea.org/pastgrants.html.
• Visit the Grants page on the MAMEA website for the grant application form, as well as important details about the application process and grantee responsibilities. Or, contact the Grants Committee Chair, Carol Hopper Brill at chopper@vims.edu.
• Proposals are accepted throughout the year, but the deadline for the 2015/16 cycle is September 15, 2015.

Grant awards will be announced at the MAMEA conference in November 2015, and the funding period is 12 months, from November 2015 to October 2016 (no extensions).

February 22-28, 2015

Participate in events across the nation to raise awareness and identify solutions to invasive species issues at local, state, tribal, regional and national scales.

Saturday, February 28th from noon - 3:00pm visit the National Museum of Natural History in Washington, DC to meet different experts who do research on marine and terrestrial invasive species.
Ice Core Detectives lab is designed to help students, grades 9-12: understand how scientists use ice cores to estimate historical climate change data; use ice core data to draw conclusions about past changes in Earth’s climate; and discuss how increases in atmospheric carbon dioxide can affect our land, oceans, and the Chesapeake Bay.

In this inquiry-based activity, students receive an ice core replica of known age. They are challenged to determine how they will perform three analyses, writing their own procedures, conducting their own investigations, and collecting their own data. A key element of the lab is the use of tablet technology. Student teams will use tablets for analyzing data, creating graphs and presenting evidence. After teams share their results with the rest of the class, they place their graph in chronological order to show how atmospheric carbon dioxide has changed over the past and up to the present.

In addition to learning outcomes for the students, this lab offers teachers an opportunity to see how teaching climate science involves science and engineering practices, cross-cutting concepts, and literacy in science. After completing the Ice Core Detectives pilot programs, Christina will use student and teacher feedback to make any needed revisions to the lab and it will become an official SciTech lab offered year-round at the start of the 2015-2016 school year. The tablets purchased with the grant will be used during each climate change lab booked in the future. SciTech instructors will also incorporate equipment purchased in other SciTech labs to increase the level of analysis students are conducting after their lab investigation.
The “Catholic STEM” Marine ROV Challenge – Anatomy of a Project

Continued from page 2

Next came ROV construction and testing. Taking the students’ ages and instructors’ inexperience into consideration, we chose to have students use butt connectors and crimps for all of their wiring. Project Mentor Mr. Molyneaux provided electrical guidance to the staff and students and became a sounding board for the students on mechanical do’s and don’ts. Students were able to test for buoyancy and proper wiring of motors using the new 100-gallon tank in the Science Lab. Field testing of the completed ROVs was conducted at the end of each Training Session using the swimming pool at the Boardwalk Resort near our schools. The Session 1 class experienced several delays due to inclement weather, so their training was not completed until March 11th; Session 2 ran March 18th – May 20th.

At the end of the first Training Session, eight students decided that they wanted to compete in the 2014 Mid-Atlantic Regional, instead of simply attending the competition. Three more students from Training Session 2 had joined the team by the second week of their session. With only five weeks to prepare, this group of dedicated students founded their company “REDЯ” which stands for Rescue-Exploration-Discovery-Repairs. They designed, constructed and tested Shela. Then redesigned, re-constructed and re-tested Shela 2. Students braved a Nor’easter to test Shela 2 in an outdoor pool just two weeks before the competition.

Students quickly learned that maneuvering a ROV underwater was quite different from maneuvering one in the air. They had assumed that the student with experience operating ROV helicopters would be the most skilled. As it turned out, he actually had the most difficulty with Shela. Mrs. McDonald, another valuable Project Mentor, provided design tips for the business end of the MATE Competition and the poster the students needed to construct.

Competition day was exciting and Team REDЯ prepared for the tasks ahead of them. Thanks to their successful completion of missions in the pool, they earned 90 out of 120 points. And, in front of the Engineering Design judges, they were awarded an amazing 49 out of 50 points. Team REDЯ knew that their poster presentation did not meet all of the necessary requirements (because they were too exhausted to complete anything else). But, they were pleased with their score of 22.5 out of 30 points. Team REDЯ came away with the “Most Spirited” Team award for their enthusiasm (see Masthead Summer 2014, Volume 34, Issue 2, pg 7). Team REDЯ is extremely grateful for the dedication of time and talents of their mentors, Chuck Molyneaux and Kat McDonald, and the support from PHR Gold Key for the use of the pool at the Boardwalk Resort Hotel.

Following the spring competition, Heather Mericle-Sherburne was accepted into the MATE Summer Institute for the “Pufferfish” ROV. She received in-depth training on this more advanced Scout and Navigator level ROV. In addition to training on the circuit boards for the new Pufferfish, Heather learned how to utilize fluid mechanics as a tool for the ROV using a series of syringes. She also worked with driving the ROV using a camera and monitor screen. A demo model was purchased so Team REDЯ could see these features in action.

Opposite page: (Clockwise from top) Mrs. Mericle-Sherburne attending the MATE Summer Institute; Team REDЯ poolside during the MATE competition; Shela 2 on a mission during the MATE Competition; MATE Competition poster presentation by Team REDЯ.
2014-2015 and Beyond: The Journey Continues

The 2014-2015 season started with only Star of the Sea (SOS) students as part of the Catholic STEM Program since Mrs. Heather Mericle-Sherburne moved to Atlantic Shores Christian School (ASCS) and is just introducing MATE ROV to her students there. The SOS group is assisting them in this endeavor. The group at SOS started on September 9th with a group of three new students, plus the returning Team REDЯ members who are looking forward to the challenge of moving up from the Scout level for the 2015 Competition. The Atlantic Shores Christian School (ASCS) MATE ROV group met for the first time on September 11th. So that the ASCS students could gain a better understanding of the journey in front of them, Ms. Mericle transported the Shela ROV, the new Pufferfish demo model, and all the props from the 2014 Competitions to the ASCS ROV kick-off meeting.

On October 1st, Susie Hill, the Regional Mid-Atlantic MATE Coordinator and Educational Specialist at Nauticus spoke to the group about the different types of ROV’s and the purpose of each type as well as preliminary information for this year’s Regional Competition. Mrs. Hill informed the students that since the Navigator class would not be available at the 2015 Mid-Atlantic MATE Regional, they would need to move up to the Ranger class or stay at the Scout level.

Team REDЯ is seriously contemplating accepting the Ranger challenge, and students at both SOS and ASCS are considering joining forces for the competition. Both coaches are admittedly a little less enthusiastic and definitely feeling well over their heads at the prospect of learning all of the new skills required to compete at this level: soldering, Arduino circuit boards, articulating arms and CAD drawings, and finding the mentors and the monetary funds required for this level of competition. But, move up we will!
Aquarium on Wheels Alumni Paddlers Program – Keeping Youth Involved

...Continued from page 5

trip planning; finding others in their social group with the same interests; transportation; the expense of paddling equipment, rentals, etc. The project gave the AOW Alumni the opportunity to go paddling comfortably with people they know cost free. And, by including the 2014 graduating AOW seniors in the project, there are now more students engaged in an Alumni network and mentorship opportunity aimed at nurturing and reinforcing their continued commitment to outdoor experiences. This project’s objective, aimed at urban youth from the Baltimore area, was to increase their awareness of the aquatic environment, and ultimately help shape them as environmental stewards. Thanks to the support from the MAMEA Grant, these young people have had a unique opportunity that did just that. Thank you MAMEA!

Ashley Battle-Chan and Maya Garrison, AOW class of 2014, taking a break from canoeing and enjoying the beautiful Susquehanna River.

The Aquarium on Wheels Program (AOW) at the National Aquarium is an after-school and summer work-study program for selected Baltimore City/County high school students. The program combines scientific research, conservation activities, job training, and the theater arts to promote environmental stewardship.