**OAR Well Represented at the 9th Biennial Education and Science Forum**

By Bob Rabin and DaNa L. Carlis

The NOAA Educational Partnership Program with Minority Serving Institutions 9th Biennial Education and Science Forum was hosted by the NOAA Center for Atmospheric Sciences and Meteorology (NCAS-M) at Howard University on March 18-21st 2018. This year’s theme was “Partnering with Academia to Prepare Highly Skilled and Diverse Candidates for NOAA’s STEM Workforce: Building Successful Educational and Research Collaborations for an Inclusive NOAA Mission Enterprise.”

The purpose of the Forum was to showcase collaborative research and education between faculty and students at NOAA Educational Partnership Program (EPP) funded Cooperative Science Centers (CSCs) and NOAA scientists. The forum provided a venue to present research findings, discuss new engagement opportunities, and to promote career opportunities for Science, Technology, Engineering, and Mathematics (STEM) graduates with academic, government, and private sectors. There were more than 150 students and 130 technical presentations (oral and posters) related to NOAA’s themes of Healthy Oceans, Resilient Coastal Communities and Economies, Climate Adaptation and Mitigation, and Weather Ready Nation. Several workshops were conducted on technical topics, such as data assimilation, HYSPLIT, and Integrating Social Science into the NOAA mission. In addition, various professional development workshops were held at the Forum.

The technical sessions provided an opportunity to learn about ongoing research projects and to identify areas of potential collaboration and candidates for NOAA Experiential Research and Training Opportunities (NERTO) at the various OAR labs.

More than 20 scientists and administrators from OAR were in attendance surpassing our involvement in this conference over years past. Craig McLean provided a keynote speech to over 200 forum attendees. Many OAR employees served as judges of poster and oral presentations. Sea Grant, National Severe Storms Laboratory (NSSL), and the University of Oklahoma Cooperative institute of Mesoscale Meteorological Studies (CIMMS) had a booth in the exhibitor hall highlighting research opportunities in their centers.

Almost every OAR lab and program was represented at the conference looking to connect with students and this effort does a lot in terms of helping OAR advance Diversity and Inclusion throughout the organization.
Asian Pacific American Heritage Month

Asians in America: Our Past, Present, and Future

By Annie Reiser

Who knew that the Louisiana shrimping industry has its roots in a fascinating story about the Filipinos who “jumped ship” to escape Spanish brutality and settled in southeast Louisiana’s Saint Malo in 1763? “Those Filipinos are as much a part of the story of the U.S. as the U.S.,” said Justin Valas, who spoke at NOAA Boulder on May 17 on the topic of Asians in America: Our Past, Present, and Future. Valas was invited by the OAR/EEO Diversity Program Office and the Boulder Labs Diversity Council in honor of Asian Pacific American Heritage month. He illuminated the rich history and contributions of Asians in our nation and shared little-known facts about them.

Valas began his presentation with the question, “Who is an Asian American?” Like other celebrated minorities in the United States, this group is complex and expansive. With more than 60 countries of origin and even more ethnic groups, speaking some 200 languages and dialects, Asian Americans, along with Native Hawaiians and Pacific Islanders comprise one of the fastest growing racial and ethnic groups in the United States.

Addressing the question of why Asians immigrated to the United States, Valas explained that Asians were brought to Hawaii as laborers to work the sugar cane plantations in the mid 1800s. Others came to this country around the same time to take hard and risky jobs in mining, on the growing railways, and in farming; for example. Many Japanese came to work the sugar beet fields in Colorado. Later, in the 1960s, immigration laws changed and the United States actively sought highly skilled and educated Asians that spawned what we know as the “Asian American Whiz Kids.” The 70s brought postwar refugees, especially from Vietnam and Cambodia. Faced with this influx of immigrants, the American people had specific responses to these groups seeking a new life here. Valas explained some of the discriminatory laws passed during this time and told the audience about the riots that shaped who the community is today.

Valas ended on a positive note as he discussed the way forward for Asian Americans in the United States. Their solidarity with other minorities is building much needed coalitions for a stronger united voice against racial injustice, unfair labor and immigration laws, and prejudice against many groups. Asian Americans have and continue to shape the rich fabric of our nation and NOAA employees now know a little more about that important history.
Manoomin (pronounced Ma-nō-min, and known in English as wild rice), is central to the Ojibwe migration story and is believed to be the primary reason the tribe migrated west from the St. Lawrence Seaway area centuries ago. According to the story, the people traveled to the place where the “food grows on the water,” and settling around the Great Lakes. Manoomin, and high quality aquatic habitat, are long-standing representatives of Ojibwe culture and community. Yet numerous factors, such as climate change and land-use change, are threatening the health of manoomin and the waters it depends on. Since so many factors affect the health of waterways, GLERL scientist, Brent Lofgren, joined students and faculty at Leech Lake Tribal College (LLTC) in Cass Lake, MN, to help make sense of the science behind climate change’s interactions with lakes.

While thousands of scientists have studied climate change itself, studies of impacts of climate change on specific ecosystems and locations are sparser. Lake and forest terrain in the Upper Midwest— a location that is among the coldest in the lower 48 states and also among the most rapidly warming, and an area where people strongly rely on wild food sources—offers up many questions of climate impacts. With its abundance of lakes, forests, fish, and wildlife, and the headwaters of the Mississippi River near to the southwest of the Leech Lake Reservation, the climate-sensitive tourism industry is also important to the commerce of this region. Understanding the impacts of climate change on these resources is essential for future planning and decision-making.

Lofgren is part of a team of scientists who have been working on new approaches to modeling future water levels. During his visit to the college, he discussed how thermal stratification and lake hypoxia—or the change of temperature at different depths in the lake and low amounts of dissolved oxygen in the water, respectively—influence water quality. Students and faculty at the Tribal College appreciated the close-to-home lake examples as well as the climate haiku’s Lofgren incorporated into his presentation. Colin Eagle, a student majoring in Liberal Education-STEM Emphasis said, “As people connected to the water, learning about how lakes are stratified and how a warming climate might impact water quality is really important to the Ojibwe Nation. I want to express my gratitude to NOAA for the beautiful bathymetry maps of the Great Lakes which will be put to use in our classrooms. Thanks, too, for the generous support in bringing Dr. Lofgren to our campus. Miigwech!”

The Great Lakes—the largest system of freshwater lakes on Earth—is a vital and highly valued resource, providing ecological, economic, and societal benefits for the region. As the environmental challenges we face intensify, NOAA’s work and willingness to share with communities, especially tribal communities who are disproportionally affected by changes in temperature and weather, helps to support resilient and educated populations.
EEO/DIVERSITY ACROSS OAR

AOML – Take Your Child to Work Day

AOML hosted a small but enthusiastic group of children at the lab on February 2nd in celebration of Take Your Child to Work Day. The morning’s activities began with an overview of ocean currents and buoyancy presented by Rick Lumpkin. He demonstrated how various factors such as temperature and salinity impact the density of seawater. The group then visited with Chris Kelble in the Ecosystems Health Laboratory to view a variety of marine specimens that live in Florida Bay and how their presence/absence is an indicator of ecosystem health. A visit with Ian Enochs and John Morris in the Advanced Manufacturing-Electronics Laboratory enabled the group to watch a laser cutter and 3D printer in action and how they can be used to customize lab equipment. While there, each child received a laser-cut name tag and a 3D printed shark. A trip to the Engineering Laboratory acquainted the group with various types of surface drifters, followed by an activity to build their own drifter and test its buoyancy by adding the weight of golf balls. AOML communications intern Sierra Sarkis organized the fun event and made the day memorable for AOML’s next generation of budding young scientists.

Photo: AOML Take Your Child to Work Day participants.

ESRL – 4th Annual Girls and Science day at the Denver Museum of Nature & Science

On March 3, ESRL employees participated in the 4th Annual Girls and Science Event at the Denver Museum of Nature & Science, co-hosted by CBS4 (KCNC-TV). The Girls and Science Event invites children and their parents from all over the state of Colorado to visit the museum and learn more about careers in Science, Technology, Engineering, Arts and Math (STEAM) through interactive displays and conversations with professionals from relevant occupations. The NOAA Clubhouse activities were planned and organized by NOAA scientists Laura Slivinki, PSD and Shilpi Gupta, GSD. Laura devoted many weeks to developing and presenting an appropriate “club house” activity for children called “Earth’s Stormy Past” that engaged them in a day-in-the-life of a NOAA scientist. NOAA’s Clubhouse was one of twenty-two Science Clubhouses that involved ESRL mentors who shared stories about their careers and inspired the participants to “try on” and explore STEAM careers. Other activities included having the Girls draw their own weather maps and have them projected onto the NOAA Science on a Sphere that is located at the museum. There was also a “Meet a Scientist” table, a tornado-in-a-bottle demonstration, and a weather balloon/rain cloud demonstration.

Photo: L to R: Chelsea Thompson and Carrie Womack answer questions and demonstrate the tornado in a bottle at the Meet a Scientist NOAA Clubhouse. Credit: Barb Deluisi
GFDL – Encouraging Scientific Thinking in Young Students

Scientists and affiliates Lori Sentman, Heather Archambault, William Hurlin, and Zhaoyi Shen participated in the 12th Annual Monmouth Junction Elementary School Science Fair in South Brunswick, NJ on February 3, 2018. There were over 90 student projects on display, and the scientists visited and spoke to the science teams. “The students benefited from the insights offered during their rich conversations,” commented the school’s Principal, Cristina Vildostegui-Cerra. This is an example of NOAA’s dedication to community service, fostering the love of science, and encouraging scientific thinking in young students.

On February 22, Lori was invited by the Greenbrook Elementary School Site Council to present a hands-on weather demonstration for their Math, Science, and Technology Night. With over 150 families from the South Brunswick community in attendance, Lori presented the science behind tornados and provided an interactive exercise where elementary students generated and studied the dynamics of a vortex in a bottle. Event organizer Kim Schneider commented that the demonstration was “very organized and the kids loved it!” Lori’s involvement advances NOAA’s mission of science, service, and stewardship by communicating NOAA’s research, data, information, and knowledge for use by the Nation’s communities and people’s daily lives.

In the News:

Jasmin John, GFDL Climate Scientist, participated in the Ocean Discovery Institute program in San Diego, CA. She was featured in an article, Why This NOAA Scientist is Temporarily Calling City Heights Home. Read Here

DaNa Carlis, PPE, was inducted into the Booker T. Washington (BTW) High School Distinguished Hall of Fame in Tulsa, OK. He was recognized for his career and scientific accomplishments.
OER – Sharing Career Journey at the Society of Women in Marine Sciences Symposium

Catalina Martinez was one of two keynote speakers at the Society of Women in Marine Sciences (SWMS) Spring Symposium at the University of Rhode Island’s (URI’s) Graduate School of Oceanography (GSO) on March 24. She shared her non-traditional background and career journey, information on her 16-years with NOAA OER, and details about a variety of NOAA student internship, fellowship, and scholarship opportunities. She ended with a ‘Circle of Trust’ activity to catalyze conversations for sessions planned for the remainder of the day. The other morning keynote was Bethany Jenkins, a Professor of Cell and Molecular Biology at URI, who spoke about her exciting experiences as an Antarctic scientist. She energized an audience of predominantly young women by explaining that she was one of three female URI scientists to lead expeditions to Antarctica last year. The Keynotes were live-streamed and are available here. In the afternoon, Catalina gave tours of the URI Inner Space Center, and facilitated a break-out session on ‘Inclusion and Intersectionality’ with about 30 participants, who shared stories about issues they’ve experienced as women, women of color, women with disabilities, women who are part of the LGBTQ community, as well as ideas/tools to build resilience and find success under challenging circumstances. She said it was incredibly empowering. Several URI graduate students did a wonderful job coordinating and planning the Symposium, and consulted with Catalina about how best to incorporate diversity and inclusion into the day. Catalina helped recruit a diverse group of students and professionals who came from as far away as Hawaii and Alaska. The 147 participants included high school students, recent undergraduates, graduate students and professionals of all stages, Fulbright, Hollings, Knauss, and Nancy Foster scholars, and even research technicians. It was truly an amazing day. See write-up in Ocean Bites.

PMEL – Generating Interest in Research at Sea

March 27, 2017 – Adi Hanein, Sophie Chu, Tom Walton and other NOAA offices (NOS PHB, NOAA Dive Center) from the Western Regional Center participated in the SO²UND Day which provided marine science experiences and education on marine careers for 200+ underrepresented high school students. PMEL had various sensors and parts that are used in oceanographic research and spoke about what it’s like conducting research out at sea and various opportunities at PMEL other than as an oceanographer.

The Pacific Hydrographic Branch brought their Augmented Reality Sandbox and charting activities to engage students about nautical charts and hydrography. NOAA’s Dive Center had divers speak about what it’s like conducting research underwater as well as learn more about underwater filming and photography. Students were all encouraged to enroll in NOAA Science Camp’s Junior Leadership Program for high school students.

The maritime industry in the Puget Sound region is expecting a high percentage of its workforce to retire over the next five to ten years. In order to generate awareness and educate youth on the many pathways
available to them in the maritime industry and marine science fields, the Youth Maritime Collaborative and Seattle Maritime Academy have partnered up to host the second annual Maritime and Marine Science Exploration Day, Sound Day.

Left Photo: Tom Walton (UW JISAO/NOAA PMEL), talking to high school students attending Sound Day about machining. He highlighted various parts made at PMEL as well as showed a video of parts being made.

Right Photo: Students from Ballard High School Oceanography Class learning how to put on survival suits from Alaska Fisheries Observers while learning more about the Groundfish Observer program.

Credit: Adi Hanein (UW JISAO/NOAA PMEL).

Wyoming Women In STEM 2018

By Annie Reiser

Once again, an outreach team and researchers from NOAA Boulder packed up posters, a new “Spin the Wheel” quiz game, and other swag to bring to the annual Women in STEM Conference held at the University of Wyoming in Laramie every May.

As the campus quiets down after the school year and before summer sessions begin, young women in grades 7 through 12 from every corner in Wyoming visit for the day to learn first-hand about careers in science, mathematics, engineering, and technology from accomplished professional women. This year some 600 girls began their long day—some leaving on busses as early as 4:30am to get to the event—that started with browsing the various educational booths, including NOAA’s ever-popular tables staffed this year by Jenn Kinkade, Annie Reiser, and Carrie Womack.

Then, after a welcoming address by University of Wyoming’s College of Arts and Sciences Dean, Dr. Paula Lutz, the girls split into groups and traversed the campus to participate in hand-picked, hands-on learning sessions with the volunteer scientists and outreach experts. After attending two sessions, they headed back to the student union for a pizza lunch sponsored by the Wyoming NASA Space Grant Consortium, a group whose goal is to motivate girls to become innovative and creative thinkers ready to meet 21st Century challenges. After lunch, the girls participated in one more session on another aspect of STEM, and then returned to the student union for a special presentation and final chance to snatch up the last of the educational giveaways.

NOAA/Boulder scientists Carrie Womack (CIRES CSD) and Alisa Young (NCEI) presented three sessions each on their topics of expertise: Carrie taught the girls how to build and use air pollution sensors, and Alisa introduced her classes to NOAA’s remote sensing capabilities and satellites in a computer lab setting with interactive surveys.

This was another successful outreach event for all involved, especially the young women who went home with new information about what STEM careers might suit them best and the knowledge that women like them are doing those jobs.
NOAA Research EEO/Diversity Program Office

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Website: www.eeo.oar.noaa.gov

CONNECTIONS NEWSLETTER

Connections is published quarterly by the OAR EEO/Diversity Program Office. The purpose is to share accomplishments and to link Diversity, EEO and Science within all of the OAR laboratories and program offices. If you have any newsletter ideas, suggestions and stories to contribute, please email Georgia Madrid - georgia.madrid@noaa.gov.

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