



E-SLATE

American Academy of Underwater Sciences (AAUS)

EDITORIAL NOTE – August 2015

Welcome to the August E-Slate. In this issue, the AAUS president gives an update, we announce the 2015 Scientific Diving Lifetime Achievement Award winner and Kevin Flanagan Award winners, the AAUS BOD election results, notify of upcoming standards changes, continue registration for the 2015 AAUS symposium and much more. Organizational members are reminded that dues and statistics are now past due. We welcome news, announcements, job postings, program highlights and images of underwater work at aaus@disl.org. Current and past issues of the E-Slate are available at www.aaus.org.

Letter from the President

The Board has been preparing for the 2015 meeting and Symposium in Key West; registration has been strong so far and there are a lot of exciting talks and activities in the works. I'd like to draw your attention to two events in particular. First, the 60-day comment period for the Strategic Plan has now closed, and thank you to everyone who provided their input! The comments can be viewed at aaus.org/aaus_2015_strategic_plan. At the DSO meeting in Key West, we'll present the Board's timeline and strategies for implementing the plan. Second, the Board is working towards keeping the AAUS standards current, and one early objective is to bring the rebreather standards (Section 12) up to date with modern technologies. We are soliciting input and suggestions from the membership prior to the meeting, and a panel session will be held in Key West to discuss the issues and input and develop a revised standard. Please look for the message from the Standards Chair, Liz Kintzing, in this E-Slate for more information.

Lastly, I'd like to give a warm welcome to the new members who will be joining the Board in January 2016, Marc Slattery (President-elect), Chris Ledford (Secretary), and Mike Anghera (Member-at-Large). We had a fantastic slate of candidates this year and a record voter turnout, so thank you to all who voted! On behalf of myself and the Board, many thanks also to all those who ran for office. The AAUS could not function without members who are willing and able to stand for election.

Amy Moran
AAUS President

NEWS/ANNOUNCEMENTS

Scientific Diver Lifetime Achievement Award 2015

The 2015 American Academy of Underwater Sciences (AAUS) recipient of the Scientific Diver Lifetime Achievement Award is Charles Birkeland.

Charles ("Chuck") Birkeland earned his PhD at the



University of Washington by determining how sea pen populations were able to persist despite the intense combined predation pressure from seven species of predators, some of which were specialists on sea pens. Also while a student, he dived

from a Coast Guard buoy tender on Cobb Seamount 280 miles off Washington and found that the most common invertebrates on the top at 110 ft depth were ordinarily found in the intertidal and were brooding species that did not disperse as larvae in the plankton.

In 1970, he spent a continuous three weeks on Tektite and in 1978 spent a week on Hydrolab and published the results from each. The science career of Charles Birkeland has always been underwater where he combined his ecological field experiments with natural history observations.

Birkeland was a post-doc at the Smithsonian Tropical Research Institute from 1970-1975 where he did the first experimental underwater field studies of coral recruitment and demonstrated the importance of nutrient input to the survival of coral recruits and that recruiting larvae often survive better in places they do not actually grow as rapidly. These studies on the Atlantic and Pacific coasts of Panama led to an understanding of how nutrient input affects ecological processes differently on a large scale on coral reefs among the geographic regions of the world.

Birkeland was a professor at the University of Guam Marine Laboratory from 1975 to 2000 and at the University of Hawaii from 2000-2010. He has done much of his field work in American Samoa since 1979. He established a research

program to determine the capacity of corals to adapt (genetic changes in populations) or acclimatize (behavioral, physiological or morphological changes in individual colonies) to environmental change in pools on the small island of Ofu in American Samoa where the temperatures often fluctuate 6°C daily. He has guided and supported important field transplant experiments that have determined the changes in genes and proteins that come with stress from environmental change, indicating potential to successfully respond to climate change. He had also determined that nutrient input from terrestrial runoff into the coral-reef ecosystem leads to crown-of-thorns starfish outbreaks through fertilization of phytoplankton blooms that feed the starfish larvae. This was controversial for a while because the loss of predation by over-collection of triton shells was the popular explanation, but recent laboratory and field studies on the Great Barrier Reef have proven Birkeland's hypothesis correct.

Birkeland's current interests are presented in his latest book "Coral Reefs in the Anthropocene" which is expected to be available from Springer Science this coming September. One of the messages of the book is that the trophic structure of the coral-reef ecosystem provides the greatest gross productivity and the least net productivity, perhaps of any natural system. To extract a substantial supply of food for humans, the net production is enhanced by reducing the upper trophic levels, and this had generally been happening widely before coral-reef science became active. Some islanders harvest reef resources for subsistence and local market, yet maintain the integrity of the original coral-reef system, by harvesting the intermediate-sized individuals from fish populations. This maintains the stock because large fishes potentially produce exponentially more offspring and the juvenile fishes grow the fastest. The larger individual fishes of species such as parrotfishes fulfill their role in maintaining the ecosystem by clearing algae from the substrata and facilitating coral recruitment, while smaller parrotfishes have little effect even when common. Palauans have exemplified the favorable globalization of their economy while maintaining the integrity of their coral-reefs systems by keeping resource consumption local and having their international economy service-based (tourist) rather than export-based.

Birkeland has authored or edited four books, 70 papers in scientific journals, dozens of technical reports, and numerous other publications. He was the third President of the International Society for Reef Studies, organized the seventh International Coral Reef Symposium, was given the first Excellence in Research Award by the University of Guam, the award for "Outstanding Scientific Advancement of Knowledge" by the U.S. Coral Reef Task Force, and was elected Honorary Fellow of the Pacific Science Association.

BOD Election Results

The 2015 AAUS Board of Directors (BOD) election results are tallied and the Board congratulates the newly elected President-elect, Marc Slattery, Secretary, Chris Ledford, and Director at Large, Mike Anghera. They will begin their terms on January 01, 2016. On behalf of the Academy, we thank all of the candidates for participating in the election. The AAUS Board of Directors will have a Director at Large position open next year. We encourage membership to consider nominations for this position and to vote in the elections.

2015 AAUS Kevin Flanagan Travel Award

The 2015 Kevin Flanagan travel award winners are Catie Mitchell, Vanderbilt University and Marissa McMahan, Northeast University.

Marissa is a PhD candidate in Northeastern University's Ecology, Evolution and Marine Biology program. Her research focuses on community ecology and fisheries biology. Currently, she is studying how the northern range expansion of black sea bass is impacting local ecology, food web dynamics and fisheries productivity in the Gulf of Maine.



Catie is currently a sophomore at Vanderbilt University studying Ecology, Evolution, and Organismal Biology and she is the 2015 OWUSS and AAUS Scientific Diving intern hosted at the Darling Marine Center at the University of Maine.



Find out more about both of these students at http://www.aaus.org/2015_kevin_flanagan

The Kevin Flanagan Student Travel Award is a competitive award developed to support the professional development of students engaged in diving science or the study of diving science. The award was created in memory of Kevin Flanagan (1970-2012), an AAUS board member (2009-2011) and diving safety officer (1998-2012). Donations to fund this award can be given at www.aausfoundation.org.

Please indicate "K Flanagan Fund" on the donation page. We hope to make this our first permanently endowed fund by reaching \$60,000. Join us in our efforts to honor Kevin and provide students with much needed travel funds.

Rebreather Standards Update

In response to discussion at The Scientific Diver and Rebreather workshop held in Feb 2015, and in conjunction with the Board's plan to update our standards manual, AAUS is in the process of reviewing and revising Section 12 (rebreather). Rebreather systems have changed quite a bit in the 10 years since our standard was written, and rebreather technologies have been changing at a rapid rate.

One of several examples of how the standards manual may be out of date is this: "CCR's shall incorporate a minimum of three independent oxygen sensors". Our proposed changes may look like this: "CCR's must have gas sensing systems demonstrated to be reliable through empirical testing, and validated by a recognized independent testing authority." We are looking for input from membership into this and other appropriate updates and changes.

AAUS is opening up a 60-Day comment period (01 August to 01 October) for the above proposed change and any other suggestions for changes to Section 12 in the AAUS manual. We have several AAUS members with rebreather expertise working on this update and they will discuss their findings, along with the membership-suggested changes, at the annual symposium. Your suggestions and comments can be submitted online at aaus.org/2015_rebreather_standards_update. If you have any further questions or concerns, please contact the standards chair, Liz Kintzing (ek@unh.edu)

AAUS Standards Change 2013-Required Adoption

In October of 2013, AAUS implemented a change to Sections 4.0 and 5.0 of the AAUS Standards. These changes coincided with the launch of the AAUS Certification Program, and adoption of the new format was initially required only for OMs who chose to participate in the program. Having 2 manual templates that are essentially the same, but written in different formats has caused some issues and confusion. Thus, as of January 2016, all AAUS OMs will be required to adopt and incorporate these changes into their manuals. This should not affect how AAUS OMs conduct their diver training programs, as the standards and procedures have not changed. Please also note that this does not mean that all OMs are required to offer the AAUS/ITI certification program. This is a step towards streamlining and simplifying the AAUS manual. Questions regarding these changes should be directed to Liz Kintzing (ek@cisunix.unh.edu), AAUS Standards Chair; questions regarding the AAUS Certification Program should be directed to Christopher Rigaud (crigaud@maine.edu).

2015 NOAA's Nancy Foster Scholarship Recipients

NOAA's Office of National Marine Sanctuaries has selected four graduate students as recipients of the Dr. Nancy Foster Scholarship, representing graduate-level areas of study such

as marine biology, oceanography and maritime archaeology. This year's recipients are Alexandra Avila (Oregon State University), Richard Coleman (University of Hawaii at Manoa), Sarah Kienle (University of California at Santa Cruz) and Joshua Stewart (Scripps Institute of Oceanography). Find out more about the class of 2015 and the scholarship at <http://fosterscholars.noaa.gov/>.

2015 AAUS/OWUS Internship

Follow the blog of the 2015 AAUS/OWUS Intern, Catie Mitchell, as she gets her feet wet at the University of Maine's Darling Marine Center. www.owuscholarship.org/blog

UPCOMING EVENTS

2015 AAUS Symposium

Registration for the 2015 AAUS Diving for Science symposium is now open and workshops are filling up quickly! **Many workshops have a deadline of August 15th for registration.** If you are planning to attend a workshop but are unable to register before August 15, please contact the office so that a space may be held for you.

Special room rates are available for attendees at the Marriott Key West Beachside at \$165/night for standard rooms. This rate is available from September 25-October 07, 2015. Please make sure to book prior to **Monday, August 31, 2015** to receive the special discounted rate. A full schedule, lodging information and registration are available [here](#).



National Diving Safety Officers Meeting 2015

Please submit any agenda items for the 2015 Diving Safety Officers' meeting to Jim Hayward (ucbdiver@berkeley.edu) by September 15, 2015.

AAUS DSO Qualification

In response to the results of the surveys sent out to the membership and the AAUS BOD strategic plan, AAUS will be conducting an OM DSO Qualification course. This two day evaluation will include classroom and in-water activities. This DSO qualification will be part of a larger movement within the AAUS to achieve some of the goals of the 2015 BOD strategic plan. Details for the qualification are still being worked on and will be announced once we have them set. For more information please contact Rick Riera-Gomez at rgomez@rsmas.miami.edu or 305.421.4107.

GeoSub International Conference 2015

The GeoSub International Conference will be held in Trieste, Italy, October 13-17, 2015. A special session entitled Underwater Habitat mapping will welcome contributions that i) present synthesis charts highlighting the interaction between geomorphological and sedimentological characters of the seabed and the dynamics of biocoenosis; ii) describe approaches and results related to underwater habitat mapping, especially those focusing on the cartography of continental shelves. We welcome contributions that focus on geological or ecological mapping, or both. Email your abstract to sfurlani@units.it by 5 July 2015. Contact Stefano Furlani (sfurlani@units.it) for further information.

Heritage Awareness Diving Seminar

The Florida Public Archaeology Network, Florida Bureau of Archaeological Research, and the St. Augustine Lighthouse and Museum are hosting another Heritage Awareness Diving Seminar (HADS) on October 15 -16, 2015, in St. Augustine, Florida. This seminar provides scuba professionals with information and skills to proactively protect shipwrecks, artificial reefs, and other underwater cultural sites as part of the marine environment. Participants will leave the seminar with all of the tools necessary to teach the Heritage Awareness Diving Specialty through PADI, NAUI, and SDI. More information at <http://flpublicarchaeology.org/workshops/HADS.php>.

ICUSTE 2015

The International Conference on Underwater Sciences, Technology and Education (ICUSTE) will be held from the 19th to 22nd Aug, 2015 at the City University of Hong Kong. It will be co-organized by the Division of Earth Sciences of the National Natural Foundation of China (NSFC), SKLMP and School of Veterinary Medicine. This conference will be structured for some invited key presentations, a larger than normal focus on poster presentations, and a considerable time for breakout discussions on key topics. The conference will cover interdisciplinary topics of significance with the theme "Tools for Ocean Research." For more information contact at icuste2015@cityu.edu.hk or <http://www.icuste2015.com>

JOB ANNOUNCEMENTS

Full information and application instructions for the following jobs can be found at www.aaus.org/job_board

Swinomish Indian Tribal Community

Fisheries Technician

New England Aquarium/ Woods Hole Oceanographic Institute

Temporary Diving Safety Officer

California Academy of Science

Diving Safety Officer

University of Washington

Diving Safety Officer

Oregon Zoo

Part time Diving Safety Officer

FROM WAVES TO WEB

One challenge facing all Diving Officers is persuading divers to log their dives in a timely manner. Reporting science and training dives is required of AAUS members; anything that makes this process more efficient and accurate is a valuable tool. In 2015, University of California Santa Cruz transitioned to a new on-line dive logging system, Webdiver, and a new diver data logger, Bluebuddy, in order to leverage the capability of the Bluebuddy to upload dives directly to Webdiver. Working with the developers of Webdiver and Bluebuddy, we have created an upload system both flexible and scalable. When a diver exits the water they are able to download dive data to their smart device (typically a phone) using the Bluebuddy app, add information required for Webdiver fields (location, buddy, etc.) and then upload the completed log to a DSO cloud. Since communication between the Bluebuddy and smart device is via Bluetooth, other devices or cables are not needed to transfer the data post-dive. When logged into Webdiver as an administrator, the DSO is able to download, from the DSO cloud, dives logged since the last download. Once these dives are imported into Webdiver, they can be reviewed for any dive plan or safety violations as a batch. Initial skepticism by both divers and dive leaders about using the Bluebuddy was overcome by the advantage of being able to analyze dives during dive debriefings and the motivation for divers to document their dives the same day. We used this system during our quarter-long, subtidal ecology field class, in which students use SCUBA to collect data. Twenty-one students and 4 staff logged 750 dives and 40,000 minutes of bottom time over 30 days of fieldwork. The required dive log data is stored and ready for the annual statistics submission to AAUS and the raw dive data is available for other analysis if needed. In the event of a diving incident, not only can you see the dive profile immediately on surfacing, this data can also be sent to DAN electronically for analysis and reporting. Please contact me (Steve Clabuesch; srclabue@ucsc.edu) if you need more information about how we are using this new technology.

Editorial Note: This is an entirely separate program from the web-based logging software available free from AAUS. Mention of any specific brand or manufacturer does not constitute endorsement by AAUS. We encourage all our members to share innovations, technical or otherwise, in scientific diving operations and techniques.

The mission of the American Academy of Underwater Sciences is to facilitate the development of safe and productive scientific divers through education, research, advocacy, and the advancement of standards for scientific diving practices, certifications, & operations.

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