



# 2018 PROGRAM

INTERNATIONAL CONFERENCE ON  
UNDERWATER EDUCATION  
ICUE 2018  
LONG BEACH, CALIFORNIA - JUNE 23 & 24  
"DIVE SAFETY THROUGH EDUCATION"



Dear NAUI Members and Friends,

I am honored to have been elected to the NAUI Board of Directors (2016-2019). My first assigned task was to look into bringing back the International Conference on Underwater Education (ICUE, or IQ). Considering that I knew nothing about those innovative and successful conferences, I quickly educated myself by reading through a few of the proceedings that my predecessor (Dr. Robert Millott, NAUI 2445) left behind when he retired from the University of Florida, as well as the findings that *Sources* Editor-in-Chief Peter Oliver was able to provide. The IQ events allowed not just NAUI members but divers from all over the world to meet in one location to exchange ideas about diving skills, new technology, dive safety and much more.

My research left me amazed at the history of ICUE — beginning in 1969 at Santa Ana College in California, running nearly every year until the late 1980s and sporadically thereafter, and concluding in Malaysia in July 2000. Typically, the IQ took place over three or four days and consisted of various presentations, workshops, panel discussions and even film festivals. Whether you were a NAUI member or not, IQ was the event to attend! As the years passed, more dive-oriented trade shows were born, which increased the competition for our members' time and money. This, along with the fact that the IQs were organized by different volunteers each year, brought about the end of the conference.

In 2016, the NAUI Board of Directors decided that it might be the right time to bring back the IQ, and we decided that NAUIWorldwide would organize the event and venue each year. The first step was forming a subcommittee to brainstorm. After one year of discussions, teleconference calls, meetings, emails and hard work from the entire committee, we were thrilled to bring back the IQ in conjunction with the 2017 Scuba Show in Long Beach, California. The 2017 IQ and the special events that accompanied it were met with much support and success. So much so that we are continuing the tradition again during Scuba Show June 23-24, 2018, in the Long Beach Convention and Entertainment Center, Room Seaside 7.

The IQ events will kick off on Friday, June 22, with an invitation-only dinner at Nelson's Restaurant to honor the 60th anniversary of *Sea Hunt*. Zale Parry (NAUI A12) and Lloyd Bridges' daughter Lucinda will be special guests in attendance at the dinner and throughout the weekend. We have an exceptional and exciting lineup of speakers ready to share their work and experience with IQ attendees. We do hope you will join us!

I would like to thank my committee members (Derik Crotts, Michael Feld, Barry Moore, Dave Ochs, Peter Oliver and Dan Orr) as well as the IQ sponsors for all of their hard work and dedication. We look forward to seeing you in Long Beach!

Cheryl Thacker (NAUI 23525)  
NAUI Board of Directors, ICUE Committee Chair

# Attend ICUE International Conference on Underwater Education

## JUNE 23 & 24

## 8AM-5PM

Held in conjunction with the 2018 Scuba Show  
in Long Beach, California

Open to all divers and dive leaders! For admission  
and seminar information, visit [nau.org/about/icue](http://nau.org/about/icue).



Be among 10,000 people and 300+ exhibitors  
visiting the Diving and Underwater Education  
Event of the Year!

Join dive industry leaders and icons  
in room Seaside 7 as they share  
the latest advances in underwater  
exploration, scientific diving, equipment,  
digital imaging, teaching theory, aquatic  
conservation, and more.

Be sure to reserve your seat at the  
**Sea Hunt** table: <https://bit.ly/2J56pWu>



# ICUE Returns and Celebrates *Sea Hunt* 60th Anniversary and Influencers

We are looking forward to the **International Conference on Underwater Education (ICUE, or IQ)**'s return to Long Beach and the opportunity to honor some of our NAUI leaders who established and grew this event, the first of its kind in the dive industry. The conference will take place in **room Seaside 7** of the **Long Beach Convention and Entertainment Center** on **June 23-24** in conjunction with the 2018 Scuba Show in **California**.

"The concept of ICUE is still relevant today. There are always opportunities for education and getting divers together to build community. Diving is a very social sport – that's important. Social media and the internet connect us, but back in the day, you didn't get to see everyone very often, but you would see them at the industry conferences where we created networks and shared ideas. ICUE created a forum to talk about, try out and argue crazy new ideas," said Jeanne Sleeper (NAUI 2648), manager of IQ 6 through IQ 10.

ICUE's primary purpose is to create a forum to present the latest advances and concepts in educational theory, diving skills, safety, physiology and dive medicine, equipment improvements, and marine science to divers and diving professionals from across the world. The relaunch will consist of two days of events and seminars held in conjunction with the Scuba Show, where attendance of over 10,000 is expected.

Organized by Larry Cushman (NAUI 206), Art Ullrich (NAUI 601), Glen Egstrom (NAUI 937) and John Reseck (NAUI 949), the first ICUE was held at Santa Ana College in Southern California in the late 1960s, and it grew to become one of the largest traveling international conferences of its type. The underlying goal of the conference was "making diving safer." Each ICUE lasted several days and was filled with presentations and seminars, which were then published by NAUI as the IQ Proceedings. Following in this tradition, the 2018 IQ will have its proceedings and an event summary published as well. The IQ 2017 proceedings can be accessed at [https://www.naui.org/media/1797/proceedings\\_iq2017.pdf](https://www.naui.org/media/1797/proceedings_iq2017.pdf).

"At that time, IQ was a platform for emerging industry leaders to be known and have other divers listen to their good ideas and move those ideas forward. These young 20-something presenters like Dallas Edmiston (NAUI 4099), Jeff Bozanic (NAUI 5334) and Dan Orr (NAUI 5612) have really done something for diving – some really high-level things. There is much we owe to them and so many others," said Cheri Boone (NAUI 4851), who worked with Sleeper to execute several IQ events in the 1970s and early 1980s.

"Today, scuba is again in a period of great change," said NAUI Executive Director Dallas Edmiston. "New challenges to maintaining and growing the popularity of our sport; changing methods and approaches to teaching and learning; and new frontiers in diving technology and techniques need the attention of all of us."

**NAUI will host a special evening reception on Friday, June 22 at Nelson's Restaurant at 6 p.m.** The restaurant is named in honor of Mike Nelson, the hero from the *Sea Hunt* TV series (1958-61) and contains walls lined with entertaining posters from many of the episodes, each generously donated by Lloyd Bridges' family. **To RSVP, visit <https://bit.ly/2J56pWu>.** Each dinner reservation includes a ticket for the door prize drawing for a 7-night dive vacation at [Scandi Divers](#) in Puerto Galera, Philippines. The package includes deluxe accommodations, meals, unlimited internet access, unlimited scheduled boat diving (up to 20 dives, including night dives and a Verde Island trip), and more. The estimated value is \$1,900 USD.



On Saturday and Sunday, June 23-24, we have a diverse and exceptional lineup of speakers scheduled. We have also invited special guests Zale Parry and Lucinda Bridges, influencers of *Sea Hunt*, to be recognized during the Nelson's dinner and prior to the start of the seminars on Saturday morning. On Sunday, attendees can also expect an intimate look behind the scenes of *Sea Hunt* as Zale Parry provides a special rolling commentary and compilation of clips during NAUI's premier "Sea Hunt – 60 years in 60 minutes."

An additional [Scandi Divers](#) 7-day Philippines dive vacation will be available as a silent auction item at the NAUI Booth (503) and IQ seminar rooms throughout [Scuba Show](#). IQ Associate Sponsors Henderson Divewear and Atlantis Dive Resorts & Liveboards will provide additional silent auction items available only to IQ seminar attendees.

Simply attend one or more IQ seminars and place your bid for a 7-night dive vacation for one person at either [Atlantis Puerto Galera or Atlantis Dumaguete](#). The package includes deluxe accommodations, meals, unlimited internet access, and unlimited scheduled boat diving (typically 5 dives per day including night diving). The estimated value is \$2,600 USD. The silent auction also includes [Henderson Divewear](#) certificates for (1) men's and (1) women's Henderson Thermoprene Pro Shorty wetsuits.

## SEMINAR SCHEDULE

### SATURDAY, JUNE 23

### LONG BEACH CONVENTION AND ENTERTAINMENT CENTER

9 AM  
Zale Parry  
[ICUE History and Key Note](#)

10 AM  
William Ziefle  
[Understanding Diving Risk Management](#)

11 AM  
Walter "Butch" Hendrick  
[Leadership Rescue for Dive Leaders](#)

12 PM  
Dr. Tabby Stone  
[The Ears Stopping You From Diving? What You Should Know](#)

1 PM  
Jonathan Bird  
[Bringing the Underwater World Alive for the Next Generation of Divers](#)

2 PM  
Michael Emmerman  
[Life in the Fast Lane: Technical and Extreme Exposure Diver Fatalities](#)

3 PM  
Brittany Novick  
[Divers as Educators: Teaching Marine Conservation](#)

4 PM  
Mark Gresham  
[Cylinder Safe Handling Practices](#)

### SUNDAY, JUNE 24

9 AM  
Mauritius Bell  
[Scientific Dive Operations in the Mesophotic Zone](#)

10 AM  
Zale Parry  
[Sea Hunt: 60 Years in 60 Minutes](#)

11 AM  
Andrea Zaferes  
[Gear Up for Contingencies](#)

12 PM  
Dan Semrad  
[Breath-Hold Tips and Techniques](#)

1 PM  
Dan Orr  
[Does Scuba Diving Have a Retirement Age?](#)

2 PM  
Jeffrey Bozanic  
[Caves Project: In Search of Ancient Travelers](#)

3 PM  
Cheryl Thacker  
[Scientific Diving Past and Present](#)

4 PM  
Dallas Edmiston  
[Closing and Announcements](#)

**ROOM: SEASIDE 7**

[www.naui.org/about/icue/](http://www.naui.org/about/icue/)



# SCUBA SHOW

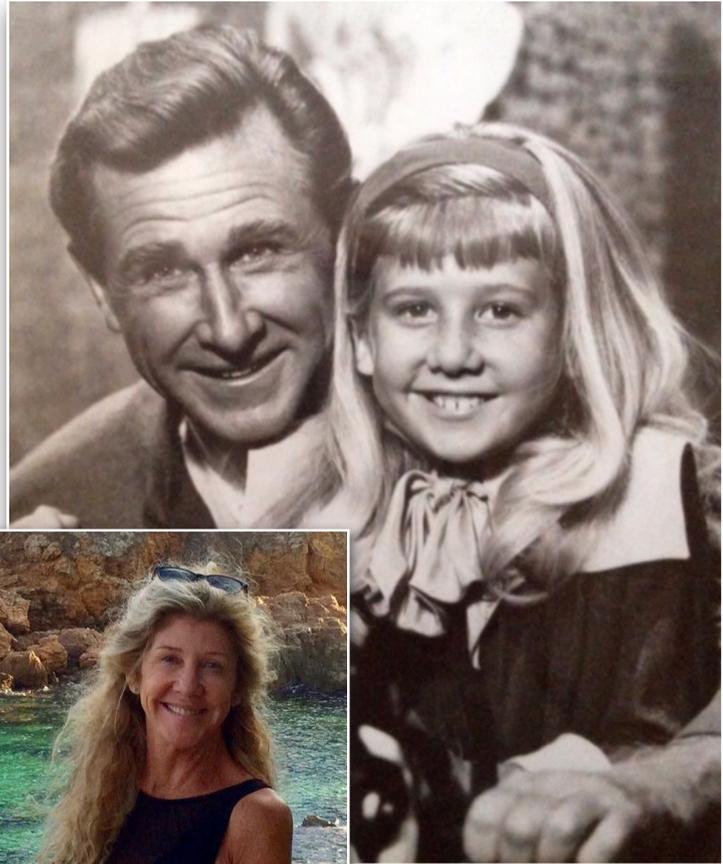
THE DIVING EVENT OF THE YEAR!™

## June 23, 6 p.m.

### “Sea Hunt—60 Years Later”

On Saturday evening at the Aquarium of the Pacific, the Scuba Show and California Diving News will honor Lloyd Bridges with the California Scuba Service Award for his enormous contribution to the public’s awareness for the oceans and to diving.

Accepting the award is his daughter, Lucinda Bridges, and Zale Parry. The party also serves as a fundraiser for “No Kid Hungry,” one of Bridges’ favorite charities.



## Lucinda Bridges

“I did not do a *Sea Hunt* adventure with my father the week it was scheduled. I came down with a cold! Mom wouldn’t let me go seeing as I was 6 years old, and of course, the episode involved being trapped somewhere in the ocean. I did however have the joy of working with my father in other television series: *The Lloyd Bridges Show* and *The Loner*.

We also spent time in Summer Theater back East. While I enjoyed acting, I chose the “family route” of homemaker, having three children. They’re now all grown up. My brothers and I were christened at the edge of the ocean so to speak, rolling in the surf with our parents.

We still have a family beach house in Malibu. We’ve had it since 1959 when there were only about 10 homes from point to point. The visibility was beautiful back then. I still live in Malibu, up in the mountains, and enjoy traveling (especially to islands!), making art, and keeping up with helping our planet during these challenging times.

# Exclusive Dinner at Nelson's



NAUI will host a special dinner at **Nelson's Restaurant** with honored guests Zale Parry (NAUI A12) and Lucinda Bridges. Lucinda was an integral part of Nelson's creation and provided the unique *Sea Hunt* memorabilia that fill the restaurant.

## June 22, 6 p.m.

### Terranea Resort

To kickoff the weekends' events, NAUI is hosting a special evening dinner reception beginning at 6 p.m. on Friday, June 22 at Nelson's Restaurant, overlooking the Pacific coast in Rancho Palos Verdes, California. Special guests Zale Parry (NAUI A12) and Lucinda Bridges will be in attendance to share stories and discuss the ***Sea Hunt*** memorabilia that fills the famous restaurant.

Dinner reservations include a ticket for the door prize drawing for a 7-night dive trip in the Philippines with [Scandi Divers](#). For trip package inclusions, visit <https://bit.ly/2J56pWu>.



This event is open to all and registration is required: <https://bit.ly/2J56pWu>  
For event and payment details, contact Shannon McCoy at [smccoy@naui.org](mailto:smccoy@naui.org)

California's Nelson's Restaurant is named in honor of Mike Nelson, the hero from the *Sea Hunt* TV series (1958-61). The adventure show captivated audiences with the vast Pacific Ocean coastline serving as one of *Sea Hunt's* filming locations. Just north of Los Angeles, at the former Marineland of the Pacific and now Terranea Resort, Nelson's is situated near the bluff overlooking the craggy coast. The restaurant's walls have entertaining posters from many of the episodes, all action-packed with the legendary Mike Nelson as the champion.

# SEMINAR SPEAKERS



**MAURITIUS BELL** is the dive operations department manager and diving safety officer for the California Academy of Sciences in San Francisco, California. He and his team of dive officers are responsible for the institution's occupational dive program, which spans both commercial and science fields. He is the dive safety lead and principal trainer for the academy's deep diving team, conducting expeditions worldwide, exploring and surveying mesophotic reefs. Bell was previously the unit diving coordinator at the University of Hawaii and the assistant diving safety Officer at the Georgia Aquarium. An active diver since 1997, Bell has considerable experience with various diving modes, including surface supply, CCR and mixed-gas. He completed a saturation mission in Aquarius. He is president-elect of the Association of Dive Program Administrators, a NAUI Course Director Trainer, Technical Examiner, Cave Diving Instructor and former NAUI Territory Representative for Hawaii; a DAN Examiner; an instructor for UTD, PSI-PCI, and PFI; and a DMT and recently expired Paramedic. He is a passionate advocate of diving safety and quality instruction and enjoys sharing this passion with fellow divers.



**JONATHAN BIRD** is an Emmy Award-winning cinematographer specializing in underwater production. He is the host and producer of *Jonathan Bird's Blue World*, an Emmy Award-winning educational family-friendly underwater adventure series airing on public television, You Tube and BlueWorldTV.com. Jonathan has shot and produced over 50 films

for broadcast and education. His films have appeared all over the world, on networks such as National Geographic Channel, PBS, ABC, USA Network, Discovery and even the SciFi Channel. Bird is the president and founder of Oceanic Research Group, Inc. (oceanicresearch.org), a non-profit environmental organization founded in 1990 to promote conservation of the world's oceans. He is the author of seven books of underwater photography with articles and images published in hundreds of magazines, calendars and books. He is currently in production on his first IMAX film Ancient Caves.



**JEFFREY BOZANIC** is the president of Next Generation Services, where he provides consulting and training services in the diving market. Clients include rebreather manufacturers, training agencies and legal agencies. Bozanic has participated in or led more than 70 diving expeditions in the past 30 years, to places like Palau, the Canary Islands and Antarctica. Certified as a NAUI Instructor in 1978, he is active in teaching cave, rebreather, nitrox, decompression and trimix diving courses. He has published extensively on diving education topics, with a heavy emphasis on diving safety. Bozanic has edited and reviewed many diving textbooks and is the author of *Mastering Rebreathers*. He has served on several boards of directors in the diving community, including as Chairman of the NSS-CDS, Vice Chairman of NAUI and Treasurer of the AAUS. He was the DAN/Rolex Diver of the Year (2007) and received the AAUS Conrad Limbaugh Award for Scientific Diving Leadership (2015).



**DR. TABBY STONE** is a retired pediatrician in the Los Angeles area. He has been an avid diver since his initial certification in 1979. Shortly after that, he developed an interest in diving medicine. He is a past president of the Pacific Chapter of the Undersea and Hyperbaric Medical Society and wrote the Medical Facts column for Discover Diving magazine from

1988 to 1999.



**MICHAEL N. EMMERMAN** is an independent researcher who focuses on hypobaric and hyperbaric environments. His research papers have been published in the journals of the Undersea and Hyperbaric Medical Society, the American Academy of Underwater Sciences, the Aerospace Medical Association and others. He is the recipient of the 2017 DAN Rolex Diver of the Year Award, the Dr. Charles Brown Memorial Award in Diving Safety, and the Beneath the Sea Diver of the Year Award for Education. Emmerman is the director of the Special Operations Support Group, a New York City based not-for-profit research and advisory organization supporting the diving and law enforcement communities. He is a board certified forensic examiner, a diplomat of the American College of Forensic Examiners, an Honorary Deputy Chief of the New York City Police Department (NYPD) and served as an advisor to the NYPD Harbor Unit Scuba Team. He is past-president of the northeast chapter of the Undersea and Hyperbaric Medical Society and a past-chairman of the board of the Divers Alert Network. He has held several instructor and instructor-trainer ratings within the diving community.



**MARK GRESHAM** is the owner, President and CEO of PSI-PCI, Inc. A U.S. Marine Corps veteran, Gresham worked professionally in the dive industry for several years before joining Bill High's PSI-PCI executive team in 1999. He apprenticed under High and became the owner of PSI-PCI in 2005. He has contributed directly to the development of scuba cylinder safety guidelines and training materials, and published cylinder safety bulletins. He is the co-author of the fifth edition of *Inspecting Cylinders*. Gresham provides technical training, information and consulting to cylinder manufacturers, USDOT, Compressed Gas Association, fire services, NOAA, NASA and many other entities that utilize high pressure cylinders as well as trained PSI-PCI inspectors worldwide. His leadership in development of the *Oxygen Cylinder Cleaning* course (the protocol adopted by NASA), and ongoing PSI-PCI Annual Updates keeps him at the forefront of the industry for knowledge and expertise. Seeing a need and requirements for valve service, he developed the Valve Repair Technician program. Additionally, the Eddy Current Technician program continues to be a source of invaluable information to hydrostatic testing requalifiers and other users. Today Gresham is considered by many to be the foremost authority on cylinder inspection and safety worldwide.



**WALTER "BUTCH" HENDRICK** has conducted training for thousands of sport, public safety and military divers as well as water rescuers in instructor training, public safety diving (PSD), rescue, and underwater movement programs in more than 20 countries for more than 50 years. A major innovator, equipment designer, standard setter and contributor to the dive and water rescue/recovery communities, Hendrick is considered "the father of diving rescue." He introduced the first rescue diver certification card, the do-si-do tow, in-water rescue breathing, the rescue throw-rope bag, the 90 percent ready diver, the PSD contingency strap, and many other procedures, training programs and gear items commonly used today. Hendrick has received awards such as the first DAN Rolex for diving safety and education, Beneath the Sea Diver of the Year, NOGI, Leonard Greenstone Diving Safety Award and more. He has more than 150 publications, presented at more than 150 dive, rescue and forensic conferences, and started the "Take Back Our Industry" campaign for both recreational and PSD diving.



**BRITTANY NOVICK** is a veterinary research technician and an active member of the education and outreach team for the National Marine Mammal Foundation (NMMF) in San Diego. She is the current Miss Scuba International. Novick is a certified rescue diver who graduated from Bowling Green State University (Ohio) in 2013 with a bachelor's

degree in biology with a specialization in marine/aquatic biology. She has a variety of experience in the field, from producing and hosting educational wildlife television to participating in research, to zoological animal care, to wildlife rehabilitation and rescue. In addition to traveling around the world with the Miss Scuba International Organization - an organization that promotes ocean conservation and women in scuba diving - she spends a lot of her free time working with local school children, educating them about the oceans and marine mammals. Novick and her colleagues at the NMMF have recently begun writing education curricula focused towards the San Diego Girl Scouts, inspiring young women to enter the fields of STEM (science, technology, engineering and mathematics) and educating them on ocean conservation topics, such as prevention of plastic pollution and protecting endangered species.



**DAN ORR** is President of Dan Orr Consulting providing a variety of services to the diving community. Recently retired from the position of President of Divers Alert Network (DAN) and Chairman of the Board of International DAN, he has helped DAN focus on its worldwide diving safety mission. He taught recreational diving in a retail store, developed course curricula in the academic environment, collected data and supervised research efforts in the field of science diving, tested diving equipment for military contractors and worked for or served on the Boards of various not-for-profit organizations. He has authored and co-authored numerous articles, books and manuals on diving safety and first aid. He has been the recipient of many prestigious awards and honors including the NAUI Hall of Honor and the 2017 NAUI Lifetime Achievement Award.



**ZALE PARRY** began scuba diving in the 1950s. In 1954, she set a deep diving record of 64 meters (209 feet). She attended the Los Angeles County Underwater Instructor Certification Course in 1955 and graduated as its third female instructor. In 1961, she became a NAUI member as NAUI A12. In the television series *Kingdom of the Sea* (1954-1959), she starred as a diver and presented a concluding segment of each show on diving safety. In *Sea Hunt* (1958-1961), Parry was co-star with Lloyd Bridges in several episodes, a stunt double and a technical director. (She also taught Bridges how to dive.) Her many recognitions include the NOGI Award (1973), DEMA Reaching Out Award (1993), Women Divers Hall of Fame (2000), NAUI Hall of Honor (2000), NAUI Ambassador of Scuba Diving Award (2010) and NAUI Lifetime Achievement Award (2017). In 2006, the Academy of Underwater Arts and Sciences honored her by creating a scholarship in her name, awarded annually to young divers enrolled in an academic programs or engaged in accredited fieldwork.



**DAN SEMRAD** was born and raised in Oregon and has always had a passion for the water. As a biologist and an educator by training and profession, Dan has always held freediving and spearfishing to be more than just sport. With a deep respect for the ocean and an appreciation for every experience it provides, Dan loves sharing his experience and training divers to experience the wonder of our aquatic

environments and the thrill of diving! Dan holds professional level certifications with Performance Freediving International (PFI), NAUI, and SSI. In 2018, Dan was selected to lead NAUI's global freediving program as its Freediving Coordinator.



**CHERYL LYNN THACKER**

was commissioned as a National Oceanic and Atmospheric (NOAA) corps officer in 1987. Over the next 10 years, she served aboard two NOAA vessels (*MT Mitchell and the Rude*) and on three shore-side tours (National Marine Fisheries Service in California,, Gray's Reef National Marine Sanctuary in Georgia, and NOAA HAZMAT in Florida). As a NOAA diver, she has conducted underwater hull inspections to collected biological data. A highlight from Thacker's NOAA career was participating in the 1993 NOAA Monitor Archeological Research and Structural Survey (MARSS). There she rode in the Harbor Branch submersible *Johnson Sea Link II* to visit the *USS Monitor* lying on the ocean floor in over 70 meters (230 feet) of water. In 1997, Thacker joined the staff at the Smithsonian Institution's National Museum of Natural History as their diving safety officer (DSO). This was also when she crossed over to become a NAUI Instructor. In 2000, Thacker moved to Florida as DSO for the University of Florida. During her first 10 years, she also wore the hat of Director of their Academic Diving Program. She currently holds a NAUI Course Director designation and is serving on the NAUI Board of Directors.



**ANDREA ZAFERES**

After becoming certified as a NAUI diver at age 16 and taking a rescue diver class with Butch Hendrick (NAUI 1724), Zaferes was a scientific diver with Dr. Lee Somers at the University of Michigan and Dr. Ethel Tobach at the American Museum of Natural History, resulting in three papers published on *Aplysia* before age 21. Now with 32 years of teaching thousands of sport, public safety and military divers, Zaferes is vice president of Lifeguard Systems, an author, speaker, medicolegal death investigator, WDHOV charter member, NAUI Course Director, and award winner for contributions to diver safety and education (DAN Rolex and Beneath the Sea Diver of the Year awards). Starting in 1988, she developed programs with Hendrick and TeamLGS, including Oxygen Administration, Field Neurological Evaluation, Leadership-Level Diver Rescue and Ultimate Underwater Movement. She is considered a leading expert in aquatic death investigation, speaking at more than 80 forensic conferences and teaching law enforcement personnel, detectives and prosecutors. She assists with aquatic homicide cases, serves as an expert witness, and has been seen on such television venues as the Discovery Channel, 48 Hours, Dr. Phil and the BBC.



**WILLIAM M. ZIEFLE**

is president and CEO of Divers Alert Network (DAN). He first became associated with DAN in 1989 and served for 11 years as a volunteer before joining the board of directors. Since then, he has served as a director of various DAN companies, including DAN, The DAN Foundation (director emeritus), IDAN, DAN Services, Accident & General Insurance Co. and DAN Risk Retention Group. During his tenure on the DAN board, he was integral in the reorganization of DAN's insurance operations and most recently spearheaded the launch of the DAN Risk Retention Group. He is an avid scuba diver associated with several prominent ocean conservation and nonprofit organizations.

# SEMINAR DESCRIPTIONS

## SCIENTIFIC DIVE OPERATIONS IN THE MESOPHOTIC ZONE

### Mauritius Bell

Mesophotic coral reef ecosystems (MCEs) are those coral reefs ranging in depth from 30 meters (100 feet) to 151 meters (500 feet), with the section spanning 60 meters (200 feet) to the lower limit of the range being among the least explored and studied section of our oceans. Since 2013, a small group of divers from the California Academy of Sciences has been actively exploring and characterizing MCEs focusing on a range from 71 meters (250 feet) to 151 meters (500 feet).

Using closed-circuit rebreather technology, this team of diving scientists has discovered over 30 new species of fish, corals, and invertebrates, and many more that were previously undescribed. While safely conducting dives to mesophotic depths is challenging enough, conducting work – namely chasing and collecting fish – has proven to greatly augment that challenge.

The academy dive team has had to manage decompression sickness, thermal stress, exertion at depth, hypercapnia, equipment failures, bailouts and much more, all while working in relatively remote and logistically challenging locations. The insights gained across 15 expeditions have resulted in a collective flexibility across the dive team as procedures and practices continue to be refined to meet the challenges and mitigate the risks of working at such depths

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## BRINGING THE UNDERWATER WORLD ALIVE FOR THE NEXT GENERATION OF DIVERS

### Jonathan Bird

Nearly every scuba diver over age 40 can trace his or her interest in diving to watching Jacques Cousteau or *Sea Hunt* as a child. Programs like this were powerful inspirations that drove the scuba industry. But that was 40 years ago. Since 2008, kids have been watching another program, *Jonathan Bird's Blue World*. This Emmy award-winning program is the inspiration for today's youth to become stewards of this realm for the next generation.

*Blue World* is an underwater adventure that takes place around the globe. With more than 90 million views on YouTube and over 40,000 TV airings in the USA, it is likely the most widely-watched underwater-themed program in the world. The viewer is immersed in the experience and takes on the role of a team member on the journey. *Blue World* focuses on the journey rather than the destination and weaves in education along the way. Twenty years from now, the next generation of divers will say that they learned to dive because they watched *Blue World* as a child. *Jonathan Bird's Blue World's* mission is to inspire the next generation to love the ocean, explore it and protect it for the future.

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## CAVES PROJECT: IN SEARCH OF ANCIENT TRAVELERS

### Jeffrey Bozanic

During the last ice age, beginning about 70,000 years ago, Asia and North America were connected by dry land, the Bering Land Bridge. It disappeared as the ice age ended and sea levels rose, about 11,000 years ago. During this time humans are thought to have migrated from Asia to the western hemisphere. Many ancient peoples migrated along ocean shorelines, and may have used natural caves as shelters and living spaces. Unfortunately all of those locations are now 300 feet underwater. Robert Ballard is engaged in a project to locate some of these sites using ROVs (Remote Operated Vehicles) and newly designed AUVs (Autonomous Underwater Vehicles) off southern California's coast. In 2017 his research team, including a team of cave divers, began field testing the equipment that will be used in continuing studies. This talk will describe some of the work from this initial field season.

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## LIFE IN THE FAST LANE: TECHNICAL AND EXTREME EXPOSURE DIVER FATALITIES

### Michael N. Emmerman

In this presentation, we look at the personality profiles of 11 technical and "extreme exposure" divers who died while diving. All of these divers shared similar personality traits that may have contributed to their actions during the dives where they perished. The goal of this presentation is to help today's extreme exposure divers determine if they have these traits and if they need to alter the way they dive.



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## **CYLINDER SAFE HANDLING PRACTICES**

### **Mark Gresham**

Safe cylinder handling is often overlooked because we are in a hurry or we assume all is well without verification. We must take a moment to verify the cylinder is within standards using one of several small checklists each time we use the cylinder. This presentation dispels prevalent mythologies often used today because “that’s the way we do it here” versus proper safe cylinder-handling techniques. Do you know the steps for an informal inspection at time of fill? You should because filling unknown cylinders is the most dangerous task we perform. We will discuss this and many other topics for safe handling of cylinders.

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## **LEADERSHIP RESCUE FOR DIVE LEADERS**

### **Walter “Butch” Hendrick**

Dive leaders have very different responsibilities than do other divers and therefore need to be capable of performing a higher level of rescue. The Leadership Rescue course will change the way you teach and perform diving rescue, problem recognition and problem prevention. This presentation will introduce you to the concepts, training regimen and principles of the Leadership Rescue course, which uses real-life rescue and contingency plans for real-life problems and emergencies. Become a safer, stronger dive leader!

Additionally, properly qualified dive leaders may take divers on penetration wreck dives, in areas that could silt to zero visibility, in moving water, in areas with entanglement/entrapment risks or under ice. Such advanced and technical leaders need to be capable of saving or assisting divers in those conditions. A standard rescue diver class does not sufficiently prepare dive leaders for problems during such dives. The Leadership Rescue course includes these advanced scenarios. Skill maintenance is another important issue, and the basic “Rescue Diver” training doesn’t require recertification despite rescues being far more complicated, task-loading and high-risk than standard CPR and First Aid.

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## **DIVERS AS EDUCATORS: SUCCESSFUL STRATEGIES FOR TEACHING MARINE CONSERVATION**

### **Brittany Novick**

Our mission at the National Marine Mammal Foundation (NMMF) is to inspire young minds through science. We aim to celebrate the potential of young people through innovative programming focused on the science conducted at the NMMF. In collaboration with the San Diego Girl Scouts, the NMMF education and outreach team has developed curriculum to educate local girls in topics such as women in STEM, plastic pollution and endangered species. Unlike the Boy Scouts of America, the Girl Scouts do not have a snorkel/scuba/underwater exploration patch that they can earn, so we want to address this need with Girl Scouts nationwide.

We will also discuss my collaboration with Running Wild Media and their Diving 360 series filmed in Honduras. The episodes in this series are shot utilizing 360 degree footage and follow my dives, along with co-host Justin Grubb, as we explore using communication helmets. Running Wild Media will identify key media partners to distribute the series across their social media platforms, including Nat Geo Wild, National Geographic, Upoar and Earth Touch. An educational campaign will be implemented in the region to reach classrooms in close proximity to the Meso-American reef to communicate the importance of this vanishing ecosystem and to share conservation strategies.

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## **DOES SCUBA DIVING HAVE A RETIREMENT AGE?**

### **Dan Orr**

When taking stock of our physical abilities and capabilities as we age there are absolutes with which divers should be familiar. The good news is that with age usually comes wisdom, and that improved judgment and reasoning can help you compensate for most negative body function changes. Knowing that we will have some level of impairment as we age brings us to how we can make accommodations and still dive safely. Aging is a fact of life but how we handle growing older can make the difference between enjoying diving well into our Golden Years and having to prematurely hang up our fins.



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## **ICUE, NAUI HISTORY, AND KEYNOTE**

### **Zale Parry**

Zale will reach into NAUI's history for a brief presentation on the origins of ICUE, first held in 1969, as well as pay tribute to the vision of NAUI members who were instrumental in starting ICUE and in NAUI. In those beginning years, the annual ICUEs were the one venue where instructors from any agency, and divers too, could come together, learn what was new in scuba, and take home something they could add to their own teaching. As Parry says, "we need to remember where we came from if we are to move consciously into our future."

Parry, who became a NAUI member in 1961, will review: NAUI's extension in the 1970s to become a worldwide organization; the first diving medicine course held in the Bahamas in May 1971, designed to teach physicians about the medical aspects of diving; NAUI's time as U.S. representative, to the technical committee of the World Underwater Federation (CMAS); and the growing role of women in diving and in NAUI in the 1970s.

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## **BREATH-HOLD TIPS AND TECHNIQUES**

### **Dan Semrad**

The popularity of breath-hold (FREE) diving is growing each year. The reasons are as diversified as the people who undergo the training. Some people choose to set personal depth records or world depth records, engage in spearfishing or observe fish, freedive for fun, or to earn a living. Regardless of the reasons, there are risks for the untrained and uneducated. This session explores some of the tips and techniques taught in a more comprehensive NAUI Freediving course and provides a glimpse into human possibilities with proper training.

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## **THE EARS STOPPING YOU (OR A FRIEND) FROM DIVING? WHAT YOU SHOULD KNOW.**

### **Dr. Tabby Stone**

The ears are the part of the body most susceptible to injury during diving. In this popular presentation about an age-old issue for divers, Dr. Stone will explain how ear problems occur, how to pre-vent them and what to do if you have an ear injury.

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## **SCIENTIFIC DIVING: PAST AND PRESENT**

### **Cheryl Lynn Thacker**

This presentation will introduce the audience to the world of science diving from the time of the earliest underwater explorers to today's science diver. It will include a brief history of science diving, then delve into the scientific diving exemption from Occupational Safety and Health Administration's (OSHA) commercial diving standards, the American Academy of Underwater Sciences (AAUS), AAUS Standards, training science divers at the University of Florida and current scientific diving projects at the university.

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## **GEAR UP FOR CONTINGENCIES**

### **Andrea Zaferes**

Diving is one of the few activities for which almost every potential problem can be determined and then proactively managed by learning proven, hands-on, practiced contingency plans for each problem. Consider a particular dive and create a list of what can go wrong; then research proven contingency plans. You can then learn how to teach and practice each contingency plan. In that sense, diving is one of the world's safest activities --- we can plan and practice for everything that can go wrong. This presentation will look at how to build a potential problem list for specific dives and then plan contingencies and training exercises for each plan, with problem prevention always being the ultimate goal.

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## **UNDERSTANDING DIVING RISK MANAGEMENT**

### **William M. Ziefle**

As leaders and dive store owners, it's important that you understand how to best manage the risks associated with your daily activities. Accidents occur despite our best intentions, and many accidents involve certified divers rather than students. We can most effectively manage risk while training and leading others, but we must also strive to have a continuing influence on diver's behavior after they have left our care. If divers fully understand the risks inherent in diving and the limits of their training, then they are less likely to blame others for their actions or misfortune. Fully informed divers can better assume the responsibilities involved in diving, and make it easier for you to manage both your risk and theirs.

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