Don Walsh: Lifetimes of Achievement

Oceanographer, Diver, Explorer, Career Navy, Professor/Educator...

(In 2013, as MTS celebrates its first 50 years, Currents will feature a member whose many accomplishments have contributed to the richness of the history of MTS. Here is Don Walsh’s story.)

Captain Don Walsh, USN, (Ret), PhD, is well known in oceanographic circles as one half of the team (partnered with Jacques Piccard) that descended 35,840 feet down at Challenger Deep in the Mariana Trench in the U.S. Navy’s bathyscaph Trieste in 1960. While there is significantly more to his life, the remarkable Trieste story is still told as one of the greatest oceanographic achievements.

1958 found Don, a submarine lieutenant, serving temporarily on the staff of Submarine Flotilla One in San Diego, CA. At that moment, his biggest concern was how to get back to sea. “Getting my gold dolphins [Submarine Warfare Insignia] was a high point for me,” explained Don, “and there I was on land.”

That same year the Navy had acquired the Trieste from the Piccards and a consort...
Michel Visits Shanghai and Hangzhou to Discuss Section Development

Following his trip to Kobe, Japan for Techno-Ocean 2012, MTS’ Drew Michel stopped in Shanghai and Hangzhou to meet with professors of several universities and business representatives to discuss the development of MTS sections, workshops and more. This trip coincided with a meeting of OES’ Shanghai Chapter, who reported on their proposal for hosting an OCEANS’16 Conference and Exhibition.

Several professors and students used the opportunity to schedule a ‘mini’ technical workshop, where they presented updates to recent research. Jun Han spoke about Applied Underwater Information and Acoustic Measurement Systems; Hong Song discussed Adaptive Optics for Inter-Island Laser Propagation; Jiawang Chen presented Wave-Powered Air-Lifted Artificial Upwelling; and Fengzhong Qu updated on the ZJU-ZRS Experimental Research Observatory. Drew made a presentation about MTS, its international outreach and the benefits of section development.

Said Drew, “I was very impressed with the enthusiasm and dedication of both the graduate students and the professors at these institutions.”

Drew also met with Zhou Yan (CEO) and Dr. Tao Qi (President) of RICHTECH International Engineering (Shanghai) Co., Ltd. to discuss, among other matters, their interest in establishing an MTS section. In addition, he met with Jun Tao, Director of Guangzhou Marine Geological Survey, Ministry of Land and Resources.

The universities represented during the meetings were Shanghai Jiao Tong University, Zhejiang University, the Graduate School at Shenzhen and Tsinghua University.

MTS extends special thanks to Professor Lian, Professor-School of Naval Architecture, Ocean & Civil Engineering, Shanghai Jiao Tong University and Shaoru Cai, Secretary of IEEE Shanghai Section OES Chapter, for their assistance organizing Drew’s trip to Shanghai.
Within the last two years, the Marine Technology Society embarked on a strategic initiative to ‘go global.’ Today the Society is well on the road from idea to implementation. The reasons for this initiative were many and included the facts that:

• approximately 95% of the world’s population lives outside the United States.
• there is considerable value to the many unique opportunities presented by nations — educationally, commercially, and in new research.
• in many nations relevant organizations exist that we can reach out to for collaboration and possible partnership opportunities. Several have already reached out to MTS.
• MTS has the opportunity to partner with existing government agencies. An excellent example is the recently signed Memorandum of Understanding with the U.S. Commercial Services group (the trade promotion organization of the U.S. Department of Commerce’s International Trade Administration). This agreement will allow MTS and the U.S. Commercial Service’s network of worldwide offices to work together on marketing and education programs/events to leverage both entities’ expertise to help make U.S. businesses (and our member companies) more export-savvy.

So it is clear a global initiative presents an assortment of opportunities, along with challenges. An open mind remains necessary to the successful implementation of this strategy: the need to recognize unique opportunities, discovering the value of government programs, understanding that building membership should not be the primary goal but rather understanding and collaborating with new markets, and of course, recognizing cultural differences in communication styles.

A strategy had to be clearly defined and well focused to be successful. No one can be all things to all people, and that includes our Society. Therefore, specific regions were selected for our ‘Phase 1’ efforts. These are the European, South American and Asia/Pacific Rim communities.

Language remains an important hurdle. At this time scientific English is seen as the common language among scientists and researchers, but this does not negate the necessity of translations, particularly among those whose expertise is more technically oriented than research-oriented. At this time the Society is looking at several options, such as possibly partnering with relevant organizations to provide translations of the MTS Journal.

MTS also encourages the development of non-U.S. Sections. This will allow the Society to work with specific individuals within the Section who will, in turn, work with others throughout the country.

MTS understands the value of reaching out to existing organizations and leveraging their ties to still other organizations. To this end, we have partnered with IEEE for their international OCEANS conferences in addition to the domestic conferences. MTS was a part of OCEANS’12 Yeosu, and is co-sponsoring OCEANS’13 Bergen.

MTS co-sponsored the Techno-Ocean 2012 Conference in Kobe, Japan. While there I (along with MTS staff) visited the Japan Agency for Marine-Earth Science and Technology (JAMSTEC). I also took the opportunity to travel to the People’s Republic of China for a visit with like-minded individuals/organizations.

The Society is a co-sponsor in the rapid global expansion of the Offshore Technology Conferences (OTC). We co-sponsored OTC Brasil in 2011 and will again this year (October 29-31) as OTC returns to Rio de Janeiro. In 2014 we join OTC Arctic in Houston, TX (February 10-12) and OTC Asia in Kuala Lumpur, Malaysia (March 25-28) — all as co-sponsors.

We were at Oceanology International, London in 2012, providing our member companies with the opportunity to participate within an MTS pavilion to assist their international outreach efforts, and plan to do so again in 2014.

At this time, nearly 15% of our member companies are headquartered outside the U.S. As well nearly 18% of our members are from locations other than the U.S. These include Australia, Austria, Belgium, Brazil, Canada, China, Denmark, France, Germany, Hong Kong, India, Ireland, Israel, Italy, Jamaica, Japan, Republic of Korea, Malaysia, Mexico, Netherlands, Netherlands Antilles, New Zealand, Nigeria, Norway, Portugal, Puerto Rico, Russian Federation, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine and the United Kingdom.

Through our international efforts, MTS can enhance its diversity, increase the Society’s image worldwide and benefit from the experiences of others.

I don’t think anyone will disagree with the fact that the web has changed the world in terms of communication, research, commerce and information availability.

Our Society has both opportunity and obligation to globalize. We will keep you updated on our efforts.

Stay up-to-date on industry news at www.mtsociety.org
Over 1,200 Attend Arctic Technology Conference in Houston

The 2012 Offshore Technology Conference (OTC) Arctic Technology Conference (ATC) was held at the George R. Brown Convention Center in Houston, Texas in early December. The conference brought together over 1,200 attendees from 26 countries for a world-class event under the theme Challenges for Today, Opportunities for Tomorrow.

OTC was founded in 1969 and organizes events for the development of offshore resources in the fields of drilling, exploration, production and environmental protection. OTC is sponsored by 13 industry societies and organizations, who work cooperatively to develop the program each year. The Board of Directors includes representatives from the sponsoring organizations (including MTS) and endorsing organizations. Chuck Richards represents MTS on the Board. MTS’ John Bomba and Jim Malachowski were members of the ATC 2012 Technical Program Committee.

The technical program opened with a standing room-only plenary session that addressed the cutting-edge technologies and innovative practices needed for exploration and production in the Arctic, and included: The Norwegian Arctic: Outlook and Perspectives, Jostein Mykletun (Consul General of Norway); Offshore Arctic Oil and Gas Activity Profile: Policy and Market Drivers and Restraints to Offshore Hydrocarbons Development in the Arctic, James Hall (Director, Infield Systems); The TOTAL Adventure in the Arctic: Mohammed Zaki (Vice President, Russia, Total E&P); 2012 — A Pivotal Year for Arctic Oil & Gas, Robert Blaauw (Senior Advisor Global Arctic Theme, Shell).

More than 150 technical presentations and posters were presented at ATC. The technical themes ranged from oil and gas activities in arctic waters to arctic geophysics to unmanned system technology for arctic waters and much more. The technical program also featured four panel discussions: Flow Assurance Challenges and Arctic Production; Oil Spill Preparedness; Regulatory Governance; and Future Directions for Research and Development Between Industry and Academia.

The Exhibition Hall at ATC showcased 74 companies from eight countries. MTS was among the exhibitors and connected with both members and nonmembers.
Walsh Recounts Trieste Experiences — 1960 and 2012

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Don Walsh was accepted into the program, “Probably,” he noted, “because I was the only one to volunteer!”

While numerous test dives, reconfigurations and modifications (including the creation of a new sphere built to withstand greater depth) were underway, an operational plan was being developed for the deepest dive ever conceived. Don took the plan to Washington and got personal approval from the Chief of Naval Operations Admiral Arleigh Burke. None of the more junior admirals wanted anything to do with it.

The rest is history. On January 23, 1960, Don Walsh and Jacques Piccard descended 7,000 feet deeper than Mount Everest is tall. They had reached the deepest point on the planet, approximately seven miles down — Challenger Deep.

Their feat would not be repeated for over 50 years. “It was really an alpha-omega kind of experience when Jim Cameron invited me to be on his expedition when he repeated that dive on March 26, 2012,” explained Don, referring to his consulting work with Cameron for the Deepsea Challenger project.

“The Trieste experience was a life-changing event,” Don said. “One that opened many doors and firmly established my lifelong attitude about opportunity — to seize it when and wherever it was encountered.”

Lifetime Highlights: Personal and U.S. Navy

Don found it very difficult to choose a highlight in his life. “It’s as though I have had so many different lives, it’s hard to choose one.”

Marrying his lifelong best friend was highest on the list, as were the births of his two children. “However I had to return from the Challenger Deep trip first before she would marry me, though,” joked Don.

The Navy was also an important part of Don’s life. “The Navy provided me with so many opportunities to learn and challenge myself. Definitely the Navy was a highlight of my life,” said Don.

Retirement?

Retirement, however, presented its own challenges. “Oddly enough,” Don said, “there were no want ads for former submarine captains, so I had to go in another direction.”

At this time, armed with two Masters degrees and a PhD, Don was selected to join the University of Southern California (USC) as founding Director (Dean) of the Institute for Marine and Coastal Studies, where he also served as a professor of ocean engineering. In the past he has also served as adjunct fellow at the Center for Strategic and International Studies, Georgetown University; adjunct professor, California State University, San Bernardino; and adjunct senior scientist, Hancock Institute for Marine Studies, University of Southern California. Currently he holds a courtesy appointment as a professor at Oregon State University.

Polar Expeditions

And there is also the portion of his life that could be called “Polar Expeditions.” Don has worked at both the North and South Poles — with five trips to the North Pole and one to the South Pole. In addition, he has participated in many educational expeditions to the Arctic (29) and the Antarctic (32). “I serve as educator on expeditions, and have worked with both Smithsonian Institution and National Geographic expeditions,” said Don. “In addition, I have also been a cruise ship lecturer since 1973 on approximately 150 cruises worldwide, on 32 ships for 20 different companies. It’s the only way I can still get back to sea.”

In 2002-03 Don was a staff member and lecturer onboard the Russian icebreaker Kapitan Khlebnikov for the 11th circumnavigation ever made of the Antarctic continent since Captain James Cook’s first trip around in 1773-74.

MTS Member

Don is also a longtime member of the Marine Technology Society. “I probably would have been one of the founding members,” said Don, “because I knew all these folks. However I never seemed to be around at the times they were gathering.” Don made up for that by becoming one of the Society’s earliest members in 1965. He presented a paper at the Society’s first meeting that year. But it wasn’t until the 1970s that Don became a more active member. “I served on the Board as a director and as a Vice President for several years,” he said. “And I was editor of the MTS Journal for five years. That was a real pleasure.”

Don’s achievements have been recognized by MTS on numerous occasions. In 1977 he was awarded a Marine Technology Society Commendation and was elected Fellow of the Society in 1980. In 1992 he received the Marine Technology Society Special Commendation Award and was recognized in 1996 with the Compass Distinguished Achievement Award.

“I have been a very lucky person,” Don said, summing up his life. “I have never considered myself a ‘smart’ person, but I have been fortunate enough to have the ability to see opportunity coming while it was still a long distance ahead. And I tried to grab it every time.”

Don Walsh also spends part of his time on polar expeditions.
Quality Assurance and Control Standards for Real-Time Dissolved Oxygen Measurements Released

Improving ocean data quality assurance and control will improve the accuracy of tools, models, and forecasts that inform decisions impacting our nation’s safety, economy, and environment.

With the publication of a new report from the U.S. Integrated Ocean Observing System (IOOS®), the Nation’s ocean observing community now has quality assurance and control standards (QA/QC) for real-time dissolved oxygen measurements collected in coastal waters based on best practices for measurements taken with commonly used sensors in all coastal regions, including the Great Lakes.

The manual, developed in close collaboration with community experts and sensor vendors, represents a major step forward for IOOS and includes control steps for the sensors, in addition to those for collected data, which are critical to guaranteeing quality of the data. The manual provides a checklist that the IOOS regions and many others can now use to implement quality assurance and control procedures, factoring in their specific, regionally-unique needs. The dissolved oxygen manual is the first in a series of similar IOOS manuals, each focused on a different oceanographic variable.

Dissolved oxygen was tackled first because scientists indicated this as a high priority for quality assurance and control standards. IOOS manuals for waves and currents are scheduled to be published this spring.

A new website (see www.ioos.gov/qartod) serves as a central repository for this project, where scientists will post all manuals so that they are easily accessible and dynamic, allowing for updates, with the appropriate version control procedures in place. The website will allow for conversations between users, including code libraries, procedures for testing data, and interactive graphics.

This project is based upon a grassroots community effort begun in 2003. Known as QARTOD (Quality Assurance of Real Time Ocean Data), the project looked at existing community-based QA/QC efforts and standards developed by Federal Agencies and the U.S. IOOS Regional Coastal Ocean Observing Systems. All of the known QA/QC programs in existence today provide parts to the solution, but none consolidated the various parts.

QA practices involve processes employed with hardware to support the generation of high quality data, such as a sufficiently accurate, precise, and reliable sensor with adequate resolution. Practices such as sensor calibration, calibration checks, and/or in-situ verification, including post deployment calibration; proper deployment considerations, such as measures for corrosion control and anti-fouling, solid data communications; adequate maintenance intervals; and creation of a robust quality control process are also part of QA. QC involves follow-on steps that support the delivery of high quality data and requires both automation and human intervention. QC practices include such things as format, checksum, timely arrival of data, threshold checks (minimum/maximum, rate of change), neighbor checks, climatology checks, model comparisons, signal/noise ratios, verification of user satisfaction, and generation of data flags (Bushnell 2005).

Although QA and QC are inter-related, the guidance provided in the recently published manual on dissolved oxygen measurements is specific to the QC of real-time data and to dissolved oxygen data collected from instruments located in bays and/or coastal environments, not those deployed in the deep open ocean. It is also specific to sensors employing semi-permeable membranes or fluorescence-based detectors. The guidance identifies 10 QC tests; some are required, others are strongly recommended or suggested. Each test contains the codeable instructions for implementation and assumes the involvement of highly knowledgeable scientists, engineers, programmers, and technicians. Suggestions for QA best practices are provided in the appendix as a courtesy to the manual user.

For more information about QARTOD, including access to manuals and code libraries for testing procedures, visit www.ioos.gov/qartod where you can also participate in user conservations about best practices and recommended strategies for use of instruments and much more.

(Authors: Ray Toll, Jennie Lyons and Charles Alexander.)

MTS Hosts Assessment Meeting on IOOS® Data Streams Help Save Lives, Reduce Damages From Superstorm Sandy

MTS hosted a one-day meeting in December to review the value and impact of the U.S. Integrated Ocean Observing Systems (IOOS®) on the advance preparations and damage avoidance from Superstorm Sandy across the U.S. East coast. IOOS is a multidisciplinary system designed to enhance the ability to collect, receive and use ocean data. Its multi-purpose mission includes using partnerships of government agencies (federal, state, regional and local), universities and industry to provide new tools and forecasts to improve safety and protect property. The meeting included MTS topic-experts and various government agencies, including NOAA and the U.S. Coast Guard.

During the overview discussion of Superstorm Sandy, there was clear agreement that the IOOS-based observations contributed significantly to the critical decision—making process that affected key lifelines. According to former Avalon, NJ Mayor Martin Pagliughi, communities were able to respond both sooner and better as “forecasts are a hundred times better than they were 20 years ago” due in part to the contributions of IOOS-based observations. Mr. Pagliughi participated in the meeting via phone.

Also in agreement was the general, positive assessment of the wide diversity of IOOS-impacted areas, including infrastructure, public safety and the economic impact of property protection.

A significant task resulting from this meeting was the identification of specific case studies for analysis. This includes identification of various models of the impact of the data.

See additional story above.
Section and Committee Events From Around the Nation

D.C. Section Offers Holiday Cheer

The Washington DC Section hosted a Holiday Party at the Army Navy Club at Farragut Square in Washington, D.C.


In addition to camaraderie and great food, the event boasted great fun as guests sang along to holiday tunes lead by Rees Llewelyn on vocals and Mike Egan, Chair of the DC Section, on the fiddle.

A Silent Auction was available for attendees’ bids, and included numerous donations from members, member companies, and local businesses.

Houston Hosts Monthly Luncheon

The Houston Section’s January luncheon event offered a presentation by Mark Peters, Vice President of Pennwell Publications and Chief Editor of *Offshore Magazine*. Mark discussed “Offshore Trends - Deepwater Deep Pockets.” Houston hosts monthly meetings, and the next month will feature a presentation by Ressea. In December, Dr. Jill Hasling, CCM, President of Weather Research Center in Houston, discussed “Supersize Hurricanes and What They Could Mean to the Gulf.”

Coming soon is the 2013 MTS Houston Sporting Clays Tournament. This event has grown over the last seven years into one of the city’s largest day shooting tournaments in the Houston area. The registration is now full, however a few limited sponsorships are available. Interested companies may contact program co-chair Jennifer Williams at Jennifer.Williams@saipem.com.

MTS Houston Recognized for Texas A&M Corpus Christi Contributions

Representatives from the MTS Houston Section attended the Texas A&M University Corpus Christi (TAMUCC) President’s Mardi Gras Ball February 2, 2013. The event honored significant contributions and donations made to TAMUCC in 2012. The Houston Section gave over $5,000 last year to deserving students pursuing degrees in mechanical and electrical engineering technology.
MTS Joins Japan Section Chair Dr. Sakou for JAMSTEC Visit

MTS’ Drew Michel, Executive Director Rich Lawson and Manager, Member Groups Jake So-bin were invited to travel to Japan in advance of the Techno-Ocean Conference and Exhibition to visit the Japan Agency for Marine-Earth Science and Technology (JAMSTEC). Also invited was MTS Japan Section Chair Dr. Toshitsugu Sakou. JAMSTEC is a research institute in Japan specializing in marine science and technology which includes: research on global change, earth evolution, biogeosciences, fundamental ocean-related technology and development, and research and development of technologies to explore and utilize submarine research.

JAMSTEC is headquartered in Yokosuka (city in Greater Tokyo) and the group met with Dr. Hitoshi Hotta, Executive Director; Mr. Katsufumi Akazawa, Manager, International Affairs Division, Advanced Research and Technology Promotion Department; Mr. Yoshio Isozaki, Director-General, Marine Technology and Engineering Center (MARITEC); and Ms. Kumiko Kaji, Administrative Support Staff, International Affairs Division, Advanced Research and Technology Promotion Department. Dr. Hotta and Mr. Akazawa opened the meeting by presenting a background on JAMSTEC’s history and research sector. MTS followed with an overview presentation on MTS communities, conferences, publications and education. Publications were a popular interest among JAMSTEC participants; especially the special issue of the MTS Journal that will be dedicated to highlighting advanced technologies in Asia (scheduled early 2014). Mr. Isozaki concluded with a presentation on MARITEC.

MTS also met with several of the JAMSTEC staff and took a facility tour. This included a visit to the JAMSTEC’s submersible maintenance shop, marine technology center, research buildings and their exhibition hall.

Inside the submersible maintenance shop, MTS saw the manned research submersible SHINKAI 6500, as well as the autonomous deep-sea exploration robotic vehicle URASHI-MA while visiting the Research building. JAMSTEC’s exhibition hall shows models of vessels owned by JAMSTEC, as well as live specimens of deep-sea creatures. The centerpiece exhibit is a full-scale model of SHINKAI 6500.
Nearby the Kobe International Conference Center in Japan is the Kobe Port Island Sports Center, which played host to the Underwater Robotics Competition, held in conjunction with Techno-Ocean 2012 in November.

At this time, the latest in AUV robots and Aqua-bio robots developed in Japan and elsewhere meet for an exciting series of contests. In the ‘AUV Section’ points are accumulated as the robots clear set tasks such as diving to specified positions, emerging from underwater and line tracking. In the ‘Freestyle Section’ underwater robots perform freestyle maneuvers while the judges evaluate them for originality and technological excellence.

Students (high school, technical college students and 1st and 2nd year university students) have an opportunity to participate in the Aqua-Bio Section with their original design and constructed aquatic animal-shaped robots. The ingenious end-creations then compete in a race towards a goal.

Even elementary school students have a chance to participate. The Ideas Contest, open to elementary school students and the general public, offers a venue in which contestants are asked to provide new ideas which are judged for their innovativeness.

Above and Below: Competitors finalize the details of their AUVs as they prepare for the competition.

Left: MTS’ Drew Michel particularly enjoys seeing the creativity of students’ AUVs.

Left: The ‘In Water’ judge shows off an AUV to the crowd. The turtle-like AUV was the Aqua-Bio competition winner.
Japan Techno-Ocean 2012 Conference Success

MTS, along with IEEE/OES, served as technical co-sponsors with the Techno-Ocean Network for the 14th annual Techno-Ocean 2012, held in November in Kobe, Japan. This bi-annual conference focused on the theme “For Safe Oceans, Towards Productive Oceans.” MTS joined 54 businesses and organizations in the Exhibition Hall, and focused on helping to support the local Japan Section, promoting the international initiative of the Society, welcoming existing members and introducing the Society to others.

The keynote lectures featured 1) NOAA Technology and Science Advancements to Meet our Societal Challenges—Craig McLean, Deputy Assistant Administrator, Office of Oceanic & Atmospheric Research; 2) Living on an Ocean Planet: Connecting Science to Action—Susan K. Avery, President and Director, Woods Hole Oceanographic Institution; 3) Ifremer and Blue Growth: Marine Research for Healthy and Productive Seas and Oceans—Gilles Lericolais, Director of European and International Affairs, Ifremer; 4) Recent Operational Achievements of D/V Chikyu—Asahiko Taira, President, JAMSTEC.

Techno-Ocean hosted 10 educational tracks ranging from oil and gas exploration to earth sciences and more. Central themes throughout included “Challenges of Developing Ocean Resources,” “Lessons From the March 11 Earthquake and Tsunami” and “Efforts on Utilizing Ocean Renewable Energy.”

The Conference also focused on events for various age groups. College students participated in a student poster competition that included a “One Minute Presentation” section in which each summarized their entire poster in 60 seconds.

Also featured was Children’s Art Exhibition displaying the artistic handiwork of grade school children. As well, researchers from several Japanese research institutions provided talks about the “Ocean World” geared to fifth and sixth grade students.

While at the event, MTS hosted a meeting with several major ocean research institutions to develop common building blocks to encourage ongoing communication. These organizations included the Port and Harbor and Airport Research Institute, the National Maritime Research Institute, the Fisheries Research Agency, the Japan Oil and Gas and Metal Agency, and the Underwater Robot Competition committee.

MTS extends a special thanks to the MTS Japan Section for their extensive work organizing this Conference and its various events.

Techno-Ocean 2012 Awards

At the Conference, Professor Akira Asada was presented with the 2012 Techno-Ocean Award for his development of a system for measuring seabed displacement by installing acoustic base stations on the seabed and measuring their locations from marine vessels, etc., with a high degree of accuracy (within several centimeters).

Two Kenji Okamura Memorial Awards for Pioneering the Ocean Frontier were presented. One recognized Toshihiro Maki for developing a new seabed observation method that represents a major advance on exiting methods. Also recognized was Dr. Sohiko Kamaya for his development of a measurement technique making it possible to perform continuous VOC measurement on marine research vessels.

The award was named in honor of the late Kenji Okamura. He worked at Mitsubishi Aircraft Company (later Mitsubishi Heavy Industries, Ltd.) He served as Technology Management Mng., then Acting Mng. at the Head Office Technology and Innovation Headquarters, then advisor to the Technology and Innovation Headquarters. He held many prominent positions, including: Dir. of Ryonichi Engineering Co., Ltd., Exec. Mng. Dir. of Mitsubishi Kaihatsu Kabushiki Kaisha, and President and Dir. of Ryowa Kaiyo Kaihatsu Kaisha. He became Founding Dir. of JST, the forerunner of JAMSTEC, and later served as an advisor. He was also Chair of the Engineering Committee on Oceanic Resources. During his career, he was honored with many awards, including the Medal with Purple Ribbon in 1955, the First MTS International Award in 1980, the Order of the Sacred Treasure in 1983, and the International Council on Combustion Engines Gold Medal in 1985. Dr. Okamura was a long-time member of MTS.
MTS Now Accepting Scholarship Applications for 2013-2014

Each year the Marine Technology Society awards thousands of dollars to deserving graduate, undergraduate and high school seniors. Last year 27 students were awarded MTS Scholarships. Applicants must be students in the fields of marine science, marine engineering or marine technology and MTS members (student membership is $25).

How to Apply

Students should apply online (www.mtsociety.org/education/scholarships.aspx). Applications may also be printed from this webpage and mailed. Applications, additional letters, official transcripts, should be mailed to the MTS National office and postmarked no later than April 15, 2013.

Scholarships are for MTS student members only. For membership information, please go to: https://www.mtsociety.org/membership/new/add.aspx. Student Membership is for full-time college students and high school seniors and is $25 per year. Students attending colleges throughout the world may apply.

Full details on how to apply, and answers to frequently asked questions, are available online at www.mtsociety.org/education/scholarships.aspx.

Please note—applications that are incomplete or do not follow the requirements will not be accepted/considered. Applicants must be members of MTS. Deadlines are absolute — submitted online or postmarked April 15, 2013 — for all application components.

Special information for MTS ROV Scholarships or MATE/MTS ROV Scholarships

The ROV Committee Scholarships are applied for separately from the other MTS scholarships. They are open to MTS members in college graduate/undergraduate programs and high school seniors. Applicants must be pursuing (intending to pursue in the case of high school seniors) a college curriculum directed toward a career in marine/ocean sciences or engineering, or a closely related field, with an emphasis on ROV technology.

Applicants for the MATE/MTS ROV Scholarship must have participated in a MATE competition or be attending a MATE-partner college or university.

To apply, please send: name; address; phone number; e-mail address; biography; official transcript verifying GPA and full-time status; a one-page essay of your interest in ROVs or underwater work that furthers the use of ROVs; three personal references and a written letter of recommendation from a current teacher or counselor to:

Chuck Richards, ROV Scholarship Committee Chair
c/o C.A. Richards and Associates, Inc.
777 N. Eldridge Parkway, Suite 280
Houston TX 77079

Scholarships Available to MTS Student Members

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<thead>
<tr>
<th>Scholarship Name</th>
<th>Amount</th>
<th>Eligibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles H. Bussmann Undergraduate Scholarship</td>
<td>$2,500</td>
<td>Open to MTS members who are college undergraduate students currently enrolled full time in a marine-related field</td>
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<tr>
<td>Charles H. Bussmann Graduate Scholarship</td>
<td>$2,500</td>
<td>Open to MTS members who are college graduate students currently enrolled full time in a marine-related field</td>
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<tr>
<td>The MTS Student Scholarship for Graduate Undergraduate Students</td>
<td>$2,000</td>
<td>Open to MTS members that are college undergraduate and or graduate students currently enrolled full time in a marine-related field</td>
</tr>
<tr>
<td>The MTS Student Scholarship for 2-Year, Technical, Engineering and Community College Students</td>
<td>$2,000</td>
<td>Open to MTS members enrolled in a two-year, technical engineering or community college in a marine-related field</td>
</tr>
<tr>
<td>The MTS Student Scholarship for Graduating High School Seniors</td>
<td>$2,000</td>
<td>Open to MTS student members that are high school seniors who have been accepted into a full-time undergraduate program</td>
</tr>
<tr>
<td>John C. Bajus Scholarship</td>
<td>$1,000</td>
<td>Open to MTS members who are a college undergraduate or graduate student currently enrolled full time in a marine-related field who have shown a commitment to community service and/or volunteer activities</td>
</tr>
<tr>
<td>The Paros-Digiquartz Scholarship</td>
<td>$2,000</td>
<td>Open to MTS members with an interest in marine instrumentation who are undergraduate or graduate students currently enrolled full time in an academic institution.</td>
</tr>
<tr>
<td>MTS ROV Committee Scholarship*</td>
<td>1 at $8,000, 1 at $6,000, 1 at $4,000, 1 at $2,000</td>
<td>Open to MTS student members interested in remotely operated vehicles (ROVs) or underwater work that furthers the use of ROVs.</td>
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* The ROV Committee Scholarships are applied for separately from the other MTS scholarships. See the above box for details.
The Underwater Intervention (UI) Conference 2013 continued its success into its 21st year. The event combines an exceptional technical program, strong attendance, exhibition hall growth plus the annual conferences of the MTS ROV Committee and the Association of Diving Contractors International. Each year UI brings together professionals from all aspects of the underwater operations industry, including ROVs, commercial diving contractors and manned submersibles. The event took place in January in New Orleans. Nearly 2,500 individuals from 46 countries attended.

One of the highlights of the event was a talk from Captain Don Walsh, USN, (Ret) about the Trieste dive and his recent work with James Cameron to assist with that dive to the same area last summer. (See cover story on Don Walsh to learn more about his achievements.) Don spoke to a standing-room only audience.

UI kicked off with an Early Bird Reception that highlighted the kick-off of MTS’ 50th Anniversary celebration. A special anniversary cake was presented, complete with a ‘cutting’ ceremony.

**Awards Dinner**

The Annual Awards Dinner was sold out, and featured a keynote address by Randy Abadie of Shell Exploration and Production. Randy discussed diving safety, offshore construction and near-future decommissioning.

MTS President Drew Michel was presented with the ROV Committee’s Distinguished Achievement Award and received a standing ovation from the crowd as he stepped forward to receive his award. Drew was recognized as one of the true pioneers in the technology of underwater ROVs and his many accomplishments in this field. MTS member Charles Royce of Oceaneering was recognized with the ROV Committee Chairman’s Academic Excellence Award for his efforts with the Houston Engineering Science Fair. As Chair, he initiated, managed and grew the Section’s involvement by instituting a scholarship program for the winners of the MTS Special Award for the Fair and increased the Section’s sponsorship of the event. In addition, Brian Grau, recipient of the ROV Committee’s Scholarship, was recognized with a plaque.

Also recognized were Robert “Bob” Merriman for his many accomplishments in the commercial diving industry. His career began with the U.S. Navy and upon retirement, entered the oil and gas industry. Among his many private sector achievements is his design and supervision of the only hyperbaric welding facility in the U.S. and his development of the industry’s first diving procedures for DP vessels in the U.S. GoM.

Lawrence Goldberg, president of Sea Test Services, was acknowledged with an award for having paved the way for a new specialty: Underwater Nondestructive Testing. He is considered an American legend for his outstanding efforts that made commercial diving and offshore oil and gas production in a ‘hostile’ environment much safer.

**Exhibiting Experience**

The Exhibition Hall continues to grow at each successive UI Conference, this year featuring 165 companies in over 26,000 sq. ft. of exhibit space. New this year to the Hall was a 2,500-gallon demo tank sponsored by Epic Divers and Marine. The tank was used to demonstrate installation and removal of pipe and caps, ROV flying, dive helmets and suits and more. The MATE team also used it for their ROV-in-a-bag program.

MTS tested the idea of providing entertainment in the Exhibition Hall to encourage even greater attendance. A performer provided several hours of...
Help MTS Celebrate 50 Years of Excellence

Liz Corbin

We’ve embarked on our year-long anniversary celebration. A book highlighting major achievements of the past 50 years in marine technology will be available later this year. Currents editor Mary Beth Loutinsky is hard at work putting together a chronology that features the major developments, trends, events, and people that have shaped our progress in exploring, sustainably developing, monitoring and protecting the world’s marine resources. There will be a chapter on the history of MTS and the contributions of individual, business and institutional MTS members will be woven throughout the volume.

We need your help to make the book as complete and compelling as possible. It will be an overview, not heavily technical, and we’re still looking for photos of early-middle stage-recent equipment such as submersibles, SCUBA gear, diving bells, offshore drilling, buoys, moorings, instrumentation or others. We also need pictures of major equipment tests, research cruises and other events. Personal stories of members’ involvement in all aspects of marine technology development will help make the book much more interesting.

Please send memories, documents, and photos to Mary Beth at mbloutinsky@gmail.com or mail them to her attention at MTS Headquarters at 1100 H Street NW, Suite LL-100, Washington, DC 20005.

Photos will be acknowledged when received if mailed, and by email if received electronically. All photos will be returned to the sender. Appropriate credits will be included with each picture used, whether personal or corporate photos.

MTS kicked off its year long celebration of its 50th anniversary with a sheet cake at the Underwater Intervention Conference. Watch for more events over the year.

MTS was proud to welcome U.S. Rep. Scott Rigell (R-VA-2nd) to OCEANS 2012. The congressman welcomed the platform of OCEANS and the technical expertise of the audience to discuss matters of energy, environment, and the ocean policy efforts of the 112th Congress.

In 2010, Congressman Rigell was elected to represent Virginia’s Second Congressional District, which includes the entire outer banks of Virginia from the North Carolina border to the Maryland border and includes the city of Virginia Beach, Virginia. Representing an area that encompasses such expansive ocean communities, Congressman Rigell is well aware of the many energy, environmental, and ocean opportunities and challenges.

The congressman serves on the important House Armed Services Committee and the House Committee on the Budget.

Representing the nation’s largest military district, the congressman spent his first years in Congress working to preserve the region’s unique and substantial military assets. He was instrumental in the successful effort to keep all East Coast aircraft carriers based in Norfolk. Moreover, he also introduced legislative language improving the maintenance of military housing, later included in the FY2013 National Defense Authorization Act, which the President signed into law in early 2013.

MTS wants to thank Congressman Rigell for taking time out of his very busy schedule to spend some time with the many attendees of OCEANS’12 Hampton Roads.
UI: Featuring Technical Sessions, Exhibition Hall, Annual Meetings and More!

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of magical entertainment in the booth over two days and attendees who helped out with the magic were awarded prizes, distributed by MTS member companies throughout the hall.

Many Thanks to All

This huge and successful event requires the dedication of many individuals. UI organizers would like to thank their sponsors: Oceaneering International, Chet Morrison Contractors, UnderWater Magazine and Shark Marine.

The Technical Program Chair was Drew Trent (Oceaneering International) and track leaders were: Manned Submersibles: Will Kohnen (Hydrospace Group); Work Class ROVs: Steve Barrow (FMC Schilling Robotics); Commercial Diving: Steve Struble (Aqueos Subsea); Small ROV’s: Norm Robertson (ROV Product Services); Instruments and Sensors: Mike Chapman (MECCO, Inc.); Marine Education: Jill Zande (MATE Center); Decommissioning: Jerry Gilmore (TSB Offshore, Inc.); Ocean Exploration: Karen Kohanowich (NOAA, George Mason University); Deepwater Field Development: Benton Baugh (Radoil Tools) and AUV Technology: Dave Weaver (Oceaneering).

Other volunteers included Exhibits Chair Trevor Day (Bisso Marine), Session Chair Recruiter Jim Dore’ (Janeler); Mike Brown (Epic Divers and Marine); Chuck Richards (C.A. Richards and Associates) and Phil Newsum (ADCI Executive Director).

Above: Jerry Boatman, Drew Michel and Rick Spinrad prepare to cut the MTS 50th Anniversary cake.

Right: Harald Risnaes is watching the magician’s hands carefully, hoping to spot the “trick.”

Below: New to the Exhibit Hall was the Demo Tank, sponsored by Epic Divers and Marine. It proved an exciting place to see technology in action.
Left: Drew Trent, UI Technical Program Chair with Chuck Richards, UI Co-chair. Drew was recognized for his outstanding efforts, resulting in increased registration and attendance for the technical program.

Below: ADCI Executive Director Phil Newsum with Randall Abadie, Shell Exploration and Production. Randall delivered the keynote address at UI.

Left: Chuck Richards with Drew Michel, who was presented with the ROV Committee’s Distinguished Achievement award.

Below: Chuck Richards and Charles Royce, who was recognized with the ROV Committee Chairman’s Academic Excellence Award.

Left: Brian Grau stands with Chuck Richards. Brian, ROV Committee scholarship recipient, was recognized with a plaque.
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