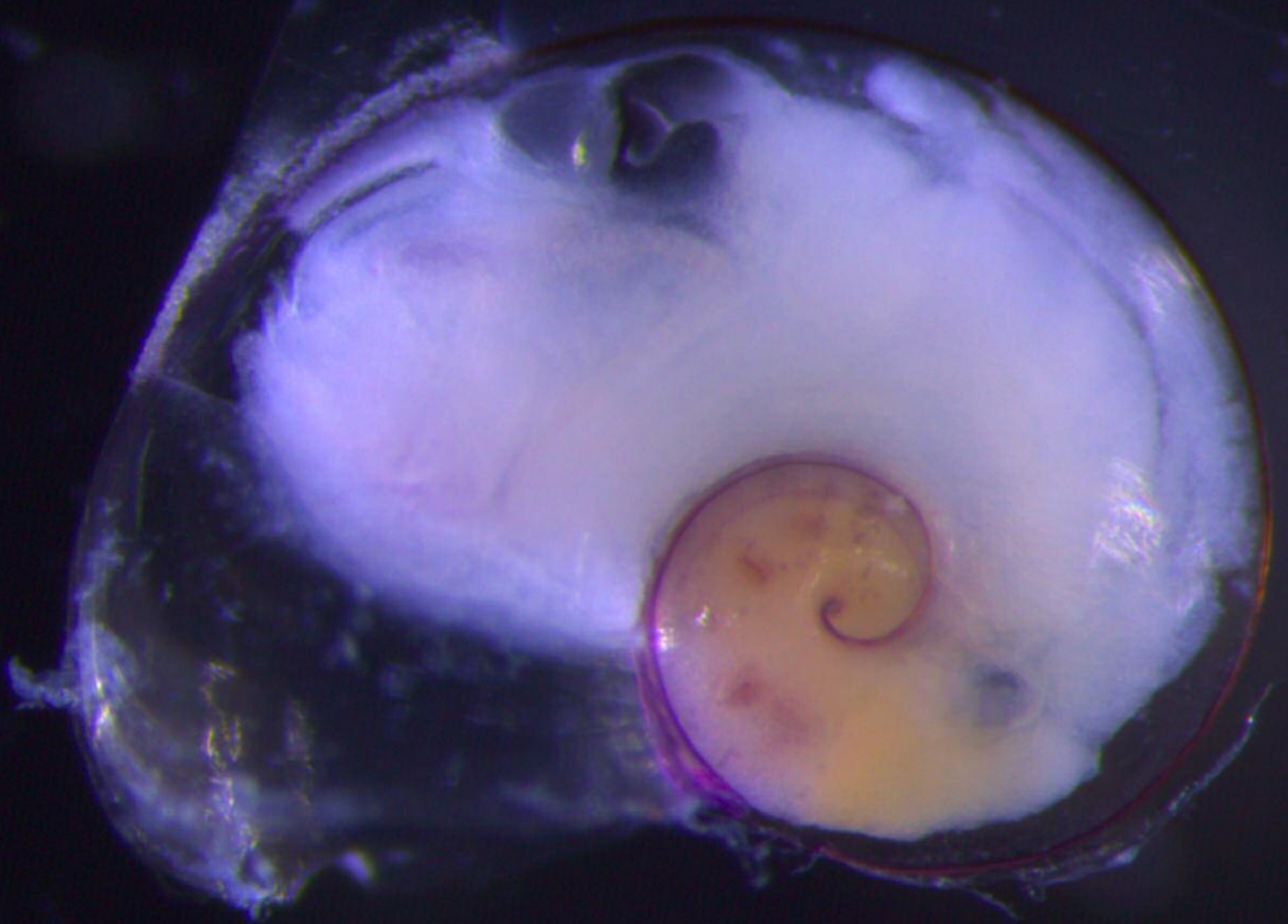


2015 Annual Report



Bermuda Institute of Ocean Sciences

BIOS 

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Bermuda Institute of Ocean Sciences

Cover image: an atlantid heteropod. Photo by Kelvin Santana Rodriguez.

Letter from the Chair

2015 was an exciting year at BIOS as some of the seeds planted in the implementation of our strategic plan began to bear fruit while others are just now germinating. The well-established BIOS research faculty was enhanced by the addition of three vibrant young assistant scientists. We began to see in reality the extent to which our new autonomous glider fleet can complement and enhance the extensive data-bases and core research provided by the long-running ship-based ocean observation programs for which BIOS is internationally known and respected. With the help of scientists from collaborating institutions we began some orderly speculation concerning how these kinds of programs, critical to our understanding of how the oceans respond to and participate in climate change, may be conducted 10 and 20 years from now.

In the future even more than in the past, collaboration on a global scale will be key to achieving our objectives for both scientific research and education. Our friends and supporters have been instrumental in strengthening our network of partnerships, facilitating collaborations both on the island and abroad. With respect to our university-level education programs in particular, BIOS enjoys partnerships with several institutions of higher learning in the U.S., Canada, and the U.K., thanks to supporters that have utilized their connections and their resources to spawn and sustain these fruitful interactions. As a result, each summer and fall BIOS's campus teems with students from a wide range of backgrounds who congregate to learn and work together, often thriving both academically and personally and leaving with a deeper understanding of their educational aspirations and desired career path. Brought together by a process of networking and partnership-building, these students also come away from their experience at BIOS cognizant of the fact that oceanography is a truly interdisciplinary and global science that is conducted by a highly collaborative group of researchers; and that, more often than not, their future will also rely heavily on partnerships.

In this year's Annual Report, we highlight BIOS's latest educational partner—Lehigh University. This top-rated research university already has many strong programs and partners, but chose to collaborate with BIOS to offer its students access to a marine science research environment uniquely different from its own. A BIOS Trustee facilitated the partnership, recognizing the potential for both institutions to leverage their individual strengths in research and education through this collaboration. As we continue this partnership in the months and years ahead, I invite others who care about BIOS's mission to follow this example. Help us build new bridges throughout the island of Bermuda and beyond to make our institution stronger, more connected, and more impactful.



J. William Charrier

Letter from the President & CEO

BIOS was founded in Bermuda primarily due to the island's remote geographic location in the heart of the North Atlantic, but despite this remoteness, the institute is far from isolated. The work of BIOS's scientists and educators has far-reaching effects; and, in turn, many travel to BIOS from abroad to carry out fieldwork, share in the utilization of technological resources and facilities, and collaborate with each other to tackle complex scientific problems from different angles. These collaborations create the nexus of activity that makes BIOS a world-class research organization. Like any relationship, such partnerships take time and energy to build and sustain; but it is crucial that we continue to do so to maintain the organization's vitality and enhance its reputation. To attract highly respected collaborators to BIOS we must continue to invest in our infrastructure, laboratories, and programs in ways that meet the needs of the larger scientific community.

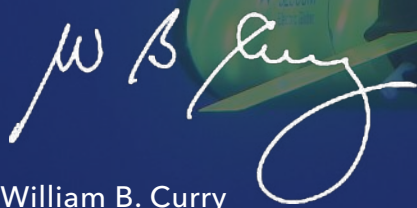
In this report, we highlight a decades-long program that has attracted many collaborators over the years; and another program with a newly formed partnership that we hope will have similar staying power.

In 2015, BIOS gave special attention to an important research program focused on the ocean's key partner in the global Earth system - the atmosphere. While the oceans are the main focus of BIOS's work, to truly understand the workings of the oceans, our weather, and our climate, it is essential to simultaneously study the atmosphere. And so, for the past four decades, scientific measurements of the atmosphere have been taken on Bermuda, providing an extraordinary complement to BIOS's long-term ocean-measurement programs. In the late 1980s, a research tower was erected on the island at Tudor Hill, Southampton; and over the years, this facility has supported the work of many international researchers. When Hurricane Gonzalo toppled the tower in late 2014, this international community of researchers rallied with BIOS, the program's federal funder in the U.S., and other faithful partners to clear the debris-littered site and reconstruct the tower. The support BIOS received throughout 2015 from our long-standing collaborators not only made the recovery from Gonzalo swifter, it also reaffirmed the importance of the Tudor Hill Marine Atmospheric Observatory program to the broader community, resulting in a new and improved facility that will foster partnerships with researchers throughout the globe for decades to come.

In addition to sustaining long-term collaborations, we also formed a brand new partnership in 2015. The MARINE (Mid-Atlantic Robotics IN Education) program

was launched in 2014; and after that successful inaugural year, BIOS was invited to join forces with the Marine Advanced Technology Education (MATE) Center, a U.S.-based group with international reach working to improve marine technical education and accessibility to marine-based careers. BIOS's partnership with MATE provides Bermuda's students with educational tools and materials that are part of an evaluated curriculum for science and technology education, as well as professional development materials and online resources for teachers. In turn, BIOS's MARINE program becomes part of MATE's rigorous educational research and evaluation process, which serves to ensure that Bermuda's students are provided with the highest quality educational experience available. As a result of this partnership, BIOS has greatly expanded its educational network and its visibility within the science-technology-engineering-math (STEM) educational community. But the true beneficiaries are the students, who are now engaged in a shared learning experience with their peers both near and far. Even though the students of MARINE live on an island, the collaborative nature of the program allows international connections to be made; and that may be the most significant impact of this partnership.

As we look to the year ahead, we hope you will continue your interest in our progress. Whether our connection is new or long-standing, reaching across the island or across the ocean, we welcome your continued partnership and your contribution to our strength and vitality.



William B. Curry

William B. Curry



Sustained Observations

BIOS is host to some of the longest-running oceanic and atmospheric measurement programs in the world, facilitating research on both local and global environmental issues.

A photograph showing three volunteers working on a tall, complex metal tower structure under a clear blue sky. The tower has multiple levels and a lattice-like framework. One person is on the top level, another is on a middle level, and a third is on a lower level. The tower appears to be made of galvanized steel or aluminum. A semi-transparent dark grey box is overlaid on the top part of the image, containing the title text.

A New Beginning for Atmospheric Research

*Volunteers construct the new tower at Tudor Hill.
Photo by Chris Burville.*

Owing to its remote geographic location in the western North Atlantic, Bermuda has been a key sampling location for numerous studies of the marine atmosphere.

December 2015 marked the beginning of a new chapter of research at the Tudor Hill Marine Atmospheric Observatory. Following Hurricane Gonzalo's destruction of the original tower structure in October 2014, the scientific community rallied to restore the fallen Tudor Hill facility, clearing and renovating the site and raising a new tower structure just before year's end. With funding from the U.S. National Science Foundation and a new-to-Bermuda tower structure donated by the University of Virginia, the Observatory can now continue providing researchers around the world with the data needed to study the interactions between the atmosphere and the ocean and how they shape our climate.

Owing to its remote geographic location in the western North Atlantic, Bermuda has been a key sampling location for numerous studies of the marine atmosphere. Measurements of various chemicals in the atmosphere have been made in Bermuda since the mid-1970s. In 1988, a research tower was erected on the island at Tudor Hill as part of the Atmosphere-Ocean Chemistry Experiment, an international long-term study of the atmospheric transport of aerosols and gases in the North Atlantic region.

This facility is one of only a few marine atmospheric observatories that exist worldwide and provides the ability to make year-round, complex measurements of the atmosphere over the ocean without the use of a research ship or buoy mooring. Over the years, the facility has fostered many international research collaborations aimed at understanding the effects of atmospheric chemistry (both "natural" and man-made) on the ocean.

National Science
Foundation
funded Research
Experiences for
Undergraduates
intern April
Oliver at the top
of the Tudor Hill
tower.




Bermuda experiences large-scale winds that shift in direction over time, making it an ideal location to contrast clean marine air from the east with more polluted North American air from the west. Consistent wind patterns have enabled researchers to study the fate and transport of pollutants and micronutrients alike, from heavy metals generated by North American refineries and automobiles to the impact of Saharan dust on marine primary production.

Over the years, the Tudor Hill tower has continuously collected long-term measurements of ozone and greenhouse gases for NOAA's Earth Systems Research Laboratory, measurements of aerosol optical depth for NASA's Aerosol Robotic Network program, and monitored persistent organic pollutants for the Global Atmosphere Passive Sampler Network operated by Environment Canada. In 2011, the installation of a continuous in-situ laser spectrometer established what is now the world's longest continuous water vapor stable isotope record.

After weathering decades of tropical storms and hurricanes, the 23-meter (75-foot) tower was toppled in October 2014 during Hurricane Gonzalo. Dr. Andrew Peters, who runs the facility, said the hurricane damage was "a blessing in disguise," as it enabled the research teams to evaluate the site with fresh eyes and renovate it completely. In addition to the new tower structure, improvements at the site included a new habitation unit complete with kitchen and bunks for researchers who conduct intensive hourly sampling campaigns.

Operations will be fully restored at the Tudor Hill facility in spring 2016 when the full suite of instruments will be installed on the tower and calibrated to meet the high-quality standards required for research, thereby continuing a proud legacy of atmospheric measurements that has been taking place in Bermuda for four decades.



Ocean Life

The ocean is the largest and most diverse habitat on Earth, home to an astonishing diversity of microorganisms and aquatic plants and animals.

Bolstering the Faculty with Three New Hires

Assistant Scientist Gretchen Goodbody Gringley,
photo by Alex Chequer.

In 2015, three biologists established their laboratories and scientific programs at BIOS, strengthening the Institute's research enterprise as they investigate new lines of inquiry while enhancing existing programs.

In late 2014, BIOS welcomed back Gretchen Goodbody-Gringley as a member of the faculty. A coral reef ecologist, Goodbody-Gringley was no stranger to Bermuda having collected coral samples from Bermuda's reefs for genetic studies as part of her doctoral research at Harvard University. Following post-doctoral appointments in Florida, at BIOS, and in Italy, BIOS was pleased to welcome her back to the Institute as an Assistant Scientist.

Goodbody-Gringley's research program combines large-scale *in situ* ecological surveys of coral reefs, laboratory based manipulative experiments, and molecular ecology. With this toolkit she addresses questions related to the health, evolution, and resilience of coral reefs, ranging from shallow inshore reefs to those in the mesophotic zone—the dimly lit region of the ocean lying 147 feet (45 meters) or deeper beneath the surface. Because mesophotic reefs are well below the limits of traditional SCUBA divers, most of the knowledge about these environments has been obtained through the use of submersible vehicles. However, Goodbody-Gringley's skills as an elite technical diver make her one of the few people worldwide who can study this environment without costly submersibles.

In 2015, Goodbody-Gringley used ecological surveys and molecular biology to investigate both native corals and invasive lionfish populations on shallow and mesophotic reefs. Since mesophotic reefs may serve as a potential refuge for shallow-water species threatened by changing climate regimes or other human impacts, understanding the biodiversity, ecology and connectivity of deep reef communities is integral to effective resource management and conservation efforts.



Assistant Scientist Amy Maas. Photo by Tiffany Wardman.

In addition to the academic collaborations Goodbody-Gringley has formed during her nascent career, her work benefits from several other partnerships on the island. She is a director of the Ocean Support Foundation of Bermuda, a member of the Bermuda Lionfish Taskforce, and often collaborates with staff at the Bermuda Aquarium, Museum and Zoo (BAMZ) and the Bermuda Department of Environmental Affairs.

In January 2015, BIOS welcomed Amy Maas and Leo Blanco-Bercial to the faculty. Maas studies how marine life functions at the extremes of environmental variables—such as very high or low oxygen, carbon dioxide, and temperature levels—which are all variables that can change drastically traversing from the ocean surface to deep water. With the consequences of climate change dramatically altering the temperature and chemistry of the ocean—making it warmer, more acidic, and depleted of oxygen—Maas also investigates how marine animals respond to these human-induced changes.

The focus of much of her research has been on pteropods - tiny cousins of the snail that spend their lives swimming in open water and serving as a primary food source for larger marine life, including fish, sharks, and whales. With their delicate shells, pteropods are particularly sensitive to increases in ocean acidity, which causes slower shell growth, rendering them weak and fragile. Because pteropods live in many parts of the world's ocean and are at the base of the food web, changes to their populations could have profound effects on the marine ecosystem. To carry out her research, Maas has traveled to far-away places like Antarctica where ocean acidification is occurring rapidly; but at BIOS she plans to initiate programs closer to home, since Bermuda is also an ideal study area due to the diversity of resident pteropods in the vicinity of the island.

In addition to being close collaborators in research, Leo Blanco-Bercial and Amy Maas are also husband and wife. Together, they established two laboratories on campus that enable them to sort through and



Assistant Scientist Leo Blanco-Bercial. Photo by Jorge Sanchez.

categorize massive amounts of data on plankton, copepods, pteropods, and other marine organisms acquired from field expeditions. How do scientists begin to sort and identify such tiny animals, which are almost invisible to the naked eye? Blanco-Bercial does so utilizing a technique called genetic metabarcoding. Fast and accurate, metabarcoding allows him to identify multitudes of microorganisms contained in a single sample by matching their gene sequences to a reference library of marine organism DNA.

During her first year as a member of the faculty at BIOS, Maas initiated five pilot projects related to her marine invertebrate research. She is utilizing the facilities established in collaboration with Blanco-Bercial to study northern krill, a primary food source for many marine mammals and fish. She is exploring the effect of temperature on this species and will subsequently utilize the results to address more complex questions involving environmental stresses on different populations of krill.

In his first year at BIOS, Blanco-Bercial undertook research in both the deep ocean and in some of Bermuda's local inshore waters. He is leveraging BIOS's long-term ocean measurement programs to study the open-ocean zooplankton population over lengthy periods of time. He is also keenly interested in Bermuda's subterranean caves, where fresh and saline water mix, and is working in collaboration with The German Centre for Marine Biodiversity Research to investigate the marine life in them. These unusual and fragile environments may harbor old lineages of copepods—small crustaceans that live in both the open ocean and various fresh water environments—that may hold clues to the evolutionary history of these animals.

Together, Maas and Blanco-Bercial have participated in oceanographic cruises that have taken them from the northern North Atlantic to Antarctica, and to the North Pacific, facilitating partnerships with a network of international collaborators that will help them advance their specific research interests within an inherently global and interdisciplinary field.



Inspiring and Educating the Next Generation

Education is a key aspect of BIOS's mission, directly linking our scientific research to hands-on learning opportunities for students in Bermuda and those visiting from abroad. Our education programs have contributed to the academic achievement of generations of students and helped them to understand the complex workings of nature and the role of scientific research in society.



A New Partnership with Lehigh University

Lehigh intern Sarah Wu. Photo by Tiffany Wardman.

BIOS's objective is to not only provide a learning opportunity that augments the students' in-classroom education, but also to engage students in an authentic research experience during which they can practice the scientific and professional strategies utilized by researchers every day.

BIOS has long enjoyed successful partnerships with universities from the U.S., U.K., and Canada, enabling hundreds of students to participate in BIOS's educational offerings over the years. In 2015, BIOS formed a new partnership with Pennsylvania-based Lehigh University, a private American research institution ranked among the top 50 American universities. Facilitated by BIOS Trustee and Lehigh alum Jim Stanard, the collaboration has taken root to provide new and expanding opportunities for Lehigh students.

In 2015, BIOS welcomed two students through Lehigh's Iacocca International Internship Program, which offers students opportunities to participate in internship experiences around the world. The goal of the Iacocca International Internship Program is "taking theory to practice" - providing students with high-quality learning experiences that will enable them to develop both professionally and personally. Indeed, BIOS's objective is to not only provide a learning opportunity that augments the students' in-classroom education, but also to engage students in an authentic research experience during which they can practice the scientific and professional strategies utilized by researchers every day. Working side-by-side with their respective mentors on contemporary research topics, students experience first-hand the excitement of scientific exploration and discovery while learning what it really means to advance knowledge within the global research community.

Lehigh student Sarah Wu spent her summer working with microbial oceanographer Rachel Parsons comparing the microbial communities on shallow-water reefs with communities in the open water of the deep ocean. "Having nearly no background in marine biology before this, I was eager to just learn, and familiarize myself with the many tech-



Lehigh intern Diana Ye. Photo by Lara Funk.

niques and protocols typical of a microbial lab,” Wu said. By using microscopy, DNA extraction and amplification, as well as other advanced analytical techniques on water samples collected from twelve different sites, Wu boosted her scientific knowledge while also contributing important data toward answering the broader research question.

“This is my first time working at a dedicated research facility and I love the energy here,” Wu said. “So many people here are just so passionate about their work that it’s hard not to get excited about what they’re doing. Under the patience and guidance of my mentors and fellow interns, I have learned many skills, techniques, and protocols which I may take into my next experience whether it be a job, internship, or further schooling.”

Lehigh student Diana Yeh similarly honed her skills while working with BIOS researcher Tim Noyes to analyze the fish species inhabiting deep reefs. Because the depth of these sites exceeds the limits of conventional SCUBA, the fish communities remain relatively unstudied. By reviewing video footage from baited remote underwater video cameras, Yeh could identify fish species that were indicative of ecosystem health and focus on those that may need increased protection through fisheries management practices.

“Before coming here, I did not think I would be interested in conducting research as my career, but after being exposed to many of the scientists and interns here and learning about the things they’ve done, I’m more open to the idea of doing so,” Yeh said. “My internship has taught me many things such as research skills, time management and public speaking, to name a few. This will help me down the road if I decide to go into research as a career path and even back at university.”

Based on the successful experiences of the 2015 interns, BIOS University Education Director Penny Barnes and her colleagues at Lehigh University continue to explore ways to strengthen and expand the partnership to further enhance the educational offerings provided to Lehigh students.



MARINE

*Students deploy their team-built remotely operated vehicle.
Photo by Jorge Sanchez.*

Now in its second year, MARINE is actively engaging more than 150 Bermudian students and teachers in the scientific concepts and practical applications of underwater robots.

In 2015, BIOS's Mid-Atlantic Robotics IN Education (MARINE) program was invited to join the Marine Advanced Technology Education (MATE) Center, an international partnership of organizations working to improve marine technical education that since 1977 has been funded by the U.S. National Science Foundation as an Advanced Technological Education Center of Excellence. The inclusion of MARINE in the MATE program is an acknowledgement of BIOS's achievements in initiating the MARINE program in 2014; and a vote of confidence for BIOS's ongoing role in providing high-quality, innovative, and interdisciplinary programs in science, technology, engineering and math, known in the education community as STEM fields.

With leading support from HSBC, BIOS developed and launched the MARINE program in 2014 as part of Ocean Academy, BIOS's suite of on-island education opportunities. MARINE introduces students and educators to the cutting-edge technology and scientific research at BIOS, and reflects BIOS's commitment to expanding the use of underwater vehicles to study and understand the complexity of ocean processes. Now in its second year, MARINE is actively engaging more than 150 Bermudian students and teachers in the scientific concepts and practical applications of underwater robots.

Underwater remotely operated vehicles (ROVs) are currently utilized around the globe by marine industries, underwater archaeologists and scientific



Students compete at BIOS's annual ROV challenge.
Photo by Alex Masters.

The collaboration between MATE and MARINE created a linkage between teams of Bermuda's students and international students.

research programs. Through MARINE, students and educators learn to build and test ROVs in the classroom throughout the school year. In the program's culminating event, the students deploy their team-built ROVs in underwater missions alongside their peers in an island-wide competition developed by MATE and replicated at regional and national events around the world. In 2015, MATE provided the teacher toolkit for MARINE, which included instructional videos on how to assemble the MATE-approved ROV. The collaboration between MATE and MARINE created a linkage between teams of Bermuda's students and international students, while also providing Bermuda's students and teachers with access to MATE's wide array of online educational and career resources.

As Bermuda's students become more proficient in constructing and operating ROVs of increasing complexity, they may have the opportunity to travel abroad to participate in the international MATE competition, further solidifying their connection to this larger community of students and industry professionals.

Selected Financial Highlights Overview

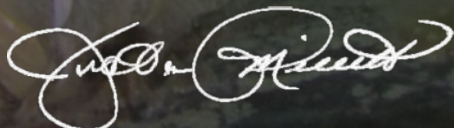
In 2015 BIOS received a substantial boost in support as it initiated new programs, and continued to display a strong balance sheet overall. The management team, together with BIOS's dedicated Trustees, continued to exercise discipline in carrying out its core financial responsibilities in order to best meet the goals of BIOS's research and education programs. We are pleased to present the following key highlights as we reflect on the year.

SELECTED HIGHLIGHTS

- Net assets grew very favorably by nearly \$5M to \$32.2M in 2015. Net assets represent the collective financial strength of the institution and are an important indicator of the organization's ability to carry out future obligations in service of the mission.
- Gross revenues increased over prior years due to higher contributions from private donors. Federal support contributed 40% to total revenues, dipping slightly over the prior year. Investment returns were slightly negative, with under performing investment markets reducing investment income by \$250k.
- Total operating expenses remained constant over the prior year at \$12.8M.
- Total endowment was valued at \$13.9M at year's end. 2015 endowed-fund distribution totaled \$684K in support of scientific research (58%), education (24%) and unrestricted (18%) functions.

SUMMARY AND OUTLOOK

2015 was a successful year for continued growth and achievement and we anticipate carrying that momentum into 2016. The management team continues to work towards operational efficiency and net asset growth in support of the programmatic aspects of BIOS's operations and the organization's pursuit of excellence in scientific research and education.



Victoria Millett CPA, BCOMM
Treasurer and Controller

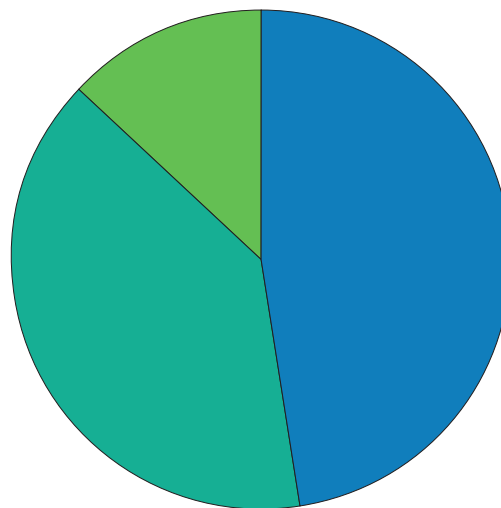
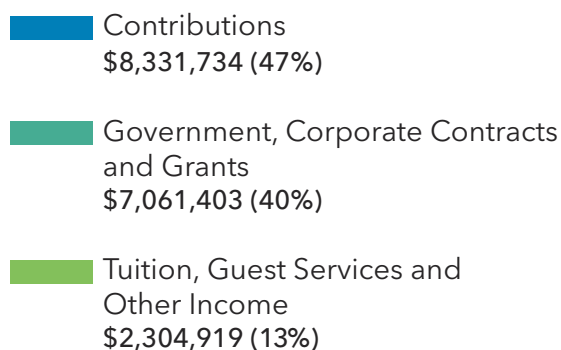
Please visit www.bios.edu/about/annual-reports/ for a full financial report.

Summary Financial Highlights

December 31, 2015

2015 REVENUES & SUPPORT

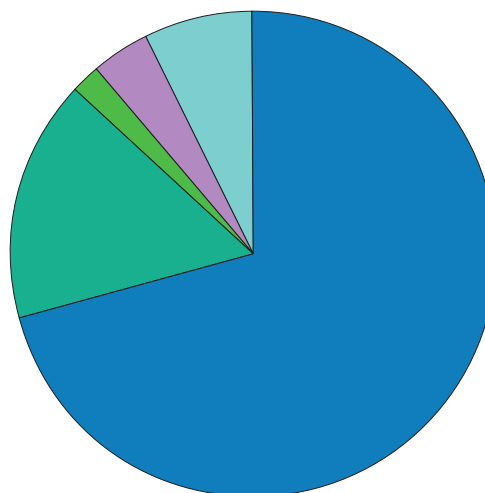
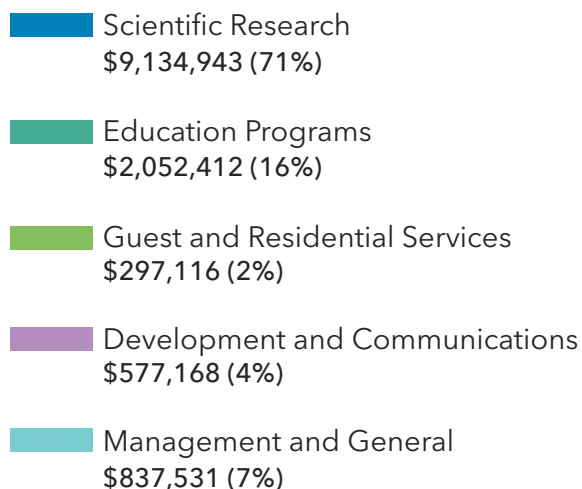
Revenue and support is derived from gifts; individual, corporate and foundation donors (47%) as well as grants and contracts received through the U.S. and Bermuda governments (40%). Additional sources of support are tuition and fees for the use of BIOS's various scientific, marine and housing facilities and attendance at our many educational programs (13%), and *investment return pertaining to Endowment Funds.



*Investment return in 2015 was negative \$250,230 (-1%)

2015 EXPENSES

Program expenses include scientific research (71%); education activities (16%) and guest and residential services (2%). Other expenses include development, marketing and communication (4%) and management and general (7%).



Summary Financial Highlights

December 31, 2015

Statements of Financial Position

	2015	2014
Assets		
Cash and cash equivalents	\$ 2,446,303	\$ 2,154,317
Grant receivables and other assets	725,862	551,393
Contributions receivable, net	5,065,125	781,424
Investments	14,182,476	14,795,413
Property and equipment, net	16,100,305	16,115,453
Total Assets	\$ 38,520,071	\$ 34,398,000
Liabilities and Net Assets		
Liabilities		
Payables, accruals, advances and deposits	\$ 1,035,238	\$ 1,040,823
Loans payable	5,202,427	5,623,428
Total Liabilities	6,237,665	6,664,251
Net Assets		
Unrestricted	11,255,421	10,816,926
Temporarily restricted	11,272,387	7,189,889
Permanently restricted	9,754,598	9,726,934
Total Net Assets	32,282,406	27,733,749
Total Liabilities and Net Assets	\$ 38,520,071	\$ 34,398,000

Statements of Activities

Support and other Revenues		
Contributions	\$ 8,331,734	\$ 3,779,155
Grants and Contracts	7,061,403	7,590,654
Tuition, guest services and other income	2,304,919	1,778,797
Investment return	(250,230)	616,381
Total Revenue and Other Support	17,447,827	13,764,987
Expenses		
Program services		
Scientific research	9,134,943	9,739,137
Education courses and programs	2,052,412	1,890,850
Guest and residential services	297,116	185,937
Total Program Services	11,484,471	11,815,924
Support Services		
Development, marketing and communications	577,168	597,294
Management and general	837,531	422,731
Total Support Services	1,414,699	1,020,025
Total Expenses	12,899,170	12,835,949
Increase in Net Assets	\$ 4,548,657	\$ 929,038

Summary Financial Highlights

December 31, 2015

	2015	2014
Investments		
TIFF Multi-Asset Fund	\$ -	\$ 6,134,685
Commonfund:		
Global Multi- Asset Portfolio, LLC	13,928,656	8,044,840
Vanguard Prime Money Market Fund	253,819	615,888
Total	\$ 14,182,476	\$ 14,795,413
Endowments		
Balance on January 1	\$ 14,817,400	\$ 14,785,342
Contributions	27,664	26,869
Investment return		
Net depreciation	(431,385)	(814)
Income (interest & dividends)	180,654	614,553
Distributed during the year	(684,192)	(608,550)
Balance on December 31	\$ 13,910,141	\$ 14,817,400
Represented on the Balance Sheet as:		
Permanently restricted	1,344,297	9,726,934
Temporarily restricted	2,811,246	3,572,525
Unrestricted	9,754,598	1,517,941
Total	\$ 13,910,141	\$ 14,817,400

Leadership



photo by Tiffany Wardman

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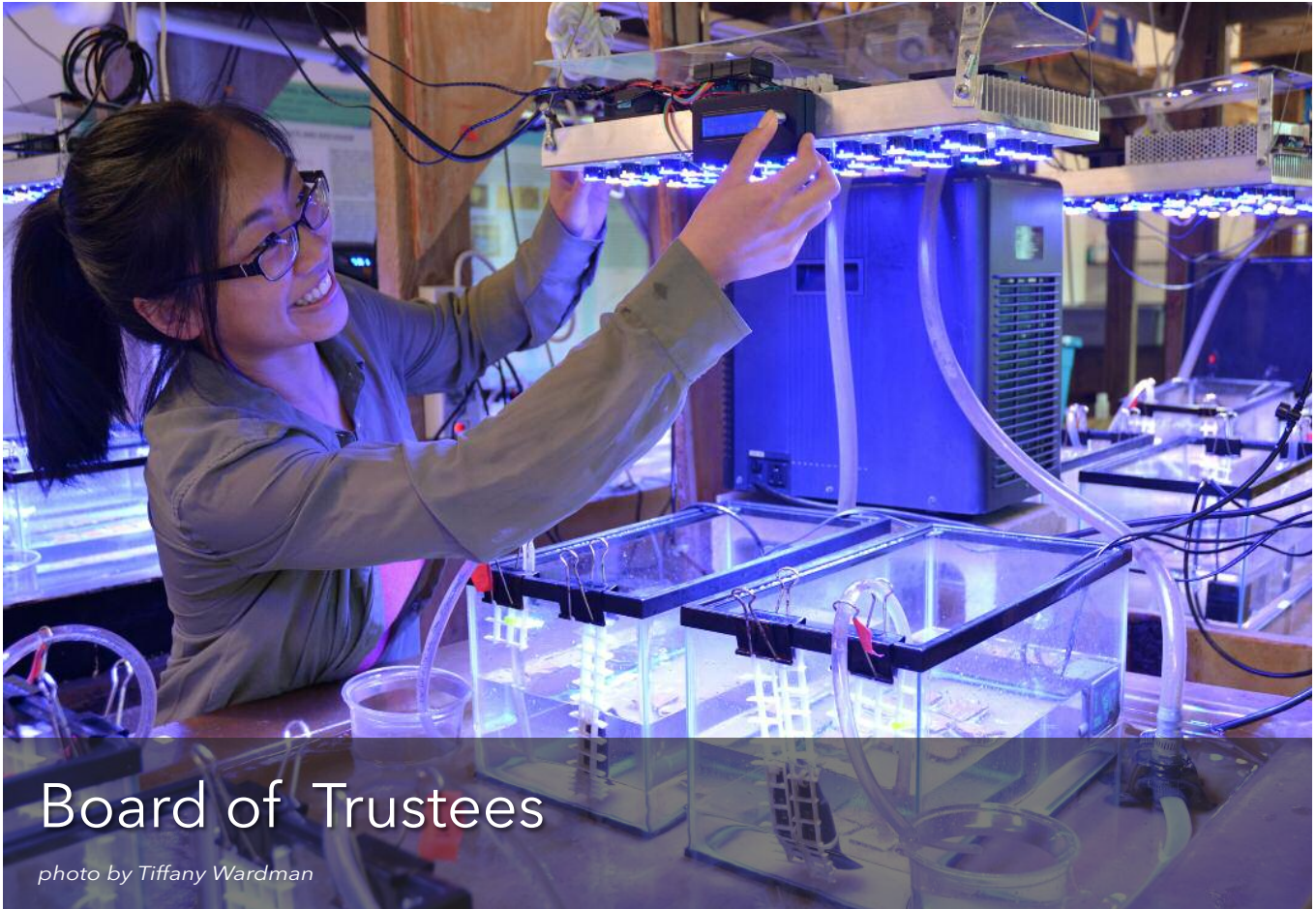
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photo by Stacy Peltier

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Faculty & Staff

**R/V ATLANTIC EXPLORER
NEW YORK**

photo by Tiffany Wardman

Staff and crew
of the research
vessel *Atlantic
Explorer*.

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Jeremiah Brower
Marine Technician

Ronald H. Harelstad
Marine Superintendent

Nick Mathews
Marine Technician

Justin Smith
*Oceanographic Technical
Services Manager*

R/V ATLANTIC EXPLORER

Captain
George W. Gunther

Relief Captain

Quentin M. Lewis

Port Captain
Rick Verlini

Relief Mates

Courtney Barber III
Richard P. Chase
Christopher R. Sheridan

Chief Engineer

Richard E. Smith Jr.
Joseph E. Howard (Relief)
Ken J. Potter (Relief)
Mark E. Smith (Relief)

Able Seaman

Jeffrey P. Artingstall (Relief)

R/V Atlantic Explorer Crew- Bernhard Schulte Ship

1st Officer
Mel June Inocencio,

Motormen

Berlin Jamelo
Rodney Jumeras
Alchamor Soliva

Chefs

Bernardo Manalo
Dexter Ojano

Bosun

Joseph Paitone
Ronaldo De Leon

Seamen

Jesus Ambrocio
Ciriaco Mutas Jr.
Eric Parcon

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Accountant

Gillian M.S. Hollis
*Assistant to the President and
CEO, and Secretary to the
Corporation*

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*Dive Safety Officer/Small Boats
Supervisor*

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Qualified Accountant

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Human Resources Officer

Charlene Millett
Kitchen Assistant

Victoria Millett
CPA Treasurer and Controller

Sharon Minors
Office/Room Attendants

Donika O'Mara
Office/Room Attendants

Simon J Parkinson
*Network and Systems
Administrator*

Carol A. Pitcher
Office/Room Attendants

Helena Simoes
Chef

Antar Smith
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Electrician/Plumber

Kenneth E. Trott
Truck/Bus Driver

Gregory D. Wade
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Kweshon Woods-Hollis
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Bermuda Institute of Ocean Sciences

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Crew of the R/V Atlantic Explorer deploy the MOCNESS plankton net. Photo by Jorge Sanchez.