



Discovery Never Ends

2011 MBL ANNUAL REPORT
MARINE BIOLOGICAL LABORATORY

2011 TOP HIGHLIGHTS

- Established the Center for Library and Informatics
- Built capacity in the Bell Center for Regenerative Biology and Tissue Engineering and The National *Xenopus* Resource
- Surpassed Catalyst Campaign goal of \$125 million with \$127.7 million raised as of December 21, 2011
- Awarded \$818,123 in scholarships to 282 highly qualified students
- Broadened and deepened Brown-MBL Graduate Program; Grew enrollment from 12 to 20 students
- Launched new version of the Encyclopedia of Life
- Completed installation of 510-panel solar array at Technology Park

The MBL Annual Report is published by the Marine Biological Laboratory. Although the greatest possible care has been taken in the preparation of this record, the MBL recognizes the possibility of omissions or inaccuracies. If any are noted, please accept our apology and advise us of any corrections to be made.

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About the cover: Spectral fluorescence image of 15 different species of human oral microbes grown in the laboratory and labeled with taxon specific probes in a CLASI-FISH experiment. Full details on page 5. (Alex Valm)



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Welcome to the 2011 Annual Report of the Marine Biological Laboratory.

Visit us online!

To view the comprehensive report—including investigator, faculty, and course lists—please visit:

mbl.edu/annualreport2011



John W. Rowe

Discovery is a continual process and it is at the heart of everything we do at the MBL. We push the boundaries of science forward. We train the next generation of scientists. And we provide an environment where great minds can come together and do the work that will lead to the next breakthrough.

Building the physical and scientific infrastructure to support discovery is also a continual process. In 2011 our work was largely focused on the advancement of three groundbreaking events that occurred in 2010: the establishment of the Bell Center for Regenerative Medicine and Tissue Engineering; the transformation and modernization of Loeb Laboratory; and the public launch of the historic Catalyst Campaign. These efforts, in concert with new initiatives and achievements, are helping to position the MBL as a leader in the life sciences for the 21st century.

MBL SCIENCE AND EDUCATION

In 2011 we continued to build capacity in the Bell Center. We recruited Marko Horb, a scientist whose foundational research explores the basic biology behind the repair and regeneration of damaged tissues and organs. Horb was also appointed Director of the National *Xenopus* Resource, which is now fully functional and stocked with frogs used by researchers who study disease, aging, and regenerative medicine.

Loeb Laboratory, home to the MBL's discovery-based education program, continued to receive an enthusiastic reception from our faculty and students. After a full year of "sea trials" and fine-tuning, it is clear that the renovations we made in 2010 are providing our discovery courses with the physical and technical infrastructure they need for cutting-edge research training.

In 2011 we offered more courses and welcomed more students from more institutions than ever before. The Brown-MBL Graduate Program also experienced growth, with enrollment nearly doubling and new funding supporting student tuition costs, development of joint courses, and technical upgrades to expand communications between the two institutions.

Other 2011 accomplishments included the creation of The Center for Library and Informatics, which consolidated 12 existing MBL informatics initiatives, including the MBL/WHOI Library and Encyclopedia of Life, into a centralized research group. And, as part of our ongoing efforts to minimize our impact on the environment and reduce energy costs, we installed 510 solar panels—one of Falmouth's largest renewable energy projects—on the roof of our property at Technology Park.

We also made excellent progress on the MBL Catalyst Campaign, which had raised a cumulative total of \$127.7 million by year's end, surpassing the \$125 million goal we set five years ago to raise endowment and program support for the MBL's research and education programs. Thanks to our generous donors, we have met our goals for program support and facilities improvements. However, many of the endowment sub-goals of the Campaign remain underfunded. Raising current use funds and unrestricted endowment is our fundraising priority in 2012, the campaign's final year.

STEWARDSHIP

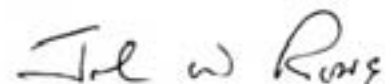
Containing operating costs and increasing revenue continued to be major concerns in 2011. To the credit of our investigators, we met our goal of maintaining federally funded research at the 2010 level. We also received a \$3.2 million grant renewal from the Howard Hughes Medical Institute for our summer courses. But the economy forced many foundations to make fewer or reduced grants and the competition for science support in both the private and public sector was fierce.

LOOKING AHEAD

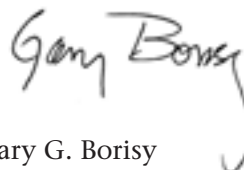
Thanks to the success of the Catalyst Campaign and other recent initiatives, we have made infrastructure repairs to our campus that have long been deferred and we are continuing to advance our programmatic goals in new and exciting ways.

Nevertheless, we must recognize that these are challenging economic times for everyone, and the MBL is not immune to financial uncertainties. Federal and foundation support for research and education is becoming increasingly competitive, just at the time that the MBL's debt service, a reflection of our major infrastructure upgrades, is rising. With the campaign coming to a close in 2012, we must realign our operations to ensure that we live within our means and assure our sustained financial health. Accordingly, we are engaged in the hard work of analyzing our current business model and planning for our long-term financial success.

We are fortunate to have the support of a strong and experienced board as well as a devoted community of corporation members, overseers, associates, donors, scientists, and staff. Their investment of time, talent, energy, and resources is what keeps the MBL on the forefront of discovery, assures our continued financial well-being, and will sustain us well into the future.



John W. Rowe, M.D.
Chair, MBL Board of Trustees



Gary G. Borisy
MBL President and Director

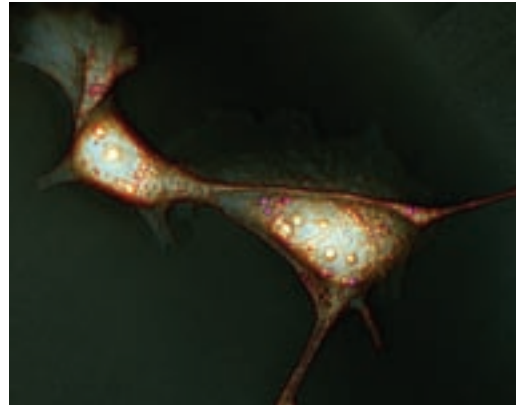
RESEARCH HIGHLIGHTS



The MBL sparks biological discovery by providing a charged scientific environment and attracting the world's leading researchers. MBL science has helped reveal the mechanisms of cells and their roles in disease, the processes that sustain life, and the genetic ancestry of life itself. It has also promoted a cross-fertilization of ideas, nurturing numerous scientific fields that continue to advance our understanding of human and environmental systems.

MICROBES OF THE MOUTH

Seven MBL scientists, including Brown-MBL graduate student Alex Valm, developed a new microscopy technique to analyze dental plaque, a complex biofilm that contains at least 600 species of microbes. The technique allows the spatial arrangement of up to 28 differently labeled microbes to be seen in a single field of view. Previously, only two to three kinds of microbes could be visually distinguished at once. The scientists are hopeful that the technology will spark a new kind of clinical diagnostic procedure.



CENTER FOR LIBRARY AND INFORMATICS CREATED

The Center for Library and Informatics is a new MBL research initiative that addresses the challenges of data management, promotes data-driven discovery, and develops innovative visualization and analysis tools. Now consolidated in the Lillie building, the Center brings together the MBLWHOI Library, the History and Philosophy of Science Program and several biodiversity informatics projects (including EOL, Global Names, Data Conservancy) coalescing the expertise of MBL computer scientists, librarians, information scientists, historians, and life scientists.

LEADING U.S. NATIONAL CLIMATE ASSESSMENT

MBL Distinguished Scientist Jerry Melillo was named chair of the National Climate Assessment Development and Advisory Committee, an



advisory body to the U.S. Global Change Research Program, which is charged with producing a National Climate Assessment for the President and Congress. Melillo's committee will produce the report, building on previous findings and analyzing the regional and national effects of current and projected

climate change on a range of sectors, including agriculture, energy, water resources, human health, and transportation.

BUILDING CAPACITY IN THE BELL CENTER

Marko Horb and Mark Messerli joined Joel Smith as new scientific appointments in the Bell Center for Regenerative Biology and Tissue Engineering. Horb uses *Xenopus* frogs to study the steps and signals that lead to development of the pancreas and other organs. Smith studies how the genetic "blueprint" is used to make the body parts of an animal. Messerli studies the natural mechanisms by which polarity in cells and tissues is formed in hopes of providing a foundation for repairing and rebuilding human tissues. In addition to the principal investigators, the Center is staffed by an administrator, and a total of 10 postdoctoral scientists, graduate students, and research assistants.

SCIENTISTS REPORT DRAMATIC CARBON LOSS FROM ARCTIC WILDFIRE

Ecosystems Center scientist Gausi Shaver and his colleagues described the dramatic impacts of a massive Arctic wildfire on carbon releases to the atmosphere. The 2007 blaze on the North Slope of Alaska's Brooks Mountain Range released at least 100 times the annual amount of carbon stored in the same area of typical Alaskan tundra. As wildfires increase in frequency and size along Alaska's North Slope, the disturbances could have profound implications on atmospheric carbon and climate.



SALT MARSH MICROBES RESIST PERTURBATION FROM NUTRIENT ENRICHMENT

Using next-generation DNA sequencing, a team of Ecosystems Center and Bay Paul Center scientists found that microbial communities in salt marsh sediments in Massachusetts' Plum Island and Great Sippewissett Marsh were unaffected by nutrient enrichment despite changes in many aspects of marsh ecology. This was true for soils under *Spartina* cordgrass in both habitats. The results demonstrate a remarkable uncoupling between microbial composition and ecosystem-level biogeochemical processes and suggest that sediment microbial communities are adaptable to environmental stresses.

ENCYCLOPEDIA OF LIFE LAUNCHES NEW VERSION

An international
informatics collaboration,

led by the MBL's Center for Library and Informatics, developed a new, improved version of the Encyclopedia of Life, a comprehensive collection of data about every living thing on Earth. Known as EOLv2, the new design is more interactive, more global, and more flexible, with data now available to other web-enabled applications. In 2011, *Popular Science* called EOL "one the 10 most amazing databases in the world."

BREEDING DISEASE-RESISTANT OYSTERS

Disease is one of the most serious impediments to culturing Eastern oysters. Marine Resources Center scientist Scott Lindell and colleagues completed Phase I of a five-year project to cross-breed oysters for fast growth and resistance to three common diseases increasing in intensity and geographic distribution throughout New England. Strains which had better disease resistance and growth were identified and are now being cross-bred for further improvement and use by commercial growers.



NATIONAL *XENOPUS* RESOURCE THRIVES

The MBL-based National *Xenopus* Resource (NXR) became fully functional in 2011, following its establishment a year earlier. The Resource supports scientists who use the aquatic frog *Xenopus* for research into human health, disease, aging, and the emergent field of regenerative medicine. The NXR currently houses 1,000 to 1,500 *Xenopus*, breeds frogs of various genetic stocks, and develops new experimental tools and husbandry techniques for two *Xenopus* species. The NXR also hosts courses and meetings for *Xenopus* researchers.

NEW MICROSCOPY SYSTEM ILLUMINATES ORGANIZATION OF KEY CELLULAR PROTEIN

Abnormal function of septin proteins has been implicated in Alzheimer's and Parkinson's diseases, and in forms of cancer. To investigate this problem, Cellular Dynamics Program scientist Rudolf Oldenbourg, in collaboration with Whitman Investigators Amy Gladfelter and Bradley DeMay, combined the unique strengths of fluorescence and polarized light imaging to develop a polarized fluorescence microscopy system. Fusing the green fluorescent protein (GFP) to septins in fungal and animal cells, the team found that septin proteins were organized in an identical highly ordered fashion that is conserved from yeast to mammals. Discerning septin organization in higher-order cell structures is crucial to understanding their function in normal cells and malfunction in disease.

CENSUS YIELDS FIRST COMPARISON OF MICROBIAL DIVERSITY IN GLOBAL OCEAN ECOSYSTEMS

An International Census of Marine Microbes study found seafloor microbial communities differ significantly from those in the water above, despite a constant "snow" of sinking microbes. In this first synthesis of microbial distributions across the world's oceans, Bay Paul Center scientists and their global colleagues



analyzed nearly 10 million microbial genetic sequences from locations ranging from deep-sea hydrothermal vents, to oxygen-starved Caribbean waters, to open waters of the Arctic and Antarctic. The results show remarkable large-scale patterns in bacterial communities and open interesting perspectives for the definition of biogeographical biomes of ocean water and seabed microbes.



COLLABORATIVE STUDIES EXPLORE CLIMATE CHANGE AND LOCAL IMPACTS IN MASSACHUSETTS SALT MARSHES

Two multi-institution awards were made for studies of local salt marshes. Ecosystems Center scientist Jim Tang and his partners were awarded a \$1.3 million grant from the National Estuarine Research Reserve System to examine carbon and nitrogen cycles in salt marshes in Waquoit Bay, MA and the impact of, and feedback to, climate change. Tang will use novel laser-based technology to develop a more accurate field-based system for measuring greenhouse gas emissions from salt marshes. MBL's Zoe Cardon and Anne Giblin, with Stefan Sievert at the Woods Hole Oceanographic Institution, also received a \$1.2 million National Science Foundation collaborative grant to explore the role of sulfur-oxidizing bacteria in salt marsh nitrogen and carbon cycling at Plum Island on Boston's North Shore. They will use imaging techniques to quantify the loss of oxygen from plant roots into natural sediment, as well as conduct field and greenhouse analyses of microbial activities influenced by that oxygen.

SHEDDING NEW LIGHT ON THE *GIARDIA* GENOME

Five years ago, a team led by Bay Paul scientist Hilary Morrison published the genome of the human intestinal parasite, *Giardia lamblia*. Based on the computational assembly of more than 200,000 sequences, the genome contained information gaps. In a follow-up to the 2007 study, Morrison and her colleagues used an optical mapping process to improve the assembly and correct several errors to better define the extent of regions not originally included in the genome assembly.

SEA LAMPREYS AND NERVE CELL REGENERATION

The sea lamprey, an aquatic animal with an eel-like body, can regenerate its spinal cord after injury. To understand how it does this, Whitman Investigators Ona Bloom, Jennifer Morgan, and Joseph Buxbaum, along with Joel Smith of the MBL's Bell Center for Regenerative Medicine and Tissue Engineering, charted a timeline of the changes that occur as lampreys progress through the wound healing and regeneration processes after spinal cord injury. Using DNA sequencing, the researchers set out to capture and investigate the molecular changes that accompany the recovery process and attempted to relate that information to observed changes at the cellular level. The information was also correlated with changes in the animals' behavior, as they regained their ability to swim. The scientists' ultimate goal is to understand the lamprey's recipe for successful regeneration and use that information to try and achieve similar successes with mammalian neurons.

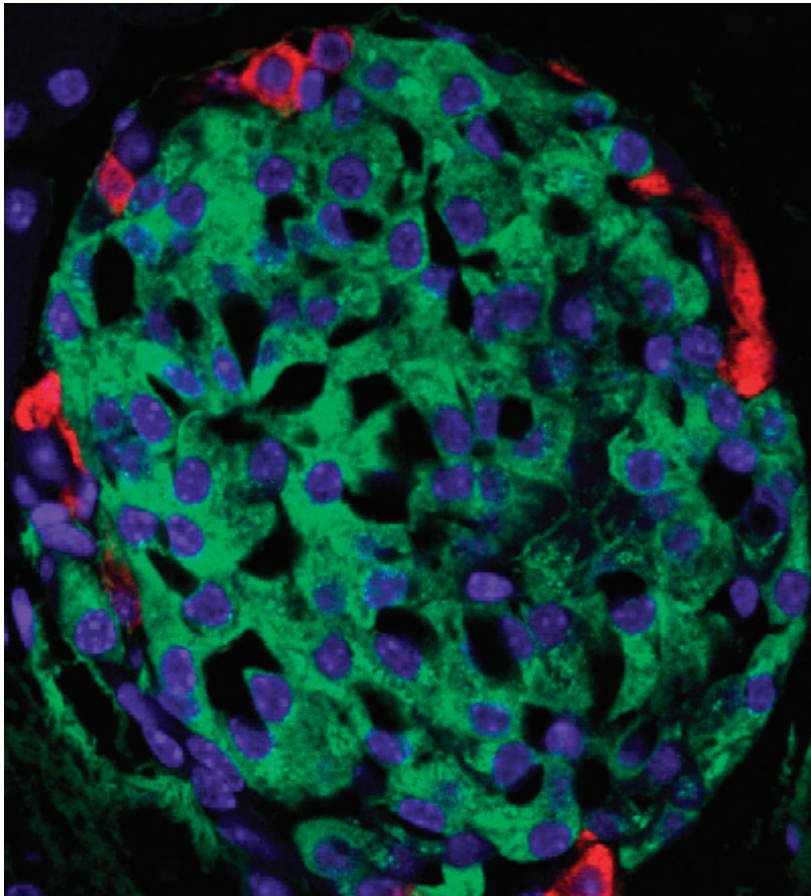


SQUID RESEARCH PROJECTS UNCOVER LINKS TO HUMAN BEHAVIOR, MATERIALS SCIENCE

Marine Resources Center scientist Roger Hanlon and his colleagues identified a potent pheromone in squid eggs that triggers dramatic fighting in male squid. The molecular structure of the aggression-producing pheromone, believed to be the first of its kind discovered in any marine animal, is nearly identical to that found in human male seminal fluid. The new discovery in squid of a behavioral function related directly to aggression may inspire new avenues of research. Hanlon was also co-recipient (with Rice University materials scientists and nanotechnologists) of a \$6 million Office of Naval Research grant to study and ultimately emulate squid camouflage towards the goal of developing new materials that can mimic cephalopod camouflage.

STUDY PROVIDES INSIGHT INTO INSULIN RELEASE FROM PANCREATIC BETA CELLS

Cellular Dynamics Program scientist Emma Heart, in collaboration with Whitman Investigator Joshua Gray and others, identified a novel metabolic pathway in pancreatic beta cells, called PMET (plasma membrane electron transport). While PMET plays an important role in a variety of cell types, this was the first study to demonstrate its presence in insulin-secreting cells. Their research contributes to the understanding of beta cell function and insulin secretion and may help in the design of effective strategies to treat Type 2 diabetes.



SYMPOSIUM HONORS SHINYA INOUÉ

The life, contributions to science, and 90th birthday of pioneering biologist and microscopist Shinya Inoué were celebrated at a July 2011 symposium. Inoué presented a tribute to Jean and Katsuma Dan, Japanese biologists who were his close friends and professional mentors. Other speakers included: Gary Borisy, MBL; David McClay, Duke University; Tim Mitchison, Harvard Medical School; Rudolf Oldenbourg, MBL; Ted Salmon, University of North Carolina at Chapel Hill; and Jennifer Zallen, Memorial-Sloan Kettering Center.



STUDY PROBES WHAT'S BEHIND TINNITUS

Research by Whitman Investigators Thanos Tzounopoulos and Gordon Shepherd shed new light on tinnitus, a persistent and debilitating ringing in the ears that affects an estimated 250 million people worldwide. The study revealed that tinnitus is the result of under-inhibition of key neuronal pathways in the brain's auditory center. The findings could eventually lead to drugs or therapies for the condition, which currently has no cure.

EDUCATION HIGHLIGHTS



Each year the MBL trains more than 550 students as part of its education program, which offers a level of training and mentoring available nowhere else. In addition to our renowned summer courses, the MBL offers a joint Ph.D. program with Brown University, undergraduate training, and hands-on labs and field courses for science journalists and others.

A CENTER FOR SCIENCE TRAINING

In 2011, the MBL offered 7 summer and 17 special topics courses with emphasis on advanced research techniques in fields including cell physiology, microbial diversity, neuroscience, and parasitology, and awarded \$818,123 in scholarships to 282 highly qualified students. The courses educated 582 students from 384 institutions and 48 countries and were served by 888 faculty, staff, and lecturers from 282 institutions and 39 countries. The MBL also trained twenty-three undergraduates from 19 colleges in its Semester in Environmental Science Program



and 15 journalists from major news outlets in its Logan Science Journalism Program.

COURSE EXCELLENCE RECOGNIZED BY FEDERAL FUNDERS

MBL courses continued their track record for excellence, garnering top scores from the National Institutes of Health as part of the competitive funding renewal process. On a scale of 10 to 90 (10 being a perfect score), a grant proposal for the Summer Program in Neuroscience, Ethics, and Survival received a score of 13; proposals for the Fundamental Issues in Vision Research and Zebrafish

Development & Genetics courses each received a score of 10. NASA called a grant proposal for the Microbial Diversity course an “outstanding proposal.”

NEW COURSES EXPAND TRANSFORMATIVE EDUCATIONAL PROGRAMS

In 2011, the MBL added two new discovery courses: Neurobiology of Brain Dysfunction and Computational Image Analysis in Cellular and Developmental Biology. A new workshop, Strategies and Techniques for Analysis of Microbial Population Structures, was also introduced. Informatics education at the MBL continued to expand with the inaugural course in History and Philosophy of Science Informatics, modeled after the highly successful Biomedical Informatics course, now in its 20th year.

HHMI AWARDS \$3.2 MILLION TO SUPPORT EDUCATION PROGRAM, OTHER MAJOR SUPPORT CONTINUES

The Howard Hughes Medical Institute awarded a four-year, \$3.2 million grant in support of the MBL’s advanced education program. Other crucial support included grants from the Burroughs Wellcome Fund, The Ellison Medical Foundation, The Grass Foundation, the Gordon and Betty Moore Foundation, and the Genentech Foundation. Government support included grants from the National Institutes of Health, the Department of Energy, the NASA Astrobiology Institute, and the National Science Foundation.



NEW FUNDING PROMOTES BROWN-MBL PROGRAM GROWTH IN 2011

The Brown-MBL Graduate Program in Biological and Environmental Sciences grew from 12 to 20 students. An anonymous gift of \$1 million to Brown helped provide tuition support to Brown-MBL graduate students. Other funding supported development of joint workshops, courses, and symposia, and videoconference upgrades to enhance Brown-MBL communications. Short-term housing at the MBL and in Providence was created for participating students and faculty in need of overnight accommodations while working at either campus.

The Marine Biological Laboratory (MBL) is dedicated to scientific discovery and improving the human condition through research and education in biology, biomedicine, and environmental science. Founded in Woods Hole, Massachusetts in 1888, the MBL is a private, nonprofit corporation.

LEADERSHIP

Chairman of the Board of Trustees
John W. Rowe

President and Director
Gary G. Borisz

Speaker of the Corporation
Joan V. Ruderman

SCIENTISTS & AFFILIATED STAFF

A corps of more than 270 scientists and support personnel pursue research year-round. The staff is joined each year by more than 400 visiting scientists, summer staff, and research associates from hundreds of institutions around the world. The MBL Corporation has 436 members.

AWARD-WINNING SCIENCE

Among the scientists with a significant affiliation with the MBL (scientists, course faculty and students) are 54 Nobel Prize winners (since 1929); 118 Howard Hughes Medical Institute investigators, early career scientists, international researchers, and professors (since 1960); 196 Members of the National Academy of Sciences (since 1960); and 171 Members of the American Academy of Arts and Sciences (since 1960).

MAJOR PROGRAMS & RESEARCH AREAS

Ecosystems Center: Ecosystems processes, biogeochemistry, and climate change

Bay Paul Center for Comparative Molecular Biology & Evolution: Microbial ecology; genetics and metagenomics; molecular evolution

Bell Center for Regenerative Biology and Tissue Engineering: Cell, developmental and regenerative biology; tissue engineering and regeneration

Center for Library and Informatics: Biodiversity and biomedical informatics; Encyclopedia of Life; MBLWHOI Library

Cellular Dynamics Program: Microscopy, imaging and cellular dynamics; cellular physiology and biocurrents; biosensors

Whitman Center: Collaborative research by leading scientists from around the world

Other Research Programs: Scientific aquaculture; behavioral ecology; sensory physiology; biological basis of camouflage

EDUCATIONAL PROGRAMS

MBL Discovery Courses: 24 courses providing advanced, laboratory-based research training in fields such as cellular physiology, embryology, neurobiology, and microbiology, including (in 2011) 582 students from 384 institutions and 48 countries; and 888 faculty, staff, and lecturers from 282 institutions and 20 countries.

“K through forever” educational programs ranging from K-12 teacher training, undergraduate education and independent research, graduate training, the Brown-MBL Graduate Program in Biological and Environmental Sciences, postdoctoral training, the Logan Science Journalism Program, and community continuing education programs.

MAJOR PARTNERSHIPS

The Brown-MBL Partnership fosters research collaborations between scientists from the MBL and Brown University, and includes undergraduate and graduate training, a joint graduate program, joint graduate training grants, and collaborative joint research programs.

The Woods Hole Consortium is a research and educational alliance between the MBL, Woods Hole Oceanographic Institution, and Woods Hole Research Center, focusing its joint initiatives on the interlocking issues of climate change, ecosystems health, and human well-being.

The Encyclopedia of Life Consortium is dedicated to creating a Web page for all 1.9 million named species of animals, plants, and other life forms on Earth. The consortium includes the MBL, the Field Museum of Natural History, Harvard University, Missouri Botanical Garden, Smithsonian Institution, and Biodiversity Heritage Library.

SCIENTIFIC CONFERENCES

The MBL hosts scientific meetings, conferences, and departmental retreats, accommodating annually more than 3,500 participants from around the world.

RESOURCES

The MBLWHOI Library houses one of the world’s foremost print and electronic literature collections in the biological, biomedical, ecological, and oceanographic sciences.

The W.M. Keck Ecological and Evolutionary Genetics Facility is a high-throughput DNA template production and sequencing facility in the MBL’s Josephine Bay Paul Center.

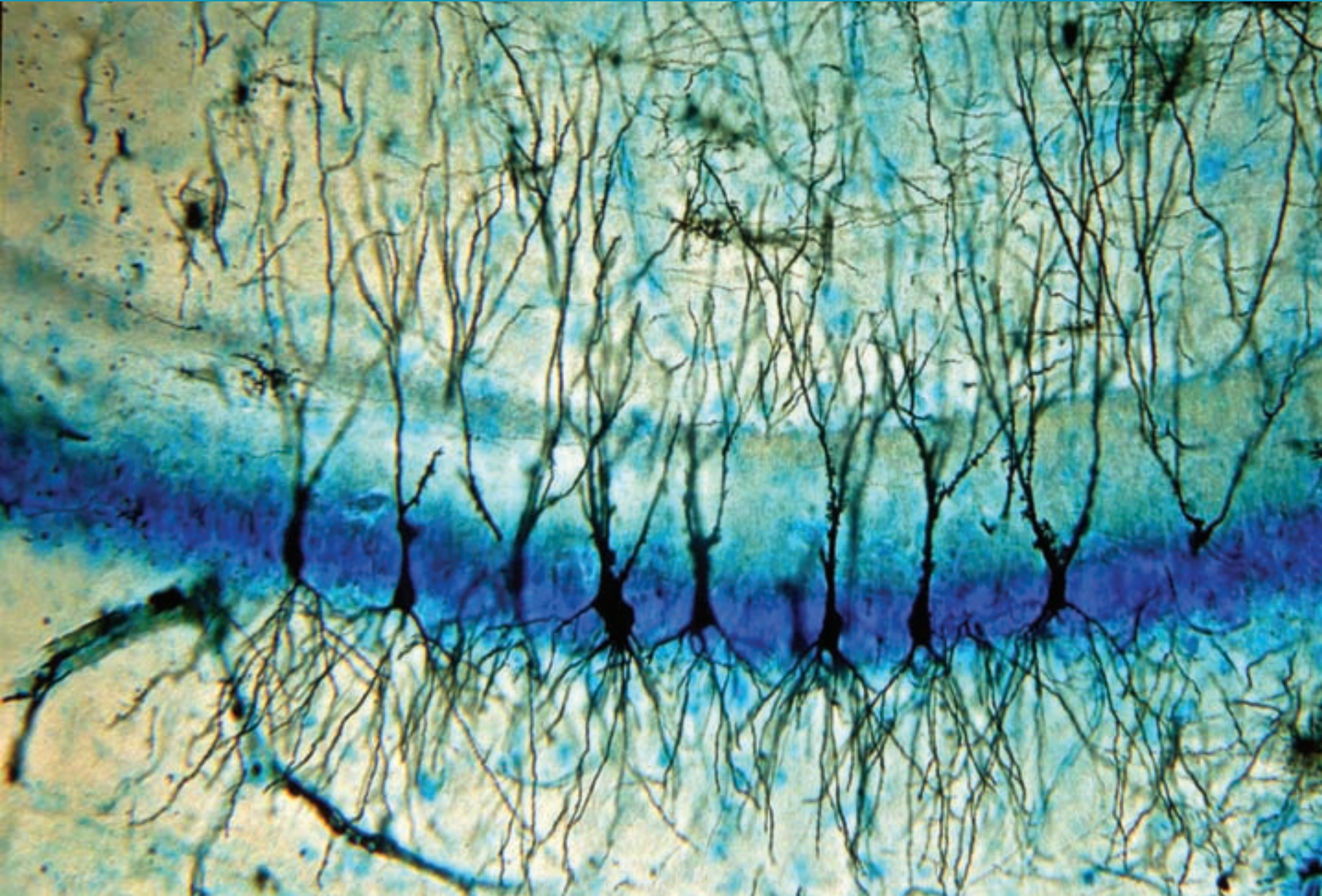
The Marine Resources Center is an advanced facility for maintaining, culturing, and providing aquatic organisms essential to biological, biomedical, and ecological research.

The Biological Bulletin is a peer-reviewed, trans-disciplinary, international journal publishing outstanding experimental research on a wide range of organisms and biological topics, with an emphasis on marine models.

2012 FINANCES

Operating Budget: \$42.6 million (48% government grants and contracts; 21% nonfederal grants and contracts; 7% contributions; 7% endowment earnings; 17% other)
Net Assets: \$107 million
Endowment: \$64 million

FINANCIALS





In 2011, the MBL continued to grow its contributions in biological science and education, and made significant progress in its fund-raising efforts.

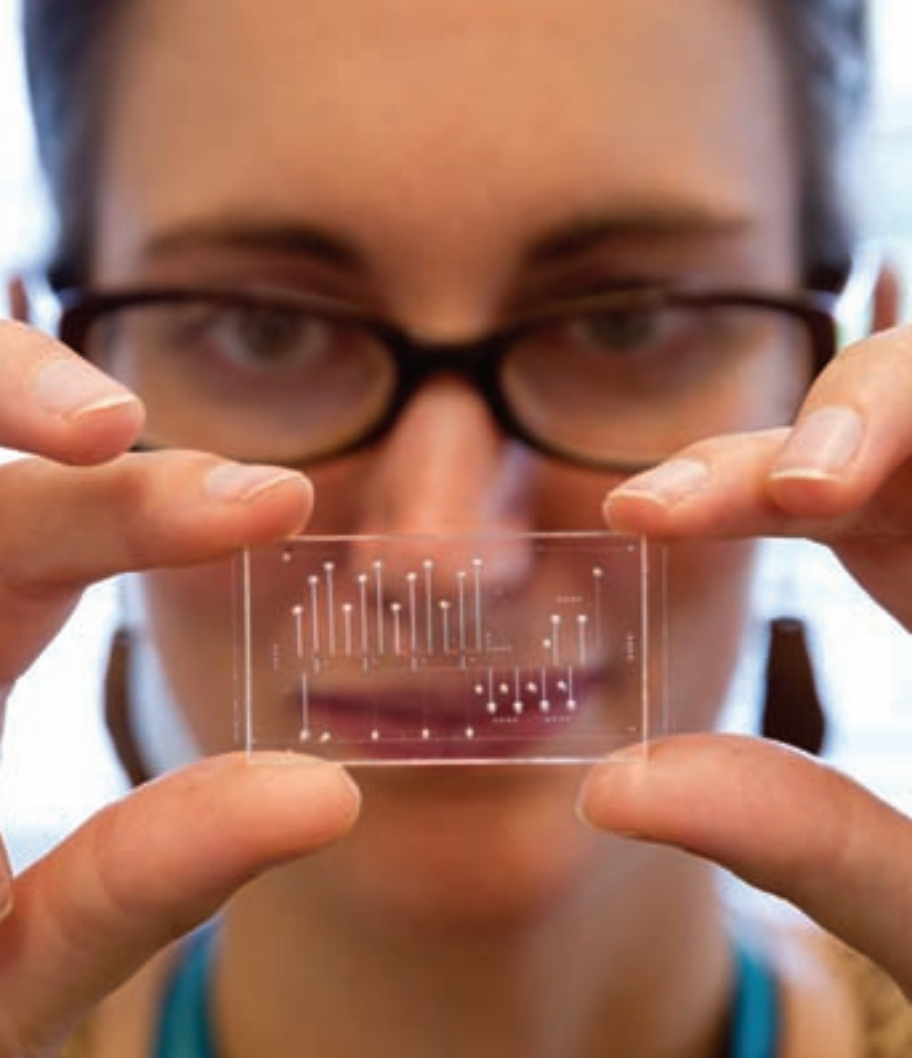
Last year the MBL raised over \$15 million in gifts and pledges as of December 31, 2011, bringing the total amount of funds raised in our Catalyst Campaign to \$127,692,278 and exceeding our \$125,000,000 goal one year early. Nonetheless, this was a challenging year from a financial perspective, with net assets declining by 6%, or \$7 million year-over-year, as reflected in the non-operating portion of the accompanying financial statement. This was primarily attributable to investment losses in the volatile stock markets experienced in 2011. However, support for the annual fund in the amount of \$1,070,377 provided important operating support, and permanently restricted endowment net assets grew by nearly \$4 million, continuing the emphasis on long-term growth for the MBL.

Much of the growth in our research revenues in 2011 was due to continued stimulus funding from the American Recovery and Reinvestment Act. This funding has been a significant boost to revenues in recent years and has provided much needed research funding to our scientists.

FUTURE EXPECTATIONS

The success of the Catalyst Campaign and the resultant strengthening of the scientific staff of the MBL position the organization to continue on its path toward a sustainable business model. While there will still be a strong focus on increasing the amount of federal funding available to MBL scientists, we will also be working hard on broadening the base of philanthropy. At the same time, we are analyzing the current business model, identifying areas for future expansion as well as areas where expense reductions might be realized. A strengthening of the MBL's cash reserves is in order and is the top management priority as we move into 2012 and beyond.

— Mary B. Conrad, *Treasurer*



The financial statements of the Marine Biological Laboratory for the fiscal year ending December 31, 2011, were audited by Grant Thornton LLP.

Complete financial statements are available on request from
 Maureen Nunez
 Chief Financial Officer
 MBL
 7 MBL Street
 Woods Hole, MA 02543

The operating and balance sheet numbers shown here are unaudited.

Operating History and Balance Sheet as of December 31, 2011 and 2010 (in thousands)

BALANCE SHEET	2011	2010
ASSETS:		
Cash and Cash Equivalents	\$1,990	\$2,419
Pledges and Other Receivables	13,286	17,241
Other Assets	1,814	1,766
Investments, at Fair Value	63,630	64,499
Property and Equipment, Net	71,531	71,653
Total Assets	152,251	157,578
LIABILITIES:		
Accounts Payable	3,382	3,099
Line of Credit	250	-
Annuities and Unitrusts Payable	504	554
Deferred Revenue and Other Liabilities	9,607	7,028
Long-Term Debt	31,185	31,930
Total Liabilities	44,928	42,611
NET ASSETS:		
Unrestricted	38,950	44,224
Temporarily Restricted	14,111	20,109
Permanently Restricted	54,262	50,634
Total Net Assets	107,323	114,967
TOTAL LIABILITIES AND NET ASSETS:	\$152,251	\$157,578
OPERATING HISTORY	2011	2010
OPERATING SUPPORT:		
Government Grants	\$24,311	\$22,289
Non-federal Grants and Contracts	5,441	5,646
Laboratory rental and Net Tuition	2,146	2,158
Fees for Conferences and Services	4,668	4,448
Contributions	7,723	11,737
Investment and Other Revenue	3,536	3,468
Total Operating Support	47,825	49,746
EXPENSES:		
Research	28,801	28,659
Visiting Research	3,981	3,850
Education	9,430	8,827
Conferences and Services	3,948	3,284
Other Programs	2,101	1,878
Total Expenses	48,261	46,498
CHANGE IN NET ASSETS BEFORE NON-OPERATING ACTIVITY:	(436)	3,248
Non-Operating Activities:		
Contributions to Plant and Other Income (Expense), Net	(2,606)	(767)
Total Investment Income and Earnings (Losses)	(1,705)	7,129
Less Investment Earnings Used for Operations	(2,897)	(2,658)
Reinvested Investment Earnings	(4,602)	4,471
TOTAL CHANGE IN NET ASSETS:	\$(7,644)	\$6,952

GIFTS





It has been my pleasure to chair the MBL Development Committee and to lead the MBL Catalyst Campaign for the last few years.

When you have a productive, dynamic, and creative institution like ours, asking for support is an honor. And when the MBL rewards the generosity of its supporters time and again with advances in our understanding of key biological problems and by mentoring new scientists whose brilliance is matched only by their passion for science, you know you are doing something very right.

Thanks to our Trustees, Overseers, devoted scientists, alumni, friends, and foundations, the MBL raised \$15,249,122 in private support in 2011. This brings the total raised for the Catalyst Campaign to \$127.7 million. In 2012, the final year of the Campaign, we will intensify our fundraising focus to those elements of the campaign that remain underfunded, especially unrestricted endowment, and to identifying funding for mission-critical operating costs of the institution.

Our donors are our most valuable partners in the MBL's ongoing mission to search for answers to fundamental questions that impact our health and our planet. On behalf of the Development Committee, the Catalyst Campaign Executive Committee, MBL students, scientists, and staff, I offer my deepest thanks to the individuals, companies and foundations listed here who help keep the MBL at the forefront of biology.

— Jeffrey Pierce, Chair

CATALYST CAMPAIGN DONORS

The individuals, foundations, and corporations listed here gave generously and contributed to the success of the Catalyst Campaign between June 1, 2006 and December 31, 2011. We are most grateful for their support.

\$15,000,000+

Howard Hughes Medical Institute

\$10,000,000 - \$15,000,000

Massachusetts Life Sciences Center
John W. and Valerie Rowe

\$5,000,000 - \$10,000,000

Millicent Bell
Estate of Laura Hunter Colwin
John D. and Catherine T. MacArthur
Foundation
Alfred P. Sloan Foundation

\$1,000,000 - \$5,000,000

Anonymous (2)
The Bay and Paul Foundations
Burroughs Wellcome Fund
Dart Neuroscience LLC
Paul R. Dupee, Jr.
The Ellision Medical Foundation
Hermann Foundation, Inc.
W.M. Keck Foundation
George W. and Harmon H.B. Logan
George and Kathy Putnam
Patricia and Charles Robertson
Charles and Phyllis Rosenthal
The G. Unger Vetlesen Foundation

\$500,000 - \$1,000,000

Anonymous (1)
Porter W. Anderson, Jr.
Davis Educational Foundation
The Grass Foundation
Martin and Audrey Gruss
Robert and Margot Haselkorn
Susan and David Hibbitt

William and Lauren Huyett
Shinya and Sylvia Inoue
Futaba Koike
The Gruss Lipper Family Foundation
Estate of Margery J. Milne
Gordon and Betty Moore Foundation
The David and Lucile Packard Foundation

\$250,000 - \$500,000

Brown University
The Clowes Fund, Inc.
Molly N. Cornell
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PHOTOS

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Page 4: Oral biofilm corn cob array (Blair Rossetti)

Page 5: Jerry Melillo (Tom Kleindinst); *Xenopus* kidney cells XL177 (Amitabh Verma, Michael Shribak, and Tomomi Tani); Sparked by lightning in mid-July of 2007, the Anaktuvuk River Fire burned more than 400 square miles before snow put it out in early October (Bureau of Land Management, Alaska Fire Service)

Page 6: Oysters (U.S. Fish and Wildlife Service)

Page 7: *Arthrospira maxima* (MBL micro*scope.com); Zoe Cardon, Stefan Sievert, and Anne Giblin hold a salt marsh sediment core. The scientists will analyze such cores for studies on the role of bacteria in salt marsh nitrogen and carbon cycling (Tom Kleindinst)

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Page 16: Several filamentous Cyanobacteria of very different sizes. The motile filaments of these species wiggle their way slowly over the agar surface forming the most beautiful loops and structures. The sample originated from a Little Sippewissett (Falmouth, MA) tidal pond and was enriched with phototrophs for several weeks. (S. Emil Ruff)

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