LETTER FROM THE CHAIRMAN AND THE DIRECTOR

We are pleased to share with you the 2009 Annual Report of the Marine Biological Laboratory. As the cover of this report suggests, it was a year of breaking new ground.

In fact, a groundbreaking ceremony was one of the most exciting events of the year. The occasion marked the kickoff of the $25 million renovation of Loeb Laboratory, the cornerstone of the MBL’s signature discovery courses. The top-to-bottom rehab of this important building provides MBL scientists and students with a cutting-edge research facility and contributes to Massachusetts’ reputation as a leader in the life sciences. The ceremony was attended by Massachusetts Senate President Therese Murray and representatives from our funders, The Howard Hughes Medical Institute and the Massachusetts Life Sciences Center, who spoke eloquently about the pivotal impact of the project.

The Loeb groundbreaking was symbolic of the enterprising spirit that energized many sectors at the MBL this year, including research and education, and several expanding initiatives that promise to keep the MBL at the forefront of biological discovery. We are even breaking new ground with the redesign of this report and the creation of our new annual report website, a move designed to save paper and make the printed report more reader friendly.

Research and Education

In the highlights section of this report, you’ll learn about a number of research and education successes in 2009. MBL leadership in these major program areas continues to attract accolades that affirm the importance of our work. To name a few, former MBL independent investigator Ada Yonath received the 2009 Nobel Prize in Chemistry; six MBL affiliates were elected to the National Academy of Sciences; and five to the American Academy of Arts and Sciences, and the Society of Developmental Biology gave the MBL Embryology course a special award for “its outstanding heritage of teaching generations of developmental biologists.”

Growth Initiatives

The MBL continues to pursue research that capitalizes on our institutional strengths. In 2009 we attracted funding and hired scientists to help grow several key initiatives including:

- A Regenerative Biology and Medicine program to understand the natural processes by which marine organisms regenerate damaged tissues and organs—research that may lead to possible medical therapies;
- The Micro-Eco initiative, which leverages our strengths in ecosystems science, genomics, and microbial diversity to provide knowledge on how climate and other environmental changes are affecting the planet;
- Bioinformatics projects, including the Encyclopedia of Life and the Biology of Aging program, which are adding significantly to the world’s understanding of biodiversity and other complex biological problems.

The Loeb groundbreaking was symbolic of the enterprising spirit that energized many sectors at the MBL this year, including research and education, and several expanding initiatives that promise to keep the MBL at the forefront of biological discovery.
Stewardship and Fundraising
In 2009, the MBL broke existing records for its endowment and Annual Fund. Details of these fundraising achievements are in Development Committee chair Jeffrey Pierce’s report.

In addition, MBL scientists raised $8.6 million in new funding by submitting 18 successful American Recovery and Reinvestment Act grants. This is a great example of our ability to act quickly and nimbly when opportunities arise.

We are especially pleased to report that the MBL’s diligent efforts to increase revenues while actively reducing operating expenses helped us achieve a balanced budget for the first time in more than a decade—a remarkable accomplishment in a down economy. Vibrant fundraising and careful stewardship are part of our overarching strategy to provide the financial underpinnings essential to fulfilling the MBL mission.

Looking Ahead
The groundbreaking efforts of 2009 outlined in this report signify our institutional vigor and resourcefulness. We thank the MBL’s scientists, staff, board members, corporation members, overseers, and other champions for their dedication and commitment to helping push the limits of the MBL vision of leadership in the biological and environmental sciences.

John W. Rowe, M.D.  Gary G. Borisy
Chairman of the Board  Director and CEO
"I would argue that Loeb Laboratory has had a greater impact on biomedical science than any building in this country over the last 40 years."

— Ed McCleskey, HHMI

The $25 million renovation was made possible by several key institutions and individuals. Murray was a legislative leader in the creation of the Massachusetts Life Sciences Act, which authorizes investment of up to $1 billion in the state's life sciences "supercluster" over the next 10 years. As an appropriation of the act, the state awarded $10 million toward the renovation of Loeb Laboratory.

"The Commonwealth’s $10 million investment in this renovation will enable the MBL to dramatically improve its premiere educational training programs designed to groom scientists for jobs in the life sciences sector," Murray said. "This is a terrific example of how investments by the Commonwealth can reap great benefits and promote economic development."

The state’s investment had helped to leverage a $15 million commitment from the Howard Hughes Medical Institute (HHMI) for the renovation. Ed McCleskey, an HHMI scientific officer, said, "We are pleased to support the enhancement the MBL’s thriving research training program, which is transforming today’s students into the scientific leaders of the next generation. I would argue that Loeb Laboratory has had a greater impact on biomedical science than any building in this country over the last 40 years."

The "new Loeb Laboratory" brings all MBL research-training programs under one roof. Built in 1970, the facility had become completely outdated relative to current laboratory standards. The renovation involved gutting the 66,000 square-foot building and thoroughly modernizing its infrastructure and internal
design. Of particular note is the renovation’s commitment to the environment. Ninety-eight percent (by weight) of the material removed from the building during demolition was recycled. The building is also awaiting LEED Certification, the nationally accepted benchmark for the design, construction, and operation of a high-performance green building.

Loeb Laboratory is a cornerstone of MBL science and education. “We are very proud of Loeb’s rich history and we look forward to many more years of scientific discovery here,” said MBL Director and CEO Gary Borisy. “This is where the next generation of leaders is trained.”
Research Highlights

MBL Research Highlights

MBL Research Areas
The MBL sparks biological discovery by providing a charged scientific environment and attracting the world’s leading researchers.
Scientists Seize ARRA Opportunities

The American Recovery and Reinvestment Act (ARRA) presented the MBL with a remarkable opportunity for federal stimulus funding in 2009, to which our scientists responded with a tremendous effort and which was rewarded with gratifying success. In 2009, 31 grant applications were submitted, covering everything from the latest generation of instruments, to exploring alternative energy from algae, to renovation of our major laboratories and support facilities. We are pleased to report that 18 ARRA grants were awarded to the MBL, representing more than $8.6 million in new funding.
MBL Partners with RTDC to Commercialize Scientific Opportunities

In an effort to develop commercial opportunities that capitalize on the MBL’s expertise in biological discovery, the laboratory created a formal partnership with the Regional Technology Development Corporation (RTDC) of Cape Cod which is facilitating technology transfer of MBL research and handling intellectual property licensing.
Woods Hole Consortium Established

The Woods Hole Consortium, a new alliance that combines the power of the MBL, the Woods Hole Oceanographic Institution, and the Woods Hole Research Center, was formed to spawn scientific growth and job opportunity in the region and address some of the major issues facing society today, including climate change, ecosystems health, and human well-being. In December, Consortium members promoted the importance of ocean-land-air-ice connections in climate change at the United Nations Climate Change Conference in Copenhagen.
Scientist Spearheads White House Climate Report

MBL Distinguished Scientist Jerry Melillo co-chaired and co-edited a White House report offering the most comprehensive assessment to date on the impacts of climate change on the United States. Released by the Obama Administration in June 2009, the report emphasizes that the choices we make now will determine the severity of climate change in the future.
Scientists Link H1N1 Susceptibility to Common Levels of Arsenic Exposure

Chief Academic and Scientific Officer, Joshua Hamilton, and his colleagues reported that the ability to mount an immune response to H1N1 flu infection is significantly compromised by a low level of arsenic exposure that commonly occurs through drinking contaminated well water. The Environmental Protection Agency considers 10 ppb arsenic in drinking water 'safe,' yet concentrations of 100 ppb and higher are commonly found in well water in regions where arsenic is geologically abundant, including upper New England, Florida, and large parts of the upper Midwest, the Southwest, and the Rocky Mountains.
Discoveries Shed Light on Inner Ear Disorders Associated With Hearing Loss

Renowned vestibular researcher Stephen Highstein made important discoveries about inner ear hair cells, extremely sensitive and essential sound and balance detectors. Highstein demonstrated that inner ear hair cells in toadfish (right) amplify mechanical signals to the vestibular canal, which, in turn, sends information about balance and spatial orientation to the brain. His results may lead to therapies for inner ear disorders that affect hearing and balance. Highstein joined the MBL as a senior scientist in Marine Resources in April 2009.
New Targets for Alzheimer’s Research Explored
In two separate studies, MBL visiting investigators Scott Brady (University of Illinois) and Rudolfo Llinás (New York University) suggested that tiny, toxic protein particles severely disrupt neuro-transmission and inhibit delivery of key proteins in Alzheimer’s disease. The studies reveal two possible new targets for drug therapies.
Informatics Group Expands to Create Biology of Aging Portal

The Informatics Group of the MBLWHOI Library, initiated in 2002 with the Andrew W. Mellon Foundation-funded uBio project, expanded in 2009 with funding from The Ellison Medical Foundation to create the Biology of Aging Portal. In addition to developing informatics tools, this effort seeks to gather, organize, and share information related to aging and lifespan development with the Encyclopedia of Life and with biologists studying the basic processes of aging.
EOL Ranked Among Best Educational Websites

As the Encyclopedia of Life (EOL) celebrated its second anniversary in 2009, the London Telegraph ranked it 10th among the best educational websites. In addition, the John D. and Catherine T. MacArthur Foundation and the Alfred P. Sloan Foundation renewed their support of the unprecedented effort through $12.5 million in funding. The EOL is creating a web page for all 1.9 million known species of animal, plant, and other forms of life on Earth. In 2009, the EOL contained 1.4+ million pages, more than 150,000 with expert-vetted content.
Federal Stimulus Funding Accelerates Initiative in Regenerative Biology and Medicine

Massachusetts Lieutenant Governor Timothy Murray joined the MBL to announce the receipt of more than $800,000 in NIH stimulus funds to support the recruitment of scientists specializing in regenerative biology. This emerging field seeks to define the natural processes by which damaged tissues and organs can regenerate and then apply that knowledge to the development of medical therapies. The grant is an important step toward establishing an initiative in Regenerative Biology and Medicine at the MBL.
Cellular Dynamics Program Scientists Awarded Mass General Prize

The MBL’s Cellular Dynamics Program (CDP) continues the MBL’s long tradition of accelerating the knowledge of basic biology and disease through the development and utilization of tools customized to shed light on life’s most essential processes. In 2009, CDP director Peter Smith and colleagues at Massachusetts General Hospital were awarded the Massachusetts General Hospital Martin Research Prize for Excellence in Basic Research for a collaborative effort studying the acidification of the male reproductive system.
JOSEPHINE BAY PAUL CENTER FOR COMPARATIVE
MOLECULAR BIOLOGY AND EVOLUTION

In the Josephine Bay Paul Center for Comparative Molecular Biology and Evolution, scientists explore the evolution and interaction of genomes of diverse organisms with significant roles in environmental biology and human health. Bay Paul Center scientists integrate the powerful tools of genome science, molecular phylogenetics, and molecular ecology to advance our understanding of how living organisms are related to each other, to provide the tools to quantify and assess biodiversity, and to identify genes and metabolic processes of ecological and biomedical importance.

Publications | Staff List
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The Ecosystems Center

The Ecosystems Center is a world leader in research on the effects of climate change on terrestrial and aquatic ecosystems. Center scientists collaborate on projects, combining expertise from a wide range of disciplines. Together, they conduct research to answer a variety of questions at polar, temperate, and tropical field sites around the world. The center’s long-term ecological observations, experiments, and prediction models help to develop a sound foundation for environmental policy and management.

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In the Whitman Center for Visiting Research, scientists are making fundamental discoveries about how organisms, including humans, reproduce and develop, how bodies fight disease, how sensory organs gather information, and how brains process it. Along with visiting library researchers and the large number of faculty associated with the summer courses, they make the MBL the largest and most exciting biological laboratory in the world.
Whitman Center Publications


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The Marine Resources Center is a national facility for the development and use of aquatic organisms in basic biological research, aquaculture, and fisheries science. The MRC research program is composed of The Program in Sensory Biology and Neuroethology, and The Program in Scientific Aquaculture. The focus of MRC research is on biological processes integrated at the level of the whole organism. The MRC and its life support systems have increased the ability of MBL scientists to conduct research and have inspired new concepts in scientific experiments.

Marine Resources Center

Publications | Staff List
Marine Resources Publications


Hanlon, RT; Chiao, CC; Mäthger, LM; Barbosa, A; Buresch, KC; Chubb, C. 2009. Cephalopod dynamic camouflage: Bridging the continuum between background matching and disruptive coloration. *Phil Trans R Soc B* 364: 429-437.

Izumi, M; Sweeney, A; DeMartini, D; Weaver, J; Powers, ML; Tao, A; Silvas, TV; Kramer, RM; Crookes-Goodson, WJ; Mäthger, LM; Naik, RR; Hanlon, RT; Morse, DE. 2009. Changes in reflecting protein phosphorylation are associated with dynamic iridescence changes in squid. *Journal of the Royal Society Interface* 2009, doi:10.1098/rsif.2009.0299.


http://www.mbl.edu/annualreport/research/centers/mrc_pubs.html[12/23/10 10:03:44 AM]
The Cellular Dynamics Program aims to accelerate the knowledge of basic biology and disease through the development and utilization of tools customized to shed light on life’s most essential processes. Established in 2008, the program merges the extraordinary imaging talents of the Architectural Dynamics in Living Cells Program with the unique expertise of the Molecular Physiology Program and the BioCurrents Research Center.
Cellular Dynamics Program Publications


Demestre, M; Messerli, SM; Celli, N; Shahhossini, M; Kluwe, L; Mautner, V; Maruta, H. 2009. CAPE (Caffeic Acid Phenethyl Ester)-based propolis extract (Bio-30) suppresses the growth of human neurofibromatosis (NF) tumor xenografts in mice. *Phytotherapy Research* 23(2): 226-30.


Heart, E; Cline, GW; Collis, LP; Pongratz, RL; Gray, J; Smith, PJS. 2009. Role for malic enzyme, pyruvate carboxylation and mitochondrial malate import in the glucose-stimulated insulin secretion. *Am J Physiol Endo-crino Metab* 296(6): E1354-62.


Messerli, MA; Collis, LP; Smith, PJS. 2009. Ion trapping with fast response, ion-selective microelectrodes enhances detection of extracellular ion channel gradients. *Biophys J* 96(4): 1597-605.


Messerli, SM; Ahn, MR; Kunimasa, K; Yanagihara, M; Tatefuji, T; Hashimoto, K;


Encyclopedia of Life

Launched in 2007, the Encyclopedia of Life (EOL) is a monumental, unprecedented effort to create a Web page for all 1.9 million named species of animals, plants, and other forms of life on Earth. Intended as a tool for scientists and policymakers, and a fascinating resource for anyone interested in the living world, the EOL is being developed by a unique collaboration between scientists and the general public. The MBL is part of an EOL consortium that includes Harvard University, the Smithsonian Institution, the Field Museum of Chicago, the Biodiversity Heritage Library, and Missouri Botanical Garden. The MBL’s Biodiversity Informatics Group hosts www.eol.org and is developing the software infrastructure and Web portal for the EOL.

Publications | Staff List
Encyclopedia of Life Publications


Thessen, AE; Soniat, TM; Dortch, Q; Doucette, GJ. 2009. Crassostrea virginica grazing on toxic and non-toxic diatoms. Toxicon doi:10.1016/j.toxicon.2009.10.011
LAboratory of Barbara and Bruce Furie

This laboratory, which has investigated the vitamin K-dependent biosynthesis of gamma-carboxyglutamic acid in marine invertebrates, has expanded its focus to the study of the structure of the mammalian blood coagulation protein, factor VIII. Factor VIII is the protein missing or defective in hemophilia. This satellite laboratory at the MBL relates closely to the main laboratory, the Center for Hemostasis and Thrombosis Research, at Harvard Medical School.

Publications | Staff List
Furie Laboratory Publication

Ngo, J; Huang, M; Roth, DA; Furie, BC; Furie, B. 2009. Human factor VIII. *Handbook of Metalloproteinases.* John Wiley, Chicester, UK.
MBL EDUCATION HIGHLIGHTS
Each year the MBL trains more than 450 students as part of its education program, which offers a level of training and mentoring available nowhere else.
MBL Breaks Ground on Loeb Laboratory Renovation Project

In September 2009, the MBL welcomed Massachusetts Senate President Therese Murray, key state officials, and representatives from funders Howard Hughes Medical Institute and Massachusetts Life Sciences Center to celebrate the kick off of the Loeb renovation and to usher in a new era for MBL education.
Major Support for MBL's Transformative Educational Programs in 2009

Continued and new major support for the MBL education program included grants from the Howard Hughes Medical Institute, National Institutes of Health, National Science Foundation, United States Department of Energy, Burroughs Wellcome Fund, The Ellison Medical Foundation, the Grass Foundation, and the Gordon and Betty Moore Foundation.
Society of Developmental Biology Recognizes Embryology Course
The Society for Developmental Biology recognized the MBL Embryology course with a special award at the Society’s 68th Annual Meeting in July 2009. The award was presented to the MBL for 'its outstanding heritage of teaching generations of developmental biologists.'
Brown-MBL Students Receive Ph.D. as Program Celebrates Fifth Anniversary

The Brown-MBL Graduate Program in Biological and Environmental Sciences reached a milestone in 2009 when it graduated three Ph.D. students—(above, left to right) Erica Lasek-Nesselquist, Gillian Galford and Yawei (Wayne) Luo. Lasek-Nesselquist and Galford were the first graduates to have entered the program at its inception in 2004. Luo transferred from the College of William and Mary. Eighteen students are currently enrolled in the joint program, which unites the MBL's and Brown University's research a education expertise in biology, biomedicine, and environmental sciences.
New Stem Cell Course Established
The Frontiers in Stem Cells and Regeneration course, originally administered by University of Pittsburgh, became an official MBL course in 2009. The intensive NIH-funded training course is designed for young scientists, physicians, and established investigators seeking comprehensive training in research strategies and state-of-the-art approaches for advancing regeneration and regenerative medicine research.
Scholarship Awards

In 2009, the MBL awarded scholarships to 225 highly qualified students enabling them to participate in our discovery courses.

The Bruce and Betty Alberts Endowed Scholarship in Physiology
Burg, Thomas P., Max Planck Institute for Biophysical Chemistry

American Society for Cell Biology
Baex, Perla M., Ponce School of Medicine
Brown, Monisha N., University of Michigan
Clayton, April M., The Johns Hopkins University School of Medicine
Cocas, Laura A., Georgetown University / Children's National Medical Center
Furman, Senta A., University of Illinois at Chicago
Hoy, Jennifer L., University of Oregon
Ibarra, Yessenia M., Harvard University Medical School
Okulate, Mobolaji A., University of Maryland Eastern Shore
Rincon Gonzalez, Liliana, Arizona State University
Rodenas-Ruano, Alma I., Albert Einstein College of Medicine

American Society for Reproductive Medicine
Welch, Lisa R., Texas Tech University Health Sciences Center

Biology Club of the College of the City of New York
Kovacsics, Daniella, New York University School of Medicine

John & Elisabeth Buck Endowed Scholarship
McCormick, Kathryn E., University of Oregon

C. Lalor Burdick Scholarship
Aluru, Neelakanteswar, Woods Hole Oceanographic Institution
Bernhardt, Miranda L., Northwestern University
Roselló, Alberto, Centro Nacional de Investigaciones Cardiovasculares

Burroughs Wellcome Fund-Biology of Parasitism Course
Bachmann, Anna, Bernhard Nocht Institute for Tropical Medicine
Hartley, Ashley N., University of Georgia
Ke, Hangjun, Drexel University College of Medicine
Stange, Joerg, Humboldt Universität zu Berlin

Burroughs Wellcome Fund Endowment
Cortes, Paulina, University of California, Davis
Eisenhoffer, Jr., George T., Huntsman Cancer Institute
Kague, Erika, University of Sao Paulo
Kubo, Fumi, RIKEN Advanced Science Institute
Lamb, Damon G., Emory University
Leung, Kin Mei, University of Cambridge
Lin, Keng-hui, Academia Sinica
McPherson, Adam D., University of Utah
Miller, Adam C., Fred Hutchinson Cancer Research Center
Osinio, Daniel S., INSERM UMR 787
Pasque, Vincent, University of Cambridge
Schroder, Jacob M., University of Copenhagen
Sharma, Prashant P., Harvard University
Tulenko, Frank J., Wesleyan University
Vanhollebeke, Benoit, Free University of Brussels
Vasilyev, Aleksandr, Harvard University / Massachusetts General Hospital
Watanabe, Sadanori, Kyoto University
Wollesen, Tim, University of Copenhagen
Zajac, Allison L., The University of Pennsylvania

Burroughs Wellcome Fund-Frontiers in Reproduction Course
Amaral, Alexandra B., University of Coimbra
Baez, Perla M., Ponce School of Medicine
Bernhardt, Miranda L., Northwestern University
Du, Hongling, Yale School of Medicine
Estrada-Gutierrez, Guadalupe, Virginia Commonwealth University
Fernandez, Carla Dal Bianco, State University at Campinas
Ferrara, Diana, University of Naples
Hogan, Kelly A., Pennsylvania State University
Maldera, Julieta A., Instituto de Biologia y Medicina Experimental (IBYME)
Menkhorst, Ellen M., Prince Henry's Institute
Pagotto, Romina M., Institute of Biology and Experimental Medicine
Pires, Eusebio S., University of Virginia
Rodriguez Sosa, Jose R., University of Pennsylvania
Santamaría Costa, Javier, Yale University
Sousa, Ana Paula M., University of Coimbra
Tang, Lin, University of Calgary
Vanorny, Dallas A., Northwestern University
Villarroel, Claudio, Institute of Maternal and Child Research (IDIMI), University of Chile
Wertheimer, Eva V., University of Massachusetts

Burroughs Wellcome Fund-Molecular Mycology Course
Almeida, Ricardo S., University of Sao Paulo
Ballou, Elizabeth R., Duke University
Beyhan-Pelvan, Sinem, University of California, San Francisco
Botts, Michael R., University of Wisconsin-Madison
Burgess, Joshua W., University of North Carolina
Coady, Alison M., University of California, San Francisco
Finkel, Jonathan S., Carnegie Mellon University
Guimaraes, Allan J., Albert Einstein College of Medicine
Hall, Rebecca A., University of Kent
Kaloriti, Despoina, University of Aberdeen
Okagaki, Laura H., University of Minnesota
Pisipanen, Amy E., Dartmouth Medical School
Schartz, Cecelia A., Duke University
Urba, Mirjam, McGill University
Widderhold, Nathan P., The University of Texas at Austin

Burroughs Wellcome Fund-Physiology Course
Brugues Ferre, Jan, Harvard University
Morton, Elizabeth A., University of Pennsylvania
Su, Xiaolei, Dana-Farber Cancer Institute
Torrealba, Carolina, Pontificia Universidad Catolica de Chile

Max M. Burger Endowed Scholarship
Fischer, Antje, The European Molecular Biology Laboratory Heidelberg
Giurumescu, Claudiu A., University of California, San Diego

Gary N. Calkins Memorial Scholarship
Kovacsics, Daniella, New York University School of Medicine

The Company of Biologists Ltd Scholarship
Carmona-Fontaine, Carlos, University College London
De Mulder, Katrien, University of Ghent
Grasso, Lauretta C., James Cook University

Edwin Grant Conklin Memorial Fund
Kovacsics, Daniella, New York University School of Medicine
Lewis, Ian A., University of Wisconsin

Center for Modular Biology Fellows
Chen, Siyu, University of California, Berkeley
Hou, Jennifer H., Harvard University
Mueller, Melanie J.L., Max Planck Institute of Colloids and Interfaces
Oakes, Patrick W., Brown University
Toro, Esteban, Stanford University

Bernard Davis Endowed Scholarship Fund
Berleman, James E., University of Iowa
Biddle, Amy S., University of Massachusetts, Amherst
Morgan, Jenna L., University of California, Davis
Tully, Benjamin J., University of Southern California

William F. and Irene C. Diller Memorial Fund
Lewis, Ian A., University of Wisconsin

The Henry L. and Grace Doherty Charitable Foundation Endowed Instructional Fund
Campas, Otger, Harvard University
Carmona-Fontaine, Carlos, University College London
Day, Nancy F., University of Minnesota, Minneapolis
De Mulder, Katrien, University of Ghent
Evans, Rebekah C., George Mason University
Fink, Gero H., Max Planck Institute for Molecular Cell Biology and Genetics
Fischer, Antje, The European Molecular Biology Laboratory Heidelberg
Fox, Jessica L., University of Washington
Glaze, Christopher M., University of Pennsylvania
Gohil, Sejal, Monash University
Grasso, Lauretta C., James Cook University
Janvore, Julie, Institut Curie
Martin-Duran, Jose M., University of Barcelona
Ramakrishnan, Srinivasan, University of Georgia
Spillman, Natalie J., The Australian National University

Eugene Floyd DuBois Memorial Fund
Chen, Wel, Georgia Institute of Technology
Currie, Erin, University of California, San Francisco

Mac V. Edds, Jr. Endowed Scholarship Fund
Chen, Sheng-hong, Ludwig Institute for Cancer Research

Gerald D. & Ruth L. Fischbach Endowed Scholarship
Campbell, Douglas S., RIKEN Brain Science Institute

Caswell Grave Scholarship Fund
Aluru, Neelakanteswar, Woods Hole Oceanographic Institution
Campas, Otger, Harvard University
Roselló, Alberto, Centro Nacional de Investigaciones Cardiovasculares

Thomas B. Grave and Elizabeth F. Grave Scholarship
Carmona-Fontaine, Carlos, University College London
Chen, Sheng-hong, Ludwig Institute for Cancer Research

Daniel S. and Edith T. Grosch Scholarship Fund
Morgan, Jenna L., University of California, Davis

Aline D. Gross Scholarship Fund
De Mulder, Katrien, University of Ghent

William Randolph Hearst Educational Endowment
Heimberg, Alysha M., Dartmouth College
Zajac, Allison L., The University of Pennsylvania

International Brain Research Organization
Brusco, Janaina, University of Sao Paulo
Hantz, Peter, European Molecular Biology Laboratory
Rao, Rajnish P., National Centre for Biological Sciences

Holger and Friederun Jannasch Scholarship in Microbial Diversity
Brown, Monisha N., University of Michigan
Frantz, Carie M., University of Southern California
Morgan, Jenna L., University of California, Davis
Tully, Benjamin J., University of Southern California

Benjamin Kaminer Scholarship
Currie, Erin, University of California, San Francisco

Arthur Klorfein Scholarship and Fellowship Fund
Grasso, Lauretta C., James Cook University
Martin-Duran, Jose M., University of Barcelona
Pasque, Vincent, University of Cambridge
Tulenko, Frank J., Wesleyan University
Wijesena, Naveen M., University of Miami

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Gupta, Anoopum S., Carnegie Mellon University
Lamb, Damon G., Emory University
Mowrey, William R., University of Rochester Medical Center
Nichols, James T., University of Oregon
Pauli, Andrea, University of Oxford

The Gruss Lipper Foundation Scholarship
Krumin, Michael, Technion-Israel Institute of Technology

Jacques Loeb Founders’ Scholarship Fund
Aguet, Francois, Harvard Medical School

S.O. Mast Memorial Fund
Huetteroth, Wolf, Philippps-University Marburg
Mabb, Angela M., Duke University Medical Center

MBL Associates Endowed Scholarship Fund
De Mulder, Katrien, University of Ghent
Glatman Zaretsky, Arielle D., University of Pennsylvania

MBL Pioneers Scholarship Fund
Glatman Zaretsky, Arielle D., University of Pennsylvania
Ke, Hangjun, Drexel University College of Medicine
Kovacsics, Daniella, New York University School of Medicine
Marxreiter, Lara E., The George Washington University

MBL Young Scholars & Fellows Program
Hu, Qicong, Stanford University

Frank Morrell Endowed Memorial Scholarship
Bentzen, Christian K., Technical University of Denmark

Mountain Memorial Fund Scholarship
Brugues Ferre, Jan, Harvard University

The Gordon & Betty Moore Foundation
Blees, Jan, University of Basel
Hasegawa, Yuko, Brown University and MBL
Hatzenpichler, Roland S., University of Vienna
Kirschling, Teresa L., Carnegie Mellon University
Legg, Teresa M., University of Colorado / Institute of Arctic and Alpine Research (INSTAAR)
Marcus, Andrew, Arizona State University
Okulate, Mobolaji A., University of Maryland Eastern Shore
Petroff, Alexander P., Massachusetts Institute of Technology
Rezende, Julia R., Aarhus University
Tronick, Shannon E., Princeton University
Walczak, Alexandra B., Rutgers the State University of New Jersey

Neural Systems & Behavior Course Endowed Scholarship Fund
Day, Nancy F., University of Minnesota, Minneapolis
Wollesen, Tim, University of Copenhagen

Pfizer Inc. Endowed Scholarship
Mach, Jan, Charles University

Planetary Biology Internship Scholarships
Biddle, Amy S., University of Massachusetts, Amherst
Boedicker, James Q., University of Chicago
Frantz, Carie M., University of Southern California

William Townsend Porter Scholarship
Brown, Monisha N., University of Michigan
Clayton, April M., The Johns Hopkins University School of Medicine
Cocas, Laura A., Georgetown University/Children's National Medical Center
Furman, Senta A., University of Illinois at Chicago
Hoy, Jennifer L., University of Oregon
Ibarra, Yessenia M., Harvard University Medical School
Okulate, Mobolaji A., University of Maryland Eastern Shore
Rincon Gonzalez, Liliana, Arizona State University
Rodenas-Ruano, Alma I., Albert Einstein College of Medicine

Herbert W. Rand Fellowship and Scholarship Fund
Gohil, Sejal, Monash University
Niehus, Sebastian, Centre National de la Recherche Scientifique
Ramakrishnan, Srinivasan, University of Georgia
Spillman, Natalie J., The Australian National University

Lola Ellis Robertson Endowed Scholarship

Balskus, Emily P., Harvard Medical School
Cantu, Jorge A., Northwestern University
Chen, Sheng-hong, Ludwig Institute for Cancer Research
de Navascues, Joaquin, University of Cambridge
Gupta, Anoopum S., Carnegie Mellon University
Lewis, Ian A., University of Wisconsin
Mabb, Angela M., Duke University Medical Center
Marxreiter, Lara E., The George Washington University
Matos, Irina, Instituto de Biologia Molecular eCelular (IBMC)
McCormick, Kathryn E., University of Oregon
Melom, Jan E., Massachusetts Institute of Technology
Mowrey, William R., University of Rochester Medical Center
Murphy, Malea M., University of Utah
O'Connor-Giles, Kate M., University of Wisconsin-Madison
Pigino, Gaia, University of Siena
Ramirez, Santiago, University of California, Berkeley
Su, Xiaolei, Dana-Farber Cancer Institute
Tittle, Rachel K., The University of Texas at Austin
Torrealba, Carolina, Pontificia Universidad Catolica de Chile
Zanic, Marija, Max Planck Institute of Molecular Cell Biology and Genetics

Florence C. Rose and S. Meryl Rose Endowed Scholarship Fund
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Fox, Jessica L., University of Washington

Howard A. Schneiderman Endowed Scholarship
Campas, Otger, Harvard University

Milton L. Shifman Endowed Scholarship
Balskus, Emily P., Harvard Medical School
Brugues Ferre, Jan, Harvard University
Campas, Otger, Harvard University
Carter, Ashley R., Harvard University
Chen, Yao, Harvard University
Glatman Zaretsky, Arielle D., University of Pennsylvania
Glaze, Christopher M., University of Pennsylvania
Hasegawa, Yuko, Brown University and Marine Biological Laboratory
Heimberg, Alysha M., Dartmouth College
Morton, Elizabeth A., University of Pennsylvania
Sharma, Prashant P., Harvard University
Tronick, Shannon E., Princeton University
Vasilyev, Aleksandr, Harvard University/Massachusetts General Hospital
Zejac, Allison L., The University of Pennsylvania

Moshe Shilo Memorial Scholarship Fund
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Marjorie R. Stetten Scholarship Fund
Lin, Keng-hui, Academia Sinica

Horace W. Stunkard Scholarship Fund
Chen, Sheng-hong, Ludwig Institute for Cancer Research
Roselló, Alberto, Centro Nacional de Investigaciones Cardiovasculares

Society for Developmental Biology
Doyle, Adele M., Georgia Institute of Technology / Emory University
Hyndman, Francie E., University of Colorado Denver
Siegel, Ashley L., University of Missouri

Society for General Physiology
Day, Nancy F., University of Minnesota, Minneapolis
Fischer, Antje, The European Molecular Biology Laboratory Heidelberg
Mabb, Angela M., Duke University Medical Center
Torrealba, Carolina, Pontificia Universidad Catolica de Chile

Surdna Foundation Scholarship
Evans, Rebekah C., George Mason University
Fox, Jessica L., University of Washington
Palmer, Chris R., The University of Texas at Austin
Ramirez, Santiago, University of California, Berkeley

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Zanic, Marija, Max Planck Institute of Molecular Cell Biology and Genetics

**John & Madeleine Trinkaus Endowed Scholarship**
De Mulder, Katrien, University of Ghent

**Selman A. Waksman Endowed Scholarship in Microbial Diversity**
Berleman, James E., University of Iowa

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Bustos, Patricia L., Instituto Nacional de Parasitologia Dr. Mario Fatale Chaben
Moretti, Nilmar Silvio, Sao Paulo University
Williams, Marni, University of Pretoria

**William Morton Wheeler Family Founders’ Scholarship**
Fink, Gero H., Max Planck Institute for Molecular Cell Biology and Genetics
Nichols, James T., University of Oregon

**Walter L. Wilson Endowed Scholarship Fund**
Burg, Thomas P., Max Planck Institute for Biophysical Chemistry

**World Health Organization**
Maldera, Julieta A., Instituto de Biologia y Medicina Experimental (IBYME)
Menkhorst, Ellen M., Prince Henry’s Institute
Villarroel, Claudio, Institute of Maternal and Child Research (IDIMI), University of Chile

**Anita Zorzoli Memorial Fund**
Aguet, Francois, Harvard Medical School
Burg, Thomas P., Max Planck Institute for Biophysical Chemistry
de Navascues, Joaquin, University of Cambridge
Fink, Gero H., Max Planck Institute for Molecular Cell Biology and Genetics
Hu, Qicong, Stanford University
Janvore, Julie, Institut Curie
Lin, Keng-hui, Academia Sinica
SUMMER COURSES:
- Biology of Parasitism
- Embryology
- Frontiers in Reproduction
- Microbial Diversity
- Neurobiology
- Neural Systems & Behavior
- Physiology

SPECIAL TOPICS:
- Analytical & Quantitative Light Microscopy
- Biology of the Inner Ear
- BioMedical Informatics I
- BioMedical Informatics II
- Frontiers in Stem Cells & Regeneration
- Gene Regulatory Networks
- Methods in Computational Neuroscience
- Molecular Biology of Aging
- Molecular Mycology
- Neuroinformatics

SPINES
- Workshop on Molecular Evolution
- Zebrafish Course

OTHER PROGRAMS:
- Brown-MBL Program
- Semester in Environmental Science
SUMMER COURSES:

Biology of Parasitism
June 12 - August 1, 2009

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Sabatini, Robert, University of Georgia
Ward, Gary, University of Vermont

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Daily, Johanna, Albert Einstein College of Medicine
Day, Karen, New York University School of Medicine
Djimde, Abdoulaye, University of Bamako
Ferdig, Michael, University of Notre Dame
Grencis, Richard, University of Manchester
Guy, Rodney, St. Jude Children's Research Hospital
Hajduk, Stephen, University of Georgia
Hehl, Adrian, University of Zurich
Hill, Kent, University of California, Los Angeles
Jacob-Lorena, Marcelo, Johns Hopkins School of Public Health
Johnson, Patricia, University of California, Los Angeles
Levashina, Elena, Centre National de la Recherche Scientifique
Raper, Jayne, New York University School of Medicine
Roditi, Isabel, University of Bern
Scott, Phillip, University of Pennsylvania
Sher, Alan, NIH/National Institute of Allergy and Infectious Diseases
Sibley, L., Washington University
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Smith, Deborah, University of York
Striepen, Boris, University of Georgia
Tarleton, Rick, University of Georgia
Waters, Andrew, Glasgow University

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Gilk, Stacey, Rocky Mountain Laboratories
Jenkins, Stephen, University of Edinburgh
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Wohlfert, Elizabeth, National Institutes of Health

OTHER PROGRAMS:

BROWN-MBL PROGRAM

SEMESTER IN ENVIRONMENTAL SCIENCE
Logan Science Journalism Program

NASA Planetary Biology Internship Program

Clayton, April, The Johns Hopkins University School of Medicine
Glatman Zaretsky, Arielle, University of Pennsylvania
Gohil, Sejal, Monash University
Hartley, Ashley, University of Georgia
Ke, Hangjun, Drexel University College of Medicine
Kovacsics, Daniella, New York University School of Medicine
Lewis, Ian, University of Wisconsin
Mach, Jan, Charles University
Moretti, Nilmar, São Paulo University
Niehus, Sebastian, Centre National de la Recherche Scientifique
Ramakrishnan, Srinivasan, University of Georgia
Spillman, Natalie, The Australian National University
Stange, Joerg, Humboldt Universitat Berlin
Williams, Marni, University of Pretoria
SUMMER COURSES:

- Biology of Parasitism
- Embryology
- Frontiers in Reproduction
- Microbial Diversity
- Neurobiology
- Neural Systems & Behavior
- Physiology

SPECIAL TOPICS:

- Analytical & Quantitative Light Microscopy
- Biology of the Inner Ear
- BioMedical Informatics I
- BioMedical Informatics II
- Frontiers in Stem Cells & Regeneration
- Gene Regulatory Networks
- Methods in Computational Neuroscience
- Molecular Biology of Aging
- Molecular Mycology
- Neuroinformatics
- SPINES
- Workshop on Molecular Evolution
- Zebrafish Course

OTHER PROGRAMS:

- Brown-MBL Program
- Semester in Environmental Science

COURSE DIRECTORS

Niswander, Lee, University of Colorado Denver
Patel, Nipam, University of California, Berkeley

FACULTY

Amacher, Sharon, University of California, Berkeley
Baker, Clare, University of Cambridge
Behringer, Richard, M.D. Anderson Cancer Center
Bely, Alexa, University of Maryland, College Park
Collazo, Andres, House Ear Institute
Extavour, Cassandra, Harvard University
Fitch, David, New York University
Harland, Richard, University of California, Berkeley
Henry, Jonathan, University of Illinois
Keller, Raymond, University of Virginia
Martindale, Mark, University of Hawaii
McClay, David, Duke University
McFall-Ngai, Margaret, University of Wisconsin-Madison
Nichols, Scott, University of California, Berkeley
Ronshaugen, Matthew, University of Manchester
Sanchez, Alejandro, University of Utah Medical School
Seaver, Elaine, University of Hawaii
Sherwood, David, Duke University
Trainor, Paul, Stowers Institute for Medical Research
Zeller, Robert, San Diego State University

LECTURERS

Appel, Bruce, University of Colorado, Denver
Brand, Andrea, University of Cambridge
Levin, Michael, Tufts University
Levine, Mike, University of California, Berkeley
Maddox, Amy, University of Montréal
Maddox, Paul, University of Montréal
Magnuson, Terry, University of North Carolina at Chapel Hill
Pourette, Olivier, Howard Hughes Medical Institute
Roop, Dennis, University of Colorado, Denver
Schier, Alexander, Harvard University
Shapiro, Michael, University of Utah
Small, Stephen, New York University
Sussel, Lori, Columbia University
Whitaker, Michael, Newcastle University

TEACHING ASSISTANTS

Anderson, Jennifer, Carnegie Institution for Science
Barlow, Amanda, Stowers Institute for Medical Research
Bertocchini, Federica, University College London
Chang, Chenbei, University of Alabama at Birmingham
Croce, Jennifer, Centre National de la Recherche Scientifique/Université Pierre et Marie Curie
Daggett, Dave, University of California, Berkeley
Elliott, Sarah, University of Utah
Grande, Maria Cristina, Universidad Autonoma de Madrid
Hagedorn, Elliott, Duke University
Iulianella, Angelo, Stowers Institute for Medical Research
Jiang, Pan-Pan, Harvard University
Kucenas, Sarah, Vanderbilt University
Linn, Stephanie, University of Michigan
Marlow, Heather, University of Hawaii
Logan Science Journalism Program

NASA Planetary Biology Internship Program

Marques-Souza, Henrique, Howard Hughes Medical Institute
Matus, David, Duke University
McIntyre, Daniel, Duke University
Ober, Elke, National Institute for Medical Research
Pang, Kevin, University of Hawaii
Rader, Bethany, University of Wisconsin-Madison
Wever, Jason, University of Illinois-Urbana
Wills, Andrea, University of California, Berkeley
Zattara, Eduardo, University of Maryland

COURSE ASSISTANTS
Dinwiddie, April, University of Maryland
Lerman-Sinkoff, Dov, University of Michigan
Mosher, Jeremy, University of California, Berkeley

STUDENTS
Aluru, Neelakanteswar, Woods Hole Oceanographic Institution
Campas, Otger, Harvard University
Carmona-Fontaine, Carlos, University College London
Chen, Sheng-hong, Ludwig Institute for Cancer Research
De Mulder, Katrien, University of Ghent
Doyle, Adele, Georgia Institute of Technology / Emory University
Fischer, Antje, The European Molecular Biology Laboratory Heidelberg
Giurumescu, Claudiu, University of California, San Diego
Grasso, Lauretta, James Cook University
Heimberg, Alysha, Dartmouth College
Hyndman, Francie, University of Colorado, Denver
Kaltenbrun, Erin, University of North Carolina at Chapel Hill
Lyons, Deirdre, University of California, Berkeley
Martin-Duran, Jose, University of Barcelona
Marxreiter, Lara, The George Washington University
Murphy, Malea, University of Utah
Pasque, Vincent, University of Cambridge
Roselló, Alberto, Centro Nacional de Investigaciones Cardiovasculares
Sharma, Prashant, Harvard University
Siegel, Ashley, University of Missouri
Thomas, Ajay, University of Colorado Denver
Tulenko, Frank, Wesleyan University
Vasilyev, Aleksandr, Harvard University/Massachusetts General Hospital
Wijesena, Naveen, University of Miami
SUMMER COURSES:

Biology of Parasitism
Embryology
Frontiers in Reproduction
Microbial Diversity
Neurobiology
Neural Systems & Behavior
Physiology

SPECIAL TOPICS:

Analytical & Quantitative Light Microscopy
Biology of the Inner Ear
BioMedical Informatics I
BioMedical Informatics II
Frontiers in Stem Cells & Regeneration
Gene Regulatory Networks
Methods in Computational Neuroscience
Molecular Biology of Aging
Molecular Mycology
Neuroinformatics

SPINES
Workshop on Molecular Evolution
Zebrafish Course

OTHER PROGRAMS:

Brown-MBL Program
Semester in Environmental Science

Frontiers in Reproduction
May 2 - June 14, 2009

COURSE DIRECTORS
Ascoli, Mario, University of Iowa
Florman, Harvey, University of Massachusetts Medical School
Heckert, Leslie, University of Kansas Medical Center
Sutherland, Ann, University of Virginia

FACULTY
Albertini, David, University of Kansas Medical Center
Broaddus, Russell, M.D. Anderson Cancer Center
Camper, Sally, University of Michigan
DeFranco, Donald, University of Pittsburgh
DeMayo, Francesco, Baylor College of Medicine
Dobrinski, Ina, University of Calgary
Dominko, Tanja, Worcester Polytechnic Institute
Fazleabas, Asgi, University of Illinois at Chicago
Hinton, Barry, University of Virginia School of Medicine
Jaffe, Laurinda, University of Connecticut Health Center
Keep, David, University of South Florida
Keri, Ruth, Case Western Reserve University
Levine, Jon, Northwestern University
McClure, Michael, United States Environmental Protection Agency
Overstrom, Eric, Worcester Polytechnic Institute
Page, Ray, Worcester Polytechnic Institute
Petroff, Margaret, University of Kansas Medical Center
Reddi, Prabhakara, University of Virginia
Reynolds, Lawrence, North Dakota State University
Schultz, Richard, University of Pennsylvania
Stein, Paula, University of Pennsylvania
Terasaki, Mark, University of Connecticut Health Center
Wasserman, Paul, Mount Sinai School of Medicine
Yao, Humphrey, University of Illinois

LECTURERS
Borowicz, Pawel, North Dakota State University
Cohen, Paula, Cornell University
Conti, Marco, University of California, San Francisco
Cooke, Paul, University of Illinois at Urbana-Champaign
Fissore, Rafael, University of Massachusetts, Amherst
Griswold, Michael, Washington State University
Hammes, Stephen, University of Rochester Medical Center
Handel, Mary Ann, The Jackson Laboratory
Hecht, Norman, University of Pennsylvania
Kaiser, Ursula, Brigham and Women's Hospital
Korach, Kenneth, NIH/National Institute of Environmental Health Sciences
Latham, Keith, Temple University
Redmer, Dale, North Dakota State University
Richards, Joel, University of Massachusetts Medical School
Watkins, Adam, University of Southampton

TEACHING ASSISTANTS
Afshar, Yalda, University of Illinois at Chicago
Andric, Nebojsa, University of Iowa
Barrett, Susan, Northwestern University
Bromfield, John, University of Kansas Medical Center
Carroll, David, Florida Institute of Technology
Duncan, Francesca, University of Pennsylvania
Gonzalez, Isabel, University of Virginia
Grubisha, Melanie, University of Pittsburgh
Holloway, Kim, Cornell University
## Logan Science Journalism Program

- Huntress, Victoria, Worcester Polytechnic Institute
- Jungnickel, Melissa, University of Massachusetts Medical School
- Lima, Christine, Worcester Polytechnic Institute
- Liu, Chia-Feng, University of Illinois at Urbana-Champaign
- McDonald, Emily, University of Kansas Medical Center
- Norris, Rachael, University of Connecticut Health Center
- Perchellet, Antoine, University of Kansas Medical Center
- Ratzan, William, University of Connecticut
- Runft, Linda, Amgen, Inc.
- Slusser, Joyce, University of Kansas Medical Center
- Sutton, Keith, University of Massachusetts Medical School
- Wang, Jie, Baylor College of Medicine
- Zeng, Wenxian, University of Pennsylvania
- Zhang, Ruina, Baylor College of Medicine
- Zhang, Nan, University of Massachusetts

## NASA Planetary Biology Internship Program

- Huntress, Victoria, Worcester Polytechnic Institute
- Jungnickel, Melissa, University of Massachusetts Medical School
- Lima, Christine, Worcester Polytechnic Institute
- Liu, Chia-Feng, University of Illinois at Urbana-Champaign
- McDonald, Emily, University of Kansas Medical Center
- Norris, Rachael, University of Connecticut Health Center
- Perchellet, Antoine, University of Kansas Medical Center
- Ratzan, William, University of Connecticut
- Runft, Linda, Amgen, Inc.
- Slusser, Joyce, University of Kansas Medical Center
- Sutton, Keith, University of Massachusetts Medical School
- Wang, Jie, Baylor College of Medicine
- Zeng, Wenxian, University of Pennsylvania
- Zhang, Ruina, Baylor College of Medicine
- Zhang, Nan, University of Massachusetts

### COURSE COORDINATORS

- Cherry, Jonathan, The Johns Hopkins University GRCF Cell Center
- Dille, Elizabeth, University of Kansas Medical Center
- Mebane, Dorianne, MBL

### COURSE ASSISTANTS

- Bagley, Ryan, Bridgewater State College

### STUDENTS

- Amaral, Alexandra, University of Coimbra
- Baez, Perla, Ponce School of Medicine
- Bernhardt, Miranda, Northwestern University
- Du, Hongling, Yale School of Medicine
- Estrada-Gutierrez, Guadalupe, Virginia Commonwealth University
- Fernandez, Carla, State University at Campinas
- Ferrara, Diana, University of Naples
- Hogan, Kelly, Pennsylvania State University
- Maldera, Julieta, Instituto de Biologia y Medicina Experimental
- Menkhorst, Ellen, Prince Henry's Institute
- Pagotto, Romina, Institute of Biology and Experimental Medicine
- Pires, Eusebio, University of Virginia
- Rodriguez Sosa, Jose, University of Pennsylvania
- Santamaria Costa, Javier, Yale University
- Sousa, Ana Paula, University of Coimbra
- Tang, Lin, University of Calgary
- Vanorny, Dallas, Northwestern University
- Villarroel, Claudio, Institute of Maternal and Child Research, University of Chile
- Welch, Lisa, Texas Tech University Health Sciences Center
- Wertheimer, Eva, University of Massachusetts
SUMMER COURSES:

Microbial Diversity
June 13 - July 30, 2009

COURSE DIRECTORS
Buckley, Daniel, Cornell University
Zinder, Stephen, Cornell University

FACULTY
Metcalfe, William, University of Illinois
Newman, Dianne, Massachusetts Institute of Technology
Nielsen, Daniel, Unisens
Orphan, Victoria, California Institute of Technology
Overmann, Joerg, University of Munich
Whitaker, Rachel, University of Illinois at Urbana-Champaign

LECTURERS
Ammann, Rudolf, Max Planck Institute for Marine Microbiology
Behrens, Sebastian, Eberhard-Karls-University Tuebingen
Brozaru, John, Michigan State University
Cavanaugh, Colleen, Woods Hole Oceanographic Institution
Cohan, Fred, Wesleyan University
DeLong, Edward, Massachusetts Institute of Technology
Doolittle, Ford, Dalhousie University
Greenberg, Peter, University of Washington
Haselkorn, Robert, University of Chicago
Hewson, Ian, Cornell University
Hobbs, John, MBL
Hogan, Deb, Dartmouth Medical School
Kolter, Roberto, Harvard Medical School
Konstantinidis, Kostas, Georgia Institute of Technology
Kuenen, J. Gijs, Delft University of Technology
Leadbetter, Jared, California Institute of Technology
Lovley, Derrick, University of Washington
O'Toole, George, Dartmouth Medical School
Pace, Norman, University of Colorado
Polz, Martin, Massachusetts Institute of Technology
Prosser, James, University of Aberdeen
Ruby, Edward, University of Wisconsin-Madison
Sapp, Jan, York University
Schloss, Patrick, University of Massachusetts, Amherst
Sogin, Mitchel, MBL
Stepanauskas, Ramunas, Bigelow Laboratory for Ocean Sciences
Stetter, Karl, Universitä Regensburg
Tripplett, Eric, University of Florida
Wagner, Michael, University of Vienna
Woese, Carl, University of Illinois at Urbana-Champaign
Wolfe, Ralph, University of Illinois at Urbana-Champaign

TEACHING ASSISTANTS
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Moraru, Cristina, Max Planck Institute for Marine Microbiology
Price-Whelan, Alexa, Massachusetts Institute of Technology
Rankin, Linda, Cornell University

COURSE COORDINATOR
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Logan Science Journalism Program

NASA Planetary Biology Internship Program

STUDENTS
Balskus, Emily, Harvard Medical School
Berleman, James, University of Iowa
Biddle, Amy, University of Massachusetts, Amherst
Blees, Jan, University of Basel
Boedicker, James, University of Chicago
Brown, Monisha, University of Michigan
Frantz, Carie, University of Southern California
Hasegawa, Yuko, Brown University and MBL
Hatzenpichler, Roland, University of Vienna
Kirschling, Teresa, Carnegie Mellon University
Legg, Teresa, University of Colorado, Institute of Arctic and Alpine Research
Marcus, Andrew, Arizona State University
Morgan, Jenna, University of California, Davis
Okulate, Mobolaji, University of Maryland Eastern Shore
Petroff, Alexander, Massachusetts Institute of Technology
Rezende, Julia, Aarhus University
Shapiro, Orr, Ben Gurion University of the Negev
Tronick, Shannon, Princeton University
Tully, Benjamin, University of Southern California
Walczak, Alexandra, Rutgers the State University of New Jersey
Neurobiology
June 6 - August 9, 2009

COURSE DIRECTORS
Cline, Hollis, The Scripps Research Institute
Jin, Yishi, University of California, San Diego

FACULTY
Aizenman, Carlos, Brown University
Araneda, Ricardo, University of Maryland
Barr, Maureen, Rutgers University
Bautista, Diana, University of California, Berkeley
Buchanan, JoAnn, Stanford University
Bureau, Ingrid, Institut National de la Santé et de la Recherche Médicale
Chiba, Akira, University of Miami
Chiba, Akira, Children's Hospital / Harvard Medical School
Dalva, Matthew, University of Pennsylvania
Darnell, Robert, The Rockefeller University
Davis, Graeme, University of California, San Francisco
Deisseroth, Karl, Stanford University
Diaz, Elva, University of California, Davis
Godinho, Leanne, Technical University Munich
Haas, Kurt, University of British Columbia
Jorgensen, Erik, University of Utah
Lichtman, Jeff, Harvard University
Llano, Isabel, Centre National de la Recherche Scientifique
Marty, Alain, Centre National de la Recherche Scientifique
Michau, Kristina, Stanford University
Misgeld, Thomas, Technical University Munich
Reese, Tom, National Institutes of Health
Ruthazer, Edward, McGill University
Sack, Jon, Protein Research
Scheiffele, Peter, Biozentrum University Basel
Smith, Stephen, Stanford University School of Medicine
Strowbridge, Ben, Case Western Reserve University
Wezhin, Philip, University of Oregon
Yasuda, Ryohei, Duke University Medical Center
Zuo, Yi, University of California, Santa Cruz

LECTURERS
Bezanilla, Francisco, University of Chicago
Doetsch, Fiona, Columbia University
Kauer, Julie, Brown University
MacKinnon, Roderick, The Rockefeller University
Maricq, Andres, University of Utah
Ptacek, Louis, University of California, San Francisco
Roberts, William, University of Oregon
Siegelbaum, Steven, Columbia University
Ting, Alice, Massachusetts Institute of Technology
Trussell, Larry, Oregon Health & Science University
Tsai, Li-Huei, Massachusetts Institute of Technology
Van Aelst, Linda, Cold Spring Harbor Laboratory
Vetter, Monica, University of Utah
Wang, Sam, Princeton University
Yellen, Gary, Harvard Medical School

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Anderson, Charles, Northwestern University
Barisone, Gustavo, University of California Davis School of Medicine
### Logan Science Journalism Program
- Bell, Mark, Brown University
- Chen, Xiaobing, National Institutes of Health
- Easley-Neal, Courtney, University of Oregon
- Gerhold, Kristin, University of California, Berkeley
- Hruska, Martin, University of Pennsylvania
- Ingolfsson, Helgi, Weill Medical College of Cornell University
- Kamiyama, Daichi, University of Miami
- Kiritani, Taro, Northwestern University
- Larimer, Phillip, Case Western Reserve University
- Lu, Ju, Harvard University
- Marsci, Natalia, Rutgers University
- O'Hagan, Robert, Rutgers University
- Oliveira, Ana, Duke University Medical Center
- Podgorski, Kaspar, University of British Columbia
- Schwartz, Neil, McGill University
- Smith, Richard, University of Maryland
- Soiza-Reilly, Mariano, Children's Hospital Boston
- Trigo, Federico, Facultad de Medicina
- Urbano, Francisco, University of Buenos Aires
- Weiler, Nicholas, Stanford University
- Witte, Harald, Biozentrum, University of Basel
- Xu, Tonghui, University of California, Santa Cruz
- Zhang, Feng, Stanford University

### NASA Planetary Biology Internship Program
- Carels, Vanessa, University of Minnesota
- Gilmore, Anthony, University of California, Santa Cruz

### COURSE ASSISTANTS
- Bentzen, Christian, Technical University of Denmark
- Brusco, Janaina, University of Sao Paulo
- Campbell, Douglas, RIKEN Brain Science Institute
- Carter, Ashley, Harvard University
- Cocas, Laura, Georgetown University / Children's National Medical Center
- Furman, Senta, University of Illinois at Chicago
- Huetteroth, Wolf, Philipps-University Marburg
- Ibarra, Yessenia, Harvard University Medical School
- Mabb, Angela, Duke University Medical Center
- O'Brien, Georganne, University of California, Los Angeles
- O'Connor-Giles, Kate, University of Wisconsin-Madison
- Rincon Gonzalez, Liliana, Arizona State University

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Neural Systems & Behavior
June 6 - August 2, 2009

COURSE DIRECTORS
Katz, Paul, Georgia State University
Knierim, James, The Johns Hopkins University

FACULTY
Angstadt, James, Siena College
Bottjer, Sarah, University of Southern California
Brecht, Hans, Humboldt University of Berlin
Bucher, Dirk, University of Florida
Calabrese, Ronald, Emory University
Cao, Guan, University of Texas at Austin
Carr, Catherine, University of Maryland
Chacron, Maurice, McGill University
Coleman, Melissa, The Claremont Colleges
Downes, Gerald, University of Massachusetts, Amherst
Forte, Eric, The Johns Hopkins University
French, Kathy, University of California, San Diego
Golowasch, Jorge, New Jersey Institute of Technology
Harth, Anne, Massachusetts General Hospital
Karlstrom, Rolf, University of Massachusetts
Kristan, William, University of California, San Diego
MacLeod, Katrina, University of Maryland
Maler, Leonard, University of Ottawa
Masino, Mark, University of Minnesota
Mauk, Michael, University of Texas at Austin
Medina, Javier, University of Pennsylvania
Moore, Christopher, Massachusetts Institute of Technology
Nadim, Farzan, New Jersey Institute of Technology / Rutgers University
Nitabach, Michael, Yale School of Medicine
Norris, Brian, California State University
Rankin, Catharine, University of British Columbia
Ritt, Jason, Massachusetts Institute of Technology
Siegel, Jennifer, University of Texas at Austin
Spain, William, University of Washington
Stein, Wolfgang, Ulm University
Svoboda, Karel, Howard Hughes Medical Institute, Janelia Farm Research Campus
Szczupak, Lidia, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires
Tracey, William, Duke University
Wagenaar, Daniel, California Institute of Technology
Wenning-Erxleben, Angela, Emory University
White, Benjamin, National Institute of Mental Health

LECTURERS
Angelaki, Dora, Washington University
Callaway, Ed, The Salk Institute
Konishi, Masakazu, California Institute of Technology
Laurent, Gilles, California Institute of Technology
Turrigiano, Ginag, Brandeis University
Young, Larry, Emory University

TEACHING ASSISTANTS
Ardiel, Evan, University of British Columbia
Chorev, Edith, Humboldt University of Berlin
Davis, Tobin, University of Texas at Austin
Devine, Christine, University of Massachusetts, Amherst
Dimitriadi, Maria, Massachusetts General Hospital
Fallen, Katherine, University of Minnesota
Faumont, Serge, University of Oregon
Higashikubo, Bryan, Massachusetts Institute of Technology

OTHER PROGRAMS:
Brown-MBL Program
Semester in Environmental Science
Logan Science Journalism Program

NASA Planetary Biology Internship Program

Higgs, Matthew, University of Washington
Honjo, Ken, Duke University
Kuznetsova, Marina, University of Washington
Luan, Haojiang, National Institute of Health
Marsat, Gary, University of Ottawa
McGrady, Jennifer, University of Southern California
McKeown, Kelly Anne, University of Massachusetts
Miller-Sims, Vanessa, University of Southern California
Rao, Geeta, The Johns Hopkins University
Sieg, Joshua, Massachusetts Institute of Technology
Slee, Sean, The Johns Hopkins University
Stamper, Sarah, The Johns Hopkins University
Todd, Krista, University of California, San Diego
Tseng, Hua-an, Rutgers University
Usher, Susan, University of Washington
Vonderschen, Katrin, McGill University
Wright, Terrence, Emory University

COURSE ASSISTANTS
Tamvakakis, Arianna, Georgia State University
Ula, Tristan, Summa Health System
Williams, Shayna, Claremont McKenna College

STUDENTS
Brown, Jeffrey, University of Illinois at Urbana-Champaign
Chen, Yao, Harvard University
Day, Nancy, University of Minnesota, Minneapolis
Diehl, Florian, Ulm University
Evans, Rebekah, George Mason University
Fox, Jessica, University of Washington
Glaze, Christopher, University of Pennsylvania
Gupta, Anoopum, Carnegie Mellon University
Hantz, Peter, European Molecular Biology Laboratory
Hoy, Jennifer, University of Oregon
Lamb, Damon, Emory University
McCormick, Kathryn, University of Oregon
Melom, Jan, Massachusetts Institute of Technology
Mowrey, William, University of Rochester Medical Center
Palmer, Chris, The University of Texas at Austin
Ramirez, Santiago, University of California, Berkeley
Rao, Rajnish, National Centre for Biological Sciences
Rodenas-Ruano, Alma, Albert Einstein College of Medicine
Titze, Benjamin, Max Planck Institute for Medical Research
Wollesen, Tim, University of Copenhagen
**Physiology**

**June 13 - August 2, 2009**

**COURSE DIRECTORS**
Mullins, Dyche, University of California, San Francisco, School of Medicine
Waterman, Clare, NIH / National Heart, Lung, and Blood Institute

**FACULTY**

- Danuser, Gaudenz, The Scripps Research Institute
- Davidson, Michael, Florida State University
- Davies, Paul, Arizona State University
- Denic, Vladimir, Harvard University
- Desai, Arshad, Ludwig Institute for Cancer Research / University of California, San Diego
- Fletcher, Daniel, University of California, Berkeley
- Hammer, John, National Institutes of Health
- Horwitz, Rick, University of Virginia
- Lippincott-Schwartz, Jennifer, NIH / National Institute of Child Health and Human Development
- Marshall, Wallace, University of California, San Francisco
- Murray, Andrew, Harvard University
- Nedelec, Francois, European Molecular Biology Laboratory
- Nelson, James, Stanford University
- Odde, David, University of Minnesota
- Oegema, Karen, Ludwig Institute for Cancer Research
- Phillips, Rob, California Institute of Technology
- Vale, Ron, University of California, San Francisco
- Weaver, Valerie, University of California, San Francisco
- Weitz, David, Harvard University

**LECTURERS**

- Ferrell, James, Stanford University
- Goldman, Robert, Feinberg School of Medicine, Northwestern University
- Lim, Wendell, University of California, San Francisco
- Salmon, Edward, University of North Carolina at Chapel Hill
- Springer, Timothy, Immune Disease Institute
- Theriot, Julie, Stanford University
- Chiu, Wah, Baylor College of Medicine
- Huttenlocher, Anna, University of Wisconsin
- Akhmanova, Anna, Erasmus Medical Center
- Discher, Dennis, University of Pennsylvania
- Foster, Kevin, Harvard University
- Munro, Edwin, University of Washington
- Ribbeck, Katharina, Harvard University
- Rothemund, Paul, California Institute of Technology
- Schwartz, Martin, University of Virginia
- Xie, Xiaoliang, Harvard University

**TEACHING ASSISTANTS**

- Alvaro, Sanchez, Brandeis University
- Borghi, Nicolas, Stanford University
- Burnett, Dylan, National Institutes of Health
- Chaudhuri, Ovijit, University of California, Berkeley
- Crow, Alley, University of California, Berkeley
- Dumont, Julien, Ludwig Institute for Cancer Research
- Elliott, Hunter, The Scripps Research Institute
- Fischer, Robert, NIH / National Heart, Lung, and Blood Institute
- Garcia, Hernan, California Institute of Technology
- Gardner, Melissa, University of Minnesota
- Garner, Ethan, Harvard University
- Hansen, Scott, University of California, San Francisco
- Hazelwood, Kristin, Florida State University
- Jaqaman, Khuloud, The Scripps Research Institute
- Kanchanawong, Pakorn, National Institutes of Health
Lee, Heun, California Institute of Technology
Lewellyn, Lindsay, University of California, San Diego
Margolin, Brian, University of California, San Francisco
Miroshnikova, Yekaterina, University of California, San Francisco, Medical Center
Myers, Kenneth, National Institutes of Health
Paszek, Matthew, University of California, San Francisco
Rafelski, Susanne, University of California, San Francisco
Richmond, David, University of California, Berkeley
Sengupta, Prabuddha, National Institutes of Health
Shin, William, National Institutes of Health
Springer, Michael, Harvard Medical School
Thorn, Kurt, University of California, San Francisco
Tuzel, Erkan, University of Minnesota
Ward, Jonathan, European Molecular Biology Laboratory
Wu, Xufeng, National Institutes of Health
Wu, David, California Institute of Technology

COURSE ASSISTANTS
Bradley, Keith, Woods Hole Oceanographic Institution
Lee, Terri, University of California, Santa Barbara
Manguso, Robert, Wheaton College

LAB ASSISTANTS
London, Jacob
Vale, Christopher

STUDENTS
Aguet, Francois, Harvard Medical School
Brugues Ferre, Jan, Harvard University
Brun, Ludovic, European Molecular Biology Laboratory
Burg, Thomas, Max Planck Institute for Biophysical Chemistry
Chen, Siyu, University of California, Berkeley
Chen, Wei, Georgia Institute of Technology
Currie, Erin, University of California, San Francisco
de Navascues, Joaquin, University of Cambridge
Fink, Gero, Max Planck Institute for Molecular Cell Biology and Genetics
Hanson, Alison, Vanderbilt University Medical Center
Hou, Jennifer, Harvard University
Hu, Qicong, Stanford University
Janvore, Julie, Institut Curie
Lin, Keng-hui, Academia Sinica
Matos, Irina, Instituto de Biologia Molecular e Celular (IBMC)
Morton, Elizabeth, University of Pennsylvania
Mueller, Melanie, Max Planck Institute of Colloids and Interfaces
Oakes, Patrick, Brown University
Osorio, Daniel, Institut National de la Santé et de la Recherche Médicale
Pigino, Gaia, University of Siena
Schoroder, Jacob, University of Copenhagen
Su, Xiaolei, Dana-Farber Cancer Institute
Toro, Esteban, Stanford University
Torrealba, Carolina, Pontificia Universidad Catolica de Chile
Watanabe, Sadanori, Kyoto University
Zajac, Allison, The University of Pennsylvania
Zanic, Marija, Max Planck Institute of Molecular Cell Biology and Genetics
Analytical and Quantitative Light Microscopy
May 6 – May 15, 2009

COURSE DIRECTORS
Sluder, Greenfield, University of Massachusetts Medical School
Swedlow, Jason, University of Dundee
Wolf, David, Sensor Technologies

FACULTY
Bates, Wilfred, Harvard University
Cardullo, Richard, University of California, Riverside
Heintzmann, Rainer, King’s College London
Hill, Emma, The Rockefeller University Press
Hinchcliffe, Edward, University of Minnesota
Murray, John, University of Pennsylvania
Myczek, Mary-Ann, University of Michigan
Oldenbour, Rudolf, MBL
Salmon, Edward, University of North Carolina at Chapel Hill
Shaw, Sidney, Indiana University
Shroff, Hari, Howard Hughes Medical Institute
Waters, Jennifer, Harvard Medical School

LECTURERS
Inoue, Shinya, MBL

TEACHING ASSISTANTS
Chang, Ching-Wei, University of Michigan
Hatano, Toshiyuki, University of Massachusetts Medical School
Krzywicka-Racka, Anna, University of Massachusetts Medical School
Nordberg, Joshua, University of Massachusetts Medical School

COURSE COORDINATOR
Salmon, Wendy, Harvard Medical School

STUDENTS
Beach, Jordan, Case Western Reserve University
Beam, Brooke, University of Arizona
Bergmann, Jan, University of Edinburgh
Broussard, Christine, The University of La Verne
Burns, Joseph, University of Virginia
Callahan, Linda, University of Rochester Medical Center
Carvajal-Gonzalez, Jose, Weill Medical College of Cornell University
Charlot, David, Burnham Institute, University of California, San Diego
Chartrand, Pascal, Universite de Montréal
Ferrando-May, Elisa, University of Konstanz
Gaffari, Siavash, Myriad Pharmaceuticals Inc.
Guimaraes, Geoff, Colorado State University
He, Jun, Brown University
Jasuja, Reema, Beth Israel Deaconess Medical Center
Jouvenet, Nolwenn, Aaron Diamond AIDS Research Center
Lucas, Jessica, Indiana University-Bloomington
Miyata, Haruhiko, University of California, Riverside
Mortara, Renato, Universidade Federal de Sao Paulo
Mühlfeld, Stefanie, University of Bonn
Nelson, Scott, University of Dundee
Peck, Bradford, United States Department of Agriculture
Petry, Sabine, University of California, San Francisco
Pincus, Seth, Louisiana State University Health Sciences Center
Platani, Melpomeni, University of Edinburgh
Sander, Edward, University of Minnesota
Satpute-Krishnan, Prasanna, NIH / National Institute of Child Health and Human Development
Logan Science Journalism Program

NASA Planetary Biology Internship Program

Tanios, Barbara, Weill Medical College of Cornell University
Vaithilingam, Archana, University of Vermont
Warmflash, Aryeh, The Rockefeller University
Werts, Adam, University of North Carolina at Chapel Hill
Wilbur, Jeremy, University of California, Berkeley
Witt, Stephan, Louisiana State University Health Sciences Center
SUMMER COURSES:

**Biology of Parasitism**

**Embryology**

**Frontiers in Reproduction**

**Microbial Diversity**

**Neurobiology**

**Neural Systems & Behavior**

**Physiology**

SPECIAL TOPICS:

**Analytical & Quantitative Light Microscopy**

**Biology of the Inner Ear**

**BioMedical Informatics I**

**BioMedical Informatics II**

**Frontiers in Stem Cells & Regeneration**

**Gene Regulatory Networks**

**Methods in Computational Neuroscience**

**Molecular Biology of Aging**

**Molecular Mycology**

**Neuroinformatics**

**SPINES**

**Workshop on Molecular Evolution**

**Zebrafish Course**

OTHER PROGRAMS:

**Brown-MBL Program**

**Semester in Environmental Science**

Biology of the Inner Ear
August 9 - August 30, 2009

**COURSE DIRECTORS**

Corwin, Jeffrey, University of Virginia School of Medicine
Holt, Jeffrey, University of Virginia
Jones, Jennifer, Washington University

**FACULTY**

Ashmore, Jonathan, University College London
Belyantseva, Inna, NIH / National Institute on Deafness and Other Communication Disorders
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Carr, Catherine, University of Maryland
Cyr, Janet, NIH / National Institute on Deafness and Other Communication Disorders
Forgie, Andrew, University College London
Fuchsen, Paul, The Johns Hopkins University School of Medicine
Gale, Jonathan, University College London
Geleoc, Gwenaelle, University of Virginia
Gopfert, Martin, University of Göttingen
Kelley, Matthew, National Institutes of Health
Kennedy, Helen, University of Bristol
Liberman, Charles, Massachusetts Eye and Ear Infirmary
Lovett, Michael, Washington University
Lustig, Lawrence, University of California, San Francisco
Lysakowski, Anna, University of Illinois at Chicago
Montcouquiol, Mireille, Institut National de la Santé et de la Recherche Médicale
Mueller, Ulrich, The Scripps Research Institute
Richardson, Guy, University of Sussex
Segil, Neil, House Ear Institute / University of Southern California
Soukup, Garrett, Creighton University
Stone, Jennifer, University of Washington School of Medicine
Warchol, Mark, Washington University School of Medicine
Wu, Doris, NIH / National Institute on Deafness and Other Communication Disorders
Zuo, Jian, St. Jude Children's Research Hospital

**LECTURERS**

Corey, David, Harvard Medical School
Davis, Robin, Rutgers University
Howard, Jonathon, Max Planck Institute
Kachar, Bechara, National Institutes of Health
Kemp, David, University College London
Megason, Sean, Harvard Medical School
Reed, Richard, ReedSongs
Rehm, Heidi, Harvard Medical School
Yamoah, Ebenezer, University of California, Davis

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Ballestero, Jimena, Instituto de Investigaciones en Ingenieria Genética y Biologia Molecular
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Collado, Maria, University of Virginia
Horwitz, Geoffrey, University of Virginia
Owens, Kelly, University of Washington
Pathak, Medha, Harvard Medical School
Raft, Steven, National Institutes of Health
Suli, Arminda, University of Washington

**STUDENTS**

Askew, Charles, University of Virginia
Logan Science Journalism Program

NASA Planetary Biology Internship Program

Baker, Tiffany, Medical University of South Carolina
Bryan, Keith, University of Iowa
Chidavaenzi, Robstein, University of Illinois at Chicago
Clause, Amanda, University of Pittsburgh
Couchoux, Harold, University of Iowa Carver College of Medicine
Effertz, Thomas, University of Goettingen
Fantetti, Kristen, Purdue University
Frucht, Corey, Yale University
Hickox, Ann, Harvard University / Massachusetts Institute of Technology
Homma, Kazuaki, Northwestern University
Kim, Hyo Jeong, University of California, Davis
Lamb, Jessica, NIH / National Institute on Deafness and Other Communication Disorders
Lipovsek, Marcela, Institute for Genetic Engineering and Molecular Biology-Consejo Nacional de Investigaciones Científicas y Técnicas
Mellado Lagarde, Marcia, St. Jude Children's Research Hospital
Thiede, Benjamin, University of Virginia
von Ameln, Simon, Institute of Human Genetics
Yu, Wei-Ming, Harvard University Medical School
SUMMER COURSES:
- Biology of Parasitism
- Embryology
- Frontiers in Reproduction
- Microbial Diversity
- Neurobiology
- Neural Systems & Behavior
- Physiology

SPECIAL TOPICS:
- Analytical & Quantitative Light Microscopy
- Biology of the Inner Ear
- BioMedical Informatics I
- BioMedical Informatics II
- Frontiers in Stem Cells & Regeneration
- Gene Regulatory Networks
- Methods in Computational Neuroscience
- Molecular Biology of Aging
- Molecular Mycology
- Neuroinformatics
- SPINES
- Workshop on Molecular Evolution
- Zebrashark Course

OTHER PROGRAMS:
- Brown-MBL Program
- Semester in Environmental Science

BioMedical Informatics I
May 31 - June 7, 2009

COURSE DIRECTORS
- Cimino, James, National Institutes of Health
- McDonald, Clement, National Library of Medicine

FACULTY
- Ackerman, Michael, National Library of Medicine
- Ash, Joan, Oregon Health & Science University
- Bakken, Suzanne, Columbia University
- Canese, Kathi, National Library of Medicine
- Cid, Victor, National Library of Medicine
- Cimino, Christopher, Albert Einstein College of Medicine
- Hammond, William, Duke University
- Johnson, Kevin, Vanderbilt University
- Kingsland, Lawrence, National Library of Medicine
- Kukafka, Rita, Columbia University
- Lindberg, Donald, National Library of Medicine
- McCray, Alexa, Harvard Medical School
- Mitchell, Joyce, University of Utah
- Phillips, Steven, NIH / National Library of Medicine

STUDENTS
- Arnesen, Eirik Nikolai, Rikshospitalet University Hospital
- Ayres, Elaine, National Institutes of Health
- Belmares, Jaime, Loyola University Chicago Medical Center
- Bentt, Deyne, VA Medical Center
- Berman, Joel, Concord Hospital
- Blehm, Julie, MeritCare Health Systems
- Borkowsky, Shane, Stroger Hospital of Cook County
- Bresnahan, Megan, Boston University School of Medicine
- Clark, Paul, Concord Hospital
- Dennis, Sharon, University of Utah
- Dettmar, Nicole, National Network of Libraries of Medicine
- Folse, Timothy, St. Jude Children's Research Hospital
- Johnson, J., University of Kentucky
- Li, Chenghui, University of Arkansas for Medical Sciences
- Logan, Cindy, Kansas State University
- Marks, Norman, United States Food and Drug Administration
- McLaughlin, Constance, AtlantiCare Health System
- Pettway Unno, Zoe, Kaiser Permanente Medical Center Library
- Przychodzin, Danielle, Thomson Reuters Healthcare
- Reichard, Ross, University of New Mexico
- Rice, Brittany, Suburban Hospital Health Care System
- Richardson, David, Solvay Pharmaceuticals, Inc.
- Schwartz, Diane, Kaleida Health
- Schwartz, Stanley, State University of New York at Buffalo
- Schwing, Laurie, PinnacleHealth System
- Sullo, Elaine, The George Washington University
- Trachtenberg, David, Methodist Medical Center of Illinois
- Van Oeveren, Edward, Walter Reed Army Institute of Research
- Vucovich, Lee, University of Alabama at Birmingham
- Wallin, Camille Clark, Hewlett-Packard Company
SUMMER COURSES:

BioMedicine of Parasitism
Embryology
Frontiers in Reproduction
Microbial Diversity
Neurobiology
Neural Systems & Behavior
Physiology

SPECIAL TOPICS:

Analytical & Quantitative Light Microscopy
Biology of the Inner Ear
BioMedical Informatics I
BioMedical Informatics II
Frontiers in Stem Cells & Regeneration
Gene Regulatory Networks
Methods in Computational Neuroscience
Molecular Biology of Aging
Molecular Mycology
Neuroinformatics
SPINES
Workshop on Molecular Evolution
Zebrafish Course

OTHER PROGRAMS:

Brown-MBL Program
Semester in Environmental Science

BioMedical Informatics II
September 20 - September 27, 2009

COURSE DIRECTORS
Cimino, James, National Institutes of Health
McDonald, Clement, National Library of Medicine

FACULTY
Basch, Peter, MedStar Health
Cimino, James, National Institutes of Health
Denny, Josh, Vanderbilt University
Friedman, Charles, Office of the National Coordinator
Jirjis, Jim, Vanderbilt University Medical Center
Kingsland, Lawrence, National Library of Medicine
Loonsk, John, CGI Federal
Mays, Daniel, Vanderbilt University
McCray, Alexa, Harvard Medical School
McDonald, Clement, National Library of Medicine
Nahin, Annette, National Library of Medicine
Nesbitt, Thomas, University of California, Davis, Health System
Shortliffe, Edward, Arizona State University
Starren, Justin, Marshfield Clinic
Stead, William, Vanderbilt University Medical Center

STUDENTS
Baird, John, University of North Dakota School of Medicine
Bergson, Susan, Louisiana Public Health Institute
Brisson, Paul, DeWitt Army Community Hospital
Broendal, Marie, University of California, Riverside
Conte, Marisa, University of Michigan
Dhanji, Sarfaraz, Memorial Health University Medical Center
Dinkelman, Andrea, Iowa State University
Easterby-Gannett, Sharon, Christiana Care Health System
Gonzalez, Kelly, UT Southwestern Medical Center
Groh, William, Indiana University School of Medicine
Hasley, Steve, Magee-Womens Hospital of University of Pittsburgh Medical Center
Kaelber, Charles, Family Services, Inc.
Loftus, Wayne, University of Minnesota
Malinowski, Robert, Michigan State University
O’Brien, Denise, University of Michigan Health System
Pappas, Cleo, University of Illinois at Chicago
Pell, Jonathan, University of Colorado Hospital, Denver
Philip, Varghese, Christian Medical College & Hospital
Podchiyska, Tanya, Stanford University
Protzko, Shandra, National Jewish Health
Ronan, Linda, Rush University Medical Center
Schultz, Frederick, University of New Mexico
Spatz, Michele, Mid-Columbia Medical Center
Spence, James, MD Anderson Cancer Center
Trahey, Thomas, Hefner Salisbury VA Medical Center
Watabe, Evans, University of Southern California
Wu, Lin, The University of Tennessee Health Science Center
Youngkin, Andrew, Dixie Regional Medical Center
Frontiers in Stem Cells and Regeneration
October 4 - October 10, 2009

COURSE DIRECTORS
Muneoka, Ken, Tulane University
Schatten, Gerald, Pittsburgh Development Center

FACULTY
Bryant, Susan, University of California, Irvine
Carlisle, Diane, University of Pittsburgh
Castro, Carlos, University of Pittsburgh
Ehmcke, Jens, Centre of Reproductive Medicine and Andrology
Gardiner, David, University of California Irvine
Marrero, Luis, Louisiana State University Health Sciences Center
Mitalipov, Shoukhrat, Oregon Health & Science University
Mitalipova, Maya, Massachusetts Institute of Technology
Navara, Christopher, University of Texas at San Antonio
Orwig, Kyle, University of Pittsburgh
Park, In Hyun, Harvard University
Pruszak, Jan, Harvard Medical School
Simerly, Calvin, University of Pittsburgh
Slack, Jonathan, University of Minnesota
Tasca, Richard, National Institutes of Health / National Institute of Child Health and Human Development

LECTURER
Agata, Kiyokazu, Kyoto University

TEACHING ASSISTANTS
Ben-Yehudah, Ahmi, University of Pittsburgh
Easley, Charles, University of Pittsburgh
Eisinger, Vonya, Magee Women's Research Institute, University of Pittsburgh Medical Center
Gassei, Kathrin, University of Pittsburgh
Lin, Chih-Cheng, Magee Women's Research Institute, University of Pittsburgh Medical Center
McFarland, David, Magee Women's Research Institute, University of Pittsburgh Medical Center
Mich-Basso, Jocelyn, Magee Women's Research Institute, University of Pittsburgh Medical Center
Momcilovic, Olga, University of Pittsburgh
Oliver, Stacie, Magee Women's Research Institute, University of Pittsburgh Medical Center
Redinger, Carrie, Magee Women's Research Institute, University of Pittsburgh Medical Center
Rho, Junsung, Children's Hospital Boston
Sukhwani, Meena, Magee Women's Research Institute, University of Pittsburgh Medical Center
Varum, Sandra, University of Pittsburgh
Zhang, Xiong, University of Pittsburgh

COURSE COORDINATOR
Mebane, Dorianne, MBL

STUDENTS
Andrade, Loraine, Federal University of Rio de Janeiro
Bian, Jing, The Cleveland Clinic
Collart, Clara, University of Cambridge
Dunn, Matthew, Stony Brook University
Hanna-Mitchell, Ann, University of Pittsburgh
Iyer, Anand, Hampton University
Karuman, Philip, VA Pittsburgh Healthcare System
Kiepler, Alexander, Institute of Molecular Medicine / Max Planck Institute Research Group
Lin, Xiaofeng, Roger Williams Medical Center
Nikitina, Natalya, California Institute of Technology
Shi, Qiang, Southwest Foundation for Biomedical Research
Logan Science Journalism Program

NASA Planetary Biology Internship Program

Stephenson, Emma, King's College London
Wang, Heuy-Ching, United States Army Medical Research Detachment
Whittlesey, Kevin, United States Food and Drug Administration
Wyche, James, National Science Foundation
Yoon, John, Harvard Medical School
Gene Regulatory Networks
October 12 - October 23, 2009

COURSE DIRECTORS
Davidson, Eric, California Institute of Technology
McClay, David, Duke University

FACULTY
Bolouri, Hamid, California Institute of Technology
Bronner-Fraser, Marianne, California Institute of Technology
Lemaire, Patrick, Centre National de la Recherche Scientifique
Longabaugh, William, Institute for Systems Biology
Oliveri, Paola, University College London
Peter, Isabelle, California Institute of Technology
Rothenberg, Ellen, California Institute of Technology
Stathopoulos, Angela, California Institute of Technology

LECTURERS
Levine, Michael, University of California, Berkeley

COURSE ASSISTANTS
Child, Erin, Oberlin College

STUDENTS
Breuker, Casper, Oxford Brookes University
Bushati, Natascha, National Institute for Medical Research
Clifford, Jacob, Michigan State University
de Paiva, Genaro, Empresa Brasileira de Pesquisa Agropecuaria
Fredman, David, University of Vienna
Grieco, Theresa, University of California, Berkeley
Guo, Mira, Harvard University
Hill, Jonathon, Columbia University
Hsu, Jeffrey, Cleveland Clinic Lerner College of Medicine
Iverson, Moriah, The Medical College of Wisconsin
Karlebach, Guy, Tel-Aviv University
Marlow, Heather, University of Hawaii
Masly, John, University of Southern California
Maurya, Ashish, National University of Singapore
McMillen, David, University of Toronto, Mississauga
Rodriguez Martinez, Maria, Columbia University
Rottinger, Eric, Kewalo Marine Laboratory
Sandersius, Sebastian, Arizona State University
Schauw, Thomas, Northwestern University
Sinigaglia, Chiara, University of Bergen
Vopalensky, Pavel, Institute of Molecular Genetics
Warren, Ian, University College London
Zhang, Yuqing, Purdue University
Logan Science Journalism Program

NASA Planetary Biology Internship Program
SUMMER COURSES:
Biology of Parasitism
Embryology
Frontiers in Reproduction
Microbial Diversity
Neurobiology
Neural Systems & Behavior
Physiology

SPECIAL TOPICS:
Analytical & Quantitative Light Microscopy
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Frontiers in Stem Cells & Regeneration
Gene Regulatory Networks
Methods in Computational Neuroscience
Molecular Biology of Aging
Molecular Mycology
Neuroinformatics
SPINES
Workshop on Molecular Evolution
Zebrafish Course

OTHER PROGRAMS:
Brown-MBL Program
Semester in Environmental Science

Methods in Computational Neuroscience
August 1 - August 29, 2009

COURSE DIRECTORS
Berry, Michael, Princeton University
Fairhall, Adrienne, University of Washington

FACULTY
Ahissar, Ehud, Weizmann Institute of Science
Aksay, Emre, Weill Medical College of Cornell University
Azeredo da Silveira, Rava, Ecole Normale Superieure
Barreiro, Andrea, University of Washington
Bialek, William, Princeton University
Buzsaki, Gyorgy, Rutgers University
Ermentrout, Bard, University of Pittsburgh
Fiete, Ila, University of Texas at Austin
Goldman, Mark, University of California, Davis
Haussler, Michael, University College London
Kopell, Nancy, Boston University
Laughlin, Simon, University of Cambridge
Marder, Eve, Brandeis University
Meister, Markus, Harvard University
Osborne, Leslie, University of California, San Francisco
Pillow, Jonathan, University of Texas at Austin
Schneidman, Elad, Weizmann Institute of Science
Shadmehr, Reza, The Johns Hopkins University
Solla, Sara, Northwestern University
Sompolinsky, Haim, Hebrew University
Spain, William, University of Washington
Svoboda, Karel, Howard Hughes Medical Institute, Janelia Farm Research Campus
Todorov, Emanuel, University of Washington
Wilson, Charles, University of Texas at San Antonio

LECTURERS
Abbott, Larry, Columbia University
Chklovskii, Dmitri, Howard Hughes Medical Institute
DiCarlo, James, Massachusetts Institute of Technology
Johnston, Daniel, University of Texas at Austin
Karten, Harvey, University of California, San Diego
Kiani, Roozbeh, University of Washington
Kleinfeld, David, University of California, San Diego
Magnasco, Marcelo, The Rockefeller University
Mel, Bartlett, University of Southern California
Olveczky, Bence, Harvard University

TEACHING ASSISTANTS
Hill, Daniel, University of California, San Diego
Loebel, Alex, Ludwig-Maximilians-Universitaet
Mease, Rebecca, University of Washington
Pesavento, Michael, University of Rochester
Wark, Barry, University of Washington

STUDENTS
Alcami Ayerbe, Jose, Ecole Normale Superieure, Ulm
Anand, Sindhu, Arizona State University
Caporello, Emily, University of California, San Diego
De Pittà, Maurizio, Tel-Aviv University
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<td>NASA Planetary Biology Internship Program</td>
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</table>

- de Sancristóbal, Belen, Universität Politecnica de Catalunya
- Eichner, Hubert, Max Planck Institute of Neurobiology
- El Boustani, Sami, Unite de Neurosciences Integratives et Computationnelles/Centre National de la Recherche Scientifique
- El Hady, Ahmed, Max Planck Institute for Dynamics and Self Organization
- Famulare, Michael, University of Washington
- Fitzgerald, James, Stanford University
- Gjorgjieva, Julijana, University of Cambridge
- Gradinaru, Viviana, Stanford University
- Gritsenko, Valeriya, University of Montréal
- Karpova, Alla, Howard Hughes Medical Institute, Janelia Farm Research Campus
- Kraus, Benjamin, Boston University
- Kwan, Alex, Cornell University
- Larson, Eric, Boston University
- Luria, Victor, Columbia University
- Murray, John, Yale University
- Schwemmer, Michael, University of California, Davis
- Sheela Mohan, Anuttama, Cornell University
- Song, Dawn, University of California, Berkeley
- Steinmetz, Nicholas, Stanford University
- Wayne, Gregory, Columbia University
Molecular Biology of Aging
July 25 - August 14, 2009

COURSE DIRECTORS
Austad, Steven, University of Texas Health Science Center
Ruvkun, Gary, Massachusetts General Hospital

FACULTY
Goldberg, Alfred, Harvard Medical School
Shore, David, Harvard Medical School / Massachusetts General Hospital
Ungvari, Zoltan, New York Medical College
Wang, Meng, Massachusetts General Hospital

LECTURERS
Barzilai, Nir, Albert Einstein College of Medicine
Dillin, Andrew, The Salk Institute
Guarente, Lenny, Massachusetts Institute of Technology
Helfand, Stephen, Brown University
Kaeberlein, Matt, University of Washington
Meselson, Matthew, Harvard University
Miller, Richard, University of Michigan
Paigen, Beverly, The Jackson Laboratory
Tatar, Marc, Brown University
Wright, Woodring, UT Southwestern Medical Center

COURSE ASSISTANT
Liljestrand, Jennelle, Bates College

STUDENTS
Csizsar, Anna, New York Medical College
Dávila, Antonia, University of California, Irvine
Doyle, Kristian, Stanford University
Fazly, Ahmed, Mayo Clinic College of Medicine
Gierman, Hendrikus, Academic Medical Center Amsterdam
He, Jie, Stowers Institute for Medical Research
Johnson, Erin, Cornell University
Kappei, Dennis, Max Planck Institute of Molecular Cell Biology and Genetics
Kato, Masaomi, Yale University
Kirchmaier, Ann, Purdue University
Marazita, Mariela, Universidad de Buenos Aires
Menard, Caroline, Douglas Mental Health University Institute
Nagarajan, Saisubramanian, University of Montana
Parikh, Neha, Baylor College of Medicine
Philipp, Eva, Institute of Clinical Molecular Biology
Robertson, Dana, University of California, San Francisco
Ruck, Alexander, Queens College
Soliman, Mohamed, University of Toronto
Wang, Dong, Stanford University School of Medicine
Wang, Mei-Hui, University of California, Irvine

Logan Science Journalism Program

NASA Planetary Biology Internship Program
Molecular Mycology
August 5 - August 21, 2009

COURSE DIRECTORS
Edwards, Jr., John, Harbor UCLA Medical Center
Mitchell, Aaron, Carnegie Mellon University

FACULTY
Filler, Scott, Los Angeles Biomedical Research Institute
Gow, Neil, Aberdeen University
Heitman, Joseph, Duke University Medical Center
Hohl, Tobias, Fred Hutchinson Cancer Center
Hull, Christina, University of Wisconsin-Madison
Konopka, James, State University of New York, Stony Brook
Mylonakis, Eleftherios, Massachusetts General Hospital
Rhodes, Judith, University of Cincinnati
White, Ted, Seattle Biomedical Research Institute

LECTURERS
Bennett, Richard, Brown University
Carter, Dee, University of Sydney
Kumamoto, Carol, Tufts University
Morschhäuser, Joachim, University of Würzburg
Nantel, Andre, National Research Council of Canada
Stajich, Jason, University of California, Berkeley

TEACHING ASSISTANTS
Baquir, Beverlie, Harbor UCLA Medical Center
Ganguly, Shantanu, Carnegie Mellon University
Lee, Soo Chan, Duke University Medical Center
Shapiro, Rebecca, University of Toronto
Walker, Louise, University of Aberdeen

COURSE COORDINATORS
Edwards, Carol, Harbor-UCLA Medical Center
Rafkin, Wendy, Harbor-UCLA Medical Center

STUDENTS
Almeida, Ricardo, University of Sao Paulo
Ballou, Elizabeth, Duke University
Beyhan-Pelvan, Sinem, University of California, San Francisco
Botts, Michael, University of Wisconsin-Madison
Burgess, Joshua, University of North Carolina
Coady, Alison, University of California, San Francisco
Finkel, Jonathan, Carnegie Mellon University
Gauthier, Gregory, University of Wisconsin
Guimaraes, Allan, Albert Einstein College of Medicine
Hall, Rebecca, University of Kent
Kaltoft, Despoina, University of Aberdeen
Liu, Hong, Harbor-UCLA Medical Center
Okagaki, Laura, University of Minnesota
Piispanen, Amy, Dartmouth Medical School
Sbertz, Cecelia, Duke University
Urb, Mirjam, McGill University
Whittington, Amy, Louisiana State University Health Sciences Center
Wiederhold, Nathan, University of Texas at Austin

OTHER PROGRAMS:
Brown-MBL Program
Semester in Environmental Science
Logan Science Journalism Program

NASA Planetary Biology Internship Program
Neuroinformatics
August 14 - August 29, 2009

COURSE DIRECTORS
Kleinfeld, David, University of California, San Diego
Mitra, Partha, Cold Spring Harbor Laboratory

FACULTY
Belkin, Mikhail, Ohio State University
Bernard, Amy, Allen Institute for Brain Science
Bohland, Jason, Cold Spring Harbor Laboratory
Bokil, Hemant, Cold Spring Harbor Laboratory
Eden, Uri, Boston University
Iyengar, Satish, University of Pittsburgh
Kass, Robert, Carnegie Mellon University
Pesaran, Bijan, New York University
Rolston, John, Emory University
Schiff, Nicholas, Weill Medical College of Cornell University
Sornborger, Andrew, University of Georgia
Turaga, Srinivas, Massachusetts Institute of Technology
Victor, Jonathan, Weill Medical College of Cornell University

LECTURERS
Andrews, Peter, Cold Spring Harbor Laboratory
Barbas, Helen, Boston University
Golani, Ilan, Tel-Aviv University
Hamalainen, Matti, Massachusetts General Hospital
Mikula, Shawn, University of California, Davis
Richmond, Barry, United States Department of Health and Human Services / National Institutes of Health / National Institute of Mental Health
Sarma, Sridevi, The Johns Hopkins University
Van Essen, David, Washington University
Wang, Haibin, Cold Spring Harbor Laboratory
Whitaker, Ross, University of Utah
Zikopoulos, Vasileios, Boston University

TEACHING ASSISTANTS
Hill, Daniel, University of California, San Diego
Valmianski, Ilya, University of California, San Diego

COURSE WEBMASTER
Macklin, Keith

COURSE ASSISTANTS
Liljestrand, Jennelle, Bates College

STUDENTS
Ahhammad, Parvez, Howard Hughes Medical Institute, Janelia Farm Research Campus
Alagapan, Sankaraleengam, University of Florida
Bakken, Trygve, University of California, San Diego
Bianchi, Matt, Beth Israel Deaconess
Chvatal, Stacie, Georgia Institute of Technology / Emory University
Cury, Kevin, Harvard University
Dmochowski, Jacek, City College of New York
Fairley, Jacqueline, Emory University
Frederick, Donald, The University of Chicago
Gandal, Michael, University of Pennsylvania
Gomperts, Stephen, Massachusetts Institute of Technology
Jiang, Fang, Universite Catholique de Louvain
Katsuki, Fumi, Wake Forest University School of Medicine
Kherlopian, Armen, Weill Medical College of Cornell University
Killian, Nathaniel, Georgia Institute of Technology / Emory University
<table>
<thead>
<tr>
<th>Logan Science Journalism Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>NASA Planetary Biology Internship Program</td>
</tr>
</tbody>
</table>

- Kramer, Mark, Boston University
- Krumin, Michael, Technion-Israel Institute of Technology
- Ljungquist, Bengt, Lund University
- McConnell, George, Duke University
- Mohajerani, Majid, University of British Columbia
- Roux, Frederic, Max Planck Institute for Brain Research
- Schenberg, Eduardo, Universidade de São Paulo
- Schmitz, Katharina, Frankfurt Institute for Advanced Studies
- Schnakers, Caroline, University of Liege
- Shirvalkar, Prasad, Mount Sinai School of Medicine
- Szymanski, Francois, University of Oxford
- Welle, Cristin, University of Pennsylvania School of Medicine
Summer Program in Neuroscience, Ethics & Survival
June 13 - July 11, 2009

COURSE DIRECTORS
Martinez, Joe, University of Texas at San Antonio
Townsel, James, Meharry Medical College

FACULTY
Berger-Sweeney, Joanne, Wellesley College
Castañeda, Edward, University of Texas at El Paso
Cubano, Luis, Universidad Central del Caribe
Dzakpasu, Rhonda, Georgetown University
Etgen, Anne, Albert Einstein College of Medicine
Fox, Tom, Harvard University / National University of Singapore
Gale, Karen, Georgetown University
Hildebrand, John, University of Arizona
Lisman, John, Brandeis University
Mensinger, Allen, University of Minnesota Duluth
Nishi, Rae, University of Vermont
Pate, William, American Psychological Association
Quinones, Alfredo, The Johns Hopkins University
Savage, Robert, Williams College
Stuart, Ann, University of North Carolina at Chapel Hill
Trujillo, Keith, California State University, San Marcos
Zottoli, Steven, Williams College

LECTURERS
Austin-Dailey, Andrew, American Psychological Association
Bennett, Michael, Albert Einstein College of Medicine
Carr, Catherine, University of Maryland
Johnston, Daniel, University of Texas at Austin
Kravitz, Edward, Harvard Medical School

TEACHING ASSISTANTS
Achanta, Pragathi, The Johns Hopkins University

COURSE COORDINATOR
Keleta, Yonas, University of Texas at San Antonio

STUDENTS
Addante, Richard, University of California, Davis
Arnold, Monica, University of California, Davis
Bravo-Rivera, Christian, University of Puerto Rico
Duarte, Jose, University of North Carolina at Chapel Hill
Gench, Jennifer, Brown University
Heyward, Frankie, University of Delaware
Iniguez, Sergio, Florida State University
Johnson, Erin, Cornell University
Joseph, Dawn, Georgetown University
Powers, Chivon, Northwestern University
Quiroz-Gaviria, Yakeel, Boston University
Sanchez, Daniel, Northwestern University
Vargas, Jay, University of Utah
Ventura, Maria, University of California, San Francisco
Virk, Selene, New Mexico State University
Logan Science Journalism Program

NASA Planetary Biology Internship Program
Home > Courses > Workshop on Molecular Evolution

Workshop on Molecular Evolution
July 26 - August 7, 2009

COURSE DIRECTORS
Cummings, Michael, University of Maryland

FACULTY
Ayres, Daniel, University of Maryland
Bazinet, Adam, University of Maryland
Beerli, Peter, Florida State University
Bielawski, Joseph, Dalhousie University
Drummond, Alexei, University of Auckland
Edwards, Scott, Harvard University
Felsenstein, Joseph, University of Washington
Holder, Mark, University of Kansas
Kuhner, Mary, University of Washington
Meyer, Axel, University of Konstanz
Miyamoto, Michael, University of Florida
Ronquist, Fredrik, Swedish Museum of Natural History
Shaw, Kerry, Cornell University
Swofford, David, Duke University
Thompson, Steven, Florida State University
Turner, Paul, Yale University
Yoder, Anne, Duke University
Zwickl, Derrick, University of Kansas

LECTURERS
Gast, Rebecca, Woods Hole Oceanographic Institution
Pearson, William, University of Virginia

TEACHING ASSISTANTS
Glennon, Kelsey, The George Washington University
Pearson, William, University of Virginia

STUDENTS
Abal Fabeiro, Jose Luis, University of Santiago de Compostela
Allen, Julie, University of Florida
Alonso Saez, Laura, Uppsala University
Aquilina-Beck, Allisan, University of New Hampshire
Barkley, Noelle, United States Department of Agriculture-Agricultural Research Service
Becking, Leonine, National Museum of Natural History-Naturalis
Bess, Emilie, University of Illinois at Urbana-Champaign
Blackard, Jason, University of Cincinnati College of Medicine
Borda, Elizabeth, Scripps Institution of Oceanography
Bracken, Heather, Brigham Young University
Cardenas, Paco, University of Bergen
Chaverri, Priscilla, University of Maryland
Cicconardi, Francesco, University of Tuscia
Corrales Duque, Carolina, Uppsala University
Demogines, Ann, University of Texas at Austin
Dowell, Karen, The Jackson Laboratory
Escalona, Tibusay, Iowa State University
Espeland, Marianne, Swedish Museum of Natural History
Fatakia, Sarosh, National Institutes of Health / National Institute of Diabetes and Digestive and Kidney Diseases
Figueroa, Rosa Isabel, Instituto de Ciencias del Mar
Forrester, Naomi, The University of Texas Medical Branch
Logan Science Journalism Program

NASA Planetary Biology Internship Program

Gemmill, Chrissen, University of Waikato
Golczer, Gabriel, Simon Bolivar University
Harper, Fiona, Rollins College
Heiss, Aaron, Dalhousie University
Henning, Frederico, University of Konstanz
Herrera, Santiago, Massachusetts Institute of Technology / Woods Hole Oceanographic Institution
Hoffmann, Maria, United States Food and Drug Administration
Horton, Natalie, Bangor University
Huang, Danwel, Scripps Institution of Oceanography
Islam, Melissa, University of Colorado
Just, Rebecca, Armed Forces DNA Identification Laboratory
Kang, Ji Hyoun, University of Konstanz
Krisko, Anita, Institut National de la Santé et de la Recherche Médicale
Lichvar, Robert, United States Army Corps of Engineers Cold Regions Research and Engineering Laboratory
Lin, Yajuan, University of Hawaii at Manoa
Lucas Lledo, Jose Ignacio, Indiana University
Mugal, Carina, Uppsala University
Pause Tucker, Kimberly, University of South Florida
Poxleitner, Marianne, Gonzaga University
Raynes, Yevgeniy, University of Pennsylvania
Reidenbach, Kyranne, University of Notre Dame
Rengefors, Karin, Lund University
Routtu, Jarkko, University of Basel
Sakai, Ayano, University of Illinois at Urbana-Champaign
Salem, Hassan, Miami University
Schmull, Michaela, The Farlow Herbarium
Svensson, Emma, Uppsala Universitet
Tang, Shanwu, University of Rochester
Thera, Mahamadou, University of Bamako
Thompson, Graham, University of Western Ontario
Van Doorslaer, Koenraad, Albert Einstein College of Medicine
Venkatesan, Meera, University of Maryland School of Medicine
Villarreal, Juan, University of Connecticut
Wiens, Gregory, United States Department of Agriculture-Agricultural Research Service-National Center for Cool and Cold Water Aquaculture
Zardus, John, The Citadel
Zebrafish Development & Genetics
August 8 - August 22, 2009

COURSE DIRECTORS
Chien, Chi-Bin, University of Utah
Raible, David, University of Washington

FACULTY
Burgess, Harold, NIH / National Institute of Child Health and Human Development
Clarke, Jon, King’s College London
Collazo, Andres, House Ear Institute
Dowling, John, Harvard University
Durchanek, Rose, University of Oregon
Durchanek, Rose, University of Oregon
Fadool, James, Florida State University
Fetch, Joseph, Cornell University
Granato, Michael, University of Pennsylvania
Houart, Corinne, King’s College London
Kimmel, Charles, University of Oregon
Mason, Cecilia, Fred Hutchinson Cancer Research Center
Mullins, Mary, University of Pennsylvania School of Medicine
Neuhaus, Stephan, University of Zurich
Peterson, Randall, Harvard Medical School
Schier, Alexander, Harvard University
Talbot, William, Stanford University
Wilson, Stephen, University College London
Woods, Iain, Harvard University

LECTURERS
Kokel, David, Massachusetts General Hospital
Lawson, Nathan, University of Massachusetts Medical School
Schluter, Peter, Harvard Medical School / Massachusetts General Hospital

TEACHING ASSISTANTS
Bend, Renee, University of Utah
Bianco, Isaac, Harvard University
Cerveny, Kara, University College London
Folgueira, Monica, University College London
Gupta, Tripti, University of Pennsylvania
Hashiguchi, Megumi, University of Pennsylvania
Kimmel, Reida, University of Oregon
Koyama, Minoru, Cornell University
Monen, Joost, Cornell University
Pan, Albert, Harvard University
Riley, Michael, Cornell University
Wolman, Marc, University of Pennsylvania
Zigman, Mihaela, Fred Hutchinson Cancer Research Center

COURSE COORDINATOR
Gribble, Suzanna, Grove City College

COURSE ASSISTANTS
Freeman, April, University of Oregon
Kasper, Dionna, Yale University
Stewart-Swift, Caitlin, Tufts University School of Dental Medicine
Walsh, Meghan, MBL

STUDENTS
Cai, Long, California Institute of Technology
Cantu, Jorge, Northwestern University
Cortes, Paulina, University of California, Davis
Eisenhoffer, Jr., George, Huntsman Cancer Institute
Estève, Raul, University of Barcelona
<table>
<thead>
<tr>
<th>Program</th>
<th>Name</th>
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<tbody>
<tr>
<td>Logan Science Journalism Program</td>
<td>Fischer, Robert, NIH / National Heart Lung and Blood Institute</td>
</tr>
<tr>
<td></td>
<td>Harvey, Robert, The School of Pharmacy, London</td>
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<tr>
<td>NASA Planetary Biology Internship Program</td>
<td>Hinz, Flora, California Institute of Technology</td>
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<td>Kagwe, Erika, University of Sao Paulo</td>
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<td>Kubo, Fumi, RIKEN Advanced Science Institute</td>
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<td>Matsuda, Hiroki, The Johns Hopkins University School of Medicine</td>
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<td>McPherson, Adam, University of Utah</td>
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<td>Miller, Adam, Fred Hutchinson Cancer Research Center</td>
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<td>Pauli, Andrea, University of Oxford</td>
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<td>Randlett, Owen, University of Cambridge</td>
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<td>Schenk, Judith, Max Planck Institute for Molecular Cell Biology and Genetics</td>
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<td>Vergarajauregui, Silvia, National Institutes of Health</td>
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<td>Wanner, Sarah, University of Chicago</td>
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<td></td>
<td>Yanik, Mehmet, Massachusetts Institute of Technology</td>
</tr>
</tbody>
</table>
Brown–MBL Graduate Program in Biological and Environmental Sciences

STUDENTS
Allen, Justine, Neuroscience
Angermeyer, Angus, Ecology and Evolutionary Biology
Brin, Lindsay, Ecology and Evolutionary Biology
Corman, Sarah, Ecology and Evolutionary Biology
Dutta, Anupriya, Molecular Biology, Cell Biology and Biochemistry
Galford, Gillian, Geological Sciences
Hasegawa, Yuko, Molecular Biology, Cell Biology and Biochemistry
Hayhoe, Shelby, Ecology and Evolutionary Biology
Lasek-Nesselquist, Erica, Ecology and Evolutionary Biology
Luo, Yawei, Ecology and Evolutionary Biology
Myers, Kristen, Ecology and Evolutionary Biology
Theroux, Susanna, Geological Sciences
Valm, Alex, Pathobiology
Yang, Xi, Geological Sciences

MBL MENTORS TO BROWN–MBL GRADUATE STUDENTS

<table>
<thead>
<tr>
<th>Mentor</th>
<th>Student</th>
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<tbody>
<tr>
<td>Linda Amaral-Zettler, Bay Paul Center</td>
<td>Susanna Theroux</td>
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<tr>
<td>Gary Borisy, Bay Paul Center</td>
<td>Yuko Hasegawa</td>
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<tr>
<td>Linda Deegan, Ecosystems Center</td>
<td>Sarah Corman</td>
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<td>Hugh Ducklow, Ecosystems Center</td>
<td>Yawei Luo, Kristen Myers</td>
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<tr>
<td>Anne Giblin, Ecosystems Center</td>
<td>Lindsay Brin</td>
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<tr>
<td>Roger Hanlon, Marine Resources Center</td>
<td>Justine Allen</td>
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<tr>
<td>Julie Huber, Bay Paul Center</td>
<td>Angus Angermeyer</td>
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<tr>
<td>David Mark-Welch, Bay Paul Center</td>
<td>Anupriya Dutta</td>
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<tr>
<td>Jerry Melillo, Ecosystems Center</td>
<td>Gillian Galford</td>
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<tr>
<td>Christopher Neill, Ecosystems Center</td>
<td>Shelby Hayhoe</td>
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<tr>
<td>Rudolf Oldenburg, Cellular Dynamics Program</td>
<td>Alex Valm</td>
</tr>
<tr>
<td>Mitchell Sogin, Bay Paul Center</td>
<td>Erica Lasek-Nesselquist</td>
</tr>
<tr>
<td>James Tang, Ecosystems Center</td>
<td>Xi Yang</td>
</tr>
</tbody>
</table>

MBL SCIENTISTS with BROWN APPOINTMENTS

Amaral Zettler, Linda, Bay Paul Center
Borisy, Gary, Bay Paul Center
Deegan, Linda, Ecosystems Center
Ducklow, Hugh, Ecosystems Center
Giblin, Anne, Ecosystems Center
Hobbie, John, Ecosystems Center
Huber, Julie, Bay Paul Center
Mark Welch, David, Bay Paul Center
Melillo, Jerry, Ecosystems Center
Neill, Christopher, Ecosystems Center
Oldenburg, Rudolf, Cellular Dynamics Program
Patterson, David, Bay Paul Center
Peterson, Bruce, Ecosystems Center
Rastetter, Edward, Ecosystems Center
Shaver, Gaius, Ecosystems Center
Smith, Peter J.S., Cellular Dynamics Program
Sogin, Mitchell, Bay Paul Center
Tang, Jim, Ecosystems Center
Vallino, Joseph, Ecosystems Center
Wernegreen, Jennifer, Bay Paul Center

BROWN FACULTY with MBL APPOINTMENTS

Bertness, Mark, Ecology and Evolutionary Biology
Rand, David, Ecology and Evolutionary Biology
Wessel, Gary, Molecular Biology, Cell Biology, and Biochemistry
Witman, Jon, Ecology and Evolutionary Biology
MBL SCIENTISTS TEACHING IN BROWN COURSES

Human Impacts on the Functioning of Ecosystems
Neill, Christopher, Ecosystems Center

Terrestrial Biogeochemistry and the Functioning of Ecosystems
Rastetter, Edward, Ecosystems Center

Biophotonics
Oldenbourg, Rudolf, Cellular Dynamics Program
SUMMER COURSES:
- Biology of Parasitism
- Embryology
- Frontiers in Reproduction
- Microbial Diversity
- Neurobiology
- Neural Systems & Behavior
- Physiology

SPECIAL TOPICS:
- Analytical & Quantitative Light Microscopy
- Biology of the Inner Ear
- BioMedical Informatics I
- BioMedical Informatics II
- Frontiers in Stem Cells & Regeneration
- Gene Regulatory Networks
- Methods in Computational Neuroscience
- Molecular Biology of Aging
- Molecular Mycology
- Neuroinformatics

SPINES
- Workshop on Molecular Evolution
- Zebrafish Course

OTHER PROGRAMS:
- Brown-MBL Program
- Semester in Environmental Science

Semester in Environmental Science Program

DIRECTOR
Foreman, Kenneth H.

ADMINISTRATION
Oleksyk, Stephanie, Recruitment Coordinator

FACULTY
- Deegan, Linda A.
- Ducklow, Hugh W.
- Foreman, Kenneth H.
- Giblin, Anne E.
- Hobbie, John E.
- Liles, George
- Melillo, Jerry M.
- Neill, Christopher
- Peterson, Bruce J.
- Rastetter, Edward B.
- Shaver, Gaius R.
- Tang, Jianwu
- Vallino, Joseph J.

RESEARCH AND TEACHING ASSISTANTS
- Daniels, William
- Kwiatkowski, Bonnie
- McHorney, Richard
- Wei-Haas, Maya

STUDENTS
- Baldino, Chelsea L. (Northwestern University)
- Ben-Chaim, Ayala (Mount Holyoke College)
- Cantor, Amy M. (Colby College)
- Fujimaki, Haruka A. (Mount Holyoke College)
- Gomez, Elizabeth M. (Brown University)
- Harris, Carolyn M. (Bates College)
- Kenly A. Hiller (Connecticut College)
- Kobyljanec, Christine A. (Mount Holyoke College)
- Moriarty, Pamela (Kenyon College)
- Moore, Marshall M. (Brown University)
- Nobu, Masaru K. (Carleton College)
- Setter, Nathan A. (SUNY College of Environmental Science and Forestry)
- Shay, Sarah E. (Lawrence University)
- Shoemaker, Lauren G. (Colorado College)
- Stegman, Monica R. (Haverford College)
- Tekverk, Maryann F. (Haverford College)
Logan Science Journalism Program
NASA Planetary Biology Internship Program
MBL Logan Science Journalism Program

CO-DIRECTORS
Goldman Robert, Northwestern University
Rensberger Boyce, Knight Science Journalism Program

ADMINISTRATIVE STAFF
Early, Andrea, MBL, administrative director
Gallagher, David, MBL
Wilmot, Pamela, MBL

BIOMEDICAL FACULTY
Burgess, David, Boston College, co-director
Shuster, Charles "Brad", New Mexico State University, co-director
Alford, Lea, Boston College, TA

ENVIRONMENTAL FACULTY
Neill, Christopher, MBL, co-director
Rich McHorney, MBL, faculty

BIOMEDICAL FELLOWS
Kimani Chege, Science Development Network
Julia Kumari Drapkin, "PRI, The World"
Christine Jung, Harvard Health Publications
Massimo Roncati, L'Hobby Della Scienza e Della Technica
Juliana Tiraboschi, Galileu Magazine

POLAR FELLOWS
Jude Isabella, YES Magazine
Lisa Jarvis, Chemical & Engineering News
Tracey Logan, Freelance
Alisa Opar, Audubon Magazine
Jane Qiu, Nature Magazine
Charles Ray, South Dakota Public Broadcasting
Kelly Rockwell, Greenock Pictures
Emily Stone, Freelance
Angela Posada-Swafford, Muy Interstate*
Jennifer Weiss, The Star-Ledger

*also selected for additional month at Palmer Station, Antarctica

The 2009 MBL Logan Science Journalism Program was supported by:
American Society for Biochemistry and Molecular Biology
FASEB
Howard Hughes Medical Institute
National Science Foundation-Office of Polar Programs
Society for Neuroscience
NASA Planetary Biology Internship Program

DIRECTORS
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Margulis, Lynn, University of Massachusetts, Amherst

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Falkowski, Paul, Rutgers University
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Glover, David M., Woods Hole Oceanographic Institution
Huber, Julie A., MBL
Joyce, Gerald, Scripps Research Institute
Oremland, Ronald, United States Geological Survey (Menlo Park)
Stolz, John, Duquesne University

INTERNS
Asikainen, Celeste, University of Massachusetts, Amherst
Bentkowski, Piotr, University of East Anglia
García-Maldonado, Jose, Centro de Investigaciones Biologicas del Noroeste (Mexico)
Jenkins, Amy, Virginia Commonwealth University
McCoy, Sophie, University of Chicago
Merkel, Alexander, Winogradsky Institute of Microbiology
Nuñez-Soto, Claudia, Universidad Cátolica del Norte (Chile)
Plathan, Josefin, Stockholm University
Siegert, Michael, Federal Institute for Geosciences (Germany)
The MBLWHOI Library is internationally recognized as defining current trends and practices in marine information sciences and bioinformatics. The MBL and the Woods Hole Oceanographic Institution (WHOI) maintain a vital partnership in the day-to-day operation of the library, which continues to build one of the most unique print and electronic literature collections in the biological, biomedical, ecological, and oceanographic sciences.

In addition to serving MBL and WHOI scientists, the staff and resources of the MBLWHOI Library are utilized by the distinguished resident research and education programs of the WHOI/MIT Joint Program, the Sea Education Association, NOAA National Marine Fisheries Service, and the United States Geological Survey. The Library also supports a unique summer population of visiting researchers and students from more than 200 institutions worldwide.

Library Researchers
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John Dacey, WHOI  
John Hobbie, MBL  
David Sheprow, MBL  
Peter Smith, MBL  
Ann Stuart, UNC Chapel Hill and MBL  
Rob Theiler, USGS  
John Waterbury, WHOI

### LIBRARY RESEARCHERS

Abbott, Jayne, Normandeau Associates  
Anderson, Everett, Harvard Medical School  
Anderson, Gary, University of Southern Mississippi  
Baccetti, Baccio, University of Siena  
Barlow, Robert B., Upstate Medical University  
Benjamin, Thomas, Harvard Medical School  
Bermuda Institute of Ocean Sciences  
Center for Coastal Studies  
Changeux, Jean-Pierre, Institut Pasteur  
Child, Frank M., Woods Hole, MA  
CIEE Research Station Bonaire  
Cohen, Seymour S., Woods Hole, MA  
Couch, Ernest F., Texas Christian University  
D'Alessio, Giuseppe, University of Naples  
Degnan, Sandie M., The University of Queensland  
deToledo-Morrell, Leyla, Rush University Medical University Medical Center  
Dodge, Frederick, Upstate Medical University  
Freidler, Gladys, Boston University School of Medicine  
Finkelstein, Alan, Albert Einstein College of Medicine  
Finkelstein, Amy, Massachusetts Institute of Technology  
Fischbach, Gerald, Simons Foundation  
Fishman, Harvey M., University of Texas Medical School at Houston  
Gainer, Harold  
German, III, James L., Weill Medical College of Cornell University  
Gifford, Prosser, Woods Hole, MA  
Giray, Cem, Microtechnologies  
Goentoro, Lea, Harvard Medical School  
Goldstein, Moise, Woods Hole, MA  
Gould, Robert, University of Illinois, Chicago  
Great Lakes Water Institute  
Grossman, Albert, New York University Medical School  
Guillemot, Jeanne, Massachusetts Institute of Technology  
Gutenplan, Joseph, New York University Dental College  
Herskovits, Theodore, Fordham University  
Hines, Michael, Yale University  
Hotchkiss, Frederick, MPR Institute
Inoué, Sadayuki, McGill University
Issidorides, Marietta, University of Athens
Jacobson, Allan, University of Massachusetts Medical School
Jaffe, Lionel, MBL
Jaye, Robert A., Solomon Schechter Day School
Karlin, Arthur, Columbia University
King, Kenneth, Woods Hole, MA
Kuhns, Bill, Hospital for Sick Children
Laderman, Aimee, Yale University School of Forestry and Environmental Studies
Loewenstein, Werner, Journal of Membrane Biology
Lyttton, William W., SUNY Downstate Physiology & Pharmacology
Lysakowski, Anna, University of Illinois at Chicago
Malenka, Robert C., Stanford University School of Medicine
Manomet Center for Conservation Science
Massachusetts Department of Marine Fisheries
Mellon, DeForest, University of Virginia
Mitchell, Ralph, Harvard University
Miyakawa, Hiroyoshi, Tokyo University of Pharmacy & Life Sciences
Mizell, Merle, Tulane University
Narahashi, Toshio, Northwestern University Medical School
Naugle, John E., National Aeronautics & Space Administration
New England Aquarium Right Whale Research
New England Fishery Management Council
Normandeau Associates
Olken, Benjamin, Massachusetts Institute of Technology
Pallas, Sarah, Georgia State University
Paydarfar, Joseph, Dartmouth College
Prendergast, Robert, MBL
Rabinowitz, Michael, Harvard Medical School
Rosenbaum, Joel, Yale University
Salmon, Edward, University of North Carolina Chapel Hill
Schippers, Jay, Woods Hole, MA
Schneyer, David M., University of Texas
Sea Education Association
Segal, Sheldon
Sheprow, David, Boston University
Shimomura, Osamu, MBL
Spector, Abraham, Columbia University
Spiegel, Evelyn, Dartmouth College
Spiegel, Melvin, Dartmouth College
Spotte, Stephen, Mote Marine Lab
Stuart, Ann, University of North Carolina Chapel Hill
Sturley, Stephen Laurence, Columbia University Medical Center
Suitor, Carol Reinisch
Sweet, Frederick, Washington University School of Medicine
Tashiro, Jay Shiro, University of Ontario Institute of Technology
Tetra Tech
Treistman, Steven N., University of Puerto Rico-MSC
Tweedell, Kenyon, University of Notre Dame
Tytell, Michael, Wake Forest University School of Medicine
University of Virgin Islands
van Hoek, Monique L., George Mason University
Warren, Leonard, University of Pennsylvania Medical School
Weidner, Earl, Louisiana State University
Weissmann, Gerald, New York University School of Medicine
Williams, C. Rogers, National Marine Life Center
Woodhead, Peter, SUNY Stonybrook
Woods Hole Group
Woods Hole Research Center
Yevick, George, Stevens Institute of Technology
Report of the Treasurer

It was an exceptional year for the MBL as our investment portfolio rebounded from a challenging market environment in 2008. We realized the benefits from our resident research growth initiatives, continued our success in fundraising, made significant improvements in our facilities, and tightly controlled our administrative and support costs. The Balance Sheet and Operating History reflect the positive results.

Net Assets

The MBL’s equity base experienced a $28.7 million increase, representing a 30% Return on Average Net Assets. This record return increased MBL’s equity to over $100 million for the first time in its history.

Assets

Pledges and Other Receivables increased slightly, reflecting our continued success in the silent phase of our fundraising campaign. Investments, at fair value increased 37% due to three factors: 1) a 27.7% return on MBL’s long-term investment portfolio, 2) a $3.7 million in additions to the endowment, and 3) an accumulation of $8.4 million in short-term investments in anticipation of the remaining expenses for the Loeb Laboratory renovation. Property and Equipment, net increased 22% as we added $12.4 million to the physical wealth of the laboratory.

Liabilities

The MBL’s obligations declined slightly, with a $3.9 million decline in the value of an interest rate swap that caps the interest expense on our Long-Term Debt being offset by an increase in payables associated with construction costs for Loeb.

Operating Support

A gain of 28% in Operating Support was driven by two principal factors. The first was a $6 million increase in Grant & Contract revenues associated almost entirely with our Research activities. This was due to management’s focus on this sector resulting in the net addition of 33 staff scientists over the past two years. American Recovery & Reinvestment Act (ARRA) awards of $7 million received provided 10% of the increase but will have a much bigger impact on revenues in 2010. Contributions increased 41%, coming close to the $16.3 million record set in 2007. Finally, support for the Annual Fund established a new record of $1.14 million, exceeding the goal defined by the Board of Trustees in 2007.

Expenses

Total Expenses increased 6% with almost all the growth dedicated to research staffing costs. Sound expense control was evident with declines in expenses from 2008 in Professional Services, Travel, and Utilities. In fact, the facilities and administrative units ran a tight ship experiencing a one-half million dollar, 2.6% decline in expenses. As a result of the Operating Support growth combined with the sound expense control, the MBL reported a $170 thousand Unrestricted Operating surplus, the first
since the year 2000.

NON-OPERATING ACTIVITIES

Four key factors provided the favorable outcome in this area. Already mentioned were the favorable swing in the value of the interest rate swap, the improvements to Property & Equipment, and the sizable Investment gains. Another factor was a reduction in the spending rate from our endowment.

FUTURE EXPECTATIONS

We have made great progress in efforts to develop a sustainable business model for each operating sector, with Research; Visiting Research; and Conferences, and Housing & Dining in balance or functioning with slight surpluses. Our expanded scientific team should help us sustain substantial growth in our Research Grant & Contract revenues from the previous record of $17 million in 2004 to over $20.5 million in 2009. We are also actively working to build the MBL endowment. As has always been anticipated, we will have to account for increased depreciation accruals and potential cost increases if inflation becomes a factor. However, the combination of diligent budget management over the last decade, the strong performance of our endowment, and the successful recruiting of new scientists should result in a bright future for the MBL.

— Mary B. Conrad
### Operating History and Balance Sheet as of December 31, 2009 and 2008 (in Thousands)

<table>
<thead>
<tr>
<th>Assets:</th>
<th>2009</th>
<th>2008</th>
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<tbody>
<tr>
<td>Cash and Cash Equivalents</td>
<td>2,281</td>
<td>3,180</td>
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<td>Pledges and Other Receivables</td>
<td>24,756</td>
<td>23,740</td>
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<td>Other Assets</td>
<td>1,425</td>
<td>1,630</td>
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<td>Investments, at Fair Value</td>
<td>64,223</td>
<td>46,724</td>
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<td>Property and Equipment, Net</td>
<td>61,490</td>
<td>50,578</td>
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<tr>
<td><strong>Total Assets</strong></td>
<td>$154,175</td>
<td>$125,852</td>
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<tr>
<td>Liabilities:</td>
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<tr>
<td>Accounts Payable</td>
<td>6,167</td>
<td>2,824</td>
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<td>Line of Credit</td>
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<td>Annuities and Unitrasts Payable</td>
<td>633</td>
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<tr>
<td>Deferred Revenue and Other Liabilities</td>
<td>6,715</td>
<td>9,869</td>
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<tr>
<td>Long-Term Debt</td>
<td>32,645</td>
<td>33,335</td>
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<td><strong>Total Liabilities</strong></td>
<td>$46,160</td>
<td>$46,583</td>
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<td>Net Assets:</td>
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<tr>
<td>Unrestricted</td>
<td>34,939</td>
<td>12,793</td>
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<tr>
<td>Temporarily Restricted</td>
<td>30,938</td>
<td>30,189</td>
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<tr>
<td>Permanently Restricted</td>
<td>42,139</td>
<td>36,287</td>
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<td><strong>Total Net Assets</strong></td>
<td>108,015</td>
<td>79,269</td>
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<tr>
<td><strong>Total Liabilities and Net Assets</strong></td>
<td>$154,175</td>
<td>$125,852</td>
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### Operating History (in Thousands)

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<tr>
<th>Operating Support</th>
<th>2009</th>
<th>2008</th>
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<tbody>
<tr>
<td>Government Grants</td>
<td>19,018</td>
<td>14,297</td>
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<tr>
<td>Non-Federal Grants and Contracts</td>
<td>5,553</td>
<td>4,252</td>
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<tr>
<td>Laboratory Renal and Net Tuition</td>
<td>2,304</td>
<td>1,888</td>
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<tr>
<td>Fees for Conferences and Services</td>
<td>4,556</td>
<td>4,347</td>
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<tr>
<td>Contributions</td>
<td>15,101</td>
<td>10,732</td>
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<tr>
<td>Investment and Other Revenue</td>
<td>3,088</td>
<td>3,380</td>
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<tr>
<td><strong>Total Operating Support</strong></td>
<td>$49,620</td>
<td>$38,896</td>
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<tr>
<td>Expenses:</td>
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<tr>
<td>Research</td>
<td>26,587</td>
<td>23,741</td>
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<td>Visiting Research</td>
<td>3,810</td>
<td>4,049</td>
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<td>Education</td>
<td>8,279</td>
<td>8,273</td>
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<tr>
<td>Conferences and Services</td>
<td>3,180</td>
<td>3,117</td>
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<td>Other Programs</td>
<td>1,818</td>
<td>1,961</td>
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<tr>
<td><strong>Total Expenses</strong></td>
<td>$43,674</td>
<td>$41,141</td>
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<tr>
<td>Changes in Net Assets before Nonoperating Activity:</td>
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<tr>
<td>Non-Operating Activities:</td>
<td></td>
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</tr>
<tr>
<td>Contributions to Plant and Other Income, Net</td>
<td>13,912</td>
<td>9,551</td>
</tr>
<tr>
<td>Total Investment Income and Earnings</td>
<td>11,248</td>
<td>(14,879)</td>
</tr>
<tr>
<td>Less Investment Earnings Used for Operations</td>
<td>(2,361)</td>
<td>(2,380)</td>
</tr>
<tr>
<td>Reinvested Investment Earnings</td>
<td>8,887</td>
<td>(17,459)</td>
</tr>
<tr>
<td><strong>Total Change in Net Assets</strong></td>
<td>$28,745</td>
<td>($10,153)</td>
</tr>
</tbody>
</table>

The operating and balance sheet numbers shown here are unaudited.

The financial statements of the Marine Biological Laboratory for the fiscal year ending December 31, 2009, were audited by Grant Thornton LLP.

Complete financial statements are available on request from

Homer Lane  
Chief Financial Officer  
MBL
REPORT OF THE DEVELOPMENT COMMITTEE

The MBL had another excellent fundraising year, raising $26,597,324 in private and special public support during 2009. This figure includes a commitment of $10,000,000 from the Commonwealth of Massachusetts for renovation of the Loeb Laboratory, and a $1,000,000 lease from Dart Neuroscience LLC. The highlights of our fundraising year are provided here.

Notably, 2009 saw two fundraising records broken. First, more than $8.3 million in cash or pledges was raised for endowment, a figure that is more than four times the average annual amount raised for endowment in the past ten years. Primarily directed toward MBL discovery courses and the Regenerative Biology and Medicine initiative, these funds greatly enhance our capacity to attract talented investigators and students. We also benefited from a record Annual Fund of $1.14 million; funds that were immediately available to meet operational needs in 2009.

On behalf of the Development Committee of the Board of Trustees, I offer my deepest gratitude to our extraordinary donors, whose generosity and commitment to our work is at once humbling and inspiring. Thank you.

— Jeffrey Pierce, Chair
MAJOR GIFTS

The MBL gratefully acknowledges the generous contributions of the individuals, foundations, and companies who supported every aspect of our programs and operations in 2009.

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The Massachusetts Life Sciences Center awarded $10 million for the Loeb Laboratory renovation.

The Rowe Family Foundation awarded $5 million to support the MBL’s new initiative in Regenerative Biology and Medicine.

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The John D. and Catherine T. MacArthur Foundation awarded $1,476,624 for the Biodiversity Informatics component of the Encyclopedia of Life project.

Dart Neuroscience LLC granted $1,000,000 to support studies of learning and memory in Rowe Laboratory.

The Ellison Medical Foundation provided $914,940 to support a research project entitled: Aging in Bdelloid Rotifers; and $876,981 to support the Molecular Biology of Aging course.

$100,000-$999,999

The G. Unger Vetlesen Foundation awarded $950,000 for operations in the Marine Resources Center and for faculty support in the Bay Paul Center.

Charles and Phyllis Rosenthal contributed $550,000 to establish an endowed position in a collaboration between the MBL and Brown University, and to support the Annual Fund.

David and Susan Hibbitt made a gift intention of $500,000 to the Hibbitt Endowed Education Fund and the Annual Fund.

Futaba Koike contributed $500,000 to the Shinya and Sylvia Inoué Endowment for Cellular Dynamics Imaging.

The Burroughs Wellcome Fund granted $496,950 to support the Frontiers in Reproduction course and the Luigi Mastroianni and Sheldon Segal Scholarship Fund.

An Anonymous donor contributed $400,000 to establish a Marine Resources Center general endowment.

Molly N. Cornell contributed $250,000 to the Neal W. Cornell Endowed Research Fund.

The Golden Family Foundation awarded $207,500 to the Science Journalism Program endowment and the Annual Fund.

Porter W. Anderson, Jr. contributed $201,000 to the Directors Development Fund, Bernard Davis Scholarship Fund, Center for Molecular Evolution Endowed Fund, and the Annual Fund.

The Arthur Vining Davis Foundations awarded $150,000 to the Semester in
Environmental Science endowment.

Christopher M. and Susanna B. Weld contributed $145,000 to the Semester in Environmental Science endowment and the Annual Fund.

The Grass Foundation awarded $125,000 to the Albert and Ellen Grass Faculty Grant Program.

The Foundation for Research in Cell Biology & Cancer awarded $110,000 to the Kurt and Rhoda Isselbacher Endowed Scholarship and the Annual Fund.

David Bulloch contributed $101,500 to a Charitable Gift Annuity.

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Udasin, Ronald, Cornell University  
Uldahl, Anne, Roskilde University, Denmark  

Varma, Dileep, University of North Carolina at Chapel Hill  
Venuti, Judith, Louisiana State University Health Sciences Center  
Villanueva, Alex, Virginia Polytechnic Institute and State University  
Vo, Trang-Anh, Okayama Institute of Science and Technology, Japan  

Watanabe, Shigeki, University of Utah  
Wei, Zhou, Duke University  
White, Stephanie, University of California, Los Angeles  
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Witter, Lauren, Hunter College  
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Wu, Tse, Chinese University of Hong Kong, China  
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Young, Kakani, California Institute of Technology  
Young, Jodi, University of Oxford  
Yu, Eunah, New York University School of Medicine  
Yuen, Yat, Hong Kong University of Science and Technology, China  

Zakevicius, Jane, Hunter College  
Zee, Michele, Swarthmore College  
Zhou, Wei, Duke University  
Zukin, R. Suzanne, Albert Einstein College of Medicine  

MBL RESEARCH AWARDEES

Forty scientists received awards to conduct research at the MBL in 2009.

Shimshon Belkin and graduate student Omri Finkel, Hebrew University  
"Molecular Characterization of the Microbial Phyllosphere Community of Tamarix, a Salt-Excreting Desert Tree"  
Supported by the Gruss Lipper Family Foundation  

Ona Bloom, The Feinstein Institute  
"Macrophage Migration Inhibitory Factor (MIF) in Spinal Cord Injury and Regeneration"  
Supported by the Ann E. Kammer Memorial Fellowship and Laura and Arthur Colwin Endowed Summer Research Fellowships  

Paul Calvert, and graduate students Animesh Agrawal, Swati Mishra and Skander Limen, University of Massachusetts, Dartmouth  
"Marine Hydrogels for Tissue Engineering"  
Supported by the Eugene and Millicent Bell Fellowship  

Richard Chappell, Hunter College  
"Investigations of the Role of Zinc as a Retinal Neuromodulator"
Supported by the Plum Foundation, H. Keffer Hartline, and Edward F. MacNichol, Jr. Fellowships

Heather Eisthen, Michigan State University
"Mechanisms of Olfactory Detection of Tetrodotoxin in Rough Skinned Newts"
Supported by the Stephen W. Kuffler Fellowship

Holger Fritzenwanker, University of Chicago
"Investigating Neurogenesis in the Direct Developing Hemichordate Saccoglossus kowalevskii"
Supported by the Baxter Postdoctoral Fellowship

Daniel Gerlich, Eidgenössische Technische Hochschule Zurich, Switzerland
"Coordination of Microtubule and Membrane Dynamics During Abcission"
Supported by the Evelyn and Melvin Spiegel Fellowship

Stephen Green, University of Chicago
"Mesoderm Development in the Acorn Worm Saccoglossus kowalevskii and Evolution of Deuterostomes"
Supported by the Frank R. Lillie Fellowship

Kimberly Jackson, Spelman College
"Chemoprevention of Prostate Cancer with Dietary Dibenzoylmethane"
Supported by the E.E. Just Endowed Research Fellowship Fund and the William Townsend Porter Fellowship

Ulrich Kuern, Stanford University
"Generation of Transgenic Botryllus: a Model System for Stem Cell Biology and Regeneration"
Supported by the Laura and Arthur Colwin Endowed Summer Research Fellowships

Robert Lauzon, Union College
"Phagocyte Function and Organismal Death and Regeneration in a Colonial Ascidian"
Supported by the Frederik B. and Betsy G. Bang Fellowship Fund

R. Paul Malchow, University of Illinois, Chicago
"Optical Studies of Synaptic Feedback from Horizontal Cells in the Retina: Part II"
Supported by Laura and Arthur Colwin Endowed Summer Research Fellowships

Paulina Martinetto, Universidad Nacional de Cordoba, Argentina
"Land-Sea Coupling by Nutrient Transport: Comparisons Across Different Climates"
Supported by Laura and Arthur Colwin Endowed Summer Research Fellowships

Kristina Mead, Denison University
"Does Shrimp 'Sniffing' Vary with Swim Speed and Population: PIV in Paleamonetes"
Supported by G.F. Fuortes Memorial and MBL Associates Fellowships

Nagwa Mohammady, Alexandria University, Egypt
Developing Micro-Algae for Renewable High Energy Bio-diesel Production"
Supported by Lucy B. Lemann Fellowship

Thomas Mueller-Reichert, Max Planck Institute, Dresden, Germany
"Coordination of Microtubule and Membrane Dynamics During Abcission"
Supported by Rand and Laura and Arthur Colwin Endowed Summer Research Fellowships

Ariel Pani, University of Chicago
"Hedgehog Signaling in Hemichordates and the Evolution of the Vertebrate Zona limitans"
Supported by the Frank R. Lillie Fellowship

Patrizia Pellegatti, Università Ferrara, Italy
Supported by Laura and Arthur Colwin Endowed Summer Research Fellowships

Orly Reiner and graduate student Michal Segal, Weizmann Institute of Science
"Regulating Axonal Transport by LIS1-Interacting Proteins"
Supported by the Gruss Lipper Family Foundation and the Laura and Arthur...
Colwin Endowed Summer Research Fellowships

Snjezana Rendulic, Stanford University
"Elucidating Germline Parasitism in Botryllus schlosseri"
Supported by the Laura and Arthur Colwin Endowed Summer Research Fellowships

Robert Savage, Williams College
"Insights into the Origin of Lophotrochozoan Larvae from Hunchback Protein-Like Expression Patterns"
Supported by MBL Associates Fellowship

Sidney Tamm, Boston University
"Visualization of Dynein and Microtubule Changes During Ciliary Beating"
Supported by the John M. Arnold and the Laura and Arthur Colwin Endowed Summer Research Fellowships

Stefano Tiozzo, Stanford University
"Origin of Regenerative Plasticity in Basal Chordates: Stemnes vs. Transdifferentiation"
Supported by a Nikon Fellowship

Marin Wlizla, University of Chicago
"Roles of Nodal Signaling During Early Embryonic Development of Saccoglossus kowalevskii and Implications to the Evolution of Extant Deuterostome Body Plans"
Supported by the Frank R. Lillie Fellowship

Oded Yarden* and graduate student Lena Hazanov, Hebrew University
"Prevalence of Fungi During Changes in Activity of Endosymbiotic Zooxanthellae in Coral: Does Warming in a Temperature Environment Enhance Fungal Proliferation in a Sessile Marine Animal?"
Supported by the Gruss Lipper Family Foundation*(Collaborated with Marc Orbach, College of Agriculture and Life Sciences, University of Arizona)

Harold Zakon, University of Texas, Austin
"Evolutionary Change in the Muscle Development Program: Origin of Novel Organs"
Supported by James A. and Faith Miller Fellowship, MBL Associates, and Laura and Arthur Colwin Endowed Summer Research Fellowships

Bradley Zuchero, University of California, San Francisco
"Elucidating the Role of Nuclear Actin Filaments in Marine Oocytes"
Supported by the Robert Day Allen Fellowship

ALBERT AND ELLEN GRASS FACULTY GRANT PROGRAM

Three teams of investigators were awarded Grass Faculty Awards at the MBL in 2009. The goal of this program is to take advantage of the collaborative environment of the MBL and bring together neuroscientists at the Assistant or Associate Professor level from different institutions to work together to conduct specific research in neuroscience.

Kim Hoke of Colorado State University and Hamilton Farris of Louisiana State University collaborated on a project titled "Sound Localization Mechanisms and the Evolution of Complex Signals."

Jennifer Morgan of the University of Texas, Austin and David Parker of Cambridge University, England collaborated on a project titled "Mechanisms of Synaptic Compensation After Spinal Cord Injury."

Gordon Shepherd of Howard Hughes Medical Institute at Janelia Farms and Thanos Tzouopoulos of University Pittsburgh collaborated on a project titled "Circuit Organization of Timing-Related Brainstem Neurons."

GRASS FELLOWS

Eight young scientists were awarded fellowships by the Grass Foundation to conduct research in Neurobiology at the MBL during the summer of 2009. The program was co-directed by Felix Schweizer, University of California, Los Angeles and Stephanie White also of the University of California, Los Angeles. Gal Haspel,
NIH/NINDS and Daphne Soares, University of Maryland were co-associate directors.

Emma J. Coddington, Ph.D.
Willamette University
“Characterization of rapid effects of corticosterone on sex behavior-associated hindbrain neurons”

Jorge E. Contreras, Ph.D.
National Institutes of Health/NINDS
“Structural dynamics in cyclic nucleotide gated (CNG) channels”

Coen P. H. Elemans, Ph.D.
University of Southern Denmark
“Emergent complexity in oyster toadfish vocal communication”

Skyler L. Jackman, Ph.D.
University of California, Berkeley
“Imaging synaptic Ca^{2+} nanodomains with a ribbon associated calcium indicator (RACI)”

Agenor Limon, Ph.D.
University of California, Irvine
“Characterization of excitatory and inhibitory neurotransmitter receptors from the developing squid nervous system”

Peter J. Lyons, Ph.D.
Albert Einstein College of Medicine
“Investigating the role of carboxypeptidase A6 (CPA6) in axon guidance through live imaging of the zebrafish”

W. Hamish Mehaffey, Ph.D.
University of California, San Francisco
“Characterization of synaptic learning rules in a songbird nucleus required for vocal learning”

Sandra Rieger, Ph.D.
University of California, Los Angeles
“Regulation of axon regeneration in amputated zebrafish fins”
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Biodiversity and bioinformatics; scientific aquaculture and behavioral ecology; sensory physiology; biological basis of camouflage

**MAJOR PARTNERSHIPS**

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

The **Woods Hole Consortium** is a research and educational alliance between the MBL, Woods Hole Oceanographic Institution, and Woods Hole Research Center, and focuses 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 MBL, the Field Museum of Natural History, Harvard University, Missouri Botanical Garden, Smithsonian Institution, and Biodiversity Heritage Library.

**RESOURCES**

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

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EDUCATIONAL PROGRAMS

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“**K through forever**” educational programs ranging from K-12 teacher training, undergraduate education and independent research, graduate training, the Brown-MBL joint graduate program, postdoctoral training, and community continuing education programs.

2009 FINANCES

**Operating Budget:** $43 million

**Net Assets:** $108 million

**Endowment:** $56 million
Loeb Laboratory Groundbreaking

September 21, 2009
Running time: 30 minutes

Massachusetts Senate President Therese Murray and MBL Director and CEO Gary Borisy are joined by Matt Patrick, Susan R. Windham-Bannister, Edwin W. McCleskey, and Timothy Hurdelbrink to break ground on the Loeb