



**PRESIDENT AND DIRECTOR
WOODS HOLE OCEANOGRAPHIC INSTITUTION
WOODS HOLE, MASSACHUSETTS**

THE SEARCH

Woods Hole Oceanographic Institution (WHOI), the world's largest private institution dedicated to research and education at the frontiers of oceanography, seeks a dynamic new President and Director. WHOI sustains its preeminence in ocean science research and higher education by nurturing inventive minds in an independent, creative atmosphere. The Institution supports world-class research and education with vessels and instruments that enable unmatched access to the sea and with premier shore-based laboratories and other facilities. With an annual budget of \$136 million, the WHOI community includes some 500 scientific and technical staff, nearly 400 operating, administrative, and support staff, and approximately 200 students and post-doctoral scholars.

This is a rare opportunity to lead an institution with a remarkable history of achievement and the resources and commitment to continue to expand understanding of the oceans and their central influence on Earth systems and human society. The new President and Director will be a person of exceptional intellectual vision and scientific judgment, a proven leader who listens well and communicates persuasively, and a person who embraces the pressing scientific work of the Institution with passion. As a key spokesperson for WHOI and for oceanography, the President and Director will have an important platform from which to influence the field and enhance public understanding and support.

The Executive Committee of the Board of Trustees has named a seven-member Presidential Search Committee, including representatives of the Trustees and the Corporation, and scientific and technical staff. The Committee is assisted by the executive search firm Isaacson, Miller in Boston. Inquiries, nominations, and applications should be directed in confidence to the search firm.

OVERVIEW

Established in 1930, the Woods Hole Oceanographic Institution (WHOI) is a world-class, independent marine research, engineering, and higher education organization. The Institution provides international leadership in advancing and communicating a basic understanding of the oceans and their decisive role in addressing global questions.

WHOI is distinguished by its singular focus on ocean science and the independence with which its scientists and engineers pursue it. The singularity of focus allows WHOI to maintain an unparalleled depth of scientific and technical talent in oceanographic research and education. The Institution brings together a unique complement of assets including world-class scientists; innovative engineers who invent and implement leading-edge ocean instruments and technology; research vessels and state-of-the-art deep-submergence vehicles that give it exceptional access to the sea; and graduate students who learn from the best in the field and themselves become leaders in oceanography.

WHOI's preeminence in research spans all areas of marine science and engineering through five academic departments: Applied Ocean Physics and Engineering; Biology; Geology and Geophysics; Marine Chemistry and Geochemistry; and Physical Oceanography. The Institution also operates four interdisciplinary institutes (Ocean and Climate Change, Coastal Ocean, Ocean Life, and Deep Ocean Exploration), a Marine Policy Center, the Woods Hole Center for Oceans and Human Health, and with the National Oceanic and Atmospheric Administration (NOAA), a Cooperative Institute for Climate and Ocean Research. Because of its location in a vibrant ocean science community, WHOI also benefits from opportunities to collaborate with other research and education institutions in the area (such as the Marine Biological Laboratory and the Woods Hole Research Center) and with local branches of the National Marine Fisheries Service, the US Geological Survey, and the US Coast Guard.

The Institution's ship and technology capabilities have been at the vanguard of ocean science for more than 70 years. Today, WHOI operates four research vessels, the US Navy-owned Deep Submergence Vehicle (DSV) *Alvin*, a group of remotely-operated and autonomous vehicles, several small surface craft, and a suite of oceanographic instruments. Scientists from WHOI and many other research laboratories use these vessels, vehicles, and instruments for exploration and research in all the basic marine disciplines.

WHOI's shore-based laboratories, instrumentation, and facilities include the National Ocean Sciences Accelerator Mass Spectrometry Facility, the Northeast National Ion Microprobe Facility, a dedicated computed tomography (CT) scanning facility for marine mammal research, and an extensive deep-sea core repository, to name a few. WHOI also has extensive on-site capability for the design, fabrication, and testing of oceanographic instrumentation.

WHOI's education programs train and prepare future leaders in oceanography. Students from virtually all U.S. and foreign universities that have marine interests have participated in the research at WHOI since it was founded in 1930. In 1968, the Institution's education role at the graduate level was formalized in an agreement with the Massachusetts Institute of Technology (MIT) for a Joint Program leading to doctoral (PhD or ScD) or engineer degrees and to joint Master's degrees in selected areas. Today the Program's graduates account for approximately 20% of the active faculties and staff of leading oceanographic institutions around the world. WHOI is also authorized to grant doctoral degrees independently.

Paid staff members at WHOI number nearly 900, including more than 500 scientists and technical staff and supported by more than 100 marine personnel and nearly 300 other support staff. In addition, more than 100 graduate students enrolled in the MIT/WHOI Joint Program learn from and contribute to WHOI research and benefit from its extraordinary seagoing capabilities and shore-based facilities. Nearly 300 additional graduate and undergraduate students, post-doctoral scholars and fellows, visiting scholars, and guest investigators also enhance WHOI's scientific and educational work.

In 2006, WHOI had total operating revenues of \$140 million of which \$114 million (81%) was sponsored research grants and contracts. Nearly 90% of the research funding, or \$102 million, came from the federal government. Non-government funding from private and philanthropic sources accounted for \$12 million in 2006, with endowment funds contributing the remaining \$14 million.

WHOI's endowment generates critical income for staff salaries, graduate student aid and post-doctoral fellows, seed money, or matching funds for new research initiatives, and support for the Institution's development and communications efforts. As of December 31, 2006, the endowment totaled \$350 million.

In 2007, operating revenues are budgeted at approximately \$136 million, with \$109 million expected to come from sponsored research.

CONTEXT FOR THE SEARCH

In July 2006, Robert B. Gagosian stepped down as WHOI's seventh Director after 12 years in the leadership role and 34 years with the Institution. Highlights of Dr. Gagosian's tenure include the creation of four interdisciplinary institutes, redevelopment of the campus and construction of new laboratory space, launching the new coastal research vessel, *Tioga*, securing funding to replace the 42-year-old research submarine, *Alvin*, and raising \$150 million, or 75 percent of WHOI's current \$200 million capital campaign goal.

James R. Luyten, who joined the WHOI scientific staff in 1971 and most recently served as Director of Research and Executive Vice President, was named Acting President and Director for the duration of the search to find Dr. Gagosian's successor.

In the summer of 2006, Dr. Luyten established a committee to prepare a strategic plan for WHOI. The goal of the plan, which was presented and adopted at the January 2007 Trustee meeting, is "to identify ways in which the Institution can strengthen its ability to pursue its mission, increase the competitiveness of its research staff, and adapt to on-going changes in ocean research, education, and funding."

As the strategic plan makes clear, as with all research enterprises that rely on government support, WHOI today faces a challenging funding environment. It is overwhelmingly a "soft money" institution. For decades, it has achieved a position of leadership in ocean science through the success of its scientists and engineers in competing for funding from federal agencies – most notably the National Science Foundation (NSF) and the Office of Naval Research (ONR) – and through the flexibility afforded by the Institution's endowment and other internal funds. However, trends in federal funding for science research, including ocean science research, have become less favorable. One significant change has been a substantial decline in ONR funding for basic research overall, and a reorientation away from "blue water" oceanography that supports a high-seas Navy to coastal oceanography. This change has been offset only partially by growth at NSF and the National Oceanic and Atmospheric Administration (NOAA), particularly in climate science. Another change has been the emergence of large, interdisciplinary, multi-institutional research programs at the expense of smaller individual projects. Finally, rapid developments in autonomous vehicles, *in situ* sensors, genomics, and observing systems have transformed the way ocean science is conducted.

In the midst of these changes, WHOI must address the challenges and seize the opportunities that a rapidly changing environment presents. As it competes with others for funding and human resources, the Institution's constraints include:

- Lack of diversity in funding sources; more than 60 percent of the Institution's research income comes from the National Science Foundation;
- A culture focused on individual effort that sometimes hinders strategic collaboration across the Institution;
- The absence of "hard money" resources to sustain significant increases in "bridge support" for scientists and technical staff who experience gaps in their funding; annual bridge support costs have risen from \$1 million in 2000 to \$5.6 million in 2006;
- Operating costs rising more rapidly than income;

- The high cost of living and limited opportunities for spousal employment on Cape Cod.

On the other hand, as a relatively small, private institution WHOI also has the agility and independence to respond to change and minimize the impact of limitations. Institutional assets and strengths include:

- Outstanding staff resources across functions and disciplines; gifted and dedicated researchers, teachers, engineers, technicians, administrators and support staff;
- State-of-the-art facilities for access to the sea; outstanding shore-based laboratories, and a world-class library;
- Preeminent graduate education and post-doctoral programs in ocean science;
- An endowment that has nearly doubled since 1995, and stood at \$350 million on December 31, 2006;
- Engaged, influential, and generous Trustees and Corporation members;
- A global reputation for leadership in ocean science research, providing a platform from which to influence the field and enhance public understanding and support.

In this context, WHOI looks to a new leader to provide the vision and inspiration to ensure WHOI flourishes under changing conditions and continues to lead the world in understanding the oceans.

PRESIDENT AND DIRECTOR

The President and Director is the chief executive officer of WHOI, reporting to its Board of Trustees and serving as an *ex officio* member of that Board and of the Executive Committee. The President is also an *ex officio* member of the WHOI Corporation.

As a soft money institution, highly reliant on the competitive federal grants raised by its scientists and engineers, WHOI looks to its President and Director to see that the climate, infrastructure, and incentives are in place for these staff to succeed. The President and Director must continue to nurture an intellectual atmosphere that will attract and support world-class scientists and students, reinforce the excellence of WHOI's disciplinary and interdisciplinary work, and allow the Institution to adapt well to changes in ocean research, education, and funding.

Building upon the groundwork of the new strategic plan, the President and Director will be expected to develop and articulate a long-term vision for WHOI's singular role in ocean science research and education, and then mobilize its internal and external stakeholders around that vision. She or he will have to represent WHOI's purposes externally through strong, positive relations with the

policy community, through partnerships with other institutions nationally and internationally, through the media, and through positive, productive relationships with WHOI Trustees, Corporation members, and funders.

In close partnership with WHOI colleagues, the next President and Director will be expected to:

- Advance WHOI's position as a world leader in exploring the oceans, in understanding ocean processes and their interaction with other parts of the global Earth system, in applying this understanding for the benefit of human society, and in educating the next generation of oceanographers.
- Diversify and expand WHOI's funding base by 1) developing an appropriate mix of basic and applied research supported by federal, state, industry, and private sources and 2) continuing to grow WHOI's endowment and fundraising.
- Build a cohesive, effective senior leadership team, including both scientific and administrative staff. With and through this team, promote a supportive, collegial, diverse, and equitable working environment that nurtures and encourages creativity and innovation at all levels. Strengthen channels of communication and promote transparency of decision-making.
- Provide strong leadership at the national and international level in helping to shape the agenda for ocean science research and engineering for the next 10 to 20 years.
- Ensure that WHOI is positioned to take best advantage of collaborative opportunities and to participate in multi-institutional research programs.
- Ensure that WHOI is well managed, fiscally and administratively.
- Involve Trustees and Corporation Members appropriately, and build on their knowledge and talents to help to accomplish these objectives.

THE SUCCESSFUL CANDIDATE

For this important role, WHOI seeks an exceptional leader who is passionate about the Institution's scientific and educational mission, committed to its longstanding standards of excellence, supportive of its entrepreneurial culture, and farsighted about its future potential.

The greater a candidate's stature in the ocean and earth science community the better, but overall scientific leadership and communication skills are most important. The President must be fluent enough with issues of oceanography to

be a highly credible representative of WHOI among diverse audiences. The position calls for scientific vision, breadth, and judgment; proven intellectual leadership skills; demonstrated management experience; and the collegial bent and deft interpersonal ability to lead and motivate within a decentralized, independent research environment.

While no one candidate will embody every quality, the successful candidate will bring many of the following professional qualifications and personal qualities:

- Scientific credibility (PhD and distinguished record of scientific accomplishment). Experience in ocean science and/or engineering would be an advantage. The intellectual vision and disposition of a gifted science generalist; exceptional scientific taste and an appreciation for both disciplinary and interdisciplinary science. The ability to recognize scientific promise in others.
- Leadership experience in a research or academic institution, ideally leading an organization through institutional change. Experience working with or reporting to a volunteer board would be an advantage.
- Exceptional communication skills. The ability to relate well to both scientists and non-scientists alike. Public presence.
- Strengths in team building, delegation, and consultative management. Willingness to circulate widely, communicate openly, listen well, learn from others, and lead through persuasion. Excellent judgment.
- Potential to be an effective leader of the national ocean community and to understand and clearly explain oceanography on a global level. Washington, DC, experience and relationships, preferably at high levels in the science policy community, would be an advantage.
- Fundraising versatility to help attract resources to WHOI itself and to ocean sciences in general. Ability to set strategy for and initiate applied science and intellectual property efforts. Significant experience raising government and private funds would be helpful and willingness to be actively engaged in resource development is required.
- Demonstrated management and financial experience sufficient to oversee a complex research and education enterprise in a changing environment.
- The highest level of integrity. Creativity, resilience, flexibility, tenacity, and very high energy.
- Eight to ten-year time horizon.

FOR MORE INFORMATION

Inquiries, applications, and nominations should be directed in confidence to:

Karen Wilcox, Vice President
Lisa Savereid, Vice President
or
John Muckle, Senior Associate
Isaacson, Miller
334 Boylston Street, Suite 500
Boston, Massachusetts 02116
617.262.6500
3350@imsearch.com

WHOI is an equal opportunity employer and actively
seeks a diverse pool of candidates in this search.

***More information on WHOI can be found in the addendum to this document
and at <http://www.who.edu>***

ADDENDUM

History

WHOI emerged out of growing national interest in ocean exploration and its political, economic, and scientific benefits that took root in the early 20th century. In 1927, a National Academy of Sciences committee advocated for the U.S. to become a leader in oceanographic research. The committee recommended the establishment of a permanent independent research laboratory on the East Coast committed to comprehensive oceanographic investigation. The institution would be characterized by “entire freedom from any government control” or dominance by any university, and would be designed to “encourage the closest collaboration with other agencies” involved in ocean research throughout the world. It was recommended that the laboratory “contribute to the advancement of oceanographic research not only by the productivity of its staff, but also by the impetus it would give to studies in this field in various universities...providing facilities for visiting investigators, and coordinating the scattered interests of numerous governmental and private organizations already active in parts of the field.” The laboratory would also “devote its energies to supporting education, by planning its first-hand investigations to serve as examples...and continuously make it a primary object to encourage the communication of effort.”

This charge led to the founding in 1930 of the Woods Hole Oceanographic Institution, characterized from its inception by its independence, a comprehensive multi-disciplinary staff, and a commitment not only to its own research, but also to the field as a whole and to the social and economic implications of oceanographic science.

With the natural advantages of its harbor and access to the ocean as well as the scientific community already gathering there, Woods Hole was an ideal location for such an establishment. It was launched with a \$3 million grant from the Rockefeller Foundation, which supported the summer work of a dozen scientists, the construction of a laboratory building, and the commissioning of the first research vessel, *Atlantis*.

WHOI grew substantially to support significant defense-related research during World War II, and later began a steady growth in staff, research fleet, and scientific stature. Over the years, WHOI scientists have made seminal discoveries about the ocean that have contributed to improving commerce, health, national security, and quality of life. These include such accomplishments as:

- Pioneering the conceptual understanding of global ocean circulation and the interconnection between basins and water masses.

- Pioneering work in long-range acoustic propagation, the SOFAR channel, and in the development of acoustic communication systems in the ocean.
- Leading major discoveries of hydrothermal vents on mid-ocean ridges and their processes and impact on ocean biology, chemistry, and geology.
- Developing exceptional modern instrumentation, both shipboard and ocean-based, including the CTD, current meters, ocean-bottom seismometers, gliders, remotely operated and autonomous ocean vehicles as well as the human occupied deep ocean submersible, *Alvin*, which has made more than 4,300 dives for a wide variety of scientific endeavors.
- Playing a major role in understanding ocean chemistry, using naturally occurring and anthropogenic tracers to reveal mixing processes, circulation, and pathways.
- Contributing to fundamental understanding of major ocean ecosystems including hydrothermal vents, microbial communities, deep-sea benthos, oceanic and midwater plankton, coastal phytoplankton populations, and fishery ecosystems.
- Demonstrating a long history and world-renowned expertise in developing and deploying moorings and observatories, and associated specialized sensors, throughout the world's oceans.
- Contributing significant findings on the biogeochemistry of organic chemicals of environmental concern and the effects of chemical contamination on the marine environment.
- Seminal studies on marine mammal vocalization, physiology, hearing, and behavior.

Location

Located in Southeastern Massachusetts, 1.5 hours south of Boston, Woods Hole village owes its unique character to the actual Woods Hole, a natural deep-water passage just off the peninsula, and to the harbor, generally ice-free in winter, sheltered in summer, and deep. Its history began as a fishing village, beginning with the Native Americans who were fishing from its shores when the Europeans arrived in the early 1600s. In the early 1800s, whaling ships were constructed in Woods Hole village, and whalers left the port for the far Pacific. Shortly thereafter, Woods Hole began developing into the scientific center it is today. In the mid-1800s, amateur and professional naturalists began spending their

summers in the Woods Hole area, studying the many fish species in local waters. Over the next 80 years, two government agencies would establish branches in Woods Hole to conduct research and two prominent research institutions -- the Marine Biological Laboratory (MBL) and WHOI -- would be founded with private funds.

Today, three government organizations have branches in Woods Hole village: the US Coast Guard, the US Geological Survey, and the National Marine Fisheries Service. The village is home to WHOI and the MBL as well as the nationally recognized Woods Hole Research Center, the ocean-education organization Sea Education Association, and a collection of other private organizations concerned with education and the environment. Much of the research is collaborative among the scientists at the public and private organizations. Some of the facilities are shared, such as the joint MBL/WHOI science library.

Research

More than 800 research projects are underway at WHOI at any given time. The broad range of questions considered includes such diverse topics as geological activity deep within the earth, plant and animal populations and their interactions in the oceans, coastal erosion, ocean circulation, and global climate change.

WHOI's research emphasizes seagoing, but not exclusively, and demands world-class expertise both intellectually and operationally. The key to WHOI's excellence is the quality of its science and engineering, and the principal factor influencing that quality is the caliber of the Resident Scientific Staff. Members of this staff are responsible for conceiving, prosecuting, interpreting, and funding the research programs. Because successful oceanographic research requires not only the formulation of questions about nature but also the testing of these hypotheses, Technical Staff members and Departmental Assistants play a critical role both in the laboratory and at sea. Members of these staffs are primarily involved in developing and employing the means or techniques by which successful research is accomplished.

Research at WHOI is carried out through five departments:

Applied Ocean Physics and Engineering Department

The Department is a major center for research in fluid mechanics, coastal processes, ocean mixing, acoustics, air-sea interaction, deep submergence, ocean systems and moorings, remote sensing, robotics, certain biological processes, image processing, signal processing and estimation, control theory, and the dynamics of ocean cables.

Biology

WHOI biological oceanographers study the biology of individual marine

organisms, their spatial and temporal distributions, and how they interact both with their surrounding environment and with each other.

Geology & Geophysics

Scientists in the G&G Department seek knowledge of the structure, composition, and dynamics of the earth's interior, the origin and evolution of the earth's crust, controls on ocean and climate change on time scales of decades to 100 million years, and processes of mass and energy transfer at the land-sea interface.

Marine Chemistry & Geochemistry

The research ranges from the glacial history of the Antarctic ice sheet and the formation of surface films in the upper micron of the ocean to the cycling of carbon through various ocean reservoirs, the history of ocean circulation recorded in the growth bands of coral, and the role of hydrothermal vents and seawater-rock interactions on the composition of the oceans.

Physical Oceanography

Department members investigate the dynamics and thermodynamics of ocean circulation. They work globally from the Arctic to the Antarctic and from the Strait of Gibraltar to the Philippine shelf on the full range of oceanic processes, from mixing on centimeter scales to heat balance on the global scale.

Ocean Institutes

In 2000, WHOI established four multidisciplinary Ocean Institutes: the Ocean and Climate Change Institute, the Coastal Ocean Institute, the Ocean Life Institute, and the Deep Ocean Exploration Institute. Each Institute is led by a member of WHOI's tenured scientific staff and is designed to encourage interdisciplinary research and technology development among scientists, engineers, postdoctoral fellows, graduate students, marine policy experts, and visiting investigators.

The Ocean Institutes seek to shorten the lag time between acquiring knowledge and making it accessible to decision-makers. They are also designed to attract additional private resources to WHOI over and above its traditional governmental support so it can launch and support high-risk, high-reward research.

Centers

The Marine Policy Center (MPC) conducts social scientific research that integrates economics, policy analysis, and law with the Institution's basic research in ocean sciences. Recent research has included projects that focus on the socio-economic aspects of large marine ecosystems and the economic consequences of shoreline change.

In its second year of operation, the Woods Hole Center for Oceans and Human Health continued studies to improve public health through enhanced understanding of how oceanic processes affect the distribution and persistence of human pathogens and toxin producing organisms. The Center is jointly funded by NSF and the National Institute for Environmental Health Sciences.

The Woods Hole Sea Grant Program is part of the National Oceanic and Atmospheric Administration's national Sea Grant network of 32 programs. Collectively, Sea Grant promotes cooperation between government, academia, industry, scientists, and the private sector to foster science-based decisions leading to better understanding, conservation, and use of coastal resources.

The Cooperative Institute for Climate and Ocean Research (CICOR) coordinates and fosters interaction between WHOI and NOAA.

Education Programs

WHOI offers graduate and post-graduate studies in virtually all areas of marine science. The Institution's education role was formalized in 1968 with a change in its charter and the signing of an agreement with the Massachusetts Institute of Technology (MIT) for a Joint Program leading to doctoral (Ph.D. or Sc.D.) or engineer's degrees and to joint master's degrees in selected areas. Today that program, with more than 100 students enrolled, is widely recognized as one of the world's premier graduate education programs in marine sciences and engineering. WHOI is authorized to grant doctoral degrees independently as well.

WHOI also offers several fellowship and traineeship programs as well as opportunities for undergraduates to participate in oceanographic and ocean engineering research. It has a range of outreach programs and volunteer opportunities and offers informal public education through its Exhibit Center and summer tours.

Resources and facilities

Between its two locations in the village of Woods Hole and on the nearby Quissett campus, WHOI's shore-based facilities today encompass 219 acres of land and waterfront and 58 buildings and laboratories. The land-based facilities present only part of the picture. The premier feature of the Institution is its research vessels -- truly, floating laboratories -- which define the oceanographic endeavor, allowing scientists access to the seas. WHOI's ships carry investigators across the globe for diverse studies that range from tracking large and small currents and investigating coastal pollution to studying Earth's crust beneath the seafloor and examining marine animals from whales to microbes. At present, the fleet operated by WHOI carries research scientists throughout the world's oceans. In 2005, the research vessels combined to spend more than 800

days at sea. The WHOI fleet includes three large research vessels (R/V *Atlantis*, R/V *Knorr*, and R/V *Oceanus*), coastal craft including R/V *Tioga*, the deep-diving human-occupied submersible *Alvin*, the tethered, remotely-operated vehicle *Jason*, and autonomous underwater vehicles such as the Autonomous Benthic Explorer (ABE) and SeaBED.

Governance

WHOI is chartered as a not-for-profit corporation in the Commonwealth of Massachusetts. Its 120 Corporation Members, who meet semi-annually, are expected to “assure that the Corporation accomplishes its mission in the public interest.” Corporation members elect the Board of Trustees (currently 36 members) which in turn has ultimate responsibility for the governance and stewardship of WHOI. Trustees meet three times a year and are elected for four-year terms. A 14-member Executive Committee, consisting of both Trustees and Honorary Trustees, meets six times a year and acts as the governing body between meetings of the Board. Other standing committees include Audit, Compensation, Finance & Budget, Investment, Nominating, and Employee Retirement Trust. There are also several Advisory and Special Committees comprising both Trustees and Members.