

P R E S S I N F O R M A T I O N

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Editor's Note: Illustration of *Xenopus* frog attached.

Caption: The South African clawed frog (*Xenopus laevis*) can regenerate the lens of its eye, a process that could one day be replicated in humans. Credit: Barbara Harmon.

Marine Biological Laboratory Receives \$3.4 Million to Establish National Resource for Study of Regeneration

New Xenopus frog facility will support research that aims to understand the potential for the regeneration of human tissues and organs

MBL, WOODS HOLE, MA—The Marine Biological Laboratory (MBL) today announced that it has received a 5-year, \$3.4 million grant to establish a national resource for the aquatic frog known as *Xenopus*, a major model organism used in regenerative biology research.

The grant, provided by The Eunice Kennedy Shriver National Institute of Child Health and Human Development and the National Center for Research Resources, will be a cornerstone of the MBL's new Eugene Bell Center for Regenerative Biology and Tissue Engineering. The new center, recently established through gifts from Millicent Bell (\$8 million) and MBL board chair John W. Rowe and his wife Valerie Rowe (\$5 million) will be a high-impact, multidisciplinary, and unique research initiative that draws upon the special advantages of marine invertebrates and other cornerstone organisms to define and understand the natural processes by which damaged or aging tissues and organs can regenerate or be repaired, and to apply that knowledge to the development of medical therapies.

Xenopus is a major model used in U.S. biomedical research. The frog is especially important in regenerative biology studies because it has the ability to regenerate some of its tissues and organs, including the lens of its eye, and is an important model for understanding how regeneration might be made possible in humans.

Until now, there has been no national resource for breeding these animals, maintaining genetic stocks, providing stocks to researchers, developing new experimental tools and husbandry techniques, or meeting other needs of the *Xenopus* research community.

The MBL is uniquely qualified to serve as host to the national resource. Widely considered a leader in the life sciences research, the MBL has the ability to both house the resource and support basic and translational research; as well as the capacity to host courses, workshops, conferences, visiting researchers, and other activities that promote collaboration.

The new *Xenopus* resource will be housed in the MBL's recently renovated Loeb Laboratory. It was specifically designed to support two different species of the frog, and provides space for the supporting laboratory and personnel needs.

Dr. Robert Grainger of the University of Virginia, a world expert on *Xenopus* as a model for basic and translational research, is the Principal Investigator on the grant. His collaborators are experts in the field, including Jonathan Henry, University of Illinois in Champaign-Urbana, Sherrill Green, Stanford University, Richard Harland, University of California at Berkeley, Mustafa Khokha, Yale University, and Kristen Kroll, Washington University in St. Louis. The scientists will also serve as advisors to the MBL for the facility.

"The MBL is honored to be the new home of the national *Xenopus* resource," said Gary Borisy, MBL Director and CEO. "This facility will play a key role in our new Eugene Bell Center for Regenerative Biology and Tissue Engineering and will serve as the premier national stock facility for *Xenopus* research. By studying this important research model, scientists will learn a great deal about the mechanisms of regeneration, knowledge that may one day lead to developing replacement tissues and organs for individuals suffering from medical conditions including diabetes, heart, liver and renal failure, emphysema, retinal disease, and spinal cord injuries."

"The MBL's valuable research could make a real difference in the lives of disabled Americans across the country," said Senator John Kerry. "I toured the MBL just a few weeks ago, and I saw their remarkable research firsthand. This new investment could revolutionize the way we study if—and how—regeneration may be possible in human beings. In fact, the possibilities are endless. I'm very proud that the MBL continues to ensure that Massachusetts remains the country's leader in life sciences research."

"This is truly an exciting announcement not only for MBL but the medical science community as a whole," said Congressman Bill Delahunt. "The regenerative research conducted here offers hope for game changing advances in medical treatment on a global scale. We are honored to have such important work being conducted here on Cape Cod."

"This grant funding will continue both MBL's and Massachusetts' growing leadership in regenerative medicine, an expanding area of scientific inquiry with enormous promise for improving human health," said Dr. Susan Windham-Bannister, President and CEO of the Massachusetts Life Sciences Center. The Center contributed \$10 million toward the cost of renovating the Loeb Laboratory building, where the *Xenopus* research will be conducted. "The Life Sciences Center's partnership with MBL continues to generate private and federal investment that is cultivating and expanding our state's life sciences Supercluster."

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