

The Medical Research Foundation
Investing in the Future of Biomedical Research in Oregon



2011 Awards
Discovery, Mentor and
Richard T. Jones New Investigator

November 9, 2011
The Governor Hotel
Portland, Oregon



Oregon Health & Science
University Foundation

Medical Research Foundation History

The MRF was founded in 1942 by a group of businessmen and physicians for the purpose of stimulating medical research achievement in our state. That first year, the program awarded \$200.

When the MRF became an affiliate committee of the OHSU Foundation in 1994, it retained its own unique purpose in recognizing excellence in both scientific achievement and mentorship throughout Oregon. Today, through philanthropic support, the program awards more than \$1 million per year to support exceptional research projects throughout Oregon and to acknowledge the work of outstanding investigators and mentors. Past award winners include some of Oregon's most illustrious scientists and educators.

The MRF is seeking to raise \$2 million in endowed funds to support the programs that identify and invest in new scientific talent. A gift designated to the MRF endowment is an investment in the future of world-class biomedical research in Oregon. Such gifts provide the MRF with financial resources in perpetuity to keep the quest for new treatments and new knowledge moving ever forward.

The **Richard T. Jones New Investigator Award** is intended to honor a new investigator who shows exceptional promise early in a career in biomedical research. Nominees are judged on the basis of independence, quality of science, national funding, and first or senior authored publications in peer-reviewed biomedical research journals. The culmination of the research must have been performed in Oregon.

The **Mentor Award** is given to an Oregonian who has provided outstanding leadership in support or development of health research, education or the advancement of health care.

The **Discovery Award** is given to an Oregon scientist who has made significant, original discoveries to health-related research while working in Oregon.

Nominations for all awards are sought from Oregon research, educational and health care institutions, individual researchers, educators and practitioners.

Program

5:00 p.m. **Gathering**

5:30 p.m. **Welcome**

Introduction

Award Presentations

Richard T. Jones New Investigator Award
Hui Zong, Ph.D.

Institute of Molecular Biology, University of Oregon
Award Presented by Kimberly Andrews-Espy, PhD

Mentor Award

J. Gary Tallman, Ph.D.

Department of Biology, Willamette University
Award Presented by Marlene Moore, PhD

Discovery Award

Chris Q. Doe, Ph.D.

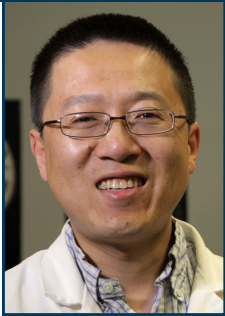
Institute of Molecular Biology, University of Oregon
Award Presented by Kimberly Andrews-Espy, PhD

Gail Mandel, Ph.D.

Vollum Institute, Oregon Health & Science University
Award Presented by Richard Goodman, MD, PhD

6:30 p.m. **Reception**

2011 Richard T. Jones New Investigator Award



Hui Zong, Ph.D.

*Assistant Professor of Biology
Member, Institute of Molecular Biology
University of Oregon*

The Richard T. Jones New Investigator Award recognizes Hui Zong, Ph.D., a leader in mouse genetic modeling whose work has already made an impact on neuroscience and cancer research.

As a postdoctoral fellow with no prior training in mouse genetics, Zong developed a novel method called "Mosaic Analysis with Double Markers" (MADM) for making sparse green fluorescent protein (GFP)-labeled mutant clones in mice. MADM allowed Zong to investigate tumor-initiating stages that were inaccessible to researchers using conventional tools. His MADM method was published in *Cell* in 2005. Next, he used the MADM system to study the origin of glioblastoma in the brain, and overturned existing theories about tumor development. Zong's glioma discovery was published in *Cell* in 2011. His model may lead to the first effective treatments and preventive intervention of this deadly form of cancer. Zong is now using the MADM system to investigate medulloblastoma, one of the most common brain tumors in children.

Zong is a favorite among undergraduate and graduate students as a teacher, and is known as an outstanding mentor.

Zong earned his Ph.D. from the Department of Biochemistry and Molecular Biology at the Indiana University School of Medicine, and worked as a postdoctoral fellow at the Department of Biological Science at Stanford University. He was the first professor at the University of Oregon to be named a Pew Scholar in the Biomedical Sciences, and he recently obtained funding to study the evolution process of cancer from the W. M. Keck Foundation for a collaborative effort with Bill Cresko at the Institute of Ecology and Evolution at the University of Oregon. His research program is also supported by funding from National Cancer Institute, National Institute of Neurological Disorders and Strokes, and Congressional Directed Medical Research Program at Department of Defense.

2011 Mentor Award



J. Gary Tallman, Ph.D.

*Professor of Biology
Taul Watanabe Endowed Chair of Science
Department of Biology
Director, Office for Faculty Research and Resources
Willamette University*

The MRF Mentor Award recognizes J. Gary Tallman, Ph.D., whose work as a researcher and educator has inspired countless students to pursue careers in science. Dr. Tallman has earned a reputation for engaging students with respect, giving them latitude in pursuing their interests, giving them a sense of ownership of their work, being accessible to them when they have questions, and challenging them to achieve more. He serves as a role model to new faculty and is a champion of faculty mentoring at Willamette University as the director of the Office for Faculty Research and Resources.

Tallman displays an enthusiasm for his work and a love of learning that is catching. Many of his students have gone on to be accepted at elite institutions and have won numerous awards. In his career at Pepperdine and Willamette Universities, he has mentored 78 undergraduates, and 48 are co-authors on his 35 peer-reviewed research articles.

Tallman's research skills and ability to attract research funding in the competitive field of cell biology have helped sustain a high-caliber, internationally respected research programs, bringing great opportunities to his students. As a tenured faculty member at Pepperdine and Willamette Universities, he has been the principal investigator on four National Science Foundation research grants and a co-PI on six other NSF grants. His research on thermal effects of hormonal signaling in cultured plant cells was funded by a two-year grant from the College Life Science Research Program of the M.J. Murdock Charitable Trust, and his most recent three-year request to the NSF was recently recommended for funding.

Tallman earned his Ph.D. in Biochemical Genetics in the Genetics and Developmental Biology Program at West Virginia University. Prior to joining Willamette University, he was a professor of biology and grants specialist at Pepperdine University.

2011 Discovery Award



Chris Q. Doe, Ph.D.

*Professor of Biology
Institute of Molecular Biology
Institute of Neuroscience
University of Oregon*

The MRF Discovery Award recognizes Chris Q. Doe, Ph.D., a Howard Hughes Medical Institute Investigator and a world-leading developmental neurobiologist who has made landmark contributions to the study of stem cell biology and cell fate patterning within the nervous system.

Using a *Drosophila* model, Doe studies central nervous system development in five primary areas: asymmetric cell division of neuroblasts; neuroblasts as a model for stem cell self-renewal; the specification of temporal identity within neuroblast lineages; the genetic programs that generate motor neuron and inter-neuron subtypes; and the neural circuits driving larval locomotion.

Early in his career, Doe identified a mutant fruit fly gene he dubbed Prospero, which features a defect that regulates other genes and, as a result, triggers nervous system cells to change their identities. This discovery has been the basis for a wealth of subsequent research on the regulation of asymmetric cell division and has shed light on such questions as how mutants like Prospero influence brain size or give rise to brain tumors.

Doe's 2001 paper in *Cell* explaining how neuronal diversity can be generated from a single neuroblast in the *Drosophila* ventral nerve cord is considered one of the most conceptually significant discoveries in the field. His consistently outstanding research productivity has earned numerous scientific honors and widespread admiration among colleagues around the world who laud his exceptional commitment to collaboration, teaching, mentorship, and creative inquiry.

Doe earned a Ph.D. in developmental neurobiology in 1987 at Stanford University, working with Corey S. Goodman. Following a postdoctoral fellowship with Matthew P. Scott at the University of Colorado, he spent nine years on the faculty of the Department of Cell and Structural biology at the University of Illinois at Urbana-Champaign before joining the University of Oregon in 1998.

2011 Discovery Award



Gail Mandel, Ph.D.

*Vollum Institute
Oregon Health & Science University*

The MRF Discovery Award recognizes Gail Mandel, Ph.D., a Howard Hughes Medical Institute Principal Investigator and member of the National Academy of Sciences, for distinguished achievements in neuroscience.

Early in her career, Mandel isolated and sequenced the cDNA from the mammalian sodium channel gene, helping to form the first molecular understanding of the sodium channel. Her subsequent work in the study of how neuronal cell identity is established and maintained took an unexpected turn when she and her colleagues identified a repressor known as REST, which shuts off the sodium channel gene expression in non-neuronal cells. This seminal discovery revealed REST to be a regulator of gene expression, repressing hundreds of neuronal genes in non-neuronal cells. This work provided a molecular explanation for how neurons in the developing brain acquire their specific characteristics, including excitability.

Her more recent work has focused on the mechanism of action of the repressor MeCP2, which has a central role in causing the autism spectrum disorder Rett syndrome. Affecting 1 in every 10,000 to 20,000 girls, Rett syndrome causes retardation, small brain size and early mortality. Mandel's visionary studies with MeCP2 proved that its functions in glia have a role in inducing the disease, countering the conventional approaches focusing on MeCP2 in neuronal cells. This discovery fundamentally changed the understanding of Rett syndrome and creating exciting therapeutic opportunities.

Mandel's innovative and rigorous research has earned her a position as a Howard Hughes Medical Institute Principal Investigator and election to the National Academy of Sciences. She is the first Oregon woman – and one of only two – to receive that honor.

Before joining the Vollum Institute, she was a Distinguished Professor in the Department of Neurobiology & Behavior at the State University of New York at Stony Brook. She received a Ph.D. in immunology at the University of California Los Angeles and completed postdoctoral research fellowships at UCLA's Molecular Biology Institute and the University of California, San Diego, Department of Biology.

Former Mentor Award Recipients

2010

Richard H. Goodman, M.D., Ph.D.
Oregon Health & Science University
Christine A. Tanner, Ph.D., R.N., F.A.A.N.
Oregon Health & Science University

2009

David and Lynn Frohnmayer
Fanconi Anemia Research Fund

2008

Stephen W. Arch, Ph.D.
Reed College

2007

Kevin G. Ahern, Ph.D.
Oregon State University

2006

Thomas M. Becker, M.D., Ph.D.
Oregon Health & Science University
M. Susan Smith, Ph.D.
Oregon Health & Science University

2005

Lesley M. Hallick, Ph.D.
Oregon Health & Science University

2004

Cynthia Morris, Ph.D., M.P.H.
Oregon Health & Science University

2003

Christopher L. Cunningham, Ph.D.
Oregon Health & Science University

2002

Kathleen Potempa, R.N., D.N.Sc., F.A.A.N.
Oregon Health & Science University
Laurens N. Ruben, Ph.D.
Reed College

2001

Thomas G. Cooney, M.D., F.A.C.P.
Oregon Health & Science University

2000

John A. Benson, Jr., M.D.
Oregon Health & Science University
Kent L. Thornburg, Ph.D.
Oregon Health & Science University

1999

Joseph D. Bloom, M.D.
Oregon Health & Science University

1998

Carol A. Lindeman, Ph.D., R.N., F.A.A.N.
Oregon Health & Science University

1997

J. S. Reinschmidt, M.D.
Oregon Health & Science University

1996

Kenneth Swan, M.D.
Oregon Health & Science University

1995

J. David Bristow, M.D.
Oregon Health & Science University

1994

Peter O. Kohler, M.D.
Oregon Health & Science University

1993

John Raaf, M.D.
Good Samaritan Hospital

1992

John W. Kendall, M.D.
Oregon Health & Science University

1991

Robert D. Koler, M.D.
Oregon Health & Science University

1990

Edward H. Cooley
Medical Research Foundation of Oregon

1988

Leonard Laster, M.D.
Oregon Health & Science University

1987

Edward Herbert, Ph.D.
Oregon Health & Science University

1986

Senator Mark O. Hatfield

2010

Shoukhrat M. Mitalipov, Ph.D.
Oregon Health & Science University

2009

J. Eric Gouaux, Ph.D.
Vollum Institute
Oregon Health & Science University

2008

Lynn Y. Sakai, Ph.D.
Shriners Hospitals for Children and
Oregon Health & Science University

2007

Markus Grompe, M.D.
Oregon Health & Science University
John H. Postlethwait, Ph.D.
University of Oregon

2006

Susan J. Hayflick, M.D.
Oregon Health & Science University

2005

Balz Frei, Ph.D.
Oregon State University
David Kabat, Ph.D.
Oregon Health & Science University

2004

P. Michael Conn, Ph.D.
Oregon Health & Science University
James D. White, Ph.D.
Oregon State University

2003

*James R. Bunzow, M.S.
*David K. Grandy, Ph.D.,
Oregon Health & Science University
John D. Scott, Ph.D.
Oregon Health & Science University
* joint award

2002

Monte Westerfield, Ph.D.
University of Oregon

2001

P. Shing Ho, Ph.D.
Oregon State University
James T. Rosenbaum, M.D.
Oregon Health & Science University

2000

David A. Lieberman, M.D.
Oregon Health & Science University

1999

Brian J. Druker, M.D.
Oregon Health & Science University
Roger D. Cone, Ph.D.
Oregon Health & Science University

1998

Dennis E. Hruby, Ph.D.
Oregon State University
Charles B. Kimmel, Ph.D.
University of Oregon

1997

J. David Bristow, M.D.
Oregon Health & Science University
Tom H. Stevens, Ph.D.
University of Oregon

1996

Scott H. Goodnight, M.D.
Oregon Health & Science University
R. Michael Liskay, Ph.D.
Oregon Health & Science University

1995

John C. Crabbe, Jr., Ph.D.
Oregon Health & Science University
Edward A. Neuwelt, M.D.
Oregon Health & Science University

1994

John M. Barry, M.D.
Oregon Health & Science University
*Alfred J. Lewy, M.D., Ph.D.
*Robert L. Sack, M.D.
Oregon Health & Science University
* joint award

Former Discovery Award Recipients *(continued)*

1993

Richard H. Goodman, M.D., Ph.D.
Oregon Health & Science University
R. Ellen Magenis, M.D.
Oregon Health & Science University

1992

M. René Malinow, M.D.
Oregon Regional Primate Research Center
Josef Rosch, M.D.
Oregon Health & Science University

1991

William M. Bennett, M.D.
Oregon Health & Science University
Frederick W. Dahlquist, Ph.D.
University of Oregon

1990

Grover C. Bagby, Jr., M.D., VAMC
Oregon Health & Science University
Roderick A. Capaldi, D.Phil.
University of Oregon

1989

Richard T. Jones, M.D., Ph.D.
Oregon Health & Science University
Kensal E. van Holde, Ph.D.
Oregon State University

1988

Robert S. Dow, M.D.
Dow Institute, Good Samaritan Hospital
Donald J. Reed, Ph.D.
Oregon State University

1987

William E. Connor, M.D.
Oregon Health & Science University
Brian W. Matthews, Ph.D.
*Institute of Molecular Biology,
University of Oregon*

1986

Christopher K. Mathews, Ph.D.
Oregon State University
Peter H. von Hippel, Ph.D.
*Institute of Molecular Biology,
University of Oregon*

1985

Monte Greer, M.D.
Oregon Health & Science University
Barbara Iglewski, Ph.D.
Oregon Health & Science University

1984

Howard S. Mason, Ph.D.
Oregon Health & Science University
James Metcalfe, M.D.
Oregon Health & Science University

Former Richard T. Jones New Investigator Award Recipients

2010

Kevin L. Winthrop, M.D.
Oregon Health & Science University

2009

Joseph W. Thornton, Ph.D.
*Center for Ecology & Evolutionary Biology,
University of Oregon*

2008

Rosalie C. Sears, Ph.D.
Oregon Health & Science University

About the Grants

For half a century, the Medical Research Foundation of Oregon has enhanced the quality and quantity of life-science research carried out at Oregon's leading research institutions. Through research grants, early clinical investigator awards and other programs, the MRF each year invests more than \$1 million in innovative biomedical research in the state of Oregon.

By encouraging Oregon scientists to pursue their most innovative ideas, and by fostering a statewide culture of mentorship and lifelong learning, the MRF contributes to the idea that Oregon's total value in the biosciences is worth far more than just the sum of its individual parts.

To learn more about how you can support the MRF's mission to promote innovation and discovery in Oregon, please contact the OHSU Foundation at 503 228-1730. To give online, go to www.ohsufoundation.org.

The Medical Research Foundation (MRF) supports promising biomedical exploration and the development of research careers in clinical investigation in Oregon through a program of competitively awarded research grants in excess of \$1 million annually.

New Investigator: Quarterly grants of up to \$40,000 are intended for physicians and scientists who are new to research and are currently without major funding resources.

Emergency Interim Support for Established Investigator: Quarterly grants of up to \$40,000 may be made to support ongoing research when an investigator is between grants and a hiatus would jeopardize the program.

Early Clinical Investigator: Quarterly grants of up to \$20,000 are intended to further the development of young investigators who interact with human subjects and who are interested in a career in clinical research.

The Oregon Scientist Development Award: One annual grant of up to \$75,000 may be made to support exceptional, but not yet fully independent young investigators who are making the transition from an intermediate rank to scientific independence.

For more information about Medical Research Foundation Awards and Grants or to make a gift in support of the MRF, visit www.mrf-oregon.org.

2011

Medical Research Foundation Committee

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Victoria J. DeRose, Ph.D.

David H. Ellison, M.D.

Caroline A. Enns, Ph.D.

Balz Frei, Ph.D.

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Jonathan R. Lindner, M.D.

Cynthia D. Morris, Ph.D., M.P.H.

Nancy A. Press, Ph.D.

Allan Price

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Mary P. Stenzel-Poore, Ph.D.

J. Timothy Stout, M.D., Ph.D., M.B.A.

**Medical Research
Foundation of Oregon**

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