The Jackson Laboratory

*Leading the search for tomorrow's cures*

# FORUM FOR DISCOVERY

July 9, 2025 | Bar Harbor, ME

# THERE ARE NO BREAKTHROUGHS WITHOUT **YOU.**

**FORUM FOR DISCOVERY** is JAX's annual opportunity to convene leading researchers pursuing genomic solutions for some of our most pressing health challenges and to thank those who help make it possible. Thank **you** for joining us.

# EVENT SCHEDULE

1:30 p.m. **WELCOME & INTRODUCTIONS**
MICHAEL McKERNAN
*Director, Government and Community Relations, Maine*

1:35 p.m. **STATE OF THE LABORATORY**
LON CARDON, Ph.D., FMedSci
*President & Chief Executive Officer*

1:55 p.m. **Q&A**

2:05 p.m. SESSION I: **UNVEILING THE SECRETS OF STEM CELL AGING**
JENNIFER TROWBRIDGE, Ph.D.
*Professor, The Dattels Family Chair*

2:35 p.m. **Q&A**

2:50 p.m. **BREAK**

3:00 p.m. **REFLECTIONS ON A SUMMER AT JAX**
MARGARET LEONARD
*2025 Summer Student Program Participant*

3:10 p.m. SESSION II: **MORE THAN MEETS THE EYE: THE RETINA AS A WINDOW TO THE BRAIN**
GARETH HOWELL, Ph.D.
*Professor, Diana Davis Spencer Foundation Chair for Glaucoma Research*

3:40 p.m. **Q&A**

3:55 p.m. **CLOSING REMARKS**
MICHAEL McKERNAN

4:00 p.m. **PROGRAM CONCLUDES: NETWORKING RECEPTION BEGINS**
ROSCOE'S CAFE

5:00 p.m. **RECEPTION CONCLUDES**

# LON CARDON, Ph.D., FMedSci

**PRESIDENT & CHIEF EXECUTIVE OFFICER**

Lon Cardon, a globally renowned human geneticist, became president and CEO of The Jackson Laboratory in November 2021. Since then, he has led a bold strategic vision that builds on JAX's nearly 100-year expertise in mouse models and genetics. Under his leadership, JAX has expanded into cellular modeling and data science to establish a first-of-its-kind discovery platform designed to accelerate cures and transform human health.

Prior to JAX, he served as the chief scientific officer and chief scientific strategy officer at BioMarin Pharmaceutical Inc., a rare disease biotechnology company. Before BioMarin, he served as senior vice president and head of genetics, quantitative sciences and alternative discovery/development at GlaxoSmithKline plc. In addition to division management responsibilities, he was chair of GSK's Discovery Investment Board, overseeing research funding across all therapeutic areas.

Cardon spent the first half of his career as a senior academic. From 1998 to 2006 he was a faculty member at the University of Oxford, initially as head of bioinformatics and statistical genetics at the Wellcome Trust Centre for Human Genetics, and later as a Wellcome Trust principal fellow and professor of bioinformatics. From 2006 to 2008, he was a professor of biostatistics at the University of Washington and co-chair of the Herbold Bioinformatics Program at the Fred Hutchinson Cancer Research Center in Seattle. Cardon's academic groups discovered dozens of genes for common and rare diseases and his industry groups advanced broad portfolios in large pharmaceutical and mid-size biotechnology companies, from exploratory research to phase I-III clinical trials. He has authored more than 225 scientific publications and 15 books and chapters on genetics methodology, applications, and discoveries in rare and common diseases. He is an elected fellow of the United Kingdom's Academy of Medical Sciences and the American Association for the Advancement of Science.

# GARETH HOWELL, Ph.D.

**PROFESSOR, DIANA DAVIS SPENCER FOUNDATION CHAIR FOR GLAUCOMA RESEARCH**

For over two decades, Gareth Howell's research has focused on understanding how immune-like responses and blood vessel deficits contribute to common disease of the eye and brain, including glaucoma, and Alzheimer's disease and related dementias. Howell's training at The Wellcome Trust Sanger Institute (Cambridge, UK) and The Jackson Laboratory grounded his early work in genetics and genomics, revealing that immune and blood vessel dysfunction are early features of glaucoma.

Since founding his lab at JAX in 2012, Howell has expanded these approaches to study aging and Alzheimer's disease. Recognizing the limitations of widely-used mouse models, he now collaborates with leading institutes across the United States through multiple programs, including MODEL-AD, TOX-AD, and MINT-VCID, to improve the translation of preclinical studies to the clinic. As part of this work, the Howell lab has been pioneering the use of genetically diverse mouse strains to better model the complexity of common eye and brain disorders.

More recently, the Howell lab has recognized the need to better diagnose Alzheimer's disease and related dementias as early as possible to maximize the effectiveness of current and future treatments. Their work shows retinal blood vessel deficits mimic similar observations in the brain — supporting the use of the eye as a biomarker for Alzheimer's disease and related dementias. They are now working with other Maine institutes to test the translatability of their findings.

# MICHAEL McKERNAN

**DIRECTOR, GOVERNMENT AND COMMUNITY RELATIONS, MAINE**

Michael McKernan works hand-in-hand with JAX colleagues in research, education and JAX® Mice, Clinical, and Research Services (JMCRS) to advance their goals and objectives through government affairs and public engagement. He helps shape and advance legislative and policy agendas through strategic advocacy and trusted relationships with officials at the local, state and federal level. With E&GA colleagues, he has helped secure critical sources of funding including state R&D bond funds, grants, and federal appropriations. From 2012 to 2021, McKernan served as program director of STEM and undergraduate education in JAX Genomic Education (GE). In this role he helped lead and grow JAX GE initiatives including the Summer Student Program, Maine State Science Fair, and "Teaching the Genome Generation," JAX's signature teacher professional development program. From 1999 to 2012, he was director of education at the MDI Biological Laboratory. Outside of JAX, McKernan serves on the board of directors and executive committee of both the Maine Development Foundation and Jesup Memorial Library in Bar Harbor. He holds a B.S. in English Education from Miami University and resides with his family in Bar Harbor.

## JENNIFER TROWBRIDGE, Ph.D.

**PROFESSOR, THE DATTELS FAMILY ENDOWED CHAIR**

Jennifer Trowbridge has led her independent laboratory since 2012. She received her Ph.D. from the University of Western Ontario and completed postdoctoral training with Stuart Orkin, M.D., at the Dana-Farber Cancer Institute. Trowbridge's research interests span hematopoiesis, stem cell biology, aging and cancer biology. The current focus of her laboratory is on cell-intrinsic and cell-extrinsic processes underlying hematopoietic stem cell dysregulation in age-related clonal hematopoiesis and myeloid malignancies. She is a Scholar of the Leukemia & Lymphoma Society and recipient of the Mark Foundation Emerging Leader Award, and past recipient of the Janet Rowley Award from the International Society for Experimental Hematology, the V Foundation V Scholar Award, American Society of Hematology Scholar Award and the Ellison Medical Foundation New Scholar Award in Aging. Trowbridge's mentoring philosophy is rooted in equity, inclusion and flexibility to provide trainees with what they need to be successful and to define success based on their terms.

# THERE ARE NO BREAKTHROUGHS WITHOUT **YOU.**

## Support cancer research in the Trowbridge lab

Propel groundbreaking research at the intersection of aging and blood cancer, with broader implications for other types of cancer and age-associated conditions including neurodegenerative diseases.

## Support Alzheimer's disease research in the Howell lab

Help JAX uncover the genetic mechanisms driving neurodegenerative diseases of the eye and brain, including exploring the retina as a biomarker for Alzheimer's disease and other forms of dementia to better identify those most at risk.

## The President's Fund — help where it's needed most

The President's Fund empowers JAX leadership to direct philanthropy where it's most urgently needed, advancing our mission of groundbreaking scientific discovery. Your support fuels strategic initiatives that make a healthier world possible — starting today.

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