

## MINUTES OF THE ANNUAL MEETING OF THE MOUNT DESERT ISLAND BIOLOGICAL LABORATORY CORPORATION

The following were in attendance in person at MDI Biological Laboratory and via Zoom video conference at the Annual Meeting of the Corporation of the Mount Desert Island Biological Laboratory on Thursday, July 28, 2022:

Amy Ackerman	Susan K. Fellner, M.D.	Amy Pelletier
Peter J. Allen, M.D.	Gary E. Frashier, Ph.D.	Aiden Pike
Rebecca Anderson	Gert Fricker, Ph.D.	Joyce Preston
Corinne Antignac, M.D., Ph.D.	Jeremy H. Fuqua	Robert L. Preston, Ph.D.
Atalay Ata	James Godwin, Ph.D.	Mary C. Ratner
Aissette Baanannou	Joel Graber, Ph.D.	Dean S. Read
Cait D. Bailey	Vicki Hall	Penny Read
Sarah Baldyga	Hermann Haller, M.D.	Kristine Reaman Gilbert
Samuel Beck, Ph.D.	Ute Haller	Amy Richards
Barbara S. Beltz, Ph.D.	Mark Hanscome	Aric N. Rogers, Ph.D.
Edward J. Benz, Jr., M.D.	Jane R. Harrison	Jarod A. Rollins, Ph.D.
Mordecai P. Blaustein, M.D.	R. Patrick Hassett, Ph.D.	John Denry Sato, Ph.D.
Jacqueline C. Bolt	Matthew Horton	Leizel Schlott
Frederic Bonnet, Ph.D.	Jörg Huwyler	Patricia Schroder
Jerilyn M. Bowers	Margaret O. James, Ph.D.	Dennis L. Shubert, M.D., Ph.D.
Thomas A. Boyd, Ph.D.	Gabriela Johnson	Chris P. Sighinolfi
James L. Boyer, M.D.	Caramai Kamei	Patricio Silva, M.D.
Phoebe B. Boyer	Allan J. Kleinman	Christine Smith
Terence C. Boylan	Anne M. Kozak	Hannah Somers
George M. Bulow	Anne Lehmann	Lynne Staggs
Emily S. Burke	Robert W. Lehmann	Bruce A. Stanton, Ph.D.
Allie Ceurvorst	Noah A. Lind	Clare C. Stone
Cheryl M. Claiborne	Claudine D. Lurvey	James Strickland
James B. Claiborne, Ph.D.	Romain Madelaine, Ph.D.	E. Brad B. Thompson, M.D.
Janis L. Coates, Ph.D.	Michele Marks	Andrea R. Tilden, Ph.D.
James A. Coffman, Ph.D.	Anna U. Maynard	Sergey Tkachuk, Ph.D.
Glenn Colby	Sam McGee	Daphne Trotter, Esq.
Abigail H. Conrad, Ph.D.	Roy McMorran	Neelima Turaga
Elizabeth Crockett, Ph.D.	Janet Meryweather	Dustin L. Updike, Ph.D.
Todd Crow	Alan B. Miller, Esq.	Peter Walter, Ph.D.
David C. Dawson, Ph.D.	Hyemin Min, Ph.D.	Hook Wheeler
Kay Dawson	I. Wistar Morris, III	Robert T. Whitman
Vanessa Diaz-Gaumond	Robert L. Morris, Ph.D.	Wendy S. Wood
Charles Dinsmore, Ph.D.	James Mroch	
Jane E. Disney, Ph.D.	Prayag Murawala, Ph.D.	
Philip W. Eichenholz, M.D.	Elizabeth R. Myers, Ph.D.	
Jonathan A. Epstein, M.D.	Margaret A. Myers, M.D.	
David H. Evans, Ph.D.	Thomas Pannabecker, Ph.D.	
Jean Evans	Sofia Papadopoulos	
Anna E. Farrell	Lisa Parsons	

**Chairman’s Remarks**

Chair, Alan W. Kornberg, called the annual meeting of the Corporation to order at and welcomed all those present.

Chair Kornberg formally called the meeting to order at 10:05am and requested a motion to approve the minutes. The motion was made and seconded, with no questions brought forward, and the motion carried.

**COMMITTEE REPORTS**

**Secretary’s Report**

Secretary, Janis L. Coates, PhD, presented the following report.

There are currently 237 members of the Corporation.

- Full Members .....4
- Associate Members .....5
- Honorary Members .....2
- Life Full Members .....162
- Life Associate Members .....36

Six members of the Corporation passed away in the last year:

**Life Full Member:**

Frank Moya

**Life Associate Members:**

Leslie Brewer  
Robert Cserr

**Full Member and Former Trustees:**

Edward Cloonan  
Richard Crawford

**Full Member:**

Hugo de Jonge

Chair Kornberg recognized members who passed away this year and their contributions to MDIBL. There followed a moment of silence to honor their memories.

**NOMINEES FOR FULL MEMBERSHIP**

Iain Drummond, Ph.D.  
Svjetlana Lovric, M.D.  
Romain Madelaine, Ph.D.

**NOMINEES FOR ASSOCIATE MEMBERSHIP**

Kylie Bragdon, Ed.D.  
Leizel Schlott

**Chair Kornberg asked for a motion to approve the Secretary's report. The motion was made, seconded, and the motion carried.**

**Nominating Committee Report**

Nominating Committee Chair, Ed Benz, put forward the following slate of nominees for election to the Board of Trustees:

**I. Trustees of the Class of 2026 for re-election**

Mr. John Hays  
Hermann Haller, M.D.  
Alan Miller, Esq.

**II. New Member, Class of 2026**

Ms. Anna Maynard

**Dr. Benz asked for a motion to approve the nominees. The motion was made, seconded, and the motion carried.**

The following slate of nominees is respectfully submitted for the 2023 Nominating Committee:

Edward Benz, M.D., Chair  
Barbara Beltz, Ph.D.  
Jerilyn M. Bowers  
Clare Stone  
I. Wistar Morris III  
Patricio Silva, M.D.  
Daphne W. Trotter, Esq.

**Dr. Benz asked for a motion to approve the nominees. The motion was made, seconded, and the motion carried.**

**Treasurer's Report**

Thomas Boyd, PhD, Treasurer, presented the Treasurer's Report to the Corporation.

**Financial Position**

The Financial Position of the laboratory as of the end of 2021 in comparison with the prior year, 2020 shows that the Cash position remained strong. Cash, including Certificates of Deposit, increased at 2021 year-end by over \$2 million compared with the previous year. This increase in total cash was associated with corresponding increases or decreases in the following areas:

- 1) Grants receivable increased by over \$79 thousand from year-end.

- 2) Assets held in investment-type accounts increased by \$2.9 million over year-end 2020.
- 3) The category called “Other Liabilities” decreased by \$318 thousand from year-end 2020.

In the category of “Bonds Payable,” the Institution continues to pay down the \$5 million bond that helped finance the Morris Laboratory Building in 2007. The Lab makes regular principal and interest payments. Three and one-half-million dollars in debt remains to be paid off, and there is a schedule for doing this by the year 2036.

Total Net Assets encompass Assets with Donor Restrictions and Assets without Donor Restrictions. Net Assets amounted to \$29 million at year-end 2021, an increase of over \$4.9 million from the prior year.

#### Net Assets

The \$29 million in Net Assets are distributed among 46 categories or Funds. The largest category is Plant Assets, which is land and buildings. The more liquid General Unrestricted Funds, the Reserve Funds, and the Plant Assets do not have restrictions. Other funds may be restricted by the donor for specific purposes. The Institution may use all or a portion of the investment income that these restricted funds earn. All are tracked and accounted for separately.

Reserve funds increased \$4.2 million from the previous year due to the launch and execution of a capital campaign and receipt of \$4.7 million. Some funds have been spent on strategic plan initiatives.

In addition to the funds listed above, the Maine Community Foundation manages the Salisbury Cove Research Fund, established by Tom Maren and The Maren Foundation. Funds are made available each year, and the Lab thanks them for their ongoing support of the MDI Biological Laboratory.

#### Summary of Activities

The Statement of Activities include Operating Support & Revenues as well as Operating Expenses, and the numbers are broken out by those with or without Donor Restrictions. Total Operating Support & Revenue in 2021 was \$16.8 million. Total Operating Expenses were \$13.7 million, resulting in a positive change in net assets resulting from Operations of \$3.1 million.

The Non-Operating Change in Net Assets was a positive change of \$1.9 million in 2021. This was due mainly due to positive returns in the investment portfolio, government grants for capital purposes, and Contributions and non-government grants for capital purposes.

In summary, in 2021, Total Net Assets from combined Operations and Non-Operating activities increased by \$4.9 million, resulting in a balance of \$29 million at the end of 2021.

#### Operating Expenses

Total Operating Expenses were \$13.7 million in 2021. If the Lab excludes \$1.4 million in non-cash depreciation, Operating Expenses amounted to \$12.3 million for the year.

Of these operating expenses, 73% (or \$9 million) was for Research and Educational Programs at MDIBL and for monetary distributions to other institutions throughout the state of Maine through the INBRE program.

Twenty-two percent of expenses were for Management & General – these are the costs necessary for the operation of the organization and its INBRE program, such as Administration, recordkeeping, accounting, budgeting, legal, insurance, and grant reporting and compliance and 5% was for fundraising activities for the purpose of obtaining contributions to support the institution, its mission, and programs.

#### Funding for Operating Expenses

The institution covered that \$12.3 million in operating expenses for fiscal year 2021 as follows:

- 69% came in the form of Federal Grants, Contracts, and Subawards Breaking that out, 46% of the funding that covered operating expenses went to the MDI Biological Laboratory and 23% (over \$2.7 million) was distributed to colleges and universities within the state through the INBRE program (INBRE is the IDeA Networks of Biomedical Research Excellence)

The laboratory was awarded and forgiven on two loans under the Federal Paycheck Protection Program related to Covid. These loans amounted to 15% of the Operating Expense budget for 2021.

As in previous years, the Lab highlights two federal grants from the National Institutes of Health that continue to provide major support to the institution:

1. The INBRE grant –which brings \$1.5 million to the institution and \$2.3 million to subawards annually. 2021 was the third year of a 5-year award cycle.
2. The COBRE grant (COBRE stand for Centers of Biomedical Research Excellence) – this amounts to \$2.2 million in support of faculty annually. 2021 was year four of a 5-year award cycle.

**Chair Kornberg asked for a motion to approve the Treasurer’s report. The motion was made, seconded, and the motion carried.**

#### Audit Committee Report

Audit Committee Chair, Daphne Trotter, Esq., presented the Audit Committee Report. The MDI Biological Laboratory Audit Committee met with Annette Gould, the auditor from HMV, LLC on Tuesday, July 26, 2022, at 2:30PM. She discussed the audit, what was covered and some of the examinations performed. In the auditor’s opinion dated June 13, 2022, the financial statements present fairly in all material respects the financial position of Mount Desert Island Biological Laboratory as of December 31, 2021, and the changes to its net assets and cash flows for the year then-ended in accordance with accounting principles generally accepted in the United States of America.

Ms. Gould reported that this year’s audit went very smoothly and that no changes had to be made in the numbers presented by the laboratory.

The Chair asked for a motion to approve the Audit Committee Report. The motion was made, seconded, and the motion carried.

The Chair thanked the presenters of the business portion of the meeting. He introduced President of MDIBL, Hermann Haller.

### President's Report

Dr. Haller welcomed everyone to the meeting. He introduced the Scientific Advisory Board (SAB) members who are attending their own meeting on Friday. There have been many achievements over the past year. It has been a challenging year. Everyone is aware of how things in all areas of life continue to be affected by COVID-19. The lab never shut down, but the staff are spread very thin. Difficulties with supply chain, staffing shortages and inflation continue. With all of this Lab has grown because of the team. He led a round of applause for the team that have kept the lab not only open but growing.

Changing over from a summer institution to a year-round institution demands many changes to MDIBL's staff and physical plant. He presented the need to increase staff to support the programs as well as the renovations required to provide year-round spaces and accommodation. Dr. Haller discussed the money required to fulfill plans for MDI Bioscience, Education and Training, Campus Development, and Scientific Support as outlined in the President's Perspective document provided to the board and attendees.

Dr. Haller presented the members of the faculty. The focus remains aging and regeneration. It is critical to manage the size and number of research groups. Dr. Haller believes 12 to 14 groups is a good size for the lab to look something along the lines of the Max Planck Institute. MDIBL must manage the future of the faculty, beyond 2023. The lab will figure out how to bring the people that are needed here. It begins with graduate students from other institutions, to get them for extended periods and to keep them for those periods, to have a new graduate program. This means MDIBL must fulfill all the requirements of the graduate students' curriculum from their home institutions.

The team visited (MHH) in May to further strengthen collaborations between faculty and to continue to recruit graduate students to our campus. Dr. Haller noted that the lab has postdocs coming from different parts of the world financed by institutional support and international grants. To keep these programs going and support the educational program, \$6 million is needed over the next five years.

The visiting scientist program has grown and changed in structure. Today, most visiting scientists are invited by an MDIBL faculty member to participate. They may still apply on their own, but they must identify an MDIBL collaborator, give a seminar to the faculty, and discuss the potential areas of collaboration.

The lab is short on space in all areas. Laboratories must be renovated to make the older summer labs year-round spaces. Core facilities need more space, particularly the Animal Core. MDIBL is a center for zebrafish and currently holds the largest transgenic axolotl colony in the United States.

The lab recently introduced African Turquoise Killifish (ATK) as a model for the study of aging. The lab will expand its animal facility using the footprint of the former Gull Shed.

The microscopy core has been growing as well. With hard work and grants MDIBL has the most outstanding microscopy facility on the east coast. The latest achievement will be the mesoSPIM microscope, the only one east of the Mississippi.

The MDIBL campus is iconic. It must have both renovated and new housing to support its growth. The team wants to make full use of the campus and it is estimated the cost of that at about \$11 million.

In Lab's courses and conferences, the INBRE plays a critical role in positioning MDIBL as a leader in biomedical research and training. Additionally, the lab has its own "signature" courses such as iCARB, Aging and Regeneration, Biotechnology and Drug Development, and Art Meets Science.

Dr. Haller introduced Jim Strickland, Director of MDI Bioscience.

The incredible physical space and the history of this lab in biological science is outstanding. MDI Bioscience will address the need for alternative approaches for drug discovery in development. Only 1 in 5,000 to 10,000 discoveries make it to market. The team believes that they can help improve the efficiency of that pathway. Getting to a human drug trial more efficiently and quickly would be a boon to drug companies. Zebrafish and non-mammalian models offer a better path from pre-clinical to clinical compounds.

The challenge is that drug discovery is costly and inefficient:

- Mean investment to get a new drug to first human study is \$161 million
- Improving translation requires better characterization of new compounds earlier in development
- Zebrafish provide an earlier and more complete understanding of efficacy and organ toxicity

MDIBL offers the right talent and tools to improve drug discovery. Zebrafish and zebrafish embryos offer:

- High similarity to human structural and cellular anatomy
- Genetic homology - 82% of human disease-causing genes
- Functioning organs relevant to human organ function
- Transparent embryos
- Allows high throughput screening
- Time and cost efficient relative to studies in mammals

MDI Bioscience works with pharmaceutical companies to introduce novel research models to better inform decision making and improve the rate of successful translation from discovery to product approval.

Working with MDI Bioscience, pharmaceutical companies can use a problem-specific approach and collaborate to find the right models and approaches to suit development needs. They will be able to identify the faculty or external collaborators to solve known and unknown problems in a GLP-like environment with rigorous SOPs and data security.

The blueprint for the future:

- Adapting to Input from Pharma Meetings
- Develop Suite of Toxicology Models for Routine Screens
- MDI Bioscience Lab Renovation
  - Initial lab operational in early 2023
- Several Late-Stage Project Discussions
- Robust Fall Marketing Schedule
- Opportunistic and Flexible Approach

### **Scientific Director's Report**

Following Jim Strickland, Dr. Iain Drummond presented the Scientific Director's report. He presented on faculty achievements, including grant submission and publications. There have been 23 publications this year and MDIBL is staying at the forefront of regeneration and aging. As a small group of 11 researchers, they work to be more than the sum of their parts. That is important as the team works on program projects and multiple Primary Investigator (PI) grants. He gave some examples of "in-house" collaborative projects between the faculty.

Currently the lab has eight grants pending which could bring in nearly \$500 thousand. All investigators are working on R01 level grants, multi-PI awards and R24 resource grants. The lab is working with the University of Maine on a 5-year COBRE III grant. INBRE continues to be an important state of Maine research and education grant.

Dr. Haller took the floor to answer questions from the attendees.

### **Closing Remarks**

Chair Kornberg thanked the presenters and the virtual audience for their dedication and support. And commented on the level of positive energy and activity on the campus and thanked everyone for participating in the Annual Meeting.

He thanked Peter Allen for his many years of service to the lab and his former leadership. The board thanks him for his many contributions to MDIBL.

**Chair Kornberg asked for a motion for adjournment. The motion was made, seconded, approved by assent and the motion carried.**

**Chair Kornberg adjourned the 2022 Mount Desert Island Biological Laboratory Annual Meeting at 11:50amEST.**