

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

SCHEDULE 14A

(Rule 14a-101)

**INFORMATION REQUIRED IN PROXY STATEMENT
SCHEDULE 14A INFORMATION**

**Proxy Statement Pursuant to Section 14(a) of the
Securities Exchange Act of 1934**

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material Pursuant to §240.14a-12

AVROBIO, INC.

(Exact name of registrant as specified in its charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.
 - (1) Title of each class of securities to which transaction applies: _____
 - (2) Aggregate number of securities to which transaction applies: _____
 - (3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined): _____
 - (4) Proposed maximum aggregate value of transaction: _____
 - (5) Total fee paid: _____
- Fee paid previously with preliminary materials.
- Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.
 - (1) Amount Previously Paid: _____
 - (2) Form, Schedule or Registration Statement No.: _____
 - (3) Filing Party: _____
 - (4) Date Filed: _____



AVROBIO, INC.
One Kendall Square
Building 300, Suite 201
Cambridge, Massachusetts 02139

NOTICE OF 2021 ANNUAL MEETING OF STOCKHOLDERS
To be held June 10, 2021

Notice is hereby given that the 2021 Annual Meeting of Stockholders, or Annual Meeting, of AVROBIO, Inc. will be held on Thursday, June 10, 2021 at 9:00 a.m. Eastern Time. To protect the health and safety of our stockholders, employees, directors and community in light of the ongoing COVID-19 pandemic, we will again utilize a virtual format for our Annual Meeting. Stockholders may attend the virtual Annual Meeting by visiting www.proxydocs.com/AVRO. The purpose of the Annual Meeting is the following:

1. To elect three class III directors to our board of directors, to serve until the 2024 annual meeting of stockholders and until his or her successor has been duly elected and qualified, or until his or her earlier death, resignation or removal;
2. To ratify the appointment of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2021; and
3. To transact any other business properly brought before the Annual Meeting or any adjournment or postponement of the Annual Meeting.

The proposal for the election of directors relates solely to the election of class III directors nominated by the board of directors.

Only AVROBIO, Inc. stockholders of record at the close of business on April 12, 2021 will be entitled to vote during the Annual Meeting and any adjournment or postponement thereof. In order to attend, you must register in advance at www.proxydocs.com/AVRO prior to the deadline of June 8, 2021 at 5:00 pm Eastern Time. Upon completing your registration, you will receive further instructions via email, including your unique links that will allow you access to the meeting and will permit you to submit questions. You will not be able to attend the 2021 Annual Meeting in person.

We are pleased to take advantage of Securities and Exchange Commission rules that allow companies to furnish their proxy materials over the Internet. We are mailing to our stockholders a Notice of Internet Availability of Proxy Materials, or Notice, instead of a paper copy of our proxy materials and our 2020 Annual Report to Stockholders, or 2020 Annual Report. The Notice contains instructions on how to access those documents and to cast your vote via the Internet. The Notice also contains instructions on how to request a paper copy of our proxy materials and our 2020 Annual Report. This process allows us to provide our stockholders with necessary information on a more timely basis, while reducing the environmental impact and lowering the costs of printing and distributing our proxy materials.

Your vote is important. Whether or not you are able to attend the virtual Annual Meeting, it is important that your shares be represented. To ensure that your vote is recorded promptly, please vote as soon as possible, even if you plan to attend the virtual Annual Meeting. You may vote by submitting your proxy via the Internet, by telephone, or by mail (if you received paper copies of the proxy materials) by following the instructions on the proxy card or voting instruction card. Voting over the Internet or by telephone, written proxy or voting instruction card will ensure your representation at the virtual Annual Meeting regardless of whether you attend.

By order of the Board of Directors,

A handwritten signature in black ink, appearing to read 'Geoff MacKay'.

Geoff MacKay
President and Chief Executive Officer

Cambridge, Massachusetts
April 22, 2021

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AVROBIO, INC.
One Kendall Square
Building 300, Suite 201
Cambridge, Massachusetts 02139

PROXY STATEMENT
FOR THE 2021 ANNUAL MEETING OF STOCKHOLDERS
TO BE HELD JUNE 10, 2021

This proxy statement contains information about the 2021 Annual Meeting of Stockholders, or the Annual Meeting, of AVROBIO, Inc., which will be held on Thursday, June 10, 2021 at 9:00 a.m. Eastern Time. To protect the health and safety of our stockholders, employees, directors and community in light of the ongoing COVID-19 pandemic, the 2021 Annual Meeting will be a virtual stockholders meeting held at www.proxydocs.com/AVRO. The board of directors of AVROBIO, Inc. is using this proxy statement to solicit proxies for use at the Annual Meeting. In this proxy statement, the terms “AVROBIO,” “Company,” “we,” “us,” and “our” refer to AVROBIO, Inc. The mailing address of our principal executive offices is One Kendall Square, Building 300, Suite 201, Cambridge, Massachusetts 02139.

All properly submitted proxies will be voted in accordance with the instructions contained in those proxies. If no instructions are specified, the proxies will be voted in accordance with the recommendation of our board of directors with respect to each of the matters set forth in the accompanying Notice of Meeting. You may revoke your proxy at any time before it is exercised at the meeting by giving our proxy tabulator written notice to that effect. Such written notice should be delivered by mail to Proxy Tabulator for AVROBIO, Inc., c/o Mediant Communications, P.O. Box 8016, Cary, NC 27512-9903.

We made this proxy statement and our Annual Report to Stockholders for the fiscal year ended December 31, 2020 available to stockholders on April 22, 2021.

We are an “emerging growth company” under applicable federal securities laws and therefore permitted to conform with certain reduced public company reporting requirements. As an emerging growth company, we provide in this proxy statement the scaled disclosure permitted under the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, including the compensation disclosures required of a “smaller reporting company,” as that term is defined in Rule 12b-2 promulgated under the Securities Exchange Act of 1934, as amended, or the Exchange Act. In addition, as an emerging growth company, we are not required to conduct votes seeking approval, on an advisory basis, of the compensation of our named executive officers or the frequency with which such votes must be conducted. We will remain an “emerging growth company” until the earliest of (i) the last day of the fiscal year following the fifth anniversary of our June 2018 initial public offering; (ii) the last day of the fiscal year in which our total annual gross revenue is equal to or more than \$1.07 billion; (iii) the date on which we have issued more than \$1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission, or SEC. Even after we are no longer an “emerging growth company,” we may remain a “smaller reporting company.”

**Important Notice Regarding the Availability of Proxy Materials for
the Annual Meeting of Stockholders to be Held on June 10, 2021:**

**This proxy statement and our 2020 Annual Report to Stockholders are
available for viewing, printing and downloading at www.proxydocs.com/AVRO.**

A copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2020, as filed with the SEC, except for exhibits, will be furnished without charge to any stockholder upon written request to AVROBIO, Inc., One Kendall Square, Building 300, Suite 201, Cambridge, Massachusetts 02139, Attention: Corporate Secretary. This proxy statement and our Annual Report on Form 10-K for the fiscal year ended December 31, 2020 are also available on the SEC’s website at www.sec.gov, or on our website at <http://investors.avrobio.com/financial-information/sec-filings>.

AVROBIO, INC.
PROXY STATEMENT
FOR THE 2021 ANNUAL MEETING OF STOCKHOLDERS

GENERAL INFORMATION

When are this proxy statement and the accompanying materials scheduled to be sent to stockholders?

We have elected to provide access to our proxy materials to our stockholders via the Internet. Accordingly, on or about April 22, 2021, we will begin mailing a Notice of Internet Availability of Proxy Materials, or Notice. Our proxy materials, including the Notice of 2021 Annual Meeting of Stockholders, this proxy statement and the accompanying proxy card or, for shares held in street name (i.e. held for your account by a broker or other nominee), a voting instruction form, and the 2020 Annual Report to Stockholders, or 2020 Annual Report, will be mailed or made available to stockholders on the Internet on or about the same date.

Why did I receive a Notice of Internet Availability of Proxy Materials instead of a full set of proxy materials?

Pursuant to rules adopted by the SEC, for most stockholders, we are providing access to our proxy materials over the Internet rather than printing and mailing our proxy materials. We believe following this process will expedite the receipt of such materials and will help lower our costs and reduce the environmental impact of our annual meeting materials. Therefore, the Notice was mailed to holders of record and beneficial owners of our common stock starting on or about April 22, 2021. The Notice provides instructions as to how stockholders may access and review our proxy materials, including the Notice of 2021 Annual Meeting of Stockholders, this proxy statement, the proxy card and our 2020 Annual Report, on the website referred to in the Notice or, alternatively, how to request that a copy of the proxy materials, including a proxy card, be sent to them by mail. The Notice also provides voting instructions. In addition, stockholders of record may request to receive the proxy materials in printed form by mail or electronically by e-mail on an ongoing basis for future stockholder meetings. Please note that while our proxy materials are available at the website referenced in the Notice, and our Notice of 2021 Annual Meeting of Stockholders, this proxy statement and our 2020 Annual Report are available on our website, no other information contained on either website is incorporated by reference in or considered to be a part of this proxy statement.

Who is soliciting my vote?

Our board of directors is soliciting your vote for the Annual Meeting.

When is the record date for the Annual Meeting?

The record date for determination of stockholders entitled to vote at the Annual Meeting is the close of business on April 12, 2021.

How many votes can be cast by all stockholders?

There were 41,766,122 shares of our common stock, par value \$0.0001 per share, outstanding on April 12, 2021, all of which are entitled to vote with respect to all matters to be acted upon at the Annual Meeting. Each stockholder of record is entitled to one vote for each share of our common stock held by such stockholder. None of our shares of undesignated preferred stock were outstanding as of April 12, 2021.

Where will the Annual Meeting be held this year?

In light of the ongoing COVID-19 pandemic and after careful consideration, the board of directors determined to hold a virtual annual meeting again this year in order to protect the health and safety of our stockholders, employees, directors and community. We are committed to ensuring that stockholders will be afforded the same rights and opportunities to participate as they would at an in-person meeting. In order to attend the virtual Annual Meeting and vote your shares, you must register in advance at www.proxydocs.com/AVRO prior to the deadline of June 8, 2021 at 5:00 pm Eastern Time. There will not be a physical meeting.

How do I vote?

If you are a stockholder of record, there are several ways for you to vote your shares.

- *Online during the Annual Meeting.* You may vote during the virtual Annual Meeting by following the instructions available at www.proxydocs.com/AVRO. If you hold your shares through a bank or broker and wish to vote at the virtual Annual Meeting, you must obtain a valid proxy from the firm that holds your shares. In order to attend the virtual Annual Meeting and vote your shares, you must register in advance at www.proxydocs.com/AVRO prior to the deadline of June 8, 2021 at 5:00 pm Eastern Time.
- *By Internet or Telephone prior to the Annual Meeting.* You can vote by proxy over the Internet or by telephone by following the instructions provided in the Notice. In order to be counted, proxies submitted by Internet or by telephone must be received by the cutoff time of 11:59 p.m. Eastern Time on June 9, 2021.
- *By Mail prior to the Annual Meeting.* If you requested printed copies of the proxy materials by mail, you can vote by mailing your proxy as described in the proxy materials. Proxies submitted by mail must be received before the start of the Annual Meeting.

If you complete and submit your proxy before the Annual Meeting, the persons named as proxies will vote the shares represented by your proxy in accordance with your instructions. If you submit a proxy without giving voting instructions, your shares will be voted in the manner recommended by the board of directors on all matters presented in this proxy statement, and as the persons named as proxies may determine in their discretion with respect to any other matters properly presented at the Annual Meeting. You may also authorize another person or persons to act for you as proxy in a writing, signed by you or your authorized representative, specifying the details of those proxies' authority. The original writing must be given to each of the named proxies, although it may be sent to them by electronic transmission if, from that transmission, it can be determined that the transmission was authorized by you.

If any other matters are properly presented for consideration at the Annual Meeting, including, among other things, consideration of a motion to adjourn the Annual Meeting to another time or place (including, without limitation, for the purpose of soliciting additional proxies), the persons named in your proxy and acting thereunder will have discretion to vote on those matters in accordance with their best judgment. We do not currently anticipate that any other matters will be raised at the Annual Meeting.

How do I revoke my proxy?

You may revoke your proxy by (1) following the instructions on the Notice and entering a new vote by mail that we receive before the start of the Annual Meeting or over the Internet by the cutoff time of 11:59 p.m. Eastern Time on June 9, 2021, (2) attending and voting at the virtual Annual Meeting (although attendance at the virtual Annual Meeting will not in and of itself revoke a proxy), or (3) by filing an instrument in writing revoking the proxy or another duly executed proxy bearing a later date with our Corporate Secretary. Any written notice of revocation or subsequent proxy card must be received by our proxy tabulator prior to the taking of the vote at the Annual Meeting. Such written notice of revocation or subsequent proxy card should be delivered by mail to Proxy Tabulator for AVROBIO, Inc., c/o Mediant Communications, P.O. Box 8016, Cary, NC 27512-9903.

If a broker, bank, or other nominee holds your shares, you must contact such broker, bank, or nominee in order to find out how to change your vote.

How is a quorum reached?

Our Amended and Restated By-laws, or bylaws, provide that a majority of the shares entitled to vote, present in person or represented by proxy, will constitute a quorum for the transaction of business at the Annual Meeting.

Under the General Corporation Law of the State of Delaware, shares that are voted "abstain" or "withheld" and broker "non-votes" are counted as present for purposes of determining whether a quorum is present at the Annual Meeting. If a quorum is not present, the meeting may be adjourned until a quorum is obtained.

How is the vote counted?

Under our bylaws, any proposal other than an election of directors is decided by a majority of the votes properly cast for and against such proposal, except where a larger vote is required by law or by our Amended and Restated Certificate of Incorporation, or certificate of incorporation, or bylaws. Abstentions and broker “non-votes” are not included in the tabulation of the voting results on any such proposal and, therefore, do not have an impact on such proposals. A broker “non-vote” occurs when a nominee holding shares for a beneficial owner does not vote on a particular proposal because the nominee does not have discretionary voting power with respect to that item, and has not received instructions from the beneficial owner.

If your shares are held in “street name” by a brokerage firm, your brokerage firm is required to vote your shares according to your instructions. If you do not give instructions to your brokerage firm, the brokerage firm will still be able to vote your shares with respect to certain “discretionary” items, but will not be allowed to vote your shares with respect to “non-discretionary” items. Proposal No. 1 is a “non-discretionary” item. If you do not instruct your broker how to vote with respect to this proposal, your broker may not vote for such proposal, and those votes will be counted as broker “non-votes.” Proposal No. 2 is considered to be a discretionary item, and your brokerage firm will be able to vote on this proposal even if it does not receive instructions from you.

To be elected, the directors nominated via Proposal No. 1 must receive a plurality of the votes cast and entitled to vote on the proposal, meaning that the director nominees receiving the most votes will be elected. Shares voting “withheld” have no effect on the election of directors.

Who pays the cost for soliciting proxies?

We are making this solicitation and will pay the entire cost of preparing and distributing the Notice and our proxy materials and soliciting votes. If you choose to access the proxy materials or vote over the Internet, you are responsible for any Internet access charges that you may incur. Our officers and employees may, without compensation other than their regular compensation, solicit proxies through further mailings, personal conversations, facsimile transmissions, e-mails, or otherwise. We have hired Donnelley Financial Solutions to assist us in the distribution of proxy materials. Proxy solicitation expenses that we will pay include those for preparation, mailing, returning, and tabulating the proxies.

How may stockholders submit matters for consideration at an annual meeting?

The required notice must be in writing and received by our Corporate Secretary at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary of the preceding year’s annual meeting. However, in the event that the date of the annual meeting is advanced by more than 30 days, or delayed by more than 60 days, from the first anniversary of the preceding year’s annual meeting, or if no annual meeting were held in the preceding year, a stockholder’s notice must be so received no earlier than the 120th day prior to such annual meeting and not later than the close of business on the later of (A) the 90th day prior to such annual meeting and (B) the tenth day following the day on which public announcement of the date of such meeting is first made.

In addition, any stockholder proposal intended to be included in the proxy statement for the next annual meeting of our stockholders in 2022 must also satisfy the requirements of SEC Rule 14a-8 under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and be received not later than December 23, 2021. If the date of the 2022 annual meeting is moved by more than 30 days from the date contemplated at the time of the previous year’s proxy statement, then notice must be received within a reasonable time before we begin to print and send proxy materials. If that happens, we will publicly announce the deadline for submitting a proposal in a press release or in a document filed with the SEC.

How can I know the voting results?

We plan to announce preliminary voting results at the Annual Meeting and will publish final results in a Current Report on Form 8-K to be filed with the SEC within four business days following the Annual Meeting.

PROPOSAL NO. 1 – ELECTION OF CLASS III DIRECTORS

Our board of directors currently consists of eight members. In accordance with the terms of our certificate of incorporation and bylaws, our board of directors is divided into three classes, class I, class II and class III, with members of each class serving staggered three-year terms. The members of the classes are divided as follows:

- the class I directors are Gail Farfel, Ph.D., Christopher Paige, Ph.D. and Philip Vickers, Ph.D., and their terms will expire at the annual meeting of stockholders to be held in 2022;
- the class II directors are Ian Clark and Annalisa Jenkins, M.B.B.S., F.R.C.P., and their terms will expire at the annual meeting of stockholders to be held in 2023; and
- the class III directors are Bruce Booth, D.Phil., Phillip Donenberg and Geoff MacKay, and their terms will expire at the Annual Meeting.

Upon the expiration of the term of a class of directors, directors in that class will be eligible to be elected for a new three-year term at the annual meeting of stockholders in the year in which their term expires.

Our certificate of incorporation and bylaws provide that the authorized number of directors may be changed only by resolution of our board of directors. Our certificate of incorporation also provides that our directors may be removed only for cause by the affirmative vote of the holders of at least two-thirds (2/3) of the outstanding shares then entitled to vote in an annual election of directors, and that any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office.

Our board of directors has nominated Bruce Booth, Phillip Donenberg and Geoff MacKay for election as the class III directors at the Annual Meeting. The nominees are presently directors, and have indicated a willingness to continue to serve as directors, if elected. If the nominees become unable or unwilling to serve, however, the proxies may be voted for a substitute nominee selected by our board of directors.

Although we do not have a policy with regard to the consideration of diversity in identifying director candidates, overall board diversity of industry background, race and gender is generally among various factors considered. Our priority in selection of board members is identification of members who will further the interests of our stockholders through consideration of a number of facts and circumstances, including among other things, the skills of the prospective director candidate, his or her depth and breadth of business experience or other background characteristics, his or her independence and the needs of the board of directors.

Nominees for Election as Class III Directors

The following table and narrative information identifies our nominees for class III directors, and sets forth their principal occupation and business experience during the last five years and their ages as of April 12, 2021.

| Name | Positions and Offices Held with AVROBIO | Director Since | Age |
|----------------------|---|----------------|-----|
| Bruce Booth, D.Phil. | Director | 2016 | 46 |
| Phillip Donenberg | Director | 2018 | 60 |
| Geoff MacKay | Director | 2015 | 54 |

Bruce Booth, D.Phil. has served as the chairperson of our board of directors since February 2016. Dr. Booth joined Atlas Venture in 2005, and currently serves as general partner. Previously, from 2004 to 2005, Dr. Booth was a principal at Caxton Health Holdings L.L.C., a healthcare-focused investment firm, where he focused on the firm's venture capital activities. Prior to Caxton, from 1999 to 2004, he was an associate principal at McKinsey & Company, a global strategic management consulting firm, where he advised clients on R&D productivity, corporate strategy and business development issues across the biopharmaceutical sector. Dr. Booth is chairman and co-founder of Kymera Therapeutics, Inc. (Nasdaq: KYMR) and serves on the board of Magenta Therapeutics, Inc. (Nasdaq: MGTA), both of which are biotechnology companies. He also serves on the board of several privately held companies. From February 2018 until July 2020, Dr. Booth served as chairperson of the board of directors of Unum Therapeutics Inc. (Nasdaq: UMRX), now called Cogent Biosciences; from February 2017 until December 2018, Dr. Booth served as independent chairperson of the board of directors of miRagen Therapeutics, Inc. (Nasdaq: MGEN); and from August 2006 until June 2018, Dr. Booth served on the board of directors of Zafgen, Inc. (Nasdaq: ZFGN). As a British Marshall Scholar, Dr. Booth holds a D.Phil. in molecular immunology from Oxford University's Nuffield Department of Medicine and a B.S. in biochemistry, *summa cum laude*, from Pennsylvania

State University. We believe Dr. Booth’s extensive leadership, executive, managerial and business experience with life sciences companies, including experience in the formation, development and business strategy of multiple start-up companies in the life sciences sector, qualifies him to serve on our board of directors.

Phillip B. Donenberg has served as a member of our board of directors and audit committee chair since June 2018. Mr. Donenberg is senior vice president and chief financial officer of Jaguar Gene Therapy, LLC, a privately held early-stage gene therapy company, and has served in such role since February 2020. From July 2018 to November 2018, Mr. Donenberg served as the chief financial officer and senior vice president of Assertio Therapeutics, Inc. (Nasdaq: ASRT), a pharmaceutical company. Previously, Mr. Donenberg served at AveXis, Inc. (now a Novartis company), a gene therapy company, as senior vice president and chief financial officer from October 2017 to June 2018 and as vice president, corporate controller from September 2016 to October 2017. He was the chief financial officer of RestorGenex Corporation from May 2014 to January 2016, when RestorGenex merged with Diffusion Pharmaceuticals LLC, a pharmaceutical company, and served as the merged company’s consultant chief financial officer until September 2016, and the chief financial officer of 7wire Ventures LLC, an early-stage healthcare venture fund, from September 2013 to May 2014. Prior to that time, Mr. Donenberg served as the chief financial officer of BioSante Pharmaceuticals, Inc. from July 1998 to June 2013, when BioSante merged with ANIP Pharmaceuticals, Inc. Mr. Donenberg currently serves on the board of directors and audit committee chair of Taysha Gene Therapies, Inc. (Nasdaq: TSHA), a gene therapy company, and also has experience serving on the boards of directors of privately held companies. Mr. Donenberg holds a B.S. in accountancy from the University of Illinois Champaign-Urbana College of Business and is a Certified Public Accountant. We believe Mr. Donenberg is qualified to serve on our board of directors because of his financial expertise and his experience as an executive of companies in the industry in which we operate.

Geoff MacKay is our co-founder and has been our Chief Executive Officer, President and director since November 2015. From April 2015 to June 2017, Mr. MacKay served as interim chief executive officer of eGenesis, Inc., a biotechnology company, and from December 2003 to December 2014, he served as chief executive officer of Organogenesis Inc., a biotechnology company. Prior to that, from February 1993 to December 2003, Mr. MacKay served in various senior leadership positions within the global transplantation & immunology franchise at Novartis Canada, Global (Basel), and USA. Mr. MacKay has served as chairperson of the board of directors of Satellos Bioscience Inc., a regenerative medicine company, since September 2018, and has served on the board of directors of Talaris Therapeutics, Inc., a cell therapy company, since December 2018. Mr. MacKay previously served on the board of RepliCel Life Sciences Inc., Gemstone Biotherapeutics LLC and Centre for Commercialization of Regenerative Medicine, as chairperson of the board of MassBio, chairperson of the board of the Alliance of Regenerative Medicine, and on the advisory council to the Health Policy Commission for Massachusetts. Mr. MacKay holds a B.A. in psychology and a graduate certificate in marketing management from McGill University. We believe Mr. MacKay is qualified to serve on our board of directors because of his executive experience in our industry.

The proxies will be voted in favor of the above nominees unless a contrary specification is made in the proxy. The nominees have consented to serve as our directors if elected. However, if the nominees are unable to serve or for good cause will not serve as a director, the proxies will be voted for the election of such substitute nominee as our board of directors may designate.

The board of directors recommends voting “FOR” the election of Bruce Booth, Phillip Donenberg and Geoff MacKay as the class III directors, to serve for a three-year term ending at the annual meeting of stockholders to be held in 2024.

Directors Continuing in Office

The following table and narrative information identifies our directors continuing in office, and sets forth their principal occupation and business experience during the last five years and their ages as of April 12, 2021.

| <u>Name</u> | <u>Positions and Offices Held with AVROBIO</u> | <u>Director Since</u> | <u>Class and Year in Which Term Will Expire</u> | <u>Age</u> |
|--------------------------------------|--|-----------------------|---|------------|
| Gail M. Farfel, Ph.D. | Director | 2020 | Class I—2022 | 57 |
| Christopher Paige, Ph.D. | Director | 2016 | Class I—2022 | 68 |
| Philip J. Vickers, Ph.D. | Director | 2019 | Class I—2022 | 61 |
| Ian Clark | Director | 2018 | Class II—2023 | 60 |
| Annalisa Jenkins, M.B.B.S., F.R.C.P. | Director | 2018 | Class II—2023 | 55 |

Class I Directors (Term Expires at 2022 Annual Meeting)

Christopher Paige, Ph.D. has served as a member of our board of directors since January 2016. Dr. Paige is a senior scientist at University Health Network and a professor in the departments of medical biophysics and immunology at the University of Toronto, and has served in such roles since 1987. From 1997 to October 2016, he served as the vice president, research of the University Health Network. In 1990, Dr. Paige became the founding director of the Arthritis and Autoimmunity Research Centre as well as director of research at The Wellesley Hospital. He became a member of the Basel Institute for Immunology in Switzerland in 1980 where he worked until joining the Ontario Cancer Institute as a senior scientist in 1987. Dr. Paige also has experience serving on the board of directors of privately held companies. Dr. Paige earned a B.S. in biology at the University of Notre Dame in 1974 and a Ph.D. in immunology at the Sloan-Kettering Division of Cornell University Graduate School of Medical Sciences in 1979. We believe Dr. Paige is qualified to serve on our board of directors because of his scientific and industry experience in the field in which we operate.

Philip J. Vickers, Ph.D. has served as a member of our board of directors since January 2019. Dr. Vickers is the chief executive officer of Faze Medicines, a biotechnology company, and has served in such role since January 2021. From November 2017 until December 2020, Dr. Vickers served as the president and chief executive officer and a member of the board of directors of Northern Biologics Inc., a biotechnology company. From June 2013 until June 2017, Dr. Vickers served as global head of research and development and a member of the executive committee of Shire plc, a biotechnology company focused on the development of therapies for the treatment of rare and specialty conditions. From October 2010 to September 2013, Dr. Vickers served as the senior vice president, head of research and development, human genetic therapies at Shire. Prior to Shire, Dr. Vickers held positions of increasing responsibility in research and development at Merck & Co., Inc., Pfizer Inc., Boehringer-Ingelheim International GmbH and Resolvix Pharmaceuticals, Inc. Dr. Vickers serves on the board of directors of Revance Therapeutics, Inc. (Nasdaq: RVNC), a biotechnology company, and as a scientific advisor to the PTEN Research Foundation. Dr. Vickers obtained his Ph.D. in biochemistry from the University of Toronto, which was followed by postdoctoral research in mechanisms of multidrug resistance in breast cancer at the National Cancer Institute in Bethesda, Maryland. We believe that Dr. Vickers is qualified to serve on our board of directors because of his scientific, executive, and industry experience in the field in which we operate.

Gail M. Farfel, Ph.D. has served as a member of our board of directors since October 2020. Dr. Farfel is the executive vice president and chief development officer of Zogenix Inc., a biopharmaceutical company, and has served in such role since June 2015. Previously Dr. Farfel was chief clinical and regulatory officer of Marinus Pharmaceuticals, establishing and overseeing clinical, medical and regulatory strategies for adult and pediatric seizure disorders, including a pediatric epileptic orphan disease. Prior to that, she was vice president, therapeutic area head for neuroscience clinical development and medical affairs at Novartis Pharmaceuticals Corporation, where she oversaw a portfolio of products for multiple sclerosis, Alzheimer's disease and Parkinson's disease. Dr. Farfel serves on the board of directors of Zogenix International Ltd., a wholly owned subsidiary of Zogenix, Inc. (Nasdaq: ZGNX), and Durect Corporation (Nasdaq: DRRX). Dr. Farfel holds a Ph.D. in neuropsychopharmacology from the University of Chicago, where she received the Ginsburg Prize for Dissertation Excellence and is a director on the Medical and Biological Sciences Alumni Board. She also holds a B.S in biochemistry from the University of Virginia. We believe that Dr. Farfel is qualified to serve on our board of directors because of her scientific, executive, and industry experience in the field in which we operate.

Class II Directors (Term Expires at 2023 Annual Meeting)

Ian Clark has served as a member of our board of directors since January 2018. From 2010 to 2016, Mr. Clark served as the chief executive officer and head of North American commercial operations and was a member of the board of directors for Genentech, a member of the Roche Group. He joined Genentech in 2003 as senior vice president and general manager, BioOncology. In August 2005, he became senior vice president, commercial operations of Genentech. In January 2006, Mr. Clark became executive vice president, commercial operations of Genentech and became a member of its executive committee. Mr. Clark was named head of global product strategy and chief marketing officer of Roche in April 2009. Prior to joining Genentech, Mr. Clark held various positions of increasing responsibility at Novartis, Sanofi, Ivax and Searle, working in the USA, UK, Canada, Eastern Europe and France. Mr. Clark currently serves on the board of directors of Agios Pharmaceuticals, Inc. (Nasdaq: AGIO), Corvus Pharmaceuticals, Inc. (Nasdaq: CRVS), Takeda Pharmaceutical Company Limited (NYSE: TAK), Olema Pharmaceuticals, Inc. (Nasdaq: OLMA) and Guardant Health, Inc. (Nasdaq: GH), where he also serves as the lead independent director. Mr. Clark also serves on the strategic priorities board of BioFulcrum, an initiative within the Gladstone Institutes. Mr. Clark previously served on the board of directors of Forty Seven, Inc., Shire Plc, Kite Pharma, TerraVia (formerly Solazyme), Dendreon Pharmaceuticals, and Vernalis Therapeutics. He also previously served on the board of directors of the Biotechnology Industry Organization (BIO), as a member of the economic advisory council of the Federal Reserve Bank of San Francisco, and as an operating partner of Blackstone Life Sciences, a private investment firm focusing on the life sciences sector and an operating unit within The Blackstone Group L.P. Mr. Clark

received a B.S. and honorary doctorate in biological sciences from Southampton University in the United Kingdom. We believe Mr. Clark is qualified to serve on our board of directors because of his industry experience in the field in which we operate and his executive experience with companies in our industry.

Annalisa Jenkins, M.B.B.S., F.R.C.P. has served as a member of our board of directors since March 2018. From November 2017 until April 2019, Dr. Jenkins served as the chief executive officer of PlaqueTec Ltd., a biotechnology company focusing on coronary artery disease treatment and prevention. Previously, Dr. Jenkins served as the chief executive officer and a member of the board of directors of Dimension Therapeutics, Inc., a biotechnology company focused on rare and metabolic diseases associated with the liver, from September 2014 until its sale to Ultragenyx Pharmaceutical Inc. in November 2017. From October 2013 to March 2014, Dr. Jenkins served as executive vice president, head of global research and development for Merck Serono Pharmaceuticals, a biopharmaceutical company. Previously, from September 2011 to October 2013, she served as Merck Serono's executive vice president, global development and medical, and was a member of Merck Serono's executive committee. Prior to that, Dr. Jenkins pursued a 15-year career at Bristol-Myers Squibb Company, a biopharmaceutical company, where, from July 2009 to June 2011, she was a senior vice president and head of global medical affairs. Dr. Jenkins is currently a committee member of the science board to the FDA, which advises FDA leadership on complex scientific and technical issues, and serves on the board of Genomics England, a UK government entity dedicated to advancing the 100,000 Genomes Project. Dr. Jenkins serves on the board of directors of AgeX Therapeutics, Inc. (NYSE American: AGE), Oncimmune Holdings plc (LSE: ONC), Affimed N.V. (Nasdaq: AFMD), Compass Pathways (Nasdaq: CMPS) and a number of privately held biotechnology and life science companies. Dr. Jenkins previously served on the board of Silence Therapeutics, Ardelyx, Inc., OncoSec Medical Incorporated, and Sensyne Health plc. Dr. Jenkins graduated with a degree in medicine from St. Bartholomew's Hospital in the University of London and subsequently trained in cardiovascular medicine in the UK National Health Service. Earlier in her career, Dr. Jenkins served as a medical officer in the British Royal Navy. We believe Dr. Jenkins is qualified to serve on our board of directors based on her industry experience in the field in which we operate and her executive experience with companies in our industry.

There are no family relationships between or among any of our directors or executive officers. The principal occupation and employment during the past five years of each of our directors was carried on, in each case except as specifically identified above, with a corporation or organization that is not a parent, subsidiary or other affiliate of us. There is no arrangement or understanding between any of our directors and any other person or persons pursuant to which he or she is to be selected as a director.

There are no material legal proceedings to which any of our directors is a party adverse to us or any of our subsidiaries or in which any such person has a material interest adverse to us or our subsidiaries.

Executive Officers Who Are Not Directors

The following table identifies our current executive officers who are not directors, and sets forth their current positions at AVROBIO and their ages as of April 12, 2021.

| Name | Position Held with AVROBIO | Officer Since | Age |
|---|---------------------------------------|---------------|-----|
| Steven Avruch | Chief Legal Officer and Secretary | 2019 | 60 |
| Diana M. Escolar M.D., FAAN | Chief Medical Officer | 2021 | 59 |
| Christopher Mason, M.D., Ph.D., FRCS, FMedSci | Chief Scientific Officer | 2021 | 63 |
| Erik Ostrowski | Chief Financial Officer and Treasurer | 2019 | 48 |
| Deanna Petersen | Chief Business Officer | 2020 | 59 |

Steven Avruch has been our Chief Legal Officer and Secretary since March 2020 and previously served as our Vice President, General Counsel and Secretary from January 2019 to March 2020. Prior to joining our Company, from May 2018 to December 2018, Mr. Avruch was an independent legal consultant to biotechnology and other companies. Prior to that, Mr. Avruch served at Biogen Inc., a biotechnology company, as chief corporation counsel and assistant secretary from January 2015 to December 2017, and as associate general counsel from March 2013 to December 2014. Mr. Avruch graduated with an A.B. in Russian Studies from Dartmouth College, and later earned his J.D. from Boston College Law School.

Diana Escolar has been our Chief Medical Officer since January 2021. Prior to joining our Company, Dr. Escolar served at miRagen from December 2019 to January 2021 as Chief Medical Officer and from January 2018 to December 2019 as Senior Vice President, Clinical Science. Prior to that Dr. Escolar served at Akashi Therapeutics Inc. (formerly Halo Therapeutics) in various roles, including Chief Medical Officer, from July 2011 to November 2017. From 2010 to 2017, Dr. Escolar was also Associate Professor of Neurology, Johns Hopkins and faculty at the Kennedy Krieger Institute at the Center of Genetic

Muscle Disorders. Dr. Escolar received her bachelor's in education from Escuela Normal Sarmiento and her M.D. from the University of Buenos Aires.

Christopher Mason is our co-founder and has been our Chief Scientific Officer since July 2015. Dr. Mason has been a member of the faculty of the Advanced Centre for Biochemical Engineering, University College London since 1999, including Full Professor of Regenerative Medicine Bioprocessing from 2008 to 2017, and Full Professor of Cell and Gene Therapy since 2017. Dr. Mason also has served as Founder and director of London Regenerative Medicine Network Ltd. since February 2008, and as a director of OriBiotech Ltd. and Krystal Biotech, Inc. (Nasdaq: KRYS) since September 2015 and January 2021, respectively. He previously served as Founder and a director of Stem Cell Translation Ltd. from October 2006 to March 2018 and served as a trustee of the British Neurological Research Trust from May 2012 to May 2016 and the UK Stem Cell Foundation from September 2010 to May 2016. Dr. Mason earned an M.B.B.S (M.D.) from the United Medical and Dental Schools of Guy's and St. Thomas's Hospitals (now King's College London), a BSc (Hons) in Clinical Sciences from the Imperial College London (St. Mary's Hospital Medical School / Royal Postgraduate Medical School), and a Ph.D. from Advanced Center for Biochemical Engineering, University College London. He is an elected Fellow of the Academy of Medical Sciences, Royal College of Surgeons of England, Royal College of Surgeons in Ireland, and Royal Society of Biology.

Erik Ostrowski has been our Chief Financial Officer and Treasurer since January 2019. From June 2014 to December 2018, Mr. Ostrowski served as the chief financial officer of Summit Therapeutics plc. Prior to that, he served as vice president of finance at Organogenesis Inc., a biotechnology company, from July 2010 to June 2014, and previously worked in investment banking, most recently as a director with Leerink Partners LLC. Mr. Ostrowski began his career as an accountant with Coopers & Lybrand (now PricewaterhouseCoopers) and received a B.S. in accounting and economics from Babson College and a M.B.A. from the University of Chicago Booth School of Business.

Deanna Petersen has been our Chief Business Officer since January 2016. Prior to joining our Company, from June 2009 to June 2015, Ms. Petersen was vice president business of development rare diseases at Shire plc. Prior to that, Ms. Petersen served as vice president of business development at Agenus Inc. from April 2002 to March 2009 and vice president of business development at Coley Pharmaceutical Group. Ms. Petersen received a B.S. degree in biology from Iowa State University and a M.B.A. from the University of Iowa.

The principal occupation and employment during the past five years of each of our executive officers was carried on, in each case except as specifically identified above, with a corporation or organization that is not a parent, subsidiary or other affiliate of us. There is no arrangement or understanding between any of our executive officers and any other person or persons pursuant to which he was or is to be selected as an executive officer.

There are no material legal proceedings to which any of our executive officers is a party adverse to us or our subsidiaries or in which any such person has a material interest adverse to us or our subsidiaries.

**PROPOSAL NO. 2 – RATIFICATION OF THE APPOINTMENT OF ERNST & YOUNG LLP
AS AVROBIO’S INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR THE
FISCAL YEAR ENDING DECEMBER 31, 2021**

AVROBIO’s stockholders are being asked to ratify the appointment by the Audit Committee of the board of directors of Ernst & Young LLP as AVROBIO’s independent registered public accounting firm for the fiscal year ending December 31, 2021. Ernst & Young LLP has served as AVROBIO’s independent registered public accounting firm since 2018.

The Audit Committee is solely responsible for selecting AVROBIO’s independent registered public accounting firm for the fiscal year ending December 31, 2021. Stockholder approval is not required to appoint Ernst & Young LLP as AVROBIO’s independent registered public accounting firm. However, the board of directors believes that submitting the appointment of Ernst & Young LLP to the stockholders for ratification is good corporate governance. If the stockholders do not ratify this appointment, the Audit Committee will reconsider whether to retain Ernst & Young LLP. If the selection of Ernst & Young LLP is ratified, the Audit Committee, at its discretion, may direct the appointment of a different independent registered public accounting firm at any time it decides that such a change would be in the best interest of AVROBIO and its stockholders.

A representative of Ernst & Young LLP is expected to be present at the virtual Annual Meeting and will have an opportunity to make a statement if he or she desires to do so and to respond to appropriate questions from our stockholders.

The following table sets forth all fees paid or accrued by us for professional audit services and other services rendered by Ernst & Young LLP during the years ended December 31, 2019 and December 31, 2020.

| | 2019 | 2020 |
|--------------------|-------------------|-------------------|
| Audit fees(1) | \$ 656,084 | \$ 648,736 |
| Audit-related fees | — | — |
| Tax fees(2) | 26,265 | 48,825 |
| All other fees(3) | — | 3,505 |
| Total fees | <u>\$ 682,349</u> | <u>\$ 701,066</u> |

- (1) Audit fees consist of fees for professional services provided by Ernst & Young LLP for the audit of our annual financial statements, the review of interim consolidated financial statements and consultations on accounting matters directly related to the audit, and comfort letters, consents and assistance with and review of documents filed with the SEC.
- (2) Tax fees consist of fees for professional services in connection with tax compliance, tax planning, and tax advice, including the review and preparation of our federal, state and foreign income tax returns and requests for rulings or technical advice from tax authorities.
- (3) Other fees consist of aggregate fees billed for products and services provided by the independent registered public accounting firm other than those fees disclosed above. For the year ended December 31, 2020, the other fees relate to our Ernst & Young research website membership.

Audit Committee Pre-approval Policy and Procedures

Our Audit Committee has adopted policies and procedures relating to the approval of all audit and non-audit services that are to be performed by our independent registered public accounting firm. This policy provides that we will not engage our independent registered public accounting firm to render audit or non-audit services unless the service is specifically approved in advance by our Audit Committee or the engagement is entered into pursuant to the pre-approval procedure described below.

From time to time, our Audit Committee may pre-approve specified types of services that are expected to be provided to us by our independent registered public accounting firm during the next 12 months. Any such pre-approval details the particular service or type of services to be provided and is also generally subject to a maximum dollar amount.

During our 2020 and 2019 fiscal years, no services were provided to us by Ernst & Young LLP other than in accordance with the pre-approval policies and procedures described above.

The board of directors recommends voting “FOR” Proposal No. 2 to ratify the appointment of Ernst & Young LLP as AVROBIO’s independent registered public accounting firm for the fiscal year ending December 31, 2021.

CORPORATE GOVERNANCE

Director Nomination Process

Our Nominating and Corporate Governance Committee is responsible for identifying individuals qualified to serve as directors, consistent with criteria approved by our board, and recommending such persons to be nominated for election as directors, except where we are legally required by contract, law or otherwise to provide third parties with the right to nominate.

The process followed by our Nominating and Corporate Governance Committee to identify and evaluate director candidates includes requests to board members and others for recommendations, meetings from time to time to evaluate biographical information and background material relating to potential candidates, and interviews of selected candidates by management, recruiters, members of the committee and our board. The qualifications, qualities and skills that our Nominating and Corporate Governance Committee believes must be met by a committee-recommended nominee for a position on our board of directors are as follows:

- The nominee shall have experience at a strategic or policymaking level in a business, government, non-profit or academic organization of high standing.
- The nominee shall be highly accomplished in his or her respective field, with superior credentials and recognition.
- The nominee shall be well regarded in the community and shall have a long-term reputation for the high ethical and moral standards.
- The nominee shall have sufficient time and availability to devote to the affairs of the Company, particularly in light of the number of boards of directors on which such nominee may serve.
- To the extent such nominee serves or has previously served on other boards, the nominee shall have a demonstrated history of actively contributing at board meetings.

Stockholders may recommend individuals to the Nominating and Corporate Governance Committee for consideration as potential director candidates. Any such proposals should be submitted to our Corporate Secretary at our principal executive offices no later than the close of business on the 90th day nor earlier than the close of business on the 120th day prior to the one-year anniversary of the date of the preceding year's annual meeting and should include appropriate biographical and background material to allow the Nominating and Corporate Governance Committee to properly evaluate the potential director candidate and the number of shares of our stock beneficially owned by the stockholder proposing the candidate. Stockholder proposals should be addressed to AVROBIO, Inc., One Kendall Square, Building 300, Suite 201, Cambridge, Massachusetts 02139, Attention: Corporate Secretary. Assuming that biographical and background material has been provided on a timely basis in accordance with our bylaws, any recommendations received from stockholders will be evaluated in the same manner as potential nominees proposed by the Nominating and Corporate Governance Committee. If our board of directors determines to nominate a stockholder-recommended candidate and recommends his or her election, then his or her name will be included on our proxy card for the next annual meeting of stockholders. See "Stockholder Proposals" for a discussion of submitting stockholder proposals.

Director Independence

Applicable Nasdaq Stock Market LLC, or Nasdaq, rules require a majority of a listed company's board of directors to be comprised of independent directors within one year of listing. In addition, the Nasdaq rules require that, subject to specified exceptions, each member of a listed company's Audit, Compensation and Nominating and Corporate Governance Committees be independent and that Audit Committee members also satisfy independence criteria set forth in Rule 10A-3 under the Exchange Act and that Compensation Committee members satisfy independence criteria set forth in Rule 10C-1 under the Exchange Act. Under applicable Nasdaq rules, a director will only qualify as an "independent director" if, in the opinion of the listed company's board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. In order to be considered independent for purposes of Rule 10A-3, a member of an Audit Committee of a listed company may not, other than in his or her capacity as a member of the Audit Committee, the board of directors, or any other board committee, accept, directly or indirectly, any consulting, advisory, or other compensatory fee from the listed company or any of its subsidiaries or otherwise be an affiliated person of the listed company or any of its subsidiaries. In addition, in affirmatively determining the independence of any director who will serve on a company's Compensation Committee, Rule 10C-1 under the Exchange Act requires that a company's board of directors must consider all factors specifically relevant to determining whether a director has a relationship to such company which is material to that director's ability to be independent from management in connection

with the duties of a Compensation Committee member, including: the source of compensation to the director, including any consulting, advisory or other compensatory fee paid by such company to the director, and whether the director is affiliated with the company or any of its subsidiaries or affiliates.

Our board of directors has determined that all members of the board of directors, except Mr. MacKay and Dr. Farfel, are independent directors, including for purposes of the rules of Nasdaq and the SEC. In making such independence determination, our board of directors considered the relationships that each non-employee director has with us and all other facts and circumstances that our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director. In considering the independence of the directors listed above, our board of directors considered the association of our directors with the holders of more than 5% of our common stock. There are no family relationships among any of our directors or executive officers. Mr. MacKay is not an independent director under these rules because he is an executive officer of the Company. Dr. Farfel is not an independent director under these rules because an immediate family member is employed by Ernst & Young LLP, our independent registered public accounting firm.

Board Committees

Our board of directors has established an Audit Committee, a Compensation Committee, a Nominating and Corporate Governance Committee and a Science & Technology Committee. Each of the Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee operates under a charter that satisfies the applicable standards of the SEC and Nasdaq, and the Science & Technology Committee, while not subject to specific SEC or Nasdaq rules, also operates under a charter. Each such committee reviews its respective charter at least annually. A current copy of the charter for each of the Audit Committee, Compensation Committee, Nominating and Corporate Governance Committee, and Science & Technology Committee is posted on the Investors & Media Corporate Governance section of our website, www.avrobio.com.

Audit Committee

Phillip Donenberg, Annalisa Jenkins and Christopher Paige serve on the Audit Committee, which is chaired by Mr. Donenberg. Our board of directors has determined that each member of the Audit Committee is “independent” for Audit Committee purposes as that term is defined in the rules of the SEC and the applicable Nasdaq rules, and each has sufficient knowledge in financial and auditing matters to serve on the Audit Committee. Our board of directors has designated Mr. Donenberg as an “audit committee financial expert,” as defined under the applicable rules of the SEC. During the fiscal year ended December 31, 2020, the Audit Committee met eight times. The report of the Audit Committee is included in this proxy statement under “Report of the Audit Committee.” The Audit Committee’s responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;
- pre-approving auditing and permissible non-audit services, and the terms of such services, to be provided by our independent registered public accounting firm;
- reviewing the overall audit plan with our independent registered public accounting firm and members of management responsible for preparing our financial statements;
- reviewing and discussing with management and our independent registered public accounting firm our annual and quarterly financial statements and related disclosures as well as critical accounting policies and practices used by us;
- coordinating the oversight and reviewing the adequacy of our internal control over financial reporting;
- establishing policies and procedures for the receipt and retention of accounting-related complaints and concerns;
- recommending based upon the Audit Committee’s review and discussions with management and our independent registered public accounting firm whether our audited financial statements shall be included in our Annual Report on Form 10-K;
- monitoring the integrity of our financial statements and our compliance with legal and regulatory requirements as they relate to our financial statements and accounting matters;
- preparing the Audit Committee report required by SEC rules to be included in our annual proxy statement;

- reviewing all related person transactions for potential conflict of interest situations and approving all such transactions; and
- reviewing and discussing quarterly earnings releases.

All audit and non-audit services, other than *de minimis* non-audit services, to be provided to us by our independent registered public accounting firm must be approved in advance by our Audit Committee.

Compensation Committee

Ian Clark, Bruce Booth and Philip Vickers serve on the Compensation Committee, which is chaired by Mr. Clark. Our board of directors has determined that each member of the Compensation Committee is “independent” as defined in the applicable Nasdaq rules. During the fiscal year ended December 31, 2020, the Compensation Committee met six times. The Compensation Committee’s responsibilities include:

- annually reviewing and recommending to the board of directors corporate goals and objectives relevant to the compensation of our chief executive officer;
- evaluating the performance of our chief executive officer in light of such corporate goals and objectives and based on such evaluation, recommending to the board of directors (i) the cash compensation of our chief executive officer and (ii) grants and awards to our chief executive officer under equity-based plans;
- reviewing and approving the cash compensation of our other executive officers;
- reviewing and establishing our overall management compensation, philosophy, and policy;
- overseeing and administering our compensation and similar plans;
- evaluating and assessing potential and current compensation advisors in accordance with the independence standards identified in the applicable Nasdaq rules;
- reviewing and approving our policies and procedures for the grant of equity-based awards;
- reviewing and recommending to the board of directors the compensation of our directors;
- preparing our Compensation Committee report if and when required by SEC rules;
- reviewing and discussing with the board of directors corporate succession plans for our chief executive officer and our other key officers;
- reviewing and discussing annually with management our “Compensation Discussion and Analysis,” if and when required, to be included in our annual proxy statement;
- reviewing and approving the retention or termination of any consulting firm or outside advisor to assist in the evaluation of compensation matters; and
- retaining and approving the compensation of any compensation advisors.

Nominating and Corporate Governance Committee

Annalisa Jenkins, Phillip Donenberg and Christopher Paige serve on the Nominating and Corporate Governance Committee, which is chaired by Dr. Jenkins. Our board of directors has determined that each member of the Nominating and Corporate Governance Committee is “independent” as defined in the applicable Nasdaq rules. During the fiscal year ended December 31, 2020, the Nominating and Corporate Governance Committee met three times. The Nominating and Corporate Governance Committee’s responsibilities include:

- developing and recommending to the board of directors criteria for board and committee membership;
- establishing procedures for identifying and evaluating board of director candidates, including nominees recommended by stockholders;
- reviewing the size and composition of the board of directors to ensure that it is composed of members containing the appropriate skills and expertise to advise us;
- identifying individuals qualified to become members of the board of directors;

- recommending to the board of directors the persons to be nominated for election as directors and to each of the board’s committees;
- developing and recommending to the board of directors a set of corporate governance guidelines; and
- overseeing the evaluation of our board of directors.

The Nominating and Corporate Governance Committee considers candidates for board of director membership suggested by its members and the chief executive officer. Additionally, in selecting nominees for directors, the Nominating and Corporate Governance Committee will review candidates recommended by stockholders in the same manner and using the same general criteria as candidates recruited by the committee and/or recommended by our board of directors. Any stockholder who wishes to recommend a candidate for consideration by the committee as a nominee for director should follow the procedures described later in this proxy statement under the heading “Stockholder Proposals.” The Nominating and Corporate Governance Committee will also consider whether to nominate any person proposed by a stockholder in accordance with the provisions of our bylaws relating to stockholder nominations as described later in this proxy statement under the heading “Stockholder Proposals.”

Identifying and Evaluating Director Nominees. Our board of directors is responsible for filling vacancies on our board of directors and for nominating candidates for election by our stockholders each year in the class of directors whose term expires at the relevant annual meeting. The board of directors delegates the selection and nomination process to the Nominating and Corporate Governance Committee, with the expectation that other members of the board of directors, and of management, will be requested to take part in the process as appropriate.

Generally, the Nominating and Corporate Governance Committee identifies candidates for director nominees in consultation with management, through the use of search firms or other advisors, through the recommendations submitted by stockholders or through such other methods as the Nominating and Corporate Governance Committee deems to be helpful to identify candidates. Once candidates have been identified, the Nominating and Corporate Governance Committee confirms that the candidates meet all of the minimum qualifications for director nominees established by the Nominating and Corporate Governance Committee. The Nominating and Corporate Governance Committee may gather information about the candidates through interviews, detailed questionnaires, comprehensive background checks or any other means that the Nominating and Corporate Governance Committee deems to be appropriate in the evaluation process. The Nominating and Corporate Governance Committee then meets as a group to discuss and evaluate the qualities and skills of each candidate, both on an individual basis and taking into account the overall composition and needs of our board of directors. Based on the results of the evaluation process, the Nominating and Corporate Governance Committee recommends candidates for the board of directors’ approval to fill a vacancy or as director nominees for election to the board of directors by our stockholders each year in the class of directors whose term expires at the relevant annual meeting.

Science & Technology Committee

Philip Vickers, Bruce Booth, Gail Farfel, Annalisa Jenkins and Christopher Paige serve on the Science & Technology Committee, which is chaired by Dr. Vickers. The board of directors established the Science & Technology Committee on March 4, 2020. During the fiscal year ended December 31, 2020, the Science & Technology Committee met six times. The Science & Technology Committee’s responsibilities include:

- reviewing and advising the board of directors on our research and development, or R&D, programs and progress in achieving R&D goals and objectives;
- advising the board of directors on the scientific and R&D aspects of licensing, collaboration and acquisition transactions that require approval by the board of directors;
- overseeing management’s exercise of its responsibility to assess and manage risks associated with our R&D activities, clinical development and intellectual property; and
- making any recommendations to the board of directors that the Science & Technology Committee deems appropriate on any areas within its responsibility, including where action or improvement is needed.

Board and Committee Meetings Attendance

The full board of directors met six times during 2020. During 2020, each member of the board of directors attended in person or participated in 75% or more of the aggregate of (i) the total number of meetings of the board of directors (held during the

period for which such person has been a director) and (ii) the total number of meetings held by all committees of the board of directors on which such person served (during the periods that such person served).

Director Attendance at Annual Meeting of Stockholders

All directors (who were serving at such time) attended the 2020 Annual Meeting of Stockholders which was held on June 4, 2020.

Policy on Trading, Pledging and Hedging of Company Stock

Certain transactions in our securities (such as purchases and sales of publicly traded put and call options, and short sales) create a heightened compliance risk or could create the appearance of misalignment between management and stockholders. In addition, securities held in a margin account or pledged as collateral may be sold without consent if the owner fails to meet a margin call or defaults on the loan, thus creating the risk that a sale may occur at a time when an officer or director is aware of material, non-public information or otherwise is not permitted to trade in Company securities. Our insider trading policy expressly prohibits our executive officers, directors and designated employees and consultants from engaging in certain prohibited transactions, including short sales, purchases or sales of derivative securities or hedging transactions, the use of our securities as collateral in a margin account, and pledging of our securities.

Code of Business Conduct and Ethics

We have adopted a written code of business conduct and ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. A current copy of the code is posted on the Investors & Media–Corporate Governance section of our website, which is located at www.avrobio.com. If we make any substantive amendments to, or grant any waivers from, the code of business conduct and ethics for any officer or director, we will disclose the nature of such amendment or waiver on our website or in a current report on Form 8-K.

Board Leadership Structure and Board’s Role in Risk Oversight

Currently, the role of chairperson of the board is separated from the role of chief executive officer. We believe that separating these positions allows our chief executive officer to focus on our day-to-day business, while allowing the chairperson of the board to lead the board of directors in its fundamental role of providing advice to, and independent oversight, of management. Our board of directors recognizes the time, effort, and energy that the chief executive officer is required to devote to his position in the current business environment, as well as the commitment required to serve as our chairperson, particularly as the board of directors’ oversight responsibilities continue to grow. While our bylaws and our corporate governance guidelines do not require that our chairperson and chief executive officer positions be separate, our board of directors believes that having separate positions is the appropriate leadership structure for us at this time and demonstrates our commitment to good corporate governance.

Risk is inherent to every business, and how well a business manages risk can ultimately determine its success. We face a number of risks, including risks relating to our financial condition, development and commercialization activities, operations, strategic direction, and intellectual property. Management is responsible for the day-to-day management of risks we face, while our board of directors, as a whole and through its committees, has responsibility for the oversight of risk management. In its risk oversight role, our board of directors has the responsibility to satisfy itself that the risk management processes designed and implemented by management are adequate and functioning as designed.

The role of the board of directors in overseeing the management of our risks is conducted primarily through committees of the board of directors, as disclosed in the descriptions of each of the committees above and in the charters of each of the committees. The full board of directors (or the appropriate board committee in the case of risks that are under the purview of a particular committee) discusses with management our major risk exposures, their potential impact on us, and the steps we take to manage them. When a board committee is responsible for evaluating and overseeing the management of a particular risk or risks, the chairperson of the relevant committee reports on the discussion to the full board of directors during the committee reports portion of the next board meeting. This enables the board of directors and its committees to coordinate the risk oversight role, particularly with respect to risk interrelationships.

Communication with the Directors of AVROBIO

Any interested party with concerns about our Company may report such concerns to the board of directors or the chairperson of our board of directors or Nominating and Corporate Governance Committee, by submitting a written communication to the attention of such director at the following address:

c/o AVROBIO, Inc.
One Kendall Square
Building 300, Suite 201
Cambridge, Massachusetts 02139
United States

You may submit your concern anonymously or confidentially by postal mail. You may also indicate whether you are a stockholder, customer, supplier, or other interested party.

A copy of any such written communication may also be forwarded to AVROBIO's legal counsel and a copy of such communication may be retained for a reasonable period of time. The director may discuss the matter with AVROBIO's legal counsel, with independent advisors, with non-management directors, or with AVROBIO's management, or may take other action or no action as the director determines in good faith, using reasonable judgment, and applying his or her own discretion.

Communications may be forwarded to other directors if they relate to important substantive matters and include suggestions or comments that may be important for other directors to know. In general, communications relating to corporate governance and long-term corporate strategy are more likely to be forwarded than communications relating to ordinary business affairs, personal grievances, and matters as to which we tend to receive repetitive or duplicative communications.

The Audit Committee oversees the procedures for the receipt, retention, and treatment of complaints received by AVROBIO regarding accounting, internal accounting controls, or audit matters, and the confidential, anonymous submission by employees of concerns regarding questionable accounting, internal accounting controls or auditing matters. AVROBIO has also established a toll-free telephone number for the reporting of such activity, which is 1-866-569-1843.

Board and Committee Evaluations

The Nominating and Corporate Governance Committee oversees and establishes the annual board and committee evaluation process. In 2020, the Company engaged an independent third-party consultant to interview board members on board performance. Following these interviews, the third-party consultant provided feedback to the Nominating and Corporate Governance Committee for review and consideration. In prior years, the board and each committee have conducted self-evaluations by means of written questionnaires completed by each director and committee member. The anonymous responses are summarized and provided to the board and each committee at their next meetings in order to facilitate an examination and discussion by the board and each committee of the effectiveness of the board and committees, board and committee structure and dynamics, and areas for possible improvement.

Director Compensation

The following table presents the total compensation for each person who served as a non-employee member of our board of directors and received compensation for such service during the fiscal year ended December 31, 2020. Other than as set forth in the table and described more fully below, we did not pay any compensation, make any equity awards or non-equity awards to, or pay any other compensation to any of the non-employee members of our board of directors in 2020. We reimburse non-employee members of our board of directors for reasonable travel expenses. Mr. MacKay, our President and Chief Executive Officer, did not receive any compensation for his service as a member of our board of directors in 2020. Mr. MacKay's compensation for service as an employee for fiscal year 2020 is presented in "Executive Compensation—Summary Compensation Table."

| NAME | FEES EARNED OR PAID IN CASH (\$) | OPTION AWARDS \$(1) | TOTAL (\$) |
|---|--|------------------------|---------------|
| Bruce Booth, D.Phil.(2) | 73,000 | 196,311 | 269,311 |
| Ian Clark(3) | 45,000 | 196,311 | 241,311 |
| Phillip Donenberg(4) | 50,000 | 196,311 | 246,311 |
| Gail Farfel(5) | 7,863 | 297,234 | 305,097 |
| Annalisa Jenkins, M.B.B.S., F.R.C.P.(6) | 53,500 | 196,311 | 249,811 |
| Christopher Paige, Ph.D.(7) | 49,500 | 196,311 | 245,811 |
| Philip Vickers, Ph.D.(8) | 46,000 | 196,311 | 242,311 |

- (1) Amounts reflect the grant date fair value of option awards granted or modified in 2020 in accordance with the Financial Accounting Standards Board's Accounting Standards Codification Topic 718, or ASC 718. Such grant date fair value does not take into account any estimated forfeitures related to service-vesting conditions. See Note 8 of "Notes to Consolidated Financial Statements" in our Annual Report on Form 10-K filed with the SEC on March 18, 2021 for a discussion of assumptions made by us in determining the aggregate grant date fair value of our option awards. These amounts do not correspond to the actual value that may be recognized by the director upon vesting of applicable awards.
- (2) As of December 31, 2020, Dr. Booth held options to purchase a total of 23,675 shares of our common stock, of which 9,675 shares were vested as of such date.
- (3) As of December 31, 2020, Mr. Clark held options to purchase an aggregate of 102,697 shares of our common stock, of which 69,080 shares were vested as of such date.
- (4) As of December 31, 2020, Mr. Donenberg held options to purchase an aggregate of 42,418 shares of our common stock, of which 25,294 shares were vested as of such date.
- (5) Dr. Farfel joined our board of directors in October 2020. As of December 31, 2020, Dr. Farfel held an option to purchase an aggregate of 28,000 shares of our common stock, of which 1,556 shares were vested as of such date.
- (6) As of December 31, 2020, Dr. Jenkins held options to purchase an aggregate of 63,186 shares of our common stock, of which 36,839 shares were vested as of such date.
- (7) As of December 31, 2020, Dr. Paige held options to purchase 23,675 shares of our common stock, of which 9,675 shares were vested as of such date.
- (8) As of December 31, 2020, Dr. Vickers held options to purchase an aggregate of 42,418 shares of our common stock, of which 21,650 shares were vested as of such date.

Non-Employee Director Compensation Policy

Our board of directors has adopted a non-employee director compensation policy that is designed to enable us to attract and retain, on a long-term basis, highly qualified non-employee directors. Pursuant to the policy, each director who is not an employee will be paid cash compensation as set forth below:

| | NON- CHAIRPERSON MEMBER ANNUAL FEE (\$) | CHAIRPERSON ANNUAL FEE (\$) |
|---|---|-----------------------------------|
| Board of Directors | 35,000 (1) | 65,000 (2) |
| Audit Committee | 7,500 | 15,000 |
| Compensation Committee | 5,000 | 10,000 |
| Nominating and Corporate Governance Committee | 4,000 | 8,000 |

- (1) On March 3, 2021, following discussion with the Company's compensation consultant, the board of directors amended the non-employee director compensation policy to provide that, effective July 1, 2021, the non-chairperson member annual fee will be increased from \$35,000 to \$40,000.
- (2) On March 3, 2021, following discussion with the Company's compensation consultant, the board of directors amended the non-employee director compensation policy to provide that, effective July 1, 2021, the chairperson annual fee will be increased from \$65,000 to \$72,500.

In addition, each non-employee director first elected or appointed to serve on our board of directors is granted an option award for 28,000 shares of our common stock which vests in 36 equal monthly installments over a three-year period, subject to the director's continued service through such vesting dates. On the date of each annual meeting of stockholders of our Company, each continuing non-employee director is granted an option award for 14,000 shares of our common stock which vests in full upon the earlier to occur of the first anniversary of the date of grant or the date of our following annual meeting of stockholders, subject to continued service as a director through such vesting date.

The board of directors, in consultation with the Company's compensation consultant, will continue to review non-employee director compensation from time to time.

Executive Compensation

As an emerging growth company, we have opted to comply with the executive compensation disclosure rules applicable to "smaller reporting companies," as such term is defined in the rules promulgated under the Securities Act. This section provides an overview of the compensation awarded to, earned by, or paid to our principal executive officer and our next two most highly compensated executive officers in respect of their service to our Company for our fiscal year ended December 31, 2020 and up to two additional individuals for whom disclosure would have been provided but for the fact that the individual was not serving as an executive officer as of December 31, 2020. We refer to these individuals as our 2020 named executive officers. Our 2020 named executive officers are:

- Geoff MacKay, our Chief Executive Officer and President;
- Birgitte Volck, our former President of Research and Development;
- Erik Ostrowski, our Chief Financial Officer and Treasurer; and
- Steven Avruch, our Chief Legal Officer and Secretary.

Our executive compensation program is based on a pay for performance philosophy. Compensation for our executive officers is composed primarily of the following main components: base salary; bonus; and equity incentives in the form of options. Our executive officers, like all full-time employees, are eligible to participate in our health and welfare benefit plans.

Summary Compensation Table

The following table sets forth information regarding compensation awarded to, earned by, or paid to each of our named executive officers for services rendered to us in all capacities during the fiscal year ended December 31, 2020. The following table also presents information regarding the compensation awarded to, and earned by, and paid to each such individual during the fiscal year ended December 31, 2019, to the extent such individual was a named executive officer for such year.

| Name | Year | Salary (\$) | Bonus \$(1)(2) | Stock awards \$(3) | Option awards \$(3) | All other compensation (\$) | Total (\$) |
|---|------|----------------|-------------------|--------------------------|---------------------------|-----------------------------------|---------------|
| Geoff MacKay | 2020 | 543,400 | 258,115 | — | 4,093,165 | 9,715 (4) | 4,904,395 |
| <i>President and Chief Executive Officer</i> | 2019 | 517,500 | 219,940 | — | 1,069,680 | 9,258 | 1,816,378 |
| Birgitte Volck, M.D., Ph.D. <i>Former President of R&D</i> (5) | 2020 | 409,473 | — | — | — | 1,987,925 (6) | 2,397,398 |
| Erik Ostrowski | 2020 | 424,400 | 162,969 | — | 1,412,933 | 9,715 (7) | 2,010,017 |
| <i>Chief Financial Officer and Treasurer</i> | 2019 | 412,000 | 318,320 | 35,995 | 1,978,222 | 9,258 | 2,753,795 |
| Steven Avruch | 2020 | 371,900 | 124,958 | — | 1,260,297 | 9,821 (8) | 1,766,976 |
| <i>Chief Legal Officer and Secretary</i> | 2019 | 335,000 | 105,530 | — | 942,697 | 1,150 | 1,384,377 |

- (1) The 2019 amounts reflect the discretionary bonus paid in 2020 for performance during 2019. In addition, for Mr. Ostrowski, the 2019 amount includes a \$170,000 signing bonus paid pursuant to the terms of his employment agreement.
- (2) The 2020 amounts reflect the discretionary bonus paid in 2021 for performance during 2020, as discussed under “Narrative to Summary Compensation Table – Annual Bonus.”
- (3) Amounts reflect the grant date fair value of equity awards granted or modified in 2020 and 2019 in accordance with ASC 718. Such grant date fair value does not take into account any estimated forfeitures related to service-vesting conditions. See Note 8 of “Notes to Consolidated Financial Statements” in our Annual Report on Form 10-K filed with the SEC on March 18, 2021 for a discussion of assumptions made by us in determining the aggregate grant date fair value of our equity awards. These amounts do not correspond to the actual value that may be recognized by the 2020 named executive officers upon vesting of applicable awards.
- (4) Amount reflects the dollar value of 401(k) contributions and life insurance premiums paid by us on behalf of Mr. MacKay.
- (5) Dr. Volck ceased serving as an executive officer of the Company in September 2020 and departed the Company in November 2020. Dr. Volck’s annual base salary of \$468,700 was prorated based on her termination date.
- (6) Amount reflects (i) \$1,351,744 in the incremental fair value, computed in accordance with ASC Topic 718, of Dr. Volck’s stock options that were accelerated in connection with her departure from the Company in November 2020 pursuant to her separation agreement, (ii) \$591,524.15 in severance payments (including accrued paid time off) paid in connection with Dr. Volck’s departure from the Company in November 2020 pursuant to her separation agreement, (iii) \$35,166.50 in airfare between Denmark and the United States, (iv) \$5,673.05 in reimbursement of lodging and transportation expenses in Cambridge, MA and (v) \$3,816.94 in reimbursement of Dr. Volck’s monthly cellphone and internet bill.
- (7) Amount reflects the dollar value of 401(k) contributions and life insurance premiums paid by us on behalf of Mr. Ostrowski.
- (8) Amount reflects the dollar value of 401(k) contributions and life insurance premiums paid by us on behalf of Mr. Avruch.

Narrative to Summary Compensation Table

Our board of directors and Compensation Committee review compensation annually for all employees, including our executives. In setting executive base salaries and bonuses and granting equity incentive awards, we consider compensation for comparable positions in the market, the historical compensation levels of our executives, individual performance as compared to our expectations and objectives, our desire to motivate our employees to achieve short- and long-term results that are in the best interests of our stockholders, and a long-term commitment to our Company. We target a general competitive position, based on independent third-party benchmark analytics to inform the mix of compensation of base salary, bonus or long-term incentives.

Our Compensation Committee has historically reviewed and made recommendations to our board of directors regarding the compensation to be paid to our chief executive officer and determined the compensation of our other executive officers. Our Compensation Committee typically reviews and discusses management’s proposed compensation with the chief executive officer for all executives other than the chief executive officer. Based on those discussions and its discretion, taking into account the factors noted above, the Compensation Committee then approves the compensation of our executive officers other than the chief executive officer without members of management present. Our board of directors discusses the Compensation Committee’s recommendations and ultimately approves the compensation of our chief executive officer without members of management present. Aon Consulting, Inc., or Aon Consulting, advised the board of directors and the Compensation Committee on certain compensation matters and decisions during fiscal year 2020. Aon Consulting served at the discretion of the Compensation Committee and did not provide any other services to the Company during fiscal year 2020 other than those for which they were engaged by the Compensation Committee. Our Compensation Committee requires that its compensation consultants be independent of Company management and performs an annual assessment of the compensation consultants’ independence to determine whether the consultants are independent. Our Compensation Committee has determined that Aon Consulting is independent and that its respective work has not raised any conflicts of interest.

Annual Base Salary

We use base salaries to recognize the experience, skills, knowledge and responsibilities required of all our employees, including our 2020 named executive officers. Base salaries for our named executive officers are reviewed annually by our Compensation Committee, typically in connection with our annual performance review process, and adjusted from time to time, based on the recommendation of the Compensation Committee, to realign salaries with market levels after taking into

account individual responsibilities, performance and experience. None of our 2020 named executive officers is currently party to an employment agreement or other agreement or arrangement that provides for automatic or scheduled increases in base salary.

During 2020, the annual base salaries for each of Mr. MacKay, Dr. Volck, Mr. Ostrowski and Mr. Avruch were \$543,400, \$468,700, \$424,400 and \$371,900, respectively.

Annual Bonus

We currently have a Senior Executive Cash Incentive Bonus Plan. In addition, our employment agreements with our 2020 named executive officers provide that the executive may be eligible to earn an annual performance bonus of up to a target percentage of the executive's base salary, as described further below under the section entitled "—Employment Arrangements with our Named Executive Officers." From time to time, our board of directors or Compensation Committee may approve annual bonuses for our named executive officers based on individual performance, company performance or as otherwise determined appropriate.

With respect to performance in fiscal year 2020, the target bonus opportunity as a percentage of base salary for each of Mr. MacKay, Dr. Volck, Mr. Ostrowski and Mr. Avruch were 50%, 50%, 40% and 35%, respectively.

Equity Compensation

Although we do not have a formal policy with respect to the grant of equity incentive awards to our executive officers, or any formal equity ownership guidelines applicable to them, we believe that equity grants provide our executives with a strong link to our long-term performance, create an ownership culture and help to align the interests of our executives and our stockholders. In addition, we believe that equity grants with a time-based vesting feature promote executive retention because this feature incentivizes our executive officers to remain in our employment during the vesting period. Accordingly, our board of directors periodically reviews the equity incentive compensation of our named executive officers and from time to time may grant equity incentive awards to them in the form of stock options.

We typically grant stock option awards to each of our employees, including our executives, in connection with their start of employment. Such stock option awards are typically granted on the first trading day of the month after the employees' start date. We set the option exercise price and grant date fair value based on the value of our common stock on the date of grant. For grants in connection with initial employment, vesting begins on the initial date of employment.

401(k) Plan

We maintain a tax-qualified retirement plan that provides eligible employees with an opportunity to save for retirement on a tax-advantaged basis. All participants' interests in their contributions are 100% vested when contributed. Contributions are allocated to each participant's individual account and are then invested in selected investment alternatives according to the participants' directions. The retirement plan is intended to qualify under Section 401(a) of the Internal Revenue Code of 1986, as amended, or the Code. Matching contributions to the plan are made at the discretion of our board of directors.

Employment Arrangements with Our Named Executive Officers

We have entered into employment agreements with each of Geoff MacKay, Erik Ostrowski and Steven Avruch which set forth the initial terms and conditions of each executive's employment with us, including base salary, target annual bonus opportunity and standard employee benefit plan participation. These employment agreements provide for "at will" employment. We have also entered into an employment agreement and transitional services and separation agreement with Birgitte Volck, our former President of Research and Development. The material terms of the employment agreements and transitional services and separation agreement with our 2020 named executive officers, as applicable, are described below. The terms "change of control," "cause" and "good reason" referred to below are defined in the applicable agreement.

Employment Agreement with Geoff MacKay

Effective upon the closing of our initial public offering in June 2018, we entered into an amended employment agreement with Geoff MacKay, our President and Chief Executive Officer. Under the terms of the employment agreement, Mr. MacKay is entitled to receive an annual base salary of \$500,000 and an annual target bonus of 50% of his annual base salary based upon our board of directors' assessment of Mr. MacKay's performance and our attainment of targeted goals as set by the board of directors in its sole discretion. Mr. MacKay also previously entered into a Confidentiality and IP Assignment Agreement with us, the terms of which are incorporated into his employment agreement.

Mr. MacKay's employment agreement provides that, in the event that his employment is terminated by us without "cause" or Mr. MacKay resigned with "good reason," subject to the execution and effectiveness of a separation agreement and release, he will be entitled to receive (i) an amount equal to 100% of his base salary, provided that Mr. MacKay has not breached any of the confidentiality, noncompetition or cooperation provisions set forth in, or incorporated into, the new employment agreement, payable on our normal payroll cycle, and (ii) reimbursement of COBRA premiums for health benefit coverage, up to an amount equal to the monthly employer contribution that we would have made to provide health insurance to Mr. MacKay had he remained employed with us for up to 12 months. Additionally, all stock options and other stock based awards held by Mr. MacKay that would have vested if he had remained employed by us for an additional 12 months following the date of termination will vest and become exercisable or non-forfeitable as of the date of termination.

Under the employment agreement, in the event of a "change in control" all stock options and other stock-based awards granted to Mr. MacKay at least 12 months prior to the effective date of the employment agreement shall accelerate and become fully exercisable or non-forfeitable immediately prior to the change in control. In addition, in the event that Mr. MacKay is terminated by us without "cause" or Mr. MacKay resigns for "good reason" within three months prior to or 18 months after a change in control, subject to the execution and effectiveness of a separation agreement and release, he will be entitled to receive (i) an amount equal to 150% of the sum of his base salary plus target bonus for that year, and (ii) reimbursement of COBRA premiums for health benefit coverage, up to an amount equal to the monthly employer contribution that we would have made to provide health insurance to Mr. MacKay had he remained employed with us for up to 18 months. Additionally, all then unvested stock options and other stock-based awards granted to Mr. MacKay will vest and become exercisable or non-forfeitable as of the date of termination.

Employment Agreement with Birgitte Volck

On December 17, 2018, we entered into an employment agreement with Dr. Volck which became effective on July 9, 2019. Under the terms of the employment agreement, Dr. Volck was entitled to receive an annual base salary of \$455,000, subject to annual review by our board of directors, and an annual target bonus of 50% of her annual base salary based upon our board of directors' assessment of Dr. Volck's performance and our attainment of targeted goals as set by the board of directors in its sole discretion. For the 2020 fiscal year, Dr. Volck's annual base salary was equal to \$468,700, which amount was prorated based on her termination date. The employment agreement also provided for certain expense reimbursement benefits in connection with housing, travel from Denmark to the United States, tax advice, legal fees in connection with obtaining her visa and certain other living expenses. In addition, as a material inducement to her entry into the employment agreement, Dr. Volck was granted an option to purchase 293,000 shares of our common stock, which would vest over four years, with 25% of the shares vesting on the one-year anniversary of Dr. Volck's start date and the remaining shares vesting in thirty-six equal monthly installments thereafter, subject to Dr. Volck's continued service to our company through the applicable vesting date. This equity award was granted outside of our current stockholder-approved stock option and incentive plans and was intended to qualify as an "employment inducement award" within the meaning of Nasdaq Listing Rule 5635(c)(4). Dr. Volck also entered into an Employee Confidentiality, Assignment and Noncompetition Agreement with us, the terms of which are incorporated into her employment agreement.

Dr. Volck's employment agreement provided that, in the event that her employment is terminated by us without "cause" or Dr. Volck resigns with "good reason", subject to the execution and effectiveness of a separation agreement and release, she would be entitled to receive (i) an amount equal to 75% of her base salary less any amount paid to Dr. Volck in the same calendar year under the Employee Confidentiality, Assignment and Noncompetition Agreement, provided that Dr. Volck has not breached any of the confidentiality, noncompetition or cooperation provisions set forth in, or incorporated into, the employment agreement, payable on our normal payroll cycle, and (ii) reimbursement of COBRA premiums for health benefit coverage, up to an amount equal to the monthly employer contribution that we would have made to provide health insurance to Dr. Volck had she remained employed with us for up to nine months. Additionally, all time-based stock options and other stock-based awards held by Dr. Volck that would have vested if she had remained employed by us for an additional nine months following the date of termination would vest and become exercisable or non-forfeitable as of the date of termination.

Under the employment agreement, in the event of a "change in control" all stock options and other stock-based awards granted to Dr. Volck at least 12 months prior to the effective date of the employment agreement would accelerate and become fully exercisable or non-forfeitable immediately prior to the change in control. In addition, in the event that Dr. Volck was terminated by us without "cause" or Dr. Volck resigns for "good reason" within three months prior to or 18 months after a "change in control", subject to the execution and effectiveness of a separation agreement and release, she would be entitled to receive (i) an amount equal to 100% of the sum of her base salary plus target bonus for that year, less any amount paid to Dr. Volck in the same calendar year under the Employee Confidentiality, Assignment and Noncompetition Agreement, and (ii) reimbursement of COBRA premiums for health benefit coverage, up to an amount equal to the monthly employer contribution that we would have made to provide health insurance to Dr. Volck had she remained employed with us for up to

12 months. Additionally, all then unvested time-based stock options and other stock-based awards granted to Dr. Volck would vest and become exercisable or non-forfeitable as of the date of termination.

Transitional Services and Separation Agreement with Birgitte Volck

On July 16, 2020, we entered into a transitional services and separation agreement with Dr. Volck, or the Separation Agreement. Under the Separation Agreement, Dr. Volck continued to provide her then-existing services to the Company from July 16, 2020 until September 30, 2020, and from October 1, 2020 until November 15, 2020. Dr. Volck provided services to the Company only as requested by our Chief Executive Officer from time to time. Dr. Volck continued to receive her then-current salary and benefits and her equity continued to vest from the date of the Separation Agreement until November 15, 2020, and pursuant to the Separation Agreement she resigned as an executive officer of the Company effective September 30, 2020. Under the Separation Agreement, in exchange for granting and not revoking a customary release agreement, Dr. Volck became entitled to receive (i) an amount equal to nine months of her base salary, payable in a single lump sum during the first two weeks of January 2021, (ii) a prorated annual bonus, calculated by multiplying her target annual bonus of \$212,200 by a company performance multiplier equal to the mean average of the performance multipliers of the other non-CEO members of the Company's executive team, and prorating the result based on her separation date of November 15, 2020, and (iii) reimbursement of up to \$40,000 in the aggregate for expenses directly related to tax advice and incurred by Dr. Volck with respect to calendar years 2019 and 2020. Additionally, all time-based equity awards held by Dr. Volck that would have vested had Dr. Volck remained employed by us for an additional nine months following November 15, 2020 vested and became exercisable or non-forfeitable, and the exercise period for all vested options held by Dr. Volck was extended to 12 months from her separation date of November 15, 2020.

Employment Agreement with Erik Ostrowski

On December 17, 2018, we entered into an employment agreement with Erik Ostrowski for the position of Chief Financial Officer. Under the terms of the employment agreement, Mr. Ostrowski is entitled to receive an annual base salary of \$412,000 and an annual target bonus of 40% of his annual base salary based upon our board of directors' assessment of Mr. Ostrowski's performance and our attainment of targeted goals as set by the board of directors in its sole discretion. Mr. Ostrowski also received a signing bonus in the form of (i) a one-time cash bonus of \$170,000 and (ii) a restricted stock unit for 2,300 shares of our common stock, or the Signing Bonus Award. In addition, pursuant to the terms of the employment agreement, Mr. Ostrowski was granted an option to purchase 186,000 shares of our common stock, or the New Hire Award. Each of the Signing Bonus Award and the New Hire Award will vest over four years, with 25% of the shares vesting on the one-year anniversary of Mr. Ostrowski's start date and the remaining shares vesting in thirty-six equal monthly installments thereafter, subject to Mr. Ostrowski's continued service to our Company through the applicable vesting date. Mr. Ostrowski also entered into an Employee Confidentiality, Assignment and Noncompetition Agreement with us, the terms of which are incorporated into his employment agreement.

Mr. Ostrowski's employment agreement provides that, in the event that his employment is terminated by us without "cause" or Mr. Ostrowski resigns with "good reason," subject to the execution and effectiveness of a separation agreement and release, he will be entitled to receive (i) an amount equal to 75% of his base salary less any amount paid to Mr. Ostrowski in the same calendar year under the Employee Confidentiality, Assignment and Noncompetition Agreement, provided that Mr. Ostrowski has not breached any of the confidentiality, noncompetition or cooperation provisions set forth in, or incorporated into, the employment agreement, payable on our normal payroll cycle, and (ii) reimbursement of COBRA premiums for health benefit coverage, up to an amount equal to the monthly employer contribution that we would have made to provide health insurance to Mr. Ostrowski had he remained employed with us for up to nine months. Additionally, all stock options and other stock based awards held by Mr. Ostrowski that would have vested if he had remained employed by us for an additional nine months following the date of termination will vest and become exercisable or non-forfeitable as of the date of termination.

Under the employment agreement, in the event of a "change in control" all stock options and other stock-based awards granted to Mr. Ostrowski at least 12 months prior to the effective date of the employment agreement shall accelerate and become fully exercisable or non-forfeitable immediately prior to the change in control. In addition, in the event that Mr. Ostrowski is terminated by us without "cause" or Mr. Ostrowski resigns for "good reason" within three months prior to or 18 months after a "change in control," subject to the execution and effectiveness of a separation agreement and release, he will be entitled to receive (i) an amount equal to 100% of the sum of his base salary plus target bonus for that year, less any amount paid to Mr. Ostrowski in the same calendar year under the Employee Confidentiality, Assignment and Noncompetition Agreement, and (ii) reimbursement of COBRA premiums for health benefit coverage, up to an amount equal to the monthly employer contribution that we would have made to provide health insurance to Mr. Ostrowski had he remained employed with us for up to 12 months. Additionally, all then unvested stock options and other stock-based awards

granted to Mr. Ostrowski will vest and become exercisable or non-forfeitable as of the date of termination.

Employment Agreement with Steven Avruch

On December 17, 2018, we entered into an employment agreement with Steven Avruch for the position of Vice President and General Counsel. Under the terms of the employment agreement, Mr. Avruch is entitled to receive an annual base salary of \$335,000 and an annual target bonus of 35% of his annual base salary based upon our board of directors' assessment of Mr. Avruch's performance and our attainment of targeted goals as set by the board of directors in its sole discretion. In addition, pursuant to the terms of the employment agreement, Mr. Avruch was granted an option to purchase 88,636 shares of our common stock. The stock option grant will vest over four years, with 25% of the shares vesting on the one-year anniversary of Mr. Avruch's start date and the remaining shares vesting in thirty-six equal monthly installments thereafter, subject to Mr. Avruch's continued service to our Company through the applicable vesting date. Mr. Avruch also entered into an Employee Confidentiality, Assignment and Noncompetition Agreement with us, the terms of which are incorporated into his employment agreement.

Mr. Avruch's employment agreement provides that, in the event that his employment is terminated by us without "cause" or Mr. Avruch resigns with "good reason", subject to the execution and effectiveness of a separation agreement and release, he will be entitled to receive (i) an amount equal to 75% of his base salary less any amount paid to Mr. Avruch in the same calendar year under the Employee Confidentiality, Assignment and Noncompetition Agreement, provided that Mr. Avruch has not breached any of the confidentiality, noncompetition or cooperation provisions set forth in, or incorporated into, the employment agreement, payable on our normal payroll cycle, and (ii) reimbursement of COBRA premiums for health benefit coverage, up to an amount equal to the monthly employer contribution that we would have made to provide health insurance to Mr. Avruch had he remained employed with us for up to nine months. Additionally, all stock options and other stock based awards held by Mr. Avruch that would have vested if he had remained employed by us for an additional nine months following the date of termination will vest and become exercisable or non-forfeitable as of the date of termination.

Under the employment agreement, in the event of a "change in control" all stock options and other stock-based awards granted to Mr. Avruch at least 12 months prior to the effective date of the employment agreement shall accelerate and become fully exercisable or non-forfeitable immediately prior to the change in control. In addition, in the event that Mr. Avruch is terminated by us without "cause" or Mr. Avruch resigns for "good reason" within three months prior to or 18 months after a "change in control," subject to the execution and effectiveness of a separation agreement and release, he will be entitled to receive (i) an amount equal to 100% of the sum of his base salary plus target bonus for that year, less any amount paid to Mr. Avruch in the same calendar year under the Employee Confidentiality, Assignment and Noncompetition Agreement, and (ii) reimbursement of COBRA premiums for health benefit coverage, up to an amount equal to the monthly employer contribution that we would have made to provide health insurance to Mr. Avruch had he remained employed with us for up to 12 months. Additionally, all then unvested stock options and other stock-based awards granted to Mr. Avruch will vest and become exercisable or non-forfeitable as of the date of termination.

Outstanding Equity Awards at 2020 Fiscal Year-End

The following table sets forth information concerning outstanding equity awards held by our 2020 named executive officers as of December 31, 2020. All equity awards set forth in the table below were granted under either our 2015 Stock Option and Grant Plan, or our 2015 Plan, our 2018 Stock Option and Incentive Plan, or our 2018 Plan, or as an inducement award pursuant to applicable Nasdaq rules as indicated below.

| Name | Option Awards | | | | Stock Awards | |
|----------------|---|---|----------------------------|------------------------|---|--|
| | Number of Securities Underlying Unexercised Options (#) Exercisable | Number of Securities Underlying Unexercised Options (#) Unexercisable | Option Exercise Price (\$) | Option Expiration Date | Number of Shares or Units of Stock that Have Not Vested (#) | Market Value of Shares or Units that Have Not Vested (\$)(1) |
| Geoff MacKay | 142,013 | — | 0.41 | 4/12/2026 | — | — |
| | 40,249 | 5,750 (2) | 0.91 | 6/12/2027 | — | — |
| | 211,880 | 96,309 (3) | 5.00 | 3/15/2028 | — | — |
| | 43,750 | 56,250 (4) | 15.00 | 3/5/2029 | — | — |
| | — | 292,300 (5) | 21.44 | 3/3/2030 | — | — |
| Birgitte Volck | 189,229 (6) | — (7) | 21.76 | 11/15/2021 | — | — |
| | 28,500 (8) | — (9) | 21.44 | 11/15/2021 | — | — |
| Erik Ostrowski | 89,125 | 96,875 (10) | 15.65 | 1/1/2029 | 1,198 (11) | 16,700 |
| | — | 100,900 (12) | 21.44 | 3/3/2030 | — | — |
| Steven Avruch | 42,471 | 46,165 (10) | 15.65 | 1/1/2029 | — | — |
| | — | 90,000 (12) | 21.44 | 3/3/2030 | — | — |

- (1) This column is based on the fair market value of our common stock as of December 31, 2020, the last trading day of 2020, which was \$13.94 per share.
- (2) The shares underlying this stock option vest as follows: 25% of the shares vested on June 13, 2018 and the remainder vest in equal monthly installments until the option is fully vested on June 13, 2021, subject to the continued employment of the executive officer through each such vesting date.
- (3) The shares underlying this stock option vest as follows: 25% of the shares vested on March 16, 2019 and the remainder vest in equal monthly installments until the option is fully vested on March 16, 2022, subject to the continued employment of the executive officer through each such vesting date.
- (4) The shares underlying this stock option vest as follows: 25% of the shares vested on March 5, 2020 and the remainder vest in equal monthly installments until the option is fully vested on March 5, 2023, subject to the continued employment of the executive officer through each such vesting date.
- (5) The shares underlying this stock option vest as follows: 25% of the shares vested on March 4, 2021 and the remainder vest in equal monthly installments until the option is fully vested on March 4, 2024, subject to the continued employment of the executive officers through each such vesting date.
- (6) Represents the grant of a non-qualified stock option as an inducement award pursuant to Nasdaq listing rule 5635(c)(4). The shares underlying this stock option were subject to vesting over four years, with 25% of the shares vesting on December 17, 2019 and the remainder vesting in equal monthly installments until December 17, 2022, subject to the continued employment of Dr. Volck through such date. Pursuant to Dr. Volck's Separation Agreement, the vesting of 54,938 shares was accelerated upon her separation date and the vested portion of this stock option will remain exercisable through November 15, 2021.
- (7) In connection with Dr. Volck's transitional services and separation agreement dated July 16, 2020, 103,771 shares were cancelled.
- (8) The shares underlying this stock option were subject to vesting over four years, with 25% of the shares vesting on February 3, 2021 and the remainder vesting in equal monthly installments until February 3, 2024, subject to the continued employment of Dr. Volck through such date. Pursuant to Dr. Volck's Separation Agreement, the vesting of 28,500 shares was accelerated upon her separation date and the vested portion of this stock option will remain exercisable through November 15, 2021.
- (9) In connection with Dr. Volck's transitional services and separation agreement dated July 16, 2020, 47,500 shares were cancelled.
- (10) The shares underlying this stock option vest as follows: 25% of the shares vested on January 2, 2020 and the remainder vest in equal monthly installments until the option is fully vested on January 2, 2023, subject to the continued employment of the executive officer through each such vesting date.
- (11) The shares underlying this restricted stock unit vest as follows: 25% of the shares vested on January 2, 2020 and the remainder vest in equal monthly installments until the restricted stock unit is fully vested on January 2, 2023, subject to the continued employment of the executive officer through each such vesting date.

- (12) The shares underlying this stock option vest as follows: 25% of the shares vested on February 3, 2021 and the remainder vest in equal monthly installments until the option is fully vested on February 3, 2024, subject to the continued employment of the executive officers through each such vesting date.

Equity Compensation Plan Information

The following table sets forth information as of December 31, 2020 regarding shares of common stock that may be issued under our equity compensation plans, consisting of our 2018 Plan, our 2015 Plan, our 2019 Inducement Plan, our 2020 Inducement Plan, and our 2018 Employee Stock Purchase Plan, or our ESPP.

| Plan Category | Number of Shares of Common Stock to be Issued Upon Exercise of Outstanding Options and RSUs (#) | Weighted-Average Exercise Price of Outstanding Options (\$)(1) | Number of Shares of Common Stock Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in The First Column) (#) |
|--|---|--|---|
| Equity compensation plans approved by security holders (2) | 3,644,864(3) | 13.91 | 4,640,378(4) |
| Equity compensation plans not approved by security holders | 1,915,879(5) | 16.98 | 2,065,050(6) |
| Total | 5,560,743 | 14.97 | 6,705,428 |

- (1) Since restricted stock units do not have any exercise price, such units are not included in the weighted average exercise price calculations above.
- (2) As of March 31, 2021, there were 3,433,617 shares of common stock available for grant under our 2018 Plan, no shares available for grant under our 2015 Plan, and 1,178,590 shares of common stock available for grant under our ESPP.
- (3) Includes (i) 3,643,666 shares of common stock issuable upon the exercise of outstanding options and (ii) 1,198 shares of common stock issuable upon vesting of restricted stock units.
- (4) Excludes (i) 1,662,762 additional shares of common stock that were added to the number of shares that may be issued under our 2018 Plan pursuant to an automatic annual increase effective January 1, 2021 and (ii) 415,690 additional shares of common stock that were added to the number of shares that may be issued under our ESPP pursuant to an automatic annual increase effective January 1, 2021.
- (5) Consists of (i) 480,929 shares of common stock underlying non-qualified stock options that were granted prior to the adoption of our Inducement Plans as one-time awards to various new employees in accordance with Nasdaq Listing Rule 5635(c)(4) and (ii) 1,434,950 shares of common stock issuable upon exercise of outstanding options granted under our 2019 Inducement Plan.
- (6) Consists of (i) 365,050 shares of common stock issuable under our 2019 Inducement Plan and (ii) 1,700,000 issuable under our 2020 Inducement Plan.

Compensation Risk Assessment

We believe that although a portion of the compensation provided to our executive officers and other employees is performance-based, our executive compensation program does not encourage excessive or unnecessary risk taking. Our compensation programs are designed to encourage our executive officers and other employees to remain focused on both short-term and long-term strategic goals, in particular in connection with our pay-for-performance compensation philosophy. As a result, we do not believe that our compensation programs are reasonably likely to have a material adverse effect on us.

Certain Relationships and Transactions

Other than the compensation agreements and other arrangements described under “Executive compensation” and “Director compensation” in this proxy statement and the transactions described below, since January 1, 2019, there has not been and there is not currently proposed, any transaction or series of similar transactions to which we were, or will be, a party in which the amount involved exceeded, or will exceed, \$120,000 (or, if less, 1% of the average of our total assets amounts at December 31, 2019 and 2020) and in which any director, executive officer, holder of five percent or more of any class of our capital stock or any member of the immediate family of, or entities affiliated with, any of the foregoing persons, had, or will have, a direct or indirect material interest.

Follow-on Public Offering

Certain of our existing stockholders, including stockholders affiliated with certain of our directors, purchased an aggregate of approximately \$15 million in shares of our common stock in our follow-on public offering in July 2019 at the public offering price. The underwriting discount for the shares sold to such stockholders in the follow-on public offering was the same as the underwriting discount for the shares sold to the public.

License Agreements and Related Agreements with University Health Network

Fabry License Agreement

On January 27, 2016, we entered into an option agreement with University Health Network, or UHN, pursuant to which UHN granted us an exclusive option to enter into an exclusive license under certain intellectual property rights related to Fabry disease. On November 4, 2016, we executed our option and entered into an exclusive license agreement with UHN. Under this agreement, UHN granted us an exclusive worldwide license under certain intellectual property rights and a non-exclusive worldwide license under certain know-how, in each case subject to certain retained rights, to develop, commercialize and sell products for use in the treatment of Fabry disease. Under the terms of the agreement, we paid to UHN a one-time upfront fee and are obligated to pay an annual maintenance fee until the first sale of a licensed product in certain markets. We are also required to make payments to UHN in connection with the achievement of certain development and regulatory milestones in an aggregate amount of up to C\$2.45 million, as well as royalties on a country-by-country basis of a low to mid-single digit percentage on annual sales of licensed products and a lower single digit royalty in certain circumstances. Additionally, we will pay a low double digit percentage of all sublicensing revenue. We also made a philanthropic commitment to donate funds to organizations for the benefit of the Canadian Fabry community in an amount equal to a low double digit percentage of our royalty payments and regulatory milestone payments, up to a maximum of C\$500,000 in any calendar year. In connection with this agreement, we have also entered into three separate letter agreements with UHN, dated November 4, 2016, June 2, 2017 and December 11, 2019, pursuant to which we agreed to provide certain funding and costs and expenses associated with a clinical trial conducted by UHN for the treatment of Fabry disease. For the years ended December 31, 2020 and 2019, we paid \$344,000 and \$783,000, respectively, to UHN in connection with these agreements, which consists of reimbursable funded study trial costs and license maintenance fees.

Interleukin-12 Agreement

On January 27, 2016, we entered into an exclusive license agreement with UHN pursuant to which UHN granted us an exclusive license to certain intellectual property rights relating to Interleukin-12 proteins, or IL-12. We entered into an amendment to this agreement on September 28, 2017. Under this agreement, we paid an upfront license fee and reimbursement of certain patent expenses, and we are also obligated to pay an annual license fee as well as payments in connection with the achievement of certain performance and development milestones for an aggregate total of up to C\$19.275 million in milestone payments. Additionally, we will pay a low to mid-single digit royalty percentage on annual sales of licensed products, and a low double digit percentage of all sublicensing revenue. For the years ended December 31, 2020 and 2019, we paid \$37,000 and \$38,000 to UHN under this agreement, respectively, which consists of license maintenance fees.

In connection with the above agreements, we have also entered into two separate sponsored research agreements with UHN, one in March 2017 and one in July 2017. The March 2017 agreement was amended and restated and subsequently amended in November 2017. Pursuant to each of these sponsored research agreements, we agreed to fund certain research projects related to IL-12 and Fabry disease, including salaries of certain researchers of up to C\$200,000 and C\$164,652 under the March 2017 and July 2017 agreements, respectively.

At the time we entered into each of the above agreements with UHN, other than the letter agreement dated December 11, 2019, UHN was a greater than 5% beneficial owner of our outstanding capital stock. Additionally, Christopher Paige is a senior scientist at UHN and is currently a member of our board of directors. As an inventor of certain of the intellectual property rights related to IL-12 that we license from UHN, Dr. Paige is entitled to a portion of the consideration that we pay to UHN pursuant to the IL-12 license agreement.

Agreements with Stockholders

In connection with our prior preferred stock financings, we entered into investors' rights, voting and right of first refusal and co-sale agreements containing registration rights, information rights, voting rights and rights of first refusal, among other things, with certain holders of our preferred stock and certain holders of our common stock. These stockholder agreements terminated upon the closing of our IPO, except for the registration rights granted under our investors' rights agreement.

Indemnification Agreements

We have entered into and in the future plan to enter into agreements to indemnify our directors and executive officers. These agreements, among other things, require us to indemnify these individuals for certain expenses (including attorneys' fees), judgments, fines and settlement amounts reasonably incurred by such person in any action or proceeding, including any action by or in our right, on account of any services undertaken by such person on behalf of our Company or that person's status as a member of our board of directors or as an officer of the Company to the maximum extent allowed under Delaware law.

Related Person Transaction Policy

Our board of directors reviews and approves transactions with directors, officers and holders of five percent or more of our voting securities and their affiliates, each a related party. We adopted a written related person transaction policy that requires related party transactions to be approved by our Audit Committee. Pursuant to this policy, the Audit Committee has the primary responsibility for reviewing and approving or disapproving "related party transactions," which are transactions between us and related persons in which a related person has or will have a direct or indirect material interest. For purposes of this policy, a related person will be defined as a director, executive officer, nominee for director, or greater than 5% beneficial owner of our common stock, in each case since the beginning of the most recently completed year, and their immediate family members.

PRINCIPAL STOCKHOLDERS

The following table sets forth information, to the extent known by us or ascertainable from public filings, with respect to the beneficial ownership of our common stock as of April 12, 2021 by:

- each of our directors;
- each of our named executive officers;
- all of our directors and current executive officers as a group; and
- each person, or group of affiliated persons, who is known by us to beneficially own greater than 5.0% of our common stock.

The column entitled “Shares Beneficially Owned” is based on a total of 41,766,122 shares of our common stock outstanding as of April 12, 2021.

Beneficial ownership is determined in accordance with the rules and regulations of the SEC and includes voting or investment power with respect to our common stock. Shares of our common stock subject to options that are currently exercisable or exercisable within 60 days of April 12, 2021 are considered outstanding and beneficially owned by the person holding the options for the purpose of calculating the percentage ownership of that person but not for the purpose of calculating the percentage ownership of any other person. Except as otherwise noted, the persons and entities in this table have sole voting and investing power with respect to all of the shares of our common stock beneficially owned by them, subject to community property laws, where applicable. Except as otherwise indicated in the table below, addresses of named beneficial owners are in care of AVROBIO, Inc., One Kendall Square, Building 300, Suite 201, Cambridge, Massachusetts 02139.

| Name and address of beneficial owner | Shares beneficially owned | |
|---|---------------------------|--------------|
| | Number | Percentage |
| 5% Stockholders: | | |
| Affiliates of Atlas Venture Fund(1) | 4,541,381 | 10.9 % |
| JPMorgan Chase & Co.(2) | 4,508,345 | 10.8 % |
| BlackRock, Inc.(3) | 3,235,078 | 7.7 % |
| Camber Capital Management LP(4) | 3,133,333 | 7.5 % |
| Named Executive Officers and Directors: | | |
| Geoff MacKay(5) | 1,168,962 | 2.8 % |
| Birgitte Volck(6) | 217,729 | * |
| Erik Ostrowski(7) | 145,295 | * |
| Steven Avruch(8) | 83,551 | * |
| Bruce Booth, D.Phil.(9) | 23,675 | * |
| Ian T. Clark(10) | 91,331 | * |
| Phillip Donenberg(11) | 43,897 | * |
| Gail M. Farfel, Ph.D.(12) | 5,444 | * |
| Annalisa Jenkins, M.B.B.S., F.R.C.P.(13) | 54,954 | * |
| Christopher Paige, Ph.D.(14) | 276,187 | * |
| Philip J. Vickers, Ph.D.(15) | 38,774 | * |
| All current executive officers and directors as a group (13 persons)(16) | 2,762,020 | 6.4 % |

* Represents beneficial ownership of less than one percent.

(1) Based in part on a Schedule 13D filed with the SEC on July 30, 2019 and a Form 4 filed with the SEC on February 18, 2020. 3,710,052 shares are held directly by Atlas Venture Fund X, L.P. (“Atlas Venture X”), 810,811 shares are held directly by Atlas Venture Opportunity Fund I, L.P. (“Atlas Venture Opportunity”) and 20,518 shares are held directly by Atlas Venture Associates X, L.P. (“AVA X LP”). AVA X LP is the general partner of Atlas Venture X, and Atlas Venture Associates X, LLC (“AVA X LLC”) is the general partner of AVA X LP. Atlas Venture Associates Opportunity I, L.P. (“AVA Opportunity LP”) is the general partner of Atlas Venture Opportunity and Atlas Venture Associates Opportunity I, LLC (“AVA Opportunity LLC”) is the general partner of AVA Opportunity LP. Bruce Booth is a member of AVA X LLC and AVA Opportunity LLC and a member of our board of directors. Dr. Booth disclaims beneficial ownership of such shares, except to the extent of his proportionate pecuniary interest therein, if any. The address for Atlas Venture X is 300 Technology Square, 8th Floor, Cambridge, MA 02139.

- (2) Based solely on a Schedule 13G/A filed with the SEC on January 20, 2021. The report was filed by JPMorgan Chase & Co. on behalf of itself and its wholly owned subsidiaries, J.P. Morgan Investment Management Inc.; JPMorgan Chase Bank, National Association; and JPMorgan Asset Management (UK) Limited. The address for these entities is 383 Madison Avenue, New York, NY 10179.
- (3) Based solely on a Schedule 13G/A filed with the SEC on January 29, 2021. The report was filed by Blackrock, Inc. on behalf of itself and its wholly owned subsidiaries, BlackRock Life Limited; BlackRock Advisors LLC; BlackRock (Netherlands) B.V.; BlackRock Institutional Trust Company, National Association; BlackRock Asset Management Ireland Limited; BlackRock Financial Management, Inc.; BlackRock Japan Co., Ltd.; BlackRock Asset Management Schweiz AG; BlackRock Investment Management, LLC; BlackRock Investment Management (UK) Limited; BlackRock Asset Management Canada Limited; BlackRock (Luxembourg) S.A.; BlackRock Fund Advisors; and BlackRock Fund Managers Ltd. The address for these entities is 55 East 52nd Street, New York, NY 10055.
- (4) Based solely on a Schedule 13G filed with the SEC on November 20, 2020. The report was filed by Camber Capital Management LP and Stephen DuBois. The business address for Camber Capital Management LP and Stephen DuBois is 101 Huntington Avenue, Suite 2101, Boston, MA 02199.
- (5) Consists of (i) 245,123 shares of common stock, (ii) 72,604 shares of common stock held by Mac MacKay, (iii) 72,604 shares of common stock held by Kali MacKay, (iv) 200,000 shares held by the Geoff R. MacKay Irrevocable Trust, and (v) 578,631 shares of common stock issuable upon exercise of options within 60 days of April 12, 2021. Mr. MacKay is the father of Mac MacKay and Kali MacKay. Mr. MacKay may be deemed to have voting and investment power over shares held by Mac MacKay and Kali MacKay.
- (6) Consists of 217,729 shares of common stock issuable upon exercise of options within 60 days of April 12, 2021.
- (7) Consists of (i) 1,293 shares of common stock, (ii) 96 shares of common stock issuable upon the vesting of a restricted stock unit within 60 days of April 12, 2021 and (iii) 143,906 shares of common stock issuable upon exercise of options within 60 days of April 12, 2021.
- (8) Consists of 83,551 shares of common stock issuable upon exercise of options within 60 days of April 12, 2021.
- (9) Consists of 23,675 shares of common stock issuable upon exercise of options within 60 days of April 12, 2021.
- (10) Consists of 91,311 shares of common stock issuable upon exercise of options within 60 days of April 12, 2021.
- (11) Consists of (i) 2,000 shares of common stock and (ii) 41,897 shares of common stock issuable upon exercise of options within 60 days of April 12, 2021.
- (12) Consists of 5,444 shares of common stock issuable upon exercise of options within 60 days of April 12, 2021.
- (13) Consists of 54,954 shares of common stock issuable upon exercise of options within 60 days of April 12, 2021.
- (14) Consists of (i) 252,512 shares of common stock and (ii) 23,675 shares of common stock issuable upon exercise of options within 60 days of April 12, 2021.
- (15) Consists of 38,774 shares of common stock issuable upon exercise of options within 60 days of April 12, 2021.
- (16) Includes an aggregate of 1,480,081 shares issuable upon exercise of stock options and a restricted stock unit within 60 days of April 12, 2021 held by our current executive officers and directors as a group.

REPORT OF THE AUDIT COMMITTEE

The Audit Committee is appointed by the board of directors to assist the board of directors in fulfilling its oversight responsibilities with respect to (1) the integrity of AVROBIO's consolidated financial statements and financial reporting process and systems of internal controls regarding finance, accounting, and compliance with legal and regulatory requirements, (2) the qualifications, independence, and performance of AVROBIO's independent registered public accounting firm, (3) the performance of AVROBIO's internal audit function, if any, and (4) other matters as set forth in the charter of the Audit Committee approved by the board of directors.

Management is responsible for the preparation of AVROBIO's consolidated financial statements and the financial reporting process, including its system of internal control over financial reporting and its disclosure controls and procedures. The independent registered public accounting firm is responsible for performing an audit of AVROBIO's consolidated financial statements in accordance with the standards of the Public Company Accounting Oversight Board (PCAOB) and issuing a report thereon. The Audit Committee's responsibility is to monitor and oversee these processes.

In connection with these responsibilities, the Audit Committee reviewed and discussed with management and the independent registered public accounting firm the audited consolidated financial statements of AVROBIO for the fiscal year ended December 31, 2020. The Audit Committee also discussed with the independent registered public accounting firm the matters required to be discussed by the applicable requirements of the PCAOB and the SEC. In addition, the Audit Committee received written communications from the independent registered public accounting firm confirming their independence as required by the applicable requirements of the PCAOB and has discussed with the independent registered public accounting firm their independence.

Based on the reviews and discussions referred to above, the Audit Committee recommended to the board of directors that the audited consolidated financial statements of AVROBIO be included in AVROBIO's Annual Report on Form 10-K for the fiscal year ended December 31, 2020, that was filed with the SEC. The information contained in this report shall not be deemed to be (1) "soliciting material," (2) "filed" with the SEC, (3) subject to Regulations 14A or 14C of the Exchange Act, or (4) subject to the liabilities of Section 18 of the Exchange Act. This report shall not be deemed incorporated by reference into any of our other filings under the Exchange Act or the Securities Act, except to the extent that we specifically incorporate it by reference into such filing.

THE AUDIT COMMITTEE OF THE BOARD OF
DIRECTORS OF AVROBIO, INC.

Phillip Donenberg, Chairperson
Annalisa Jenkins, M.B.B.S., F.R.C.P.
Christopher Paige, Ph.D.

April 22, 2021

HOUSEHOLDING

Some banks, brokers and other nominee record holders may be participating in the practice of “householding” proxy statements and annual reports. This means that only one copy of our documents, including the annual report to stockholders and proxy statement, may have been sent to multiple stockholders in your household. We will promptly deliver a separate copy of either document to you upon written or oral request to AVROBIO, Inc., One Kendall Square, Building 300, Suite 201, Cambridge, Massachusetts 02139, Attention: Corporate Secretary, telephone: 617-752-7011. If you want to receive separate copies of the proxy statement or annual report to stockholders in the future, or if you are receiving multiple copies and would like to receive only one copy per household, you should contact your bank, broker or other nominee record holder, or you may contact us at the above address and phone number.

STOCKHOLDER PROPOSALS

A stockholder who would like to have a proposal considered for inclusion in our 2022 proxy statement must submit the proposal in accordance with the procedures outlined in Rule 14a-8 of the Exchange Act so that it is received by us no later than December 23, 2021. However, if the date of the 2022 Annual Meeting of Stockholders is changed by more than 30 days from the date of the previous year's meeting, then the deadline is a reasonable time before we begin to print and send our proxy statement for the 2022 Annual Meeting of Stockholders. SEC rules set standards for eligibility and specify the types of stockholder proposals that may be excluded from a proxy statement. Stockholder proposals should be addressed to AVROBIO, Inc., One Kendall Square, Building 300, Suite 201, Cambridge, Massachusetts 02139, Attention: Corporate Secretary.

If a stockholder wishes to propose a nomination of persons for election to our board of directors or present a proposal at an annual meeting but does not wish to have the proposal considered for inclusion in our proxy statement and proxy card, our bylaws establish an advance notice procedure for such nominations and proposals. Stockholders at an annual meeting may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of the board of directors or by a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has delivered timely notice in proper form to our Corporate Secretary of the stockholder's intention to bring such business before the meeting.

The required notice must be in writing and received by our Corporate Secretary at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary of the preceding year's annual meeting. However, in the event that the date of the annual meeting is advanced by more than 30 days, or delayed by more than 60 days, from the first anniversary of the preceding year's annual meeting, a stockholder's notice must be so received no earlier than the 120th day prior to such annual meeting and not later than the close of business on the later of (A) the 90th day prior to such annual meeting and (B) the tenth day following the day on which public announcement of the date of such meeting is first made. For stockholder proposals to be brought before the 2022 Annual Meeting of Stockholders, the required notice must be received by our Corporate Secretary at our principal executive offices no earlier than February 10, 2022 and no later than March 12, 2022. Stockholder proposals and the required notice should be addressed to AVROBIO, Inc., One Kendall Square, Building 300, Suite 201, Cambridge, Massachusetts 02139, Attention: Corporate Secretary.




OTHER MATTERS

Our board of directors does not know of any other matters to be brought before the Annual Meeting. If any other matters not mentioned in this proxy statement are properly brought before the meeting, the individuals named in the enclosed proxy intend to use their discretionary voting authority under the proxy to vote the proxy in accordance with their best judgment on those matters.



P.O. BOX 8016, CARY, NC 27512-9903

YOUR VOTE IS IMPORTANT! PLEASE VOTE BY:

| | |
|---|---|
|  | INTERNET Go To: www.proxypush.com/AVRO <ul style="list-style-type: none">• Cast your vote online• Have your Proxy Card ready• Follow the simple instructions to record your vote |
|  | PHONE Call 1-866-430-8290 <ul style="list-style-type: none">• Use any touch-tone telephone• Have your Proxy Card ready• Follow the simple recorded instructions |
|  | MAIL <ul style="list-style-type: none">• Mark, sign and date your Proxy Card• Fold and return your Proxy Card in the postage-paid envelope provided |

AVROBIO, Inc.

Annual Meeting of Stockholders

For stockholders of record at the close of business on April 12, 2021

TIME: Thursday, June 10, 2021 9:00 AM, Eastern Time
PLACE: Annual Meeting to be held live via the Internet - please visit www.proxydocs.com/AVRO for more details.

This proxy is being solicited on behalf of the Board of Directors

The undersigned hereby appoints Geoff MacKay, Erik Ostrowski and Steven Avruch, and each of them, as the true and lawful attorneys of the undersigned, with full power of substitution and revocation, and authorizes them, and each of them, to vote all the shares of common stock of AVROBIO, Inc. which the undersigned is entitled to vote at said meeting and any adjournment thereof upon the matters specified and upon such other matters as may be properly brought before the meeting or any adjournment thereof, conferring authority upon such true and lawful attorneys to vote in their discretion on such other matters as may properly come before the meeting and revoking any proxy heretofore given.

THE SHARES REPRESENTED BY THIS PROXY WILL BE VOTED AS DIRECTED OR, IF NO DIRECTION IS GIVEN, SHARES WILL BE VOTED **FOR** THE ELECTION OF THE DIRECTORS IN ITEM 1, **FOR** THE PROPOSAL IN ITEM 2 AND IN THE DISCRETION OF THE PROXYHOLDERS ON ANY OTHER MATTER THAT PROPERLY COMES BEFORE THE MEETING.

You are encouraged to specify your choice by marking the appropriate box (SEE REVERSE SIDE) but you need not mark any box if you wish to vote in accordance with the Board of Directors' recommendation. The Named Proxies cannot vote your shares unless you sign (on the reverse side) and return this card.


PLEASE BE SURE TO SIGN AND DATE THIS PROXY CARD AND MARK ON THE REVERSE SIDE



AVROBIO, Inc.
Annual Meeting of Stockholders

Please make your marks like this: Use dark black pencil or pen only

The Board of Directors Recommends a Vote FOR the nominees listed in proposal 1.

| | YOUR VOTE | | BOARD OF DIRECTORS RECOMMENDS |
|--|--------------------------|--------------------------|--|
| 1. To elect three class III directors to our board of directors, to serve until the 2024 Annual Meeting of Stockholders. | FOR | WITHHOLD |  FOR |
| (1) Bruce Booth, D.Phil. | <input type="checkbox"/> | <input type="checkbox"/> | FOR |
| (2) Phillip Donenberg | <input type="checkbox"/> | <input type="checkbox"/> | FOR |
| (3) Geoff MacKay | <input type="checkbox"/> | <input type="checkbox"/> | FOR |

The Board of Directors Recommends a Vote FOR proposal 2.

| | | | | |
|--|--------------------------|--------------------------|--------------------------|-----|
| 2. To ratify the appointment of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2021. | FOR | AGAINST | ABSTAIN | FOR |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Note: To transact any other business that may properly come before the Annual Meeting or any adjournment thereof.

In order to attend, you must register in advance at www.proxydocs.com/AVRO prior to the deadline of June 8, 2021 at 5:00 PM Eastern Time. Upon completing your registration, you will receive further instructions via email, including your unique links that will allow you access to the meeting and will also permit you to submit questions. Please be sure to follow instructions found on your Proxy Card and/or Voting Authorization Form and subsequent instructions that will be delivered to you via email.

Authorized Signatures - Must be completed for your instructions to be executed. Please sign exactly as your name(s) appears on your account. If held in joint tenancy, all persons should sign. Trustees, administrators, etc., should include title and authority. Corporations should provide full name of corporation and title of authorized officer signing the Proxy/Vote Form.

Signature (and Title if applicable)

Date

Signature (if held jointly)

Date