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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

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**SCHEDULE 14A**

**Proxy Statement Pursuant to Section 14(a) of the  
Securities Exchange Act of 1934  
(Amendment No. )**

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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

**bluebird bio, Inc.**

(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:

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**\*\*\* Exercise Your *Right* to Vote \*\*\***  
**Important Notice Regarding the Availability of Proxy Materials for the  
Stockholder Meeting to Be Held on June 18, 2020.**

**BLUEBIRD BIO, INC.**



**Meeting Information**

**Meeting Type:** Annual Meeting  
**For holders as of:** April 23, 2020  
**Date:** June 18, 2020 **Time:** 8:30 AM EDT  
**Location:** The offices of bluebird bio, Inc.  
60 Binney Street  
Cambridge, Massachusetts 02142

You are receiving this communication because you hold shares in the company named above.

This is not a ballot. You cannot use this notice to vote these shares. This communication presents only an overview of the more complete proxy materials that are available to you on the Internet. You may view the proxy materials online at [www.proxyvote.com](http://www.proxyvote.com) or easily request a paper copy (see reverse side).

We encourage you to access and review all of the important information contained in the proxy materials before voting.

**See the reverse side of this notice to obtain proxy materials and voting instructions.**

— Before You Vote —  
How to Access the Proxy Materials

**Proxy Materials Available to VIEW or RECEIVE:**

1. NOTICE AND PROXY STATEMENT      2. FORM 10-K

**How to View Online:**

Have the information that is printed in the box marked by the arrow → [XXXX XXXX XXXX XXXX] (located on the following page) and visit: [www.proxyvote.com](http://www.proxyvote.com).

**How to Request and Receive a PAPER or E-MAIL Copy:**

If you want to receive a paper or e-mail copy of these documents, you must request one. There is NO charge for requesting a copy. Please choose one of the following methods to make your request:

- 1) BY INTERNET:      [www.proxyvote.com](http://www.proxyvote.com)
- 2) BY TELEPHONE:    1-800-579-1639
- 3) BY E-MAIL\*:      [sendmaterial@proxyvote.com](mailto:sendmaterial@proxyvote.com)

\* If requesting materials by e-mail, please send a blank e-mail with the information that is printed in the box marked by the arrow → [XXXX XXXX XXXX XXXX] (located on the following page) in the subject line.

Requests, instructions and other inquiries sent to this e-mail address will NOT be forwarded to your investment advisor. Please make the request as instructed above on or before June 4, 2020 to facilitate timely delivery.

— How To Vote —

Please Choose One of the Following Voting Methods

**Vote In Person:** Many stockholder meetings have attendance requirements including, but not limited to, the possession of an attendance ticket issued by the entity holding the meeting. Please check the meeting materials for any special requirements for meeting attendance. At the meeting, you will need to request a ballot to vote these shares.

**Vote By Internet:** To vote now by Internet, go to [www.proxyvote.com](http://www.proxyvote.com). Have the information that is printed in the box marked by the arrow → [XXXX XXXX XXXX XXXX] (located on the following page) available and follow the instructions.

**Vote By Mail:** You can vote by mail by requesting a paper copy of the materials, which will include a proxy card.

## Voting Items

The Board of Directors recommends you vote FOR the following:

1. Election of Class I Directors

**Nominees:**

- 1a. Nick Leschly
  - 1b. Douglas A. Melton, Ph.D.
  - 1c. Mark Vachon
2. To hold a non-binding advisory vote on the compensation paid to the Company's named executive officers.
  3. To ratify the appointment of Ernst & Young LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2020.

**NOTE:** To transact any other business that may properly come before the meeting or any adjournment thereof.

