

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

SCHEDULE 14A

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

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

Bionano Genomics, 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.

Title of each class of securities to which transaction applies:

Aggregate number of securities to which transaction applies:

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):

Proposed maximum aggregate value of transaction:

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.

Amount Previously Paid:

Form, Schedule or Registration Statement No.:

Filing Party:

Date Filed:



BIONANO GENOMICS, INC.

9540 Towne Centre Drive, Suite 100
San Diego, CA 92121



NOTICE OF SPECIAL MEETING OF STOCKHOLDERS

To Be Held On August 31, 2020

Dear Stockholders:

You are cordially invited to attend a Special Meeting of Stockholders (the "Special Meeting") of Bionano Genomics, Inc., a Delaware corporation (the "Company"), to be held on Monday, August 31, 2020, at 10:00 a.m. Pacific Time. In light of the COVID-19 pandemic, to support the health and well-being of our stockholders, employees and directors, and taking into account recent federal, state and local guidance, the Special Meeting will be held in a virtual meeting format only, via live webcast on the Internet, with no physical in-person meeting. You will be able to attend and participate in the Special Meeting online by visiting www.virtualshareholdermeeting.com/BNGO2020, where you will be able to listen to the meeting live, submit questions and vote. We encourage you to vote your shares prior to the Special Meeting.

You are being asked to vote on the following matters:

1. To approve an amendment to our Amended and Restated Certificate of Incorporation to increase the number of authorized shares of common stock from 200,000,000 to 400,000,000.
2. To approve the adjournment of the Special Meeting, if necessary, to solicit additional proxies if there are not sufficient votes in favor of the foregoing proposal.

These items of business are more fully described in the accompanying Proxy Statement. The Special Meeting will be a completely virtual meeting of stockholders. To listen to the Special Meeting or submit questions or vote during the Special Meeting via live webcast, please visit www.virtualshareholdermeeting.com/BNGO2020. **You will not be able to attend the Special Meeting in person.**

The record date for the Special Meeting is July 27, 2020. Only stockholders of record at the close of business on that date may vote at the meeting or any adjournment thereof.

Important Notice Regarding the Availability of Proxy Materials for the Stockholders' Meeting to Be Held on Monday, August 31, 2020 at 10:00 a.m., Pacific Time via live webcast at www.virtualshareholdermeeting.com/BNGO2020.

The proxy statement and annual report to shareholders are available at www.proxyvote.com.

By Order of the Board of Directors,

R. Erik Holmlin, Ph.D.

Secretary

San Diego, California
August , 2020

You are cordially invited to attend the virtual Special Meeting. Whether or not you expect to attend the Special Meeting, PLEASE VOTE YOUR SHARES. As an alternative to voting online at the Special Meeting, you may vote via the internet, by telephone or by completing, dating, signing and returning the enclosed proxy card by mail. Voting instructions are provided in the enclosed proxy card.

Even if you have voted by proxy, you may still vote online at the Special Meeting. Please note, however, that if your shares are held of record by a broker, bank or other agent and you wish to vote at the Special Meeting, you must follow the instructions from such organization and will need to obtain a proxy card issued in your name from that record holder.

PROXY STATEMENT
FOR THE SPECIAL MEETING OF STOCKHOLDERS

To Be Held on August 31, 2020

QUESTIONS AND ANSWERS ABOUT THESE PROXY MATERIALS AND VOTING

Why am I receiving these materials?

We have sent you these proxy materials because our Board of Directors (sometimes referred to as the “Board”) is soliciting your proxy to vote at the Special Meeting of Stockholders (the “Special Meeting”) of Bionano Genomics, Inc., a Delaware corporation (sometimes referred to in this proxy statement as “we,” “us,” the “Company” or “Bionano”) to be held virtually, via live webcast at www.virtualshareholdermeeting.com/BNGO2020, on Monday, August 31, 2020, at 10:00 a.m. Pacific Time, and any adjournment or postponement thereof. You are invited to attend the Special Meeting to vote on the proposals described in this proxy statement. However, you do not need to attend the meeting to vote your shares. Instead, you may simply complete, date, sign and return the enclosed proxy card, or follow the instructions below to vote over the telephone or through the internet.

We intend to mail these proxy materials on or about August 27, 2020 to all stockholders of record entitled to vote at the Special Meeting.

Where and when is the Special Meeting?

The Special Meeting will be held on Monday, August 31, 2020, at 10:00 a.m. Pacific Time. In light of the COVID-19 pandemic, to support the health and well-being of our stockholders, employees and directors, and taking into account recent federal, state and local guidance, the Special Meeting will be held in a virtual meeting format only, via live webcast on the Internet, with no physical in-person meeting. A summary of the information you need to attend the Special Meeting online is provided below:

- Any stockholder may listen to the Special Meeting via live webcast at www.virtualshareholdermeeting.com/BNGO2020. The webcast will begin at 10:00 a.m. Pacific Time.
- Stockholders may vote and submit questions during the Special Meeting via live webcast.
- Stockholders may also submit questions no earlier than 15 minutes prior to the beginning of the webcast for the Special Meeting by logging in to www.virtualshareholdermeeting.com/BNGO2020 and entering the 16-digit control number included on the proxy card.
- To enter the meeting, please have your 16-digit control number, which is available on your proxy card. If you do not have your 16-digit control number, you will be able to listen to the meeting only and you will not be able to vote or submit questions during the meeting.
- Instructions on how to connect to and participate in the Special Meeting via the internet, including how to demonstrate proof of stock ownership, are posted at www.virtualshareholdermeeting.com/BNGO2020.

We recommend that you log in a few minutes before 10:00 a.m. Pacific Time to ensure you are logged in when the Special Meeting starts. The information on our website is not incorporated by reference into this proxy statement.

If you plan to vote during the Special Meeting, you may still do so even if you have already returned your proxy.

What do I need in order to be able to participate in the Special Meeting online?

You will need the 16-digit control number included on your proxy card in order to vote your shares or submit questions during the Special Meeting. If you do not have your 16-digit control number, you will be able to listen to the meeting only, and will not be able to vote or submit questions during the meeting. **Instructions on how to connect and participate in the Special Meeting via the internet, including how to demonstrate proof of stock ownership, are posted at www.virtualshareholdermeeting.com/BNGO2020.**

What if during the Special Meeting I have technical difficulties or trouble accessing the live webcast of the Special Meeting?

On the day of the Special Meeting, if you encounter any difficulties accessing the live webcast of the Special Meeting or during the Special Meeting, please call the technical support number that will be posted on the log-in page for our virtual Special Meeting for assistance.

Who can vote at the Special Meeting?

Only stockholders of record at the close of business on July 27, 2020 will be entitled to vote at the Special Meeting. On this record date, there were _____ shares of common stock outstanding and entitled to vote.

Stockholder of Record: Shares Registered in Your Name

If on July 27, 2020 your shares were registered directly in your name with our transfer agent, American Stock Transfer & Trust Company, LLC, then you are a stockholder of record. As a stockholder of record, you may vote at the Special Meeting or vote by proxy. Whether or not you plan to attend the Special Meeting virtually, we urge you to fill out and return the enclosed proxy card, or vote by proxy over the telephone or on the internet as instructed below to ensure your vote is counted.

Beneficial Owner: Shares Registered in the Name of a Broker or Bank

If on July 27, 2020 your shares were held, not in your name, but rather in an account at a brokerage firm, bank, dealer or other similar organization, then you are the beneficial owner of shares held in “street name” and these proxy materials are being forwarded to you by that organization. The organization holding your account is considered to be the stockholder of record for purposes of voting at the Special Meeting. As a beneficial owner, you have the right to direct your broker, bank or other agent regarding how to vote the shares in your account. You are also invited to attend the Special Meeting virtually. However, since you are not the stockholder of record, you may not vote your shares online during the Special Meeting unless you request and obtain a valid proxy issued in your name from your broker, bank or other agent.

What am I voting on?

There are two proposals being presented for stockholder approval:

- To approve an amendment to our Amended and Restated Certificate of Incorporation to increase the number of authorized shares of common stock from 200,000,000 to 400,000,000. We refer to this proposal as the “Increase in Number of Authorized Shares of Common Stock Proposal” or “Proposal 1.”
- To adjourn the Special Meeting, if necessary, to solicit additional proxies if there are not sufficient votes in favor of the foregoing proposal. We refer to this proposal as the “Adjournment Proposal” or “Proposal 2.”

What if another matter is properly brought before the Special Meeting?

The Board knows of no other matters that will be presented for consideration at the Special Meeting. If any other matters are properly brought before the Special Meeting, it is the intention of the person named in the accompanying proxy to vote on those matters in accordance with his best judgment.

How do I vote?

The procedures for voting are as follows:

Stockholder of Record: Shares Registered in Your Name

If you are a stockholder of record, you may vote at the Special Meeting, vote by proxy over the telephone, vote by proxy through the internet or vote by proxy using the enclosed proxy card. Whether or not you plan to attend the Special Meeting, we urge you to vote by proxy to ensure your vote is counted. You may still attend the Special Meeting and vote online during the meeting even if you have already voted by proxy.

- **VOTE BY INTERNET:** To vote through the internet, go to www.proxyvote.com to complete an electronic proxy card. You will be asked to provide the company number and control number from the enclosed proxy card. Your internet vote must be received by 11:59 p.m., Eastern Time on August 30, 2020 to be counted.
- **VOTE BY PHONE:** To vote over the telephone, dial toll-free 800-690-6903 using a touch-tone phone and follow the recorded instructions. You will be asked to provide the company number and control number from the enclosed proxy card. Your telephone vote must be received by 11:59 p.m., Eastern Time on August 30, 2020 to be counted.
- **VOTE BY PROXY CARD:** To vote using the enclosed proxy card, simply complete, sign and date the enclosed proxy card and return it promptly in the envelope provided. If you return your signed proxy card to us before the Special Meeting, we will vote your shares as you direct.
- **VOTE DURING MEETING:** To vote online during the Special Meeting, follow the provided instructions to join the Special Meeting at www.virtualshareholdermeeting.com/BNGO2020, starting at 10:00 a.m. Pacific Time on Monday, August 31, 2020.

Beneficial Owner: Shares Registered in the Name of Broker or Bank

If you are a beneficial owner of shares registered in the name of your brokerage firm, bank, dealer or other agent, you should have received a voting instruction form with these proxy materials from that organization rather than from us. Simply complete and mail the voting instruction form to ensure that your vote is counted. Alternatively, you may vote by telephone or over the internet as instructed by your broker or bank. To vote online during the Special Meeting, you must obtain a valid proxy from your brokerage firm, bank, dealer or other agent. Follow the instructions from your broker, bank or other agent, or contact that organization to request a proxy form.

We provide internet proxy voting to allow you to vote your shares online, with procedures designed to ensure the authenticity and correctness of your proxy vote instructions. However, please be aware that you must bear any costs associated with your internet access, such as usage charges from internet access providers and telephone companies.

How many votes do I have?

On each matter to be voted upon, you have one vote for each share of common stock you own as of July 27, 2020.

If I am a stockholder of record and I do not vote, or if I return a proxy card or otherwise vote without giving specific voting instructions, what happens?

If you are a stockholder of record and do not vote by completing your proxy card, by telephone, through the internet or online during the Special Meeting, your shares will not be voted.

If you return a signed and dated proxy card or otherwise vote without marking voting selections, your shares will be voted "For" the Increase in Number of Authorized Shares of Common Stock Proposal and "For" the Adjournment Proposal. If any other matter is properly presented at the Special Meeting, your proxyholder (the individual named on your proxy card) will vote your shares using his best judgment.

If I am a beneficial owner of shares held in street name and I do not provide my broker or bank with voting instructions, what happens?

If you are a beneficial owner and do not instruct your brokerage firm, bank, dealer or other agent how to vote your shares, the question of whether your broker or nominee will still be able to vote your shares depends on whether the particular proposal is considered to be a routine matter under applicable rules. Brokers and nominees can use their discretion to vote uninstructed shares with respect to matters that are considered to be routine under applicable rules, but not with respect to non-routine matters. Under applicable rules and interpretations, non-routine matters are matters that may substantially affect the rights or privileges of stockholders, such as mergers, stockholder proposals, elections of directors (even if not contested), executive

compensation (including any advisory stockholder votes on executive compensation and on the frequency of stockholder votes on executive compensation), and certain corporate governance proposals, even if management-supported. Accordingly, we believe that without your instructions your broker or nominee will be permitted to vote your shares on Proposal 1 and Proposal 2.

If you are a beneficial owner of shares held in street name, in order to ensure your shares are voted in the way you would prefer, you must provide voting instructions to your broker, bank or other agent by the deadline provided in the materials you receive from your broker, bank or other agent.

Who is paying for this proxy solicitation?

Bionano will pay for the entire cost of soliciting proxies. In addition to these proxy materials, our directors and employees may also solicit proxies in person, by telephone, or by other means of communication. Directors and employees will not be paid any additional compensation for soliciting proxies. We may also reimburse brokerage firms, banks, dealers or other agents for the cost of forwarding proxy materials to beneficial owners.

In addition, we have engaged Morrow Sodali LLC to assist in the solicitation of proxies and provide related advice and informational support, for a services fee and the reimbursement of customary disbursements, which are not expected to exceed \$10,000 in total. If you have any questions regarding this proxy statement, you may contact Morrow Sodali LLC at (203) 561 – 6945.

What does it mean if I receive more than one set of proxy materials?

If you receive more than one set of proxy materials, your shares may be registered in more than one name or in different accounts. Please follow the voting instructions on each proxy card in the proxy materials to ensure that all of your shares are voted.

Can I change my vote after submitting my proxy?

Stockholder of Record: Shares Registered in Your Name

Yes. You can revoke your proxy at any time before the final vote at the Special Meeting. If you are the record holder of your shares, you may revoke your proxy in any one of the following ways:

- You may submit another properly completed proxy card with a later date.
- You may grant a subsequent proxy by telephone or through the internet.
- You may send a timely written notice that you are revoking your proxy to: Secretary of Bionano Genomics, Inc., 9540 Towne Centre Drive, Suite 100, San Diego, CA 92121.
- You may vote during the Special Meeting which will be hosted via the Internet. Simply attending the Special Meeting online will not, by itself, revoke your proxy. Even if you plan to attend the Special Meeting online, we recommend that you also submit your proxy or voting instructions or vote by telephone or through the internet so that your vote will be counted if you later decide not to attend the Special Meeting online.

Your most recent proxy card or telephone or internet proxy is the one that is counted.

Beneficial Owner: Shares Registered in the Name of Broker or Bank

If your shares are held by your brokerage firm, bank, dealer or other agent as a nominee, you should follow the instructions provided by your broker, bank or other agent.

What are “broker non-votes”?

When a beneficial owner of shares held in “street name” does not give instructions to the brokerage firm, bank, dealer or other agent holding the shares as to how to vote on matters deemed to be non-routine under applicable rules, the broker or nominee cannot vote the shares. These unvoted shares are counted as “broker non-votes.” Broker non-votes will be counted towards the presence of a quorum but will not be counted as votes “For” any proposal. As discussed above, we believe that without your instructions your broker or nominee will be permitted to vote your shares on Proposal 1 and Proposal 2.

As a reminder, if you are a beneficial owner of shares held in street name, in order to ensure your shares are voted in the way you would prefer, you must provide voting instructions to your brokerage firm, bank, dealer or other agent by the deadline provided in the materials you receive from your brokerage firm, bank, dealer or other agent.

How are votes counted?

Each share of our common stock you own entitles you to one vote. The proxy card indicates the number of shares of our common stock you owned at the close of business on July 27, 2020. The inspector of elections will count votes for the meeting and will separately count “For” and “Against” votes, abstentions, and broker non-votes. Abstentions will be counted towards the vote total for each proposal and will have the same effect as “Against” votes. Any broker non-votes will have the same effect as “Against” votes for Proposal 1 and will have no effect on Proposal 2.

How many votes are needed to approve each proposal?

Approval of the Increase in Number of Authorized Shares of Common Stock Proposal will require the affirmative vote of the majority of outstanding shares of our common stock. Abstentions and any broker non-votes will have the same effect as “Against” votes.

Approval of the Adjournment Proposal will require the affirmative vote of the majority of shares present in person, by remote communication, if applicable, or represented by proxy at the meeting and entitled to vote on the subject matter. Abstentions will have the same effect as “Against” votes. Any broker non-votes will have no effect on this proposal.

What is the quorum requirement?

A quorum of stockholders is necessary to hold the Special Meeting. A quorum will be present if stockholders holding a majority of the outstanding shares entitled to vote are present by virtual attendance at the Special Meeting or represented by proxy. On the record date, there were _____ shares outstanding and entitled to vote. **Thus, the holders of _____ shares must be present by virtual attendance or represented by proxy at the Special Meeting to have a quorum.**

Your shares will be counted towards the quorum only if you submit a valid proxy (or one is submitted on your behalf by your brokerage firm, bank, dealer or other agent) or if you vote online during the Special Meeting. Abstentions and broker non-votes will be counted towards the quorum requirement. If there is no quorum, the holders of a majority of shares present by virtual attendance at the Special Meeting or represented by proxy may adjourn the Special Meeting to another date.

How can I find out the results of the voting at the Special Meeting?

Preliminary voting results will be announced at the Special Meeting. In addition, final voting results will be published in a current report on Form 8-K that we expect to file with the SEC within four business days after the Special Meeting. If final voting results are not available to us in time to file a Form 8-K within four business days after the Special Meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

When are stockholder proposals and director nominations due for next year’s Annual Meeting?

To be considered for inclusion in the Company’s proxy materials for next year’s annual meeting, your proposal must be submitted in writing by January 19, 2021, to: Secretary of Bionano Genomics, Inc., 9540 Towne Centre Drive, Suite 100, San Diego, CA 92121. If you wish to submit a proposal (including a director nomination) that is not to be included in the Company’s proxy materials for next year’s annual meeting, you must do so between March 2, 2021 and April 1, 2021. You are also advised to review the Company’s amended and restated bylaws, which contain additional requirements relating to advance notice of stockholder proposals and director nominations.

PROPOSAL 1

APPROVAL OF THE INCREASE IN NUMBER OF AUTHORIZED SHARES OF COMMON STOCK PROPOSAL

General

The Board has approved an amendment, or the Authorized Shares Amendment, to the Company's Amended and Restated Certificate of Incorporation, or the Certificate of Incorporation, to increase the number of authorized shares of common stock from 200,000,000 to 400,000,000. The Authorized Shares Amendment will not change the number of authorized shares of preferred stock, which currently consists of 10,000,000 shares of preferred stock.

The additional shares of common stock authorized for issuance by the Authorized Shares Amendment would be a part of the existing class of common stock and, if and when issued, would have the same rights and privileges as the common stock presently issued and outstanding. The full text of the proposed Authorized Shares Amendment is attached to this Proxy Statement as Appendix 1. However, the text of the Authorized Shares Amendment is subject to revision to include such changes as may be required by the Secretary of State of the State of Delaware and as deemed necessary and advisable to effect the Authorized Shares Amendment.

Provided the stockholders approve the Authorized Shares Amendment, the increased number of shares would be authorized for issuance, but would remain unissued until such time as the Board approves a specific issuance of such shares. Other than future issuances under the Company's equity compensation plans, the Company currently has no plans or arrangements to issue the additional authorized shares of common stock that will result in the event that the Company's stockholders approve, and the Company implements, the Authorized Shares Amendment.

Adoption of the Authorized Shares Amendment would not affect the rights of the holders of currently outstanding common stock, except for effects incidental to increasing the number of shares of our common stock outstanding, such as dilution of the earnings per share and voting rights of current holders of common stock, to the extent that any additional shares of common stock are ultimately issued out of the increase in authorized shares proposed in the Authorized Shares Amendment.

If the proposed Authorized Shares Amendment is approved by the requisite vote of the stockholders, it will become effective upon the filing of a Certificate of Amendment with the Secretary of State of the State of Delaware. The Board reserves its right to elect not to proceed with and abandon the Authorized Shares Amendment if it determines, in its sole discretion at any time, that this proposal is no longer in the best interests of our stockholders.

If we fail to obtain stockholder approval of this proposal at the Special Meeting, we intend to continue to seek to obtain stockholder approval at each subsequent annual meeting of stockholders and/or special meetings of stockholders until such approval has been obtained and we will incur the costs associated therewith.

Background

In addition to the _____ shares of common stock outstanding on July 27, 2020, we have also reserved _____ shares for issuance upon the exercise of outstanding warrants, _____ shares for issuance upon the exercise of outstanding stock options and _____ shares for issuance pursuant to the Company's equity incentive and employee stock purchase plans, meaning that we presently have _____ authorized shares available for issuance, which is insufficient to meet our needs in connection with future financings or strategic transactions and properly incentivizing our key personnel.

Purposes and Effects of the Authorized Shares Amendment

The Board is recommending the proposed increase in the authorized number of shares of common stock to provide the Company with appropriate flexibility to issue additional shares in the future on a timely basis if such need arises in connection with potential financings, business combinations or other corporate purposes. Approval of the Authorized Shares Amendment could enable the Company to take advantage of market conditions, the availability of more favorable financing, and opportunities for business combinations and other strategic transactions, without the potential delay and expense associated with convening a special stockholders' meeting.

Our success also depends in part on our continued ability to attract, retain and motivate highly qualified management and key personnel. If this proposal is not approved by our stockholders, the lack of unissued and unreserved authorized shares of common stock to provide future equity incentive opportunities could adversely impact our ability to achieve these goals. In short, if our stockholders do not approve this proposal, we may not be able to access the capital markets, complete corporate collaborations or partnerships, attract, retain and motivate employees, and pursue other business opportunities integral to our growth and success.

The proposed increase in the number of authorized shares of common stock will not, by itself, have an immediate dilutive effect on our current stockholders. However, if this proposal is approved, unless otherwise required by applicable law or stock exchange rules, the Board will be able to issue the additional shares of common stock from time to time in its discretion without further action or authorization by the stockholders. The newly authorized shares of common stock would be issuable for any proper corporate purpose, including capital raising transactions of equity or convertible debt securities, the establishment of collaborations or other strategic agreements, stock splits, stock dividends, issuance under current or future equity incentive plans, future acquisitions, investment opportunities, or for other corporate purposes. The future issuance of additional shares of common stock or securities convertible into our common stock may occur at times or under circumstances that could result in a dilutive effect on the earnings per share, book value per share, voting power and percentage interest of the present holders of our common stock, some of whom have preemptive rights to subscribe for additional shares that we may issue.

Potential Anti-Takeover Effect

An increase in the number of authorized but unissued shares of common stock relative to the number of outstanding shares of common stock may also, under certain circumstances, be construed as having an anti-takeover effect. Although not designed or intended for such purposes, the effect of the Authorized Shares Amendment might be to render more difficult or to discourage a merger, tender offer, proxy contest or change in control of us and the removal of management, which stockholders might otherwise deem favorable. For example, the authority of the Board to issue common stock might be used to create voting impediments or to frustrate an attempt by another person or entity to effect a takeover or otherwise gain control of us because the issuance of additional common stock would dilute the voting power of the common stock then outstanding. Our common stock could also be issued to purchasers who would support the Board in opposing a takeover bid which our board determines not to be in our best interests and those of our stockholders. In addition to the Authorized Shares Amendment, the Company's Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws also include other provisions that may have an anti-takeover effect. These provisions, among other things, permit the Board to issue preferred stock with rights senior to those of the common stock without any further vote or action by the stockholders, provide that special meetings of stockholders may only be called by the Board and some of our officers, and do not provide for cumulative voting rights, which could make it more difficult for stockholders to effect certain corporation actions and may delay or discourage a change in control. The Board is not presently aware of any attempt, or contemplated attempt, to acquire control of the Company and the Authorized Shares Amendment is not part of any plan by the Board to recommend or implement a series of anti-takeover measures.

Vote Required

Approval of the Increase in Number of Authorized Shares of Common Stock Proposal requires "For" votes, cast either online by virtual attendance of the Special Meeting or by proxy, of a majority of the outstanding shares of our common stock. Abstentions will have the same effect as an "against" vote on this proposal. As noted above, we believe that this proposal will be considered a "routine" matter and, as a result, we do not expect there to be any broker non-votes on this proposal. If, however, a broker non-vote occurs (or if your shares are not affirmatively voted in favor of this proposal for any other reason), it will have the same effect as an "against" vote on this proposal.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE "FOR" THE APPROVAL OF THE INCREASE IN NUMBER OF AUTHORIZED SHARES OF COMMON STOCK PROPOSAL.

PROPOSAL 2

APPROVAL OF AN ADJOURNMENT OF THE SPECIAL MEETING, IF NECESSARY, TO SOLICIT ADDITIONAL PROXIES

General

If the Special Meeting is convened and a quorum is present, but there are not sufficient votes to approve Proposal 1, or if there are insufficient votes to constitute a quorum, our proxy holders may move to adjourn the Special Meeting at that time in order to enable the Board to solicit additional proxies.

In this proposal, we are asking our stockholders to authorize the holder of any proxy solicited by the Board to vote in favor of adjourning the Special Meeting to another time and place, if necessary or appropriate (as determined in good faith by the Board), to solicit additional proxies in the event there are not sufficient votes to approve Proposal 1. If our stockholders approve this proposal, we could adjourn the Special Meeting and any adjourned or postponed session of the Special Meeting and use the additional time to solicit additional proxies, including the solicitation of proxies from our stockholders that have previously voted. Among other things, approval of this proposal could mean that, even if we had received proxies representing a sufficient number of votes to defeat Proposal 1, we could adjourn the Special Meeting without a vote on such proposal and seek to convince our stockholders to change their votes in favor of such proposal.

If it is necessary or appropriate (as determined in good faith by the Board) to adjourn the Special Meeting, no notice of the adjourned meeting is required to be given to our stockholders, other than an announcement at the Special Meeting of the time and place to which the Special Meeting is adjourned, so long as the meeting is adjourned for 30 days or less and no new record date is fixed for the adjourned meeting. At the adjourned meeting, we may transact any business which might have been transacted at the original meeting.

Vote Required

Approval of the Adjournment Proposal requires “For” votes from the holders of a majority of the shares represented at the Special Meeting. Abstentions will have the same effect as an “against” vote on this proposal. As noted above, we believe that this proposal will be considered a “routine” matter and, as a result, we do not expect there to be any broker non-votes on this proposal. If, however, your shares are represented at the Special Meeting and your broker fails to vote your shares on this proposal, it will have the same effect as an “against” vote on this proposal.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE “FOR” APPROVAL OF THE ADJOURNMENT PROPOSAL.

HOUSEHOLDING OF PROXY MATERIALS

The SEC has adopted rules that permit companies and intermediaries (e.g., brokers) to satisfy the delivery requirements for Special Meeting materials with respect to two or more stockholders sharing the same address by delivering a single set of Special Meeting materials addressed to those stockholders. This process, which is commonly referred to as “householding,” potentially means extra convenience for stockholders and cost savings for companies.

For this meeting, a number of brokers with account holders who are Bionano stockholders will be “householding” the Company’s proxy materials. A single set of Special Meeting materials will be delivered to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once you have received notice from your broker that they will be “householding” communications to your address, “householding” will continue until you are notified otherwise or until you revoke your consent. If, at any time, you no longer wish to participate in “householding” and would prefer to receive a separate set of Special Meeting materials, please notify your broker or Bionano. Direct your written request to the attention of the Secretary of Bionano Genomics, Inc., 9540 Towne Centre Drive, Suite 100, San Diego, CA 92121 or call us at 858-888-7600. Stockholders who currently receive multiple copies of the Special Meeting materials at their addresses and would like to request “householding” of their communications should contact their brokers.

OTHER MATTERS

The Board knows of no other matters that will be presented for consideration at the Special Meeting. If any other matters are properly brought before the Special Meeting, it is the intention of the person named in the accompanying proxy to vote on such matters in accordance with his best judgment.

By Order of the Board of Directors

R. Erik Holmlin, Ph.D.

Secretary

August , 2020

**CERTIFICATE OF AMENDMENT
TO THE AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION OF
BIONANO GENOMICS, INC.**

Bionano Genomics, Inc. (the “*Company*”), a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware (the “*DGCL*”), hereby certifies that:

ONE: The name of the Company is Bionano Genomics, Inc. The Company’s Certificate of Incorporation was originally filed with the Secretary of State of the State of Delaware on August 16, 2007 under the name of BioNanomatrix, Inc.

TWO: The Amended and Restated Certificate of Incorporation of the Company (the “*Charter*”) was filed with the Secretary of State of the State of Delaware on August 23, 2018.

THREE: The Board of Directors of the Company (the “*Board*”), acting in accordance with the provisions of Sections 141 and 242 of the DGCL, duly adopted resolutions to amend the Charter as follows:

1. Article IV, Section A shall be amended and restated to read in its entirety as follows:

“The Company is authorized to issue two classes of stock to be designated, respectively, “*Common Stock*” and “*Preferred Stock*.” The total number of shares which the Company is authorized to issue is 410,000,000 shares. 400,000,000 shares shall be Common Stock, each having a par value of \$0.0001. 10,000,000 shares shall be Preferred Stock, each having a par value of \$0.0001.”

FOUR: Thereafter pursuant to a resolution of the Board, this Certificate of Amendment was submitted to the stockholders of the Company for their approval, and was duly adopted at a special meeting of the stockholders of the Company, in accordance with the provisions of Section 242 of the DGCL.

FIVE: All other provisions of the Charter as currently on file with the Secretary of State of the State of Delaware shall remain in full force and effect.

IN WITNESS WHEREOF, the Company has caused this Certificate of Amendment to be signed by its President and Chief Executive Officer this day of , 2020.

BIONANO GENOMICS, INC.

Name: R. Erik Holmlin, Ph.D.

Title: President and Chief Executive Officer

BIONANO GENOMICS, INC.
 9540 TOWNE CENTRE DRIVE
 SUITE 100
 SAN DIEGO, CA 92121

VOTE BY INTERNET - www.proxyvote.com

Use the Internet to transmit your voting instructions and for electronic delivery of information. Vote by 11:59 P.M. ET on August 30, 2020. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

ELECTRONIC DELIVERY OF FUTURE PROXY MATERIALS

If you would like to reduce the costs incurred by our company in mailing proxy materials, you can consent to receiving all future proxy statements, proxy cards and annual reports electronically via e-mail or the Internet. To sign up for electronic delivery, please follow the instructions above to vote using the Internet and, when prompted, indicate that you agree to receive or access proxy materials electronically in future years.

VOTE BY PHONE - 1-800-690-6903

Use any touch-tone telephone to transmit your voting instructions. Vote by 11:59 P.M. ET on August 30, 2020. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL

Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

KEEP THIS PORTION FOR YOUR RECORDS
 DETACH AND RETURN THIS PORTION ONLY

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.

The Board of Directors recommends you vote FOR the following proposals:		For	Against	Abstain
1.	Approval of an amendment to the Company's Amended and Restated Certificate of Incorporation to increase the number of authorized shares of common stock from 200,000,000 to 400,000,000.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	Approval of the adjournment of the Special Meeting, if necessary, to solicit additional proxies if there are not sufficient votes in favor of the foregoing proposal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

NOTE: In his best judgment, the proxy is authorized to vote upon such other business as may properly come before the Special Meeting. The proxy, when properly executed, will be voted as directed herein by the undersigned stockholder. If no direction is made but the card is signed, the proxy will be voted FOR proposals 1 and 2.

Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. All holders must sign. If a corporation or partnership, please sign in full corporate or partnership name by authorized officer.

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Signature [PLEASE SIGN WITHIN BOX]	Date	Signature (Joint Owners)	Date

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Important Notice Regarding the Availability of Proxy Materials for the Special Meeting:

The Notice and Proxy Statement is available at www.proxyvote.com

**BIONANO GENOMICS, INC.
Special Meeting of Stockholders
August 31, 2020, 10:00 AM (Pacific Time)
This proxy is solicited on behalf of the Board of Directors**

The undersigned hereby appoints R. Erik Holmlin, Ph.D., as the true and lawful attorney of the undersigned, with full power of substitution and revocation, and authorizes him to represent and to vote, as designated on the reverse side of this ballot, all the shares of capital stock of Bionano Genomics, Inc. which the undersigned is entitled to vote at the Special Meeting of Stockholders to be held virtually, via live webcast at www.virtualshareholdermeeting.com/BNGO2020, on Monday, August 31, 2020, at 10:00 AM Pacific Time, and any adjournment or postponement thereof.

This proxy, when properly executed, will be voted in the manner directed herein. If no such direction is made, this proxy will be voted in accordance with the Board of Directors' recommendations.

In his discretion, the proxy is authorized to vote upon such other business as may properly come before the meeting.

Votes must be received by 11:59 P.M., Eastern Time, on August 30, 2020.

Continued and to be signed on reverse side