Registration No. 333-

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

FORM S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Bionano Genomics, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

9540 Towne Centre Drive, Suite 100 San Diego, California 92121 (858) 888-7600

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

R. Erik Holmlin, Ph.D. President and Chief Executive Officer Bionano Genomics, Inc. 9540 Towne Centre Drive, Suite 100 San Diego, California 92121 (858) 888-7600

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to: Thomas A. Coll, Esq. James C. Pennington, Esq. Cooley LLP 4401 Eastgate Mall San Diego, CA 92121 (858) 550-6000

Approximate date of commencement of proposed sale to the public: **From time to time after this registration statement becomes effective.**

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box: \Box

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box:

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. \boxtimes 333-245762

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. \Box

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

26-1756290 (I.R.S. Employer Identification Number) Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Non-accelerated filer

Accelerated filer X Smaller reporting company Emerging growth company X

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE				
	Proposed Maximum			
Title of Securities	Aggregate	Amount of		
to be Registered	Offering Price(1)	Registration Fee(2)		
Common Stock, \$0.0001 par value per share	\$17,000,000	\$1,855.00		

(1)The registrant previously registered securities at an aggregate offering price not to exceed \$125,000,000 on a Registration Statement on Form S-3 (File No. 333-245762), which was initially filed by the registrant on August 14, 2020 and declared effective on August 25, 2020 (the "Prior Registration Statement"). In accordance with Rule 462(b) under the Securities Act of 1933, as amended (the "Securities Act"), an additional amount of securities having a proposed maximum aggregate offering price of \$17,000,000 is hereby registered, which includes shares issuable upon the exercise of the underwriters' option to purchase additional shares, representing no more than 20% of the maximum aggregate offering price of unsold securities under the Prior Registration Statement. In no event will the maximum aggregate offering price of all securities issued pursuant to this Registration Statement and the Prior Registration Statement exceed that registered under such Registration Statements.

Calculated pursuant to Rule 457(o) under the Securities Act. (2)

X

This Registration Statement shall become effective upon filing in accordance with Rule 462(b) under the Securities Act.

EXPLANATORY NOTE AND INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

Pursuant to Rule 462(b) under the Securities Act of 1933, as amended, Bionano Genomics, Inc. (the "Registrant") is filing this Registration Statement on Form S-3 (this "Registration Statement") with the Securities and Exchange Commission (the "Commission"). This Registration Statement relates to the public offering of securities contemplated by the Registration Statement on Form S-3 (File No. 333-245762) (the "Prior Registration Statement"), which the Registrant originally filed with the Commission on August 14, 2020, and which the Commission declared effective on August 25, 2020.

The Registrant is filing this Registration Statement for the sole purpose of increasing the aggregate number of securities offered by the Registrant by a proposed aggregate offering price of \$17,000,000, which includes shares that may be sold by the Registrant in the event the underwriters exercise their option to purchase additional shares of the Registrant's common stock. The additional securities that are being registered for issuance and sale are in an amount and at a price that together represent no more than 20% of the maximum aggregate offering price of unsold securities under the Prior Registration Statement. The information set forth in the Prior Registration Statement and all exhibits to the Prior Registration Statement are hereby incorporated by reference into this Registration Statement.

The required opinion and consents are listed on the Exhibit Index attached hereto and filed herewith.

EXHIBIT INDEX

Exhibit Number	Description
5.1	Opinion of Cooley LLP (incorporated by reference to Exhibit 5.1 to the Prior Registration Statement).
23.1	Consent of Deloitte & Touche LLP, independent registered public accounting firm.
23.2	Consent of Cooley LLP (included in Exhibit 5.1)
24.1	Power of Attorney (incorporated by reference to Exhibit 24.1 to the Prior Registration Statement).

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, State of California, on January 8, 2021.

Bionano Genomics, Inc.

By: /s/ R. Erik Holmlin, Ph.D.

R. Erik Holmlin, Ph.D.

President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ R. Erik Holmlin, Ph.D. R. Erik Holmlin, Ph.D.	Chief Executive Officer and Director (Principal Executive Officer)	January 8, 2021
/s/ Christopher Stewart Christopher Stewart	Chief Financial Officer (Principal Financial and Accounting Officer)	January 8, 2021
/s/ David L. Barker, Ph.D.* David L. Barker, Ph.D.	Director	January 8, 2021
/s/ Yvonne Linney, Ph.D.* Yvonne Linney, Ph.D.	Director	January 8, 2021
/s/ Albert A. Luderer, Ph.D.* Albert A. Luderer, Ph.D.	Director	January 8, 2021
/s/ Hannah Mamuszka* Hannah Mamuszka	Director	January 8, 2021
/s/ Christopher Twomey* Christopher Twomey	Director	January 8, 2021
/s/ Kristiina Vuori, M.D., Ph.D.* Kristiina Vuori, M.D., Ph.D.	Director	January 8, 2021
*Pursuant to power of attorney		
By: /s/ R. Erik Holmlin, Ph.D. R. Erik Holmlin, Ph.D. Attorney-in-fact		

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement No. 333-245762 on Form S-3 filed pursuant to Rule 462(b) of the Securities Act of 1933, as amended, of our report dated March 10, 2020, relating to the financial statements of Bionano Genomics, Inc. appearing in the Annual Report on Form 10-K of Bionano Genomics, Inc. for the year ended December 31, 2019.

/s/ DELOITTE & TOUCHE LLP

San Diego, California January 8, 2021