

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13G
(Rule 13d-102)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT
TO RULES 13d-1(b),(c) AND (d) AND AMENDMENTS THERETO FILED
PURSUANT TO RULE 13d-2(b)
(Amendment No.)¹

Bionano Genomics, Inc.
(Name of Issuer)

Common Stock, \$0.0001 par value
(Title of Class of Securities)

09075F107
(CUSIP Number)

December 31, 2018
Date of Event Which Requires Filing of this Statement

Check the appropriate box to designate the rule pursuant to which this Schedule is Filed:

- Rule 13d-1(b)
 Rule 13d-1(c)
 Rule 13d-1(d)

¹The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page. The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act.

1. NAME OF REPORTING PERSON
 I.R.S. Identification No. of Above Person (Entities Only) (Voluntary)

Domain Partners VIII, L.P.

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*
 (a) (b)

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

5. SOLE VOTING POWER

958,878 shares of Common Stock *

NUMBER OF
 SHARES
 BENEFICIALLY
 OWNED BY
 EACH
 REPORTING
 PERSON
 WITH

6. SHARED VOTING POWER

-0-

7. SOLE DISPOSITIVE POWER

958,878 shares of Common Stock *

8. SHARED DISPOSITIVE POWER

-0-

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

958,878 shares of Common Stock *

10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

9.5% **

12. TYPE OF REPORTING PERSON

PN

* As of December 31, 2018 and including 15,000 shares issuable upon exercise of Warrants to Purchase Common Stock.

** Based on 10,032,687 shares of Common Stock outstanding as of November 2, 2018, as reported in the Issuer's Report on Form 10-Q for the period ended September 30, 2018 filed with the Securities and Exchange Commission on November 7, 2018.

1.	NAME OF REPORTING PERSON I.R.S. Identification No. of Above Person (Entities Only) (Voluntary) DP VIII Associates, L.P.
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) <input checked="" type="checkbox"/> (b) <input type="checkbox"/>
3.	SEC USE ONLY
4.	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware
	5. SOLE VOTING POWER 6,891 shares of Common Stock *
	6. SHARED VOTING POWER -0-
	7. SOLE DISPOSITIVE POWER 6,891 shares of Common Stock *
	8. SHARED DISPOSITIVE POWER -0-
9.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 6,891 shares of Common Stock *
10.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>
11.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) Less than 0.1% **
12.	TYPE OF REPORTING PERSON PN

* As of December 31, 2018.

** Based on 10,032,687 shares of Common Stock outstanding as of November 2, 2018, as reported in the Issuer's Report on Form 10-Q for the period ended September 30, 2018 filed with the Securities and Exchange Commission on November 7, 2018.

Schedule 13G

Item 1(a) – Name of Issuer:

Bionano Genomics, Inc.

Item 1(b) – Address of Issuer’s Principal Executive Offices:

9460 Towne Centre Drive, Suite 100, San Diego, CA 92121

Item 2(a) – Name of Person Filing:

This statement is being filed by Domain Partners VIII, L.P., a Delaware limited partnership (“Domain VIII”), and DP VIII Associates, L.P., a Delaware limited partnership (“DP VIII A”) (together, the “Reporting Persons”).

Item 2(b) – Address of Principal Business Office:

202 Carnegie Center, Suite 104, Princeton, NJ 08540

Item 2(c) – Place of Organization:

Domain VIII: Delaware
DP VIII A: Delaware

Item 2(d) – Title of Class of Securities:

Common Stock, \$0.0001 par value

Item 2(e) – CUSIP Number:

09075F107

Item 3 – Statements Filed Pursuant to Rules 13d-1(b) or 13d-2(b):

Not applicable.

Item 4 – Ownership.

(a) through (c):

The information set forth in the cover pages to this Schedule 13G is incorporated herein by reference. In addition, as of December 31, 2018, Domain Associates, L.L.C., an affiliate and the investment manager of the Reporting Persons, directly beneficially owned 140 shares of Common Stock, or less than 0.1% of the Common Stock outstanding.

Item 5 – Ownership of Five Percent or Less of a Class:

Not applicable.

Item 6 – Ownership of More than Five Percent on Behalf of Another Person:

Not applicable.

Item 7 – Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Company:

Not applicable.

Item 8 – Identification and Classification of Members of the Group:

See Exhibit 2.

Item 9 – Notice of Dissolution of Group:

Not applicable.

Item 10 – Certification:

Not applicable.

SIGNATURE

After reasonable inquiry and to the best of their knowledge and belief, the undersigned hereby certify that the information set forth in this statement is true, complete and correct.

Dated: January 11, 2019

DOMAIN PARTNERS VIII, L.P.

By: One Palmer Square Associates VIII, L.L.C.,
General Partner

/s/ Lisa A. Kraeutler

Attorney-in-Fact

DP VIII ASSOCIATES, L.P.

By: One Palmer Square Associates VIII, L.L.C.,
General Partner

By: /s/ Lisa A. Kraeutler

Attorney-in-Fact

JOINT FILING AGREEMENT

The undersigned hereby agree that the statement on Schedule 13G to which this Agreement is annexed as Exhibit 2, and any amendments thereto, is and will be filed on behalf of each of them in accordance with the provisions of Rule 13d-1(k) under the Securities Exchange Act of 1934, as amended.

Dated: January 11, 2019

DOMAIN PARTNERS VIII, L.P.

By: One Palmer Square Associates VIII, L.L.C.,
General Partner

/s/ Lisa A. Kraeutler

Attorney-in-Fact

DP VIII ASSOCIATES, L.P.

By: One Palmer Square Associates VIII, L.L.C.,
General Partner

By: /s/ Lisa A. Kraeutler

Attorney-in-Fact

Identification and Classification of Members of the Group

Domain Partners VIII, L.P. and DP VIII Associates, L.P. are filing this statement on Schedule 13G as a group.

Domain Partners VIII, L.P. is a Delaware limited partnership. Its sole general partner is One Palmer Square Associates VIII, L.L.C., a Delaware limited liability company.

DP VIII Associates, L.P. is a Delaware limited partnership. Its sole general partner is One Palmer Square Associates VIII, L.L.C., a Delaware limited liability company.

