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

SCHEDULE 13D
Under the Securities Exchange Act of 1934

BIONANO GENOMICS, INC.

(Name of Issuer)

Common Stock

(Title of Class of Securities)

09075F107

(CUSIP Number)

Andrew W. Hobson
777 Third Avenue, 25th Floor
New York, NY 10017
212-698-4595

(Name, Address and Telephone Number of Person
Authorized to Receive Notices and Communications)

March 22, 2019

(Date of Event which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition which is the subject of this Schedule 13D, and is filing this schedule because of Rule 240.13d-1(e)(f) or (g), check the following box .

* The 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 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

1	NAMES OF REPORTING PERSONS Innovatus Life Sciences GP, LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0
	8	SHARED VOTING POWER 474,745 ⁽¹⁾
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 474,745 ⁽¹⁾
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 474,745 ⁽¹⁾	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 4.63%	
14	TYPE OF REPORTING PERSON PN	

(1) This amount includes 312,758 shares of common stock currently held and 161,987 shares of common stock issuable pursuant to Tranche A Warrants.

1	NAMES OF REPORTING PERSONS Innovatus Life Sciences Lending Fund I, LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0
	8	SHARED VOTING POWER 474,745 ⁽¹⁾
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 474,745 ⁽¹⁾
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 474,745 ⁽¹⁾	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 4.63%	
14	TYPE OF REPORTING PERSON PN	

(1) This amount includes 312,758 shares of common stock currently held and 161,987 shares of common stock issuable pursuant to Tranche A Warrants.

1	NAMES OF REPORTING PERSONS Innovatus Capital Partners, LLC	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0
	8	SHARED VOTING POWER 568,491 ⁽¹⁾
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 568,491 ⁽¹⁾
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 568,491 ⁽¹⁾	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 5.54%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) IA	

(1) This amount includes 406,504 shares of common stock currently held and 161,987 shares of common stock issuable pursuant to Tranche A Warrants.

1	NAMES OF REPORTING PERSONS Innovatus Life Sciences Offshore GP, LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS) WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION Cayman Islands	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0
	8	SHARED VOTING POWER 93,746
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 93,746
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 93,746	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 0.93%	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) PN	

1	NAMES OF REPORTING PERSONS Innovatus Life Sciences Offshore Fund I, LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION Cayman Islands	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0
	8	SHARED VOTING POWER 93,746
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 93,746
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 93,746	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 0.93%	
14	TYPE OF REPORTING PERSON PN	

Item 1. Security and Issuer.

This Statement on Schedule 13D relates to the common stock (the "Shares") of Bionano Genomics, Inc. (the "Company"). The address of the principal executive offices of the Company are located at 9640 Towne Centre Drive, Suite 100, San Diego, California 92121.

Item 2. Identity and Background.

This statement is being filed by (a) Innovatus Life Sciences GP, LP, a Delaware limited liability company ("Innovatus GP"), which is the general partner of Innovatus Life Sciences Lending Fund I, LP, a Delaware limited partnership ("Innovatus Fund"), (b) Innovatus Fund, which is a private investment fund that has acquired Shares of the Company through (i) a direct purchase from the Company pursuant to a Common Stock Purchase Agreement dated March 14, 2019, the form of which is filed with the Securities and Exchange Commission (the "SEC") as Exhibit 10.3 to the Company's filing on Form 8-K made on March 14, 2019 (the "Purchase Agreement") and which is incorporated herein by reference, and (ii) with respect to the Tranche A Warrants, in connection with a Loan and Security Agreement with the Company dated as of March 14, 2019, the form of which is filed with the SEC as Exhibit 10.2 to the Company's filing on Form 8-K made on March 14, 2019 (the "Loan Agreement") and which is incorporated herein by reference; (c) Innovatus Capital Partners, LLC, a Delaware limited liability company ("Innovatus Management") that serves as investment manager to each of Innovatus Fund and Innovatus Offshore Fund (as defined below); (d) Innovatus Life Sciences Offshore GP, LP, a Cayman Islands exempted limited partnership ("Innovatus Offshore GP") which is the general partner of Innovatus Life Sciences Offshore Fund I, LP, a Cayman Islands exempted limited partnership ("Innovatus Offshore Fund" and together with Innovatus GP, Innovatus Fund, Innovatus Manager and Innovatus Offshore GP, the "Reporting Persons"); and (e) Innovatus Offshore Fund, which is a private investment fund that has acquired Shares of the Company through direct purchases from the Company pursuant to the Purchase Agreement.

Each of (i) Innovatus Flagship Parent GP, LLC ("Innovatus Holdings"), which is the parent company of Innovatus GP, (ii) Innovatus Offshore Parent GP, LLC ("Innovatus Offshore Holdings" and, together with Innovatus Holdings, the "Parent Companies") and (iii) David Schiff, a citizen of the United States, who is a control person of the Parent Companies (together, the "Additional Disclosed Persons") could be deemed to control one or more of the Reporting Persons and information regarding such Additional Disclosed Persons is accordingly furnished in Items 2-6 herein. Further information regarding the identities and background of the Reporting Person and the Additional Disclosed Persons (together, the "Disclosed Parties") is set forth in Appendix 1 hereto.

During the last five years, none of the Disclosed Parties, nor, to the best knowledge of the Disclosed Parties, any of their respective executive officers, their respective directors, or any other persons controlling them has: (1) been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors) or (2) been party to a civil proceeding of a judicial or administrative body of competent jurisdiction and, as a result of such proceeding, was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

Item 3. Source or Amount of Funds or Other Consideration.

The Shares herein reported as being beneficially owned by the Reporting Persons were acquired (i) by Innovatus Fund and Innovatus Offshore Fund, with respect to the common stock, in a direct purchase from the Company pursuant to the Purchase Agreement and (ii) by Innovatus Fund, with respect to the Tranche A Warrants, in connection with the Loan Agreement. The funds used in such purchases were from available investment capital.

Item 4. Purpose of Transaction.

Innovatus Manager has caused its advisory clients to acquire the Shares for investment purposes and will continue to analyze the investment in the Company on an ongoing basis. As part of this investment analysis process, the Reporting Persons reserve the right to engage in discussions with management of the Company and with third parties that may have an interest in the business affairs of the Company in order to monitor their investment and consider possible strategic alternatives. In connection with the Loan Agreement, Innovatus Fund has received certain information and consulting rights related to the Company.

Depending upon its discussions and consideration of strategic alternatives, the Reporting Persons could support one or more of the actions described in subparagraphs (a) through (j) of Item 4 of Schedule 13D. The Reporting Persons reserve the right to formulate other purposes, plans or proposals regarding the Company to the extent deemed advisable by the Reporting Persons in light of current market conditions generally and specifically as they relate to the Company.

Item 5. Interest in Securities of the Issuer.

Based on the most recent information available to the Reporting Persons, the Company has 10,258,394 Shares outstanding (including the Shares issuable to Innovatus Fund under the Tranche A Warrants). As of March 29, 2019, (a) Innovatus GP and Innovatus Fund may be deemed to beneficially own 474,745 Shares, which represents approximately 4.63% of the outstanding Shares, (b) Innovatus Management may be deemed to beneficially own 568,491 Shares, which represents approximately 5.54% of the outstanding Shares, and (c) Innovatus Offshore GP and Innovatus Offshore Fund may be deemed to beneficially own 93,746 Shares, which represents approximately 0.93% of the outstanding Shares. The number of Shares which may be deemed to be beneficially owned by the Reporting Persons and the additional disclosed parties are as follows:

	<u>Shares Deemed to be Beneficially Owned By:</u>	<u>Nature of Ownership</u>	<u>Percentage of Class</u>
(A)	<u>Innovatus GP:</u> 474,745	Shared Voting and Shared Dispositive Power (1)	4.63%
(B)	<u>Innovatus Fund:</u> 474,745	Shared Voting and Shared Dispositive Power (2)	4.63%
(C)	<u>Innovatus Management:</u> 568,491	Shared Voting and Shared Dispositive Power (3)	5.54%
(D)	<u>Innovatus Offshore GP:</u> 93,746	Shared Voting and Shared Dispositive Power (4)	0.93%
(E)	<u>Innovatus Offshore GP:</u> 93,746	Shared Voting and Shared Dispositive Power (5)	0.93%
(F)	<u>Innovatus Holdings:</u> 0	None	0%
(G)	<u>Innovatus Offshore Holdings:</u> 0	None	0%
(E)	<u>Innovatus Offshore Holdings:</u> 0	None	0%
(H)	<u>David Schiff:</u> 0	None	0%

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- (1) Because Innovatus GP is the general partner of Innovatus Fund and, as such, has the authority to exercise voting or dispositive power with respect to shares of its portfolio companies, including the Shares of the Company, it could be deemed to share the power to vote and dispose or direct the disposition of such Shares.
 - (2) Because Innovatus Fund has the authority to exercise voting or dispositive power with respect to shares of its portfolio companies, including the Shares of the Company, it could be deemed to have the power to vote and dispose or direct the disposition of such Shares.
 - (3) Because Innovatus Management is the investment manager of Innovatus Fund and Innovatus Offshore Fund and, as such, holds discretionary investment authority and voting power with respect to shares of its portfolio companies, including the Shares of the Company, it could be deemed to have the shared power to vote and dispose or direct the disposition of such Shares.
 - (4) Because Innovatus Offshore GP is the general partner of Innovatus Offshore Fund and, as such, has the authority to exercise voting or dispositive power with respect to shares of its portfolio companies, including the Shares of the Company, it could be deemed to share the power to vote and dispose or direct the disposition of such Shares.
 - (5) Because Innovatus Offshore Fund has the authority to exercise voting or dispositive power with respect to shares of its portfolio companies, including the Shares of the Company, it could be deemed to share the power to vote and dispose or direct the disposition of such Shares.

TRANSACTIONS

All of the Shares reported herein were acquired (i) by Innovatus Fund and Innovatus Offshore Fund, with respect to the common stock, in a direct purchase from the Company pursuant to the Purchase Agreement and (ii) by Innovatus Fund, with respect to the Tranche A Warrants, in connection with the Loan Agreement. Total consideration of \$1,500,000 was paid for the shares of the Company's common stock and the Tranche A Warrants were issued in consideration for funding a tranche of the loan made under the Loan Agreement. The Exercise Price of the Tranche A Warrants is \$4.63 per shares.

Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer.

None.

Item 7. Material to Be Filed as Exhibits.

The following exhibits are filed herewith:

Exhibit A – Joint Filing Agreement

In accordance with Rule 13d-4 of the Securities Exchange Act of 1934, the Additional Disclosed Parties expressly disclaim the beneficial ownership of the securities covered by this statement and the filing of this report shall not be construed as an admission by such persons that they are the beneficial owners of such securities.

SIGNATURE

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

INNOVATUS LIFE SCIENCES GP, LP

Dated: April 1, 2019

By: /s/ Andrew W. Hobson

Name: Andrew W. Hobson

Title: Authorized Signatory

INNOVATUS LIFE SCIENCES LENDING FUND I, LP

By: INNOVATUS LIFE SCIENCES GP, LP, its general partner

Dated: April 1, 2019

By: /s/ Andrew W. Hobson

Name: Andrew W. Hobson

Title: Authorized Signatory

INNOVATUS CAPITAL PARTNERS, LLC

Dated: April 1, 2019

By: /s/ Andrew W. Hobson

Name: Andrew W. Hobson

Title: Authorized Signatory

INNOVATUS LIFE SCIENCES OFFSHORE GP, LP

Dated: April 1, 2019

By: /s/ Andrew W. Hobson

Name: Andrew W. Hobson

Title: Authorized Signatory

INNOVATUS LIFE SCIENCES OFFSHORE FUND I, LP

By: INNOVATUS LIFE SCIENCES OFFSHORE GP, LP, its general partner

Dated: April 1, 2019

By: /s/ Andrew W. Hobson

Name: Andrew W. Hobson

Title: Authorized Signatory

APPENDIX 1

OFFICERS AND CONTROL PERSONS OF AND CERTAIN ADDITIONAL INFORMATION REGARDING THE
DISCLOSED PARTIES

A. Innovatus Flagship Parent GP, LLC

Innovatus Flagship Parent GP, LLC is organized as a Delaware limited liability company. Its address is:

777 Third Avenue, 25th Floor
New York, NY 10017

Innovatus Flagship Parent GP, LLC is controlled by its principal shareholder David Schiff.

B. Innovatus Flagship Offshore Parent GP, LLC

Innovatus Flagship Offshore Parent GP, LLC is organized as a Delaware limited liability company. Its address is:

777 Third Avenue, 25th Floor
New York, NY 10017

Innovatus Flagship Offshore Parent GP, LLC is controlled by its principal shareholder David Schiff.

C. David Schiff

David Schiff is the principal shareholder of each of Innovatus Flagship Parent GP, LLC and Innovatus Flagship Offshore Parent GP, LLC. Mr. Schiff's principal occupation is as a portfolio manager of Innovatus investment products. His business address is:

777 Third Avenue, 25th Floor
New York, NY 10017

EXHIBIT A
Joint Filing Agreement Among
Innovatus Life Sciences GP, LP, Innovatus Life Sciences Lending Fund I, LP
Innovatus Capital Partners, LLC
Innovatus Life Sciences Offshore GP, LP, Innovatus Life Sciences Offshore Fund I, LP

WHEREAS, in accordance with Rule 13d-1(k)(1) under the Securities and Exchange Act of 1934, as amended (the "Act"), only one joint statement and any amendments thereto need to be filed whenever one or more persons are required to file such a statement or any amendments thereto pursuant to Section 13(d) of the Act with respect to the same securities, provided that said persons agree in writing that such statement or amendments thereto is filed on behalf of each of them.

NOW, THEREFORE, the parties hereto agree as follows:

Innovatus Life Sciences GP, LP, Innovatus Life Sciences Lending Fund I, LP, Innovatus Capital Partners, LLC, Innovatus Life Sciences Offshore GP, LP and Innovatus Life Sciences Offshore Fund I, LP do hereby agree, in accordance with Rule 13d-1(k)(1) under the Act, to file a statement on Schedule 13D relating to their ownership of the common stock of Bionano Genomics, Inc., and do hereby further agree that said statement shall be filed on behalf of each of them.

[Signature Page Follows]

INNOVATUS LIFE SCIENCES GP, LP

Dated: April 1, 2019

By: /s/ Andrew W. Hobson

Name: Andrew W. Hobson

Title: Authorized Signatory

INNOVATUS LIFE SCIENCES LENDING FUND I, LP

By: INNOVATUS LIFE SCIENCES GP, LP, its general partner

Dated: April 1, 2019

By: /s/ Andrew W. Hobson

Name: Andrew W. Hobson

Title: Authorized Signatory

INNOVATUS CAPITAL PARTNERS, LLC

Dated: April 1, 2019

By: /s/ Andrew W. Hobson

Name: Andrew W. Hobson

Title: Authorized Signatory

INNOVATUS LIFE SCIENCES OFFSHORE GP, LP

Dated: April 1, 2019

By: /s/ Andrew W. Hobson

Name: Andrew W. Hobson

Title: Authorized Signatory

INNOVATUS LIFE SCIENCES OFFSHORE FUND I, LP

By: INNOVATUS LIFE SCIENCES OFFSHORE GP, LP, its general partner

Dated: April 1, 2019

By: /s/ Andrew W. Hobson

Name: Andrew W. Hobson

Title: Authorized Signatory
