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

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**SCHEDULE 13D**

**Under the Securities Exchange Act of 1934  
(Amendment No. 4)\***

**OvaScience, Inc.**  
(Name of Issuer)

**Common Stock, par value \$0.001 per share**  
(Title of Class of Securities)

**69014Q 101**  
(CUSIP Number)

**Michelle Dipp, M.D., Ph.D.**  
**c/o Peter Marathas, Esq.**  
**Marathas Barrow Weatherhead Lent LLP**  
**One Financial Center, 15th Floor**  
**Boston, Massachusetts 02111**

With a copy to:  
**William C. Hicks, Esq.**  
**Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.**  
**One Financial Center**  
**Boston, Massachusetts 02111**  
(Name, Address and Telephone Number of Person  
Authorized to Receive Notices and Communications)

**April 30, 2018**  
(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 that is the subject of this Schedule 13D, and is filing this schedule because of §§240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box.

*Note:* Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7 for other parties to whom copies are to be sent.

\* 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).

**Explanatory Note:** By filing this Amendment No. 4 to Schedule 13D, Michelle Dipp, M.D., Ph.D. ("Dr. Dipp" or the "Reporting Person") is revising the beneficial ownership and other information previously reported to reflect: (i) the vesting of certain options held by Dr. Dipp (with a weighted average exercise price of \$9.38) over time and pursuant to a Termination of Advisory Agreement with OvaScience, Inc., a Delaware Corporation ("OvaScience" or the "Issuer") dated April 30, 2018 (the "Termination Agreement"); and (ii) that Dr. Dipp is no longer a general partner of Longwood Fund III GP, LLC (the "General Partner"), the general partner of the Longwood Fund III LP (the "Fund"), and therefore no longer may be deemed to be the beneficial owner of shares of common stock, par value \$0.001 per share (the "Common Stock"), of the Issuer held by the Fund and previously reported on this Schedule 13D. Dr. Dipp has never sold any OvaScience shares.

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(1) Names of Reporting Persons  
Michelle Dipp, M.D., Ph.D.

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(2) Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

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(b)

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(3) SEC Use Only

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(4) Source of Funds (See Instructions)  
PF

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(5) Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)

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(6) Citizenship or Place of Organization  
United States citizen

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(7) Sole Voting Power  
2,336,234 (1)

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Number of  
Shares  
Beneficially  
Owned by  
Each  
Reporting  
Person With:

(8) Shared Voting Power  
None

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(9) Sole Dispositive Power  
2,336,234 (1)

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(10) Shared Dispositive Power  
None

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(11) Aggregate Amount Beneficially Owned by Each Reporting Person  
2,336,234 (1)

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(12) Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)

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(13) Percent of Class Represented by Amount in Row (11)  
6.3% (2)

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(14) Type of Reporting Person (See Instructions)  
IN

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- (1) Consists of 971,921 shares of Common Stock and options to purchase 1,364,313 shares of Common Stock.  
(2) Based on 35,758,907 shares of Common Stock outstanding as of April 30, 2018 as reported in the Issuer's Form 10-Q filed on May 3, 2018.

**Item 1. Security and Issuer**

This Amendment No. 4 to Schedule 13D amends and supplements the Schedule 13D originally filed with the Securities and Exchange Commission (the "SEC") by the Reporting Person on October 19, 2015, as amended on March 16, 2016, May 18, 2016 and June 3, 2016 (the "Schedule 13D") relating to the Common Stock of the Issuer. The address of the principal executive office of the Issuer is 9 Fourth Avenue, Waltham, Massachusetts 02451. Except as expressly set forth herein, there have been no changes to the information set forth in the Schedule 13D. Capitalized terms used but not defined herein have the meanings ascribed to them in the Schedule 13D. Information given in response to each item shall be deemed incorporated by reference in all other items, as applicable.

**Item 2. Identity and Background.**

Item 2 is hereby amended to append the following:

Dr. Dipp is a managing director of General Atlantic LLC, a growth equity firm, and has a business address of c/o General Atlantic Service Company, L.P., Park Avenue Plaza, 55 East 52nd Street, New York, NY 10055.

Since September 2017, Dr. Dipp has no longer been an officer, director or affiliate of the Issuer. In addition, since September 2017, Dr. Dipp has no longer been a general partner of the General Partner, the general partner of the Fund, a venture capital investment fund and stockholder of the Issuer.

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

Item 3 is hereby amended to append the following:

On March 2, 2017, Dr. Dipp was granted a stock option to purchase 150,000 shares of Common Stock at an exercise price of \$1.49 per share. The stock option has a ten-year term and provided for vesting over four years, with 25% of the total number of shares vested on March 2, 2018 and 6.25% of the total number of shares vesting at the end of each successive three-month period thereafter. Such stock option was granted to Dr. Dipp at no cost.

On June 21, 2017, Dr. Dipp was granted a stock option to purchase 175,000 shares of Common Stock at an exercise price of \$1.46 per share. The stock option has a ten-year term and provided for vesting over two years, with 12.5% of the total number of shares vested on September 21, 2017 and 12.5% of the total number of shares vesting at the end of each successive three-month period thereafter. Such stock option was granted to Dr. Dipp at no cost.

In the aggregate, Dr. Dipp was granted options to purchase 1,364,313 shares of Common Stock from December 5, 2012 through June 21, 2017 in connection with her service to OvaScience. All of such options were granted to Dr. Dipp at no cost. As described below, all of such options have vested as of April 30, 2018. None of such options have been exercised.

On June 21, 2017 (as amended on August 3, 2017), Dr. Dipp and the Issuer entered into an Advisory Agreement (the "Advisory Agreement"). Immediately prior to the termination of the Advisory Agreement on April 30, 2018, options to purchase 1,073,688 shares held by Dr. Dipp were vested. Pursuant to the Termination Agreement: (i) the Advisory Agreement was terminated; (ii) Dr. Dipp waived the monthly retainer for fiscal 2018 and the discretionary cash bonus for fiscal 2017 due to her under the Advisory Agreement; (iii) options to purchase an additional 290,625 shares became vested, all of which options would have been vested either over time or on an accelerated basis by the end of the original Advisory Agreement term; and (iv) all outstanding options will remain exercisable until the expiration date of each option.

In addition, Dr. Dipp is no longer a general partner of the General Partner, the general partner of the Fund, a venture capital investment fund and stockholder of the Issuer, and therefore no longer may be deemed to be the beneficial owner of shares of Common Stock held by the Fund and previously reported on the Schedule 13D.

**Item 5. Interest in Securities of the Issuer.**

Items 5(a), 5(b) and 5(c) of the Schedule 13D are hereby amended and restated in their entirety as follows:

The percentage of Common Stock reported beneficially owned by Dr. Dipp is determined in accordance with SEC rules and is based upon 35,758,907 shares of Common Stock outstanding as of April 30, 2018 as reported in the Issuer's Form 10-Q filed on May 3, 2018. The applicable SEC rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities.

- (a) At the close of business on April 30, 2018, Dr. Dipp beneficially owned 2,336,234 shares of Common Stock, representing beneficial ownership of approximately 6.3% of the outstanding Common Stock. The

shares beneficially owned by Dr. Dipp consist of 971,921 shares of Common Stock and vested options to purchase 1,364,313 shares of Common Stock.

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|-----|---|-----------|
| (b) | 1. Sole power to vote or direct vote:                 | 2,336,234 |
|     | 2. Shared power to vote or direct vote:               | None      |
|     | 3. Sole power to dispose or direct the disposition:   | 2,336,234 |
|     | 4. Shared power to dispose or direct the disposition: | None      |
| (c) | See Item 3 of the Schedule 13D.                       |           |
| (d) | Not applicable.                                       |           |
| (e) | Not applicable.                                       |           |

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

Not applicable.

**Item 7. Material to be Filed as Exhibits.**

Not applicable.

**SIGNATURES**

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.

Dated: May 3, 2018

By: /s/ Michelle Dipp  
Michelle Dipp, M.D., Ph.D.