UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8 REGISTRATION STATEMENT

UNDER THE SECURITIES ACT OF 1933

Arsanis, Inc.

(Exact Name of Registrant as Specified in Its Charter)

Delaware (State or Other Jurisdiction of Incorporation or Organization)

950 Winter Street, Suite 4500 Waltham, Massachusetts (Address of Principal Executive Offices) 27-3181608 (I.R.S. Employer Identification No.)

> 02451 (Zip Code)

2017 Equity Incentive Plan 2017 Employee Stock Purchase Plan (Full Title of the Plan)

Michael P. Gray President and Chief Executive Officer, Chief Financial Officer Arsanis, Inc. 950 Winter Street, Suite 4500 Waltham, Massachusetts 02451 (Name and Address of Agent For Service)

(781) 819-5704 (Telephone Number, Including Area Code, of Agent For Service)

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 \Box

Non-accelerated filer \square

Accelerated filer

Smaller reporting company

Emerging growth company

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

Title of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, par value \$0.001 per share	874,333 shares (2)	\$3.06 (3)	\$2,675,459.00 (3)	\$324.27

(1) In accordance with Rule 416 under the Securities Act of 1933, as amended, this registration statement shall be deemed to cover any additional securities that may from time to time be offered or issued to prevent dilution resulting from stock splits, stock dividends or similar transactions.

- (2) Consists of (i) 582,889 additional shares issuable under the 2017 Equity Incentive Plan and (ii) 291,444 additional shares issuable under the 2017 Employee Stock Purchase Plan.
- (3) Estimated solely for the purpose of calculating the registration fee pursuant to Rules 457(c) and 457(h) of the Securities Act of 1933, as amended, and based upon the average of the high and low prices of the Registrant's Common Stock as reported on the Nasdaq Global Market on March 6, 2019.

EXPLANATORY NOTE

This Registration Statement on Form S-8, relating to the 2017 Equity Incentive Plan and the 2017 Employee Stock Purchase Plan of Arsanis, Inc. (the "Registrati"), is being filed for the purpose of registering additional securities of the same class as other securities for which a Registration Statement on Form S-8 has previously been filed and is effective. Accordingly, this Registration Statement incorporates by reference the contents of (i) the Registration Statement on Form S-8, File No. 333-221622, filed with the Securities and Exchange Commission on November 16, 2017 by the Registrant, relating to the Registration Statement on Form S-8, File No. 333-221622, filed with the Securities and Exchange Commission on November 16, 2017 by the Registrant, relating to the Registration Statement on Form S-8, File No. 333-221622, filed with the Securities and Exchange Commission on November 16, 2017 by the Registrant, relating to the Registration Statement on Form S-8, File No. 333-221622, filed with the Securities and Exchange Commission on November 16, 2017 by the Registrant, relating to the Registration Statement on Form S-8, File No. 333-221622, filed with the Securities and Exchange Commission on March 9, 2018 by the Registrant, relating to the Registrant's 2017 Equity Incentive Plan, in each case except for Item 8, Exhibits, with respect to which the Exhibit Index below is incorporated herein by reference.

Item 8. Exhibits.

		Incorporation by Reference SEC Filing Exhibit		Filed with	
Exhibit No.	Description	Form	Date	<u>Number</u>	this S-8
4.1	Restated Certificate of Incorporation of the Company	8-K	11/20/2017	3.1	
4.2	Amended and Restated By-laws of the Company	8-K	11/20/2017	3.2	
5.1	Opinion of Wilmer Cutler Pickering Hale and Dorr LLP, counsel to the Registrant				Х
23.1	Consent of Wilmer Cutler Pickering Hale and Dorr LLP (included in Exhibit 5.1)				Х
23.2	<u>Consent of PricewaterhouseCoopers LLP, independent registered public accounting</u> <u>firm</u>				Х
24.1	Power of attorney (included on the signature pages of this registration statement)				Х
99.1	2017 Equity Incentive Plan	S-1	10/20/2017	10.7	
99.2	2017 Employee Stock Purchase Plan	S-1	10/20/2017	10.10	

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Waltham, Commonwealth of Massachusetts, on this 11th day of March, 2019.

ARSANIS, INC.

By: /s/ Michael P. Gray

Michael P. Gray President and Chief Executive Officer, Chief Financial Officer

POWER OF ATTORNEY AND SIGNATURES

We, the undersigned officers and directors of Arsanis, Inc., hereby severally constitute and appoint Michael P. Gray our true and lawful attorney with full power to him to sign for us and in our names in the capacities indicated below, the registration statement on Form S-8 filed herewith and any and all subsequent amendments to said registration statement, and generally to do all such things in our names and on our behalf in our capacities as officers and directors to enable Arsanis, Inc. to comply with the provisions of the Securities Act of 1933, as amended, and all requirements of the Securities and Exchange Commission, hereby ratifying and confirming our signatures as they may be signed by our said attorney, to said registration statement and any and all amendments thereto.

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.

<u>Signature</u> /s/ Michael P. Gray Michael P. Gray	Title President and Chief Executive Officer, Chief Financial Officer, Director (Principal Executive Officer and Principal Financial Officer)	Date March 11, 2019
/s/ Tillman U. Gerngross Tillman U. Gerngross	Chairman of the Board	March 11, 2019
/s/ William Clark William Clark	Director	March 11, 2019
/s/ Carl Gordon Carl Gordon	Director	March 11, 2019
/s/ David McGirr David McGirr	Director	March 11, 2019
/s/ Terrance McGuire Terrance McGuire	Director	March 11, 2019

/s/ Claudio Nessi Claudio Nessi	Director	March 11, 2019
/s/ Michael Ross Michael Ross	_ Director	March 11, 2019
/s/ René Russo René Russo	Director	March 11, 2019
/s/ Amy Schulman Amy Schulman	Director	March 11, 2019

Exhibit 5.1

WILMERHALE

Cynthia T. Mazareas

+1 617 526 6393 (t) +1 617 526 5000 (f) cynthia.mazareas@wilmerhale.com

March 11, 2019

Arsanis, Inc. 950 Winter Street, Suite 4500 Waltham, MA 02451

Re: 2017 Equity Incentive Plan and 2017 Employee Stock Purchase Plan

Ladies and Gentlemen:

We have assisted in the preparation of a Registration Statement on Form S-8 (the "**Registration Statement**") to be filed with the Securities and Exchange Commission (the "**Commission**") under the Securities Act of 1933, as amended (the "**Securities Act**"), relating to an aggregate of 874,333 shares of common stock, \$0.001 par value per share (the "**Shares**"), of Arsanis, Inc., a Delaware corporation (the "**Company**"), issuable under the Company's 2017 Equity Incentive Plan and the Company's 2017 Employee Stock Purchase Plan (collectively, the "**Plans**").

We have examined the Certificate of Incorporation and By-laws of the Company, each as amended and restated to date, and originals, or copies certified to our satisfaction, of all pertinent records of the meetings of the directors and stockholders of the Company, the Registration Statement and such other documents relating to the Company as we have deemed material for the purposes of this opinion.

In our examination of the foregoing documents, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as certified, photostatic or other copies, the authenticity of the originals of any such documents and the legal competence of all signatories to such documents.

We assume that the appropriate action will be taken, prior to the offer and sale of the Shares in accordance with the Plans, to register and qualify the Shares for sale under all applicable state securities or "blue sky" laws.

We express no opinion herein as to the laws of any state or jurisdiction other than the state laws of the Commonwealth of Massachusetts, the General Corporation Law of the State of Delaware and the federal laws of the United States of America.

It is understood that this opinion is to be used only in connection with the offer and sale of the Shares while the Registration Statement is in effect.

Please note that we are opining only as to the matters expressly set forth herein, and no opinion should be inferred as to any other matters.

Wilmer Cutler Pickering Hale and Dorr LP, 60 State Street, Boston, Massachusetts 02109 Beijing Berlin Boston Brussels Denver Frankfurt London Los Angeles New York Palo Alto Washington Arsanis, Inc. March 11, 2019 Page 2

Based on the foregoing, we are of the opinion that the Shares have been duly authorized for issuance and, when the Shares are issued and paid for in accordance with the terms and conditions of the Plans, the Shares will be validly issued, fully paid and nonassessable.

We hereby consent to the filing of this opinion with the Commission in connection with the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act. In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

Very truly yours,

WILMER CUTLER PICKERING HALE AND DORR LLP

By: /s/ Cynthia T. Mazareas

Cynthia T. Mazareas, a Partner

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of Arsanis, Inc. of our report dated March 11, 2019, relating to the financial statements, which appears in Arsanis, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2018.

/s/ PricewaterhouseCoopers LLP

Boston, Massachusetts March 11, 2019