

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

**FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

DELCATH SYSTEMS, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

06-1245881
(I.R.S. Employer
Identification No.)

1301 Avenue of the Americas
43rd Floor
New York, New York 10019
(212) 489-2100
(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

Jennifer K. Simpson
President and
Chief Executive Officer
Delcath Systems, Inc.
1301 Avenue of the Americas
43rd Floor
New York, New York 10019
(212) 489-2100
(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

Copies to:
Steven A. Navarro
Finnbarr D. Murphy
Morgan, Lewis & Bockius LLP
101 Park Avenue
New York, NY 10178
(212) 309-6000

Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this Registration Statement.

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

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.

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.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 under the Securities Exchange Act of 1934:

Large accelerated filer Accelerated filer
Non-accelerated filer (Do not check if a smaller reporting company) Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered(1)(2)	Proposed Maximum Offering Price Per Share(1)(2)	Proposed Maximum Aggregate Offering Price(1)(2)	Amount of Registration Fee(3)
Primary Offering:				
Debt securities				
Common stock, par value \$0.01 per share(4)				
Preferred stock, par value \$0.01 per share				
Warrants to purchase common stock				
Warrants to purchase preferred stock				
Stock purchase contracts				
TOTAL			\$77,406,789	— (5)

(1) This registration statement covers up to \$77,406,789 or the equivalent thereof in one or more other currencies of an indeterminate principal amount or number of the securities of each identified class of securities. If any debt securities are issued at an original issue discount, then the offering price shall be in such greater principal amount as shall result in an aggregate initial offering price not to exceed \$77,406,789 or the equivalent thereof in one or more other currencies. The proposed maximum aggregate offering price of each class of securities will be determined from time to time by the registrant in connection with the issuance by the registrant of the securities registered hereunder and is not specified as to each class of securities pursuant to General Instruction II. D of Form S-3 under the Securities Act of 1933.

(2) Pursuant to Rule 416 under the Securities Act, the securities being registered hereunder include such indeterminate number of shares of common stock, warrants to purchase shares of common stock, warrants to purchase shares of preferred stock, shares issuable upon exercise of such warrants and such shares of common stock or preferred stock as may be issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions and number or amount of such securities as may be issued upon conversion, redemption, repurchase, exchange or exercise of any securities registered hereunder, including under any applicable anti-dilution adjustment.

(3) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act of 1933. In no event will the aggregate offering price of all securities sold by the registrant from time to time pursuant to this Registration Statement exceed \$77,406,789 or the equivalent thereof in one or more other currencies.

(4) Common stock to be issued pursuant to this registration statement may include the issuance of shares of common stock issuable as of October 1, 2015 as follows: up to 1,696,500 shares issuable upon exercise of outstanding warrants at a weighted average exercise price of \$2.93 per share, which warrants were issued under the registrant's registration statement on Form S-3, declared effective by the SEC on October 9, 2012 (No. 333-183675), which we refer to as the Prior Registration Statement.

(5) Pursuant to Rule 415(a)(6) of the Securities Act of 1933, the securities registered pursuant to this registration statement include, as of the date of filing of this registration statement, \$77,406,789 of unsold securities previously registered on the registrant's Registration Statement on Form S-3 (Registration Statement No. 333-183675), which we refer to as the Prior Registration Statement. In connection with the registration of such unsold securities on the Prior Registration Statement, the registrant paid a registration fee of \$8,870.82 which will continue to be applied to such unsold securities. Because no new securities are being registered pursuant to this registration statement, no additional registration fee is payable in connection with this registration statement. Pursuant to Rule 415(a)(6), the offering of the unsold securities registered under the Prior Registration Statement will be deemed terminated as of the date of effectiveness of this registration statement. If the registrant sells any of such unsold securities pursuant to the Prior Registration Statement after the date of this filing, and prior to the date of effectiveness of this registration statement, the registrant will file a pre-effective amendment to this registration statement which will reduce the number of such unsold securities included on this registration statement and increase the additional securities registered hereon so that the total amount of securities registered hereon will equal \$77,406,789, and will pay the additional registration fee resulting therefrom.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject to Completion, Dated October 7, 2015

\$77,406,789



DELCATH SYSTEMS, INC.

Common Stock Preferred Stock Warrants Debt Securities Stock Purchase Contracts

Delcath Systems, Inc. (the "Company") may offer to sell from time to time common stock, preferred stock, warrants, debt securities and stock purchase contracts. The preferred stock of the Company may be convertible into common stock or preferred stock of another series.

The Company may offer securities at an aggregate offering price of up to \$77,406,789. The common stock, preferred stock, warrants, debt securities and stock purchase contracts of the Company may be offered separately or together, in multiple series, in amounts, at prices and on terms that will be set forth in one or more prospectus supplements to this prospectus.

This prospectus describes some of the general terms that may apply to these securities and the general manner in which they may be offered. Each time the Company sells securities, a prospectus supplement will be provided that will contain specific information about the terms of any securities offered and the specific manner in which the securities will be offered. The prospectus supplement will also contain information, where appropriate, about material United States federal income tax consequences relating to, and any listing on a securities exchange of, the securities covered by the prospectus supplement. The prospectus supplement may add to, update or change the information in this prospectus. You should read this prospectus and any prospectus supplement carefully before you invest in our securities. This prospectus may not be used to sell securities unless accompanied by a prospectus supplement.

The Company may offer the securities directly to investors, through agents designated from time to time by the Company, or to or through underwriters or dealers. If any agents, underwriters, or dealers are involved in the sale of any of the securities, their names, and any applicable purchase price, fee, commission or discount arrangement with, between or among them will be set forth, or will be calculable from the information set forth, in an accompanying prospectus supplement. For more detailed information, see "Plan of Distribution."

Our common stock is traded on the NASDAQ Capital Market under the symbol "DCTH." On October 1, 2015, the last reported sale price of our common stock on the NASDAQ Capital Market was \$0.43. The aggregate market value of the outstanding shares of our common stock held by non-affiliates was \$9,154,630, based on 21,763,864 shares of common stock outstanding, of which 474,027 are held by affiliates, and a closing sale price on the NASDAQ Capital Market of \$0.43 on October 1, 2015. Pursuant to General Section I.B.6. of Form S-3, in no event will we sell securities in a public primary offering with a value exceeding more than one-third of our "public float" (the market value of our common stock held by our non-affiliates) in any 12-month period so long as our public float remains below \$75,000,000. We have sold 2,718,878 shares of our common stock and warrants to purchase 1,107,000 shares of our common stock pursuant to General Instruction I.B.6. of Form S-3 during the twelve calendar months prior to and including the date of this prospectus.

An investment in our securities involves risks. See the "Risk Factors" section of our latest Annual Report on Form 10-K filed with the Securities and Exchange Commission, which we refer to as the "SEC," and any updates to those risk factors or new risk factors contained in our subsequent Quarterly Reports on Form 10-Q and Current Reports on Form 8-K filed with the SEC, all of which we incorporate by reference herein.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2015.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission using a “shelf” registration process. Under this shelf process, we may sell any combination of the securities described in this prospectus in one or more offerings up to a total aggregate dollar amount of \$77,406,789. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with additional information described under the heading “Where You Can Find Additional Information.”

You should rely only on the information contained in this prospectus and the accompanying prospectus supplement or incorporated by reference in these documents. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained or incorporated by reference in this prospectus or the accompanying prospectus supplement. If anyone provides you with different, inconsistent or unauthorized information or representations, you must not rely on them. This prospectus and the accompanying prospectus supplement are an offer to sell only the securities offered by these documents, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus or any prospectus supplement is current only as of the date on the front of those documents.

EXPLANATORY NOTE

This Registration Statement relates to securities being registered pursuant to Rule 415 of the Securities Act of 1933, as amended, which may be offered from time to time on a delayed or continuous basis by Delcath Systems, Inc. This Registration Statement contains a form of base prospectus relating to Delcath Systems, Inc. which will be used in connection with an offering of securities by Delcath Systems, Inc. The specific terms of the securities to be offered will be set forth in a prospectus supplement relating to such securities, other than with respect to the outstanding warrants issued under our registration statement on Form S-3, declared effective by the SEC on October 9, 2012 (No. 333-183675), which we refer to as the Prior Registration Statement, where the common shares issued upon due exercise of such warrants shall be registered hereunder.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere or incorporated by reference into this prospectus. It does not contain all the information you need to consider in making your investment decision. You should read this entire prospectus carefully, including the section entitled “Risk Factors,” any applicable prospectus supplement and the documents that we incorporate by reference into this prospectus and the prospectus supplement, before making an investment decision. In this prospectus, except as otherwise indicated, “Delcath,” “Delcath Systems,” “we,” “our,” and “us” refer to Delcath Systems, Inc., a Delaware corporation and its subsidiaries. “Delcath” is our registered United States trademark.

About Delcath

Delcath Systems, Inc. is a late-stage clinical development company with early commercial activity in Europe focused on cancers of the liver. We are a specialty pharmaceutical and medical device company developing our proprietary product—Melphalan Hydrochloride for Injection for use with the Delcath Hepatic Delivery System (Melphalan/HDS). In Europe, our proprietary system to deliver and filter melphalan hydrochloride is marketed as a device under the trade name Delcath Hepatic CHEMOSAT® Delivery System for Melphalan (CHEMOSAT).

Our primary focus is on the execution of our clinical development program in ocular melanoma liver metastases (mOM), intrahepatic cholangiocarcinoma (ICC), hepatocellular carcinoma (HCC or primary liver), and certain other cancers that are metastatic to the liver.

We were incorporated in the State of Delaware in August 1988. Our principal executive offices are located at 1301 Avenue of the Americas, 43rd Floor, New York, New York 10019. Our telephone number is (212) 489-2100. Our website address is <http://www.delcath.com>. Information contained in our website is not a part of this prospectus.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should consider carefully the risk factors set forth in the documents and reports filed by us with the Securities and Exchange Commission, which we refer to as the SEC, that are incorporated by reference into this prospectus, as well as any risks described in any applicable prospectus supplement, before deciding whether to buy our securities. Additional risks not known to us or that we believe are immaterial may also significantly impair our business operations and could result in a complete loss of your investment.

CAUTIONARY STATEMENT CONCERNING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference into this prospectus contain certain “forward-looking statements” within the meaning of the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995 with respect to our business, financial condition, liquidity and results of operations. Words such as “anticipates,” “expects,” “intends,” “plans,” “predicts,” “believes,” “seeks,” “estimates,” “could,” “would,” “will,” “may,” “can,” “continue,” “potential,” “should,” and the negative of these terms or other comparable terminology often identify forward-looking statements. Statements in this prospectus and the documents incorporated by reference that are not historical facts are hereby identified as “forward-looking statements” for the purpose of the safe harbor provided by Section 21E of the Securities Exchange Act of 1934, as amended, and Section 27A of the Securities Act of 1933, as amended. These forward-looking statements are not guarantees of future performance and are subject to risks and uncertainties that could cause actual results to differ materially from the results contemplated by the forward-looking statements, including the risks discussed in this prospectus, in our Annual Report on Form 10-K for the fiscal year ended December 31, 2014 in Item 1A under “Risk Factors” “ as well as in Item 7A “Quantitative and Qualitative Disclosures About Market Risk” and the risks detailed from time to time in our future SEC reports. These forward-looking statements include, but are not limited to, statements about:

- our estimates regarding sufficiency of our cash resources, anticipated capital requirements and our need for additional financing;
- the commencement of future clinical trials and the results and timing of those clinical trials;
- our ability to successfully commercialize CHEMOSAT/Melphalan/HDS, generate revenue and successfully obtain reimbursement for the procedure and System;
- the progress and results of our research and development programs;
- submission and timing of applications for regulatory approval and approval thereof;
- our ability to successfully source certain components of the system and enter into supplier contracts;
- our ability to successfully manufacture CHEMOSAT/Melphalan/HDS;
- our ability to successfully negotiate and enter into agreements with distribution, strategic and corporate partners; and
- our estimates of potential market opportunities and our ability to successfully realize these opportunities.

Many of the important factors that will determine these results are beyond our ability to control or predict. You are cautioned not to put undue reliance on any forward-looking statements, which speak only as of the date of this prospectus or, in the case of documents incorporated by reference, as of the date of such documents. Except as otherwise required by law, we do not assume any obligation to publicly update or release any revisions to these forward-looking statements to reflect events or circumstances after such applicable date or to reflect the occurrence of unanticipated events.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

This prospectus is part of a registration statement we filed with the SEC. You should rely only on the information contained in this prospectus, any applicable prospectus supplement or documents incorporated by reference into this prospectus. We have not authorized anyone else to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front page of this prospectus, regardless of the time of delivery of this prospectus or any sale of securities.

We file reports, proxy statements and other information with the SEC. You may read and copy any reports, proxy statements or other information filed by us at the SEC's Public Reference Room at 100 F Street NE, Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at (800) SEC-0330. The SEC maintains a website that contains reports, proxy statements and other information regarding issuers that file electronically with the SEC, including Delcath Systems, Inc. The address of the SEC website is <http://www.sec.gov>.

Important Information Incorporated By Reference

The SEC's rules allow us to "incorporate by reference" information into this prospectus. This means that we can disclose important information to you by referring you to another document. The information incorporated by reference is considered to be a part of this prospectus. This prospectus incorporates by reference the documents listed below:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2014;
- our Quarterly Reports on Form 10-Q for the periods ended March 31, 2015 and June 30, 2015;
- our Definitive Proxy Statement on Schedule 14A, filed on April 29, 2015 (solely to the extent incorporated by reference into Part III of our Annual Report on Form 10-K for the year ended December 31, 2014);
- our Current Reports on Form 8-K, filed on February 10, 2015, February 17, 2015, March 11, 2015, March 16, 2015, March 27, 2015, May 26, 2015, June 11, 2015, July 7, 2015, August 14, 2015, August 31, 2015 and October 6, 2015; and
- a description of our common stock contained in our Registration Statement on Form 8-A filed on September 22, 2000, including all amendments and reports filed for the purpose of updating such description.

We also incorporate by reference into this prospectus all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are filed by us with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act (i) after the date of the initial registration statement and prior to effectiveness of the registration statement, or (ii) from the date of this prospectus but prior to the termination of the offering. These documents include periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements.

We will provide to each person, including any beneficial owner, to whom a prospectus is delivered, without charge upon written or oral request, a copy of any or all of the documents that are incorporated by reference into this prospectus, other than exhibits which are specifically incorporated by reference into such documents. Requests should be directed our Secretary at Delcath Systems, Inc., 1301 Avenue of the Americas, 43rd Floor, New York, New York 10019 or by calling us at 212-489-2100.

USE OF PROCEEDS

Unless we provide otherwise in a supplement to this prospectus, we intend to use the net proceeds from the sale of our securities covered by this prospectus for general corporate purposes, including, but not limited to, obtaining regulatory approvals, commercialization of our products, funding of our clinical trials, capital expenditures and working capital.

DESCRIPTION OF DEBT SECURITIES

The following description, together with the additional information we may include in any applicable prospectus supplement and in any related free writing prospectuses, summarizes the material terms and provisions of the debt securities that we may offer under this prospectus. While the terms summarized below will apply generally to any debt securities that we may offer, we will describe the particular terms of any debt securities in more detail in the applicable prospectus supplement. The terms of any debt securities offered under a prospectus supplement may differ from the terms described below.

We may issue debt securities from time to time in one or more distinct series. The debt securities may be senior debt securities or subordinated debt securities. Senior debt securities may be issued under a senior indenture and subordinated debt securities may be issued under a subordinated indenture. If we issue debt securities pursuant to an indenture, in the applicable prospectus supplement we will specify the trustee under such indenture. We will include in a supplement to this prospectus the specific terms of debt securities being offered, including the terms, if any, on which debt securities may be convertible into or exchangeable for common stock, preferred stock or other debt securities. The statements and descriptions in this prospectus or in any prospectus supplement regarding provisions of debt securities and any indentures are summaries of these provisions, do not purport to be complete and are subject to, and are qualified in their entirety by reference to, all of the provisions of the debt securities and the indentures (including any amendments or supplements we may enter into from time to time which are permitted under the debt securities or any indenture).

Unless otherwise specified in a prospectus supplement, the debt securities will be direct unsecured obligations of the Company. Any debt securities designated as senior will rank equally with any of our other senior and unsubordinated debt. Any debt securities designated as subordinated will be subordinate and junior in right of payment to any senior indebtedness. There may be subordinated debt securities that are senior or junior to other series of subordinated debt securities.

The applicable prospectus supplement will set forth the terms of the debt securities or any series thereof, including, if applicable:

- the title of the debt securities and whether the debt securities will be senior debt securities or subordinated debt securities;
- any limit upon the aggregate principal amount of the debt securities;
- whether the debt securities will be issued as registered securities, bearer securities or both, and any restrictions on the exchange of one form of debt securities for another and on the offer, sale and delivery of the debt securities in either form;
- the date or dates on which the principal amount of the debt securities will mature;
- if the debt securities bear interest, the rate or rates at which the debt securities bear interest, or the method for determining the interest rate, and the date or dates from which interest will accrue;
- if the debt securities bear interest, the dates on which interest will be payable, or the method for determining such dates, and the regular record dates for interest payments;
- the place or places where the payment of principal, any premium and interest will be made, where the debt securities may be surrendered for transfer or exchange and where notices or demands to or upon us may be served;
- any sinking fund or other provisions that would obligate us to redeem, repay or purchase the debt securities;
- if the currency in which the debt securities will be issuable is United States dollars, the denominations in which any registered securities will be issuable, if other than denominations of \$1,000 and any integral multiple thereof, and the denominations in which any bearer securities will be issuable, if other than the denomination of \$5,000;

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- if other than the entire principal amount, the portion of the principal amount of debt securities which will be payable upon a declaration of acceleration of the maturity of the debt securities;
- the events of default and covenants relevant to the debt securities, including, the inapplicability of any event of default or covenant set forth in the indenture relating to the debt securities, or the applicability of any other events of defaults or covenants in addition to the events of default or covenants set forth in the indenture relating to the debt securities;
- the name and location of the corporate trust office of the applicable trustee under the indenture for such series of notes;
- if other than United States dollars, the currency in which the debt securities will be paid or denominated;
- if the debt securities are to be payable, at our election or the election of a holder of the debt securities, in a currency other than that in which the debt securities are denominated or stated to be payable, the terms and conditions upon which that election may be made, and the time and manner of determining the exchange rate between the currency in which the debt securities are denominated or stated to be payable and the currency in which the debt securities are to be so payable;
- the designation of the original currency determination agent, if any;
- if the debt securities are issuable as indexed securities, the manner in which the amount of payments of principal, any premium and interest will be determined;
- if the debt securities do not bear interest, the dates on which we will furnish to the applicable trustee the names and addresses of the holders of the debt securities;
- if other than as set forth in an indenture, provisions for the satisfaction and discharge or defeasance or covenant defeasance of that indenture with respect to the debt securities issued under that indenture;
- the date as of which any bearer securities and any global security will be dated if other than the date of original issuance of the first debt security of a particular series to be issued;
- whether and under what circumstances we will pay additional amounts to non-United States holders in respect of any tax assessment or government charge;
- whether the debt securities will be issued in whole or in part in the form of a global security or securities and, in that case, any depository and global exchange agent for the global security or securities, whether the global form shall be permanent or temporary and, if applicable, the exchange date;
- if debt securities are to be issuable initially in the form of a temporary global security, the circumstances under which the temporary global security can be exchanged for definitive debt securities and whether the definitive debt securities will be registered securities, bearer securities or will be in global form and provisions relating to the payment of interest in respect of any portion of a global security payable in respect of an interest payment date prior to the exchange date;
- the extent and manner to which payment on or in respect of debt securities will be subordinated to the prior payment of our other liabilities and obligations;
- whether payment of any amount due under the debt securities will be guaranteed by one or more guarantors, including one or more of our subsidiaries;
- whether the debt securities will be convertible and the terms of any conversion provisions;
- the forms of the debt securities; and
- any other terms of the debt securities, which terms shall not be inconsistent with the requirements of the Trust Indenture Act of 1939, as amended.

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This prospectus is part of a registration statement that does not limit the aggregate principal amount of debt securities that we may issue and provides that we may issue debt securities from time to time in one or more series under one or more indentures, in each case with the same or various maturities, at par or at a discount. Unless indicated in a prospectus supplement, we may issue additional debt securities of a particular series without the consent of the holders of the debt securities of such series outstanding at the time of the issuance. Any such additional debt securities, together with all other outstanding debt securities of that series, will constitute a single series of debt securities under the applicable indenture.

We intend to disclose any restrictive covenants for any issuance or series of debt securities in the applicable prospectus supplement.

DESCRIPTION OF CAPITAL STOCK

The following description of our common stock and preferred stock, together with the additional information incorporated by reference and in any related free writing prospectuses, summarizes the material terms and provisions of our common stock and preferred stock. The following description of our capital stock does not purport to be complete and is subject to, and qualified in its entirety by, our Amended and Restated Certificate of Incorporation, as amended, and our Amended and Restated By-Laws, which are exhibits to the registration statement of which this prospectus forms a part, and by applicable law. We refer in this section to our Amended and Restated Certificate of Incorporation, as amended, as our certificate of incorporation, and we refer to our Amended and Restated By-Laws as our by-laws. The terms of our common stock and preferred stock may also be affected by Delaware law.

Authorized Capital Stock

Our authorized capital stock consists of 170,000,000 shares of our common stock, \$0.01 par value per share, and 10,000,000 shares of undesignated preferred stock, \$0.01 par value per share. As of October 1, 2015, we had 21,763,864 shares of common stock outstanding and no shares of preferred stock outstanding. As of October 1, 2015, we had 18,059,000 shares of common stock issuable upon the exercise of outstanding warrants or options to purchase warrants at a weighted average exercise price of \$1.00 per share, 766,135 shares of common stock issuable upon the exercise of stock options at a weighted average exercise price of \$7.57 per share, and 576,086 shares of unvested restricted common stock.

Common Stock

Voting

Holders of our common stock are entitled to one vote per share on matters to be voted on by stockholders and also are entitled to receive such dividends, if any, as may be declared from time to time by our board of directors in its discretion out of funds legally available therefor. Holders of our common stock have exclusive voting rights for the election of our directors and all other matters requiring stockholder action, except with respect to amendments to our certificate of incorporation that alter or change the powers, preferences, rights or other terms of any outstanding preferred stock if the holders of such affected series of preferred stock are entitled to vote on such an amendment or filling vacancies on the board of directors.

Dividends

Holders of common stock are entitled to share ratably in any dividends declared by our board of directors, subject to any preferential dividend rights of any outstanding preferred stock. Dividends consisting of shares of common stock may be paid to holders of shares of common stock. We do not intend to pay cash dividends in the foreseeable future.

Liquidation and Dissolution

Upon our liquidation or dissolution, the holders of our common stock will be entitled to receive pro rata all assets remaining available for distribution to stockholders after payment of all liabilities and provision for the liquidation of any shares of preferred stock at the time outstanding.

Other Rights and Restrictions

Our common stock has no preemptive or other subscription rights, and there are no conversion rights or redemption or sinking fund provisions with respect to such stock. Our common stock is not subject to redemption.

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by us. Our certificate of incorporation and bylaws do not restrict the ability of a holder of common stock to transfer the stockholder's shares of common stock. If we issue shares of common stock under this prospectus, the shares will be fully paid and non-assessable and will not have, or be subject to, any preemptive or similar rights.

Listing

Our common stock is listed on The NASDAQ Capital Market under the symbol "DCTH."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company.

Preferred Stock

Our board of directors has the authority to issue up to 10,000,000 shares of preferred stock in one or more series and to determine the rights and preferences of the shares of any such series without stockholder approval, none of which are outstanding. Our board of directors may issue preferred stock in one or more series and has the authority to fix the designation and powers, rights and preferences and the qualifications, limitations, or restrictions with respect to each class or series of such class without further vote or action by the stockholders. The ability of our board of directors to issue preferred stock without stockholder approval could have the effect of delaying, deferring or preventing a change of control of us or the removal of existing management.

Certain Anti-Takeover Provisions of Delaware Law and our Certificate of Incorporation and Bylaws

We are not subject to Section 203 of the Delaware General Corporation Law, which prohibits Delaware corporations from engaging in a wide range of specified transactions with any interested stockholder, defined to include, among others, any person other than such corporation and any of its majority owned subsidiaries who own 15% or more of any class or series of stock entitled to vote generally in the election of directors, unless, among other exceptions, the transaction is approved by (i) our board of directors prior to the date the interested stockholder obtained such status or (ii) the holders of two thirds of the outstanding shares of each class or series of stock entitled to vote generally in the election of directors, not including those shares owned by the interested stockholder.

Staggered Board of Directors

Our certificate of incorporation and by-laws provide that our board of directors be classified into three classes of directors of approximately equal size. As a result, in most circumstances, a person can gain control of our board only by successfully engaging in a proxy contest at two or more annual meetings.

Authorized But Unissued Shares

Our authorized but unissued shares of common stock and preferred stock are available for future issuances without stockholder approval and could be utilized for a variety of corporate purposes, including future offerings to raise additional capital, corporate acquisitions, employee benefit plans and stockholder rights plans. The existence of authorized but unissued and unreserved common stock and preferred stock could render more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise.

DESCRIPTION OF STOCK PURCHASE CONTRACTS

The following description, together with the additional information that we include in any applicable prospectus supplement and in any related free writing prospectuses, summarizes the material terms and provisions of the stock purchase contracts that we may offer under this prospectus. While the terms we have summarized below will apply generally to any stock purchase contracts that we may offer under this prospectus, we will describe the particular terms of any series of stock purchase contracts in more detail in the applicable prospectus supplement. The terms of any stock purchase contracts offered under a prospectus supplement may differ from the terms described below.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of stock purchase contract that describes the terms of the particular stock purchase contract we are offering before the issuance of the related stock purchase contract. The following summaries of material provisions of the stock purchase contracts are subject to, and qualified in their entirety by reference to, all the provisions of the stock purchase contracts applicable to the stock purchase contracts that we may offer under this prospectus. We urge you to read the applicable prospectus supplements related to the stock purchase contracts that we may offer under this prospectus, as well as any related free writing prospectuses, and the complete stock purchase contracts that contain the terms of the stock purchase contracts.

We may issue stock purchase contracts, including contracts obligating holders to purchase from us and us to sell to the holders, a specified number of shares of common stock or preferred stock at a future date or dates. Alternatively, the stock purchase contracts may obligate us to purchase from holders, and obligate holders to sell to us, a specified or varying number of shares of common stock or preferred stock. The consideration per share of common stock or preferred stock may be fixed at the time the stock purchase contracts are issued or may be determined by a specific reference to a formula set forth in the stock purchase contracts. The stock purchase contracts may provide for settlement by delivery by us or on our behalf of shares of the underlying security, or they may provide for settlement by reference or linkage to the value, performance or trading price of the underlying security. The stock purchase contracts may require us to make periodic payments to the holders of the certain of our securities or vice versa, and such payments may be unsecured or prefunded on some basis and may be paid on a current or on a deferred basis. The stock purchase contracts may require holders to secure their obligations thereunder in a specified manner and may provide for the prepayment of all or part of the consideration payable by holders in connection with the purchase of the underlying security or other property pursuant to the stock purchase contracts.

The securities related to the stock purchase contracts may be pledged to a collateral agent for our benefit pursuant to a pledge agreement to secure the obligations of holders of stock purchase contracts to purchase the underlying security or property under the related stock purchase contracts. The rights of holders of stock purchase contracts to the related pledged securities will be subject to our security interest therein created by the pledge agreement. No holder of stock purchase contracts will be permitted to withdraw the pledged securities related to such stock purchase contracts from the pledge arrangement.

DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplement, summarizes the material terms and provisions of the warrants that we may offer under this prospectus and the related warrant agreements and warrant certificates. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. The terms of any warrants offered under a prospectus supplement may differ from the terms described below.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant agreement, including a form of warrant certificate, that describes the terms of the particular warrants we are offering before the issuance of the related warrants. The following summaries of material provisions of the warrants and the warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to the warrants that we may offer under this prospectus. We urge you to read the applicable prospectus supplements related to the warrants that we may offer under this prospectus, as well as any related free writing prospectuses, and the complete warrant agreements and warrant certificates that contain the terms of the warrants.

General

We may issue warrants for the purchase of common stock or preferred stock in one or more series. We may issue warrants independently or together with common stock and preferred stock, and the warrants may be attached to or separate from these securities.

We may evidence each series of warrants by warrant certificates that we will issue under a separate agreement. We may enter into a warrant agreement with a warrant agent. We will indicate the name and address and other information regarding the warrant agent in the applicable prospectus supplement relating to a particular warrants.

If we decide to issue warrants pursuant to this prospectus, we will specify in a prospectus supplement the terms of the warrants, including, if applicable, the following:

- the offering price and aggregate number of warrants offered;
- the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- the date on and after which the warrants and the related securities will be separately transferable;
- the number of shares of stock purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the manner in which the warrant agreement and warrants may be modified;
- the dates on which the right to exercise the warrants will commence and expire;
- a discussion of any material U.S. federal income tax considerations of holding or exercising the warrants;

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- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants may have no rights of holders of the securities purchasable upon such exercise, including, in the case of warrants to purchase common stock or preferred stock, the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise voting rights, if any.

Exercise of Warrants

Each warrant will entitle the holder to purchase shares of our stock at the exercise price that we describe in the applicable prospectus supplement. Holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering the warrant certificate representing the warrants to be exercised together with specified information, and paying the required amount to the warrant agent in immediately available funds, as provided in the applicable prospectus supplement. If we so indicate in the applicable prospectus supplement, the warrants may also provide that they may be exercised on a “cashless” or net basis. We will set forth on the reverse side of the warrant certificate, if applicable, and in the applicable prospectus supplement the information that the holder of the warrant will be required to deliver to us or a warrant agent.

Upon receipt of the required payment and the warrant certificate properly completed and duly executed at our offices, the corporate trust office of a warrant agent or any other office indicated in the applicable prospectus supplement, we will issue and deliver the common stock or preferred stock purchasable upon such exercise. If fewer than all of the warrants represented by the warrant certificate are exercised, then we will issue a new warrant certificate for the remaining amount of warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender shares of common stock or preferred stock as all or part of the exercise price for warrants.

Enforceability of Rights by Holders of Warrants

Any warrant agent will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

PLAN OF DISTRIBUTION

We may sell the securities offered by this prospectus from time to time in one or more transactions, including without limitation:

- directly to one or more purchasers;
- through agents;
- to or through underwriters, brokers or dealers;
- through a combination of any of these methods.

A distribution of the securities offered by this prospectus may also be effected through the issuance of derivative securities, including without limitation, warrants, subscriptions, exchangeable securities, forward delivery contracts and the writing of options.

In addition, the manner in which we may sell some or all of the securities covered by this prospectus includes, without limitation, through:

- a block trade in which a broker-dealer will attempt to sell as agent, but may position or resell a portion of the block, as principal, in order to facilitate the transaction;
- purchases by a broker-dealer, as principal, and resale by the broker-dealer for its account;
- ordinary brokerage transactions and transactions in which a broker solicits purchasers;
- through sales "at the market" to or through market makers; or
- privately negotiated transactions.

We may also enter into hedging transactions. For example, we may:

- enter into transactions with a broker-dealer or affiliate thereof in connection with which such broker-dealer or affiliate will engage in short sales of the common stock pursuant to this prospectus, in which case such broker-dealer or affiliate may use shares of common stock received from us to close out its short positions;
- sell securities short and redeliver such shares to close out our short positions;
- enter into option or other types of transactions that require us to deliver common stock to a broker-dealer or an affiliate thereof, who will then resell or transfer the common stock under this prospectus; or
- loan or pledge the common stock to a broker-dealer or an affiliate thereof, who may sell the loaned shares or, in an event of default in the case of a pledge, sell the pledged shares pursuant to this prospectus.

In addition, we may enter into derivative or hedging transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. In connection with such a transaction, the third parties may sell securities covered by and pursuant to this prospectus and an applicable prospectus supplement or pricing supplement, as the case may be. If so, the third party may use securities borrowed from us or others to settle such sales and may use securities received from us to close out any related short positions. We may also loan or pledge securities covered by this prospectus and an applicable prospectus supplement to third parties, who may sell the loaned securities or, in an event of default in the case of a pledge, sell the pledged securities pursuant to this prospectus and the applicable prospectus supplement or pricing supplement, as the case may be.

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A prospectus supplement with respect to each offering of securities will state the terms of the offering of the securities, including:

- the name or names of any underwriters or agents and the amounts of securities underwritten or purchased by each of them, if any;
- the public offering price or purchase price of the securities and the net proceeds to be received by us from the sale;
- any delayed delivery arrangements;
- any underwriting discounts or agency fees and other items constituting underwriters' or agents' compensation;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any securities exchange or markets on which the securities may be listed.

The offer and sale of the securities described in this prospectus by us, the underwriters or the third parties described above may be effected from time to time in one or more transactions, including privately negotiated transactions, either:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to the prevailing market prices; or
- at varying prices determined at the time of sale or at negotiated prices.

Sales of common stock may be made on the Nasdaq Capital Market or any other national securities exchange or U.S. inter-dealer system of a registered national securities association on which our common shares may be listed or quoted at the time of sale.

General

Any public offering price and any discounts, commissions, concessions or other items constituting compensation allowed or reallocated or paid to underwriters, dealers, agents or remarketing firms may be changed from time to time. Underwriters, dealers, agents and remarketing firms that participate in the distribution of the offered securities may be "underwriters" as defined in the Securities Act. Any discounts or commissions they receive from us and any profits they receive on the resale of the offered securities may be treated as underwriting discounts and commissions under the Securities Act. We will identify any underwriters, agents or dealers and describe their commissions, fees or discounts in the applicable prospectus supplement or pricing supplement, as the case may be.

Underwriters and Agents

If underwriters are used in a sale, they will acquire the offered securities for their own account. The underwriters may resell the offered securities in one or more transactions, including negotiated transactions. These sales may be made at a fixed public offering price or prices, which may be changed, at market prices prevailing at the time of the sale, at prices related to such prevailing market price or at negotiated prices. We may offer the securities to the public through an underwriting syndicate or through a single underwriter. The underwriters in any particular offering will be mentioned in the applicable prospectus supplement or pricing supplement, as the case may be.

Unless otherwise specified in connection with any particular offering of securities, the obligations of the underwriters to purchase the offered securities will be subject to certain conditions contained in an underwriting

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agreement that we will enter into with the underwriters at the time of the sale to them. The underwriters will be obligated to purchase all of the securities of the series offered if any of the securities are purchased, unless otherwise specified in connection with any particular offering of securities. Any initial offering price and any discounts or concessions allowed, reallocated or paid to dealers may be changed from time to time.

We may designate agents to sell the offered securities. Unless otherwise specified in connection with any particular offering of securities, the agents will agree to use their best efforts to solicit purchases for the period of their appointment. We may also sell the offered securities to one or more remarketing firms, acting as principals for their own accounts or as agents for us. These firms will remarket the offered securities upon purchasing them in accordance with a redemption or repayment pursuant to the terms of the offered securities. A prospectus supplement or pricing supplement, as the case may be, will identify any remarketing firm and will describe the terms of its agreement, if any, with us and its compensation.

In connection with offerings made through underwriters or agents, we may enter into agreements with such underwriters or agents pursuant to which we receive our outstanding securities in consideration for the securities being offered to the public for cash. In connection with these arrangements, the underwriters or agents may also sell securities covered by this prospectus to hedge their positions in these outstanding securities, including in short sale transactions. If so, the underwriters or agents may use the securities received from us under these arrangements to close out any related open borrowings of securities.

Dealers

We may sell the offered securities to dealers as principals. We may negotiate and pay dealers' commissions, discounts or concessions for their services. The dealer may then resell such securities to the public either at varying prices to be determined by the dealer or at a fixed offering price agreed to with us at the time of resale. Dealers engaged by us may allow other dealers to participate in resales.

Direct Sales

We may choose to sell the offered securities directly. In this case, no underwriters or agents would be involved.

Institutional Purchasers

We may authorize agents, dealers or underwriters to solicit certain institutional investors to purchase offered securities on a delayed delivery basis pursuant to delayed delivery contracts providing for payment and delivery on a specified future date. The applicable prospectus supplement or pricing supplement, as the case may be, will provide the details of any such arrangement, including the offering price and commissions payable on the solicitations.

We will enter into such delayed contracts only with institutional purchasers that we approve. These institutions may include commercial and savings banks, insurance companies, pension funds, investment companies and educational and charitable institutions.

Indemnification; Other Relationships

We may have agreements with agents, underwriters, dealers and remarketing firms to indemnify them against certain civil liabilities, including liabilities under the Securities Act. Agents, underwriters, dealers and remarketing firms, and their affiliates, may engage in transactions with, or perform services for, us in the ordinary course of business. This includes commercial banking and investment banking transactions.

Market-Making, Stabilization and Other Transactions

There is currently no market for any of the offered securities, other than the common stock which is listed on the NASDAQ Capital Market. If the offered securities are traded after their initial issuance, they may trade at

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a discount from their initial offering price, depending upon prevailing interest rates, the market for similar securities and other factors. While it is possible that an underwriter could inform us that it intends to make a market in the offered securities, such underwriter would not be obligated to do so, and any such market-making could be discontinued at any time without notice. Therefore, no assurance can be given as to whether an active trading market will develop for the offered securities. We have no current plans for listing of the debt securities, preferred stock or warrants on any securities exchange or on the National Association of Securities Dealers, Inc. automated quotation system; any such listing with respect to any particular debt securities, preferred stock or warrants will be described in the applicable prospectus supplement or pricing supplement, as the case may be.

In connection with any offering of common stock, the underwriters may purchase and sell shares of common stock in the open market. These transactions may include short sales, syndicate covering transactions and stabilizing transactions. Short sales involve syndicate sales of common stock in excess of the number of shares to be purchased by the underwriters in the offering, which creates a syndicate short position. "Covered" short sales are sales of shares made in an amount up to the number of shares represented by the underwriters' over-allotment option. In determining the source of shares to close out the covered syndicate short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the over-allotment option. Transactions to close out the covered syndicate short involve either purchases of the common stock in the open market after the distribution has been completed or the exercise of the over-allotment option. The underwriters may also make "naked" short sales of shares in excess of the over-allotment option. The underwriters must close out any naked short position by purchasing shares of common stock in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the shares in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of bids for or purchases of shares in the open market while the offering is in progress for the purpose of pegging, fixing or maintaining the price of the securities.

In connection with any offering, the underwriters may also engage in penalty bids. Penalty bids permit the underwriters to reclaim a selling concession from a syndicate member when the securities originally sold by the syndicate member are purchased in a syndicate covering transaction to cover syndicate short positions. Stabilizing transactions, syndicate covering transactions and penalty bids may cause the price of the securities to be higher than it would be in the absence of the transactions. The underwriters may, if they commence these transactions, discontinue them at any time.

LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, Morgan, Lewis & Bockius LLP, New York, New York will provide opinions regarding the authorization and validity of the securities. Morgan, Lewis & Bockius LLP may also provide opinions regarding certain other matters. Any underwriters will also be advised about legal matters by their own counsel, which will be named in the prospectus supplement.

EXPERTS

The consolidated financial statements of Delcath Systems, Inc. at December 31, 2014 and 2013 and for each of the three years in the period ended December 31, 2014 included in Delcath Systems, Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2014, have been audited by Ernst & Young LLP, predecessor independent registered public accounting firm, as set forth in their respective report thereon, included therein, and incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

PART II
INFORMATION NOT REQUIRED IN THE PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The expenses relating to the registration of the securities will be borne by the registrant. Such expenses (except the SEC Registration Fee) are estimated to be as follows:

	Amount to be paid
SEC Registration Fee	\$8,871
Accounting Fees and Expenses	(1)
Legal Fees and Expenses	(1)
Printing expenses	(1)
Trustees' Fees and Expenses	(1)
Miscellaneous expenses	(1)
Total	\$

(1) These fees are calculated based on the securities offered and the number of issuances and accordingly cannot be estimated at this time.

Item 15. Indemnification of Directors and Officers.

The registrant's amended and restated certificate of incorporation, as amended, contains provisions permitted under Delaware law relating to the liability of directors. These provisions eliminate a director's personal liability for monetary damages resulting from a breach of fiduciary duty, except in circumstances involving wrongful acts, such as:

- any breach of the director's duty of loyalty to the registrant or its stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of the law;
- any act related to unlawful stock repurchases, redemptions or other distribution or payments of dividends; or
- any transaction from which the director derived an improper personal benefit.

These provisions do not limit or eliminate the registrant's rights or any stockholder's rights to seek non-monetary relief, such as an injunction or rescission, in the event of a breach of a director's fiduciary duty. These provisions will not alter a director's liability under federal securities laws.

The registrant has entered into indemnification agreements with each of its directors and executive officers that require it to indemnify such persons against any and all expenses (including attorneys' fees), witness fees, judgments, fines, settlements and other amounts incurred (including expenses of a derivative action) in connection with any action, suit or proceeding or alternative dispute resolution mechanism, inquiry hearing or investigation, whether threatened, pending or completed, to which any such person may be made a party by reason of the fact that such person is or was a director, an officer or an employee of the registrant or is or was serving at the request of the Company as a director, officer or employee of another corporation, limited liability company, partnership or other enterprise, provided that such person's conduct did not constitute a breach of his or her duty of loyalty to the registrant or its stockholders, and was not an act or omission not in good faith or which involved intentional misconduct or a knowing violation of laws. The indemnification agreements also set forth certain procedures that

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Item 16. Exhibits.

The Exhibit Index beginning on page II-5 is hereby incorporated by reference.

Item 17. Undertakings.

(a) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) to include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Securities and Exchange Commission (the "Commission") pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that:

Paragraphs (i), (ii) and (iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Securities and Exchange Act of 1934, as amended (the "Exchange Act"), that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act to any purchaser:

(i) Each prospectus filed by a Registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5) or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. *Provided, however, that no statement made in a registration*

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statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the Registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned Registrant undertakes that in a primary offering of securities of the undersigned Registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned Registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned Registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned Registrant or used or referred to by the undersigned Registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned Registrant or its securities provided by or on behalf of the undersigned Registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned Registrant to the purchaser.

(6) That, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(7) To file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the SEC under Section 305(b)(2) of the Trust Indenture Act.

(b) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

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-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in New York, NY, on October 7, 2015.

DELCATH SYSTEMS, INC.

By: /s/ Jennifer K. Simpson, Ph.D.

Name: Jennifer K. Simpson, Ph.D.

Title: President, Chief Executive Officer and Director

Each person whose signature appears below constitutes and appoints Jennifer K. Simpson and Barbra C. Keck and each of them singly, his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement and any and all additional registration statements pursuant to Rule 462(b) of the Securities Act and to file the same, with all exhibits thereto and all other documents in connection therewith, with the SEC, granting unto each said attorney-in-fact and agents full power and authority to do and perform each and every act in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or either of them or their, his or her substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement on Form S-3 has been signed by the following persons in the capacities indicated.

<u>SIGNATURE</u>	<u>TITLE</u>	<u>DATE</u>
<u>/s/ Jennifer K. Simpson, Ph.D.</u> Jennifer K. Simpson, Ph.D.	President, Chief Executive Officer and Director (Principal Executive Officer)	October 7, 2015
<u>/s/ Barbra C. Keck, M.B.A.</u> Barbra C. Keck, M.B.A.	Senior Vice President, Finance (Principal Financial Officer and Principal Accounting Officer)	October 7, 2015
<u>/s/ Roger G. Stoll, Ph.D.</u> Roger G. Stoll, Ph.D.	Chairman of the Board	October 7, 2015
<u>/s/ Harold S. Koplewicz, M.D.</u> Harold S. Koplewicz, M.D.	Director	October 7, 2015
<u>/s/ Dennis H. Langer, M.D., J.D.</u> Dennis H. Langer, M.D., J.D.	Director	October 7, 2015
<u>/s/ Laura A. Philips, Ph.D., M.B.A.</u> Laura A. Philips, Ph.D., M.B.A.	Director	October 7, 2015
<u>/s/ William D. Rueckert</u> William D. Rueckert	Director	October 7, 2015
<u>/s/ Marco Taglietti, M.D.</u> Marco Taglietti, M.D.	Director	October 7, 2015

EXHIBIT INDEX

Exhibit Number	Description of the Document
1.1*	Form of Underwriting Agreement.
4.1*	Specimen Preferred Stock Certificate and Form of Certificate of Designation, Preferences and Rights with respect to any series of Preferred Stock issued hereunder.
4.2	Form of Indenture (incorporated by reference to Exhibit 4.4 to Company's Registration Statement on Form S-3 (Registration No. 333-165677) filed on March 24, 2010).
4.3	Form of Debt Security (incorporated by reference to Exhibit 4.4 to Company's Registration Statement on Form S-3 (Registration No. 333-165677) filed on March 24, 2010).
4.5*	Form of Warrant Agreement (including form of Warrant Certificate).
5.1**	Opinion of Morgan, Lewis & Bockius LLP
23.1**	Consent of Ernst & Young LLP.
23.3	Consent of Morgan, Lewis & Bockius LLP (included in Exhibit 5.1).
24.1	Power of Attorney (included on the signature page hereto)
25.1*	Form T-1 Statement of Eligibility under the Trust Indenture Act of 1939, of _____, as Trustee under the Indenture.

* To be filed by amendment to the Registration Statement or incorporated by reference from documents filed or to be filed with the SEC under the Securities Exchange Act of 1934, as amended.

** Filed herewith

October 7, 2015

Delcath Systems, Inc.
1301 Avenue of the Americas, 43rd Floor
New York, NY 10019

Re: Delcath Systems, Inc. Shelf Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel for Delcath Systems, Inc., a Delaware corporation (the "Company"), in connection with its filing of a Registration Statement on Form S-3 under the Securities Act of 1933, as amended (the "Act"), with the Securities and Exchange Commission (the "Commission") on the date hereof (the "Registration Statement"). The Registration Statement relates to the offer and sale by the Company pursuant to Rule 415 under the Act from time to time, in one or more offerings, as set forth in the prospectus contained in the Registration Statement (the "Prospectus") and as shall be set forth in one or more supplements to the Prospectus (each, a "Prospectus Supplement"), of up to \$77,406,789 of securities (the "Securities"), which may include any or all of the following: (i) shares of the Company's common stock, \$0.01 par value per share ("Common Stock"); (ii) shares of the Company's preferred stock, \$0.01 par value per share ("Preferred Stock"), which may be issued in one or more series; (iii) senior debt securities or subordinated debt securities ("Debt Securities") which may be issued in one or more distinct series under one or more indentures relating to the Debt Securities (each an "Indenture"), proposed to be entered into between the Company and the trustee to be named therein (the "Trustee"); (iv) warrants ("Warrants") to purchase shares of Common Stock or Preferred Stock which may be issued pursuant to one or more warrant agreements (each, a "Warrant Agreement") proposed to be entered into between the Company and warrant agents to be named therein (each, a "Warrant Agent" and, collectively, "Warrant Agents"); (v) stock purchase contracts of the Company ("Stock Purchase Contracts"), obligating the holders thereof to purchase from or sell to the Company, and the Company to sell to or purchase from such holders, shares of Common Stock or Preferred Stock, at a future date or dates, which may be issued under one or more purchase contract agreements (each, a "Purchase Contract Agreement") proposed to be entered into by the Company and a purchase contract agent or agents to be named therein (each, a "Purchase Contract Agent") and (vi) such indeterminate number of shares of Common Stock or Preferred Stock and amount of Debt Securities, as may be issued upon conversion, exchange or exercise of any Preferred Stock, Debt Securities, Warrants or the settlement of any Stock Purchase Contracts, including such shares of Common Stock or Preferred Stock as may be issued pursuant to anti-dilution adjustments, in amounts, at prices and on terms to be determined at the time of offering (collectively, "Indeterminate Securities").

This opinion letter is being furnished in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Act.

In connection with this opinion letter, we have examined the Registration Statement and originals, or copies certified or otherwise identified to our satisfaction, of (i) the Amended and Restated Certificate of Incorporation of the Company, as amended (the "Certificate of Incorporation"), and the Amended and Restated By-laws of the Company (the "By-laws"), (ii) certain resolutions of the Company's Board of Directors relating to the Registration Statement, (iii) the form of Indenture between the Company and the Trustee, filed as an exhibit to the Company's Registration Statement on Form S-3 (Registration No. 333-165677), filed on March 24, 2010 and incorporated by reference in the Registration Statement, and (iv) such other documents, records and other instruments as we have deemed appropriate for purposes of the opinions set forth herein.

We have assumed the genuineness of all signatures, the legal capacity of all natural persons, the authenticity of the documents submitted to us as originals, the conformity with the originals of all documents submitted to us as certified, facsimile or photostatic copies and the authenticity of the originals of all documents submitted to us as copies. With respect to matters of fact relevant to our opinions as set forth below, we have relied upon certificates of officers of the Company, representations made by the Company in documents examined by us and representations of officers of the Company. We have also obtained and relied upon such certificates and assurances from public officials as we have deemed necessary for the purposes of our opinions set forth below.

For the purpose of the opinions set forth below, we have also assumed, without independent investigation or verification, that:

- the issuance, sale, number or amount, as the case may be, and terms of the Securities to be offered from time to time will be duly authorized and established, in accordance with the Certificate of Incorporation, the By-laws, the authorizing resolutions of the Board of Directors of the Company and the General Corporations Law of the State of Delaware (the "DGCL") (each, a "Corporate Action"), and will not conflict with or constitute a breach of the terms of any agreement or instrument to which the Company is subject;
- prior to the issuance of shares of one or more series of Preferred Stock, the designations, relative rights, preferences and limitations relating to each such series of Preferred Stock not fixed in the Certificate of Incorporation will have been fixed by the Board of Directors by appropriate Corporate Action;
- the Indenture, to be governed by the laws of the State of New York, will be duly executed and delivered by the Company and the Trustee; the Indenture will be qualified under the Trust Indenture Act of 1939, as amended; that the Trustee has the requisite organizational and legal power and authority to perform its obligations under the Indenture; and that the Indenture will constitute a legal, valid and binding obligation of the Trustee;
- any Warrants will be issued under one or more Warrant Agreements, to be governed by the laws of the State of New York, between the Company and the Warrant Agent, and the execution, delivery and performance of the applicable Warrant Agreement will be duly authorized by Corporate Action, and will not conflict with or constitute a breach of the terms of any agreement or instrument to which the Company is subject;

- to the extent that the obligations of the Company under any Warrant Agreement may depend upon such matters, each of the parties thereto, other than the Company, will be duly organized, validly existing and in good standing under the laws of its jurisdiction of organization and will be duly qualified to engage in the activities contemplated by such Warrant Agreement; that such Warrant Agreement will have been duly authorized, executed and delivered by such party and will constitute the legal, valid and binding obligation of such party, enforceable against such party in accordance with its terms; that such party will be in compliance, generally and with respect to acting as a party with respect to its obligations under such Warrant Agreement, with all applicable laws and regulations; and that such party will have the requisite organizational and legal power and authority to perform its obligations under such Warrant Agreement;
- any Stock Purchase Contracts will be issued under one or more Purchase Contract Agreements, to be governed by the laws of the State of New York, between the Company and a Purchase Contract Agent, and the execution, delivery and performance of the applicable Purchase Contract Agreement will be duly authorized by Corporate Action, and will not conflict with or constitute a breach of the terms of any agreement or instrument to which the Company is subject;
- to the extent that the obligations of the Company under any Purchase Contract Agreement may be dependent upon such matters, we assume for purposes of this opinion letter that the Purchase Contract Agent with respect to such Purchase Contract Agreement will be duly organized, validly existing and in good standing under the laws of its jurisdiction of organization; that such Purchase Contract Agent will be duly qualified to engage in the activities contemplated by such Purchase Contract Agreement; that such Purchase Contract Agreement will have been duly authorized, executed and delivered by such Purchase Contract Agent and will constitute the legal, valid and binding obligation of such Purchase Contract Agent, enforceable against such Purchase Contract Agent in accordance with its terms; that such Purchase Contract Agent will be in compliance, generally and with respect to acting as a Purchase Contract Agent under such Purchase Contract Agreement, with all applicable laws and regulations; and that such Purchase Contract Agent will have the requisite organizational and legal power and authority to perform its obligations under such Purchase Contract Agreement;
- the Registration Statement and any amendments thereto (including post-effective amendments) will have become effective and such effectiveness shall not have been terminated or rescinded and will comply with all applicable federal and state laws at the time the Securities are offered and issued as contemplated by the Registration Statement;
- a Prospectus Supplement will have been prepared, delivered (including through compliance with Rule 172 of the General Rules and Regulations promulgated under the Act) and filed with the Commission describing the Securities offered thereby and will comply with all applicable laws at the time the Securities are offered and issued as contemplated by the Registration Statement;

- all Securities will be issued and sold in compliance with applicable federal and state securities laws; and
- a definitive purchase, underwriting or similar agreement (each, a “Definitive Agreement”) with respect to any Securities offered or issued will have been duly authorized and validly executed and delivered by the Company and the other parties thereto.

Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof:

1. Upon due authorization by Corporate Action of the issuance and sale of shares of Common Stock, including any Indeterminate Securities constituting Common Stock (“Offered Common Stock”), and upon issuance and delivery of such shares of Offered Common Stock against payment of consideration for such shares (in an amount at least equal to the aggregate par value of such shares of Offered Common Stock) in accordance with the terms and provisions of the applicable Definitive Agreements, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement, and, if applicable, upon the conversion, exchange or exercise of any other Securities in accordance with their respective terms, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement (which shall, in each case, provide for payment of consideration that shall be at least equal to the aggregate par value of such shares of Offered Common Stock), such shares of Offered Common Stock will be validly issued, fully paid and nonassessable.
2. Upon due authorization by Corporate Action of the issuance and sale of shares of a series of Preferred Stock, including any Indeterminate Securities constituting Preferred Stock (“Offered Preferred Stock”), and upon issuance and delivery of such shares of Offered Preferred Stock against payment of consideration for such shares (in an amount at least equal to the aggregate par value of such shares of Offered Preferred Stock) in accordance with the terms and provisions of applicable Definitive Agreements, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement, and, if applicable, upon the conversion, exchange or exercise of any other Securities in accordance with their respective terms, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement (which shall, in either case, provide for payment of consideration at least equal to the aggregate par value of such shares of Offered Preferred Stock), such shares of such series of Offered Preferred Stock will be validly issued, fully paid and nonassessable.
3. When the specific terms of a particular issuance of Debt Securities, including any Indeterminate Securities constituting Debt Securities (“Offered Debt Securities”), have been duly authorized by Corporate Action and are in accordance with the terms of the Indenture, and such Offered Debt Securities have been duly executed, authenticated, completed, issued and delivered, against payment of consideration for such Offered Debt Securities, in accordance with the terms and provisions of the Indenture and the

applicable Definitive Agreements, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement, and, if applicable, upon the conversion, exchange or exercise of any other Securities in accordance with their respective terms, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement, such Offered Debt Securities will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms under the laws of the State of New York, and will be entitled to the benefits of the Indenture.

4. When a Warrant Agreement providing for the specific terms of a particular issuance of Warrants, including any Indeterminate Securities constituting Warrants (“Offered Warrants”), has been duly authorized by Corporate Action and has been duly executed and delivered by the Company and the Warrant Agent named in such Warrant Agreement, and such Offered Warrants, conforming to the requirements of such Warrant Agreement, have been duly countersigned or authenticated, as required, by such Warrant Agent and duly executed and delivered by the Company against payment of consideration for such Offered Warrants in accordance with the terms and provisions of such Warrant Agreement and the applicable Definitive Agreements, the terms of the Corporate Action and as contemplated by the Registration Statement and the applicable Prospectus Supplement, such Offered Warrants will be valid and binding obligations of the Company, enforceable against the Company in accordance with their terms under the laws of the State of New York.
5. When the Stock Purchase Contracts, including any Indeterminate Securities constituting Stock Purchase Contracts (“Offered Stock Purchase Contracts”), have been duly authorized by Corporate Action and duly executed and delivered against payment of consideration for such Offered Stock Purchase Contracts in accordance with the applicable Definitive Agreements, the Offered Stock Purchase Contracts will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms under the laws of the State of New York.

The opinions set forth above are subject to the effects of (i) bankruptcy, insolvency, fraudulent conveyance, fraudulent transfer, reorganization, moratorium or other similar laws relating to or affecting enforcement of creditors’ rights or remedies generally, (ii) general principles of equity (whether such principles are considered in a proceeding at law or equity), including the discretion of the court before which any proceeding may be brought, concepts of good faith, reasonableness and fair dealing and standards of materiality, and (iii) limitations on enforceability to the extent that acceleration of indebtedness under any Debt Security may impair collectability of that portion, if any, of the principal amount thereof that might be determined to be unearned interest thereon.

We render the foregoing opinion as members of the bar of the State of New York and express no opinion as to laws other than the DGCL, the laws of the State of New York and the federal laws of the United States of America. Although the Securities may be issued from time to time on a delayed or continuous basis, the opinions expressed herein are limited to the laws, including rules and regulations, as in effect on the date hereof.

We hereby consent to the use of this opinion as Exhibit 5.1 to the Registration Statement and to the reference to us under the caption "Legal Matters" in the Prospectus. In giving such consent, we do not hereby admit that we are acting within the category of persons whose consent is required under Section 7 of the Act or the rules or regulations of the Commission thereunder.

Very truly yours,

/s/ Morgan, Lewis & Bockius LLP

Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption “Experts” in the Registration Statement (Form S-3) and related prospectus of Delcath Systems, Inc. for the registration of its common stock, preferred stock, warrants, debt securities and stock purchase contracts and to the incorporation by reference therein of our reports dated March 11, 2015 with respect to the consolidated financial statements of Delcath Systems, Inc., included in its Annual Report (Form 10-K) for the year ended December 31, 2014, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

MetroPark, New Jersey
October 7, 2015