

DELCATH SYSTEMS INC
Form 424B2
August 17, 2010
Table of Contents

Filed Pursuant to Rule 424(b)(2)
Registration No. 333-165677

Prospectus Supplement to Prospectus dated April 13, 2010

5,185,000 Shares

Common Stock

We are offering to sell 5,185,000 shares of our common stock through this prospectus supplement and the accompanying prospectus.

Our common stock is listed on The NASDAQ Capital Market under the symbol DCTH . The last reported sale price of our common stock on August 16, 2010 was \$7.15 per share.

Investing in our common stock involves risks, including those described in the Risk Factors section beginning on page S-3 of this prospectus supplement and the section entitled Risk Factors beginning on page 10 of our most recent annual report on Form 10-K for the fiscal year ended December 31, 2009, which is incorporated by reference into the accompanying prospectus.

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

The underwriter has agreed to purchase the common stock from us at a price of \$6.51 per share which will result in \$33,754,350 of proceeds to us (before expenses). We have granted the underwriter a 30-day option to purchase up to an additional 777,750 shares of our common stock at a price of \$6.51 per share to cover any over-allotments.

The underwriter may offer our common stock in transactions in the over-the-counter market or through negotiated transactions at market prices or negotiated prices.

The underwriter expects to deliver the shares against payment in Boston, Massachusetts on August 20, 2010.

Canaccord Genuity

Prospectus Supplement dated August 16, 2010.

Table of Contents**TABLE OF CONTENTS****Prospectus Supplement**

	Page
<u>Summary</u>	S-1
<u>Risk Factors</u>	S-3
<u>Forward-Looking Statements</u>	S-4
<u>Use of Proceeds</u>	S-4
<u>Dividend Policy</u>	S-4
<u>Dilution</u>	S-5
<u>Capitalization</u>	S-6
<u>Underwriting</u>	S-7
<u>Legal Matters</u>	S-9
<u>Experts</u>	S-9

Prospectus

<u>Prospectus Summary</u>	1
<u>Risk Factors</u>	3
<u>Disclosure Regarding Forward-Looking Statements</u>	3
<u>Where You Can Find Additional Information</u>	4
<u>Use of Proceeds</u>	5
<u>Description of Debt Securities</u>	6
<u>Description of Capital Stock</u>	9
<u>Description of Stock Purchase Contracts</u>	12
<u>Description of Warrants</u>	13
<u>Plan of Distribution</u>	15
<u>Legal Matters</u>	18
<u>Experts</u>	19

About This Prospectus Supplement

This prospectus supplement and the accompanying prospectus are part of a registration statement that we filed with the Securities and Exchange Commission using a shelf registration process. Under the shelf registration process, we may offer from time to time common stock, preferred stock, warrants, debt securities and stock purchase contracts. In the accompanying prospectus, we provide you with a general description of the securities we may offer from time to time under our shelf registration statement. In this prospectus supplement, we provide you with specific information about the shares of our common stock that we are selling in this offering. Both this prospectus supplement and the accompanying prospectus include important information about us, our common stock and other information you should know before investing. This prospectus supplement also adds, updates and changes information contained in the accompanying prospectus. You should read both this prospectus supplement and the accompanying prospectus as well as additional information described under Where You Can Find Additional Information on page 4 of the accompanying prospectus before investing in our common stock.

Table of Contents

You should rely only on the information incorporated by reference or provided in this prospectus supplement and the accompanying prospectus or any free writing prospectus prepared by or on behalf of us. Neither we nor the underwriter have authorized anyone to provide you with additional or different information. If anyone provided you with additional or different information, you should not rely on it. Neither we nor the underwriter are making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed since those dates.

S-ii

Table of Contents

SUMMARY

*This summary highlights selected information more fully described elsewhere in this prospectus supplement and the accompanying prospectus. This summary does not contain all of the information you should consider before investing in our common stock. You should read this prospectus supplement, the accompanying prospectus, any free writing prospectus and the documents incorporated by reference herein and therein carefully, especially the risks of investing in our common stock discussed in *Risk Factors* below and in the incorporated documents.*

*In this prospectus supplement, except as otherwise indicated, *Delcath*, *Delcath Systems*, *we*, *our*, and *us* refer to *Delcath Systems, Inc.*, a Delaware corporation. *Delcath* is our registered United States trademark.*

Delcath Systems, Inc.

We are a development stage, specialty pharmaceutical and medical device company focused on oncology. Since our inception, we have focused our efforts on the development of the Delcath system for chemosaturation therapy. Our proprietary system is designed to administer high dose chemotherapy and other therapeutic agents to diseased organs or regions of the body. The Delcath system for chemosaturation therapy provides concentrated regional therapy by isolating the circulatory system of the target organ to directly deliver saturating doses of anti-cancer agents, while controlling systemic exposure to, and side effects from, those agents by filtering the chemotherapeutic-laden blood prior to returning it to the patient. The Delcath system for chemosaturation therapy involves a series of three catheter insertions, each of which is made through standard interventional techniques. The procedure is minimally invasive and repeatable, allowing for multiple courses of treatment with chemotherapeutic drugs and with a recovery period that is generally shorter than surgical alternatives such as resection. Our initial focus is on the treatment of primary and metastatic liver cancers. Delcath recently concluded a Phase III metastatic melanoma study, and the Company is currently conducting a multi-arm Phase II trial to treat other liver cancers. The Company has not yet received FDA or any foreign regulatory approval for commercial sale of its system.

We were incorporated in the State of Delaware in August 1988. Our principal executive offices are located at 810 Seventh Avenue, Suite 3505, 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 supplement or the accompanying prospectus.

Table of Contents

The Offering

Common stock offered by us	5,185,000 shares
Common stock to be outstanding after this offering	42,865,063 shares ⁽¹⁾⁽²⁾
Use of proceeds	We intend to use the net proceeds from this offering for funding of our clinical trials, research and development, obtaining regulatory approvals, manufacturing, operations, sales, commercialization of our products and other general corporate purposes, including capital expenditures and working capital.
Dividend policy	We have never declared or paid any dividends to the holders of our common stock and we do not expect to pay cash dividends in the foreseeable future. We currently intend to retain all earnings for use in connection with the expansion of our business and for general corporate purposes.
NASDAQ Capital Market symbol	DCTH
Risk Factors	See Risk Factors beginning on page S-3 of this prospectus supplement and other information included or incorporated by reference in this prospectus supplement and the accompanying prospectus, including the section entitled Risk Factors beginning on page 10 of our most recent annual report on Form 10-K for the fiscal year ended December 31, 2009, for a discussion of the factors you should carefully consider before deciding to invest in our common stock.
Transfer Agent and Registrar	American Stock Transfer and Trust Company, LLC
Unless otherwise indicated, this prospectus supplement reflects and assumes no exercise by the underwriter of its overallotment option.	

⁽¹⁾The number of shares of common stock to be outstanding after this offering is based on 37,680,063 shares of common stock outstanding on July 27, 2010.

⁽²⁾The number of shares of common stock to be outstanding after this offering excludes, as of June 30, 2010:

3,588,000 shares issuable upon the exercise of stock options at a weighted average exercise price of \$4.49 per share; and

2,696,040 shares issuable upon the exercise of outstanding warrants or options to purchase warrants at a weighted average exercise price of \$3.52 per share.

Table of Contents

RISK FACTORS

Any investment in our common stock involves a high degree of risk. You should carefully consider all of the information contained in this prospectus supplement and the accompanying prospectus before deciding whether to purchase our common stock. In addition, you should carefully consider, among other things, the matters discussed under Risk Factors beginning on page 10 of our Annual Report on Form 10-K for the year ended December 31, 2009, and in other documents that we subsequently file with the Securities and Exchange Commission, all of which are incorporated by reference in the accompanying prospectus. The risks and uncertainties incorporated by reference in the accompanying prospectus are not the only risks and uncertainties we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations. If any of these risks actually occur, our business, financial condition and results of operations would suffer. In that event, the trading price of our common stock could decline, and you may lose all or part of your investment in our common stock. This prospectus supplement, the accompanying prospectus and the incorporated documents also include forward-looking statements and our actual results may differ substantially from those discussed in these forward-looking statements. See Forward-Looking Statements.

S-3

Table of Contents

FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus and the documents incorporated by reference into this prospectus supplement 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 terminology often identify forward-looking statements. Statements in this prospectus supplement, the accompanying prospectus and the other 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 Exchange Act and Section 27A of the Securities Act. 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 supplement, the accompanying prospectus, in our Annual Report on Form 10-K for the fiscal year ended December 31, 2009 in Item 1A under Risk Factors as well as in Item 7A Qualitative and Quantitative Disclosures About Market Risk, our Quarterly Report on Form 10-Q for the period ended June 30, 2010 in Part II, Item 1A under Risk Factors as well as in Part I, Item 3 Qualitative and Quantitative 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:

the progress and results of our research and development programs;

our estimates regarding sufficiency of our cash resources, anticipated capital requirements and our need for additional financing;

the results and timing of our clinical trials and the commencement of future clinical trials;

submission and timing of applications for regulatory approval and approval thereof;

our ability to successfully manufacture and commercialize the Delcath system; and

our ability to successfully negotiate and enter into agreements with strategic and corporate partners.

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 supplement, the date of the accompanying 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 the date of this prospectus supplement or to reflect the occurrence of unanticipated events.

USE OF PROCEEDS

We estimate that the net proceeds from this offering, after deducting underwriter fees and estimated offering expenses of approximately \$300,000, will be approximately \$33,454,350 (or approximately \$38,517,503 if the underwriter exercises its overallotment option in full). We intend to use the net proceeds from this offering for funding of our clinical trials, research and development, obtaining regulatory approvals, manufacturing, operations, sales, commercialization of our products and other general corporate purposes, including capital expenditures and working capital.

DIVIDEND POLICY

We have never declared or paid any dividends to the holders of our common stock and we do not expect to pay cash dividends in the foreseeable future. We currently intend to retain all earnings for use in connection with the expansion of our business and for general corporate purposes.

Table of Contents**DILUTION**

If you invest in our common stock, your interest will be diluted immediately to the extent of the difference between the public offering price per share of our common stock and the adjusted net tangible book value per share of our common stock after this offering.

The net tangible book value of our common stock as of June 30, 2010, was approximately \$16.5 million, or approximately \$0.44 per share. Net tangible book value per share represents the amount of our total tangible assets, excluding goodwill and intangible assets, less total liabilities divided by the total number of shares of our common stock outstanding.

Dilution per share to new investors represents the difference between the amount per share paid by purchasers for our common stock in this offering and the net tangible book value per share of our common stock immediately following the completion of this offering.

After giving effect to the sale of shares of common stock offered by this prospectus supplement at an offering price of \$6.75 per share in connection with this offering and after deducting the estimated underwriting discounts and our estimated offering expenses, our pro forma net tangible book value as of June 30, 2010 would have been approximately \$49,933,482 or approximately \$1.16 per share. This represents an immediate increase in net tangible book value of approximately \$0.72 per share to our existing stockholders and an immediate dilution in pro forma net tangible book value of approximately \$5.59 per share to purchasers of our common stock in this offering, as illustrated by the following table:

Offering price per share	\$ 6.75
Net tangible book value per share as of June 30, 2010	\$ 0.44
Increase per share attributable to new investors	\$ 0.72
Pro forma net tangible book value per share as of June 30, 2010 after giving effect to this offering	\$ 1.16
Dilution per share to new investors	\$ 5.59

The discussion of dilution, and the table quantifying it, assume no exercise of any outstanding options or warrants or other potentially dilutive securities. The exercise of potentially dilutive securities having an exercise price less than the offering price would increase the dilutive effect to new investors.

The table above excludes the following potentially dilutive securities as of June 30, 2010:

3,588,000 shares issuable upon the exercise of stock options at a weighted average exercise price of \$4.49 per share; and

2,696,040 shares issuable upon the exercise of outstanding warrants or options to purchase warrants at a weighted average exercise price of \$3.52 per share.

Table of Contents**CAPITALIZATION**

The following table sets forth our cash and cash equivalents and our capitalization as of June 30, 2010 on a historical basis and as adjusted to give effect to this offering and the application of the estimated net proceeds of this offering as described under "Use of Proceeds." This table should be read in conjunction with "Management's Discussion and Analysis of Results of Operations and Financial Condition" and the consolidated financial statements and notes thereto included in our quarterly report on Form 10-Q for the three months ended June 30, 2010, which is incorporated by reference in the accompanying prospectus.

	As of June 30, 2010	
	Historical	As Adjusted
	(unaudited)	
Cash and cash equivalents	\$ 23,854,122	\$ 57,308,472
Warrant liability	\$ 10,718,300	\$ 10,718,300
Stockholders' equity:		
Preferred stock, \$0.01 par value: 10,000,000 shares authorized; no shares issued and outstanding	\$	\$
Common stock, \$0.01 par value: 70,000,000 shares authorized; 37,708,163 shares issued and 37,680,063 shares outstanding at June 30, 2010; 42,893,163 shares issued and 42,865,063 shares outstanding as adjusted	377,082	428,932
Additional paid-in capital	107,383,771	140,786,271
Deficit accumulated during the development stage	(91,213,418)	(91,213,418)
Treasury stock at cost, 28,100 shares at June 30, 2010	(51,103)	(51,103)
Accumulated other comprehensive loss	(17,200)	(17,200)
Total stockholders' equity	\$ 16,479,132	\$ 49,933,482
Total capitalization	\$ 29,358,032	\$ 62,812,382

Table of Contents

UNDERWRITING

We intend to offer shares of our common stock through the underwriter, Canaccord Genuity Inc. We have agreed to sell to the underwriter, and the underwriter has agreed to purchase from us, 5,185,000 shares of our common stock.

The underwriter has agreed to purchase all of the shares of our common stock (other than those covered by the over-allotment option described below) sold under the underwriting agreement. The underwriter is offering the shares of our common stock, when, as and if issued to and accepted by it, subject to approval of legal matters by its counsel, including the validity of the common stock and other conditions contained in the underwriting agreement, such as the receipt by the underwriter of officers' certificates and legal opinions. The underwriter reserves the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

We have agreed to indemnify the underwriter against certain liabilities, including liabilities under the Securities Act, and to contribute to payments that the underwriter may be required to make in respect of those liabilities.

Commissions and Discounts

In connection with the sale of the shares of common stock offered hereby, the underwriter may be deemed to have received compensation in the form of underwriting discounts.

The expenses of the offering are estimated to be approximately \$300,000. We are responsible for all expenses related to the offering, whether or not it is completed, and up to \$100,000 of the expenses of the underwriter, including fees and expenses of the underwriter's legal counsel.

Over-Allotment Option

We have granted an option to the underwriter to purchase up to 777,750 additional shares of our common stock at \$6.51 per share. The underwriter may exercise this option for 30 days from the date of this prospectus supplement solely to cover any over-allotments.

Lock-Up Agreements

We and our executive officers and directors have entered into lock-up agreements with the underwriter. Under these agreements, we and each of these persons may not, without the prior written approval of the underwriter, subject to limited exceptions, offer, sell, assign, transfer, contract to sell, or otherwise dispose of, or announce the intention to otherwise dispose of, or enter into any swap or other arrangement that transfers any economic consequences of ownership of our common stock or securities convertible into or exercisable or exchangeable for our common stock. These restrictions will be in effect for a period of 90 days after the date of this prospectus supplement (with respect to certain of our officers and directors, beginning on the 16th day after the date of this prospectus supplement, these restrictions shall no longer apply to an aggregate of 65,000 shares held by such officers and directors). Notwithstanding the termination of the lock-up period outlined above, and subject to certain exceptions, in the event that either (i) during the last 17 days of the 90-day restricted period we issue an earnings release or material news or a material event relating to us occurs or (ii) prior to the expiration of the 90-day restricted period, we announce that we will release earnings results or become aware that material news or a material event will occur during the 16-day period beginning on the last day of the 90-day restricted period, in either of which case the restrictions described above will continue to apply until the expiration of the 18-day period beginning on the issuance of the earnings release or the occurrence of the material news or material event, as applicable, unless the underwriter waives, in writing, such extension. At any time and without public notice, the underwriter may in its sole discretion release all or some of the securities from these lock-up agreements.

Table of Contents

Price Stabilization and Short Positions

Until distribution of the shares of our common stock is completed, SEC rules may limit the underwriter from bidding for and purchasing shares of our common stock. However, the underwriter may engage in transactions that stabilize the price of the shares of our common stock, such as bids or purchases to peg, fix or maintain that price.

If the underwriter creates a short position in our common stock in connection with this offering (i.e., if it sells more shares of our common stock than are listed on the cover page of this prospectus supplement), the underwriter may reduce that short position by purchasing shares of our common stock in the open market. The underwriter may also elect to reduce any short position by exercising all or part of the over-allotment option described above. Purchases of shares of our common stock to stabilize its price or to reduce a short position may cause the price of shares of our common stock to be higher than it might be in the absence of such purchases.

The underwriter also may impose a penalty bid, whereby the underwriter may reclaim selling concessions allowed to other broker-dealers in respect of the common stock sold in the offering for its account if the underwriter repurchases the shares in stabilizing or covering transactions. These activities may stabilize, maintain or otherwise affect the market price of the common stock, which may be higher than the price that might otherwise prevail in the open market. The imposition of a penalty bid may also affect the price of the shares of our common stock in that it discourages resales of those shares of our common stock.

The underwriter has advised us that these transactions may be effected on the NASDAQ Capital Market or otherwise. Neither we nor the underwriter make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of shares of our common stock. In addition, neither we nor the underwriter makes any representation that the underwriter will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Relationship with Delcath

In the ordinary course of business, the underwriter and its affiliates have in the past, and may in the future, engage in investment banking or other transactions of a financial nature with us, including the provision of certain advisory services to us or financing transactions for which they have received, and may in the future receive, customary compensation.

Table of Contents

LEGAL MATTERS

The validity of our common stock offered in this offering and certain other legal matters will be passed upon for us by Skadden, Arps, Slate, Meagher & Flom LLP, New York, New York. Certain legal matters will be passed upon for the underwriter by Goodwin Procter LLP, Boston, Massachusetts.

EXPERTS

The consolidated financial statements of Delcath Systems, Inc. appearing in our Annual Report on Form 10-K for the year ended December 31, 2009 (including schedule appearing therein) and the effectiveness of our internal control over financial reporting as of December 31, 2009 have been audited by CCR LLP, independent registered public accounting firm, as set forth in their reports thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such reports given on the authority of such firm as experts in accounting and auditing.

Table of Contents

PROSPECTUS

\$100,000,000

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 \$100,000,000. 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 March 23, 2010, the last reported sale price of our common stock on the NASDAQ Capital Market was \$6.44.

Investing in our common stock involves a high degree of risk. You should review carefully the risks and uncertainties referenced under the heading Risk Factors beginning on page 3 of this prospectus.

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 April 13, 2010.

Table of Contents

TABLE OF CONTENTS

	Page
<u>PROSPECTUS SUMMARY</u>	1
<u>RISK FACTORS</u>	3
<u>DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS</u>	3
<u>WHERE YOU CAN FIND ADDITIONAL INFORMATION</u>	4
<u>USE OF PROCEEDS</u>	5
<u>DESCRIPTION OF DEBT SECURITIES</u>	6
<u>DESCRIPTION OF CAPITAL STOCK</u>	9
<u>DESCRIPTION OF STOCK PURCHASE CONTRACTS</u>	12
<u>DESCRIPTION OF WARRANTS</u>	13
<u>PLAN OF DISTRIBUTION</u>	15
<u>LEGAL MATTERS</u>	18
<u>EXPERTS</u>	19

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 dollar amount of \$100,000,000. 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 More 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.

Table of Contents

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere or incorporated by reference into this prospectus. Because it is a summary, it does not contain all of the information that you should consider before investing in our securities. 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.

DELCATH SYSTEMS, INC.

We are a development stage company that has developed an innovative system designed to administer high dose chemotherapy and other therapeutic agents to diseased organs or regions of the body. Since our inception we have focused our efforts on the development of a single product, the Delcath Percutaneous Hepatic Perfusion System, or The Delcath PHP System which provides regional therapy by isolating the circulatory system of the liver in order to directly deliver high doses of therapeutic agents, while controlling the systemic exposure of those agents. The Delcath PHP System is minimally invasive and repeatable. We believe that the Delcath PHP System is a platform technology that may have broader applicability to other organs and body regions. In our initial application, the Delcath PHP System isolates the liver from the patient's general circulatory system in order to deliver high doses of melphalan hydrochloride, an approved chemotherapeutic drug, directly to the liver. We are currently conducting a Phase III trial and a multi-arm Phase II trial of the Delcath PHP System with melphalan in patients with liver cancers. The Phase III and Phase II clinical trials are subject to the terms and conditions of a Cooperative Research and Development Agreement, the CRADA, between us and the National Cancer Institute, or NCI. The Delcath PHP System is not currently approved by the U.S. Food and Drug Administration (FDA), and it cannot be marketed in the United States without prior FDA approval.

Our most advanced trial is a randomized Phase III multi-center study led by the NCI for patients with metastatic ocular and cutaneous melanoma in the liver. The FDA has granted the Delcath PHP System with melphalan Fast Track designation for the treatment of hepatic tumors secondary to melanoma. We have also been granted four orphan drug designations, including for the drug melphalan for the treatment of patients with ocular and cutaneous melanoma.

We began enrollment of our Phase III clinical trial in 2006 to support the FDA approval process for the Delcath PHP System. As of October 20, 2009, we enrolled all of the 92 patients called for under a Special Protocol Assessment, or SPA, granted by the FDA. We expect to submit our application to the FDA by mid-2010 for the treatment of hepatic tumors secondary to melanoma with the Delcath.

The FDA regulates the Delcath PHP System as a combination product: the combination of a medical device and a drug. Before we can market the Delcath PHP System, we must obtain FDA approval of the drug and device under a Section 505(b)(2) new drug application, or NDA.

We are also conducting a separate Phase II clinical trial of the Delcath PHP System with melphalan in patients with primary and metastatic hepatic malignancies (liver cancer), stratified into four arms: neuroendocrine tumors (carcinoid and islet cell tumors), hepatocellular carcinoma (primary liver cancer), ocular or cutaneous melanoma (eye or skin cancer who have been previously treated with regional therapy using melphalan), and metastatic adenocarcinoma (glandular cancer). In the future, we plan to conduct preclinical and clinical trials to treat liver cancer using the Delcath PHP System with chemotherapy agents other than melphalan.

Our principal executive office is located at 600 Fifth Avenue, 23rd Floor, New York, NY 10020. Our telephone number is (212) 489-2100. Our website address is www.delcath.com. Information contained in, or accessible through, our website does not constitute a part of this prospectus.

Table of Contents

Unless the context indicates otherwise, as used in this prospectus, the terms Delcath Systems, we, us and our refer to Delcath Systems, Inc., a Delaware corporation. Delcath® is a registered trademark of Delcath Systems, Inc. and we use The Delcath PHP System and the Delcath Systems logo as trademarks in the United States and other countries. All other trademarks or trade names, if any, referred to in this prospectus are the property of their respective owners.

Table of Contents

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.

DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, any prospectus supplement 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 other 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, 2009 in Item 1A under Risk Factors as well as in Item 7A Qualitative and Quantitative 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:

the progress and results of our research and development programs;

our estimates regarding sufficiency of our cash resources, anticipated capital requirements and our need for additional financing;

the results and timing of our clinical trials and the commencement of future clinical trials; and

submission and timing of applications for regulatory approval.

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 the date of this prospectus or to reflect the occurrence of unanticipated events.

Table of Contents

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 allows us to incorporate by reference information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The SEC file number for the documents incorporated by reference in this prospectus is 001-16133. The documents incorporated by reference into this prospectus contain important information that you should read about us.

The following documents are incorporated by reference into this document:

Our Annual Report on Form 10-K for the fiscal year ended December 31, 2009 and filed with the SEC on February 26, 2010;

Our Current Reports on Form 8-K, filed on February 10, 2010, February 24, 2010 and March 2, 2010; and

The description of our common stock, which is registered under Section 12 of the Exchange Act, in our registration statement on Form 8-A12B, filed with the SEC on September 22, 2000, including any amendments or 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 to Controller at Delcath Systems, Inc., 600 Fifth Avenue, 23rd Floor, New York 10020 or by calling us at 212-489-2100.

Table of Contents

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.

Table of Contents

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 optional redemption provisions, which would allow us to redeem the debt securities in whole or in part;

any sinking fund or other provisions that would obligate us to redeem, repay or purchase the debt securities;

Table of Contents

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;

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;

Edgar Filing: DELCATH SYSTEMS INC - Form 424B2

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;

Table of Contents

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.

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.

Table of Contents

DESCRIPTION OF CAPITAL STOCK

The following description of our common stock and preferred stock, together with the additional information we include in any applicable prospectus supplement and in any related free writing prospectuses, summarizes the material terms and provisions of the common stock and preferred stock that we may offer under this prospectus. 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 70,000,000 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 March 22, 2010, we had 36,655,734 shares of common stock outstanding and no shares of preferred stock outstanding.

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 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.

Table of Contents

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.

If we decide to issue any preferred stock pursuant to this prospectus, we will describe in a prospectus supplement the terms of the preferred stock, including, if applicable, the following:

the title of the series and stated value;

the number of shares of the series of preferred stock offered, the liquidation preference per share, if applicable, and the offering price;

the applicable dividend rate(s) or amount(s), period(s) and payment date(s) or method(s) of calculation thereof;

the date from which dividends on the preferred stock will accumulate, if applicable;

any procedures for auction and remarketing;

any provisions for a sinking fund;

any applicable provision for redemption and the price or prices, terms and conditions on which preferred stock may be redeemed;

any securities exchange listing;

any voting rights and powers;

whether interests in the preferred stock will be represented by depository shares;

Edgar Filing: DELCATH SYSTEMS INC - Form 424B2

the terms and conditions, if applicable, of conversion into shares of our common stock, including the conversion price or rate or manner of calculation thereof;

a discussion of any material U.S. federal income tax considerations;

the relative ranking and preference as to dividend rights and rights upon our liquidation, dissolution or the winding up of our affairs;

any limitations on issuance of any series of preferred stock ranking senior to or on a parity with such series of preferred stock as to dividend rights and rights upon our liquidation, dissolution or the winding up of our affairs; and

any other specific terms, preferences, rights, limitations or restrictions of such series of preferred stock.

Table of Contents

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.

Stockholder Rights Plan

On October 30, 2001, the Company entered into a Rights Agreement with American Stock Transfer & Trust Company (the Rights Agreement) in connection with the implementation of the Company's stockholder rights plan (the Rights Plan). The purposes of the Rights Plan are to deter, and protect the Company's shareholders from, certain coercive and otherwise unfair takeover tactics and to enable the board of directors to represent effectively the interests of shareholders in the event of a takeover attempt. The Rights Plan does not deter negotiated mergers or business combinations that the board of directors determines to be in the best interests of the Company and its shareholders. To implement the Rights Plan, the board of directors declared a dividend of one common stock purchase right (a Right) for each share of common stock outstanding at the close of business on November 14, 2001 (the Record Date) or issued by the Company on or after such date and prior to the earlier of the Distribution Date, the Redemption Date or the Final Expiration Date (as such terms are defined in the Rights Agreement). The rights expire October 30, 2011. Each Right entitles the registered holder, under specified circumstances, to purchase from the Company for \$5.00, subject to adjustment (the Purchase Price), a number of shares determined by dividing the then applicable Purchase Price by 50% of the then current market price per share in the event that a person or group announces that it has acquired, or intends to acquire, 15% or more of the Company's outstanding common stock. On April 9, 2007 the Board of Directors voted to increase the threshold level to 20%.

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.

Table of Contents

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.

Table of Contents

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;

Edgar Filing: DELCATH SYSTEMS INC - Form 424B2

the dates on which the right to exercise the warrants will commence and expire;

the manner in which the warrant agreement and warrants may be modified;

a discussion of any material U.S. federal income tax considerations of holding or exercising the warrants;

Table of Contents

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.

Table of Contents

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; 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.

Edgar Filing: DELCATH SYSTEMS INC - Form 424B2

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.

Table of Contents

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 negotiated prices.

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.

Edgar Filing: DELCATH SYSTEMS INC - Form 424B2

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 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.

Table of Contents

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 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

Table of Contents

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.

Fees and Commissions

In compliance with the guidelines of the Financial Industry Regulatory Authority (the "FINRA"), the aggregate maximum discount, commission or agency fees or other items constituting underwriting compensation to be received by any FINRA member or independent broker-dealer will not exceed 8% of any offering pursuant to this prospectus and any applicable prospectus supplement or pricing supplement, as the case may be; however, it is anticipated that the maximum commission or discount to be received in any particular offering of securities will be significantly less than this amount.

LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, Skadden, Arps, Slate, Meagher & Flom LLP, New York, New York will provide opinions regarding the authorization and validity of the securities. Skadden, Arps, Slate, Meagher & Flom 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.

Table of Contents

EXPERTS

CCR LLP, independent registered public accounting firm, has audited our consolidated financial statements and schedule included in our Annual Report on Form 10-K for the year ended December 31, 2009, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements and schedule are incorporated by reference in reliance on CCR LLP's report, given on their authority as experts in accounting and auditing.

Table of Contents

5,185,000 Shares

Common Stock

PROSPECTUS SUPPLEMENT

Canaccord Genuity

August 16, 2010