FLUIDIGM CORP
Form S-3
April 04, 2012
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As filed with the Securities and Exchange Commission on April 4, 2012

Registration No. 333-

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-3

REGISTRATION STATEMENT

Under

The Securities Act of 1933

FLUIDIGM CORPORATION

(Exact name of Registrant as specified in its charter)

Delaware	**77-0513190**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification Number)**

7000 Shoreline Court, Suite 100

South San Francisco, CA 94080

(650) 266-6000

(Address, including zip code, and telephone number, including area code, of Registrant s principal executive offices)

Gajus V. Worthington

President and Chief Executive Officer

7000 Shoreline Court, Suite 100

South San Francisco, CA 94080

(650) 266-6000

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Robert F. Kornegay

Michael Nordtvedt

Wilson Sonsini Goodrich & Rosati

Professional Corporation

650 Page Mill Road

Palo Alto, CA 94304

(650) 493-9300

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. x

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 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 of the Exchange Act. (Check one):

Large accelerated filer ¨	Accelerated filer ¨
Non-accelerated filer x (Do not check if a smaller reporting company)	Small 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 Unit (3)**	**Proposed Maximum Aggregate Offering Price(1)(4)**	**Amount of Registration Fee (4)**
Primary Offering:				
Common Stock par value $0.001 per share				
Preferred Stock par value $0.001 per share				
Debt Securities				
Warrants				
Units (5)				
Total Primary Offering				
Secondary Offering:				
Common Stock par value $0.001 per share				
TOTAL	$ 100,000,000		$ 100,000,000	$ 11,460

(1) An indeterminate amount or number of the securities of each identified class, including common stock sold by selling stockholders described in this registration statement, is being registered as may from time to time be issued at indeterminate prices in U.S. Dollars. Subject to Rule 462(b) under the Securities Act of 1933, as amended, or the Securities Act, in no event will the aggregate maximum offering price of all securities sold pursuant to this registration statement exceed $100,000,000 or the equivalent thereof in one or more foreign currencies, foreign currency units or composite currencies.

(2) Pursuant to Rule 416 under the Securities Act, this registration statement shall also cover such indeterminate (A) 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, (B) amount of debt securities as may be sold from time to time at indeterminate prices by the registrant and (C) 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) Fluidigm Corporation will determine the proposed maximum aggregate offering price per unit when it issues the above listed securities.

(4) The proposed maximum aggregate offering price has been estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act.

(5) Securities registered hereunder may be sold separately, or as units with other securities registered hereby.

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 this registration statement shall become effective on such date as the Commission acting pursuant to said Section 8(a) may determine.

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

PROSPECTUS

SUBJECT TO COMPLETION, DATED APRIL 4, 2012

$100,000,000

Fluidigm Corporation may offer, from time to time,

common stock	preferred stock
warrants	debt securities

All of the securities listed above may be sold separately or as units with other securities.

We may from time to time in one or more offerings offer and sell common stock, preferred stock, debt securities, warrants to purchase common stock or preferred stock or debt securities, or any combination of the foregoing, either individually or as units comprised of one or more of the other securities.

In addition, selling stockholders to be named in a prospectus supplement may also offer and sell, from time to time, shares of our common stock. To the extent that any selling stockholder resells any securities, the selling stockholder may be required to provide you with this prospectus and a prospectus supplement identifying and containing specific information about the selling stockholder and the terms of the securities being offered.

The aggregate offering price of the securities sold pursuant to this prospectus will not exceed $100,000,000.

This prospectus may not be used to sell securities unless accompanied by a prospectus supplement, which will describe the method and the terms of the offering. We will provide you with the specific amount, price and terms of the applicable offered securities in one or more supplements to this prospectus. You should read this prospectus and any supplement carefully before you purchase any of our securities.

Our common stock is listed on the NASDAQ Global Market under the symbol FLDM. On April 3, 2012, the last reported sale price on the NASDAQ Global Market was $15.74 per share. There is currently no market for the other securities we may offer.

Investing in our securities involves risks. Please carefully read the information under the headings Risk Factors beginning on page 6 of this prospectus and Item 1A Risk Factors of our most recent report on Form 10-K or 10-Q which is incorporated by reference in this prospectus before you invest in our securities.

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.

These securities may be offered and sold to or through one or more underwriters, dealers and agents, or directly to purchasers, on a continuous or delayed basis. If underwriters, dealers or agents are used to sell the securities, we will name them and describe their compensation in a prospectus supplement. In addition, the underwriters may overallot a portion of the securities.

The date of this prospectus is , 2012.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or the SEC, using a shelf registration process. Under this shelf process, we may, from time to time, offer or sell any combination of the securities described in this prospectus in one or more offerings, and the selling stockholders to be named in a supplement to this prospectus may, from time to time, offer or sell our common stock. The aggregate offering price of the securities sold pursuant to this prospectus will not exceed $100,000,000.

This prospectus provides you with a general description of the securities we and the selling stockholders may offer. Each time we or the selling stockholders 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 to, update or change information contained in this prospectus and, accordingly, to the extent inconsistent, information in this prospectus is superseded by the information in the prospectus supplement.

The prospectus supplement to be attached to the front of this prospectus may describe, as applicable: the terms of the securities offered; the initial price to the public; the price paid for the securities; net proceeds; and the other specific terms related to the offering of the securities.

You should only rely on the information contained or incorporated by reference in this prospectus and any prospectus supplement or issuer free writing prospectus relating to a particular offering. Neither we nor the selling stockholders have authorized any other person to provide you with different information. You should read this entire prospectus and any prospectus supplement and any related issuer free writing prospectus, as well as the documents incorporated by reference into this prospectus or any prospectus supplement, before making an investment decision. We do not imply or represent by delivering this prospectus that Fluidigm Corporation, or its business, is unchanged after the date on the front of this prospectus or that the information in this prospectus is correct as any time after such date.

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PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus or incorporated herein by reference. This summary is not complete and does not contain all of the information that you should consider before deciding to invest in our securities. We urge you to read this entire prospectus and the information incorporated by reference herein carefully, including the Risk Factors section. In this prospectus, unless the context indicates otherwise, the terms company, Fluidigm , we, us, and our refer to Fluidigm Corporation and its subsidiaries.

Fluidigm Corporation

Overview

We develop, manufacture and market microfluidic systems for growth markets, such as single-cell genomics, applied genotyping and sample preparation for targeted resequencing, in the life science and agricultural biotechnology, or Ag-Bio, industries. Our proprietary microfluidic systems consist of instruments and consumables, including chips, assays and other reagents. These systems are designed to significantly simplify experimental workflow, increase throughput and reduce costs, while providing the excellent data quality demanded by customers. In addition, our proprietary technology enables genetic analysis that in many instances was previously impractical. We actively market three microfluidic systems, including eight different commercial chips for nucleic acid research and three families of assays, to leading academic institutions, diagnostic laboratories, and pharmaceutical, biotechnology and Ag-Bio companies. We have sold over 500 systems to customers in over 25 countries worldwide.

To achieve and exploit advances in life science research, Ag-Bio and molecular diagnostics, laboratories need robust systems that deliver high throughput and simpler workflows at decreased costs. Our microfluidic systems are designed to overcome many of the limitations of conventional laboratory systems by integrating a vast number of fluidic components on a single microfabricated chip. Our technology enables our customers to perform and measure thousands of sophisticated biochemical reactions on samples smaller than the content of a single cell, while utilizing minute volumes of reagents and samples. Similarly, for next generation DNA sequencing, our systems enable rapid preparation of multiple samples in parallel at low cost.

We have successfully commercialized our BioMark, BioMark HD and EP1 systems for genetic analysis and our Access Array system for next generation DNA sequencing sample preparation. Researchers and clinicians have successfully employed our products to help achieve breakthroughs in a variety of fields, including single-cell genomics, genetic variation, cellular function and applied genetics. These include using our microfluidic systems to help detect life-threatening mutations in patients cancer cells, discover cancer associated biomarkers, analyze the genetic composition of individual stem cells, and assess the quality of agricultural products, such as seeds or livestock. We believe our Access Array system resolves a critical workflow bottleneck that exists in all commercial next generation DNA sequencing platforms and provides fast, simple, low-cost preparation of samples for targeted resequencing. We expect that the versatility of our microfluidic technology will enable us to develop additional applications across a wide variety of markets.

Corporate Information

We were incorporated in California in May 1999 as Mycometrix Corporation, changed our name to Fluidigm Corporation in April 2001 and reincorporated in Delaware in July 2007. Our principal executive offices are located at 7000 Shoreline Court, Suite 100, South San Francisco, California 94080. Our telephone number is (650) 266-6000. We maintain an Internet website at www.fluidigm.com. We have not incorporated the information on our website by reference into this prospectus, and you should not consider it to be a part of this prospectus.

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The Securities We May Offer

We may offer or sell common stock, preferred stock, debt securities and warrants in one or more offerings and in any combination either individually or as units comprised of one or more of the other securities, and the selling stockholders to be named in a supplement to this prospectus may offer or sell shares of our common stock. The aggregate offering price of the securities sold pursuant to this prospectus will not exceed $100,000,000. Each time we or the selling stockholders offer securities with this prospectus, we will provide a prospectus supplement that will describe the specific amounts, prices and terms of the securities being offered.

We or the selling stockholders may sell the securities to or through underwriters, dealers or agents or directly to purchasers or as otherwise set forth below under Plan of Distribution. We or the selling stockholders, as well as any agents acting on our or their behalf, reserve the sole right to accept and to reject in whole or in part any proposed purchase of securities. Each prospectus supplement will set forth the names of any underwriters, dealers, agents or other entities involved in the sale of securities described in that prospectus supplement and any applicable fee, commission or discount arrangements with them.

Common Stock

We may offer shares of our common stock, par value $0.001 per share, either alone or underlying other registered securities convertible into our common stock. The selling stockholders may offer shares of our common stock, par value $ 0.001 per share, to the extent such shares were issued and outstanding prior to the original date of filing of the registration statement. Holders of our common stock are entitled to receive dividends declared by our board of directors out of funds legally available for the payment of dividends, subject to rights, if any, of preferred stockholders. Currently, we do not pay a dividend. Each holder of common stock is entitled to one vote per share. The holders of common stock have no preemptive rights.

Preferred Stock

We may issue preferred stock in one or more series. Our board of directors or a committee designated by the board will determine the dividend, voting and conversion rights and other provisions at the time of sale. Each series of preferred stock will be more fully described in the particular prospectus supplement that will accompany this prospectus, including redemption provisions, rights in the event of liquidation, dissolution or the winding up of Fluidigm Corporation, voting rights and rights to convert into common stock.

Warrants

We may issue warrants for the purchase of common stock, preferred stock or debt securities. We may issue warrants independently or together with other securities.

Debt Securities

We may offer secured or unsecured obligations in the form of one or more series of senior or subordinated debt. The senior debt securities and the subordinated debt securities are together referred to in this prospectus as the debt securities. The senior debt securities will have the same rank as all of our other unsubordinated debt. The subordinated debt securities generally will be entitled to payment only after payment of our senior debt. Senior debt generally includes all debt for money borrowed by us, except debt that is stated in the instrument governing the terms of that debt to be not senior to, or to have the same rank in right of payment as, or to be expressly junior to, the subordinated debt securities. We may issue debt securities that are convertible into shares of our common stock.

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The senior and subordinated debt securities will be issued under separate indentures between us and a trustee. We have summarized the general features of the debt securities to be governed by the indentures.

These indentures have been filed as exhibits to the registration statement of which this prospectus forms a part. We encourage you to read these indentures. Instructions on how you can get copies of these documents are provided under the heading Where You Can Find More Information.

General Indenture Provisions that Apply to Senior and Subordinated Debt Securities

Each indenture allows debt to be issued in series with terms particular to each series.

Neither of the indentures limit the amount of debt that we may issue or generally provide holders any protection should there be a highly leveraged transaction involving our company.

The indentures allow us to merge or to consolidate with another U.S. business entity or convey, transfer or lease our properties and assets substantially as an entirety to another U.S. business entity, as long as certain conditions are met. If these events occur, the other business entity will be required to assume our responsibilities on the debt securities, and we will be released from all liabilities and obligations, except in the case of a lease.

The indentures provide that we and the trustee may generally amend the indentures with the consent of holders of a majority of the total principal amount of the debt outstanding in any series to change certain of our obligations or your rights concerning the debt. However, to change the payment of principal or interest, to adversely affect the right to convert, or to change certain matters, every holder in that series must consent.

We may discharge the indentures and defease restrictive covenants by depositing sufficient funds with the trustee to pay the obligations when due, as long as certain conditions are met. The trustee would pay all amounts due to you on the debt from the deposited funds.

Events of Default

Each of the following is an event of default under the indentures:

principal not paid when due;

any sinking fund payment not made when due;

failure to pay interest for 30 days; and

covenants not performed for 90 days after notice.

A prospectus supplement may describe deletions of, or changes or additions to, the events of default.

Remedies

Upon an event of default, other than a bankruptcy, insolvency or reorganization, the trustee or holders of 25% of the principal amount outstanding in a series may declare the outstanding principal and premium, if any, plus accrued and unpaid interest, if any, immediately payable. However, the holders of a majority in principal amount may, under certain circumstances, rescind this action. If a bankruptcy, insolvency or reorganization event of default were to occur, the principal amount and premium, if any, or all debt securities of that series, together with the accrued and unpaid interest, if any, will automatically become due and payable.

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Indenture Provisions that Apply Only to the Subordinated Debt Securities

The subordinated debt securities indenture provides that the subordinated debt securities will be subordinated to all senior debt as defined in the subordinated indenture.

Units

We may issue units comprised of one or more of the other classes of securities issued by us as described in this prospectus in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit.

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RISK FACTORS

An investment in our securities involves a high degree of risk. The prospectus supplement applicable to each offering of our securities will contain a discussion of the risks applicable to an investment in our securities. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the heading Risk Factors in the applicable prospectus supplement, together with all of the other information contained or incorporated by reference in the prospectus supplement or appearing or incorporated by reference in this prospectus. You should also consider the risks, uncertainties and assumptions discussed under Item 1A Risk Factors, in our Annual Report on Form 10-K for the year ended December 31, 2011, all of which are incorporated herein by reference, and may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations.

FORWARD-LOOKING STATEMENTS

This prospectus includes and incorporates by reference forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or Exchange Act, that are based on our management s beliefs and assumptions and on information currently available to our management. Forward-looking statements include information concerning our possible or assumed future results of operations, business strategies, financing plans, competitive position, industry environment, potential growth opportunities and the effects of competition. Forward-looking statements include statements that are not historical facts and can be identified by terms such as anticipates, believes, could, seeks, estimates, expects, intends, may, plans, potentia projects, should, will, would or similar expressions and the negatives of those terms. Although we believe that we have a reasonable basis for each forward-looking statement contained and incorporated by reference included in this prospectus, we caution you that these statements are based on our projections of the future that are subject to known and unknown risks and uncertainties and other factors that may cause our actual results, level of activity, performance or achievements expressed or implied by these forward-looking statements, to differ. The sections in this prospectus entitled Risk Factors, and in Item 1-A Risk Factors of our most recent report on Form 10-K or Form 10-Q which is incorporated by reference in this prospectus as well as other disclosures included in this prospectus or the supplement hereto, discuss some of the factors that could contribute to these differences.

Other unknown or unpredictable factors also could harm our results. Consequently, actual results or developments anticipated by us may not be realized or, even if substantially realized, may not have the expected consequences to, or effects on, us. Given these uncertainties, prospective investors are cautioned not to place undue reliance on such forward-looking statements. Except as required by law, we undertake no obligation to update or revise publicly any of the forward-looking statements after the date of this prospectus.

This prospectus and the documents incorporated by reference in this prospectus contain market data that we obtained from industry sources. These sources do not guarantee the accuracy or completeness of the information. Although we believe that the industry sources are reliable, we have not independently verified the information. The market data include projections that are based on a number of other projections. While we believe these assumptions to be reasonable and sound as of the date of this prospectus, actual results may differ from the projections.

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RATIO OF EARNINGS TO COMBINED FIXED CHARGES AND PREFERENCE DIVIDENDS

The following table sets forth our consolidated ratio of earnings to combined fixed charges and preference dividends for the periods indicated.

	Fiscal Year Ended				
	December 29, 2007	December 27, 2008	December 31, 2009	December 31, 2010	December 31, 2011
Ratio of Earnings to Combined Fixed Charges and Preference Dividends (1)					

(1) The ratio of earnings to combined fixed charges and preference dividends represents the number of times that fixed charges and preference dividends are covered by earnings. Earnings consist of income or loss from continuing operations before income taxes and fixed charges, excluding preference dividends. Fixed charges consist of interest expensed and capitalized under capital leases, estimated interest expense within rental expense, and preference dividends. We recognized a deemed dividend to preferred stockholders of $9.9 million in 2011, which was the only year such a dividend was incurred. In the fiscal years ended December 29, 2007, December 27, 2008, and December 31, 2009, 2010 and 2011, earnings were insufficient to cover fixed charges by $25.3 million, $29.6 million, $19.2 million, $16.8 million, and $32.2 million, respectively.

As of the date of this prospectus, we have no shares of preferred stock outstanding, and consequently, our ratio of earnings to combined fixed charges and preferred share dividends and ratio of earnings to fixed charges would be identical.

USE OF PROCEEDS

Unless we state otherwise in the applicable prospectus supplement, we expect to use the net proceeds that we will receive from the sale of the securities for working capital and other general corporate purposes and we may also use a portion of our net proceeds to acquire and invest in complementary products, technologies or businesses; however, we currently have no agreements or commitments to complete any such transaction and are not involved in negotiations to do so. Pending these uses, we may invest our net proceeds from this offering primarily in investment-grade, interest-bearing instruments.

The specific allocations of the proceeds we receive from the sale of our securities will be described in the applicable prospectus supplement.

We will not receive any proceeds from the sale of shares of our common stock by any selling stockholder.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain all future earnings for the operation and expansion of our business and, therefore, we do not anticipate declaring or paying cash dividends in the foreseeable future. In addition, we are subject to several covenants under our debt arrangements that place restrictions on our ability to pay dividends. The payment of dividends will be at the discretion of our board of directors and will depend on our results of operations, capital requirements, financial condition, prospects, contractual arrangements, any limitations on payment of dividends present in our current and future debt agreements, and other factors that our board of directors may deem relevant.

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DESCRIPTION OF OUR CAPITAL STOCK

The following is a summary of the material provisions of the common stock and the preferred stock contained in our certificate of incorporation and bylaws. For more detailed definition, please refer to our certificate of incorporation and bylaws, each as amended.

General

Our authorized capital stock consists of 210,000,000 shares, all with a par value of $0.001 per share, of which:

- 200,000,000 shares are designated as common stock; and
- 10,000,000 shares are designated as preferred stock.

As of February 29, 2012, we had outstanding 20,421,444 shares of common stock held of record by 173 stockholders. In addition, as of February 29, 2012, 2,790,900 shares of our common stock were subject to outstanding options. As of April 3, 2012, 5,120 shares of our common stock were subject to one outstanding warrant.

Common Stock

The holders of our common stock are entitled to one vote per share on all matters to be voted on by our stockholders. Subject to preferences that may be applicable to any outstanding shares of preferred stock, holders of common stock are entitled to receive ratably such dividends as may be declared by our board of directors out of funds legally available for that purpose. In the event of our liquidation, dissolution or winding up, the holders of common stock are entitled to share ratably in all assets remaining after the payment of liabilities, subject to the prior distribution rights of preferred stock then outstanding. Holders of common stock have no preemptive, conversion or subscription rights. There are no redemption or sinking fund provisions applicable to the common stock.

Preferred Stock

No shares of preferred stock are outstanding. Though we currently have no plans to issue any shares of preferred stock, under our certificate of incorporation, our board of directors has the authority, without further action by our stockholders, to designate and issue up to 10,000,000 shares of preferred stock in one or more series. Our board of directors may also designate the rights, preferences and privileges of each such series of preferred stock, any or all of which may be greater than or senior to those of the common stock. Though the actual effect of any such issuance on the rights of the holders of common stock will not be known until our board of directors determines the specific rights of the holders of preferred stock, the potential effects of such an issuance include:

- diluting the voting power of the holders of common stock;
- reducing the likelihood that holders of common stock will receive dividend payments;
- reducing the likelihood that holders of common stock will receive payments in the event of our liquidation, dissolution, or winding up; and
- delaying, deterring or preventing a change-in-control or other corporate takeover.

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Warrants

We have one outstanding warrant to purchase 5,120 shares of our common stock at an exercise price of $15.62 per share. The warrant will expire on December 16, 2012. In the event of a distribution of dividends, a stock split, a reorganization, a reclassification, a consolidation, or a similar event, the warrant provides for adjustment of the exercise price and the number of shares issuable upon exercise.

Potential Issuance of Common Stock

On March 7, 2003, we entered into a Master Closing Agreement with Oculus Pharmaceuticals, Inc. and The UAB Research Foundation, or UAB, related to certain intellectual property and technology rights licensed by us from UAB. Pursuant to the agreement, we are obligated to issue UAB shares of our common stock with a value equal to approximately $1,500,000 upon the achievement of a certain milestone and based upon the fair market value of our common stock at the time the milestone is achieved. We currently do not anticipate achieving this milestone in the foreseeable future and do not anticipate issuing these shares. The potential issuance discussed above is not reflected in the number of shares of common stock outstanding in this prospectus.

Registration Rights

As of February 29, 2012, the holders of an aggregate of 7,272,855 shares of our common stock are entitled to the following rights with respect to the registration of such shares for public resale under the Securities Act, pursuant to an investor rights agreement by and among us and certain of our stockholders. We refer to these shares collectively as registrable securities.

The registration of shares of common stock as a result of the following rights being exercised would enable the holders to trade these shares without restriction under the Securities Act when the applicable registration statement is declared effective. Ordinarily, we will be required to pay all expenses, other than underwriting discounts and commissions, related to any registration effected pursuant to the exercise of these registration rights.

The registration rights terminate upon the earlier of five years after completion of our initial public offering, or, with respect to the registration rights of an individual holder, when the holder of one percent or less of our outstanding common stock can sell all of such holder s registrable securities in any three-month period without registration, in compliance with Rule 144 of the Securities Act or another similar exemption.

Demand Registration Rights

If, at any time after our initial public offering, the holders of at least a majority of the registrable securities request in writing that we effect a registration with respect to at least 50% of their shares that has a reasonably anticipated aggregate price to the public, net of underwriting discounts and commissions in excess of $20,000,000, we may be required to register their shares. At most, we are obligated to effect two registrations for the holders of registrable securities in response to these demand registration rights. Depending on certain conditions, however, we may defer such registration for up to 90 days. If the holders requesting registration intend to distribute their shares by means of an underwriting, the managing underwriter of such offering will have the right to limit the number of shares to be underwritten for reasons related to the marketing of the shares.

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Piggyback Registration Rights

If at any time we propose to register any shares of our common stock under the Securities Act, subject to certain exceptions, the holders of registrable securities will be entitled to notice of the registration and to include their shares of registrable securities in the registration. If our proposed registration involves an underwriting, the managing underwriter of such offering will have the right to limit the number of shares to be underwritten for reasons related to the marketing of the shares.

Form S-3 Registration Rights

If at any time that we are entitled under the Securities Act to register our shares on Form S-3 a holder of registrable securities requests in writing that we register registrable securities for public resale on Form S-3 and the reasonably anticipated price to the public of the offering exceeds $2,000,000 (net of underwriting discounts and commissions), we will be required to use our best efforts to effect such registration; provided, however, that if such registration would be seriously detrimental to us or our stockholders, we may defer the registration for up to 90 days.

Voting Rights

Under the provisions of our certificate of incorporation, holders of our common stock are entitled to one vote for each share of common stock held by such holder on any matter submitted to a vote at a meeting of stockholders. In addition, our certificate of incorporation provides that certain corporate actions require the approval of our stockholders. These actions, and the vote required, are as follows:

- the removal of a director requires the vote of a majority of the voting power of our issued and outstanding capital stock entitled to vote in the election of directors; and

- the amendment of provisions of our certificate of incorporation relating to blank check preferred stock, the classification of our directors, the removal of directors, the filling of vacancies on our board of directors, cumulative voting, annual and special meetings of our stockholders and the amendment provision in our certificate of incorporation require the vote of 66 2/3% of our then outstanding voting securities.

Anti Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws

Certain provisions of Delaware law and our certificate of incorporation and bylaws contain provisions that could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions, which are summarized below, are expected to discourage certain types of coercive takeover practices and inadequate takeover bids. These provisions are also designed in part to encourage anyone seeking to acquire control of us to first negotiate with our board of directors. We believe that the advantages gained by protecting our ability to negotiate with any unsolicited and potentially unfriendly acquirer outweigh the disadvantages of discouraging such proposals, including those priced above the then-current market value of our common stock, because, among other reasons, the negotiation of such proposals could improve their terms.

Certificate of Incorporation and Bylaws

Our certificate of incorporation and bylaws include provisions that:

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authorize our board of directors to issue, without further action by the stockholders, up to 10,000,000 shares of undesignated preferred stock;

require that any action to be taken by our stockholders be effected at a duly called annual or special meeting and not by written consent;

specify that special meetings of our stockholders can be called only by our board of directors, the chairman of the board, the chief executive officer or the president;

establish an advance notice procedure for stockholder approvals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to our board of directors;

provide that directors may be removed only for cause;

provide that vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum;

establish that our board of directors is divided into three classes, Class I, Class II, and Class III, with each class serving staggered terms;

specify that no stockholder is permitted to cumulate votes at any election of the board of directors; and

require a super-majority of votes to amend certain of the above-mentioned provisions.

Delaware Anti-Takeover Statute

We are subject to the provisions of Section 203 of the Delaware General Corporation Law regulating corporate takeovers. In general, Section 203 prohibits a publicly-held Delaware corporation from engaging, under certain circumstances, in a business combination with an interested stockholder for a period of three years following the date the person became an interested stockholder unless:

prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;

upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, but not for determining the outstanding voting stock owned by the interested stockholder, (1) shares owned by persons who are directors and also officers, and (2) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

at or subsequent to the date of the transaction, the business combination is approved by the board of directors of the corporation and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of

the outstanding voting stock which is not owned by the interested stockholder.

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Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An interested stockholder is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of a corporation s outstanding voting stock. We expect the existence of this provision to have an anti-takeover effect with respect to transactions our board of directors does not approve in advance. We also anticipate that Section 203 may discourage business combinations or other attempts that might result in a premium over the market price for the shares of common stock held by our stockholders.

The provisions of Delaware law and our certificate of incorporation and bylaws could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they may also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions may also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interests.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. The transfer agent s address is 250 Royall Street, Canton, MA 02021, and its telephone number is (781) 575-2900.

NASDAQ Global Market Listing

Our common stock is listed on the NASDAQ Global Market under the symbol FLDM.

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DESCRIPTION OF THE DEBT SECURITIES

The debt securities may be either secured or unsecured and will either be our senior debt securities or our subordinated debt securities. The debt securities will be issued under one or more separate indentures between us and a trustee to be specified in an accompanying prospectus supplement. Senior debt securities will be issued under a senior indenture and subordinated debt securities will be issued under a subordinated indenture. Together, the senior indenture and the subordinated indenture are called indentures. This prospectus, together with the applicable prospectus supplement, will describe the terms of a particular series of debt securities.

The following is a summary of selected provisions and definitions of the indentures and debt securities to which any prospectus supplement may relate. The summary of selected provisions of the indentures and the debt securities appearing below is not complete and is subject to, and qualified entirely by reference to, all of the provisions of the applicable indenture and certificates evidencing the applicable debt securities. For additional information, you should look at the applicable indenture and the certificate evidencing the applicable debt security that is filed as an exhibit to the registration statement that includes the prospectus. In this description of the debt securities, the words Fluidigm Corporation, we, us or our refer only to Fluidigm Corporation and not to any of our subsidiaries, unless we otherwise expressly state or the context otherwise requires.

The following description sets forth selected general terms and provisions of the applicable indenture and debt securities to which any prospectus supplement may relate. Other specific terms of the applicable indenture and debt securities will be described in the applicable prospectus supplement. If any particular terms of the indenture or debt securities described in a prospectus supplement differ from any of the terms described below, then the terms described below will be deemed to have been superseded by that prospectus supplement.

General

Debt securities may be issued in separate series without limitation as to aggregate principal amount. We may specify a maximum aggregate principal amount for the debt securities of any series.

We are not limited as to the amount of debt securities we may issue under the indentures. Unless otherwise provided in a prospectus supplement, a series of debt securities may be reopened to issue additional debt securities of such series.

The prospectus supplement relating to a particular series of debt securities will set forth:

- whether the debt securities are senior or subordinated;
- the offering price;
- the title;
- any limit on the aggregate principal amount;
- the person who shall be entitled to receive interest, if other than the record holder on the record date;

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the date or dates the principal will be payable;

the interest rate or rates, which may be fixed or variable, if any, the date from which interest will accrue, the interest payment dates and the regular record dates, or the method for calculating the dates and rates;

the place where payments may be made;

any mandatory or optional redemption provisions or sinking fund provisions and any applicable redemption or purchase prices associated with these provisions;

if issued other than in denominations of U.S. $1,000 or any multiple of U.S. $1,000, the denominations in which the debt securities shall be issuable;

if applicable, the method for determining how the principal, premium, if any, or interest will be calculated by reference to an index or formula;

if other than U.S. currency, the currency or currency units in which principal, premium, if any, or interest will be payable and whether we or a holder may elect payment to be made in a different currency;

the portion of the principal amount that will be payable upon acceleration of maturity, if other than the entire principal amount;

if the principal amount payable at stated maturity will not be determinable as of any date prior to stated maturity, the amount or method for determining the amount which will be deemed to be the principal amount;

if applicable, whether the debt securities shall be subject to the defeasance provisions described below under Satisfaction and discharge; defeasance or such other defeasance provisions specified in the applicable prospectus supplement for the debt securities;

any conversion or exchange provisions;

whether the debt securities will be issuable in the form of a global security;

any subordination provisions applicable to the subordinated debt securities if different from those described below under Subordinated debt securities ;

any paying agents, authenticating agents, security registrars or other agents for the debt securities;

any provisions relating to any security provided for the debt securities, including any provisions regarding the circumstances under which collateral may be released or substituted;

any deletions of, or changes or additions to, the events of default, acceleration provisions or covenants; and

any other specific terms of such debt securities.

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Unless otherwise specified in the prospectus supplement, the debt securities will be registered debt securities. Debt securities may be sold at a substantial discount below their stated principal amount, bearing no interest or interest at a rate which at time of issuance is below market rates. The U.S. federal income tax considerations applicable to debt securities sold at a discount will be described in the applicable prospectus supplement.

Exchange and transfer

Debt securities may be transferred or exchanged at the office of the security registrar or at the office of any transfer agent designated by us.

We will not impose a service charge for any transfer or exchange, but we may require holders to pay any tax or other governmental charges associated with any transfer or exchange.

In the event of any partial redemption of debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange, any debt security of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption and ending at the close of business on the day of the mailing; or
- register the transfer of or exchange any debt security of that series selected for redemption, in whole or in part, except the unredeemed portion being redeemed in part.

Initially, we will appoint the trustee as the security registrar. Any transfer agent, in addition to the security registrar initially designated by us, will be named in the prospectus supplement. We may designate additional transfer agents or change transfer agents or change the office of the transfer agent. However, we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

Global securities

The debt securities of any series may be represented, in whole or in part, by one or more global securities. Each global security will:

- be registered in the name of a depositary, or its nominee, that we will identify in a prospectus supplement;
- be deposited with the depositary or nominee or custodian; and
- bear any required legends.

No global security may be exchanged in whole or in part for debt securities registered in the name of any person other than the depositary or any nominee unless:

- the depositary has notified us that it is unwilling or unable to continue as depositary or has ceased to be qualified to act as depositary;
- an event of default is continuing with respect to the debt securities of the applicable series; or
- any other circumstance described in a prospectus supplement has occurred permitting or requiring the issuance of any such security.

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As long as the depositary, or its nominee, is the registered owner of a global security, the depositary or nominee will be considered the sole owner and holder of the debt securities represented by the global security for all purposes under the indentures. Except in the above limited circumstances, owners of beneficial interests in a global security will not be:

- entitled to have the debt securities registered in their names;
- entitled to physical delivery of certificated debt securities; or
- considered to be holders of those debt securities under the indenture.

Payments on a global security will be made to the depositary or its nominee as the holder of the global security. Some jurisdictions have laws that require that certain purchasers of securities take physical delivery of such securities in definitive form. These laws may impair the ability to transfer beneficial interests in a global security.

Institutions that have accounts with the depositary or its nominee are referred to as participants. Ownership of beneficial interests in a global security will be limited to participants and to persons that may hold beneficial interests through participants. The depositary will credit, on its book-entry registration and transfer system, the respective principal amounts of debt securities represented by the global security to the accounts of its participants.

Ownership of beneficial interests in a global security will be shown on and effected through records maintained by the depositary, with respect to participants interests, or any participant, with respect to interests of persons held by participants on their behalf.

Payments, transfers and exchanges relating to beneficial interests in a global security will be subject to policies and procedures of the depositary. The depositary policies and procedures may change from time to time. Neither any trustee nor we will have any responsibility or liability for the depositary s or any participant s records with respect to beneficial interests in a global security.

Payment and paying agents

Unless otherwise indicated in a prospectus supplement, the provisions described in this paragraph will apply to the debt securities. Payment of interest on a debt security on any interest payment date will be made to the person in whose name the debt security is registered at the close of business on the regular record date. Payment on debt securities of a particular series will be payable at the office of a paying agent or paying agents designated by us. However, at our option, we may pay interest by mailing a check to the record holder. The trustee will be designated as our initial paying agent.

We may also name any other paying agents in a prospectus supplement. We may designate additional paying agents, change paying agents or change the office of any paying agent. However, we will be required to maintain a paying agent in each place of payment for the debt securities of a particular series.

All moneys paid by us to a paying agent for payment on any debt security that remain unclaimed for a period ending the earlier of:

- 10 business days prior to the date the money would be turned over to the applicable state; or
- at the end of two years after such payment was due, will be repaid to us. Thereafter, the holder may look only to us for such payment.

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No protection in the event of a change of control

Unless otherwise indicated in a prospectus supplement with respect to a particular series of debt securities, the debt securities will not contain any provisions that may afford holders of the debt securities protection in the event we have a change in control or in the event of a highly leveraged transaction, whether or not such transaction results in a change in control.

Covenants

Unless otherwise indicated in a prospectus supplement with respect to a particular series of debt securities, the debt securities will not contain any financial or restrictive covenants.

Consolidation, merger and sale of assets

Unless otherwise indicated in a prospectus supplement with respect to a particular series of debt securities, we may not consolidate with or merge into any other person, in a transaction in which we are not the surviving corporation, or convey, transfer or lease our properties and assets substantially as an entirety to, any entity, unless:

- the successor entity, if any, is a corporation, limited liability company, partnership, trust or other business entity existing under the laws of the United States, any State within the United States or the District of Columbia;
- the successor entity assumes our obligations on the debt securities and under the indentures;
- immediately after giving effect to the transaction, no default or event of default shall have occurred and be continuing; and
- certain other conditions are met.

Events of default

Unless we indicate otherwise in a prospectus supplement, the following will be events of default for any series of debt securities under the indentures:

(1) we fail to pay principal of or any premium on any debt security of that series when due;

(2) we fail to pay any interest on any debt security of that series for 30 days after it becomes due;

(3) we fail to deposit any sinking fund payment when due;

(4) we fail to perform any other covenant in the indenture and such failure continues for 90 days after we are given the notice required in the indentures; and

(5) certain events including our bankruptcy, insolvency or reorganization.

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Additional or different events of default applicable to a series of debt securities may be described in a prospectus supplement. An event of default of one series of debt securities is not necessarily an event of default for any other series of debt securities.

The trustee may withhold notice to the holders of any default, except defaults in the payment of principal, premium, if any, interest, any sinking fund installment on, or with respect to any conversion right of, the debt securities of such series. However, the trustee must consider it to be in the interest of the holders of the debt securities of such series to withhold this notice.

Unless we indicate otherwise in a prospectus supplement, if an event of default, other than an event of default described in clause (5) above, shall occur and be continuing with respect to any series of debt securities, either the trustee or the holders of at least 25% in aggregate principal amount of the outstanding securities of that series may declare the principal amount and premium, if any, of the debt securities of that series, or if any debt securities of that series are original issue discount securities, such other amount as may be specified in the applicable prospectus supplement, in each case together with accrued and unpaid interest, if any, thereon, to be due and payable immediately.

If an event of default described in clause (5) above shall occur, the principal amount and premium, if any, of all the debt securities of that series, or if any debt securities of that series are original issue discount securities, such other amount as may be specified in the applicable prospectus supplement, in each case together with accrued and unpaid interest, if any, thereon, will automatically become immediately due and payable. Any payment by us on the subordinated debt securities following any such acceleration will be subject to the subordination provisions described below under Subordinated debt securities.

After acceleration the holders of a majority in aggregate principal amount of the outstanding securities of that series may, under certain circumstances, rescind and annul such acceleration if all events of default, other than the non-payment of accelerated principal, or other specified amounts or interest, have been cured or waived.

Other than the duty to act with the required care during an event of default, the trustee will not be obligated to exercise any of its rights or powers at the request of the holders unless the holders shall have offered to the trustee reasonable indemnity. Generally, the holders of a majority in aggregate principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee.

A holder of debt securities of any series will not have any right to institute any proceeding under the indentures, or for the appointment of a receiver or a trustee, or for any other remedy under the indentures, unless:

(1) the holder has previously given to the trustee written notice of a continuing event of default with respect to the debt securities of that series;

(2) the holders of at least a majority in aggregate principal amount of the outstanding debt securities of that series have made a written request and have offered reasonable indemnity to the trustee to institute the proceeding; and

(3) the trustee has failed to institute the proceeding and has not received direction inconsistent with the original request from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series within 60 days after the original request.

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Holders may, however, sue to enforce the payment of principal, premium or interest on any debt security on or after the due date or to enforce the right, if any, to convert any debt security (if the debt security is convertible) without following the procedures listed in (1) through (3) above.

We will furnish the trustee an annual statement by our officers as to whether or not we are in default in the performance of the conditions and covenants under the indenture and, if so, specifying all known defaults.

Modification and waiver

Unless we indicate otherwise in a prospectus supplement, the applicable trustee and we may make modifications and amendments to an indenture with the consent of the holders of a majority in aggregate principal amount of the outstanding securities of each series affected by the modification or amendment.

We may also make modifications and amendments to the indentures for the benefit of holders without their consent, for certain purposes including, but not limited to:

- providing for our successor to assume the covenants under the indenture;
- adding covenants or events of default;
- making certain changes to facilitate the issuance of the securities;
- securing the securities;
- providing for a successor trustee or additional trustees;
- curing any ambiguities or inconsistencies;
- permitting or facilitating the defeasance and discharge of the securities; and
- other changes specified in the indenture.

However, neither the trustee nor we may make any modification or amendment without the consent of the holder of each outstanding security of that series affected by the modification or amendment if such modification or amendment would:

- change the stated maturity of any debt security;
- reduce the principal, premium, if any, or interest on any debt security or any amount payable upon redemption or repurchase, whether at our option or the option of any holder, or reduce the amount of any sinking fund payments;
- reduce the principal of an original issue discount security or any other debt security payable on acceleration of maturity;

change the place of payment or the currency in which any debt security is payable;

impair the right to enforce any payment after the stated maturity or redemption date;

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if subordinated debt securities, modify the subordination provisions in a materially adverse manner to the holders;

adversely affect the right to convert any debt security if the debt security is a convertible debt security; or

change the provisions in the indenture that relate to modifying or amending the indenture.

Satisfaction and discharge; defeasance

We may be discharged from our obligations on the debt securities, subject to limited exceptions, of any series that have matured or will mature or be redeemed within one year if we deposit enough money with the trustee to pay all of the principal, interest and any premium due to the stated maturity date or redemption date of the debt securities.

Each indenture contains a provision that permits us to elect either or both of the following:

We may elect to be discharged from all of our obligations, subject to limited exceptions, with respect to any series of debt securities then outstanding. If we make this election, the holders of the debt securities of the series will not be entitled to the benefits of the indenture, except for the rights of holders to receive payments on debt securities or the registration of transfer and exchange of debt securities and replacement of lost, stolen or mutilated debt securities.

We may elect to be released from our obligations under some or all of any financial or restrictive covenants applicable to the series of debt securities to which the election relates and from the consequences of an event of default resulting from a breach of those covenants.

To make either of the above elections, we must irrevocably deposit in trust with the trustee enough money to pay in full the principal, interest and premium on the debt securities. This amount may be made in cash and/or U.S. government obligations or, in the case of debt securities denominated in a currency other than U.S. dollars, cash in the currency in which such series of securities is denominated and/or foreign government obligations. As a condition to either of the above elections, for debt securities denominated in U.S. dollars we must deliver to the trustee an opinion of counsel that the holders of the debt securities will not recognize income, gain or loss for U.S. federal income tax purposes as a result of the action.

Foreign government obligations means, with respect to debt securities of any series that are denominated in a currency other than United States dollars:

direct obligations of the government that issued or caused to be issued the currency in which such securities are denominated and for the payment of which obligations its full faith and credit is pledged, or, with respect to debt securities of any series which are denominated in euros, direct obligations of certain members of the European Union for the payment of which obligations the full faith and credit of such members is pledged, which in each case are not callable or redeemable at the option of the issuer thereof;

obligations of a person controlled or supervised by or acting as an agency or instrumentality of a government described in the bullet above the timely payment of which is unconditionally guaranteed as a full faith and credit obligation by such government, which are not callable or redeemable at the option of the issuer thereof; or

any depository receipt issued by a bank as custodian with respect to any obligation specified in the first two bullet points and held by such bank for the account of the holder of such deposit any receipt, or with respect to any such obligation which is so specified and held.

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Notices

Notices to holders will be given by mail to the addresses of the holders in the security register.

Governing law

The indentures and the debt securities will be governed by, and construed under, the laws of the State of New York.

No personal liability of directors, officers, employees and stockholders

No incorporator, stockholder, employee, agent, officer, director or subsidiary of ours will have any liability for any obligations of ours, or because of the creation of any indebtedness under the debt securities, the indentures or supplemental indentures. The indentures provide that all such liability is expressly waived and released as a condition of, and as a consideration for, the execution of such indentures and the issuance of the debt securities.

Regarding the trustee

The indentures limit the right of the trustee, should it become our creditor, to obtain payment of claims or secure its claims.

The trustee is permitted to engage in certain other transactions with us. However, if the trustee acquires any conflicting interest, and there is a default under the debt securities of any series for which it is trustee, the trustee must eliminate the conflict or resign.

The accompanying prospectus supplement will specify the trustee for the particular series of debt securities to be issued under the indentures.

Subordinated debt securities

The following provisions will be applicable with respect to each series of subordinated debt securities, unless otherwise stated in the prospectus supplement relating to that series of subordinated debt securities.

The indebtedness evidenced by the subordinated debt securities of any series is subordinated, to the extent provided in the subordinated indenture and the applicable prospectus supplement, to the prior payment in full, in cash or other payment satisfactory to the holders of senior debt, of all senior debt, including any senior debt securities.

Upon any distribution of our assets upon any dissolution, winding up, liquidation or reorganization, whether voluntary or involuntary, marshalling of assets, assignment for the benefit of creditors, or in bankruptcy, insolvency, receivership or other similar proceedings, payments on the subordinated debt securities will be subordinated in right of payment to the prior payment in full in cash or other payment satisfactory to holders of senior debt of all senior debt.

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In the event of any acceleration of the subordinated debt securities of any series because of an event of default with respect to the subordinated debt securities of that series, holders of any senior debt would be entitled to payment in full in cash or other payment satisfactory to holders of senior debt of all senior debt before the holders of subordinated debt securities are entitled to receive any payment or distribution.

In addition, the subordinated debt securities will be structurally subordinated to all indebtedness and other liabilities of our subsidiaries, including trade payables and lease obligations. This occurs because our right to receive any assets of our subsidiaries upon their liquidation or reorganization, and your right to participate in those assets, will be effectively subordinated to the claims of that subsidiary s creditors, including trade creditors, except to the extent that we are recognized as a creditor of such subsidiary. If we are recognized as a creditor of that subsidiary, our claims would still be subordinate to any security interest in the assets of the subsidiary and any indebtedness of the subsidiary senior to us.

We are required to promptly notify holders of senior debt or their representatives under the subordinated indenture if payment of the subordinated debt securities is accelerated because of an event of default.

Under the subordinated indenture, we may also not make payment on the subordinated debt securities if:

- a default in our obligations to pay principal, premium, if any, interest or other amounts on our senior debt occurs and the default continues beyond any applicable grace period, which we refer to as a payment default; or

- any other default occurs and is continuing with respect to designated senior debt that permits holders of designated senior debt to accelerate its maturity, and the trustee receives a payment blockage notice from us or some other person permitted to give the notice under the subordinated indenture, which we refer to as a non-payment default.

We may and shall resume payments on the subordinated debt securities:

- in case of a payment default, when the default is cured or waived or ceases to exist; and

- in case of a non-payment default, the earlier of when the default is cured or waived or ceases to exist or 179 days after the receipt of the payment blockage notice.

No new payment blockage period may start on the basis of a non-payment default unless 365 days have elapsed from the effectiveness of the immediately prior payment blockage notice. No non-payment default that existed or was continuing on the date of delivery of any payment blockage notice to the trustee shall be the basis for a subsequent payment blockage notice.

As a result of these subordination provisions, in the event of our bankruptcy, dissolution or reorganization, holders of senior debt may receive more, ratably, and holders of the subordinated debt securities may receive less, ratably, than our other creditors. The subordination provisions will not prevent the occurrence of any event of default under the subordinated indenture.

The subordination provisions will not apply to payments from money or government obligations held in trust by the trustee for the payment of principal, interest and premium, if any, on subordinated debt securities pursuant to the provisions described under Satisfaction and discharge; defeasance, if the subordination provisions were not violated at the time the money or government obligations were deposited into trust.

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If the trustee or any holder receives any payment that should not have been made to them in contravention of subordination provisions before all senior debt is paid in full in cash or other payment satisfactory to holders of senior debt, then such payment will be held in trust for the holders of senior debt.

Senior debt securities will constitute senior debt under the subordinated indenture.

Additional or different subordination provisions may be described in a prospectus supplement relating to a particular series of debt securities.

Definitions

Designated senior debt means our obligations under any particular senior debt in which the instrument creating or evidencing the same or the assumption or guarantee thereof, or related agreements or documents to which we are a party, expressly provides that such senior debt shall be designated senior debt for purposes of the subordinated indenture. The instrument, agreement or other document evidencing any designated senior debt may place limitations and conditions on the right of such senior debt to exercise the rights of designated senior debt. If any payment made to any holder of any designated senior debt or its representative with respect to such designated senior debt is rescinded or must otherwise be returned by such holder or representative upon our insolvency, bankruptcy or reorganization or otherwise, our reinstated indebtedness arising as a result of such rescission or return shall constitute designated senior debt effective as of the date of such rescission or return.

Indebtedness means all obligations, whether absolute or contingent, secured or unsecured, due or to become due, outstanding on the date of the indenture for such series of securities or thereafter created, incurred or assumed including the following:

all of our obligations for money borrowed (including, but not limited to, any indebtedness secured by a security interest, mortgage or other lien on the assets of that person that is (1) given to secure all or part of the purchase price of property subject thereto, whether given to the vendor of such property or to another, or (2) existing on property at the time of acquisition thereof);

all of our obligations evidenced by a note or similar instrument given in connection with the acquisition of any businesses, properties or assets of any kind;

our indebtedness evidenced by a credit or loan agreement, note, bond, debenture or other written obligation;

under leases required to be capitalized on the balance sheet of the lessee under generally accepted accounting principles, or

under other leases for facilities, capital equipment or related assets, whether or not capitalized, entered into or leased for financing purposes;

all of our obligations with respect to letters of credit, bankers acceptances and similar facilities, including reimbursement obligations with respect to the foregoing;

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all of our obligations issued or assumed as the deferred purchase price of property or services, but excluding trade accounts payable and accrued liabilities arising in the ordinary course of business;

all of our obligations under interest rate and currency swaps, caps, floors, collars, hedge agreements, forward contracts or similar agreements or arrangements;

all obligations of the type referred to in the above clauses of another person and all dividends of another person, the payment of which, in either case, we have assumed or guaranteed, or for which we are responsible or liable, directly or indirectly, jointly or severally, as obligor, guarantor or otherwise, or which are secured by a lien on our property; and

renewals, extensions, modifications, replacements, restatements and refundings of, or any indebtedness or obligation issued in exchange for, any such indebtedness or obligation described in the above clauses of this definition.

Senior debt means the principal of, premium, if any, and interest, including all interest accruing subsequent to the commencement of any bankruptcy or similar proceeding, whether or not a claim for post-petition interest is allowable as a claim in any such proceeding, on, and all fees and other amounts payable in connection with, our indebtedness, whether outstanding on the date of the indenture or thereafter created, incurred, assumed, guaranteed or in effect guaranteed by us including all deferrals, renewals, extensions or refundings of, or amendments, modifications or supplements to, the foregoing, unless in the case of any particular indebtedness the instrument creating or evidencing the same or the assumption or guarantee thereof expressly provides that such Indebtedness shall not be senior in right of payment to the securities or expressly provides that such indebtedness is *pari passu* or junior to the securities. In addition, senior debt shall not include any of our indebtedness to any of our subsidiaries. If any payment made to any holder of any senior debt or its representative with respect to such senior debt is rescinded or must otherwise be returned by such holder or representative upon our insolvency, bankruptcy or reorganization or otherwise, our reinstated indebtedness arising as a result of such rescission or return shall constitute senior debt effective as of the date of such rescission or return.

Subsidiary means a person of which more than 50% of the outstanding voting stock having the power to elect a majority of the board of directors of such person (in the case of a corporation) is, or of which more than 50% of the equity interests (in the case of a person which is not a corporation) are, at the time owned, directly or indirectly, by us or by one or more other subsidiaries, or by a combination of us and one or more other subsidiaries. For the purposes of this definition, voting stock means our stock or other similar interests which ordinarily has or have voting power for the election of directors, or persons performing similar functions, whether at all times or only so long as no senior class of stock or other interests has or have such voting power by reason of any contingency.

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DESCRIPTION OF THE WARRANTS

We may issue warrants for the purchase of common stock, preferred stock or debt securities or any combination thereof. Warrants may be issued independently or together with common stock, preferred stock or debt securities and may be attached to or separate from any offered securities. Each series of warrants will be issued under a separate warrant agreement. This summary of some provisions of the warrants is not complete. You should refer to the warrant agreement relating to the specific warrants being offered for the complete terms of the warrants.

The particular terms of any issue of warrants will be described in the prospectus supplement relating to the issue. Those terms may include:

- the number of shares of common stock or preferred stock purchasable upon the exercise of warrants to purchase such shares and the price at which such number of shares may be purchased upon such exercise;
- the designation, stated value and terms (including, without limitation, liquidation, dividend, conversion and voting rights) of the series of preferred stock purchasable upon exercise of warrants to purchase preferred stock;
- the principal amount of debt securities that may be purchased upon exercise of a debt warrant and the exercise price for the warrants, which may be payable in cash, securities or other property;
- the date on which the right to exercise the warrants will commence and the date on which the right will expire;
- United States Federal income tax consequences applicable to the warrants; and
- any additional terms of the warrants, including terms, procedures, and limitations relating to the exchange, exercise and settlement of the warrants.

Holders of equity warrants will not be entitled:

- to vote, consent or receive dividends;
- receive notice as stockholders with respect to any meeting of stockholders for the election of our directors or any other matter; or
- exercise any rights as stockholders of Fluidigm Corporation

Debt warrant certificates may be exchangeable for new debt warrant certificates of different denominations. Debt warrants may be exercised at the corporate trust office of the warrant agent or any other office indicated in the prospectus supplement. Prior to the exercise of their debt warrants, holders of debt warrants will not have any of the rights of holders of the debt securities purchasable upon exercise and will not be entitled to payment of principal or any premium, if any, or interest on the debt securities purchasable upon exercise.

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SELLING STOCKHOLDERS

This prospectus also relates to the possible resale by certain of our stockholders, who we refer to in this prospectus as the selling stockholders, of shares of our common stock that were issued and outstanding prior to the original date of filing of the registration statement of which this prospectus forms a part, including shares that may be owned by affiliates. The selling stockholders originally acquired the shares of our common stock included in this prospectus through (1) sales to the founders through an exemption from registration under Section 4(2) of the Securities Act, for transactions by an issuer not involving a public offering, (2) several private placements of our convertible preferred stock prior to our initial public offering, all of which shares were converted into shares of our common stock in connection with our initial public offering and (3) issuances of shares of common stock and options to acquire common stock issued to officers, directors and employees pursuant to our 1999 Stock Option Plan, our 2009 Equity Incentive Plan and our 2011 Equity Incentive Plan, each as amended.

Information about the selling stockholders, where applicable, including their identities, the amount of shares of common stock owned by each selling stockholder prior to the offering, the number of shares of our common stock to be offered by each selling stockholder and the amount of common stock to be owned by each selling stockholder after completion of the offering, will be set forth in an applicable prospectus supplement, documents incorporated by reference or in a free writing prospectus we file with the SEC. The applicable prospectus supplement will also disclose whether any of the selling stockholders has held any position or office with, has been employed by or otherwise has had a material relationship with us during the three years prior to the date of the prospectus supplement.

The selling stockholders shall not sell any shares of our common stock pursuant to this prospectus until we have identified such selling stockholders and the shares being offered for resale by such selling stockholders in a subsequent prospectus supplement. However, the selling stockholders may sell or transfer all or a portion of their shares of our common stock pursuant to any available exemption from the registration requirements of the Securities Act.

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PLAN OF DISTRIBUTION

We or the selling stockholders may sell the securities offered through this prospectus (i) to or through underwriters or dealers, (ii) directly to purchasers, including our affiliates, (iii) through agents, or (iv) through a combination of any of these methods. The securities may be distributed at a fixed price or prices, which may be changed, market prices prevailing at the time of sale, prices related to the prevailing market prices, or negotiated prices. The prospectus supplement will include the following information:

- the terms of the offering;
- the names of any underwriters or agents;
- the name or names of any managing underwriter or underwriters;
- the purchase price of the securities;
- the net proceeds from the sale of the securities;
- any delayed delivery arrangements;
- any underwriting discounts, commissions or agency fees and other items constituting underwriters or agents compensation;
- any initial public offering price;
- any discounts or concessions allowed or reallowed or paid to dealers; and
- any commissions paid to agents.

We may engage in at-the-market offerings into an existing trading market in accordance with Rule 415(a)(4). Any at-the-market offering will be through an underwriter or underwriters acting as principal or agent for us.

We may issue to the holders of our common stock on a pro rata basis for no consideration, subscription rights to purchase shares of our common stock or preferred stock. These subscription rights may or may not be transferable by stockholders. The applicable prospectus supplement will describe the specific terms of any offering of our common or preferred stock through the issuance of subscription rights, including the terms of the subscription rights offering, the terms, procedures and limitations relating to the exchange and exercise of the subscription rights and, if applicable, the material terms of any standby underwriting or purchase arrangement entered into by us in connection with the offering of common or preferred stock through the issuance of subscription rights.

Sale through Underwriters or Dealers

If underwriters are used in the sale, the underwriters will acquire the securities for their own account, including through underwriting, purchase, security lending or repurchase agreements with us or the selling stockholders. The underwriters may resell the securities from time to time in one or more transactions, including negotiated transactions. Underwriters may sell the securities in order to facilitate transactions in any of our other

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securities (described in this prospectus or otherwise), including other public or private transactions and short sales. Underwriters may offer securities to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. Unless otherwise indicated in the prospectus supplement, the obligations of the underwriters to purchase the securities will be subject to certain conditions, and the underwriters will be obligated to purchase all the offered securities if they purchase any of them. The underwriters may change from time to time any initial public offering price and any discounts or concessions allowed or reallowed or paid to dealers.

If dealers are used in the sale of securities offered through this prospectus, we or the selling stockholders will sell the securities to them as principals. They may then resell those securities to the public at varying prices determined by the dealers at the time of resale. The prospectus supplement will include the names of the dealers and the terms of the transaction.

Direct Sales and Sales through Agents

We or the selling stockholders may sell the securities offered through this prospectus directly. In this case, no underwriters or agents would be involved. Such securities may also be sold through agents designated from time to time. The prospectus supplement will name any agent involved in the offer or sale of the offered securities and will describe any commissions payable to the agent by us or the selling stockholders. Unless otherwise indicated in the prospectus supplement, any agent will agree to use its reasonable best efforts to solicit purchases for the period of its appointment.

We or the selling stockholders may sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any sale of those securities. The terms of any such sales will be described in the prospectus supplement.

Delayed Delivery Contracts

If the prospectus supplement indicates, we or the selling stockholders may authorize agents, underwriters or dealers to solicit offers from certain types of institutions to purchase securities at the public offering price under delayed delivery contracts. These contracts would provide for payment and delivery on a specified date in the future. The contracts would be subject only to those conditions described in the prospectus supplement. The applicable prospectus supplement will describe the commission payable for solicitation of those contracts.

Market Making, Stabilization and Other Transactions

Unless the applicable prospectus supplement states otherwise, each series of offered securities will be a new issue and will have no established trading market. We may elect to list any series of offered securities on an exchange. Any underwriters that we or the selling stockholders use in the sale of offered securities may make a market in such securities, but may discontinue such market making at any time without notice. Therefore, we cannot assure you that the securities will have a liquid trading market.

Any underwriter may also engage in stabilizing transactions, syndicate covering transactions and penalty bids in accordance with Rule 104 under the Exchange Act. Stabilizing transactions involve bids to purchase the underlying security in the open market for the purpose of pegging, fixing or maintaining the price of the securities. Syndicate covering transactions involve purchases of the securities in the open market after the distribution has been completed in order to cover syndicate short positions.

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.

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Derivative Transactions and Hedging

We, the underwriters or other agents may engage in derivative transactions involving the securities. These derivatives may consist of short sale transactions and other hedging activities. The underwriters or agents may acquire a long or short position in the securities, hold or resell securities acquired and purchase options or futures on the securities and other derivative instruments with returns linked to or related to changes in the price of the securities. In order to facilitate these derivative transactions, we may enter into security lending or repurchase agreements with the underwriters or agents. The underwriters or agents may effect the derivative transactions through sales of the securities to the public, including short sales, or by lending the securities in order to facilitate short sale transactions by others. The underwriters or agents may also use the securities purchased or borrowed from us or others (or, in the case of derivatives, securities received from us in settlement of those derivatives) to directly or indirectly settle sales of the securities or close out any related open borrowings of the securities.

Electronic Auctions

We or the selling stockholders may also make sales through the Internet or through other electronic means. Since we or the selling stockholders may from time to time elect to offer securities directly to the public, with or without the involvement of agents, underwriters or dealers, utilizing the Internet or other forms of electronic bidding or ordering systems for the pricing and allocation of such securities, you will want to pay particular attention to the description of that system we will provide in a prospectus supplement.

Such electronic system may allow bidders to directly participate, through electronic access to an auction site, by submitting conditional offers to buy that are subject to acceptance by us, and which may directly affect the price or other terms and conditions at which such securities are sold. These bidding or ordering systems may present to each bidder, on a so-called real-time basis, relevant information to assist in making a bid, such as the clearing spread at which the offering would be sold, based on the bids submitted, and whether a bidder s individual bids would be accepted, prorated or rejected. For example, in the case of debt security, the clearing spread could be indicated as a number of basis points above an index treasury note. Of course, many pricing methods can and may also be used.

Upon completion of such an electronic auction process, securities will be allocated based on prices bid, terms of bid or other factors. The final offering price at which securities would be sold and the allocation of securities among bidders would be based in whole or in part on the results of the Internet or other electronic bidding process or auction.

General Information

Agents, underwriters, and dealers may be entitled, under agreements entered into with us, to indemnification by us or the selling stockholders against certain liabilities, including liabilities under the Securities Act. Our agents, underwriters, and dealers, or their affiliates, may be customers of, engage in transactions with or perform services for us or the selling stockholders, in the ordinary course of business. In no event will the total amount of compensation paid to the agents, underwriters and dealers upon completion of any offering exceed 8.0% of the gross proceeds of such offering.

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LEGAL MATTERS

Certain legal matters will be passed upon for us by Wilson Sonsini Goodrich & Rosati, Professional Corporation, Palo Alto, California. Additional legal matters may be passed on for us, or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

EXPERTS

Ernst & Young 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, 2011, 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 Ernst & Young LLP s report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and other reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC s website at http://www.sec.gov. You may also read and copy any document we file at the SEC s Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, including any amendments to those reports, and other information that we file with or furnish to the SEC pursuant to Section 13(a) or 15(d) of the Exchange Act can also be accessed free of charge by linking directly from our website at http://www.fluidigm.com under the About Investors SEC Filings caption. These filings will be available as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Information contained on our website is not part of this prospectus.

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INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference the information we file with it, which means that we can disclose important information to you by referring you to another document that we have filed separately with the SEC. You should read the information incorporated by reference because it is an important part of this prospectus. We incorporate by reference the following information or documents that we have filed with the SEC (excluding those portions of any Form 8-K that are not deemed filed pursuant to the General Instructions of Form 8-K):

- our Annual Report on Form 10-K for the year ended December 31, 2011 filed with the SEC on March 26, 2012;
- our Current Reports on Form 8-K filed with the SEC on February 15 and March 14, 2012; and
- the description of our common stock set forth under the caption Description of Capital Stock in the prospectus that constitutes part of our Registration Statement on Form S-1 (File No. 333-170965), initially filed with the SEC on December 3, 2010, including any amendments or reports filed for the purpose of updating this description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

Any statement contained in any document incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or any prospectus supplement modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We will provide without charge to each person, including any beneficial owner, to whom this prospectus is delivered, upon written or oral request, a copy of any or all documents that are incorporated by reference into this prospectus, but not delivered with the prospectus, other than exhibits to such documents unless such exhibits are specifically incorporated by reference into the documents that this prospectus incorporates. You should direct written requests to: Fluidigm Corporation, 7000 Shoreline Court, Suite 100, South San Francisco, CA 94080, Attn: Investor Relations, or you may call us at (650) 266-6000.

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PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. ***Other Expenses of Issuance and Distribution***

The following table sets forth the various costs and expenses (other than the underwriting discounts and commissions) payable by the registrant in connection with a distribution of securities registered hereby. All amounts are estimates except the SEC registration fee.

	$00,00 **Amount to be Paid***
SEC registration fee	$ 11,460
Printing costs	50,000
Legal fees and expenses	100,000
Accounting fees and expenses	50,000
Transfer agent s and trustee s fees and expenses	15,000
Miscellaneous	10,000
Total	$ 236,460

* Since an indeterminate amount of securities is covered by this registration statement, the expenses in connection with the issuance and distributions of the securities are not currently determinable. The amounts shown (other than the SEC registration fee) are estimates of expenses payable by the registrant in connection with the filing of this registration statement and one offering of securities hereunder, but do not limit the amount of securities that may be offered.

Item 15. ***Indemnification of Directors and Officers***

Section 145 of the Delaware General Corporation Law, or DGCL, authorizes a corporation s board of directors to grant, and authorizes a court to award, indemnity to officers, directors and other corporate agents.

As permitted by Section 102(b)(7) of the DGCL, the registrant s certificate of incorporation includes provisions that eliminate the personal liability of its directors and officers for monetary damages for breach of their fiduciary duty as directors and officers.

In addition, as permitted by Section 145 of the DGCL, the bylaws of the registrant provide that:

> The registrant shall indemnify its directors and officers for serving the registrant in those capacities or for serving other business enterprises as a director, officer, employee or agent at the registrant s request, to the fullest extent permitted by the DGCL. The DGCL provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person s conduct was unlawful.
>
> The registrant may, in its discretion, indemnify employees and agents in those circumstances where indemnification is not prohibited by the DGCL or other law.

The registrant is required to advance expenses, as incurred, to its directors and officers in connection with defending a proceeding, except that such director or officer shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification under the registrant s bylaws or the DGCL.

The registrant will not be obligated pursuant to the bylaws to indemnify a person with respect to proceedings initiated by that person against the registrant or its directors, officers, employees, agents or other indemnities, except with respect to proceedings authorized by the registrant s board of directors prior to their initiation, or brought to enforce a right to indemnifications as otherwise required by applicable law.

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The rights conferred in the bylaws are not exclusive, and the registrant is authorized to enter into indemnification agreements with its directors, officers, employees and agents and to obtain insurance to indemnify such persons.

The registrant may not retroactively amend the bylaw provisions to reduce its indemnification obligations to directors, officers, employees and agents.

The registrant s policy is to enter into separate indemnification agreements with each of its directors and officers that provide the maximum indemnity allowed to directors and executive officers by Section 145 of the DGCL and also provides for certain additional procedural protections. The registrant also maintains directors and officers insurance to insure such persons against certain liabilities.

These indemnification provisions and the indemnification agreements entered into between the registrant and its officers and directors may be sufficiently broad to permit indemnification of the registrant s officers and directors for liabilities (including reimbursement of expenses incurred) arising under the Securities Act.

Item 16. ***Exhibits***

(a) *Exhibits*. The following exhibits are filed herewith or incorporated herein by reference:

		Incorporated by Reference				
Exhibit No.	**Exhibit Description**	**Form**	**File No.**	**Exhibit No.**	**Filing Date**	**Filed Herewith**
1.1	Form of Underwriting Agreement*					
4.1	Form of Senior Indenture					X
4.2	Form of Subordinated Indenture					X
4.3	Form of Senior Debt Security (included in Exhibit 4.1)					X
4.4	Form of Subordinated Debt Security (included in Exhibit 4.2)					X
4.5	Form of Certificate of Designation*					
4.6	Form of Preferred Stock Certificate*					
4.7	Form of Warrant Agreement*					
4.8	Form of Warrant/Subscription Agreement*					
5.1	Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation					X
12.1	Computation of Ratio of Earnings to Combined Fixed Charges and Preference Dividends					X
23.1	Consent of independent registered public accounting firm					X
23.2	Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (included in Exhibit 5.1)					X
24.1	Power of Attorney (included on signature page)					X
25.1	Form T-1 Statement of Eligibility of Trustee for Senior Indenture under the Trust Indenture Act of 1939*					

25.2	Form T-1 Statement of Eligibility of Trustee for Subordinate Indenture under the Trust Indenture Act of 1939*

* To be filed by amendment or as an exhibit to a report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended and incorporated herein by reference.

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Item 17. ***Undertakings***

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 of 1933, as amended (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 the volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) 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 SEC 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.

(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 (1)(i), (1)(ii) and (1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the SEC by the registrant pursuant to Section 13 or Section 15(d) of the Securities 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 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 the 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)(l)(i), (vii) or (x) for the purpose of providing the information required by Section 10(a) of

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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 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 this 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. 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 indemnification provisions

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described herein, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the 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 Act and will be governed by the final adjudication of such issue.

8. (a) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(b) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus 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.

9. 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 Commission under Section 305(b)(2) of the Trust Indenture Act.

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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 the South San Francisco, State of California, on April 3, 2012.

FLUIDIGM CORPORATION

By: /s/ Gajus V. Worthington
Gajus V. Worthington
President and Chief Executive Officer

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Gajus V. Worthington and Vikram Jog and each of them, his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including pre and post-effective amendments) to this registration statement and any additional registration statement pursuant to Rule 462(b) under the Securities Act of 1933, and to file the same with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that each of said attorneys-in-fact and agents or their 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 has been signed by the following persons in the capacities and on the dates indicated:

Signature	Title	Date
/s/ Gajus V. Worthington Gajus V. Worthington	President, Chief Executive Officer and Director (Principal Executive Officer)	April 3, 2012
/s/ Vikram Jog Vikram Jog	Chief Financial Officer (Principal Accounting and Financial Officer)	April 3, 2012
/s/ Samuel Colella Samuel Colella	Director	April 3, 2012
/s/ Evan Jones Evan Jones	Director	April 3, 2012
/s/ Patrick S. Jones Patrick S. Jones	Director	April 3, 2012
/s/ Kenneth Nussbacher Kenneth Nussbacher	Director	April 3, 2012
/s/ John A. Young John A. Young	Director	April 3, 2012

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EXHIBIT INDEX

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4.3	Form of Senior Debt Security (included in Exhibit 4.1)					X
4.4	Form of Subordinated Debt Security (included in Exhibit 4.2)					X
4.5	Form of Certificate of Designation*					
4.6	Form of Preferred Stock Certificate*					
4.7	Form of Warrant Agreement*					
4.8	Form of Warrant/Subscription Agreement*					
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* To be filed by amendment or as an exhibit to a report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended and incorporated herein by reference.