

NANOMETRICS INC
Form DEF 14A
March 31, 2015

SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the Securities Exchange Act of 1934
(Amendment No. __)

- Filed by the Registrant
Filed by a Party other than the Registrant
Check the appropriate box:
 Preliminary Proxy Statement
 Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))
 Definitive Proxy Statement
 Definitive Additional Materials
 Soliciting Material Pursuant to §240.14a-12

NANOMETRICS INCORPORATED

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement if Other Than the Registrant)

Payment of Filing Fee (Check the appropriate box)

- No fee required.
 Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

1. Title of each class of securities to which transaction applies:

2. Aggregate number of securities to which transaction applies:

3. Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

4. Proposed maximum aggregate value of transaction:

5. Total fee paid:

.. Fee paid previously with preliminary materials.

Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

6. Amount Previously Paid:

7. Form, Schedule or Registration Statement No.:

8. Filing Party:

9. Date Filed:

Table of Contents

NANOMETRICS INCORPORATED

1550 Buckeye Drive
Milpitas, California 95035

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

To Be Held On May 19, 2015

Dear Stockholder:

You are cordially invited to attend the Annual Meeting of Stockholders of NANOMETRICS INCORPORATED, a Delaware corporation. The meeting will be held on Tuesday, May 19, 2015, at 9:00 a.m. local time, at our Corporate Headquarters located at 1550 Buckeye Drive, Milpitas, California 95035 for the following purposes:

1. To elect the Board's five nominees for director to serve until the next annual meeting and their successors are duly elected and qualified.
2. To approve, on an advisory basis, the compensation of Nanometrics' named executive officers, as disclosed in this proxy statement.
3. To ratify the appointment by the Audit Committee of the Board of Directors of PricewaterhouseCoopers LLP as the independent registered public accounting firm of Nanometrics for its fiscal year ending December 26, 2015.
4. To conduct any other business properly brought before the meeting.

These items of business are more fully described in the Proxy Statement accompanying this Notice.

The record date for the Annual Meeting is March 26, 2015. Only stockholders of record at the close of business on that date may vote at the meeting or any adjournment thereof.

Important Notice Regarding the Availability of Proxy Materials for the Stockholders' Meeting to Be Held on May 19, 2015, at 1550 Buckeye Drive, Milpitas, California 95035.

The proxy statement and annual report to stockholders are available at www.proxyvote.com

By Order of the Board of Directors

/s/ Bruce C. Rhine

Bruce C. Rhine
Chairman of the Board of Directors

Milpitas, California
March 30, 2015

You are cordially invited to attend the meeting in person. Whether or not you expect to attend the meeting, please complete, date, sign and return the proxy card that may be mailed to you, or vote over the telephone or the Internet as instructed in these materials, as promptly as possible in order to ensure your representation at the meeting. Even if you have voted by proxy, you may still vote in person if you attend the meeting. Please note, however, that if your shares are held of record by a broker, bank or other nominee and you wish to vote at the meeting, you must obtain a proxy issued in your name from that record holder.

Table of Contents

NANOMETRICS INCORPORATED
 2015 ANNUAL MEETING OF STOCKHOLDERS
 TABLE OF CONTENTS

<u>QUESTIONS AND ANSWERS ABOUT THESE PROXY MATERIALS AND VOTING</u>	<u>4</u>
<u>PROPOSAL 1: ELECTION OF DIRECTORS</u>	<u>9</u>
<u>Director Nominees</u>	<u>9</u>
<u>CORPORATE GOVERNANCE</u>	<u>11</u>
<u>Report of the Audit Committee of the Board of Directors</u>	<u>15</u>
<u>SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT</u>	<u>16</u>
<u>Section 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE</u>	<u>17</u>
<u>EXECUTIVE COMPENSATION</u>	<u>17</u>
<u>2014 Compensation Discussion and Analysis</u>	<u>17</u>
<u>2014 Summary Compensation</u>	<u>25</u>
<u>2014 Grants of Plan-Based Awards</u>	<u>26</u>
<u>Outstanding Equity Awards at Fiscal 2014 Year End</u>	<u>27</u>
<u>Option Exercises and Stock Vested</u>	<u>28</u>
<u>Employment Contracts and Termination of Employment and Change-in-Control Arrangements</u>	<u>28</u>
<u>Termination of Employment and Change-in-Control Payouts</u>	<u>30</u>
<u>COMPENSATION COMMITTEE REPORT</u>	<u>31</u>
<u>COMPENSATION OF DIRECTORS</u>	<u>32</u>
<u>2014 Director Compensation</u>	<u>32</u>
<u>COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION</u>	<u>33</u>
<u>PROPOSAL 2: ADVISORY (NON-BINDING) VOTE ON EXECUTIVE COMPENSATION</u>	<u>34</u>
<u>PROPOSAL 3: RATIFICATION OF APPOINTMENT OF INDEPENDENT PUBLIC ACCOUNTING FIRM</u>	<u>35</u>
<u>HOUSEHOLDING OF PROXY MATERIALS</u>	<u>37</u>
<u>OTHER MATTERS</u>	<u>37</u>

Table of Contents

NANOMETRICS INCORPORATED

1550 Buckeye Drive
Milpitas, California 95035

PROXY STATEMENT
FOR THE 2015 ANNUAL MEETING OF STOCKHOLDERS

May 19, 2015

QUESTIONS AND ANSWERS ABOUT THESE PROXY MATERIALS AND VOTING

Why did I receive a notice regarding the availability of proxy materials on the Internet?

Pursuant to rules adopted by the Securities and Exchange Commission (the "SEC"), we have elected to provide access to our proxy materials over the Internet. Accordingly, we have sent you a Notice of Internet Availability of Proxy Materials (the "Notice") because the Board of Directors of Nanometrics Incorporated is soliciting your proxy to vote at the 2015 Annual Meeting of Stockholders, including at any adjournments or postponements of the meeting. All stockholders will have the ability to access the proxy materials on the website referred to in the Notice or request to receive a printed set of the proxy materials. Instructions on how to access the proxy materials over the Internet or to request a printed copy may be found in the Notice.

We intend to mail the Notice on or about April 8, 2015, to all stockholders of record entitled to vote at the annual meeting.

Will I receive any other proxy materials by mail?

We may send you a proxy card, along with a second Notice, on or after April 18, 2015.

How do I attend the annual meeting?

The meeting will be held on Tuesday, May 19, 2015, at 9:00 a.m., local time, at our Corporate Headquarters located at 1550 Buckeye Drive, Milpitas, California 95035. Directions to the annual meeting may be found on our website www.nanometrics.com by clicking on "Contact" then "Map & Local Driving Directions." Information on how to vote in person at the annual meeting is discussed below.

Who can vote at the annual meeting?

Only stockholders of record at the close of business on March 26, 2015, will be entitled to vote at the annual meeting. On this record date, there were 23,968,541 shares of common stock outstanding and entitled to vote.

Stockholder of Record: Shares Registered in Your Name

If on March 26, 2015, your shares were registered directly in your name with Nanometrics' transfer agent, Computershare Trust Company, N.A., then you are a stockholder of record. As a stockholder of record, you may vote in person at the meeting or vote by proxy. Whether or not you plan to attend the meeting, we urge you to fill out and return a proxy card (if you have received one), or vote by proxy over the telephone or on the Internet as instructed below, to ensure your vote is counted.

Beneficial Owner Shares Registered in the Name of a Broker or Bank

If on March 26, 2015, your shares were held, not in your name, but rather in an account at a brokerage firm, bank, dealer or other similar organization, then you are the beneficial owner of shares held in "street name" and the Notice is being forwarded to you by that organization. The organization holding your account is considered to be the stockholder of record for purposes of voting at the annual meeting. As a beneficial owner, you have the right to direct your broker or other agent regarding how to vote the shares in your account. You are also invited to attend the annual meeting. However, since you are not the stockholder of record, you may not vote your shares in person at the meeting unless you request and obtain a valid proxy from your broker or other agent.

Table of Contents

What am I voting on?

There are three matters scheduled for a vote:

• Election of five directors;

• Advisory approval of the compensation of Nanometrics' named executive officers, as disclosed in this proxy statement in accordance with SEC rules; and

• Ratification of appointment by the Audit Committee of the Board of Directors of PricewaterhouseCoopers LLP as the independent registered public accounting firm of Nanometrics for its fiscal year ending December 26, 2015.

What if another matter is properly brought before the meeting?

The Board of Directors knows of no other matters that will be presented for consideration at the Annual Meeting. If any other matters are properly brought before the meeting, it is the intention of the persons named in the accompanying proxy to vote on those matters in accordance with their best judgment.

How do I vote?

You may either vote "For" all the nominees to the Board of Directors or you may "Withhold" your vote for any nominee you specify. For each of the other matters to be voted on, you may vote "For" or "Against" or "Abstain" from voting.

The procedures for voting are as follows:

Stockholder of Record: Shares Registered in Your Name

If you are a stockholder of record, you may vote in person at the annual meeting or vote by proxy over the telephone, or vote by proxy through the Internet, or vote by proxy using a proxy card that you may request or that we may elect to deliver at a later time. Whether or not you plan to attend the meeting, we urge you to vote by proxy to ensure your vote is counted. You may still attend the meeting and vote in person even if you have already voted by proxy.

- To vote in person, come to the annual meeting and you will receive a ballot when you arrive.

To vote using the proxy card, simply complete, sign and date the proxy card that may be delivered and return it promptly in the envelope provided. If you return your signed proxy card to us before the annual meeting we will vote your shares as you direct.

To vote over the telephone, dial toll-free 1-800-690-6903 using a touch-tone phone and follow the recorded instructions. You will be asked to provide the company number and control number from the Notice. Your telephone vote must be received by 11:59 p.m., Eastern Time on May 18, 2015, to be counted.

To vote through the Internet, go to www.proxyvote.com to complete an electronic proxy card. You will be asked to provide the company number and control number from the Notice. Your Internet vote must be received by 11:59 p.m., Eastern Time on May 18, 2015, to be counted.

Beneficial Owner: Shares Registered in the Name of Broker or Bank

If you are a beneficial owner of shares registered in the name of your broker, bank, or other agent, you should have received a Notice containing voting instructions from that organization rather than from Nanometrics. Simply follow the voting instructions in the Notice to ensure that your vote is counted. To vote in person at the annual meeting, you must obtain a valid proxy from your broker, bank or other agent. Follow the instructions from your broker or bank included with these proxy materials, or contact your broker or bank to request a proxy form.

Internet proxy voting may be provided to allow you to vote your shares online, with procedures designed to ensure the authenticity and correctness of your proxy vote instructions. However, please be aware that you must bear any costs associated with your Internet access, such as usage charges from Internet access providers and telephone companies.

Table of Contents

How many votes do I have?

On each matter to be voted upon, you have one vote for each share of common stock you own as of March 26, 2015.

What happens if I do not vote?

Stockholder of Record: Shares Registered in Your Name

If you are a stockholder of record and do not vote by completing your proxy card, by telephone, through the Internet or in person at the annual meeting, your shares will not be voted.

Beneficial Owner: Shares Registered in the Name of Broker or Bank

If you are a beneficial owner and do not instruct your broker, bank, or other agent how to vote your shares, the question of whether your broker or nominee will still be able to vote your shares depends on whether the New York Stock Exchange (“NYSE”) deems the particular proposal to be a “routine” matter. Brokers and nominees can use their discretion to vote “uninstructed” shares with respect to matters that are considered to be “routine,” but not with respect to “non-routine” matters. Under the rules and interpretations of the NYSE, “non-routine” matters are matters that may substantially affect the rights or privileges of stockholders, such as mergers, stockholder proposals, elections of directors (even if not contested), executive compensation (including any advisory stockholder votes on executive compensation and on the frequency of stockholder votes on executive compensation), and certain corporate governance proposals, even if management-supported. Accordingly, your broker or nominee may not vote your shares on Proposals 1 or 2 without your instructions, but may vote your shares on Proposal 3 even in the absence of your instruction.

What if I return a proxy card or otherwise vote but do not make specific choices?

If you return a signed and dated proxy card or otherwise vote without marking voting selections, your shares will be voted, as applicable, “For” the election of all five nominees for director, “For” the advisory approval of executive compensation, and “For” the ratification of the appointment by the Audit Committee of the Board of Directors of PricewaterhouseCoopers LLP as the independent registered public accounting firm of Nanometrics for its fiscal year ending December 26, 2015. If any other matter is properly presented at the meeting, your proxyholder (one of the individuals named on your proxy card) will vote your shares using his or her best judgment.

Who is paying for this proxy solicitation?

We will pay for the entire cost of soliciting proxies. In addition to these proxy materials, our directors and employees may also solicit proxies in person, by telephone, or by other means of communication. Directors and employees will not be paid any additional compensation for soliciting proxies. We may also reimburse brokerage firms, banks and other agents for the cost of forwarding proxy materials to beneficial owners.

What does it mean if I receive more than one Notice?

If you receive more than one Notice, your shares may be registered in more than one name or in different accounts. Please follow the voting instructions on the Notices to ensure that all of your shares are voted.

Can I change my vote after submitting my proxy?

Stockholder of Record: Shares Registered in Your Name

Yes. You can revoke your proxy at any time before the final vote at the meeting. If you are the record holder of your shares, you may revoke your proxy in any one of the following ways:

• You may submit another properly completed proxy card with a later date.

• You may grant a subsequent proxy by telephone or through the Internet.

• You may send a timely written notice that you are revoking your proxy to Nanometrics’ Secretary at Nanometrics Incorporated, 1550 Buckeye Drive, Milpitas, California 95035.

Table of Contents

You may attend the annual meeting and vote in person. Simply attending the meeting will not, by itself, revoke your proxy.

Your most current proxy card or telephone or Internet proxy is the one that is counted.

Beneficial Owner: Shares Registered in the Name of Broker or Bank

If your shares are held by your broker or bank as a nominee or agent, you should follow the instructions provided by your broker or bank.

When are stockholder proposals and director nominations due for next year's annual meeting?

To be considered for inclusion in next year's proxy materials, your proposal must be submitted in writing by December 10, 2015, to Nanometrics' Secretary at Nanometrics Incorporated, 1550 Buckeye Drive, Milpitas, California 95035. If the date of our 2016 annual meeting is changed by more than 30 days from the one year anniversary of the date of the 2015 annual meeting, the proposal must be received a reasonable time before we begin to print and mail our proxy materials. The submission of a stockholder proposal does not guarantee that it will be included in our proxy statement. If you wish to submit a proposal (including a director nomination) at the meeting that is not to be included in next year's proxy materials, you must do so by December 10, 2015, to Nanometrics' Secretary at Nanometrics Incorporated, 1550 Buckeye Drive, Milpitas, California 95035. If we set the date of our 2016 annual meeting to a date more than 30 days from the one year anniversary of the date of our 2015 annual meeting, then the deadline for receipt of stockholder proposals will be no later than the close of business on the later of 120 calendar days in advance of the 2016 annual meeting or ten days following the date on which we first publicly announce the date of the 2016 annual meeting. You are also advised to review Nanometrics' Bylaws, which contain additional requirements about advance notice of stockholder proposals and director nominations.

How are votes counted?

Votes will be counted by the inspector of election appointed for the meeting, who will separately count: for the proposal to elect directors, votes "For," "Withhold" and broker non-votes; and with respect to other proposals, votes "For" and "Against," abstentions and, if applicable, broker non-votes. Abstentions will be counted towards the vote total for each of Proposals 2 and 3. Broker non-votes have no effect and will not be counted towards the vote total for any proposal.

What are "broker non-votes"?

As discussed above, when a beneficial owner of shares held in "street name" does not give instructions to the broker or nominee holding the shares as to how to vote on matters deemed by the NYSE to be "non-routine," the broker or nominee cannot vote the shares. These unvoted shares are counted as "broker non-votes."

How many votes are needed to approve each proposal?

For Proposal 1, the election of directors, the five nominees receiving the most "For" votes from the holders of shares present in person or represented by proxy and entitled to vote on the election of directors will be elected. Only votes "For" or "Withheld" will affect the outcome. However, the Board of Directors has adopted a Majority Vote Policy, pursuant to which any director-nominee that is elected but fails to receive more "For" votes than "Withheld" votes must submit his/her resignation for consideration by the Board. The Board will then decide whether to accept the director's resignation. Details of the Majority Vote Policy are set out below under "Corporate Governance - Voting for Directors - Majority Vote Policy."

Proposal No. 2, advisory approval of the compensation of Nanometrics' named executive officers, will be considered to be approved if it receives "For" votes from the holders of a majority of shares present in person or represented by proxy and entitled to vote on the matter. If you "Abstain" from voting, it will have the same effect as an "Against" vote. Broker non-votes will have no effect.

To be approved, Proposal No. 3, ratification of the appointment by the Audit Committee of the Board of Directors of PricewaterhouseCoopers LLP as the independent registered public accounting firm of Nanometrics for its fiscal year ending December 26, 2015, must receive "For" votes from the holders of a majority of shares present in person or represented by proxy and entitled to vote on the matter. If you "Abstain" from voting, it will have the same effect as an "Against" vote. Broker non-votes will have no effect.

Table of Contents

What is the quorum requirement?

A quorum of stockholders is necessary to hold a valid meeting. A quorum will be present if stockholders holding at least a majority of the outstanding shares entitled to vote are present at the meeting in person or represented by proxy. On the record date, there were 23,968,541 shares outstanding and entitled to vote. Thus, the holders of 11,984,271 shares must be present in person or represented by proxy at the meeting to have a quorum.

Your shares will be counted towards the quorum only if you submit a valid proxy (or one is submitted on your behalf by your broker, bank or other nominee) or if you vote in person at the meeting. Abstentions and broker non-votes will be counted towards the quorum requirement. If there is no quorum, the holders of a majority of shares present at the meeting in person or represented by proxy may adjourn the meeting to another date.

How can I find out the results of the voting at the annual meeting?

Preliminary voting results will be announced at the annual meeting. In addition, final voting results will be published in a current report on Form 8-K that we expect to file within four business days after the annual meeting. If final voting results are not available to us in time to file a Form 8-K within four business days after the meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

-8-

Table of Contents

PROPOSAL 1

ELECTION OF DIRECTORS

At the 2015 annual meeting of stockholders, unless otherwise instructed, the proxy holders will vote the proxies received by them for the nominees named below, each of whom has been nominated by the Board of Directors and is currently a director of Nanometrics.

The Board of Directors currently has six members. All current directors are standing for election at the 2015 annual meeting, other than Stephen Newberry who informed the Board that he is declining to stand for reelection at the 2015 annual meeting. Effective at the annual meeting, the size of the Board of Directors will be reduced by one to be five members. The nominees were recommended by the Nominating and Governance Committee of the Board of Directors. All of the nominees named below with the exception of Ms. Tsingos were previously elected as directors by our stockholders. Ms. Tsingos was identified by and recommended to the Nominating and Governance Committee as a member of our Board of Directors by a non-management director.

If the nominees are unable or decline to serve as a director at the time of the annual meeting, the proxies will be voted for any nominee who shall be designated by the present Board to fill the vacancy. We do not have any reason to believe that any of the nominees will be unable or will decline to serve as a director. Directors are elected by a plurality of the votes of the holders of shares present in person or by proxy and entitled to vote on the election of directors. The five nominees receiving the highest number of affirmative votes will be elected. Pursuant to our Majority Vote Policy, if a nominee for director receives a greater number of "Withhold" votes than "For" votes, that director shall promptly tender to the Nominating and Governance Committee his/her offer of resignation. Within 90 days following certification of the stockholder vote, the Committee shall recommend to the Board the action to be taken with respect to such offer of resignation, and the Board shall consider and act upon the Committee's recommendation. Unless marked otherwise, the proxy holders will vote proxies returned to us for the nominees named below.

Director Nominees

Set forth below is information regarding each of our directors, including their ages, as of April 6, 2015, the periods during which they have served as a director, and certain information as to principal occupations and directorships held by them in corporations whose shares are publicly registered.

J. Thomas Bentley, 65, has served as a director since April 2004. Mr. Bentley served as a Managing Director at SVB Alliant (formerly Alliant Partners), a mergers and acquisitions firm, from 1990, when he co-founded the firm, until October 2005. Mr. Bentley currently serves on the board of directors of Rambus, Inc., a chip interface technology company. Mr. Bentley holds a B.A. degree in Economics from Vanderbilt University and a Master of Science in Management from the Massachusetts Institute of Technology. Mr. Bentley's extensive knowledge of the capital markets, strategic planning and mergers and acquisitions from his experience at SVB Alliant provides expertise to the Board in matters regarding Nanometrics' capital requirements and strategic direction.

Edward J. Brown, Jr., 57, has served as a director since February 2013. Mr. Brown is currently the chief executive officer of the Cymer Light Source Division of ASML, a supplier of light sources for deep ultraviolet photolithography systems. Mr. Brown has held this position since the completion of Cymer's merger with ASML Holding, Ltd. in May 2013. Prior to the merger with ASML, Mr. Brown served as president and chief operating officer of Cymer, Inc. since September 2005. From 1984 to 2005, Mr. Brown was employed at Applied Materials, Inc. where he held numerous high-level management positions including group vice president and senior advisor to the president, vice president and general manager of the Intel business unit, as well as managing director heading up their largest product division, global operations. Prior to Applied Materials Inc., Mr. Brown held key engineering positions at TRW Corporation and Burroughs Corporation. Mr. Brown is a member of SEMI North American Advisory Board. Mr. Brown received a master's degree in business administration from National University and a bachelor's degree in industrial studies from San Diego State University. Mr. Brown's qualifications to serve as a director include his 30 years of experience in the semiconductor industry and his operations expertise.

Bruce C. Rhine, 57, has served as our Chairman of the Board of Directors since July 2007 and as a director since July 2006. From July 2006 to February 2008, Mr. Rhine served as our Chief Strategy Officer. From March 2007 to August

2007, Mr. Rhine served as our Chief Executive Officer. From 2000 to 2006, Mr. Rhine served as Chairman and Chief Executive Officer of Accent Optical Technologies, Inc. and as its President from January 2003 to April 2005 and from August 2000 to September 2001. Mr. Rhine holds a B.S. degree in Chemical Engineering and an M.B.A. in Finance

-9-

Table of Contents

from The Pennsylvania State University. In addition to his experience from his prior senior management service to Nanometrics, Mr. Rhine brings extensive industry knowledge and executive management experience to the Board. Timothy J. Stultz, Ph.D., 67, has served as President, Chief Executive Officer and a director since August 2007. From June 2003 to August 2007, Dr. Stultz served as the President and Chief Executive Officer and a director of Imago Scientific Instruments Corporation, a supplier of proprietary 3-D atom probe microscopes to the research materials and microelectronics industries. Prior to Imago, Dr. Stultz served as President and Chief Executive Officer for ThauMDx, a developer of diagnostic systems and technologies for the analysis of biomolecules, drugs and chemicals. Dr. Stultz also serves on the Board of Directors of Tessera Technologies, Inc. Dr. Stultz received his B.S., M.S. and Ph.D. degrees in Materials Science and Engineering from Stanford University. In addition to his institutional knowledge as the executive leader of Nanometrics, Dr. Stultz's scientific background and significant senior executive management experience in high-tech industries is important to the Board.

Christine A. Tsingos, 56, has served as a director since May 2014. Ms. Tsingos is currently the Executive Vice President and Chief Financial Officer of Bio-Rad Laboratories. In 2002, Ms. Tsingos was named Bio-Rad's Chief Financial Officer; in 2003, she became Vice President and in 2012, she was named Executive Vice President. Bio-Rad designs, manufactures and distributes a broad range of innovative products and solutions for the global life science and clinical diagnostic markets. Prior to Bio-Rad, Ms. Tsingos held executive positions at Autodesk, The Cooper Companies, and Attest Systems. Prior to that, Ms. Tsingos was a consultant to Attest Systems from 2000 to 2002. She earned her bachelor of arts in International Studies from the American University in Washington D.C. and an M.B.A in International Business from the George Washington University. In 2010, Ms. Tsingos was awarded the prestigious Bay Area CFO of the Year. Ms. Tsingos's qualifications to serve as a director include over 25 years of financial and operational experience.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE IN FAVOR OF EACH NAMED NOMINEE.

Table of Contents

CORPORATE GOVERNANCE

Board Structure

Bruce C. Rhine serves as the Chairman of the Board and Timothy J. Stultz, Ph.D. serves as both the Chief Executive Officer and a director of Nanometrics. We believe that having a separate Chairman and Chief Executive Officer is appropriate and is consistent with corporate governance best practices. From July 2006 to February 2008, Mr. Rhine served as our Chief Strategy Officer, and from March 2007 to August 2007, Mr. Rhine served as our Chief Executive Officer. Because of his previous roles with Nanometrics, Mr. Rhine is intimately familiar with Nanometrics' business and industry, and very capable of effectively identifying strategic priorities, leading discussions of the Board of Directors and defining Nanometrics' strategic objectives. The Board of Directors determined that Mr. Rhine became an independent member of the Board effective February 2011 under the NASDAQ Listing Rules due to the passage of time subsequent to his previous management role with Nanometrics. Dr. Stultz, as the Chief Executive Officer, is the individual selected by the Board of Directors to manage Nanometrics on a day-to-day basis, and his prior experience and direct involvement in Nanometrics' operations allows him to provide valuable insights with respect to strategic planning and the operational requirements to meet Nanometrics' short- and long-term objectives. Nanometrics' independent directors bring experience, oversight and expertise from outside the company and industry.

The Board's Role in Risk Oversight

One of the Board's primary responsibilities is reviewing Nanometrics' strategic plans and objectives, including oversight of the principal risk exposures of the company. The Board does not have a standing risk management committee, but rather administers this oversight function directly through the Board as a whole, as well as through various Board standing committees that address risks inherent in their respective areas of oversight. In particular, the Board is responsible for monitoring and assessing strategic risk exposure, including a determination of the nature and level of risk appropriate for the company. The Audit Committee assists the Board in oversight and monitoring of the legal and financial risks facing Nanometrics, and management's approach to addressing these risks and strategies for risk mitigation. The Audit Committee is also responsible for discussing guidelines and policies governing the process by which management and other persons responsible for risk management, assess and manage Nanometrics' exposure to risk, as well as Nanometrics' major financial risk exposures and the steps management has taken to monitor and control such exposures, based on consultation with Nanometrics' management and independent auditors. Our Compensation Committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking. The Board addresses, at least annually, the principal current and future risk exposures of Nanometrics. The Board receives regular reports from members of senior management on areas of material risk to Nanometrics, including operational, financial, legal and regulatory, strategic and reputation risks.

Board of Directors Meetings and Committees

The full Board of Directors met five times during the fiscal year ended December 27, 2014. During the fiscal year ended December 27, 2014, all directors attended at least 75% of the aggregate number of meetings of the Board of Directors and meetings of committees on which they served. The standing committees of the Board of Directors include an Audit Committee, a Compensation Committee and a Nominating and Governance Committee.

Directors are encouraged to attend the annual meeting of stockholders. All members of the Board of Directors then in office attended the 2014 annual meeting of stockholders.

The Board of Directors has determined that all of its directors meet the independence requirements of the NASDAQ Stock Market, with the exception of Timothy J. Stultz, Ph.D., due to his position as our President and Chief Executive Officer.

Audit Committee

The Audit Committee of the Board of Directors oversees our financial reporting, our internal audit and control functions, the results and scope of the annual audit and quarterly reviews conducted by our independent registered public accounting firm, and our compliance with legal matters that may have a significant impact on our financial reports. In addition, the Audit Committee has the responsibility to consider and recommend the engagement of, and to review and approve fee arrangements with, our independent registered public accounting firm. The Audit Committee also monitors transactions between Nanometrics and our officers and directors for any potential conflicts of interest and assists the Board of Directors in its risk oversight role.

-11-



Table of Contents

During the 2014 fiscal year, the Audit Committee consisted of Howard A. Bain III (Chairman), J. Thomas Bentley and Bruce C. Rhine until May 20, 2014, and thereafter of Christine A. Tsingos (Chair), J. Thomas Bentley and Bruce C. Rhine. Mr. Bain did not stand for reelection at the 2014 annual meeting of stockholders, and was succeeded by Ms. Tsingos who was appointed as chair of the Audit Committee on May 20, 2014. The Board of Directors has determined that each member of our Audit Committee is “independent” within the meaning of the rules of the Securities and Exchange Commission and the Listing Rules of NASDAQ, and has the qualifications or previous experience to be able to read and understand financial statements. Further, the Board of Directors has determined that each of Ms. Tsingos, Chair of the Audit Committee, and Mr. Bentley qualify as an “audit committee financial expert,” as such term is used in the Securities and Exchange Commission rules.

The Audit Committee met eight times during the 2014 fiscal year.

The report of the Audit Committee is included on page 15 of this Proxy Statement. The Board of Directors has adopted a written Audit Committee Charter, which is available on our website at <http://investor.nanometrics.com/governance.cfm>.

Compensation Committee

The Compensation Committee has overall responsibility for evaluating and approving our executive officer compensation, including incentive compensation, benefit, severance, equity-based and other compensation plans, policies and programs. During the 2014 fiscal year, the Compensation Committee reviewed and approved our compensation policies and programs for the chief executive officer, as well as established and had oversight responsibility with regard to the compensation of other executive officers of Nanometrics. The Compensation Committee also has the responsibility to recommend to the Board of Directors a compensation program for non-employee members of the Board.

The Compensation Committee is also responsible for approving the grant of stock options and stock awards to our employees under our equity compensation plans. The Compensation Committee has delegated to Nanometrics’ officers the authority, within certain parameters, to approve the grant of stock options with respect to employees and consultants who are not executive officers for purposes of Section 16 of the Exchange Act. The Compensation Committee also assists the Board of Directors in assessing the risks, if any, associated with Nanometrics’ overall compensation policies. Although the Compensation Committee has not done so to date, the Compensation Committee may, to the extent permitted under applicable law, the rules of NASDAQ and the Securities and Exchange Commission, and Nanometrics’ Certificate of Incorporation and Bylaws, form and delegate its authority to a subcommittee, when appropriate, including delegating to a subcommittee consisting solely of independent, non-employee, outside directors to make grants of stock options to executive officers and directors, provided that such grants are presented to the full Compensation Committee for approval at the following Compensation Committee meeting.

During the 2014 fiscal year, the Compensation Committee consisted of Stephen G. Newberry (chairman), J. Thomas Bentley, and Edward J. Brown Jr. Each current member of our Compensation Committee is an “outside” director as defined in Section 162(m) of the Internal Revenue Code of 1986, as amended, and a “non-employee” director within the meaning of Rule 16b-3 of the Exchange Act. The Board of Directors has determined that each of the directors serving on our Compensation Committee is “independent” within the meaning of the Listing Rules of NASDAQ as currently in effect.

The Compensation Committee met five times during the 2014 fiscal year.

The Compensation Committee Report is included on page 31 of this Proxy Statement. The Board of Directors has adopted a written Compensation Committee Charter, which is available on our website at <http://investor.nanometrics.com/governance.cfm>.

Compensation Committee Processes and Procedures: Typically, the Compensation Committee meets at least quarterly, and with greater frequency, if necessary. The Compensation Committee meets regularly in executive session. However, from time to time, various members of management and other employees as well as outside consultants may be invited by the Compensation Committee to make presentations, to provide financial or other background information or advice, or to otherwise participate in Compensation Committee meetings. The Chief Executive Officer may not participate in, or be present during, any deliberations or determinations of the

Compensation Committee regarding his compensation. The charter of the Compensation Committee grants the Compensation Committee full access to all books, records, facilities and personnel of Nanometrics, as well as authority to obtain, at the expense of Nanometrics, advice and assistance from internal and external legal, accounting or other advisers and consultants and other external resources that the Compensation Committee considers necessary or appropriate in the performance of its duties. In particular, the Compensation Committee has the authority to retain

-12-

Table of Contents

compensation consultants to assist in its evaluation of executive and director compensation, including the authority to approve the consultant's reasonable fees and other retention terms.

The Compensation Committee typically makes most of the significant adjustments to annual compensation, determines bonus and equity awards, and establishes new performance objectives, at one or more meetings held during the first quarter of the year. However, the Compensation Committee also considers matters related to individual compensation, such as compensation for new executive hires, as well as high-level strategic issues, such as the efficacy of Nanometrics' compensation strategy, potential modifications to that strategy and new trends, plans or approaches to compensation, at various meetings throughout the year. Generally, the Compensation Committee's process comprises two related elements: the determination of compensation levels and the establishment of performance objectives for the current year. As discussed further in the Compensation Discussion and Analysis below, for executives other than the Chief Executive Officer, the Compensation Committee solicits and considers evaluations and recommendations submitted to the Committee by the Chief Executive Officer. In the case of the Chief Executive Officer, the evaluation of his performance is conducted by the Compensation Committee, which determines any adjustments to his compensation as well as awards to be granted. For all executives, as part of its deliberations, the Compensation Committee may review and consider, as appropriate, materials such as financial reports and projections, operational data, tax and accounting information, tally sheets that set forth the total compensation that may become payable to executives in various hypothetical scenarios, executive and director stock ownership information, company stock performance data, analyses of historical executive compensation levels, current company-wide compensation levels, and recommendations of the Compensation Committee's compensation consultant, including analyses of executive compensation paid at other companies identified by the consultant. Under its charter, the Compensation Committee may select, or receive advice from, a compensation consultant, legal counsel or other adviser to the Compensation Committee, other than in-house counsel and certain other types of advisers, only after taking into consideration six factors, prescribed by the SEC and NASDAQ, that bear upon the adviser's independence; however, there is no requirement that any adviser be independent.

During the past fiscal year, the Compensation Committee engaged Compensia, Inc. as its compensation consultant. Compensia has advised the committee for several years and is very familiar with the industry and geographies in which Nanometrics operates. The Compensation Committee requested that Compensia:

- evaluate the efficacy of Nanometrics' existing compensation strategy and practices in supporting and reinforcing Nanometrics' long-term strategic goals;
- assist in refining Nanometrics' compensation strategy and in developing and implementing an executive compensation program to execute that strategy; and
- make recommendations regarding 2014 executive compensation.

As part of its engagement, the Compensation Committee requested that Compensia develop a comparative group of companies and to perform analyses of competitive performance and compensation levels for that group. The Committee instructed Compensia to select comparator companies similarly sized and in the same or closely related industry to that of Nanometrics using factors such as, but not limited to, revenue size, market capitalization, and number of employees. At the request of the Compensation Committee, Compensia also provided information regarding the labor markets in which Nanometrics competes. Compensia ultimately developed recommendations that were presented to the Compensation Committee for its consideration. Following an active dialogue with Compensia, the Compensation Committee made its independent determinations regarding the compensation of Nanometrics' executive officers. These decisions are discussed in the Compensation Discussion and Analysis section of this Proxy Statement.

Nominating and Governance Committee

The Nominating and Governance Committee assists the Board of Directors in identifying and qualifying candidates to join the Board of Directors and addresses various governance issues. The Nominating and Governance Committee utilizes a variety of methods for identifying and evaluating nominees. Its general policy is to assess the appropriate size and needs of the Board of Directors and whether any vacancies are expected due to retirement or otherwise. In addition, candidates for director nominees are typically reviewed in the context of the current composition of the Board, the operating requirements of Nanometrics, the current needs of the Board, and the long-term interests of

stockholders, with the goal of maintaining a balance of knowledge, experience and capability. In the event those vacancies are anticipated, or otherwise arise, the Nominating and Governance Committee will consider recommending various potential candidates to fill such vacancies. Candidates may come to the attention of the Nominating and Governance Committee through its current members, stockholders or other persons. Pursuant to the Nominating and Governance Committee charter, the Committee will consider properly submitted stockholder

-13-

Table of Contents

recommendations for nominations for candidacy. Stockholders who wish to recommend individuals for consideration by the Nominating and Governance Committee to become nominees for election to the Board may do so by delivering a written recommendation to the Nominating and Governance Committee at our principal offices. Nominees may also be submitted directly by stockholders in accordance with Nanometrics' Bylaws as discussed under "Stockholder Proposals" above. Although the Nominating and Governance Committee does not have a formal policy regarding stockholder recommendations for director nominees because the Board of Directors has an open policy regarding communications with stockholders and has not deemed it necessary to develop a formal policy regarding recommendations for director nominations by stockholders, the Nominating and Governance Committee intends to consider director candidates properly submitted by stockholders under the same criteria as candidates recommended by directors or others.

The Nominating and Governance Committee has no specific minimum qualifications for director candidates. In general, however, persons considered for Board of Directors positions must have demonstrated leadership capabilities, be of sound mind and high moral character, have no personal or financial interest that would conflict or appear to conflict with the interests of Nanometrics and be willing and able to commit the necessary time for Board of Directors and committee service. The Nominating and Governance Committee also intends to consider such factors as possessing relevant expertise upon which to be able to offer advice and guidance to management, demonstrated excellence in his or her field, having the ability to exercise sound business judgment and having the commitment to rigorously represent the long-term interests of Nanometrics' stockholders. However, the Nominating and Governance Committee retains the right to modify these qualifications from time to time.

The Nominating and Governance Committee also recommends to the Board of Directors certain guidelines regarding corporate governance and standards regarding the independence of outside directors applicable to Nanometrics and reviews such guidelines and standards and the provisions of the Nominating and Governance Committee charter on a regular basis to confirm that such guidelines, standards and charter remain consistent with sound corporate governance practices and with any legal or regulatory requirements of NASDAQ and the Securities and Exchange Commission. The Nominating and Governance Committee also monitors the Board of Directors, and Nanometrics' compliance with any commitments made to our regulators and changes in corporate governance practices.

The Nominating and Governance Committee does not have a stated policy with regard to diversity of the Board of Directors. However, the Committee believes that Board members should represent a balance of diverse backgrounds and skills, including marketing, finance, manufacturing, engineering, science, and international experience.

During the 2014 fiscal year, the Nominating and Governance Committee consisted of Bruce C. Rhine (Chairman), Stephen G. Newberry, Edward J. Brown Jr. and until the 2014 annual meeting, Dr. William G. Oldham. The Board of Directors has determined that each of the directors serving on our Nominating and Governance Committee is "independent" within the meaning of the Listing Rules of NASDAQ.

The Nominating and Governance Committee met four times in the 2014 fiscal year.

The Board of Directors has adopted a written Nominating and Governance Committee Charter, which is available on our website at <http://investor.nanometrics.com/governance.cfm>.

Voting For Directors – Majority Vote Policy

If a nominee for director in an uncontested election receives a greater number of "Withhold" votes for election than "For" votes ("Majority Withheld Vote"), that director must promptly tender to the Board his or her offer of resignation. If a director receives a Majority Withheld Vote, our Nominating and Governance Committee (or such other committee as the Board may appoint) shall make a recommendation to the Board, which will decide whether to accept or reject the resignation previously tendered by such director.

The Board must act on the tendered resignation, taking into account the recommendation of such committee, within 90 days from the date of the certification of the election results. The director whose resignation is under consideration is not permitted to participate in the recommendation of the committee or deliberations of the Board with respect to his or her resignation. However, if the only directors who did not receive a Majority Withheld Vote in the same election constitute less than a majority of directors, all directors may participate in the action regarding whether to accept the resignation offers. If a director's resignation is not accepted by the Board, the director will continue to serve until the next annual meeting of shareholders or until his or her successor is duly elected and qualified, or his or her earlier

resignation or removal. If a

-14-

Table of Contents

director's resignation is accepted by the Board, then the Board, in its sole discretion, must fill any resulting vacancy or decrease the size of the Board.

Stockholder Communication Policy

We have established a formal process for stockholders to send communications to the Board of Directors or to individual directors. The names of all directors are available to stockholders in this Proxy Statement. Stockholder communications may be submitted in writing to Nanometrics Incorporated, 1550 Buckeye Drive, Milpitas, California 95035, Attention: Office of the Secretary. If we receive any stockholder communication intended for the full Board of Directors or any individual director, we will forward the communication to the full Board of Directors or the individual director, unless the communication is clearly of a marketing nature or is unduly hostile, threatening, illegal or similarly inappropriate.

Code of Ethics

We have adopted a Code of Business Conduct and Ethics that applies to all directors, executive officers and employees. We post our Code of Business Conduct and Ethics on our website at:

<http://investor.nanometrics.com/governance.cfm>.

Related Person Transaction Policy

Nanometrics has a written policy regarding related party transactions that requires that the Audit Committee review any transaction or series of transactions in excess of \$50,000 in any year between Nanometrics, on the one hand, and an officer, director or 5% or greater stockholder, on the other. Nanometrics' Chief Financial Officer has the responsibility for bringing the facts concerning a proposed related party transaction to the Audit Committee. The policy permits approval only in the event of a finding that the transaction is on terms no less favorable than would have been obtained in an ordinary arms-length transaction with an independent third party.

Report of the Audit Committee of the Board of Directors*

The Audit Committee reviews Nanometrics' financial reporting process on behalf of the Board of Directors. Management has the primary responsibility for establishing and maintaining adequate internal control over financial reporting, for preparing the financial statements and for the reporting process. The Audit Committee members do not serve as professional accountants or auditors, and their functions are not intended to duplicate or to certify the activities of management and the independent registered public accounting firm. Nanometrics' independent auditors are engaged to audit and report on the conformity of our financial statements to accounting principles generally accepted in the United States and the effectiveness of our internal control over financial reporting.

In this context, the Audit Committee reviewed and discussed with management the audited financial statements of Nanometrics for the year ended December 27, 2014. The Audit Committee has discussed with the independent registered public accounting firm the matters required to be discussed by Auditing Standard No. 16, Communications with Audit Committees, as adopted by the Public Company Accounting Oversight Board ("PCAOB"). In addition, the Audit Committee has received the written disclosures and the letter from the independent registered public accounting firm required by applicable requirements of the PCAOB regarding the independent registered public accounting firm's communications with the Audit Committee concerning independence, and has discussed with the independent registered public accounting firm its independence.

Based on the foregoing, the Audit Committee recommended to the Board of Directors that our audited financial statements as of and for the year ended December 27, 2014, be included in our Annual Report on Form 10 K for the fiscal year ended December 27, 2014, for filing with the United States Securities and Exchange Commission.

The Audit Committee

Christine A. Tsingos, Chair

J. Thomas Bentley

Bruce C. Rhine

The material in this report is not "soliciting material," is not deemed "filed" with the Securities and Exchange Commission and is not to be incorporated by reference in any filing of Nanometrics under the Securities Act or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

-15-



Table of Contents

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth beneficial ownership of Nanometrics common stock as of February 20, 2015, by each director, by each of the named executive officers, by all directors and executive officers as a group, and by all persons known to Nanometrics to be the beneficial owners of more than 5% of Nanometrics stock. Unless otherwise indicated, all persons and entities have sole voting and investment power over the shares reported. As of the close of business on February 20, 2015, there were 23,872,557 shares of common stock outstanding.

Name Of Beneficial Owner – Principal Stockholders	Amount and Nature of Beneficial Ownership ⁽¹⁾ Shares	
	Number of Shares Beneficially Owned	Percent of Shares Beneficially Owned
Franklin Resources, Inc. ⁽²⁾	3,058,759	12.8%
Waddell & Reed Financial, Inc. ⁽³⁾	2,679,650	11.2%
Royce & Associates, LLC ⁽⁴⁾	2,640,935	11.1%
BlackRock, Inc. ⁽⁵⁾	2,276,268	9.5%
Wellington Management Group, LLP ⁽⁶⁾	1,884,051	7.9%
Artisan Partners Limited Partnership, and related entities ⁽⁷⁾	1,639,196	6.9%
Name Of Beneficial Owner – Directors And Officers	Number of Shares Beneficially Owned	Percent of Shares Beneficially Owned
Bruce C. Rhine ⁽⁸⁾	910,941	3.8%
J. Thomas Bentley ⁽⁹⁾	43,142	*
Edward Brown Jr.	6,930	*
Stephen G. Newberry ⁽¹⁰⁾	19,027	*
Christine A. Tsingos	—	—
Timothy J. Stultz, Ph.D. ⁽¹¹⁾	374,764	1.6%
Jeffrey Andreson	—	—
All executive officers and directors as a group (7 persons) ⁽¹²⁾	1,354,804	5.6%

* less than 1 percent

(1) As determined in accordance with Rule 13d-3 under the Securities and Exchange Act of 1934. Information with respect to principal stockholders is obtained from Schedules 13G and 13G/A and except as indicated in the footnotes below, is as of December 31, 2014, and does not reflect changes, if any, since that date.

(2) According to a Schedule 13G/A filed with the SEC on February 9, 2015, each of Franklin Resources, Inc. ("FRI"), Charles B. Johnson and Rupert H. Johnson has no voting or investment power over any of these shares but may be deemed to be the beneficial owner of these shares of common stock. Franklin Advisers, Inc. has sole voting power over 2,727,320 of these shares and sole investment power over 2,834,720 of these shares. The address of FRI, Mr. Johnson, Mr. Johnson and Franklin Advisers, Inc. is One Franklin Parkway, San Mateo, CA 94403. Each of these entities disclaim beneficial ownership of these shares.

(3) According to a Schedule 13G/A filed with the SEC on February 13, 2015, Waddell & Reed Financial, Inc. has sole voting and investment power over all of these shares, Ivy Investment Management Company has sole voting and investment power over 1,467,958 of these shares and each of Waddell & Reed Investment Management Company, Waddell & Reed Financial Services, Inc. and Waddell & Reed, Inc. has sole voting and investment power over 1,211,692 of these shares. The address of each of these entities is 6300 Lamar Avenue, Overland Park, KS 66202.

(4) According to a Schedule 13G/A filed with the SEC on January 15, 2015, Royce & Associates, LLC has sole voting and investment power over all of these shares. The address of Royce & Associates, LLC is 745 Fifth Avenue, New York, NY 10151.

(5) According to a Schedule 13G/A filed with the SEC on January 15, 2015, BlackRock, Inc. has sole voting power with respect to 2,226,645 of these shares and sole investment power over all of these shares. The address of BlackRock, Inc. is 55 East 52nd Street, New York, NY 10022.

(6) According to a Schedule 13G/A filed with the SEC on February 12, 2015, Wellington Management Group, LLP has shared investment power over all of these shares and has shared voting power over 976,673 of these shares. The address of Wellington Management Group is c/o Wellington Management Company, LLP, 280 Congress Street, Boston, MA 02210.

(7) According to a Schedule 13G/A filed with the SEC on January 30, 2015, Artisan Partners Limited Partnership, Artisan Investments GP LLC, Artisan Partners Holding LP and Artisan Partners Asset Management Inc., each has shared voting power over 1,593,738 of these shares and shared investment power over all of these shares and Artisan Partners Funds, Inc. has shared voting and investment power over 865,935 of these shares. The address of each of these entities is 875 East Wisconsin Avenue, Suite 800, Milwaukee, WI 53202.

(8) Includes 113,688 shares that may be acquired by exercise of stock options within 60 days of February, 20, 2015. Mr. Rhine has beneficial ownership over 1,428 shares owned by his spouse and indirect voting power over 2,337 shares owned by an immediate family member.

(9) Includes 14,066 shares that may be acquired by exercise of stock options within 60 days of February, 20, 2015.

-16-

Table of Contents

(10) Includes 7,604 shares that may be acquired by exercise of stock options within 60 days of February 20, 2015.

(11) Includes 301,389 shares that may be acquired by exercise of stock options or vesting of restricted stock units within 60 days of February 20, 2015.

(12) Includes 436,747 shares that may be acquired by exercise of stock options or vesting of restricted stock units within 60 days of February 20, 2015.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires our executive officers and directors, and persons who own more than 10% of a registered class of our equity securities, to file reports of ownership and changes in ownership with the Securities and Exchange Commission. Executive officers, directors and greater than 10% stockholders are required by Securities and Exchange Commission regulations to furnish Nanometrics with copies of all Section 16(a) forms that they file.

Based solely on our review of the copies of such forms received by us or written representations from certain reporting persons, we believe that our executive officers, directors and greater than 10% stockholders have complied with all applicable filing requirements except for the Form 4 specified below. Nanometrics assists our executive officers and directors in the preparation and filing of Forms 4, and generally files the Forms 4 on behalf of our directors and executive officers using the powers of attorney given to certain executive officers of Nanometrics by our executive officers and directors delegating the authority to make the filings. A grant of restricted stock units that occurred on November 9, 2014, to Jeffrey Andreson was reported on a Form 5 filed on February 17, 2015.

EXECUTIVE COMPENSATION

2014 Compensation Discussion and Analysis

Philosophy and Objectives

Nanometrics' named executive officer compensation program is intended to enable us to attract, retain and motivate key executives and to align their interests with those of the stockholders by tying executive compensation to our short-term and long-term performance. The Compensation Committee acts on behalf of the Board of Directors and, by extension, on behalf of our stockholders, to establish, implement and continually monitor adherence to our compensation philosophy. The Compensation Committee's philosophy is to design a compensation package that balances the need for alignment between the interests of executive officers and stockholders in terms of producing short-term and long-term enhanced stockholder value, while achieving retention and motivation through appropriate incentives, taking into account both internal equity and external market information relative to our industry and size. The Compensation Committee designs the executive compensation program with the goal of providing total compensation to our named executive officers that is competitive and consistent with our compensation philosophy. The Compensation Committee's principal objectives are to: (a) develop, recommend and approve compensation packages that are consistent with our philosophy; (b) link executive compensation to the achievement of financial, management or other performance goals and; (c) support our culture and core values by promoting equity among the executive team and maintaining the competitiveness of our overall compensation when compared with external opportunities.

Philosophy and Objectives Applied

The Compensation Committee relied on an independent outside compensation consulting firm, Compensia, our human resources department, and our Chief Executive Officer to provide information and recommendations to establish specific compensation packages for our named executive officers for the 2014 fiscal year that ended December 27, 2014.

Our executive compensation packages for the 2014 fiscal year included three primary components – base salaries, cash bonus award opportunities and long-term equity incentive awards. Other elements of compensation include limited perquisites, other benefits (including retirement, health, and welfare benefits), and severance arrangements. The Compensation Committee considered the three primary components individually and in the aggregate to assess their competitiveness and effectiveness in retaining our executives and motivating them to create short-term and long-term enhanced stockholder value.

In the Compensation Committee's review of our named executive compensation for the 2014 fiscal year, the Compensation Committee considered publicly available market data for companies that typically include similarly-sized semiconductor and semiconductor capital equipment or similar firms for each executive in a like or similar role. For the 2014 fiscal year, Compensia recommended that the Compensation Committee approve modifications to the group of peer companies

-17-

Table of Contents

for conducting compensation analysis from proxies to better reflect our size and business. The Compensation Committee considered the following factors:

- primary focus on semiconductor and semiconductor equipment companies, and secondary focus on hardware companies;
- revenues;
- market capitalization; and
- several other factors including profitability, growth and revenues relative to market capitalization.

A number of companies were removed from the peer group companies used in our 2013 fiscal year analysis (Advanced Energy Industries, Inc., ATMI, Inc., Brooks Automation, Inc., Cabot Microelectronics Corporation, FSI, Photonics, and Ultratech, Inc.) because they no longer fit within our criteria. A number of companies (Ambarella, Inc., Intermolecular, Inc., and PLX Technology, Inc.) were added to our 2014 fiscal year analysis because these companies better reflect the criteria described above. Our peer group companies considered for the 2014 fiscal year are listed below.

2014 Fiscal Year Peer Group Companies

Ambarella, Inc.	Maxwell Technologies, Inc.
Cohu, Inc.	PLX Technology, Inc.
Electro Scientific Industries, Inc.	Rudolph Technologies, Inc.
FARO Technologies, Inc.	Silicon Image
Form Factor, Inc.	Xcerra Corporation (formerly LTX Credence Corporation)
Intermolecular, Inc.	Zygo Corporation
Lattice Semiconductor Corp.	

The companies above were selected because they operate in our industry or similar industries, are comparable to Nanometrics based on both survey data and proxy data, revenues (\$50 million to \$300 million), and/or market capitalization (\$100 million to \$1 billion). Compensia gathered data with respect to base salary, target bonus awards and all equity awards, including stock options and restricted stock units (“RSUs”). We generally do not gather data regarding employee benefits such as 401(k) or health care coverage normally available to broad groups of employees. Compensia is charged with gathering the market data and assisting in informing the Compensation Committee using their marketplace expertise and the market data gathered.

While the market data may identify a certain percentile of the market in which we operate with regard to base salary, bonus or long-term incentives, the Compensation Committee did not target any specific percentile but instead looked at each element as compared to the total targeted cash package and the various components, in light of the desired results, internal equity and the information provided, and then decided if a change to compensation was warranted or not. The Compensation Committee also consulted with our Chief Executive Officer with respect to the appropriate compensation for the executives who reported to him: Mr. Crawford, our former Chief Operating Officer; Mr. Kisling, our former Chief Financial Officer; Mr. Anderson, our current Chief Financial Officer; and Ms. Egan, our former Chief Legal Officer. The Chief Executive Officer reviewed the experience and qualifications, and performance of our executives using the elements and framework described under “2014 Executive Compensation Components” below, and made recommendations to the Compensation Committee about the structure of the overall compensation program and individual compensation arrangements. This framework provided a guide for the Compensation Committee’s deliberations and recommendations regarding proposals for base salary, bonus opportunities and long-term equity incentive awards for each executive position. The Compensation Committee considered those factors that are controllable by management such as expenses and cash, account penetration and long-term stockholder value delivery and others that are less within management control such as revenue, which is subject to the short-term industry cycles and the timing of customer capital spending cycles. The Compensation Committee did not apply formulas or assign specific mathematical weights to the peer group data or any of the factors or elements of compensation discussed above, but rather exercised its business judgment and discretion to make a subjective determination of both the amounts of compensation as well as the distribution of compensation among the various components, after considering all of these measures collectively. The Compensation Committee then came to a conclusion based on the

framework outlined above to approve an appropriate compensation package for each executive.

-18-

Table of Contents

2014 Executive Compensation Components

For the 2014 fiscal year, the principal components of compensation for our named executive officers, Dr. Stultz, Messrs. Crawford, Kisling and Andreson, and Ms. Egan, were:

- Base salary;
- Bonus;
- RSU grants; and
- Retirement and other benefits.

The Compensation Committee has chosen these components because it believes that each supports achievement of one or more of our compensation objectives, and that together they will be effective in this regard. The use of each compensation component is based on a determination by the Compensation Committee of the importance of each compensation objective in supporting our business and talent strategies. These components are commonly used for executives at companies within our peer group and, therefore, the Compensation Committee finds these to be appropriate in our talent retention strategy. The Compensation Committee's determination varies for each executive officer depending on a number of factors, including but not limited to, scope of his or her responsibilities, leadership skills and values, individual performance and length of service with Nanometrics. The Compensation Committee did not apply formulas or assign specific mathematical weights to any of these factors, but rather exercised its business judgment and discretion to make a subjective determination after considering all of these measures collectively.

Base Salary

Base salaries serve as the foundation of Nanometrics' compensation program. Other executive compensation elements, including annual short-term cash incentives and long-term equity incentives, are derived by weighing them against base salary. Nanometrics provides named executive officers with base salaries to compensate them for services rendered during the fiscal year and sets base salaries at levels which the Compensation Committee believes will effectively attract and retain top talent. The Compensation Committee determines base salaries for each named executive officer based on his or her experience, position and responsibility, as well as the contribution that he or she brings to Nanometrics through performance. During its annual review of base salaries for executives, the Compensation Committee primarily considers:

- the salaries of executive officers in similar positions at our peer group companies as discussed in the above section titled "Philosophy and Objectives Applied";
- our financial performance over the past year based upon the ability to achieve Board-approved financial metrics including revenue targets, operating income targets and other operating results metrics; and
- the individual performance of each named executive officer, his or her duties and areas of responsibility on a subjective basis, which may include, among other things: span of control; ability to influence, manage and produce results that increase the profitability of Nanometrics; and ability to streamline and create efficiencies in the organization.

The Compensation Committee considers salary levels annually as part of our performance review process as well as upon a promotion or other change in job responsibility. The Compensation Committee reviews and determines salaries after reviewing salary data supplied by Compensia, which uses peer comparison groups, as well as consideration of the compensation for our executives on a company-wide basis, based on their relative duties and responsibilities and the recommendations of our Chief Executive Officer as it relates to the executives who report to him. Stock price performance has not been a direct factor in determining annual base salary compensation because the price of our common stock is subject to a variety of factors outside of our control. The Compensation Committee also considered comparisons of peer group compensation to peer group performance provided by Compensia. The Compensation Committee did not apply formulas or assign specific mathematical weights to any of these factors, but rather exercised its business judgment and discretion to make a subjective determination regarding each executive's base salary after considering all of these measures collectively.

Table of Contents

For fiscal year 2014, based on all of the data considered, the Compensation Committee exercised its business judgment and discretion to make a subjective determination regarding each named executive officer's 2014 base salary as set forth in the table below. These reflected annual increases from 2013 for the continuing executives with the exception of Mr. Crawford whose salary remained unchanged.

Named Executive Officer	Annual Base Salary Approved for Fiscal Year 2014	Year-Over-Year Percentage Increase Represented by Fiscal Year 2014 Base Salary
Dr. Timothy J. Stultz President, Chief Executive Officer and Director	\$479,000	3.0%
Jeffrey Andreson ⁽¹⁾ Chief Financial Officer	\$330,000	n/a
Ronald Kisling ⁽²⁾ Former Chief Financial Officer	\$325,000	3.2%
Bruce A. Crawford ⁽²⁾ Former Chief Operating Officer	\$346,500	—
Nancy E. Egan ⁽²⁾ Former Chief Legal Officer	\$241,000	4.8%

⁽¹⁾ Mr. Jeffrey Andreson became our Chief Financial Officer on September 22, 2014.

⁽²⁾ Mr. Kisling terminated his position effective August 29, 2014, and both Mr. Bruce Crawford and Ms. Nancy Egan terminated their respective positions effective December 26, 2014.

Bonus

The Compensation Committee views cash bonuses as part of its performance-based compensation program designed to align the recipient's interests with our annual goals and objectives and our stockholders' interests. At our 2012 annual meeting of stockholders, the stockholders approved the Executive Performance Bonus Plan (the "Plan"). Within the parameters of the Plan, the Compensation Committee established the 2014 Executive Performance Bonus Program (the "2014 Bonus Program"). The 2014 Bonus Program is intended to motivate senior executives to achieve short-term and long-term corporate objectives relating to the performance of Nanometrics or one of its business units as established by the Compensation Committee of the Board of Directors and to reward them when those objectives are achieved, thereby tying performance to stockholder value. Bonuses would be triggered upon our achievement of target metrics determined by the Compensation Committee.

As part of the 2014 Bonus Program, the Compensation Committee established the following target bonus opportunities:

Named Executive Officer (1)	Target Bonus Opportunity (as a % of annual base salary)
Dr. Timothy J. Stultz	100%
Bruce A. Crawford	70%
Ronald W. Kisling	55%
Nancy E. Egan	40%

⁽¹⁾ Mr. Andreson joined Nanometrics in September 2014, and so was not part of the 2014 Bonus Program but rather was entitled to receive a cash bonus of up to \$75,000 subject to meeting certain personal objectives approved by the Compensation Committee.

Target bonus opportunities for each executive officer are reviewed and determined by the Compensation Committee after considering bonus award data supplied by Compensia, which uses peer comparison groups, as described under the section titled "Philosophy and Objectives Applied" above, as well as consideration of the compensation for our executives based on their relative duties and responsibilities. The Compensation Committee did not apply formulas or assign specific mathematical weights to any of these factors, but rather exercised its business judgment and discretion to make a subjective determination regarding each executive's target bonus opportunity after considering all of these measures collectively.

The target bonus opportunity was based upon overall company financial performance objectives determined by the CEO.



Table of Contents

The maximum award that an executive could receive under the 2014 Bonus Program was two times the target bonus opportunity. Payment of annual awards under the 2014 Bonus Program was determined based on annual Operating Income. The 2014 Bonus Program provided that Operating Income of greater than 0% of revenues resulted in funding at 100% of Total Target Bonus, and Operating Income of 8% of revenues resulted in funding at 200% of Total Target Bonus, with actual funding levels interpolated between those points; provided that in the event that Wafer Fab Equipment ("WFE") expenditures declined in calendar year 2014 as compared to calendar year 2013, the 2014 Bonus Program will be funded at the greater of (1) 50% of the Total Target Bonus or (2) the funding amount determined based on annual Operating Income. For the 2014 Bonus Program, Operating Income was defined as Operating Income/(Loss) as reported in accordance with generally accepted accounting principles in the United States, plus Stock Compensation, Depreciation, Amortization, including amortization of intangible assets, and any unusual charges, such as restructurings, litigation or acquisition charges.

For fiscal year 2014, based on achieved Operating Income (as defined) of greater than 0% of revenues and positive growth in WFE, the Compensation Committee approved the following bonus amounts for the named executive officers in the table below. As a result, Dr. Stultz was entitled to, and received, the cash bonus of 124% of the Target Bonus Opportunity shown below under the 2014 Bonus Program. No payment was made to Messrs. Crawford and Kisling and Ms. Egan due to their separation from Nanometrics prior to the end of the bonus plan period, which required continued employment until the bonus payment is approved. Consistent with his employment agreement, Mr. Andreson received a cash bonus of \$75,000 based on achievement of personal objectives approved by the Compensation Committee.

Named Executive Officer	Approved Bonus under 2014 Bonus Program
Dr. Timothy J. Stultz	\$593,960
Jeffrey Andreson	\$75,000
Ronald W. Kisling	\$—
Bruce A. Crawford	\$—
Nancy E. Egan	\$—
Long-Term Incentive Compensation	

The Compensation Committee believes that equity compensation plans are an essential tool to link the long-term interests of Nanometrics' stockholders and our employees, particularly our executive officers, and serve to motivate executives to make decisions that will, in the long run, optimize returns to our stockholders. Equity compensation plans also enable us to provide an opportunity for increased equity ownership by executives, thereby increasing the link between the incentives of our executives and the interests of our stockholders, and maintain competitive levels of total compensation. Each year the Compensation Committee considers incentive and retention needs, market competitiveness and industry and business conditions to make its subjective determination of the appropriate balance of stock options, which provide potential reward in the event of exceptional company performance, and RSUs, which provide a more predictable value. The Compensation Committee considered both the broader market environment and the individual equity profile of each executive in awarding 100% RSUs for 2014.

Restricted Stock Unit Grants. All of the executives received RSU awards during the 2014 fiscal year. The Compensation Committee believes that RSUs, which increase in value as the market price of our common stock increases, both encourage our executives to work toward the longer term goal of creating stockholder value and provide retention value. RSUs align the interests of our executives to the interests of our stockholders because an executive that holds RSUs is exposed to the same market risks to which our stockholders are exposed. RSU award levels for 2014 were determined based on an analysis of peer group data related to the size of equity awards as described under our section "Philosophy and Objectives Applied" above, including relevant factors such as peer group competitive data. The Compensation Committee did not benchmark to a specific target percentile, but instead considered proposed RSU awards in the context of each executive's cash and total compensation package. In addition, the Compensation Committee considered other factors when determining each executive's RSU award, including: the level of resulting alignment with the interests of our stockholders; such executive's position within the organization

and the appropriate level of equity compensation for such position relative to others in the organization's hierarchy; such executive's contributions to our financial, operational and general performance; our stock price; and the Black-Scholes value of such awards. The Compensation Committee did not apply formulas or assign specific mathematical weights to any of these factors, but rather exercised its business judgment and discretion to make a subjective determination regarding whether to grant, and the size of grants of RSUs to each executive.

-21-

Table of Contents

Our Compensation Committee grants equity awards under our 2005 Equity Incentive Plan to the Named Executives and other employees as incentive compensation. The Compensation Committee meeting schedule is determined several months in advance, and, therefore, proximity of any award date to a material news announcement or a change in our stock price, if any, is coincidental. We do not backdate equity awards or make equity awards retroactively. In addition, we do not coordinate our equity grants to precede announcements of favorable information or follow announcements of unfavorable information. Equity awards are priced using the closing market price of the common stock on the date of grant.

Other Elements of Compensation

All Nanometrics employees in the United States, including our named executive officers, are eligible to participate in our 401(k) plan, medical, dental and vision insurance, employee stock purchase plan, as well as our life and disability insurance policy. Nanometrics' 401(k) Plan and other generally available benefits programs allow us to remain competitive for employee talent, and we believe that the availability of these benefits programs generally enhances employee productivity and loyalty to Nanometrics. The main objectives of Nanometrics' benefits programs are to give employees access to quality healthcare, financial protection from unforeseen events, assistance in achieving retirement financial goals, and enhanced health and productivity, all in full compliance with applicable legal requirements. These generally available benefits typically do not specifically factor into decisions regarding an individual named executive officer's total compensation or equity award package

Perquisites

Nanometrics provides certain named executive officers with a limited number of perquisites that the Compensation Committee believes are reasonable and consistent with our overall compensation program. Although the Compensation Committee seeks the advice of the human resources department on general market competitiveness for these benefits, it does not use a formal benchmarking process. The aggregate incremental costs to Nanometrics of these perquisites are included in the Summary Compensation Table in the "All Other Compensation" column. Dr. Stultz receives a car allowance. All Named Executives are eligible to participate in an Executive Healthcare Reimbursement plan that provides for reimbursement of usual and customary costs that may not be covered under the medical, dental and eye care plans available to all other Nanometrics employees; actual amounts reimbursed are included in the Summary Compensation Table as "All Other Compensation."

Severance Benefits

The Compensation Committee considers maintaining a stable and effective management team to be essential to protecting and enhancing the best interests of Nanometrics and its stockholders. Accordingly, the Compensation Committee has taken steps to encourage the continued attention, dedication and continuity of members of our management to their assigned duties without the distraction that may arise from the potential termination of employment. Specifically, we have entered into agreements with our five named executive officers providing for severance payments and benefits, consisting of cash severance, accelerated vesting of equity awards and continued health care benefits, upon a termination of employment without cause or resignation for good reason in connection with a "change in control" of Nanometrics, as described in greater detail below in the section titled "Employment Contracts and Termination of Employment and Change-in-Control Arrangements." Nanometrics entered into these agreements with Dr. Stultz and Mr. Crawford in 2010; with each of Mr. Kisling and Ms. Egan at the time each was hired in 2011; and with Mr. Andreson in 2014 when he was hired. In addition, the agreements with our Chief Executive Officer, Dr. Stultz, and our Chief Operating Officer, Mr. Crawford, provide for severance payments and benefits, consisting of cash severance and continued health care benefits and, in the case of Mr. Crawford, accelerated vesting of equity awards, upon a termination of employment without cause or resignation for good reason outside of a change of control situation, also described in greater detail in the section titled "Employment Contracts and Termination of Employment and Change-in-Control Arrangements." The agreement with Mr. Andreson provides a severance payment of one year's base salary if he is terminated without cause on or before the one year anniversary of his date of hire, also described in greater detail in the section titled "Employment Contracts and Termination of Employment and Change-in-Control Arrangements." This agreement between Nanometrics and Mr. Andreson was an inducement to attract Mr. Andreson from his then-existing chief financial officer role at another company. In all cases, in exchange for receiving severance benefits and payments, the executive officer will be subject to non-compete,

non-solicitation, and non-disparagement restrictions, and is required to execute a full release and waiver of any claims against Nanometrics.

When entering into these agreements, the Compensation Committee analyzes data and suggestions from Compensia as well as our human resources department, which information includes comparing such amounts against our peer group. However, the Compensation Committee did not benchmark to any specific percentile, but rather exercised its business judgment and discretion to make a subjective determination after considering this information. The peer group used in this

-22-

Table of Contents

analysis is the same peer group that we consider in connection with our analysis and determination of the total compensation packages for our executives, at the time Nanometrics entered into the agreement with the individual executive officer.

After considering industry practices and reviewing the policies and practices of the companies in our peer group, the Compensation Committee determined that our severance and benefits agreements are necessary and appropriate in substance and scope to provide competitive compensation to the types of individuals that Nanometrics desires to attract, hire and retain. The Compensation Committee also believes that these agreements are consistent with our overall compensation philosophy. The Compensation Committee periodically monitors industry practice in this area to ensure that these agreements remain consistent with industry practice and our overall compensation philosophy of offering competitive compensation to preserve our ability to attract and retain key executives.

Tax and Accounting Implications

As part of its role, the Compensation Committee reviews and considers both tax and accounting related implications as they apply and as they evolve.

As part of its role, the Compensation Committee reviews and considers the deductibility of executive compensation under Section 162(m) of the Internal Revenue Code, which provides that we may not deduct compensation of more than \$1,000,000 that is paid to certain executive officers, unless certain exemption requirements are met. Exemptions to this deductibility limit may be made for various forms of “performance-based” compensation, including compensation that will be payable in the future under our Executive Performance Bonus Plan which was approved by stockholders in 2012. We believe that compensation paid under the management long-term equity incentive plans is generally fully deductible for federal income tax purposes. However, in certain situations, the Compensation Committee may approve compensation that will not meet these requirements to ensure competitive levels of total compensation for our executive officers.

Section 4999 and Section 280G of the Internal Revenue Code provide that executives could be subject to additional taxes if they receive payments or benefits that exceed certain limits in connection with a change in control of Nanometrics and that Nanometrics could lose an income tax deduction for such payments. We have not provided any executive with a tax “gross up” or other reimbursement for tax amounts the executive might be required to pay under Section 4999 or Section 280G of the Internal Revenue Code as the Compensation Committee determined that this was not consistent with best practices.

Section 409A of the Internal Revenue Code imposes additional taxes and interest on underpayments in the event that an executive defers compensation under a compensation plan that does not meet the requirements of Section 409A. We believe that we are operating in good faith compliance with Section 409A and have structured our compensation and benefits programs and individual arrangements in a manner intended to comply with the requirements thereof.

Risks Associated With Compensation Plans

In 2014, the Compensation Committee determined that our compensation policies and practices for our employees are not reasonably likely to cause employees to take risks that would have a material adverse effect on the company.

Results of 2014 Shareholder Advisory Vote to Approve Executive Compensation

At our 2013 and 2014 annual meetings of stockholders, we requested our stockholders to approve, on an advisory (non-binding) basis, the compensation paid to our executive officers as reported in the proxy statements for those annual meetings. Our stockholders expressed substantial support for our executive compensation, with approximately 97.8% and 96.1%, respectively, of the shares present and entitled to vote voting for approval of the “say-on-pay” advisory vote approving our executive compensation. Because of the high level of support expressed by our stockholders for the 2013 and 2014 fiscal year executive compensation, the Compensation Committee has continued to apply a similar approach for executive compensation decisions and policies.

Clawback Policy

Effective with our fiscal year ending December 26, 2015, we have established a clawback policy. This policy provides that in the event of a material restatement of our consolidated financial statements resulting from fraud or intentional misconduct by any Section 16 officer who has either erroneously been awarded or paid a greater amount of incentive compensation than he or she would have received had the financial statements been fairly stated, the Board or its designated committee has the discretion to direct that the company either recoup or cancel payment, though not

forced, of all or a portion

-23-

Table of Contents

of the excess of performance-based cash or equity compensation to the Section 16 officer(s). This clawback policy is effective for compensation awarded or paid after implementation of the policy and applies to current Section 16 officers as well as those who terminate after the clawback program has been approved by the Board. The covered period is the three-year period preceding the effective date for which it is determined that a restatement is required.

2015 Equity Grants Philosophy

In March 2015, after consultation with Compensia and some of our major investors, the Compensation Committee modified its practices by granting to our Chief Executive Officer 50% of his annual equity incentives in the form of performance stock units (“PSUs”), in addition to the 50% previously granted in the form of equity awards that will vest based on the passage of time only (RSUs). The PSUs will vest over one, two and three years based on the relative performance of our stock price during those periods, compared to the top 30 companies in the Philadelphia Stock Exchange Semiconductor Sector Index at the beginning of the performance periods. Going forward, the Committee expects to consider granting a substantial portion of the equity incentives awarded annually to our executive officers in the form of PSUs, in addition to RSUs and other forms of equity-based compensation.

Table of Contents

2014 Summary Compensation

The following table sets forth the compensation for the past three fiscal years for (i) our Chief Executive Officer, (ii) each person who served as our Chief Financial Officer in fiscal 2014, and (iii) each of our other executive officers during fiscal 2014, all of whom are collectively referred to as the "named executive officers." Mr. Jeffrey Andreson became our Chief Financial Officer on September 22, 2014. Mr. Kisling terminated his position as Chief Financial Officer effective August 29, 2014, and both Mr. Bruce Crawford and Ms. Nancy Egan terminated their respective positions effective December 26, 2014.

Summary Compensation Table

Fiscal Year 2014

	Year	Salary (\$)	Bonus (\$)	Stock Awards(1),(2)	Option Awards(1)	Non-Equity Incentive Plan Compensation(3)	All Other Compensation(4)	Total (\$)
Dr. Timothy	2014	\$479,000	\$—	\$ 1,596,300	\$—	\$ 593,960	\$ 27,767	\$2,697,027
J. Stultz	2013	\$465,000	\$—	\$ 951,000	\$542,106	\$ 76,725	\$ 23,677	\$2,058,508
President, Chief Executive Officer and Director	2012	\$465,000	\$139,500	\$ 380,600	\$575,815	\$ —	\$ 22,170	\$1,583,085
Jeffrey Andreson Chief Financial Officer	2014	\$86,308	\$—	\$ 578,000	\$—	\$ 75,000	\$ —	\$739,308
Bruce A. Crawford Former Chief Operating Officer	2014	\$363,508 ⁽⁵⁾	\$—	\$ 563,400	\$—	\$ —	\$ 11,307	\$938,215
	2013	\$346,500	\$—	\$ 317,000	\$180,702	\$ 40,021	\$ 6,823	\$891,046
	2012	\$346,500	\$72,765	\$ 190,300	\$287,908	\$ —	\$ 21,956	\$919,429
Ronald Kisling Former Chief Financial Officer	2014	\$228,368	\$—	\$ 375,600	\$—	\$ —	\$ 6,755	\$610,723
	2013	\$315,000	\$—	\$ 206,050	\$117,456	\$ 28,586	\$ 6,609	\$673,701
	2012	\$315,000	\$51,975	\$ 95,150	\$143,954	\$ —	\$ 6,186	\$612,265
Nancy E. Egan Former Chief Legal Officer	2014	\$240,519	\$—	\$ 281,700	\$—	\$ —	\$ 3,971	\$526,190
	2013	\$230,000	\$—	\$ 158,500	\$90,351	\$ 15,180	\$ 5,559	\$499,590
	2012	\$227,346	\$27,600	\$—	\$—	\$ —	\$ 3,452	\$258,398

(1) Amounts shown do not reflect compensation actually received by the named executive officer. Instead, the amounts shown are the aggregate grant date fair value of equity awards granted for financial statement reporting purposes in accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 718. The assumptions used to calculate the value of the options and/or restricted stock units (RSUs) are set forth under Note 13 of the Notes to Consolidated Financial Statements included in Nanometrics' Annual Report on Form 10-K for the fiscal year ended December 27, 2014 filed with the SEC on February 25, 2015.

(2) For fiscal year 2014, the Board of Directors awarded Messrs. Stultz, Crawford and Kisling, and Ms. Egan RSUs in the amount of 85,000, 30,000, 20,000 and 15,000, respectively at the grant date fair value of \$18.78 per share on March 6, 2014. Mr. Andreson received an award of 40,000 RSUs at the grant date value of \$14.45 per share on November 9, 2014. All such RSUs vest annually over 3 years from the grant date.

(3) Amounts reflected for each fiscal year are those earned, but not paid until the following fiscal year 2015, under our executive performance bonus programs.

(4) Fiscal 2014 amounts represent fiscal year 2014 additional compensation for the named executive officers as follows: Dr. Stultz received reimbursements under our Executive Health Care Plan in the amount of \$8,767, an employer 401(k) match in the amount of \$4,600 and a car allowance in the amount of \$14,400. Mr. Crawford received \$2,916 through our Executive Health Care Plan, an employer 401(k) match of \$4,534 and \$3,857 in housing allowance. Mr. Kisling received reimbursements under our Executive Health Care Plan in the amount of \$3,123 and an employer 401(k) match of \$3,632. Ms. Egan received \$471 under our Executive Health Care Plan and an employer 401(k) match of \$3,500.

(5) In addition to his base salary, this amount includes the payout of approximately \$17,008 of Mr. Crawford's accrued personal time off.

-25-

Table of Contents

2014 Grants of Plan-Based Awards

The following table sets forth information with respect to grants of plan-based awards during the 2014 fiscal year that ended December 27, 2014, to each of the named executive officers.

Grants of Plan-Based Awards For Fiscal Year 2014

Name	Estimated Future Payouts Under Non-Equity Incentive Plan Awards ⁽¹⁾				All Other Stock Awards:	Grant Date Fair value Of Stock And Options Awards ⁽³⁾
	Grant Date	Threshold (\$)	Target (\$)	Maximum (\$)	Number of Shares of Stock or Units ⁽²⁾	
Dr. Timothy J. Stultz	3/6/2014	\$—	\$479,000	\$958,000	85,000	\$1,596,300
Jeffrey Andreson	11/9/2014	\$—	\$—	\$—	40,000	\$578,000
Bruce A. Crawford	3/6/2014	\$—	\$242,550	\$485,100	30,000	\$563,400
Nancy E. Egan	3/6/2014	\$—	\$96,400	\$192,800	15,000	\$281,700
Ronald Kisling	3/6/2014	\$—	\$178,750	\$357,500	20,000	\$375,600

(1) Reflects awards under our 2014 Executive Performance Bonus Plan as described under "Compensation Discussion and Analysis".

(2) All referenced restricted stock units vest in equal annual installments over a three-year period.

(3) Amounts shown do not reflect compensation actually received by the named executive officer. Instead, the amounts shown are the aggregate grant date fair value of equity awards granted for financial statement reporting purposes, as determined pursuant to ASC Topic 718. The assumptions used to calculate the value of the RSUs are set forth under Note 13 of the Notes to Consolidated Financial Statements included in Nanometrics' Annual Report on Form 10-K for the fiscal year ended December 27, 2014, filed with the SEC on February 25, 2015.

Narrative Disclosure to Summary Compensation Table and Grants of Plan-Based Awards Table

Our 401(k) savings plan allows employees to contribute up to 100% of their annual compensation to the plan on a pre-tax or after-tax basis, limited to a maximum annual amount as set periodically by the Internal Revenue Service. The plan provides a 20% match by Nanometrics of all employee contributions.

In the 2014 fiscal year, all corporate officers and non-employee directors were eligible to participate in a Nanometrics self-funded Executive Reimbursement Plan (currently administered by Benefit and Risk Management Services). This plan is intended to supplement our basic health plan by reimbursing expenses that are not covered by our health plan. Dr. Stultz is also entitled to a car allowance. Attributed costs of the perquisites described above for the named executive officers for the fiscal year ended December 27, 2014, are included in the "Summary Compensation Table." All such perquisites are taxable to the executive and included as a portion of such executive's wages.



Table of Contents

Outstanding Equity Awards at Fiscal 2014 Year End

The following table sets forth the number of shares covered by both stock options and stock awards held by each of the named executive officers at the end of the fiscal year which ended December 27, 2014. Mr. Kisling held no options or awards at year end, and so does not appear in the table.

Name	Grant Date	Option Awards Number of Securities Underlying Unexercised Options (#)		Option Exercise Price (\$)	Option Expiration Date	Stock Awards	
		Exercisable	Unexercisable			Shares or Units of Stock that have not Vested (#)	Market Value of Shares or Units of Stock That have Not Vested (\$) ⁽¹⁾
Dr. Timothy J. Stultz	3/6/2014 ⁽²⁾					85,000	\$1,410,150
	3/12/2013 ⁽²⁾					40,000	\$663,600
	2/17/2012 ⁽²⁾					6,666	\$110,589
	3/12/2013 ⁽³⁾	26,250	33,750	\$15.85	3/12/2020		
	2/17/2012 ⁽³⁾	35,416	14,584	\$19.03	02/17/2019		
	11/16/2010 ⁽³⁾	114,166	—	\$11.37	11/16/2017		
	11/17/2009 ⁽⁵⁾	45,834	—	\$13.08	11/17/2016		
11/19/2008 ⁽⁵⁾	33,334	—	\$0.98	11/19/2015			
Jeffrey Andreson	11/9/2014 ⁽⁶⁾					40,000	\$663,600
Bruce. A. Crawford	3/6/2014 ⁽²⁾					30,000	\$497,700
	3/12/2013 ⁽²⁾					13,333	\$221,194
	2/17/2012 ⁽²⁾					3,333	\$55,294
	3/12/2013 ⁽³⁾	3,750	11,250	\$15.85	3/12/2020		
	2/17/2012 ⁽³⁾	17,708	7,292	\$19.03	2/17/2019		
11/16/2010 ⁽³⁾	10,834	—	\$11.37	11/16/2017			
Nancy E. Egan	3/12/2013 ⁽³⁾	4,375	—	\$15.85	3/12/2020		
	11/14/2011 ⁽⁴⁾	15,416	—	\$17.23	11/14/2018		

(1) The closing market price of Nanometrics common stock on December 26, 2014, the last trading day of our 2014 fiscal year, was \$16.59 per share.

(2) Restricted stock units vest annually over three years on each anniversary of the grant date.

(3) Options vest in equal monthly installments over a total of four years and have a term of seven years.

(4) Ms. Egan received an award of stock options in connection with her hiring, one-fourth of which vested and became exercisable on the first anniversary of hire date, and the remainder in equal monthly installments over the remaining three years.

(5) Options vested in equal monthly installments over a total of three years and have a term of seven years.

(6) Restricted stock units vest annually over three years on each anniversary of Mr. Andreson's hire date.

Table of Contents

Option Exercises and Stock Vested

The following table shows all stock options exercised and value realized upon exercise, and all stock awards vested and value realized upon vesting, by the named executive officers during the 2014 fiscal year that ended December 27, 2014.

Option Exercises and Stock Vested For Fiscal 2014

Name	Option Awards	Value Realized on Exercise (\$)	Stock Awards	Value Realized on Vesting (\$)
	Number of Shares Acquired On Exercise (#)		Number of Shares Acquired On Vesting (#)	
Dr. Timothy J. Stultz	58,166 ⁽¹⁾	\$598,183	26,667 ⁽³⁾⁽⁴⁾	\$501,873
Bruce Crawford	29,381 ⁽²⁾	\$186,481	10,000 ⁽³⁾⁽⁴⁾	\$188,067
Ronald Kisling	—	—	8,501 ⁽³⁾⁽⁴⁾⁽⁵⁾	\$158,787
Nancy Egan	—	—	5,000 ⁽⁴⁾⁽⁶⁾	\$85,437

⁽¹⁾ Represents the following option exercises by Dr. Stultz:

Exercise Date	Number of Shares	Exercise Price	Sale Price	Value Realized on Sale
7/1/2014	7,166	\$7.35	\$18.60	\$80,618
6/2/2014	8,500	\$7.35	\$16.82	\$80,495
5/1/2014	8,500	\$7.35	\$16.04	\$73,865
4/1/2014	8,500	\$7.35	\$18.38	\$93,755
3/3/2014	8,500	\$7.35	\$18.03	\$90,780
2/5/2014	8,500	\$7.35	\$17.55	\$86,700
1/2/2014	8,500	\$7.35	\$18.17	\$91,970
	58,166			\$598,183

⁽²⁾ Represents the following option exercises by Mr. Crawford:

Exercise Date	Number of Shares	Exercise Price	Sale Price	Value Realized on Sale
5/23/2014	1,667	\$15.85	\$17.24	\$2,317
5/23/2014	5,416	\$11.37	\$17.24	\$31,792
2/19/2014	560	\$11.37	\$18.29	\$3,875
2/19/2014	3,333	\$15.85	\$18.29	\$8,133
2/18/2014	795	\$11.37	\$18.51	\$5,676
2/18/2014	3,443	\$7.50	\$18.51	\$37,907
2/18/2014	1,667	\$1.17	\$18.51	\$28,906
2/18/2014	12,500	\$13.08	\$18.51	\$67,875
	29,381			\$186,481

⁽³⁾ Includes 6,667, 3,333 and 1,667 RSUs released on February 17, 2014 for Dr. Stultz and Messrs. Crawford and Kisling, respectively. The fair market value was \$18.70 per share on that date.

⁽⁴⁾ Includes 20,000, 6,667, 4,334 and 3,334 RSUs released on March 12, 2014 for Dr. Stultz, Messrs. Crawford and Kisling, and Ms. Egan, respectively. The fair market value was \$18.86 per share on that date.

⁽⁵⁾ Includes 2,500 RSUs released on March 14, 2014. The fair market value was \$18.35 per share on that date.

⁽⁶⁾ Includes 1,666 RSUs released on October 31, 2014. The fair market value was \$13.54 per share on that date.

Employment Contracts and Termination of Employment and Change in Control Arrangements

In February 2010, Nanometrics entered into amended executive severance agreements with each of Dr. Stultz and Mr. Crawford. In March 2011 and October 2011, Nanometrics entered into executive severance agreements with Mr.

Kisling and Ms. Egan, respectively. The agreements each provide that, in the event of the officer's termination without cause or resignation for good reason within 12 months of a change of control, he or she will receive (i) a payment equal to his or her then-current annual base salary, (ii) a payment equal to the most recent bonus he or she actually received, (iii) subject to his or her satisfaction of certain eligibility requirements, reimbursement of COBRA premiums for a period of one year, and (iv) acceleration of all of his or her outstanding unvested shares; provided that the maximum amount that he or she is entitled to receive under (i) above (base salary severance) and (ii) above (bonus severance, not including equity vesting acceleration) may not exceed two times his or her then-current base salary, calculated on a pre-tax basis.

-28-

Table of Contents

In addition, the agreement with Dr. Stultz further provides that, in the event of his termination without cause not in connection with a change in control, Dr. Stultz will receive (i) his then-current base salary and any accrued or earned bonus, paid on normal paydays for a period of six months, and (ii) subject to his satisfaction of certain eligibility requirements, reimbursement of COBRA premiums for a period of six months. The agreement with Mr. Crawford further provides that, in the event of his termination without cause or resignation for good reason not in connection with a change in control, Mr. Crawford will receive (i) his then-current annual base salary on normal paydays for a period of six months, (ii) subject to his satisfaction of certain eligibility requirements, reimbursement of COBRA premiums for a period of one year, and (iii) acceleration of the portion of his unvested equity compensation awards that would have vested if his termination had occurred on the first anniversary of such termination date. In all cases, in exchange for receiving benefits, the executive officer will be subject to non-compete, non-solicitation, and non-disparagement restrictions, and is required to execute a full release and waiver of any claims against Nanometrics. In October 2014, Mr. Crawford and Nanometrics entered into a separation agreement. In connection with the separation agreement, Mr. Crawford received a severance bonus payment in the amount of \$156,000 within 30 days of his separation date and will be eligible to receive a transition bonus payment of \$100,000 as determined by the Compensation Committee, based on performance objectives. Pursuant to the separation agreement and prior to his separation date, Mr. Crawford entered into a consulting agreement pursuant to which he provided consulting services to Nanometrics on a per hour basis and continue to vest in stock options and restricted stock units granted during his term of employment from his separation date through March 31, 2015. The payment of the transition bonus and the severance bonus payment was conditioned upon Mr. Crawford signing a general release in favor of Nanometrics. In September 2014, Nanometrics entered into an employment agreement with Mr. Jeffrey Andreson which provided for a base salary of \$330,000, an annual incentive target bonus of 55% of base salary, a 2014 target bonus of \$75,000, the grant of an RSU to acquire 40,000 shares of our common stock, and stipulated that in the event that Mr. Andreson's employment is terminated by Nanometrics without cause and not in connection with a change of control on or before the one-year anniversary of his hire date (September 22, 2014), he would be entitled to an amount equivalent to one year's base salary in a one-time lump sum payment. In the event of Mr. Andreson's termination without cause or resignation for good reason within 12 months of a change of control, he would be entitled to the benefits described in the first paragraph of this section. In addition, under the terms of our 2005 Equity Incentive Plan, in the event of a merger or change in control in which outstanding stock options or restricted stock units held by the named executive officers are not assumed or substituted with stock options or restricted stock units of the surviving company, such awards will vest and become fully exercisable or payable.

Table of Contents

Termination of Employment and Change-in-Control Potential Payouts

The table below estimates amounts payable upon a separation as if the individuals were separated on December 27, 2014, which was the last day of our 2014 fiscal year. Mr Kisling is not included in the table as he voluntarily terminated his employment with us before the end of fiscal 2014 and therefore would not have been entitled to any severance payments.

		Not in connection with Change in Control	In Connection with Change in Control	
		Termination Without Cause/Good Reason (\$)	Termination Without Cause For Good Reason Or Due to Disability or Death (\$)	
Timothy J. Stultz	Severance pay	\$239,500	\$479,000	
	Equity vesting acceleration ⁽¹⁾	—	2,209,314	
	Bonus	296,980	479,000	
	Health care benefits continuation	9,444	18,888	
		\$545,924	\$3,186,202	(2)
Jeffrey Andreson	Severance pay ⁽²⁾	\$330,000	\$330,000	
	Equity vesting acceleration ⁽¹⁾	—	663,600	
	Bonus	—	75,000	
	Health care benefits continuation	—	18,888	
		\$330,000	\$1,087,488	(2)
Bruce A. Crawford	Severance pay	\$173,250	\$346,500	
	Equity vesting acceleration ⁽¹⁾	340,117	782,514	
	Bonus	0	180,702	
	Health care benefits continuation	27,636	27,636	
		\$541,003	\$1,337,352	(2)
Nancy E. Egan	Severance pay	\$—	\$241,000	
	Equity vesting acceleration ⁽¹⁾	—	363,601	
	Bonus	—	15,180	
	Health care benefits continuation	—	10,404	
		\$—	\$630,185	(2)

(1) Represents the estimated potential incremental value of additional stock options and restricted stock units that would have vested for our named executive officers as of December 27, 2014. For stock options, the value is based on the difference between the aggregate exercise price of all accelerated options and the aggregate market value of the underlying shares as of December 26, 2014, calculated based on the closing market price of our stock on December 26, 2014, the last trading day of our fiscal year (\$16.59 per share). Accelerated restricted stock unit award value is calculated by multiplying the number of accelerated shares by the closing price of our stock on December 26, 2014 (\$16.59 per share).

(2) The change of control agreements provide that payments to the executive representing base pay and bonus upon change of control may not exceed two times the executive's annual base salary.

Table of Contents

COMPENSATION COMMITTEE REPORT¹

The Compensation Committee has reviewed and discussed with management the “Compensation Discussion and Analysis” section of this Proxy Statement and, based on such review and discussion, recommended to the Board of Directors that the Compensation Discussion and Analysis section be included in this Proxy Statement and incorporated into Nanometrics’ Annual Report on Form 10-K for the fiscal year ended December 27, 2014.

The Compensation Committee
Stephen G. Newberry, Chairman
J. Thomas Bentley
Edward J. Brown Jr.

¹ The material in this report is not “soliciting material,” is furnished to, but not deemed “filed” with, the Securities and Exchange Commission and is not deemed to be incorporated by reference in any filing of the company under the Securities Act or the Exchange Act, other than the company’s Annual Report on Form 10 K, where it shall be deemed to be “furnished,” whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

Table of Contents

COMPENSATION OF DIRECTORS

During the 2014 fiscal year, non-employee directors received an annual retainer fee of \$50,000. In addition, the Chairman of the Board, Audit Committee Chairman, Compensation Committee Chairman and Nominating and Governance Committee Chairman received an incremental \$30,000, \$20,000, \$20,000 and \$10,000 annual retainer, respectively, for serving in such capacities. Committee members, other than the chairpersons, received an incremental \$10,000 annual retainer for service on the Audit or Compensation Committee and an incremental \$7,500 annual retainer for service on the Nominating and Governance Committee. All retainer fees are paid annually, as of the date of our annual stockholders meeting, and in advance of the provision of services to which the retainer relates.

Non-employee directors are also eligible to participate in our 2005 Equity Incentive Plan, and in fiscal year 2014, each such director received equity incentives, issued in restricted stock units, valued at \$100,000. We calculated the value of such equity incentives using the closing market price of our stock on the NASDAQ Stock Market as of the date of our annual stockholders meeting. These awards vest on the earlier of the first anniversary date of the grant or the date of the next annual meeting of stockholders.

Any new non-employee director will be eligible to receive equity incentives valued at \$100,000 issued in restricted stock units and pro-rated to reflect the amount of time served before the next annual meeting of stockholders.

If a director ceases to serve as a member of Nanometrics' Board, a portion of the fees shall be refunded and equity awards shall be forfeited on a pro-rated basis.

Non-employee directors are eligible to participate in Nanometrics' self-funded Executive Reimbursement Plan, which is intended to supplement our basic health plan by reimbursing expenses that are not covered by our health plan. All such reimbursements are considered taxable income to our non-employee directors.

2014 Director Compensation

The following table sets forth information regarding the compensation for each of our non-employee directors for the 2014 fiscal year that ended December 27, 2014. Nanometrics' non-employee director compensation program for the 2014 fiscal year comprised: (a) cash compensation, consisting of annual retainer fees, additional fees for chairing Board committees, additional fees for serving as a committee member and (b) equity compensation, consisting of restricted stock units. Each of these components is detailed below.

Director Compensation Table For Fiscal Year 2014

	Fees Earned or Paid in Cash (\$)	Stock Awards (\$) ^{(1),(2)}	All Other Compensation (\$) ⁽³⁾	Total (\$)
Bruce C. Rhine ⁽⁴⁾	\$100,000	\$99,996	\$4,213	\$204,209
J. Thomas Bentley ⁽⁵⁾	\$70,000	\$99,996	\$6,027	\$176,023
Edward Brown Jr. ⁽⁶⁾	\$67,500	\$99,996	\$—	\$167,496
Mr. Stephen Newberry ⁽⁷⁾	\$77,500	\$99,996	\$—	\$177,496
Ms. Christine Tsingos ⁽⁸⁾	\$40,833	\$99,996	\$—	\$140,829
Howard A. Bain III ⁽⁹⁾	\$32,292	\$—	\$22,511	\$54,803
William G. Oldham, Ph.D. ⁽¹⁰⁾	\$23,958	\$—	\$—	\$23,958

(1) Amounts shown do not reflect compensation actually received by the named director. Instead, the amounts shown are the aggregate grant date fair value calculated for financial statement reporting purposes, as determined pursuant to Accounting Standards Codification ("ASC") Topic 718, but excluding the effect of any estimated forfeitures. The assumptions used to calculate the value of awards are set forth under Note 16 of the Notes to Consolidated Financial Statements included in Nanometrics' Annual Report on Form 10-K for fiscal 2014 filed with the SEC on February 25, 2015.

(2) On May 20, 2014, each non-employee director received a restricted stock unit award in the amount of 6,165 shares of common stock. All RSUs vest one year from the first anniversary date of said award. The fair market value for these RSUs was \$16.22 per share on the date of grant.

(3) Representing health care reimbursements extended to Directors.

(4) At December 27, 2014, Mr. Rhine had 116,188 outstanding options to purchase shares of common stock and 6,165 unvested restricted stock units.

(5) At December 27, 2014, Mr. Bentley had 14,066 outstanding options to purchase shares of common stock and 6,165 unvested restricted stock units.

(6) At December 27, 2014, Mr. Brown had 6,165 unvested restricted stock units.

(7) At December 27, 2014, Mr. Newberry had 7,604 outstanding options to purchase shares of common stock and 6,165 unvested restricted stock units.

-32-

Table of Contents

(8) At December 27, 2014, Ms. Tsingos had 6,165 unvested restricted stock units.

(9) Mr. Bain terminated his service as a director on May 20, 2014. As such, at December 27, 2014, Mr. Bain had no outstanding options to purchase shares of common stock and no unvested restricted stock units.

(10) Dr. Oldham terminated his service as a director on May 20, 2014. As such, at December 27, 2014, Dr. Oldham had no outstanding options to purchase shares of common stock and no unvested restricted stock units.

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

During the 2014 fiscal year, the Compensation Committee consisted of Stephen G. Newberry (Chairman), J. Thomas Bentley, and Edward J. Brown Jr. None of Nanometrics' executive officers serves as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving as a member of Nanometrics' Board or Compensation Committee.

-33-

Table of Contents

PROPOSAL 2

ADVISORY (NON-BINDING) VOTE ON EXECUTIVE COMPENSATION

At the 2011 Annual Meeting of Stockholders, the stockholders indicated their preference that Nanometrics solicit a non-binding advisory vote on the compensation of the named executive officers, commonly referred to as a “say-on-pay” vote, every year. The Board of Directors has adopted a policy that is consistent with that preference. In accordance with this policy, this year we are again requesting our stockholders to approve an advisory resolution on Nanometrics’ executive compensation as reported in this Proxy Statement, and as required by Section 14A(a)(1) of the Exchange Act. This vote is not intended to address any specific item of compensation, but the overall compensation of our named executive officers and the philosophy, policies and practices described in this Proxy Statement.

As described more fully in the Compensation Discussion and Analysis section and other compensation-related disclosures in the proxy statement, consistent with its compensation philosophy and pay-for-performance principles, Nanometrics’ executive compensation program has been designed to provide competitive compensation packages that enable Nanometrics to attract and retain talented executives, motivate executive officers to achieve Nanometrics’ short- and long-term business strategies and objectives, and align the interests of executives with those of stockholders, and are consistent with current market practices and good corporate governance principles.

We encourage you to read the Compensation Discussion and Analysis, compensation tables and related narrative discussion in this Proxy Statement.

The Compensation Committee and the Board of Directors believe that the policies and procedures articulated in the “Compensation Discussion and Analysis” are effective in achieving our goals and that the compensation of our named executive officers reported in this Proxy Statement has contributed to our recent and long-term success.

In accordance with Section 14A of the Exchange Act, as a matter of good corporate governance, and in accordance with the policy adopted by the Board of Directors to provide an annual “say-on-pay” advisory vote, we are asking stockholders to approve the following advisory resolution at the annual meeting:

RESOLVED, that the stockholders of Nanometrics Incorporated (the “Company”) approve, on an advisory basis, the compensation of Nanometrics’ named executive officers disclosed in the Compensation Discussion and Analysis, the Summary Compensation Table and the related compensation tables, notes and narratives in the Proxy Statement for Nanometrics’ 2015 Annual Meeting of Stockholders.

This advisory, “say-on-pay” resolution is non-binding on Nanometrics, the Compensation Committee and the Board of Directors. Although this resolution is non-binding, the Compensation Committee and the Board of Directors value the opinions that stockholders express in their votes and in any additional dialogue, and will review and consider the outcome of the vote and those opinions when making future compensation decisions.

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT STOCKHOLDERS VOTE “FOR” THE ADVISORY RESOLUTION APPROVING THE COMPANY’S EXECUTIVE COMPENSATION.

Table of Contents

PROPOSAL 3

RATIFICATION OF APPOINTMENT OF
INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee of the Board of Directors has appointed PricewaterhouseCoopers LLP as our independent registered public accounting firm to audit the consolidated financial statements of Nanometrics for the fiscal year ending December 26, 2015.

Approval by the stockholders of the selection of the independent registered public accounting firm is not required, but the Audit Committee believes it is desirable as a matter of good corporate governance to submit this matter to the stockholders. If the holders of a majority of the shares present in person or by proxy at the meeting and entitled to vote on the matter at the annual meeting do not ratify the appointment of PricewaterhouseCoopers LLP as Nanometrics' independent registered public accounting firm for the fiscal year ending December 26, 2015, the Audit Committee will consider whether it should select another independent registered public accounting firm. Representatives of PricewaterhouseCoopers LLP are expected to attend the annual meeting and will have an opportunity to make a statement and respond to appropriate questions from stockholders.

Audit Fees

The following table summarizes the aggregate fees that we paid or expect to pay our independent registered public accounting firm, PricewaterhouseCoopers LLP, for the 2014 and 2013 fiscal years.

	Fiscal 2014	Fiscal 2013
Audit Fees ⁽¹⁾	\$1,142,756	\$1,043,581
Tax Fees ⁽²⁾	19,885	11,472
All Other Fees ⁽³⁾	1,800	1,800
Total	\$1,164,441	\$1,056,853

(1) Fees to PricewaterhouseCoopers LLP in 2014 and 2013 for audit services consist of:

- Audit of our annual financial statements including management's assessment of internal controls over financial reporting;
- Reviews of our quarterly financial statements; and
- Statutory and regulatory audits, consents and other services.

(2) These fees comprised tax services for UK tax filings.

(3) Paid to PricewaterhouseCoopers LLP for accounting research and database tool.

In considering the nature of the services provided by the independent registered public accounting firm, the Audit Committee determined that such services are compatible with the provision of independent audit services. The Audit Committee discussed these services with the independent registered public accountants and our management to determine that they are permitted under the rules and regulations concerning auditors' independence promulgated by the Securities and Exchange Commission to implement the Sarbanes-Oxley Act of 2002, as well as the American Institute of Certified Public Accountants.

Audit Committee Pre-Approval Policy

Pursuant to our Audit Committee charter, our Audit Committee must pre-approve all audit and permissible non-audit services, and the related fees, provided to us by our independent registered public accounting firm, or subsequently approve permissible non-audit services in those circumstances where a subsequent approval is necessary and permissible under the Exchange Act or the rules of the Securities and Exchange Commission. The policy generally pre-approves specified services in the defined categories of audit services, audit-related services and tax services up to specified amounts. Pre-approval may also be given as part of the Audit Committee's approval of the scope of the engagement of the independent auditor or on an individual, explicit, case-by-case basis before the independent auditor is engaged to provide each service. The pre-approval of services may be delegated to one or more of the Audit Committee's members. Accordingly, the Audit Committee pre-approved all services and fees provided by PricewaterhouseCoopers LLP, during the year ended December 27, 2014, and has concluded that the provision of these services is compatible with the accountants' independence.



Table of Contents

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT STOCKHOLDERS VOTE “FOR” THE RATIFICATION OF THE APPOINTMENT OF PRICEWATERHOUSECOOPERS LLP, AS NANOMETRICS’ INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR THE FISCAL YEAR ENDING DECEMBER 26, 2015.

-36-

Table of Contents

HOUSEHOLDING OF PROXY MATERIALS

The SEC has adopted rules that permit companies and intermediaries (e.g., brokers) to satisfy the delivery requirements for Notices of Internet Availability of Proxy Materials or other Annual Meeting materials with respect to two or more stockholders sharing the same address by delivering a single Notice of Internet Availability of Proxy Materials or other Annual Meeting materials addressed to those stockholders. This process, which is commonly referred to as “householding,” potentially means extra convenience for stockholders and cost savings for companies. This year, a number of brokers with account holders who are Nanometrics stockholders will be “householding” Nanometrics’ proxy materials. A single Notice of Internet Availability of Proxy Materials will be delivered to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once you have received notice from your broker that they will be “householding” communications to your address, “householding” will continue until you are notified otherwise or until you revoke your consent. If, at any time, you no longer wish to participate in “householding” and would prefer to receive a separate Notice of Internet Availability of Proxy Materials, please notify your broker or Nanometrics. Direct your written request to Investor Relations Department, Nanometrics Incorporated, 1550 Buckeye Drive, Milpitas, California 95035 or contact Investor Relations at 408-545-6000. Stockholders who currently receive multiple copies of the Notice of Internet Availability of Proxy Materials at their addresses and would like to request “householding” of their communications should contact their brokers.

OTHER MATTERS

The Board of Directors knows of no other matters that will be presented for consideration at the Annual Meeting. If any other matters are properly brought before the meeting, it is the intention of the persons named in the accompanying proxy to vote on such matters in accordance with their best judgment.

BY ORDER OF THE BOARD OF DIRECTORS

/s/ Bruce C. Rhine
Bruce C. Rhine
Chairman of the Board of Directors
Milpitas, California
March 30, 2015

A copy of Nanometrics' Annual Report to the Securities and Exchange Commission on Form 10-K for the fiscal year ended December 27 2014, is available without charge upon written request to: Investor Relations Department, Nanometrics, Incorporated, 1550 Buckeye Drive, Milpitas, California 95035.

