

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

SCHEDULE 14A

PROXY STATEMENT PURSUANT TO SECTION 14(a) OF THE SECURITIES
EXCHANGE ACT OF 1934

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

Electro-Optical Sciences, Inc.

(Name of Registrant as Specified In Its Charter)

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:

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(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:

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Fee paid previously with preliminary materials.

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(1) Amount Previously Paid:

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(3) Filing Party:

(4) Date Filed:

ELECTRO-OPTICAL SCIENCES, INC.

3 West Main Street, Suite 201
Irvington, New York 10533

**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS
To Be Held on May 22, 2009**

Dear Stockholder:

You are cordially invited to attend the Annual Meeting of Stockholders of Electro-Optical Sciences, Inc., a Delaware corporation. The meeting will be held at The Doubletree Hotel, 455 S. Broadway, Tarrytown, NY 10591 on Friday, May 22, 2009 at 9:00 a.m. local time, for the following purposes:

1. To elect directors to serve for the ensuing year and until their successors are elected.
2. To ratify the selection by the audit committee of the Board of Directors of Eisner LLP as Electro-Optical Sciences' independent registered public accounting firm for the fiscal year ending December 31, 2009.
3. To approve an amendment to our 2005 Stock Incentive Plan
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 April 9, 2009. Only stockholders of record at the close of business on that date may vote at the meeting or any adjournment thereof.

By Order of the Board of Directors



Joseph V. Gulfo, M.D.
President and Chief Executive Officer
Irvington, New York

April 17, 2009

YOUR VOTE IS IMPORTANT

THIS PROXY STATEMENT IS FURNISHED IN CONNECTION WITH THE SOLICITATION OF PROXIES BY THE COMPANY, ON BEHALF OF THE BOARD OF DIRECTORS, FOR THE 2009 ANNUAL MEETING OF STOCKHOLDERS. THE PROXY STATEMENT AND THE RELATED PROXY FORM ARE BEING DISTRIBUTED ON OR ABOUT APRIL 17, 2009. YOU CAN VOTE YOUR SHARES USING ONE OF THE FOLLOWING METHODS:

- **COMPLETE AND RETURN A WRITTEN PROXY CARD;**
- **BY INTERNET OR TELEPHONE; OR**
- **ATTEND THE COMPANY'S 2009 ANNUAL MEETING OF STOCKHOLDERS AND VOTE.**

ALL STOCKHOLDERS ARE CORDIALLY INVITED TO ATTEND THE MEETING. HOWEVER, TO ENSURE YOUR REPRESENTATION AT THE MEETING, YOU ARE URGED TO MARK, SIGN, DATE AND RETURN THE ENCLOSED PROXY CARD AS PROMPTLY AS POSSIBLE IN THE POSTAGE-PREPAID ENVELOPE ENCLOSED FOR THAT PURPOSE OR VOTE YOUR SHARES BY INTERNET OR TELEPHONE. ANY STOCKHOLDER ATTENDING THE MEETING MAY VOTE IN PERSON EVEN IF HE OR SHE HAS RETURNED A PROXY CARD OR VOTED BY INTERNET OR TELEPHONE.

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE STOCKHOLDERS MEETING TO BE HELD ON MAY 22, 2009 — THE PROXY STATEMENT AND THE 2008 ANNUAL REPORT TO STOCKHOLDERS IS AVAILABLE AT www.eosciences.com.

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ELECTRO-OPTICAL SCIENCES, INC.

3 West Main Street, Suite 201

Irvington, New York 10533

**PROXY STATEMENT
FOR THE 2009 ANNUAL MEETING OF STOCKHOLDERS
MAY 22, 2009**

QUESTIONS AND ANSWERS ABOUT THIS PROXY MATERIAL AND VOTING

Why am I receiving these materials?

We sent you this proxy statement and the enclosed proxy card because the Board of Directors of Electro-Optical Sciences, Inc. (which we will refer to as the "Company" throughout this proxy statement) is soliciting your proxy to vote at the Company's 2009 Annual Meeting of Stockholders. You are invited to attend the Annual Meeting, and we request that you vote on the proposals described in this proxy statement. You do not need to attend the meeting to vote your shares, however. Instead, you may simply complete, sign and return the enclosed proxy card, or you may grant a proxy to vote your shares by means of the telephone or on the Internet.

The Company intends to mail this proxy statement and the accompanying proxy card together with the Company's Annual Report to Stockholders on or about April 17, 2009 to all stockholders of record entitled to vote at the Annual Meeting. Each share outstanding on the record date will be entitled to one vote.

Who can vote at the Annual Meeting?

Only stockholders of record at the close of business on April 9, 2009 will be entitled to vote at the Annual Meeting. On this record date, there were 17,639,498 shares of common stock outstanding and entitled to vote.

Stockholder of Record: Shares Registered in Your Name

If on April 9, 2009, your shares were registered directly in your name with the Company's transfer agent, American Stock Transfer and Trust Company, then you are a stockholder of record. As a stockholder of record, you may vote in person at the meeting or vote by proxy.

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

If on April 9, 2009, 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 these proxy materials are 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 on how to vote the shares in your account. You are also invited to attend the Annual Meeting. Since you are not the stockholder of record, however, 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.

What am I voting on?

There are three matters scheduled for a vote:

- Election of seven directors;
 - Ratification of Eisner LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2009; and
 - Approval of an amendment to our 2005 Stock Incentive Plan.
-

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 fairly simple:

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 using the enclosed proxy card or via the Internet or telephone (see “Voting Via Internet or By Telephone” below). If you vote by proxy, your shares will be voted as you specify on the proxy card. 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 Annual Meeting and vote in person if you have already voted by proxy.

- To vote in person, come to the Annual Meeting and we will give you a ballot when you arrive.
- To vote using the enclosed proxy card, simply complete, sign and date the enclosed proxy card and return it promptly in the envelope provided. If you return your signed proxy card to reach us before the Annual Meeting, we will vote your shares as you direct.

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 proxy card and voting instructions with these proxy materials from that organization rather than from the Company. Simply complete and mail the proxy card 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.

Voting Via the Internet or by Telephone

Stockholders may grant a proxy to vote their shares by means of the telephone or on the Internet. The laws of the State of Delaware, under which the Company is incorporated, specifically permit electronically transmitted proxies, provided that each such proxy contains or is submitted with information from which the Inspector of Elections can determine that such proxy was authorized by the stockholder.

The telephone and Internet voting procedures below are designed to authenticate stockholders’ identities, to allow stockholders to grant a proxy to vote their shares and to confirm that stockholders’ instructions have been recorded properly. Stockholders granting a proxy to vote via the Internet should understand that there may be costs associated with electronic access, such as usage charges from Internet access providers and telephone companies, which must be borne by the stockholder.

For Shares Registered in Your Name

Stockholders of record may go to <http://proxy.georgeson.com> to grant a proxy to vote their shares by means of the Internet. They will be required to provide the Company’s number and control number contained on their proxy cards. Any stockholder using a touch-tone telephone may also grant a proxy to vote shares by calling 1-866-219-9662 and following the operator’s instructions.

For Shares Registered in the Name of a Broker or Bank

Most beneficial owners whose stock is held in street name receive instruction for granting proxies from their banks, brokers or other agents, rather than the Company’s proxy card.

General Information for All Shares Voted Via the Internet or By Telephone

Votes submitted via the Internet or by telephone must be received by 11:59 p.m., Eastern Daylight Time on May 21, 2009. Submitting your proxy via the Internet or by telephone will not affect your right to vote in person should you decide to attend the Annual Meeting.

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 April 9, 2009.

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

If you return a signed and dated proxy card without marking any voting selections, your shares will be voted "For" all the nominees to the Board of Directors and "For" proposals 2 and 3. If any other matter is properly presented at the meeting, your proxy (i.e., one of the individuals named on your proxy card) will vote your shares using his best judgment.

Who is paying for this proxy solicitation?

We will pay for the entire cost of soliciting proxies. In addition to these mailed proxy materials, we will bear the cost of soliciting proxies by the Board. In addition to the solicitation of proxies by mail, solicitation may be made personally or by telephone or electronic communication by our directors, officers and employees, none of whom will receive additional compensation for these services, and by Georgeson Inc., who we have retained to aid in the solicitation of proxies. We will pay Georgeson Inc. a fee of \$7,500 plus expenses for these services. We will also reimburse brokers and other nominees for their reasonable out-of-pocket expenses incurred in connection with distributing forms of proxies and proxy materials to the beneficial owners of common stock.

What does it mean if I receive more than one proxy card?

If you receive more than one proxy card, your shares are registered in more than one name or are registered in different accounts. Please complete, sign and return each proxy card to ensure that all of your shares are voted.

Can I change my vote after submitting my proxy?

Yes. You may 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 four ways:

- You may issue a proxy with a later date.
- You may send a written notice that you are revoking your proxy to the Company's Secretary at 3 West Main Street, Suite 201, Irvington, New York 10533.
- You may vote by telephone or the Internet.
- You may attend the Annual Meeting and vote in person. Simply attending the meeting will not, by itself, revoke your proxy.

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

When are stockholder proposals due for next year's Annual Meeting?

Under Rule 14a-8 promulgated under the Securities Exchange Act of 1934, as amended, stockholders of the Company may present proper proposals for inclusion in the Company's proxy statement and for consideration at the next Annual Meeting of Stockholders by submitting their proposals to the Company in a timely manner. In order to be considered for inclusion in the proxy statement distributed to stockholders prior

to the Annual Meeting of Stockholders in the year 2010, a stockholder proposal must be received by the Company no later than December 18, 2009 and must otherwise comply with the requirements of Rule 14a-8.

In order to be considered for presentation at the Annual Meeting of Stockholders in the year 2010, although not included in the proxy statement, a stockholder proposal or nomination(s) must comply with the requirements of the Company's Bylaws and be received by the Company no later than the close of business on February 21, 2010 and no earlier than the close on business on January 22, 2010; provided, however, that in the event that the date of the 2010 Annual Meeting is more than thirty (30) days before or more than sixty (60) days after May 22, 2010, notice by the stockholder to be timely must be so delivered not earlier than the close of business on the one hundred and twentieth (120th) day prior to such Annual Meeting and not later than the close of business on the later of the ninetieth (90th) day prior to such Annual Meeting or the close of business on the tenth (10th) day following the day on which public announcement of the date of such meeting is first made by the Company. Stockholder proposals should be delivered in writing to Electro-Optical Sciences, Inc., 3 West Main Street, Suite 201, Irvington, New York 10533, Attention: Secretary. A copy of the Company's Bylaws may be obtained from the Company upon written request to the Secretary.

How are votes counted?

Votes will be counted by the Inspector of Elections appointed for the meeting, who will separately count "For" and, with respect to proposals other than the election of directors, "Against" votes, abstentions and broker non-votes. In addition, with respect to the election of directors, the Inspector of Elections will count the number of "Withhold" votes received by each nominee. A "broker non-vote" occurs when a nominee holding shares for a beneficial owner does not vote on a particular proposal because the nominee does not have discretionary voting power with respect to that proposal and has not received instructions with respect to that proposal from the beneficial owner (despite voting on at least one other proposal for which it does have discretionary authority or for which it has received instructions). Abstentions will be counted towards the vote total for each proposal, and will have the same effect as "Against" votes. Broker non-votes have no effect and will not be counted towards the vote total for the particular proposal.

If your shares are held by your broker as your nominee (that is, in "street name"), you will need to obtain a proxy form from the institution that holds your shares and follow the instructions included on that form regarding how to instruct your broker to vote your shares. If you do not give instructions to your broker, your broker can vote your shares with respect to "discretionary" items, but not with respect to "non-discretionary" items. Discretionary items are proposals considered routine under the rules of the NASDAQ Capital Market ("NASDAQ") on which your broker may vote shares held in street name in the absence of your voting instructions. On non-discretionary items for which you do not give your broker instructions, the shares will be treated as broker non-votes.

How many votes are needed to approve each proposal?

- For Proposal No. 1, the election of directors, the seven nominees receiving the most "For" votes (among votes properly cast in person or by proxy) will be elected. Broker non-votes will count towards the quorum but will have no effect. Stockholders do not have the right to cumulate their votes for directors.
- Proposal No. 2, the ratification of Eisner LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2009, must receive a "For" vote from the majority of shares present and entitled to vote either in person or by proxy to be approved. If you "Abstain" from voting, it will have the same effect as an "Against" vote. Broker non-votes will have no effect.
- For Proposal No. 3, the approval of an amendment to our 2005 Stock Incentive Plan, must receive a "For" vote from a majority of shares present and entitled to vote either in person or by proxy to be approved. If you "Abstain" from voting, it will have the same effect as an "Against" vote. Broker non-votes will have no effect.

What is the quorum requirement?

A quorum of stockholders is necessary to hold a valid meeting. A quorum will be present if at least a majority of the outstanding shares entitled to vote are represented by votes at the meeting or by proxy. On the record date, there were 17,639,498 shares outstanding and entitled to vote.

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 or by telephone or the Internet. Abstentions and broker non-votes will be counted towards the quorum requirement. If there is no quorum, the chairman of the meeting or a majority of the votes present at the meeting 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. Final voting results will be published in the Company's quarterly report on Form 10-Q for the second quarter of 2009.

How can I obtain additional copies?

For additional copies of this proxy statement and the enclosed proxy card and Annual Report to Stockholders, you should contact our corporate office at 3 West Main Street, Suite 201, Irvington, New York 10533, Attention: Secretary, telephone (914) 591-3783.

**PROPOSAL 1
ELECTION OF DIRECTORS**

There are seven nominees for the nine director positions presently authorized by the Company's Board of Directors and the Company's Bylaws. The two vacant directorships may be filled in the future at the discretion of the Company's Board of Directors. This discretionary power gives us the flexibility of appointing new directors in periods between our Annual Meetings should suitable candidates come to our attention. The names of the persons who are nominees for director and their positions and offices with the Company are set forth in the table below. Each director to be elected will hold office until the 2010 Annual Meeting of Stockholders and until his successor is elected and has qualified, or until such director's earlier death, resignation or removal. Each nominee listed below is currently a director of the Company. Although there is no formal policy, the Company encourages its directors to attend the Company's annual meetings.

Directors are elected by a plurality of the votes present in person or represented by proxy and entitled to vote at the Annual Meeting. Shares represented by executed proxies will be voted, if authority to do so is not withheld, for the election of the seven nominees named below. In the event that any nominee should be unavailable for election as a result of an unexpected occurrence, your shares will be voted for the election of a substitute nominee as management may propose. Proxies may not be voted for more than seven directors, however. Each of the current directors has been nominated for and has agreed to stand for election and management has no reason to believe that any nominee will be unable to serve.

The following is a brief biography of each nominee for director, including their respective ages as of February 28, 2009:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Joseph V. Gulfo, M.D.	45	Director, President and Chief Executive Officer
Breaux Castleman	68	Director, Chairman of the Board of Directors
Sidney Braginsky	71	Director
George C. Chryssis	61	Director
Martin D. Cleary	63	Director
Dan W. Lufkin	77	Director
Gerald Wagner, Ph.D.	65	Director

Joseph V. Gulfo, M.D., has served as our President and Chief Executive Officer and a member of our Board of Directors since January 2004. From May 1999 to November 2003, he served as Chairman, Chief

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Executive Officer and President of Antigen Express, Inc., a development-stage company developing immunodiagnostics and therapeutics for cancer. Dr. Gulfo serves as a director of ProCetus BioPharm, Inc., a privately-held company. Dr. Gulfo received a B.S. in biology from Seton Hall University, an M.D. from the University of Medicine and Dentistry of New Jersey and an M.B.A. in finance from Seton Hall University.

Breaux Castleman has served as a member of our Board of Directors and Chairman of our Board of Directors since July 2003. Since August 2001, he has served as President, Chief Executive Officer and Chairman of Syntiro Healthcare Services, Inc. Mr. Castleman also serves as a director of FemPartners, Inc. which is a privately-held company. From December 1999 to July 2001, he served as Chief Executive Officer of Physia Corp. He served as President of Scripps Clinic from July 1996 to November 1998. He holds a B.A. in economics from Yale University and attended New York University Graduate School of Business Administration.

Sidney Braginsky has served as a member of our Board of Directors since 2001. He also currently serves as the Chairman and Chief Executive Officer of Digilab, LLC (a spectroscopy instruments manufacturer), Chairman of Atropos Technologies, LLC, a director of Diomed Inc., Double D Venture Fund, LLC, Noven Pharmaceuticals, Inc., Sword Diagnostics, Inc., DJO, Inc. (a Blackstone Group company), ESTECH (a private medical device manufacturing and distribution company), Invendo Medical GmbH (a German endoscopy developer), Geneva Acquisition Corporation and Micronix Pty Ltd. (an Australian medical device company), Chairman of the International Standards Organization U.S. Technical Advisory Group TC 172 on Optics and Photonics, Chairman of the Board of the City University of New York Robert Chambers Laboratory and Trustee on the boards of Long Island High Tech Incubator and the Long Island Museum of Science and Technology. He formerly served as President of Olympus America and Mediscience Corp. and Chairman of Double D Venture Fund, LLC. Mr. Braginsky received his B.S. in biology from Queens College.

George C. Chryssis has served as a member of our Board of Directors since 2001. Since August 2003, he has served as President, Chief Executive Officer and Chairman of the board of directors of Itergon Corp., a privately-held IT services company which he founded. From June 1999 until their dissolution on December 31, 2005, he served as the Managing Member of Arcadian Capital Management, LLC and General Partner of Arcadian Venture Partners, LP, a venture capital firm with investments in early stage technology companies, including a past investment in the Company. Since 2003, he has also served as Chairman of the Board of Directors of DelCom Corp., a privately-held telecommunications software company. Mr. Chryssis is currently vice-president at Wentworth Institute of Technology. Mr. Chryssis received a B.S. and M.S. in electrical engineering from Northeastern University.

Martin D. Cleary was appointed as a member of our Board of Directors in October 2005. From February 2003 through March 2008, he served as the President and Chief Executive Officer of Juvaris Biotherapeutics, Inc., a company engaged in the development of therapeutic vaccines for cancer and infectious diseases. He remains the Chairman of the Board of Directors of Juvaris Biotherapeutics, Inc. and continues to be engaged with that company. From September 1999 to May 2002, he served as the President and Chief Executive Officer of Genteric, Inc., a company engaged in non-viral gene delivery. Mr. Cleary received a B.S. in accounting from Rutgers University in 1971, and a certificate in international studies from Columbia University in 1973.

Dan W. Lufkin has served as a member of our Board of Directors since July 2003. He is also a co-founder and former Chairman of the investment banking firm, Donaldson, Lufkin & Jenrette, Inc. Mr. Lufkin currently serves as a consultant to and/or board member of a number of private companies and non-profit endeavors. Mr. Lufkin received a B.A. degree from Yale University and an M.B.A. from Harvard Business School.

Gerald Wagner, Ph.D. was appointed as a member of our Board of Directors in May 2005 and was our acting Chief Operating Officer from January 2006 until January 2007. He currently serves as a consultant to the Company. Since 2002, he has owned and operated Gerald Wagner Consulting LLC, an international consulting company specializing in international project management, technology and application consulting, and company assessments. Dr. Wagner serves as a board member for IntegraGen S.A, Evry, France. From March 1992 to September 2003, he was a Senior Vice President, Lab Testing Systems, at Bayer, Inc. Dr. Wagner received a Masters and Ph.D. in electro-mechanical design from Technical University, Darmstadt, Germany.

**THE BOARD OF DIRECTORS RECOMMENDS
A VOTE “FOR” ALL OF THE NOMINEES IN PROPOSAL 1.**

Independence of the Board of Directors

As required under the Nasdaq listing standards, a majority of the members of a listed company’s Board of Directors must qualify as “independent,” as affirmatively determined by the Board of Directors. The Company’s Board of Directors consults with the Company’s counsel to ensure that the Board’s determinations are consistent with all relevant securities and other laws and regulations regarding the definition of “independent,” including those set forth in pertinent listing standards of Nasdaq, as are in effect from time to time.

Consistent with these considerations, after review of all relevant transactions or relationships between each director, or any of his or her family members, and the Company, its senior management and its independent registered public accounting firm, the Board of Directors has affirmatively determined that all of the Company’s directors are independent directors within the meaning of the applicable Nasdaq listing standards, except Dr. Gulfo, the President and Chief Executive Officer of the Company and Gerald Wagner, Ph.D., the former acting Chief Operating Officer of the Company.

Information Regarding the Board of Directors and its Committees

The Company’s Board of Directors has an audit committee, a compensation committee and a nominating and governance committee. The following table provides membership information for 2008 for each of these committees:

<u>Name</u>	<u>Audit</u>	<u>Compensation</u>	<u>Nominating</u>
Joseph V. Gulfo, M.D.			
Breaux Castleman		X	X
Sidney Braginsky	X	X	
George C. Chryssis		X	
Martin D. Cleary	X		X
Dan W. Lufkin	X		X
Gerald Wagner, Ph.D.			

Below is a description of each committee of the Board of Directors. Each of the committees has authority to engage legal counsel or other experts or consultants, as it deems appropriate to carry out its responsibilities. The Board of Directors has determined that each member of each committee meets the applicable rules and regulations regarding “independence” and that each member is free of any relationship that would interfere with his individual exercise of independent judgment with regard to the Company.

Audit Committee

The current members of our audit committee are Messrs. Braginsky, Lufkin and Cleary, each of whom we believe satisfies the independence requirements of Nasdaq and the Securities and Exchange Commission (the “SEC”). Mr. Cleary chairs this committee. We believe Mr. Cleary is qualified as an audit committee financial expert under the regulations of the SEC and has the accounting and related financial management expertise required by Nasdaq. Our audit committee assists our Board of Directors in its oversight of:

- the integrity of our financial statements;
- our independent registered public accounting firm’s qualifications and independence; and
- the performance of our independent auditors.

The audit committee has the sole and direct responsibility for appointing, evaluating and retaining our independent registered public accounting firm and overseeing their work. All audit services to be provided to

us and all non-audit services, other than de minimis non-audit services, to be provided to us by our independent auditors must be approved in advance by our audit committee.

The charter of our audit committee is available in the Corporate Governance section of the Investor Relations section of the Company's website at www.eosciences.com.

Compensation Committee

The members of our compensation committee are Messrs. Castleman, Braginsky and Chryssis, each of whom we believe satisfies the independence requirements of Nasdaq and the SEC. Mr. Castleman chairs this committee. The purpose of our compensation committee is to discharge the responsibilities of our Board of Directors relating to compensation of our executive officers. Specific responsibilities of our compensation committee include:

- reviewing and recommending compensation of our executive officers;
- administering our stock incentive plans; and
- reviewing and recommending incentive compensation and equity plans.

A narrative description of our compensation committee's processes and procedures for the consideration and determination of executive and director compensation is included in the Compensation Discussion and Analysis in this proxy statement.

The charter of our compensation committee is available in the Corporate Governance section of the Investor Relations section of the Company's website at www.eosciences.com.

Nominating and Governance Committee

The members of our nominating and governance committee are Messrs. Lufkin, Castleman and Cleary, each of whom we believe satisfies the independence requirements of Nasdaq and the SEC. Mr. Lufkin chairs this committee. Our nominating and governance committee:

- identifies and recommends nominees for election to our Board of Directors;
- develops and recommends our corporate governance principles; and
- oversees the evaluation of our Board of Directors and management.

The nominating and governance committee has not adopted specific minimum criteria for director nominees. The committee identifies nominees by first evaluating the current members of the Board of Directors willing to continue in service. Current members of the Board of Directors with skills and experience that are relevant to the Company's business and who are willing to continue in service are considered for re-nomination. If any member of the Board of Directors does not wish to continue in service, or if the nominating and governance committee decides not to nominate a member for re-election, the nominating and governance committee first considers the appropriateness of the size of the Board of Directors. If the nominating and governance committee determines that the Board seat should be retained and a vacancy exists, the committee considers factors that it deems are in the best interests of the Company and its stockholders in identifying and evaluating a new nominee.

In identifying suitable candidates for nomination as a director, the nominating and governance committee will consider the needs of the Board of Directors and the range of skills and characteristics required for effective functioning of the Board of Directors. In evaluating such skills and characteristics, the nominating and governance committee may take into consideration such factors as it deems appropriate, such as a nominee's business and professional expertise and experiences, including particular experience in areas relevant to the Company's business activities, concern for long-term interests of the stockholders, and personal integrity and judgment.

The nominating and governance committee will consider all bona fide candidates for election to the Board of Directors and will consider any stockholder nominations pursuant to the same criteria, provided those

nominated are submitted pursuant to the process described in the Company's Bylaws and applicable law and within the time periods set forth herein for receipt of stockholder proposals for the 2009 Annual Meeting of Stockholders. To date, the Company has not received any recommendations from stockholders for candidates for inclusion on the committee's slate of nominees.

The charter of our nominating and governance committee is available in the Corporate Governance section of the Investor Relations section of the Company's website at www.eosciences.com.

Meetings of the Board of Directors and Committees

The Board of Directors met eight times during the last fiscal year and acted two times by unanimous written consent. All directors attended at least 75% of the meetings of the Board of Directors held during the period for which they were a director.

The audit committee met four times, and the compensation committee met five times, during the last fiscal year. The nominating and governance committee acted once by unanimous written consent during the last fiscal year. All directors attended at least 75% of the meetings of the Board of Directors committees on which they served held during the period for which they were a committee member.

All of our directors attended the May 16, 2008 Annual Meeting of Stockholders. We do not maintain a policy regarding director attendance at the Annual Meeting of Stockholders.

Stockholder Communications with the Board of Directors

We do not have a formal policy regarding stockholder communication with the Board of Directors. However, stockholders of the Company may communicate directly with the Board of Directors in writing, addressed to:

Board of Directors
c/o Secretary
Electro-Optical Sciences, Inc.
3 West Main Street, Suite 201
Irvington, New York 10533

The Secretary will review each stockholder communication. The Secretary will forward to the entire Board of Directors (or to members of a Board of Directors' committee, if the communication relates to a subject matter clearly within that committee's area of responsibility) each communication that (a) relates to the Company's business or governance, (b) is not offensive and is legible in form and reasonably understandable in content, and (c) does not relate to a personal grievance against the Company or an employee or to further a personal interest not shared by the other stockholders generally. Stockholders who would like their submissions directed to an individual member of the Board of Directors may so specify, and the communication will be forwarded, as appropriate.

Code of Business Conduct and Ethics

The Company has adopted Electro-Optical Sciences, Inc. Code of Business Conduct and Ethics that applies to all officers, directors and employees. The Code of Business Conduct and Ethics is available in the Corporate Governance section of the Investor Relations section of the Company's website at www.eosciences.com. If the Company makes any substantive amendments to the Code of Business Conduct and Ethics or grants any waiver from a provision of the Code to any executive officer or director, the Company will promptly disclose the nature of the amendment or waiver on its website at the location and address specified above.

Policy and Procedures Governing Related Person Transactions

In accordance with its charter, the audit committee is responsible for reviewing all "related party transactions" (defined as such transactions required to be disclosed pursuant to Item 404 of Regulation S-K) on an on-going basis. All such related party transactions must be approved by the audit committee.

REPORT OF THE AUDIT COMMITTEE OF THE BOARD OF DIRECTORS¹

The audit committee oversees the Company's financial reporting process on behalf of the Board of Directors. Management has the primary responsibility for the financial statements and the reporting process, including the systems of internal control over financial reporting and disclosure controls and procedures. In fulfilling its oversight responsibilities, the audit committee reviewed the audited financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2008 with management, including a discussion of the quality, not just the acceptability, of the accounting principles, the reasonableness of significant judgments, and the clarity of disclosures in the financial statements.

The audit committee is responsible for reviewing, approving and managing the engagement of the Company's independent registered public accounting firm, including the scope, extent and procedures of the annual audit and compensation to be paid therefore, and all other matters the audit committee deems appropriate, including the Company's independent registered public accounting firm's accountability to the Board of Directors and the audit committee. The audit committee reviewed with the Company's independent registered public accounting firm, which is responsible for expressing an opinion on the conformity of audited financial statements with generally accepted accounting principles, its judgment as to the quality, not just the acceptability, of the Company's accounting principles and such other matters as are required to be discussed with the audit committee under auditing standards generally accepted in the United States, including those described in Statement on Auditing Standards No. 61, as amended, "Communication with Audit Committees," and discussed and reviewed the results of the Company's independent registered public accounting firm's examination of the financial statements. In addition, the audit committee discussed with the Company's independent registered public accounting firm the independent registered public accounting firm's independence from management and the Company, including the matters in the written disclosures and the letter regarding its independence as required by the applicable requirements of the Public Company Oversight Board regarding the independent accountant's communications with the audit committee concerning independence. The audit committee also considered whether the provision of non-audit services was compatible with maintaining the independent registered public accounting firm's independence.

The audit committee discussed with the Company's independent registered public accounting firm the overall scope and plans for its audits, and received from them written disclosures and a letter regarding their independence. The audit committee meets with the Company's independent registered public accounting firm, with and without management present, to discuss the results of its examinations, its evaluations of the Company's internal control over financial reporting and the overall quality of the Company's financial reporting. The audit committee held four meetings during the fiscal year ended December 31, 2008.

In reliance on the reviews and discussions referred to above, the audit committee recommended to the Board of Directors (and the Board of Directors has approved) that the audited financial statements be included in the Company's Annual Report on Form 10-K for the year ended December 31, 2008 for filing with the Securities and Exchange Commission. The audit committee has also retained Eisner LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2009.

AUDIT COMMITTEE

Sidney Braginsky
Dan W. Lufkin
Martin D. Cleary

¹ The material in this report is not "soliciting material," is not deemed "filed" with the SEC and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

PROPOSAL 2

RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The audit committee of the Board of Directors has selected Eisner LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2009 and has further directed that management submit the selection of Eisner LLP as the Company's independent registered public accounting firm for ratification by the stockholders at the Annual Meeting. Eisner LLP audited the Company's financial statements in 2007 and 2008. Representatives of Eisner LLP are expected to be present at the Annual Meeting, will have an opportunity to make a statement if they so desire and will be available to respond to appropriate questions.

Stockholder ratification of the selection of Eisner LLP as the Company's independent registered public accounting firm is not required by the Company's Bylaws or otherwise. However, the Board of Directors, on behalf of the audit committee, is submitting the selection of Eisner LLP to the stockholders for ratification as a matter of good corporate practice. If the stockholders fail to ratify the selection, the audit committee will reconsider whether or not to retain that firm. Even if the selection is ratified, the audit committee in its discretion may direct the appointment of different independent registered public accounting firm at any time during the year if they determine that such a change would be in the best interests of the Company and its stockholders.

Vote Required. The affirmative vote of the holders of a majority of our outstanding shares of common stock, present in person or represented by proxy at the annual meeting and entitled to vote, is required to ratify the selection of Eisner LLP. Unless otherwise indicated, properly executed proxies will be voted in favor of the Proposal 2 to ratify the selection of Eisner LLP.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE IN FAVOR OF PROPOSAL 2.

Principal Accountant Fees

The following is a summary of the aggregate fees billed to the Company by Eisner LLP for professional services rendered during the fiscal years ended December 31, 2007 and December 31, 2008:

	Fiscal Year Ended December 31,	
	2007	2008
Audit Fees	\$ 180,700	\$ 201,482
Audit-Related Fees	10,500	63,484
Tax Fees	15,900	24,600
All Other Fees	—	—
Total Fees	\$ 207,100	\$ 289,566

Audit Fees. Audit-Fees consisted of fees covering the audits of the years ending December 31, 2007 and December 31, 2008, respectively, including work on quarterly reports and work on Sarbanes-Oxley matters.

Audit-Related Fees. Audit Related Fees consisted of fees for audit work done related to the filing of two S-3 Registration Statements in August 2007 and June 2008 with the SEC.

Tax Fees. The 2007 and 2008 Tax Fees related to the preparation of the Company's 2006 and 2007 Federal and State income tax returns and associated estimated payments and applications for filing extensions and the undertaking of a study to analyze the amount and timing of the tax loss carryforwards.

All Other Fees. There were no Other Fees billed by Eisner LLP for the years ending December 31, 2007 and December 31, 2008, respectively.

Pre-Approval of Audit and Non-Audit Services

The services performed by Eisner LLP in 2008 were pre-approved by the audit committee. The audit committee pre-approves all audit services and permitted non-audit services performed or proposed to be undertaken by the independent registered public accounting firm, except where such services are determined to be de minimis under the Securities Exchange Act of 1934, as amended, giving particular attention to the relationship between the types of services provided and the independent registered public accounting firm's independence. The audit committee may delegate pre-approval authority to one or more of its members. The member to whom such authority is delegated must report, for informational purposes only, any pre-approval decisions to the audit committee at its next scheduled meeting.

PROPOSAL 3

AMENDMENT TO 2005 STOCK INCENTIVE PLAN

The Board of Directors is proposing for stockholder approval an amendment to the Company's 2005 Stock Incentive Plan (the 2005 Plan), which we refer to as the 2005 Plan Amendment and which is included as [Annex A](#) to this proxy statement. We have previously used the 2005 Plan as a means of attracting, retaining, motivating and rewarding directors, officers, other employees, scientific collaborators and consultants and further aligning their interests with those of our stockholders. An increase in the number of shares under this plan is required in order to 1) allow the Company to have a sufficient number of shares available to continue to grant options to motivate current and future employees and 2) satisfy a previous option grant made subject to stockholder approval to our President and CEO Dr. Joseph Gulfo on October 10, 2008.

The 2005 Plan Amendment would increase by 1,500,000 the aggregate number of shares of common stock that are available under the 2005 Plan to a total of 3,224,028 shares of common stock. On October 10, 2008, the Compensation Committee approved and adopted the 2005 Plan Amendment, subject to approval by the stockholders at the 2009 Annual Meeting. On December 5, 2008, the Board of Directors ratified the actions of the Compensation Committee and recommended that the stockholders approve the 2005 Plan Amendment

Currently there are 1,724,028 shares of common stock authorized for issuance under the 2005 Plan. As of February 28, 2009, there were options to purchase an aggregate of 1,317,002 shares of common stock outstanding under the 2005 Plan, of which, 599,875 have fully vested. Other than with respect to the 520,000 options granted to Dr. Gulfo, which will be covered by the shares under the amendment to the 2005 Plan, the amount, if any, of options to be awarded to officers, directors, employees and consultants under the 2005 Plan in the future will be determined in the discretion of our Board of Directors and is not currently determinable.

Vote Required. The affirmative vote of the holders of a majority of our outstanding shares of common stock, present in person or represented by proxy at the annual meeting and entitled to vote, is required to approve the 2005 Plan Amendment. Unless otherwise indicated, properly executed proxies will be voted in favor of the Proposal 3 to approve the 2005 Plan Amendment.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE IN FAVOR OF PROPOSAL 3.

General

Our Board of Directors believes that our growth depends significantly upon the efforts of our officers and key employees and that such individuals are best motivated to put forth maximum effort on our behalf if they own an equity interest in the Company. The Board of Directors is committed to creating and maintaining a compensation system based to a significant extent on grants of equity-based awards. The Board of Directors considers equity-based incentives an important component of its efforts to attract and retain talented individuals. In addition, the Board of Directors believes that option grants help us to attain our long-term goals by linking the compensation of key employees to stockholder returns.

Description of the Plan

The following summary of the 2005 Plan is qualified in its entirety by reference to the full text of the 2005 Plan, as proposed to be amended.

Administration. The 2005 Plan is administered by the compensation committee of the Board of Directors. Subject to the terms of the 2005 Plan, the compensation committee may select participants to receive awards, determine the types of awards and terms and conditions of awards, and interpret provisions of the 2005 Plan.

Common Stock Reserved for Issuance under the 2005 Plan. Three million two hundred and twenty four thousand and twenty eight (3,224,028) shares of the Company's common stock have been authorized, subject to stockholder approval, and reserved for issuance under the 2005 Plan. Pursuant to the 2005 Plan and its amendments to date there are currently 1,724,028 shares authorized for issuance. Pursuant to the proposed amendment, the Plan would be increased by 1,500,000 shares for a total of 3,224,028 shares authorized for issuance thereunder. If any shares covered by an award are not purchased or are forfeited, or if an award otherwise terminates without delivery of any common stock, then the number of shares of common stock counted against the aggregate number of shares available under the 2005 Plan with respect to the award will, to the extent of any such forfeiture or termination, again be available for making awards under the 2005 Plan.

Eligibility. Awards may be made under the 2005 Plan to employees, officers, directors and scientific collaborators of or consultants to the Company whose participation in the 2005 Plan is determined to be in the best interests of the Company by the Board of Directors.

Amendment or Termination of the Plan. The Board of Directors may terminate or amend the 2005 Plan at any time and for any reason; provided, however, that no such action may adversely affect the rights of the holder of any outstanding award in a material way without the consent of the holder. The 2005 Plan shall terminate in any event ten years after its effective date. Any amendment which would increase the number of shares of common stock which may be issued under the 2005 Plan or modify the class of persons eligible to receive awards under the 2005 Plan are subject to the approval of the Company's stockholders if and to the extent such approval is necessary or desirable to comply with applicable law or exchange or listing requirements.

Options. The 2005 Plan permits the granting of options to purchase shares of common stock intended to qualify as incentive stock options under the Internal Revenue Code and stock options that do not qualify as incentive stock options.

The exercise price of each stock option is granted at fair market value of our common stock on the date of grant. The fair market value is generally determined as the closing price of the common stock on The Nasdaq Stock Market, Inc. on the grant date. In the case of certain 10% stockholders who receive incentive stock options, the exercise price may not be less than 110% of the fair market value of the common stock on the date of grant.

The term of each stock option is fixed by the compensation committee and may not exceed 10 years from the date of grant. The compensation committee determines at what time or times each option may be exercised and the period of time, if any, after retirement, death, disability or termination of employment during which options may be exercised. Options may be made exercisable in installments. The exercisability of options may be accelerated by the Compensation Committee. The Compensation Committee may establish the means by which the exercise price may be paid, including by cash, check, by tendering unrestricted shares of common stock, or by means of a broker-assisted cashless exercise.

Upon termination of an option holder's employment or service with the Company due to death or disability, any portion of an option held by the option holder which is not then exercisable shall thereupon terminate, and any portion of an option held by the option holder which is then exercisable shall remain exercisable for the lesser of one year following such termination of employment or service or until the expiration of the term of the option. Upon termination of an option holder's employment or service with the Company for cause (which is defined in the 2005 Plan), any option held by the option holder shall

immediately terminate and shall cease to be exercisable. If an option holder's employment or service with the Company terminates for any other reason other than death, disability or cause, then any portion of an option which is not then exercisable shall thereupon terminate, and any portion of an option which is then exercisable shall remain exercisable for the lesser of 90 days following such termination or until the expiration of the term of the option.

Stock options granted under the 2005 Plan may not be sold, transferred, pledged or assigned other than by will or under applicable laws of descent and distribution. However, we may permit limited transfers of non-qualified options for the benefit of immediate family members of grantees to help with estate planning concerns.

Stock Awards. The compensation committee may also award stock awards to eligible personnel upon such terms and conditions as the committee deems appropriate. A stock award may take the form of the issuance and transfer to the recipient of shares of common stock or a grant of stock units representing a right to receive shares of common stock in the future and, in either case, may be subject to designated vesting conditions and transfer restrictions.

The purchase price payable for shares of common stock transferred pursuant to a stock award must be at least equal to their fair market value on the date of grant. The fair market value is generally determined as the closing price of the common stock on The Nasdaq Stock Market, Inc. on the grant date.

Unless otherwise determined by the compensation committee, (i) the recipient of a stock award will be entitled to receive dividend payments, if any (or, in the case of an award of stock units, dividend equivalent payments), on or with respect to the shares that remain covered by the award (which the committee may specify are payable on a deferred basis and are forfeitable to the same extent as the underlying award), (ii) the recipient of a non-vested stock award may exercise voting rights if and to the extent that shares of common stock have been issued to him pursuant to the award, and (iii) the recipient will have no other rights as a stockholder with respect to such shares unless and until the shares are issued to him free of all conditions and restrictions under the plan.

Unless the compensation committee determines otherwise, a non-vested stock award will be forfeited upon the termination of the recipient's employment or other service with the Company.

Unless and until all applicable vesting conditions are satisfied and vested shares are issued, neither the stock award nor any shares of common stock issued pursuant to the award may be sold, transferred, pledged or assigned other than to the Company in accordance with the terms of the award or the plan.

Effect of Certain Corporate Transactions. Certain change of control transactions involving us, such as a sale of the Company, may cause awards granted under the 2005 Plan to vest, unless the awards are continued or substituted for in connection with the change of control transaction.

Adjustments for Stock Dividends and Similar Events. Proportionate adjustments in outstanding awards and the number of shares available for issuance under the 2005 Plan, including the individual limitations on awards, will be made to reflect common stock dividends, stock splits and other similar events.

Federal Income Tax Consequences

The following discussion is a general summary of the principal federal income tax consequences under current law relating to award granted under the 2005 Plan to an individual. The summary is not intended to be exhaustive and, among other things, does not describe state, local or foreign income and other tax consequences.

Incentive Stock Options. The grant of an option will not be a taxable event for the grantee or for the Company. A grantee will not recognize taxable income upon exercise of an incentive stock option (except that the alternative minimum tax may apply), and any gain realized by an individual upon a disposition of our common stock received pursuant to the exercise of an incentive stock option will be taxed as long-term capital gain if the grantee does not dispose of the shares of common stock within least two years after the date of grant nor within one year after the date of exercise (holding period requirement). We will not be entitled to

any business expense deduction with respect to the exercise of an incentive stock option, except as discussed below.

For the exercise of an option to qualify for the foregoing tax treatment, the grantee generally must be an employee of the Company from the date the option is granted through a date within three months before the date of exercise of the option.

If all of the foregoing requirements are met except the holding period requirement mentioned above, the grantee will recognize ordinary income upon the disposition of the common stock in an amount generally equal to the excess of the fair market value of the common stock at the time the option was exercised over the option exercise price (but not in excess of the gain realized on the sale). The balance of the realized gain, if any, will be capital gain. We will be allowed a business expense deduction to the extent the grantee recognizes ordinary income, subject to our compliance with Section 162(m) of the Internal Revenue Code and to certain reporting requirements.

Non-Qualified Options. The grant of an option will not be a taxable event for the grantee or the Company. Upon exercising a non-qualified option, a grantee will recognize ordinary income in an amount equal to the difference between the exercise price and the fair market value of the common stock on the date of exercise. Upon a subsequent sale or exchange of shares acquired pursuant to the exercise of a non-qualified option, the grantee will have taxable capital gain or loss, measured by the difference between the amount realized on the disposition and the tax basis of the shares of common stock (generally, the amount paid for the shares plus the amount treated as ordinary income at the time the option was exercised).

If we comply with applicable reporting requirements and with the restrictions of Section 162(m) of the Internal Revenue Code, we will be entitled to a business expense deduction in the same amount and generally at the same time as the grantee recognizes ordinary income.

A grantee who has transferred a non-qualified stock option to a family member by gift will realize taxable income at the time the non-qualified stock option is exercised by the family member. The grantee will be subject to withholding of income and employment taxes at that time. The family member's tax basis in the shares of common stock will be the fair market value of the shares of common stock on the date the option is exercised. The transfer of vested non-qualified stock options will be treated as a completed gift for gift and estate tax purposes. Once the gift is completed, neither the transferred options nor the shares acquired on exercise of the transferred options will be includable in the grantee's estate for estate tax purposes.

In the event a grantee transfers a non-qualified stock option to his or her ex-spouse incident to the grantee's divorce, neither the grantee nor the ex-spouse will recognize any taxable income at the time of the transfer. In general, a transfer is made "incident to divorce" if the transfer occurs within one year after the marriage ends or if it is related to the end of the marriage (for example, if the transfer is made pursuant to a divorce order or settlement agreement). Upon the subsequent exercise of such option by the ex-spouse, the ex-spouse will recognize taxable income in an amount equal to the difference between the exercise price and the fair market value of the shares of common stock at the time of exercise. The ex-spouse will be subject to employment and income tax withholding at this time.

Restricted Stock. A grantee who is awarded restricted stock will not recognize any taxable income for federal income tax purposes in the year of the award, provided that the shares of common stock are subject to restrictions (that is, the restricted stock is nontransferable and subject to a substantial risk of forfeiture). However, the grantee may elect under Section 83(b) of the Internal Revenue Code to recognize compensation income in the year of the award in an amount equal to the fair market value of the common stock on the date of the award (less the purchase price, if any), determined without regard to the restrictions. If the grantee does not make such a Section 83(b) election, the fair market value of the common stock on the date the restrictions lapse (less the purchase price, if any) will be treated as compensation income to the grantee and will be taxable in the year the restrictions lapse. If we comply with applicable reporting requirements and with the restrictions of Section 162(m) of the Internal Revenue Code, we will be entitled to a business expense deduction in the same amount and generally at the same time as the grantee recognizes ordinary income.

Dividend payments on restricted stock are treated as compensation income unless the grantee has made a Section 83(b) election.

Unrestricted Stock. A grantee who is awarded unrestricted shares will recognize ordinary income in an amount equal to the fair market value of the shares of common stock on the date of the award, reduced by the amount, if any, paid for such shares of common stock. The Company will generally be allowed a business expense deduction in the same amount and at the same time as the grantee recognizes ordinary income, subject to our compliance with Section 162(m) of the Internal Revenue Code.

Internal Revenue Code Sections 409A and 280G

Section 409A of the Internal Revenue Code provides that deferred compensation that is not structured to satisfy Section 409A and that is not subject to a substantial risk of forfeiture may result in current federal income taxation, an additional tax of 20% of the compensation required to be included in income and interest for any underpayment of tax at the ordinary underpayment rate plus one percentage point for any period during which taxation of the compensation has been deferred. Stock options granted with an exercise price equal to the fair market value of the underlying common stock on the date of grant are generally exempt from the application of Section 409A. In addition, Section 280G of the Internal Revenue Code provides that to the extent that payments which are contingent on a change in control are determined to exceed certain Internal Revenue Code limitations, they may be subject to a 20% nondeductible excise tax on the employee and the Company's deduction with respect to the associated compensation expense may be disallowed in whole or in part.

Because of the complexity of the tax law and because tax law consequences to any particular taxpayer may be affected by matters not discussed herein, each taxpayer is urged to consult with his, her or its tax advisor with respect to the specific tax consequences of the 2005 Plan.

EQUITY COMPENSATION PLAN INFORMATION

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (#)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (\$)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (#)
Equity compensation plans approved by security holders	1,549,080	4.60	402,651
Equity compensation plans not approved by security holders	0	—	0
Equity compensation plans subject to approval by security holders	520,000	3.75	0
Total	2,069,080	4.39	402,651

Information regarding option awards to our named executive officers and directors in fiscal year 2008 and options held by such officers and directors at December 31, 2008 is provided in the "Grants of Plan-Based Awards For Year Ended December 31, 2008" table, the "Outstanding Equity Awards at 2008 Fiscal Year-End" table and the "Director Compensation Table For 2008" table in the Executive Compensation section of this proxy statement.

**SECURITY OWNERSHIP OF
CERTAIN BENEFICIAL OWNERS AND MANAGEMENT**

The following table sets forth certain information regarding the ownership of the Company’s common stock as of February 28, 2009 (except as noted) by: (i) each nominee for director; (ii) each of the executive officers named in the Summary Compensation Table presented later in this proxy statement; (iii) all executive officers and directors of the Company as a group; and (iv) all those known by the Company to be beneficial owners of more than five percent of its common stock.

Name of Beneficial Owner	Beneficial Ownership(1)		
	Number of Shares of Common Stock Beneficially Owned	Of Vested Options Included in Beneficially Owned	Percentage of Shares Beneficially Owned
Named Executive Officers			
Joseph V. Gulfo, M.D.	282,353	180,000	1.58%
Richard I. Steinhart	72,000	72,000	*
Tina Cheng-Avery	23,625	15,625	*
Nikolai Kabelev	34,761	34,761	*
Christiano Butler	24,000	24,000	*
Directors			
Breaux Castleman(2)	123,238	20,000	*
Sidney Braginsky(3)	71,500	20,000	*
George C. Chryssis	55,000	15,000	*
Martin Cleary	41,443	15,000	*
Dan W. Lufkin(4)	708,548	10,000	4.01%
Gerald Wagner, Ph.D.	183,900	164,500	1.03%
All directors and all executive officers as a group (11 persons)	1,620,368	570,886	8.89%
Holders of more than 5%			
Bonanza Capital, Ltd. and Bonanza Master Fund, Ltd.(5) 300 Crescent Ct., Suite 250 Dallas TX 75201	1,218,387		6.81%

* Less than one percent beneficially owned

- (1) This table is based upon information supplied by officers, directors and principal stockholders and Schedules 13G filed with the SEC. Unless otherwise indicated in the footnotes to this table and subject to community property laws where applicable, the Company believes that each of the stockholders named in this table has sole voting and investment power with respect to the shares indicated as beneficially owned. Applicable percentages are based on 17,634,498 shares outstanding on February 28, 2009, adjusted as required by rules promulgated by the SEC. Unless otherwise indicated, the address of each of the individuals and entities listed in this table is c/o Electro-Optical Sciences, at the address on the first page of this proxy statement.
- (2) Includes 1,168 warrants held by Mr. Castleman.
- (3) Includes 51,500 shares of common stock held by Double D Venture Fund, LLC, an investment fund with which Mr. Braginsky is affiliated. Mr. Braginsky expressly disclaims ownership of these shares except to the extent of his pecuniary interest in Double D Venture Fund, LLC.
- (4) Includes 257,417 shares of common stock and 16,366 warrants held by trusts the beneficiaries of which are family members of Mr. Lufkin. Mr. Lufkin expressly disclaims ownership of the shares and warrants held by these trusts.
- (5) Based solely on information contained in a Schedule 13G jointly filed by Bonanza Capital, Ltd, (“Bonanza”) and Bonanza Master Fund, Ltd. (“Bonanza Master Fund”) on February 13, 2009. Bonanza and Bonanza Master Fund share voting and dispositive power over 1,218,387 shares of common stock,

which includes 250,000 warrants, the exercise of which is currently subject to a 4.99% beneficial ownership limitation.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Securities Exchange Act of 1934, as amended, requires the Company's directors and executive officers, and persons who own more than ten percent of a registered class of the Company's equity securities, to file with the SEC initial reports of ownership and reports of changes in ownership of common stock and other equity securities of the Company. Officers, directors and greater than ten percent stockholders are required by SEC regulation to furnish the Company with copies of all Section 16(a) forms they file.

To the Company's knowledge, based solely on a review of the copies of such reports furnished to the Company and written representations that no other reports were required, during the fiscal year ended December 31, 2008, Director Dan Lufkin failed to file ownership reports on a timely basis for the year ended December 31, 2008. Two Form 4's for Mr. Lufkin were filed on February 27, 2009 for transactions that occurred on February 20, 2007 and December 4, 2008. To the Company's knowledge, all other Section 16(a) filing requirements applicable to its officers, directors and greater than ten percent beneficial owners were complied with.

EXECUTIVE OFFICERS OF THE COMPANY

The Company's executive officers, their ages and their positions as of February 28, 2009, are as follows:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Joseph V. Gulfo, M.D.	45	Director, President and Chief Executive Officer
Richard I. Steinhart	51	Vice President, Finance, Chief Financial Officer, Treasurer, and Secretary
Tina Cheng-Avery	45	Vice President, Commercialization
Nikolai Kabelev	32	Vice President, Research and Development
Christiano Butler	51	Vice President, Operations

Joseph V. Gulfo, M.D. has served as our President and Chief Executive Officer and a member of our Board of Directors since January 2004. From May 1999 to November 2003, he served as Chairman, Chief Executive Officer and President of Antigen Express, Inc., a development-stage company developing immunodiagnostics and therapeutics for cancer. Dr. Gulfo serves as a director of ProCetus BioPharm, Inc., a privately-held company. Dr. Gulfo received a B.S. in biology from Seton Hall University, an M.D. from the University of Medicine and Dentistry of New Jersey and an M.B.A. in finance from Seton Hall University.

Richard I. Steinhart has served as our Vice President, Finance and Chief Financial Officer and Treasurer since April 2006 and as our Secretary since November 2006. From May 1992 until joining the Company Mr. Steinhart was a Managing Director of Forest Street Capital/SAE Ventures, a boutique investment banking, venture capital, and management consulting firm focused on healthcare and technology companies. Prior to Forest Street Capital/SAE Ventures, he was Vice President and Chief Financial Officer of Emisphere Technologies, Inc. Mr. Steinhart's other experience includes seven years at CW Group, Inc., a venture capital firm focused on medical technology and biopharmaceutical companies, where he was a General Partner and Chief Financial Officer. Mr. Steinhart serves on the Board of Manhattan Pharmaceuticals, Inc., a biopharmaceutical company and is Chairman of its Audit Committee. Mr. Steinhart began his career at Price Waterhouse, now known as PricewaterhouseCoopers. He holds B.B.A. and M.B.A. degrees from Pace University and is a Certified Public Accountant.

Tina Cheng-Avery has served as our Vice President, Commercialization since February 2008. Previously, from April 2007 until joining the Company, she was Vice President of Marketing for Pierre Fabre Dermo-Cosmétique USA and from January 2005 until March 2007, she served as Global Marketing Director at Elizabeth Arden. From November 2001 until July 2004 she was Vice President of Marketing for Wella Personal Care, N.A. Mrs. Cheng-Avery holds a B.B.A. Finance degree from the University of Michigan and an

M.B.A. in Marketing and International Business from the Kellogg School of Management at Northwestern University.

Nikolai Kabelev has served as our Vice President, Research and Development since January 2008. Previously, since January 2007 he served as our MelaFind® Project Team Leader. From June 2005 to present he has also served as a Director, Algorithm and Software Development for our Company. Prior to that, and since June 1999 he worked as a Computer Scientist for EOS. Prior to joining EOS he worked at the Center for Telecommunication Research at Columbia University. Nikolai holds B.Sc. degree in Computer Science from Transport and Telecommunication Institute (Riga Aviation University), Latvia.

Christiano Butler has served as our Vice President, Operations since January 2008. Previously he had been Vice President, Technical Support from June 2006. Mr. Butler brings more than 20 years of experience in the medical device industry in areas of product support and operations management engineering. From August 1985 until joining the company, Mr. Butler worked at Bayer HealthCare in a series of positions with increasing responsibility. Most recently he served as Manager for Global Service and Support. Mr. Butler received a B.S. from the S.U.N.Y Regents College Program.

Our executive officers are elected by, and serve at the discretion of, our Board of Directors. There are no family relationships between our directors and executive officers.

COMPENSATION DISCUSSION AND ANALYSIS

Overview

The principal goals of our compensation philosophy are to attract, motivate and retain highly talented individuals at all levels of our organization and to align our employees' incentives with the long-term interests of our stockholders.

At this stage in our growth, our principal business objective is to obtain premarket (PMA) approval of our flagship product, MelaFind®. Achievement of this objective requires that we closely monitor our expenses, including compensation expenses. Accordingly, we seek to target our cash compensation levels at or below market and pay a significant portion of total compensation in the form of stock options. As we move towards FDA approval, we expect to re-evaluate our compensation philosophy and establish additional performance milestones appropriate for our overall business strategy.

We utilize a compensation package for our executive officers that includes both cash, in the form of base pay with discretionary bonus, and long-term incentive compensation in the form of stock options. Because of our need to conserve cash, we target the cash portion of our compensation package that is either at or slightly below market levels. However, we seek to set our level of stock option awards in line with industry comparables. All of our stock option grants are tied to either length of service or to the achievement of certain performance-based milestones, the most significant goal of which is approval of MelaFind® by the FDA. We believe these elements support our underlying philosophy of attracting and retaining talented executives while remaining within our budgetary constraints and also creating incentives which reward company-wide and individual performance and aligning the interests of our executive officers with those of our stockholders by providing our executive officers equity-based incentives to ensure motivation over the long-term.

While we have not specifically benchmarked the compensation of our executive officers to that of other companies, in late 2006, we engaged a consulting firm, A.G. Ferguson & Associates, Inc. (AGF), a firm with more than 25 years of experience in executive compensation consulting, to review our executive level compensation policies and for future compensation planning. In performing their study, AGF analyzed a peer group of twenty-three publicly-held companies, as well as industry specific data from the 2006 Compensation and Entrepreneurship Report in Life Sciences (a survey of 170 private companies in the life sciences, including approximately 80 medical device companies) and general compensation data from the Economic Research Institute.

In our view, the overall results of AGF's review validated our existing policy. The peer group analysis indicated that average total cash compensation paid to our top five named executives was significantly below market cash pay ranges and that the stock option grants used for long term incentive compensation were in line with market ranges for our peer group.

During 2008, our human resource manager re-evaluated the work done by AGF in late 2006 and early 2007 and found that the conclusions reached in their report remained valid for the current year and for future planning purposes. In addition, we instituted a pay-for-performance methodology for the entire company. All company employees received performance evaluations which culminated in an overall performance rating that was tied to a specific merit increase. These increases, which range from 0 to 5%, were based on surveyed national average wage increases.

Our Compensation Committee reviews and approves, or recommends for approval by our Board of Directors, the compensation of our Chief Executive Officer and other executive officers, including their salaries, bonuses and incentive compensation levels, deferred compensation, executive perquisites, equity compensation, severance arrangements, change-in-control benefits and other forms of executive officer compensation. The Compensation Committee may delegate its authority to a subcommittee consisting of outside directors. The Compensation Committee meets without the presence of executive officers when deliberating and approving the compensation of our Chief Executive Officer, but may, at its discretion, invite our Chief Executive Officer to participate in discussions regarding the compensation of our other executive officers.

Components of Executive Compensation

We have historically applied a structure where a significant portion of our executive compensation comes in the form of long-term incentive compensation. While the allocation varies, in general our executive officers have a far greater percentage of their compensation in the form of long-term compensation than our non-executive employees. However, we firmly believe that all employees should have an equity ownership position in the Company. We believe this is a strong motivator and an important component of our overall compensation strategy. In our view, the approach we have taken was confirmed by the work AGF did for the Compensation Committee of our Board of Directors.

Base Salaries. The base salary is the guaranteed portion of our executives' annual cash compensation. The base salary reflects the executive's experience, skill set, and the market value of that experience and skill set. An executive's base salary is adjusted as a result of an annual performance review and in recognition of his or her prior year's accomplishments.

Bonuses. We do not have a formalized bonus program and as such have only paid limited discretionary bonuses. Our executive compensation consultant, AGF, has recommended that we initiate a more formal management incentive program, and our Board of Directors and Compensation Committee are currently evaluating the establishment of an appropriate program; however, no decision has been reached.

Equity Compensation. The only form of equity compensation currently awarded by the Compensation Committee consists of stock options, both qualified and non-qualified. All of the options have been granted out of three stock option plans: our 1996 Stock Option Plan (the "1996 Plan"), our 2003 Stock Incentive Plan (the "2003 Plan") and our 2005 Stock Incentive Plan (the "2005 Plan"). Since January 1, 2005, our 2005 Plan is the only plan under which option awards are being granted. These plans allow our Board of Directors to grant incentives to employees, directors, consultants and collaborating scientists in the form of qualified and non-qualified stock options and restricted stock awards. We have used this form of compensation because of the expectations of our employees that in a company such as ours they would be given the opportunity to own equity. In our industry, option grants have been traditionally the most widely-used form to convey equity ownership.

Option awards under our 2005 Plan are granted at prices which are no less than the closing price of the stock on the date of the grant as determined by the Compensation Committee. New employees who get options as part of their employment agreement have those options priced at the closing price of our stock on

the date of grant, also as determined by the Compensation Committee. Options granted under the 2005 Plan historically have been time-based or performance-based options, and vesting varies accordingly. Options that have been granted under this plan expire within five to ten years from the date of grant.

Effective January 1, 2006, the Company began recording compensation expense associated with stock options and other forms of equity compensation in accordance with Statement of Financial Accounting Standards No. 123 (revised 2004) (SFAS 123R). Under this method, the Company must recognize a compensation charge related to all stock option awards granted on or subsequent to January 1, 2006. This charge is based on the grant date fair value estimated in accordance with the provisions of SFAS 123R. A compensation charge is recorded when it is probable that performance or service conditions will be satisfied. The probability of vesting is updated at each reporting period and compensation is adjusted via a cumulative catch-up adjustment or prospectively depending upon the nature of the change. Despite the fact that this new accounting provision makes accounting for stock options less attractive to the Company, we have continued to use this approach because we believe it is the most cash-efficient way for the Company to convey equity ownership to our employees.

Our executive compensation consultant, AGF, recommended that we consider the use of restricted stock awards for our executive officers. While the use of restricted stock would reduce the total number of shares we issue and lower potential dilution to our shareholders, this method is not as attractive because of potential tax consequences to our employees. Our Board of Directors and the Compensation Committee are in the process of evaluating the use of restricted stock awards for future years.

SUMMARY COMPENSATION TABLE FOR YEAR ENDED DECEMBER 31, 2008

The following table sets forth the compensation earned by our principal executive officer, principal financial officer and other executive officers during our fiscal year ended December 31, 2008, such officers are referred to herein as the “named executive officers.”

<u>Name and Principal Position</u>	<u>Year</u>	<u>Salary (\$)</u>	<u>Option Awards (\$)</u>	<u>Non-Equity Incentive Plan Compensation (\$)</u>	<u>All Other Compensation (\$)</u>	<u>Total (\$)</u>
Joseph V. Gulfo, M.D.	2008	276,667	2,430,000(1)	65,000	56,134(2)	2,827,801
President and Chief Executive Officer	2007	253,747		60,000	51,616(2)	365,363
	2006	216,115		50,000	43,800(2)	309,915
Richard I. Steinhart	2008	213,333		30,000		243,333
Vice President Finance, Chief Financial Officer, Secretary and Treasurer	2007	202,500		30,000		232,500
	2006	138,125	325,000(1)			463,125
Tina Cheng — Avery(3)	2008	178,847	188,147(1)			366,994
Vice President of Commercialization						
Nikolai Kabelev(4)	2008	179,199		20,000		199,199
Vice President, Research and Development	2007	165,000	46,751(1)	23,000		234,751
Christiano Butler	2008	157,767		17,500	5,258	180,525
Vice President Operations	2007	144,200	24,300(1)	14,000		182,500
	2006	83,125	170,000(1)			253,125
Jon I Klippel(5)	2008	52,942			74,800(6)	127,742
Vice President, Marketing Operations	2007	143,601				143,601
	2006	139,373	19,900(1)	10,000		169,273

(1) Option award amounts included in this table reflect the compensation cost for the fiscal year ended December 31, 2008 calculated in accordance with SFAS 123(R) and using a Black-Scholes valuation model.

- (2) These amounts consists of company matching contributions made under our Simple IRA Plan of \$6,600, \$7,416 and \$6,934 for 2006, 2007 and 2008, respectively, and reimbursement of travel and lodging expense of \$37,200, \$44,200 and \$49,200 for 2006, 2007 and 2008, respectively.
- (3) Ms. Cheng-Avery joined the company on February 11, 2008. As a result, only her 2008 compensation is included in the Summary Compensation Table.
- (4) Mr. Kabelev was not a named executive officer in 2006. As a result, only his 2007 and 2008 compensation is included in the Summary Compensation Table.
- (5) Mr. Klippel resigned from the company effective May 1, 2008.
- (6) Represents payments made in connection with Mr. Kippel's separation from the Company (\$74,000) and out-placement expenses (\$800).

Overall Compensation

President and Chief Executive Officer, Joseph V. Gulfo, M.D.

On January 5, 2004, we entered into an employment agreement with Dr. Joseph V. Gulfo, our President and Chief Executive Officer, which has been extended to December 31, 2009 under an automatic extension provision. The employment agreement provides Dr. Gulfo with an annual base salary of \$175,000, subject to periodic review by our Board of Directors, and yearly bonuses at the discretion of our Board of Directors. In 2005, our Board of Directors deferred any decision regarding Dr. Gulfo's base salary and bonus awards until after completion of our initial public offering. In 2006, primarily based upon the completion of our initial public offering and significant technical progress in the development of MelaFind®, our Board of Directors decided to increase Dr. Gulfo's base salary to \$235,000 and award him a \$50,000 discretionary cash bonus. In May of 2007, based on the Company's progress, Dr. Gulfo's received a base salary increase to \$260,000 effective April 1, 2007 and was awarded a \$60,000 discretionary cash bonus. Effective March 1, 2008, Dr. Gulfo received a salary increase to \$280,000 reflecting the Company's pay-for-performance plan and considering the prevailing market, and he was awarded a \$65,000 discretionary cash bonus for 2008.

Dr. Gulfo's employment agreement also provided for three separate grants of stock options. The first two stock option grants for the purchase of a total of 81,753 shares of our common stock at an exercise price of \$0.46 per share have fully vested and were exercised on October 15, 2008. The number of shares of our common stock subject to the third stock option was based on a formula that can only be calculated at the time if and when the Company receives FDA approval of its PMA application for MelaFind®. On October 10, 2008, this formula based option, issued in 2004 to Dr. Gulfo from the Company's 2003 Stock Incentive Plan at an exercise price of \$0.46 a share, was cancelled due to the fact that the grant was not compliant with Section 409A of the Internal Revenue Code, which was enacted subsequent to the grant. Based on 20,625,905 shares outstanding (on a fully-diluted basis), as of September 30, 2008 and assuming such shares remain the total number of shares outstanding on the date we receive PMA approval of MelaFind®, the number of shares subject to this option would be 743,283.

On October 10, 2008, Dr. Gulfo was granted stock options for 900,000 shares of the Company's common stock at an exercise price of \$3.75 (the closing price on the grant date) per share; comprising of 380,000 shares from the Company's 2005 Plan previously approved for issuance by the Compensation Committee of the Board of Directors and the stockholders of the Company, and 520,000 shares from the Company's 2005 Plan approved for issuance by the Compensation Committee, subject to stockholder approval. The exercise of these 520,000 stock options is subject to receipt of stockholder approval of the availability of these shares for issuance under the 2005 Plan (which is being solicited in this proxy statement — see Proposal 3). These options are deemed to have been granted outside the 2005 Plan until approved by the Company's stockholders.

Of the 900,000 common shares underlying these stock options granted to Dr. Gulfo, 180,000 shares vested immediately, 540,000 shares vest upon the Company receiving FDA approval of its PMA application for MelaFind®, and 180,000 shares vest in four equal annual installments commencing on October 10, 2009, which is the first anniversary of the date of grant. These 900,000 options expire ten years from the date of grant. In determining the underlying terms of the grant, the Compensation Committee considered the

following: the fact that, in addition to accomplishing all tasks contemplated by the Board at the time of the 2004 grant, Dr. Gulfo also performed additional tasks, such as the completion of a significant private and public financing; since shareholder value is largely contingent upon the FDA's approval of our PMA application, a grant of options vesting upon PMA approval will induce Dr. Gulfo to continue to work towards this goal; and an option grant that vests over time will motivate Dr. Gulfo to continue his employment with the Company, thus promoting continuity of leadership among our executive officers, which is one of the goals of our compensation policy.

Based on its own internal analysis, including a comparison with several peer companies, the Compensation Committee has concluded that Dr. Gulfo's total compensation for 2008 fit within the Company's overall objectives and philosophy with respect to executive compensation.

Vice President, Finance and Chief Financial Officer, Secretary and Treasurer, Richard Steinhart

Our Vice President and Chief Financial Officer, Secretary and Treasurer, Richard Steinhart, joined us in April 2006. Mr. Steinhart's initial compensation, including base salary and stock option package, was primarily based upon such factors as his prior business experience and the Company's overall compensation philosophy. Mr. Steinhart received a base salary of \$195,000 and a stock option grant for the purchase of 100,000 shares of common stock at an exercise price of \$5.82 per share. In accordance with our policy, these options were priced at the closing price on the date of grant as determined by the Compensation Committee. As is consistent throughout our executive ranks, Mr. Steinhart's options vest both over time and with the attainment of several corporate-wide milestones, as follows: 8,000 options vested immediately upon hiring; 32,000 options vesting annually over a period of four years; 40,000 options vesting upon completion of a corporate fundraising with gross proceeds of more than \$10 million; and 20,000 options vesting upon the Company receiving FDA approval of its PMA application for MelaFind®. The corporate fundraising milestone was met when we completed our November 3, 2006 financing, and accordingly, 40,000 share options vested. In 2007, Mr. Steinhart received a \$30,000 discretionary cash bonus and his base salary was increased to \$205,000 effective April 1, 2007. Effective March 1, 2008, and in accordance with the Company's pay-for-performance plan, Mr. Steinhart received a salary increase to \$215,000 and was awarded a \$30,000 discretionary cash bonus in 2008.

Based on its own internal analysis, the Compensation Committee concluded that Mr. Steinhart's total compensation for 2008 fit within the Company's overall objectives and philosophy with respect to executive compensation.

Vice President, Commercialization, Tina Cheng-Avery

Our Vice President of Commercialization, Ms. Cheng-Avery, joined us in February 2008. Ms. Cheng-Avery's initial compensation, including base salary and stock option package, was primarily based upon a such factors as her prior business experience and the Company's overall compensation philosophy. Ms. Cheng-Avery is entitled to an annual base salary of \$200,000, and will be eligible for a discretionary bonus equal to 25% of her annual base salary upon the attainment of certain to be determined goals. The Company also granted Ms. Cheng-Avery an option to purchase up to 80,000 shares of the Company's common stock at an exercise price of \$4.40 per share. In accordance with our policy, these options were priced at the closing price on the date of grant as determined by the Compensation Committee. As is consistent throughout our executive ranks, Ms. Cheng-Avery's options vest both over time and with the attainment of several corporate-wide milestones, as follows: 12,500 options vested immediately upon hiring; 12,500 options vesting annually over a period of four years; 25,000 options vesting upon the first commercial sale of MelaFind®; and 30,000 options vesting upon the Company achieving profitability.

Based on its own internal analysis, the Compensation Committee concluded that Ms. Cheng-Avery's total compensation for 2008 fit within the Company's overall objectives and philosophy with respect to executive compensation.

Vice President, Research and Development, Nikolai Kabelev

Our Vice President, Research and Development, Nikolai Kabelev, received an annual base salary of \$165,000 in 2007 and a discretionary cash bonus of \$23,000. In November 2007, Mr. Kabelev received a stock option grant for the purchase of 19,239 shares of common stock at \$4.50 per share. In accordance with our policy, these options were priced at the closing price on the date of grant as determined by the Compensation Committee. Mr. Kabelev's options vest upon the attainment of the following corporate-wide milestones: 4,239 shares vest when MelaFind® software is verified, 5,000 shares vest when the PMA for MelaFind® is filed, 5,000 shares vest upon successful completion of the FDA audit, and 5,000 shares vest upon the FDA's approval of our PMA application for MelaFind®. Effective March 1, 2008, and in accordance with the Company's pay-for-performance plan, Mr. Kabelev's base salary increased to \$178,500 and he received a \$20,000 discretionary cash bonus in 2008.

Based on its own internal analysis, the Compensation Committee concluded that Mr. Kabelev's total compensation for 2008 fit within the Company's overall objectives and philosophy with respect to executive compensation.

Vice President, Operations, Christiano Butler

Our Vice President, Operations, Christiano Butler, joined us in May 2006. Mr. Butler's initial compensation, including base salary and stock option package, was primarily based upon such factors as his considerable relevant prior business experience and the Company's overall compensation philosophy. In 2006, Mr. Butler received an annual base salary of \$140,000 and a stock option grant consisting of 40,000 shares of common stock at an exercise price of \$7.60 per share. In accordance with our policy, these options were priced at the closing price on the date of grant as determined by the Compensation Committee. As is consistent throughout our executive ranks, Mr. Butler's options vest both over time and with the attainment of several corporate-wide milestones, as follows: 2,000 options vested immediately upon hiring; 8,000 options vesting annually over a period of four years, 15,000 shares vesting upon the completion of the pivotal trial of MelaFind® (which was completed in September 2008), and 15,000 shares vesting upon the FDA's approval of our PMA application for MelaFind®. In 2007, Mr. Butler's base salary was increased to \$144,200 and he received a \$14,000 discretionary cash bonus. In addition, in 2007, Mr. Butler received a stock option grant of 10,000 shares of common stock at an exercise price of \$4.50 per share, priced on the date of grant as determined by the Compensation Committee. These options vest upon the attainment of the following corporate-wide milestones: 5,000 shares vesting upon the delivery of the first commercial version of MelaFind® and 5,000 shares vesting upon the delivery of manufacturing targets for MelaFind® (which milestone was met during 2008). Effective March 1, 2008, and in accordance with the Company's pay-for-performance plan and for the additional responsibilities commensurate with his promotion to Vice President, Operations, Mr. Butler's base salary was increased to \$160,200 and he received a \$17,500 discretionary cash bonus for 2008.

Based on its own internal analysis, the Compensation Committee concluded that Mr. Butler's total compensation for 2008 fit within the Company's overall objectives and philosophy with respect to executive compensation.

(Former) Vice President, Marketing Operations, Jon Klippel

Our then Vice President, Marketing Operations, Jon Klippel, received an annual base salary of \$140,000 in 2006 and a \$10,000 discretionary cash bonus. Also in 2006, Mr. Klippel received a stock option grant consisting of 5,000 shares of common stock at an exercise price of \$7.08 per share. In 2007, Mr. Klippel received an annual base salary of \$145,600. In 2008, Mr. Klippel's base salary was increased to \$148,500. In recommending this increase, the Compensation Committee considered the quality of Mr. Klippel's work over the last year in connection with our pre-marketing plans and our reimbursement strategy and his prior business experience. Mr. Klippel resigned from the Company effective May 1, 2008.

GRANTS OF PLAN-BASED AWARDS FOR YEAR ENDED DECEMBER 31, 2008

The following table sets forth each grant of an award made to a named executive officer during our fiscal year ended December 31, 2008 under our 2005 Stock Incentive Plan.

Name and Principal Position	Grant Date	2005 Plan Milestone Option Awards: Number of Securities Underlying Options (#)	Grant Date Fair Value of Option Awards (\$)	Exercise or Base Price of Option (\$)
Joseph V. Gulfo, M.D., President and Chief Executive Officer	10/10/08	900,000	2,430,000	\$3.75
Tina Cheng-Avery, Vice President, Commercialization	2/25/08	80,000	188,417	\$4.40

OUTSTANDING EQUITY AWARDS AT 2008 FISCAL YEAR-END

The following table sets forth the equity awards outstanding at December 31, 2008 for each of the named executive officers.

Name and Principal Position	Number of Securities Underlying Unexercised Options that are Exercisable (#)	Number of Securities Underlying Unexercised Options that are Unexercisable (#)	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised / Unearned Options (#)	Option Exercise Price (\$)	Option Expiration Date
Joseph V. Gulfo, M.D., President and Chief Executive Officer	180,000	720,000(1)		3.75	10/10/18
Richard I. Steinhart, Vice President Finance, Chief Financial Officer, Secretary and Treasurer	64,000	36,000(2)		5.82	4/24/11
Tina Cheng-Avery, Vice President Commercialization	15,625	64,375(3)		4.40	2/25/13
Nikolai Kabelev, Vice President, Research and Development	1,875 2,886 30,000			1.00 1.00 7.08	2/19/12 1/15/13 5/22/11
	0	19,239(5)		4.50	11/29/12
Christiano Butler, Vice President Operations	19,000 5,000	21,000(6) 5,000(7)		7.60 4.50	5/30/11 11/29/12

- (1) 540,000 shares vest upon the Company receiving FDA approval of its PMA application for MelaFind®, and 180,000 shares vest in four equal annual installments of 45,000 shares per year, commencing on October 10, 2009, the first anniversary of the date of grant. The exercise of 520,000 of these stock options is subject to receipt of stockholder approval of the availability of these shares for issuance under the 2005 Plan.
- (2) 8,000 shares vest on each of April 24, 2009 and April 24, 2010, and 20,000 shares vest at the time of the FDA's approval of our PMA application for of MelaFind®.
- (3) 3,125 shares vest on each of February 25, 2010, February 25, 2011 and February 25, 2012, 25,000 shares vest upon the first commercial sale of MelaFind®, and 30,000 shares vest upon corporate wide profitability.

- (4) 30,000 shares vest upon the successful completion of the FDA audit and 30,000 shares vest upon the FDA's approval of our PMA application for MelaFind®.
- (5) 4,239 shares vest when MelaFind® software is verified, 5,000 shares vest when the PMA for MelaFind® is filed, 5,000 shares vest upon successful completion of the FDA audit, and 5,000 shares vest upon the FDA's approval of our PMA application for MelaFind®.
- (6) 2,000 shares vest on each of May 29, 2009 and May 29, 2010, and 15,000 shares vest upon the FDA's approval of our PMA application for MelaFind®.
- (7) These shares vest upon the delivery of the first commercial version of MelaFind®.

OPTION EXERCISE AND VESTED STOCK OPTION AWARDS FOR 2008

The following table sets forth the equity awards exercised by named executive officers during the fiscal year ended December 31, 2008.

<u>Name and Principal Position</u>	<u>Number of Shares Acquired on Exercise of Options (#)</u>	<u>Value Realized on Exercise of Options (\$)</u>
Joseph V. Gulfo, M.D.(1) President and Chief Executive Officer	81,753	\$278,773

- (1) Dr. Gulfo exercised 81,753 vested options on October 15, 2008 at an exercise price of \$.46 per share. Based on the closing price of the Company's stock on that date (\$3.87), Dr. Gulfo realized a \$278,773 gain.

Severance Benefits

The only named executive officers who are entitled to receive severance benefits payable by the Company are Joseph V. Gulfo, M.D. and Richard Steinhart.

Joseph V. Gulfo, M.D.

If Dr. Gulfo is terminated without cause, he would be entitled to his then current monthly salary for a period of 15 months and, if Dr. Gulfo is then covered by health insurance provided by us, the cost to Dr. Gulfo of COBRA coverage for 15 months. If we elect not to renew Dr. Gulfo's employment agreement, Dr. Gulfo is entitled to an amount equal to his then current base salary for nine months and, if Dr. Gulfo is covered by our health insurance policy at such time, the cost of COBRA for nine months (subject to reduction to the extent Dr. Gulfo received comparable benefits from a subsequent employer during such nine-month period). Dr. Gulfo's severance period may be extended for an additional 12 months in the event we elect to extend the length of his non-compete covenant to two years, in which case we would have to pay him additional severance equal to twelve months of his base salary at the time of termination and his most recent bonus.

Assuming a termination date of December 31, 2008:

- if Dr. Gulfo was terminated by us for cause, upon death or disability, then he would not have received severance under his employment agreement;
- if Dr. Gulfo terminated his contract for good reason or was terminated by us without cause, he would have received \$364,775, of which \$350,000 represents 15 months of his monthly salary and \$14,775 represents 15 months of COBRA coverage (estimated based on the Company's 2008 cost of COBRA premiums);
- if Dr. Gulfo was terminated by us without cause within 30 days of our operations being discontinued, then he would not have received severance under his employment agreement;

- if Dr. Gulfo's employment agreement is not renewed by us, then he would have received \$218,867, of which \$210,000 represents 9 months of his monthly salary and \$8,867 represents 9 months of COBRA coverage (estimated based on the Company's 2008 cost of COBRA premiums); and
- if Dr. Gulfo's employment agreement is not renewed by us and we extended the length of his non-compete covenant to two years, then he would have received \$707,735, of which \$630,000 represents 27 months of his monthly salary, \$17,735 represents 18 months of COBRA coverage and \$60,000 represents the amount of his last bonus.

Richard Steinhart

If Mr. Steinhart is terminated without cause, he is entitled to 6 months of his base salary and acceleration of his milestone-based options if the milestones are achieved within six months of his termination.

Assuming a termination date of December 31, 2008:

- if Mr. Steinhart was terminated by us for cause, then he would not have received severance under his employment agreement; and
- if Mr. Steinhart was terminated by us without cause, then he would have received \$107,500 which represents 6 months of his monthly salary. Mr. Steinhart is also entitled to income from the acceleration of the vesting of his unvested stock options assuming that PMA approval of MelaFind® was received within 6 months of his termination. There is no value to this vesting acceleration based on the closing price of the Company's common stock on December 31, 2008 (\$3.35) as there would be no in-the-money unvested option shares at his exercise price of \$5.82.

Retirement Plans

We do not maintain a traditional defined benefit plan. We do, however, maintain a Simple IRA plan covering all qualified employees. We match dollar-for-dollar the employee's contribution up to 3% of each participant's salary to a maximum of \$220,000. We do not consider the Simple IRA matching contribution to be a significant portion of any of our executives' compensation package.

Change of Control

Our 2003 Plan and 2005 Plan contain provisions providing that if there is a change of control involving a merger, consolidation, mandatory share exchange or other similar business combination of the Company with or into any other entity or any transaction in which a successor entity acquires all the issued and outstanding capital stock of the Company, or all or substantially all the assets of the Company, then, if and to the extent that outstanding options are not assumed or replaced with substantially equivalent options in connection with the acquisition event, each optionee shall have the right to exercise in full all of his or her outstanding options, whether or not such options are otherwise vested or exercisable, and any outstanding options which are not exercised prior to the consummation of the change of control event may be settled for cash or the terms of the option otherwise adjusted as the Compensation Committee determines.

Perquisites and Other Benefits

As a company without any substantial revenue, we are not in a position to provide any significant perquisites or other benefits. Currently, the only perquisites are provided to Dr. Gulfo pursuant to his employment agreement: (i) reimbursement of economical travel expenses incidental to Dr. Gulfo's commute to our principal office in Irvington, New York from Wilmington, Delaware in an aggregate amount not to exceed \$1,100 per month, consisting of an unlimited Amtrak unreserved pass, a Metro-North RailPass, NYC Subway transportation, and monthly car parking; (ii) economical lodging allowance consisting of \$3,000 per month; and (iii) reimbursement of economical communication expenses consisting of expenses for one cellular phone line, one phone line at Dr. Gulfo's home office and cable broadband internet service at Dr. Gulfo's home office. We have no plans for any additional perquisites.

Compensation of Directors

In addition to reimbursement of expenses incurred in attending meetings of our Board of Directors and committees of our Board of Directors, our non-employee directors will receive an annual fee of \$10,000 for serving as directors and an additional \$500 per meeting for each meeting attended, whether in person or by telephone. In addition, the chairman of our Board of Directors, the chairman of our audit committee and the chairman of our nominating and governance committee will each receive an additional annual fee of \$10,000. Each member of our Board of Directors who is not a company employee will receive an annual stock option grant to purchase up to 5,000 shares of common stock. Such stock options will vest in full upon the first anniversary of issuance and have an exercise price equal to the closing price of our common stock on the date of the grant. As an employee of the Company, Dr. Gulfo received no additional compensation for his services as a director.

DIRECTOR COMPENSATION TABLE FOR 2008

Name	Fees Earned or Paid in Cash (\$)	Option Awards (\$)	# Option Awards Outstanding (#)	All Other Compensation (\$)	Total (\$)
Sidney Braginsky	14,500	9,600(1)	25,000		24,100
Breaux Castleman	25,000	9,600(1)	25,000	99,000(2)	133,600
George Chryssis	15,000	9,600(1)	20,000		24,600
Martin Cleary	25,000	9,600(1)	20,000		34,600
Dan W. Lufkin	25,000	9,600(1)	15,000		34,600
Gerald Wagner, Ph.D.	13,000	9,600(1)	169,500	70,000(3)	92,600

(1) Represents Black-Sholes value of 5,000 shares option awards with one-year vesting to each non-employee director of the Company.

(2) Represents Mr. Castleman's 2008 consulting fees related to obtaining FDA approval of MelaFind®, certain specific administrative matters, financial reporting and our business and financial strategy.

(3) Represents Dr. Wagner's 2008 consulting fees related to obtaining FDA approval of MelaFind®, and certain technical and competitive matters.

Employment Agreements

Joseph V. Gulfo, M.D.

On January 5, 2004, we entered into an employment agreement with Dr. Joseph V. Gulfo, our President and Chief Executive Officer. Pursuant to the agreement, Dr. Gulfo is required to devote substantially all of his business time, attention and efforts to the performance of his duties under the agreement. The contract automatically renews for successive twelve-month terms unless either party sends a written notice of termination within 90 days of the expiration of the renewal term. The employment agreement automatically extended until December 31, 2009.

The employment agreement provides Dr. Gulfo with an annual base salary of \$175,000 subject to periodic review by our Board of Directors, stock options, and performance bonuses. The target for such bonuses is 50% of Dr. Gulfo's then current base salary. In May 2006, Dr. Gulfo received a \$50,000 bonus and his base salary was raised to \$235,000. In May 2007 but effective April 1, 2007, Dr. Gulfo's base salary was raised to \$260,000 and he received a bonus of \$60,000. Effective March 1, 2008, Dr. Gulfo's base salary was raised to \$280,000 and he received a bonus of \$65,000.

In addition, Dr. Gulfo is entitled to be reimbursed for: certain economical travel expenses incidental to Dr. Gulfo's commute to our principal office in Irvington, New York from Wilmington, Delaware, consisting of an unlimited Amtrak unreserved pass, a Metro-North RailPass, NYC Subway transportation, and monthly car parking up to \$1,100 per month; \$3,000 per month for economical lodging expenses incidental to his commute; and certain economical communication expenses including cellular phone service, one phone line and cable broadband internet service at Dr. Gulfo's home office.

If Dr. Gulfo's employment is terminated by us without cause or Dr. Gulfo resigns for good reason, then Dr. Gulfo would be entitled to receive severance pay equal to 15 months of his then current base salary and, if Dr. Gulfo is then covered by health insurance provided by us, the cost to Dr. Gulfo of COBRA coverage for 15 months. If we elect not to renew Dr. Gulfo's employment agreement, Dr. Gulfo is entitled to an amount equal to his then current base salary for nine months and, if Dr. Gulfo is covered by our health insurance policy at such time, the cost of COBRA for nine months (subject to reduction to the extent Dr. Gulfo received comparable benefits from a subsequent employer during such nine-month period).

Dr. Gulfo is subject to a non-compete covenant upon termination of his employment by us or him. The term of Dr. Gulfo's non-compete covenant is one year, which in the event we terminate his employment without cause can be extended to two years if we elect to pay him additional severance equal to twelve months of his base salary at the time of termination and his most recent bonus (if any).

Dr. Gulfo's employment agreement also provided for three separate grants of stock options. The first two stock option grants for the purchase of a total of 81,753 shares of our common stock at an exercise price of \$0.46 per share have fully vested and were exercised on October 15, 2008. The number of shares of our common stock subject to the third stock option was based on a formula that could only be calculated at the time of FDA approval of our PMA application for MelaFind®. On October 10, 2008, this formula based option, issued in 2004 to Dr. Gulfo from the Company's 2003 Stock Incentive Plan at an exercise price of \$0.46 a share, was cancelled. Based on 20,625,905 shares outstanding (on a fully-diluted basis), as of September 30, 2008 and assuming such shares remain the total number of shares outstanding on the date we receive PMA approval of MelaFind®, the number of shares subject to this option would be 743,283.

On October 10, 2008, Dr. Gulfo was granted stock options for 900,000 shares of the Company's common stock at an exercise price of \$3.75 (the closing price on the grant date); 380,000 shares from the Company's 2005 Plan previously approved for issuance by the Compensation Committee and the stockholders of the Company, and 520,000 shares from the Company's 2005 Plan approved for issuance by the Compensation Committee of the Board of Directors subject to stockholder approval. The exercise of these 520,000 stock options is subject to receipt of stockholder approval of the availability of these shares for issuance under the 2005 Plan (which is being solicited in this proxy statement — see Proposal 3).

Of the 900,000 common shares underlying these stock options granted to Dr. Gulfo, 180,000 shares vested immediately, 540,000 shares vest upon the Company receiving FDA approval of its PMA application for MelaFind®, and 180,000 shares vest in four equal annual installments commencing on the date of grant, the first anniversary of which is October 10, 2009. These 900,000 options expire ten years from the date of grant.

Limitation of Liability and Indemnification of Directors and Officers

Our Fourth Amended and Restated Certificate of Incorporation and Third Amended and Restated Bylaws provide that we will indemnify our directors and executive officers and may indemnify our other officers and employees and other agents to the fullest extent permitted by law. Our Fourth Amended and Restated Certificate of Incorporation and Third Amended and Restated Bylaws also permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in such capacity, regardless of whether the bylaws would permit indemnification. We maintain directors' and officers' liability insurance. We believe that these provisions and agreements are necessary to attract and retain qualified persons as directors and executive officers.

Compensation Committee Interlocks and Insider Participation

The Compensation Committee is composed of three non-employee directors: Messrs. Castleman, Braginsky and Chryssis. No member of the Compensation Committee is or was formerly a permanent officer or employee of the Company. No interlocking relationship exists between the Company's Board of Directors or Compensation Committee and the Board of Directors or compensation committee of any other company, nor has such interlocking relationship existed in the past. None of our executive officers has served as a member of the compensation committee, or other committee serving an equivalent function, of any other entity, one of whose executive officers served as a member of our Compensation Committee.

**REPORT OF THE COMPENSATION COMMITTEE OF THE BOARD OF DIRECTORS ON
EXECUTIVE COMPENSATION***

The Compensation Committee of the Board of Directors has reviewed and discussed the Compensation Discussion and Analysis with the Company's management, and based on such review and discussions, the Compensation Committee recommended to the Board of Directors that the Compensation Discussion and Analysis be included in this proxy statement.

COMPENSATION COMMITTEE

Breaux Castleman
Sidney Braginsky
George C. Chryssis

CERTAIN TRANSACTIONS

Consulting Agreement with Breaux Castleman

In June 2003, we entered into a consulting agreement with Breaux Castleman for consulting services related to FDA approval of MelaFind®, administrative matters, financial reporting, and our business and financial strategy. Under this agreement, Mr. Castleman receives compensation for each month of services rendered. During 2003, Mr. Castleman was paid at the rate of \$8,000 for each month of services rendered and thereafter from 2004 onward he has been paid at the rate of \$2,000 for each month of services rendered. We made payments pursuant to this consulting agreement of \$29,000 in 2006, \$24,000 in 2007 and \$99,000 in 2008. These payments did not exceed \$100,000 in any twelve-month period since June 2003. In connection with our consulting agreement with Mr. Castleman, we granted Mr. Castleman a restricted stock award of 150,000 shares of our common stock under our 2003 Plan for an aggregate purchase price of \$34,500. Our consulting agreement with Mr. Castleman is terminable by either party on 30 days' written notice.

Consulting Agreement with Gerald Wagner, Ph.D.

Pursuant to a consulting agreement dated as of June 1, 2005 with Gerald Wagner Consulting LLC (GWC), a company owned and operated by Dr. Gerald Wagner, GWC agreed to direct our MelaFind® product development efforts and oversee the manufacturing process for MelaFind®. On March 24, 2006, we entered into an amended and restated consulting agreement with GWC, which became effective on April 1, 2006. Under this amended and restated consulting agreement, we agreed to pay GWC the annual amount of \$180,000 payable monthly over the term of the agreement. The agreement provided for termination at the option of GWC or us, at any time by providing thirty (30) days prior written notice or immediately upon the mutual agreement of us and GWC. In connection with GWC's ongoing engagement as a consultant, Dr. Wagner received a stock option grant of 50,000 shares of our common stock which vested in January 2007 upon commencement of the pivotal trial for MelaFind®. In addition, on March 24, 2006, Dr. Wagner received another stock option grant of 49,500 shares of our common stock which vested immediately upon grant. The exercise price for these two stock option grants is the closing price per share of our common stock on the option grant date. In addition, Dr. Wagner transitioned out of his role as our Acting Chief Operating Officer, and signed an amended consulting contract with us. Under the terms of the amended contract, Dr. Wagner is paid a monthly retainer of \$2,500 for his services, plus \$2,500 per day for each day of consulting in excess of one day per month. This amended agreement will end at the option of Dr. Wagner or us at any time, by providing fifteen days prior written notice, or immediately upon the mutual agreement of us and Dr. Wagner.

* The material in this report is not "soliciting material," is not deemed "filed" with the SEC and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

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In 2006, Dr. Wagner received \$180,000 from us for his role as our Acting Chief Operating Officer. In January 2007, Dr Wagner received \$15,000 for his work as our Acting Chief Operating Officer and over the balance of 2007 he received \$30,000 as a consultant to us under his amended contract. During 2008 Dr. Wagner received \$70,000 as a consultant to us under his contract.

HOUSEHOLDING OF PROXY MATERIALS

The SEC has adopted rules that permit companies and intermediaries (e.g., brokers) to satisfy the delivery requirements for proxy statements and annual reports with respect to two or more stockholders sharing the same address by delivering a single proxy statement 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 Company stockholders will be “householding” our proxy materials. A single proxy statement may 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 it will be “householding” communications to your address, “householding” will continue until you are notified otherwise or until you notify your broker or the Company that you no longer wish to participate in “householding.” If, at any time, you no longer wish to participate in “householding” and would prefer to receive a separate proxy statement and annual report in the future you may (1) notify your broker, (2) direct your written request to: Electro-Optical Sciences, Inc., 3 West Main Street, Suite 201, Irvington, New York 10533, Attention: Secretary, telephone (914) 591-3783 or (3) contact our Investor Relations representatives at Lazar Partners, Ltd., 420 Lexington Avenue, Suite 442, New York, New York 10170. Stockholders who currently receive multiple copies of the proxy statement at their address and would like to request “householding” of their communications should contact their broker. In addition, the Company will promptly deliver, upon written or oral request to the address or telephone number above, a separate copy of the annual report and proxy statement to a stockholder at a shared address to which a single copy of the documents was delivered.

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



Joseph V. Gulfo, M.D.
President and Chief Executive Officer

April 17, 2009

A copy of the Company’s Annual Report to the Securities and Exchange Commission on Form 10-K for the year ended December 31, 2008 is available without charge upon written request to: Electro-Optical Sciences, Inc., 3 West Main Street, Suite 201, Irvington, New York 10533, Attention: Secretary.

**AMENDMENT
TO
ELECTRO-OPTICAL SCIENCES, INC.
2005 STOCK INCENTIVE PLAN**

This Amendment dated this 5th day of December 2008 (the "Amendment") amends the 2005 Stock Incentive Plan of Electro-Optical Sciences, Inc. (the "Existing 2005 Plan").

RECITALS

WHEREAS, the Compensation Committee of the Board of Directors (the "Compensation Committee") of Electro-Optical Sciences, Inc. (the "Company") has recommended that this Amendment be adopted and approved by the Board of Directors of the Company;

WHEREAS, the Board of Directors of the Company has accepted the recommendation of the Compensation Committee and has determined that it is in the best interests of the Company and stockholders of the Company to adopt and approve this Amendment; and

WHEREAS, the Board of Directors has recommended that the stockholders of the Company adopt and approve this Amendment.

NOW, THEREFORE, the Existing 2005 Plan is hereby amended as follows:

1. The first sentence of Section 4 of the Existing 2005 Plan is hereby deleted in its entirety and replaced with the following:

"4. Share Limitations. Subject to the adjustment pursuant to Section 9 below, the maximum number of shares of Common Stock that may be issued under the Plan is 3,224,028."

The undersigned, in his capacity as Secretary of the Company, hereby certifies that this Amendment was adopted by the Board of Directors of the Company by a Unanimous Written Consent in Lieu of a Meeting dated December 5, 2008.

/s/ RICHARD I. STEINHART

Name: Richard I. Steinhart
Title: Secretary

Date: April 17, 2009

TO VOTE BY MAIL, PLEASE DETACH PROXY CARD HERE

ELECTRO-OPTICAL SCIENCES, INC.

PROXY SOLICITED BY THE BOARD OF DIRECTORS
FOR THE ANNUAL MEETING OF STOCKHOLDERS
TO BE HELD ON MAY 22, 2009

PROXY

The undersigned hereby appoints Breau Castleman, Joseph V. Gulfo, M.D., and Richard I. Steinhart, and each of them (with full power to act alone), as attorneys and proxies of the undersigned, with full power of substitution, to vote all shares of stock of Electro-Optical Sciences, Inc. which the undersigned may be entitled to vote at the Annual Meeting of Stockholders of Electro-Optical Sciences, Inc. to be held at The Doubletree Hotel, 455 South Broadway, Tarrytown, New York 10591, on Friday, May 22, 2009 at 9:00 a.m., local time, and at any and all postponements, continuations and adjournments thereof, with all powers that the undersigned would possess if personally present, upon and in respect of the following matters and in accordance with the following instructions, with discretionary authority as to any and all other matters that may properly come before the meeting.

UNLESS A CONTRARY DIRECTION IS INDICATED, THIS PROXY WILL BE VOTED FOR ALL NOMINEES LISTED IN PROPOSAL 1 AND FOR PROPOSALS 2 AND 3, AS MORE SPECIFICALLY DESCRIBED IN THE PROXY STATEMENT. IF SPECIFIC INSTRUCTIONS ARE INDICATED, THIS PROXY WILL BE VOTED IN ACCORDANCE THEREWITH.

**CONTINUED AND TO BE SIGNED ON REVERSE SIDE
SEE REVERSE SIDE**

ELECTRO-OPTICAL SCIENCES, INC. OFFERS STOCKHOLDERS OF RECORD THREE WAYS TO VOTE YOUR PROXY

Your telephone or Internet vote authorizes the named proxies to vote your shares in the same manner as if you had returned your proxy card. We encourage you to use these cost effective and convenient ways of voting, 24 hours a day, 7 days a week.

TELEPHONE VOTING

This method of voting is available for residents of the U.S. and Canada. On a touch tone telephone, call **TOLL FREE 1-866-219-9662**, 24 hours a day, 7 days a week. You will be asked to enter **ONLY** the CONTROL NUMBER shown below. Have your voting instruction card ready, then follow the prerecorded instructions. Your vote will be confirmed and cast as you direct. Available until 11:59 PM, EDT, May 21, 2009.

INTERNET VOTING

Visit the Internet voting website at **<http://proxy.georgeson.com>**. Enter the COMPANY NUMBER and CONTROL NUMBER shown below and follow the instructions on your screen. You will incur only your usual Internet charges. Available until 11:59 PM, EDT, May 21, 2009.

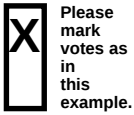
VOTING BY MAIL

Simply mark, sign and date your voting instruction card and return it in the postage-paid envelope. If you are voting by telephone or the Internet, please do not mail your proxy card.

COMPANY
NUMBER

CONTROL
NUMBER

6 DETACH BELOW AND RETURN USING THE ENVELOPE PROVIDED ONLY IF YOU ARE VOTING BY MAIL 6



**THE BOARD OF DIRECTORS RECOMMENDS A VOTE FOR THE NOMINEES FOR DIRECTOR LISTED BELOW.
THE BOARD OF DIRECTORS RECOMMENDS A VOTE FOR PROPOSALS 2 AND 3 BELOW.**

Proposal 1. To elect directors to serve for the ensuing year and until their successors are elected.

Nominees: Joseph V. Gulfo, M.D., Breaux Castleman, Sidney Braginsky, George C. Chryssis, Martin D. Cleary, Dan W. Lufkin and Gerald Wagner, Ph.D.

**FOR ALL NOMINEES
LISTED ABOVE (EXCEPT
AS MARKED TO THE
CONTRARY BELOW)**

O

**WITHHOLD
AUTHORITY
TO VOTE
FOR ALL
NOMINEES
LISTED
ABOVE**

O

To withhold authority to vote for any nominee(s), write such nominee(s)' name(s) above.

Proposal 2. To ratify selection of Eisner LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2009.

FOR	AGAINST	ABSTAIN
O	O	O

Proposal 3. To approve a Plan Amendment to increase by 1,500,000 the aggregate number of shares of common shares that are available under the 2005 Stock Incentive Plan

FOR	AGAINST	ABSTAIN
O	O	O

Date _____ 2009

Signature(s)

Signature(s)

Please sign exactly as your name appears hereon. If the stock is registered in the names of two or more persons, each should sign. Executors, administrators, trustees, guardians and attorneys-in-fact should add their titles. If signer is a corporation, please give full corporate name and have a duly authorized officer sign, stating title. If signer is a partnership, please sign in partnership name by authorized person.

Please vote, date and promptly return this proxy in the enclosed return envelope which is postage prepaid if mailed in the United States.