
UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 Or 15(d) of The Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): December 29, 2008

Electro-Optical Sciences, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction
of incorporation)

000-51481

(Commission
File Number)

13-3986004

(IRS Employer
Identification No.)

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

(Address of principal executive offices)

10533

(Zip Code)

Registrant's telephone number, including area code **(914) 591-3783**

(Former name or former address, if changed since last report.)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instructions A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 8.01 — Other Events

On December 29, 2008, the Registrant issued a press release announcing an update on the MelaFind® clinical trials program.

A copy of the press release is furnished as Exhibit 99.1 to this report. Exhibit 99.1 is furnished to, but not filed with, the Securities and Exchange Commission. Registration statements or other documents filed with the Securities and Exchange Commission shall not incorporate this information by reference, except as otherwise expressly stated in such filing.

Item 9.01 — Financial Statements and Exhibits

(b) Exhibits.

EXHIBIT NO.	DESCRIPTION
99.1	Press Release of the Registrant dated December 29, 2008 titled “Electro-Optical Sciences Provides MelaFind Development Update.”

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Electro-Optical Sciences, Inc.

Date: December 29, 2008

By: /s/ Richard I. Steinhart
Chief Financial Officer
(Principal Financial Officer)

EXHIBIT INDEX

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99.1 Press Release of the Registrant dated December 29, 2008 titled "Electro-Optical Sciences Provides MelaFind Development Update."



electro-optical sciences, inc.

For further information contact:

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Electro-Optical Sciences Provides MelaFind Development Update

IRVINGTON, NY, December 29, 2008 — Electro-Optical Sciences, Inc. (“EOS”) (NASDAQ: MELA), a medical device company focused on the design and development of MelaFind®, a non-invasive, point-of-care instrument to assist in the early detection of melanoma, today announced that the algorithms for analysis of the pivotal trial have been finalized.

“All follow-up data have been received, the pivotal trial sites have been closed, and the databases are undergoing third-party statistical validation. In addition, all image analysis algorithms including the classification algorithms, are final, and in accordance with FDA design control requirements, are undergoing software verification and validation. This work is being conducted by expert third-party contract research organizations and subcontractors. We look forward to unblinding the data and announcing top-line results within the next several weeks,” said Joseph V. Gulfo, MD, MBA, President & CEO.

About Electro-Optical Sciences

EOS is a medical device company focused on designing and developing a non-invasive, point-of-care instrument to assist in the early detection of melanoma. MelaFind features a hand-held imaging device that emits light of multiple wavelengths to capture images of suspicious pigmented skin lesions and extract data. Using sophisticated algorithms, the data are then analyzed against a proprietary database of melanomas and benign lesions in order to provide information to the physician and produce a recommendation of whether the lesion should be biopsied.

Melanoma is the deadliest of skin cancers, responsible for approximately 80% of all skin cancer deaths. Unless melanoma is detected early and excised with proper margins, the patient survival rate is poor, as there is currently no cure for advanced stage melanoma.

For more information on EOS, visit www.eosciences.com.

Safe Harbor

This press release includes “forward-looking statements” within the meaning of the Securities Litigation Reform Act of 1995. These statements include but are not limited to our plans, objectives, expectations and intentions and other statements that contain words such as “expects,” “contemplates,” “anticipates,” “plans,” “intends,” “believes” and variations of such words or similar expressions that predict or indicate future events or trends, or that do not relate to historical matters. These statements are based on our current beliefs or expectations and are inherently subject to significant uncertainties and changes in circumstances, many of which are beyond our control. There can be no assurance that our beliefs or expectations will be achieved. Actual results may differ materially from our beliefs or expectations due to economic, business, competitive, market and regulatory factors.

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