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): March 19, 2010

Electro-Optical Sciences, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**000-51481**	**13-3986004**
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

50 South Buckhout Street, Suite 1 **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):

o Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

o Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

o Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

o Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 8.01 — Other Events

On March 24, 2010, Electro-Optical Sciences, Inc. issued a press release, a copy of which is attached as Exhibit 99.1 to this report and is incorporated herein by reference.

Item 9.01 — Financial Statements and Exhibits

(d) Exhibits.

EXHIBIT NO.	DESCRIPTION
99.1	Electro-Optical Sciences, Inc. Press Release, dated March 24, 2010

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: March 24, 2010

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

EXHIBIT INDEX

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99.1	Electro-Optical Sciences, Inc. Press Release, dated March 24, 2010

Exhibit 99.1

MELA Sciences Provides Update on MelaFind® PMA Review

Conference call scheduled for 4:30 p.m. EDT

IRVINGTON, NY, (March 24, 2010) — MELA Sciences (NASDAQ: MELA) today announced that it has received additional questions from U.S. Food and Drug Administration (FDA) regarding the review status of the Pre-Market Approval (PMA) application of its MelaFind device for early melanoma detection. The company is actively working to respond to the agency's questions in the immediate term. The FDA indicated that the MelaFind PMA review has been extended 180 days.

"While we are disappointed and surprised to receive a letter from the FDA stating that the PMA is not approvable at this time, we believe we can address all of the agency's outstanding questions in a timely manner and will work diligently to do so," said Joseph V. Gulfo, MD, President & CEO. "With a binding protocol agreement in place and expedited review for this breakthrough device, we had anticipated going before a Panel prior to this type of communication from the agency. We are also preparing a letter to be sent to the FDA requesting that they convene a Panel to discuss the application, as appropriate for a product like MelaFind, and as communicated to us by the FDA at the beginning of, and throughout, the regulatory process."

"Given the duration of the review to date, it is helpful to get the questions that the FDA indicated we need to address in order to put our PMA in an approvable form," Dr. Gulfo said. "We remain confident that MelaFind can be a valuable tool to help dermatologists detect melanoma, the deadliest form of skin cancer, at its earliest, most curable stage. We look forward to working with the agency to resolve these issues as quickly as possible."

The PMA application is based on the positive results of the company's landmark pivotal study, which included 1,831 pigmented skin lesions from 1,383 patients, making this the largest prospective study ever conducted in melanoma detection. Prior to the start of the study, the company and the FDA entered into a binding protocol agreement to stipulate the study design, including the sensitivity and specificity endpoints that should be used to determine the safety and effectiveness of MelaFind.

"We believe our data satisfy the study's agreed-upon endpoints and we will continue to work with the agency to move the approval process forward," Dr. Gulfo said.

"MelaFind is a breakthrough product with the potential to save lives," Dr. Gulfo said. "Dermatologists in market research exercises, as well as our expert dermatology consultants, tell us that MelaFind can provide great help in their effort to detect melanoma, which kills one American per hour, at the earliest most curable stages. We believe an FDA Panel meeting is important to our review, and are confident that it would greatly expedite the PMA review process, and so, we will continue to focus on obtaining a Panel meeting for MelaFind as soon as possible."

Conference Call Information

MELA Sciences will host a conference call today at 4:30 PM EDT. To participate in the conference call, dial (866) 831-6234 and use passcode 91967684. International callers may dial (617) 213-8854, using the same passcode. In addition, a live audio of the conference call will be available over the Internet. Interested parties can access the event through the investor relations section of www.melasciences.com. For a direct link, click: http://phx.corporate-ir.net/phoenix.zhtml?c=191863&p=irol-irhome.

If you are unable to participate in the live call, a replay will be available at (888) 286-8010, with passcode 41326247, from 7:30 p.m. EDT on March 24, 2010 until April 7, 2010. International callers may access the replay by dialing (617) 801-6888, using the same passcode. The webcast will also be available at www.melasciences.com for the same period.

About MELA Sciences

MELA Sciences is a medical technology company focused on developing MelaFind(R), a non-invasive and objective computer vision system intended to aid in the early detection of melanoma. EOS designed MelaFind(R) to assist in the evaluation of pigmented skin lesions, including atypical moles, which have one or more clinical or historical characteristics of melanoma, before a final decision to biopsy has been rendered. MelaFind(R) acquires and displays multi-spectral (from blue to near infrared) digital images of pigmented skin lesions and uses automatic image analysis and statistical pattern recognition to help identify lesions to be considered for biopsy to rule out melanoma.

For more information on the company, visit www.melasciences.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.

For further information contact:

For Investors:
David Carey
Lazar Partners, Ltd.
646-871-8485

For Media:

Hollister Hovey
Lazar Partners, Ltd.
646-871-8485