

InspireMD, Inc.  
Form 424B3  
October 12, 2012

**Filed Pursuant to Rule 424(b)(3)  
Registration No. 333-181502**

**PROSPECTUS SUPPLEMENT**

**DATED OCTOBER 12, 2012**

**TO**

**PROSPECTUS DATED MAY 31, 2012**

INSPIREMD, INC.

This Prospectus Supplement, dated October 12, 2012 (“Supplement No. 4”), supplements that certain Prospectus filed with the Securities and Exchange Commission (the “SEC”) and dated May 31, 2012 (together with any supplements or amendments thereto) (the “Prospectus”) and should be read in conjunction with the Prospectus.

This Supplement No. 4 is qualified by reference to the Prospectus except to the extent that the information herein contained modifies or supersedes the information contained in the Prospectus.

Our common stock is quoted on the regulated quotation service of the OTC Bulletin Board under the symbol "NSPR". On October 11, 2012, the last reported sale price of our common stock as reported on the OTC Bulletin Board was \$2.21 per share.

**Investing in our common stock is highly speculative and involves a high degree of risk. You should carefully consider the risks and uncertainties in the section entitled "Risk Factors" beginning on page 5 of the Prospectus before making a decision to purchase our stock.**

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of the Prospectus. Any representation to the contrary is a criminal offense.**

**Selling Stockholders**

The following updates and amends the table under the section entitled “Selling Stockholder” of the Prospectus (as supplemented) with respect to the stockholders listed on the table below, to account for transfers of shares listed in such table that InspireMD, Inc. is aware of since the date of the Prospectus. Such transfers are as follows:

On October 4, 2012, Genesis Asset Opportunity Fund LP transferred warrants to purchase 55,000 shares of common stock of InspireMD, Inc. at an exercise price of \$1.23 per share to PI Financial Corp.;

On October 5, 2012, Genesis Asset Opportunity Fund LP transferred warrants to purchase 124,282 shares of common stock of InspireMD, Inc. at an exercise price of \$1.23 per share to PI Financial Corp.;

On October 10, 2012, Genesis Asset Opportunity Fund LP transferred warrants to purchase 16,000 shares of common stock of InspireMD, Inc. at an exercise price of \$1.23 per share to PI Financial Corp.; and

On October 11, 2012, Genesis Asset Opportunity Fund LP transferred warrants to purchase 5,000 shares of common stock of InspireMD, Inc. at an exercise price of \$1.23 per share to PI Financial Corp.

The table, therefore, is updated and amended as follows in order to update the holdings of Genesis Asset Opportunity Fund LP and PI Financial Corp.:

| Selling Stockholder                     | Ownership Before Offering                           |                              | Ownership After Offering                            |   |   |
|---|---|------------------------------|---|---|---|
|   | Number of shares of common stock beneficially owned | Number of shares offered (1) | Number of shares of common stock beneficially owned | Percentage of common stock beneficially owned |   |
| Genesis Asset Opportunity Fund LP (110) | 2,363,347   | (111)                        | 2,363,347   | 0   | - |
| PI Financial Corp. (126)                | 703,182   | (127)                        | 703,182   | 0   | - |

(110) Genesis Capital Advisors LLC is the investment manager of Genesis Asset Opportunity Fund LP. Each of Ethan Benovitz, Daniel Saks and Jaime Hartman are managing members of Genesis Capital Advisors LLC and share voting and dispositive power over the securities held by Genesis Asset Opportunity Fund LP. Each of Ethan Benovitz, Daniel Saks and Jaime Hartman disclaim beneficial ownership of such securities.

(111) Includes 807,329 shares of common stock issuable upon the exercise of warrants and 1,386,018 shares of common stock issuable upon conversion of debentures.

(126) Richard W. Thomas, as director of PI Financial Corp., has voting and dispositive power over the securities held for the account of this selling stockholder. Mr. Thomas disclaims beneficial ownership of these securities. PI Financial Corp. is a Canadian broker-dealer registered in all provinces and territories in Canada. In addition, PI Financial (US) Corp is a registered broker-dealer in the U.S. PI Financial Corp. acquired the warrants with respect to which the underlying shares of common stock have been registered for resale in the Prospectus pursuant to a private transfer from Genesis Asset Opportunity Fund LP in the ordinary course of business, and at the time of the time of transfer, PI Financial Corp. had no agreements or understandings directly or indirectly with any person to distribute the shares of common stock underlying these warrants.

(127) Includes 5,000 shares of common stock issuable upon the exercise of warrants.

In addition, the selling stockholders listed in the Prospectus may have sold or transferred some or all of their shares of common stock since the date on which the information in the Prospectus is presented. Information about the selling stockholders may change over time. To the extent required, any changed information will be set forth in prospectus supplements.

Please insert this Supplement No. 4 into your Prospectus and retain both this Supplement No. 4 and the Prospectus for future reference. If you would like to receive a copy of the Prospectus, as supplemented, please write to 4 Menorat Hamaor St., Tel Aviv, Israel 67448, Attention: Ofir Paz, Chief Executive Officer.