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

DIVISION OF
CORPORATION FINANCE

February 10, 2014

Via E-mail
Kenneth Londoner
Executive Chairman
BioSig Technologies, Inc.
12424 Wilshire Boulevard, Suite 745
Los Angeles, CA 90025

Re: BioSig Technologies, Inc.
Amendment No. 3 to Registration Statement on Form S-1
Filed January 21, 2014
File No. 333-190080

Dear Mr. Londoner:

We have reviewed your registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Overview, page 1

1. Please highlight in your prospectus summary the arbitration claim by your former CEO, making clear the magnitude of the claim and the significance of the technology at issue. Please also provide us with a copy of Mr. Drachman's arbitration claim and any response you have made to the arbitrator.

2. With a view to disclosure, please also explain to us, if known, why Dr. Drakulic left his positions with the company.

Upon becoming a publicly-reporting company…, page 13

3. Please tell us why you revised the final sentence on page 13 to indicate that review and evaluation first would be required for fiscal year ended December 31, 2015 rather than December 31, 2014.

Business, page 22

4. Please refer to prior comment 2, which references comment 17 to our letter dated August 16, 2013. In light of the disclosures that you have added to this section subsequent to the September 11, 2013 response letter, please tell us whether you have commissioned any of the data disclosed in this section or elsewhere in the prospectus.

Technology and Development Plan, page 28

5. We note your revised disclosure on pages 27, 28 and 29 concerning the status of your animal study. Please balance your disclosure about your development plan on page 28 to include information regarding your previously anticipated timing, the reasons for the delay, and information regarding why your previous study that was "underway" is no longer occurring. Also, expand appropriate risk factors that address potential delays to include information regarding the actual delays you have experienced.

Patents, page 30

6. Your disclosure in the prior amendment indicates that you expected Dr. Drakulic to assign the patent applications to you. Accordingly, please disclose whether he assigned the October 2013 or December 2013 applications to you. Please also provide us with copies of the applications.

7. Based on your response to prior comment 4, it is unclear how the patent application that you are preparing will differ for your December 2013 patent application. Please advise. Also, please revise to disclose the nature and importance of the patent application that you are preparing, or explain why disclosure is not material to investors.

8. Please revise to clarify the effect of the patent applications that you disclose so that investors who may not be experts in your industry can understand their significance to your business. From your revised disclosure, it should be clear what product capabilities that you disclose in this prospectus would be lost if you were to transfer ownership of the application as you mention in the last sentence of the first paragraph of this section.

Executive Officers and Directors, page 33

9. Refer to prior comment 5. Please disclose the name and principal business of any organization that employed Mr. Chaussy as a consultant during the past five years.

Summary Compensation Table, page 36

10. Please disclose the material terms of the stock award reflected in the table. For example, what was the number of shares awarded?

11. Please provide us your analysis of why the stock options that you say on page 37 were rescinded need not be included in this table. Cite in your response all authority on which you rely.

2012 Equity Incentive Plan, page 38

12. Please reconcile your revisions in response to prior comment 6 with the information in exhibit 10.1 to this registration statement.

Security Ownership, page 39

13. Please identify in this section the natural person or persons who exercise the sole or shared voting and/or dispositive powers with respect to the shares held in the name of the legal entities identified in the table.

Selling Stockholders, page 43

14. Please balance your disclosure in the first paragraph about the amount that the selling stockholders paid for the offered securities with disclosure of the liquidated damages they will receive due to the November 22, 2013 deadline that you mention on page 59.

15. Please reconcile your disclosure in footnote 134 with the warrant issuances referenced in schedule 3.1(g) and 3.1(r) to exhibit 10.24.

Rule 144 Shares, page 54

16. With a view toward balancing your disclosure added in response to prior comment 8, please tell us whether there are dates in the future when material portions of your securities will have satisfied the holding period requirements of Rule 144. Identify for us each such date and the number of securities that will satisfy the holding period as of that date.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;

- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and

- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Praveen Kartholy at (202) 551-3778 or Gary Todd at (202) 551-3605 if you have questions regarding comments on the financial statements and related matters. Please contact Joseph McCann at (202) 551-6262 or me at (202) 551-3617 with any other questions.

Sincerely,

/s/ Russell Mancuso

Russell Mancuso
Branch Chief

cc (via e-mail): Rick A. Werner, Esq.