

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

SCHEDULE 13G

UNDER THE SECURITIES EXCHANGE ACT OF 1934
(AMENDMENT NO. _____)*

EMCORE Corporation
(Name of Issuer)

Common Stock, no par value
(Title of Class of Securities)

290846104
(CUSIP Number)

December 31, 2005
(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

☐ Rule 13d-1(b)

☒ Rule 13d-1(c)

☐ Rule 13d-1(d)

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

1 NAME OF REPORTING PERSON
I.R.S. IDENTIFICATION NO. OF ABOVE PERSON (ENTITIES ONLY)

Alexandra Global Master Fund Ltd.
(No I.R.S. ID Number)

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (A) ☐
(B) ☐ (See Item 6)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

British Virgin Islands

NUMBER OF 5 SOLE VOTING POWER
SHARES

BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: -0-

6 SHARED VOTING POWER

3,222,503 shares of Common Stock (See Item 4)

7 SOLE DISPOSITIVE POWER

-0-

8 SHARED DISPOSITIVE POWER

3,222,503 shares of Common Stock (See Item 4)

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,222,503 shares of Common Stock (See Item 4)

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES
CERTAIN SHARES (SEE INSTRUCTIONS)

☐

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

6.3% (See Item 4)

12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

CO

1 NAME OF REPORTING PERSON
I.R.S. IDENTIFICATION NO. OF ABOVE PERSON (ENTITIES ONLY)

Alexandra Investment Management, LLC
13-4092583

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (A) ☐
(B) ☐ (See Item 6)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

NUMBER OF 5 SOLE VOTING POWER
SHARES

BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: -0-

6 SHARED VOTING POWER

3,222,503 shares of Common Stock (See Item 4)

7 SOLE DISPOSITIVE POWER

-0-

8 SHARED DISPOSITIVE POWER

3,222,503 shares of Common Stock (See Item 4)

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,222,503 shares of Common Stock (See Item 4)

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES
CERTAIN SHARES (SEE INSTRUCTIONS)

[]

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

6.3% (See Item 4)

12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

00

1 NAME OF REPORTING PERSON
I.R.S. IDENTIFICATION NO. OF ABOVE PERSON (ENTITIES ONLY)

Mikhail A. Filimonov

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (A) ☐
(B) ☐ (See Item 6)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

U.S.

NUMBER OF 5 SOLE VOTING POWER
SHARES

BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: -0-

6 SHARED VOTING POWER

3,222,503 shares of Common Stock (See Item 4)

7 SOLE DISPOSITIVE POWER

-0-

8 SHARED DISPOSITIVE POWER

3,222,503 shares of Common Stock (See Item 4)

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,222,503 shares of Common Stock (See Item 4)

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES
CERTAIN SHARES (SEE INSTRUCTIONS) ☐

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

6.3% (See Item 4)

12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

IN

1 NAME OF REPORTING PERSON
I.R.S. IDENTIFICATION NO. OF ABOVE PERSON (ENTITIES ONLY)

Dimitri Sogoloff

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (A) ☐

(B) ☐ (See Item 6)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

U.S.

NUMBER OF 5 SOLE VOTING POWER
SHARES

BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: -0-

6 SHARED VOTING POWER

3,222,503 shares of Common Stock (See Item 4)

7 SOLE DISPOSITIVE POWER

-0-

8 SHARED DISPOSITIVE POWER

3,222,503 shares of Common Stock (See Item 4)

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,222,503 shares of Common Stock (See Item 4)

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES
CERTAIN SHARES (SEE INSTRUCTIONS)

☐

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

6.3% (See Item 4)

12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

IN

Item 1(a). Name of Issuer:

EMCORE Corporation, a New Jersey corporation (the "Issuer")

Item 1(b). Address of Issuer's Principal Executive Offices:

145 Belmont Drive
Somerset, New Jersey 08873

Item 2(a). Names of Persons Filing:

Alexandra Global Master Fund Ltd. ("Alexandra")
Alexandra Investment Management, LLC ("Management")
Mikhail A. Filimonov ("Filimonov")
Dimitri Sogoloff ("Sogoloff")

Item 2(b). Address of Principal Business Office:

Alexandra - Citco Building, Wickams Cay, P.O. Box 662,
Road Town, Tortola, British Virgin Islands
Management - 767 Third Avenue, 39th Floor, New York,
New York 10017
Filimonov - 767 Third Avenue, 39th Floor, New York,
New York 10017
Sogoloff - 767 Third Avenue, 39th Floor, New York,
New York 10017

Item 2(c). Place of Organization or Citizenship:

Alexandra - British Virgin Islands
Management - Delaware
Filimonov - U.S.
Sogoloff - U.S.

Item 2(d). Title of Class of Securities:

Common Stock, no par value per share, of the Issuer (the "Common Stock")

Item 2(e). CUSIP Number: 290846104

Item 3. This Schedule is filed pursuant to Rule 13d-1(c) by Alexandra, Management, Filimonov and Sogoloff

Item 4. Ownership:

(a) Amount Beneficially Owned:

Alexandra: 3,222,503 shares*
Management: 3,222,503 shares*
Filimonov: 3,222,503 shares*
Sogoloff: 3,222,503 shares*

(b) Percent of Class:

Alexandra: 6.3%*
Management: 6.3%*
Filimonov: 6.3%*
Sogoloff: 6.3%*

(Based on 48,243,280 shares of Common Stock outstanding, as of December 2, 2005, as reported by the Issuer in the Issuer's Annual Report on Form 10-K for the fiscal year ended September 30, 2005)

(c) Number of Shares as to which the Person has:

(i) sole power to vote or to direct the vote

-0-

(ii) shared power to vote or to direct the vote:

3,222,503 shares of Common Stock*

(iii) sole power to dispose or to direct the disposition of

-0-

(iv) shared power to dispose or to direct the disposition of

3,222,503 shares of Common Stock*

* The shares of Common Stock reported as beneficially owned by Alexandra include 2,860,479 shares of Common Stock that Alexandra has the right to acquire upon conversion of \$23,055,460 principal amount of Convertible Senior Subordinated Notes due May 15, 2011 issued by the Issuer (the "Notes"). The number of shares of Common Stock issuable upon conversion of the Notes is subject to adjustment as provided in such Notes.

Management serves as investment advisor to Alexandra. By reason of such relationship, Management may be deemed to share voting and dispositive power over the shares of Common Stock owned by Alexandra. Management disclaims beneficial ownership of the shares of Common Stock listed as beneficially owned by Alexandra or any other person reporting on this Schedule.

Filimonov serves as the Chairman, the Chief Executive Officer, a Managing Member and the Chief Investment Officer of Management. Sogoloff serves as the President, a Managing Member and the Chief Risk Officer of Management. By reason of such relationships, each of Filimonov and Sogoloff may be deemed to share voting and dispositive power over the shares of Common Stock listed as beneficially owned by Management. Filimonov and Sogoloff each disclaims beneficial ownership of the shares of Common Stock listed as beneficially owned by Management or any other person reporting on this Schedule.

Item 5. Ownership of Five Percent or Less of a Class:

Not applicable

Item 6. Ownership of More Than Five Percent on Behalf of Another Person:

Not applicable

Item 7. Identification and Classification of the Subsidiary which Acquired the Security Being Reported on by the Parent Holding Company:

Not applicable

Item 8. Identification and Classification of Members of the Group:

Not applicable

Item 9. Notice of Dissolution of Group:

Not applicable

Item 10. Certification:

By signing below each signatory certifies that, to the best of its knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

Exhibits:

Exhibit I: Joint Filing Agreement, dated as of January 17, 2006, by and among Alexandra, Management, Filimonov and Sogoloff.

SIGNATURE

By signing below each signatory certifies that, to the best of its knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

Dated as of January 17, 2006

ALEXANDRA GLOBAL MASTER FUND LTD.

By: ALEXANDRA INVESTMENT MANAGEMENT, LLC,
its Investment Advisor

By: /s/ Mikhail A. Filimonov

Mikhail A. Filimonov
Title: Managing Member

ALEXANDRA INVESTMENT MANAGEMENT, LLC

By: /s/ Mikhail A. Filimonov

Mikhail A. Filimonov
Title: Managing Member

/s/ Mikhail A. Filimonov

Mikhail A. Filimonov

/s/ Dimitri Sogoloff

Dimitri Sogoloff

Exhibit I

JOINT FILING AGREEMENT

This will confirm the agreement by and among the undersigned that the Schedule 13G filed with the Securities and Exchange Commission on or about the date hereof with respect to the beneficial ownership by the undersigned of the Common Stock, no par value, of EMCORE Corporation, a New Jersey corporation, is being filed, and all amendments thereto will be filed, on behalf of each of the persons and entities named below in accordance with Rule 13d-1(k) under the Securities Exchange Act of 1934, as amended. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

Dated as of January 17, 2006

ALEXANDRA GLOBAL MASTER FUND LTD.

By: ALEXANDRA INVESTMENT MANAGEMENT, LLC,
its Investment Advisor

By: /s/ Mikhail A. Filimonov

Mikhail A. Filimonov
Title: Managing Member

ALEXANDRA INVESTMENT MANAGEMENT, LLC

By: /s/ Mikhail A. Filimonov

Mikhail A. Filimonov
Title: Managing Member

/s/ Mikhail A. Filimonov

Mikhail A. Filimonov

/s/ Dimitri Sogoloff

Dimitri Sogoloff