

09-20-2000

FORM PTO-1595 (REV 6-93)



SHEET

U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office

OMB No. 0651-011 (exp. 4/94)

99-SM6-518

101463755

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies): 91-00  
 Eric R. Harrington  
 Victor M. Benveniste  
 Michael A. Graf  
 Robert D. Rathmell

Additional name(s) of conveying party(ies) attached? [ ] Yes [X] No

2. Name and address of receiving party(ies):  
 Name: Axcelis Technologies, Inc.  
 Internal Address: \_\_\_\_\_  
 Street Address: 55 Cherry Hill Drive  
 City: Beverly  
 State/Country: Massachusetts ZIP: 01915-1053

Additional name(s) & address(es) attached? [ ] Yes [X] No

3. Nature of conveyance:  
 Assignment [ ] Merger  
 Security Agreement [ ] Change of Name  
 Other \_\_\_\_\_

Execution Date: August 30 and 31, 2000

4. Application number(s) or patent number(s): 09/654379  
 If this document is being filed together with a new application, the execution date of the application is: August 30 and 31, 2000

A. Patent Application No.(s) \_\_\_\_\_ B. Patent No.(s) \_\_\_\_\_

Additional Numbers attached? [ ] Yes [X] No

5. Name and address of party to whom correspondence concerning document should be mailed:  
 Name: Thomas G. Eschweiler  
 Internal Address: \_\_\_\_\_  
 Street Address: Amin, Eschweiler & Turocy, LLP  
24th Floor, National City Center  
1900 East 9th Street  
 City: Cleveland  
 State: Ohio ZIP: 44114

6. Total number of applications and patents involved: [ 1 ]

7. Total fee (37 CFR 3.41) .....\$ 40.00  
 Enclosed  
 Authorized to be charged to deposit account

8. Deposit account number:  
50-1063  
 (Attach duplicate copy of this page if paying by deposit account)

9. Statement and signature.  
*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*

Thomas G. Eschweiler [Signature] September 1, 2000  
 Name of Person Signing Signature Date

Reg. No. 36,981 Total number of pages including cover sheet attachments, and document: [ 6 ]

Mail documents to be recorded with required cover sheet information to:  
 Commissioner of Patents & Trademarks, Box Assignments  
 Washington, D.C. 20231

PATENT  
 REEL: 011073 FRAME: 0632

09/01/00  
 09/654379 U.S. PT

## ASSIGNMENT

For good and valuable consideration received of the hereinafter named assignee, receipt of which is hereby acknowledged, the undersigned

Eric R. Harrington  
42 Market Street #1  
Ipswich, Massachusetts 01938

Victor M. Benveniste  
8 Harbor Heights  
Gloucester, Massachusetts 01930

Michael A. Graf  
3 Locust Terrace  
Cambridge, Massachusetts 02138

Robert D. Rathmell  
5 Twin Pond Circle  
Exeter, New Hampshire 03833

NOW, THEREFORE, for and in consideration of our employment and the salary or wages paid to us by Axcelis Technologies, Inc., we, Eric R. Harrington, Victor M. Benveniste, Michael A. Graf and Robert D. Rathmell, by these present do sell, assign, and transfer unto said Axcelis Technologies, Inc., a corporation organized and existing under the laws of the State of Delaware, having its principal place of business at 55 Cherry Hill Drive, Beverly, Massachusetts 01915-1053, is desirous of acquiring an interest therein, its successors and assigns, the entire right, title and interest, so far as concerns the United States and the Territories and Possessions thereof and all foreign countries, in and to the inventions entitled

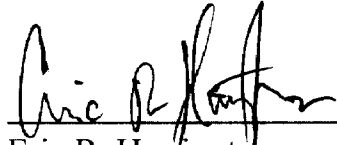
### **SYSTEM AND METHOD FOR REMOVING CONTAMINANT PARTICLES RELATIVE TO AN ION BEAM**

for which application for United States Letters Patent has been filed on \_\_\_\_\_ under Serial No. \_\_\_\_\_, or was executed by the undersigned on the date below and is being filed concurrently herewith, said application for United States Letters Patent, any and all other applications for Letters Patent on said inventions in countries foreign to the United States, including all divisional, renewal, substitute, continuation and Convention applications based in whole or in part upon said inventions or upon said applications, and any and all Letters Patent and reissues and extensions of Letters Patent granted for said inventions or upon said applications, and every priority right that is or may be predicated upon or arise from said inventions, said applications and said Letters Patent; said assignee being hereby authorized to file patent applications in any or all countries on any or all said inventions in the name of the undersigned or in the name of said assignee or otherwise as said assignee may deem advisable, under the International Convention or otherwise; the Commissioner of Patents and Trademarks of the United States of America and the empowered officials of all other governments being hereby authorized to issue or transfer all said Letters Patent to said assignee in accordance herewith; this assignment being under covenant, not only that full power to make the same is had by the undersigned, but also that such assigned right is not encumbered by any grant, license, or other right heretofore given, and that the undersigned will do all acts reasonably serving to assure that said inventions, patent applications and Letters Patent shall be held and enjoyed by said assignee as fully and entirely as the same could have been held and

enjoyed by the undersigned if this assignment had not been made, and particularly to execute and deliver to said assignee all lawful documents including petitions, specifications, oaths, assignments, invention disclaimers, and lawful affidavits in form and substance which may be requested by said assignee, to furnish said assignee with all facts relating to said inventions or the history thereof and any and all documents, photographs, models, samples or other physical exhibits which may be useful for establishing the facts of conception, disclosure and reduction to practice of said inventions, and to testify in any proceedings relating to said inventions, patent applications and Letters Patent.

Signed:

Date:

  
Eric R. Harrington

8/31/00

**CERTIFICATE OF ACKNOWLEDGMENT**

State of \_\_\_\_\_

County of \_\_\_\_\_

On \_\_\_\_\_ before me, \_\_\_\_\_,  
Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Eric R. Harrington  
Name(s) of Signer(s)

personally known to me - OR -  proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

\_\_\_\_\_  
Signature of Notary Public

Signed:

Date:

  
Victor M. Benveniste

8/30/00

**CERTIFICATE OF ACKNOWLEDGMENT**

State of \_\_\_\_\_

County of \_\_\_\_\_

On \_\_\_\_\_ before me, \_\_\_\_\_,  
Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Victor M. Benveniste  
Name(s) of Signer(s)

personally known to me - OR -  proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

\_\_\_\_\_  
Signature of Notary Public

Signed:

Date:

Michael A. Graf  
Michael A. Graf

8/31/00

**CERTIFICATE OF ACKNOWLEDGMENT**

State of \_\_\_\_\_

County of \_\_\_\_\_

On \_\_\_\_\_ before me, \_\_\_\_\_,  
Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Michael A. Graf  
Name(s) of Signer(s)

personally known to me - OR -  proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

\_\_\_\_\_  
Signature of Notary Public

Signed:

Date:

Robert D. Rathmell

8/31/00

Robert D. Rathmell

**CERTIFICATE OF ACKNOWLEDGMENT**

State of \_\_\_\_\_

County of \_\_\_\_\_

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personally appeared Robert D. Rathmell  
Name(s) of Signer(s)

personally known to me - OR -  proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

\_\_\_\_\_  
Signature of Notary Public