

## PATENT ASSIGNMENT

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 Stylesheet Version v1.1

| SUBMISSION TYPE:   | NEW ASSIGNMENT                                  |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
|--|---|---------------|----------------|-----------------------|------------|----------------|------------|--------------------|------------|----------------|------------|--------------------|------------|----------------------|------------|----------------|------------|
| NATURE OF CONVEYANCE:  | ASSIGNMENT                                      |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| CONVEYING PARTY DATA   |   |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| <table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Joseph P. Dzengeleski</td> <td>03/12/2013</td> </tr> <tr> <td>Eric Hermanson</td> <td>03/14/2013</td> </tr> <tr> <td>Robert J. Mitchell</td> <td>03/12/2013</td> </tr> <tr> <td>Tyler Rockwell</td> <td>03/12/2013</td> </tr> <tr> <td>James W. Wilkinson</td> <td>03/11/2013</td> </tr> <tr> <td>James Paul Buonodono</td> <td>03/11/2013</td> </tr> <tr> <td>Frank Sinclair</td> <td>03/12/2013</td> </tr> </tbody> </table> |   | Name          | Execution Date | Joseph P. Dzengeleski | 03/12/2013 | Eric Hermanson | 03/14/2013 | Robert J. Mitchell | 03/12/2013 | Tyler Rockwell | 03/12/2013 | James W. Wilkinson | 03/11/2013 | James Paul Buonodono | 03/11/2013 | Frank Sinclair | 03/12/2013 |
| Name   | Execution Date                                  |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| Joseph P. Dzengeleski  | 03/12/2013                                      |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| Eric Hermanson   | 03/14/2013                                      |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| Robert J. Mitchell   | 03/12/2013                                      |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| Tyler Rockwell   | 03/12/2013                                      |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| James W. Wilkinson   | 03/11/2013                                      |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| James Paul Buonodono   | 03/11/2013                                      |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| Frank Sinclair   | 03/12/2013                                      |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| RECEIVING PARTY DATA   |   |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| Name:  | Varian Semiconductor Equipment Associates, Inc. |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| Street Address:  | 35 Dory Road                                    |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| City:  | Gloucester                                      |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| State/Country:   | MASSACHUSETTS                                   |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| Postal Code:   | 01930   |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| PROPERTY NUMBERS Total: 1  |   |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| <table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13790791</td> </tr> </tbody> </table>  |   | Property Type | Number         | Application Number:   | 13790791   |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| Property Type  | Number  |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| Application Number:  | 13790791  |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| CORRESPONDENCE DATA  |   |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| Fax Number:<br><i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>  |   |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| Phone:   | 978-282-5818                                    |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| Email:   | Scott_Faber@amat.com                            |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| Correspondent Name:  | Scott R. Faber                                  |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| Address Line 1:  | 35 Dory Road                                    |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| Address Line 4:  | Gloucester, MASSACHUSETTS 01930                 |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |
| ATTORNEY DOCKET NUMBER:  | 2012-131  |               |                |                       |            |                |            |                    |            |                |            |                    |            |                      |            |                |            |

CH \$40.00 13790791

NAME OF SUBMITTER:

Scott R. Faber

Total Attachments: 6

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**ASSIGNMENT**

WHEREAS, the undersigned, to wit:

**Joseph P. Dzengeleski  
Eric Hermanson  
Robert J. Mitchell  
Tyler Rockwell  
James W. Wilkinson  
James Paul Buonodono  
Frank Sinclair**

(Hereinafter collectively **ASSIGNOR**), have/has made a certain new and useful invention as set forth in an application for United States Letters Patent, entitled:

**ION BEAM MEASUREMENT SYSTEM AND METHOD**

(X only one):

- (A)  which was executed concurrently herewith and is being filed herewith in the United States Patent and Trademark Office;
- (B)  which was executed on \_\_\_\_\_, 20\_\_\_, and is being filed herewith in the United States Patent and Trademark Office;
- (C)  which was filed as US Patent Appln. No. **13/790791**, filed on **March 8, 2013**.

**AND WHEREAS**, Varian Semiconductor Equipment Associates, Inc., (hereinafter **ASSIGNEE**), a corporation organized and existing under the laws of the state of Delaware, and having its principal place of business at 35 Dory Road, Gloucester, Massachusetts, 01930, is desirous of acquiring the entire right, title, and interest in and to said invention and any and all patents that may be obtained therefore, and in and to said application and any and all patents that may issue therefrom;

**NOW, THEREFORE**, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, **ASSIGNOR** does hereby sell, assign, transfer, and set over unto said **ASSIGNEE**, its successors, assigns, and legal representatives, all right, title, and interest in and to said invention throughout the world, and any and all patents of the United States and foreign countries that may be obtained therefor, and in and to said application, including any and all continuations, continuations-in-part, divisionals, reissues, re-examinations, substitutions, and extensions thereof, and any and all patents of the United States and foreign countries that may issue therefrom, such right, title, and interest including the right to file applications and obtain patents, utility models, industrial models and designs for said invention in the name of said

**ASSIGNEE**, its successors, assigns, and legal representatives throughout the world, including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention, and all rights to register said invention in appropriate registries;

**ASSIGNOR** also does hereby covenant that it has the full right to convey the entire right, title, and interest herein assigned, and that it has not and will not execute any agreement in conflict herewith;

**ASSIGNOR** also does hereby authorize and request the Commissioner of Patents and Trademarks to issue any and all Letters Patent of the United States on said invention or resulting from said application, including any continuations, continuations-in-part, divisions, reissues, re-examinations, substitutions, and extensions thereof, to said **ASSIGNEE**, its successors, assigns, and legal representatives as the **ASSIGNEE** of the entire right, title, and interest herein assigned;

**ASSIGNOR** also does hereby agree to, at any time, upon request, without further or additional consideration, but at the expense of said **ASSIGNEE**, its successors, assigns, or legal representatives, execute and deliver any and all papers, make all rightful oaths, and do all lawful acts that may be necessary or desirable to perfect the entire right, title, and interest here assigned in said **ASSIGNEE**, its successors, assigns, and legal representatives, and generally do everything possible to vest the entire right, title and interest herein assigned in said **ASSIGNEE**, its successors, assigns, and legal representatives;

**ASSIGNOR** also does hereby agree to, at any time, upon request, without further or additional consideration, but at the expense of said **ASSIGNEE**, its successors, assigns, or legal representatives, execute and deliver any and all papers, make all rightful oaths, and do all lawful acts that may be necessary or desirable to make application for and obtain any and all continuations, continuations-in-part, divisions, reissues, re-examinations, substitutions, and extensions of said application, or any application on said invention, or any patent issuing therefor or therefrom;

**ASSIGNOR** also does hereby agree to, at any time, upon request, without further or additional consideration but at the expense of said **ASSIGNEE**, its successors, assigns, and legal representatives, communicate to said **ASSIGNEE**, its successors, assigns, and legal representatives, any known facts relating to said invention or said application or any patent issuing therefor or therefrom, and testify as to the same in any interference or other litigation proceeding when requested to do so, and aid said **ASSIGNEE**, its successors, assigns, and legal representatives, in obtaining and enforcing property protection for said invention in all countries;

**ASSIGNOR** also does hereby grant the Legal Department of Varian Semiconductor Equipment Associates, Inc., at the address shown above, the power to insert on this assignment any further information, including, but not limited to application number(s) and filing date(s), which may be necessary or desirable in order to comply with any rule or request of the United States Patent and Trademark Office for the purposes of recording this document.

**ASSIGNOR** also does now hereby execute this document on the date(s) indicated below:

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 12<sup>th</sup> day of MARCH, 2013.

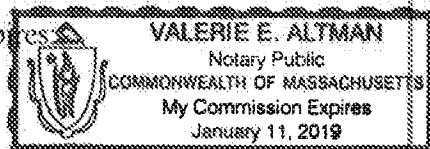
Name: JOSEPH P. DZENGELESKI

COMMONWEALTH/STATE OF MASSACHUSETTS  
COUNTY OF ESSEX

Before me, a Notary Public did personally appear the above-named **Joseph P. Dzengeleski** personally known to me and/or proved to me on the basis of satisfactory evidence to be the person who signed and sealed the foregoing instrument and acknowledged the same to be his or her own free act and deed, this 12<sup>th</sup> day of March, 2013.

Valerie E. Altman  
Notary Public

My Commission Expires:



IN WITNESS WHEREOF, I have hereunto set my hand and seal this 14 day of March, 2013.

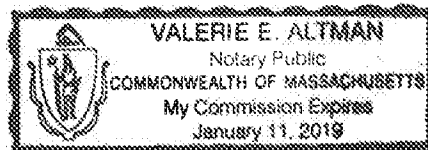
Name: ERIC HERMANSON

COMMONWEALTH/STATE OF MASSACHUSETTS  
COUNTY OF ESSEX

Before me, a Notary Public did personally appear the above-named **Eric Hermanson** personally known to me and/or proved to me on the basis of satisfactory evidence to be the person who signed and sealed the foregoing instrument and acknowledged the same to be his or her own free act and deed, this 14<sup>th</sup> day of March, 2013.

Valerie E. Altman  
Notary Public

My Commission Expires:



IN WITNESS WHEREOF, I have hereunto set my hand and seal this 12<sup>th</sup> day of MARCH, 2013.

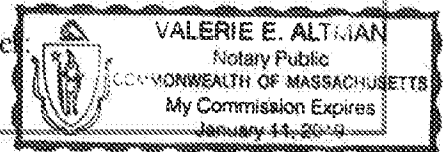
Robert J. Mitchell  
Name: ROBERT J. MITCHELL

COMMONWEALTH/STATE OF MASSACHUSETTS  
COUNTY OF ESSEX

Before me, a Notary Public did personally appear the above-named **Robert J. Mitchell** personally known to me and/or proved to me on the basis of satisfactory evidence to be the person who signed and sealed the foregoing instrument and acknowledged the same to be his or her own free act and deed, this 12<sup>th</sup> day of March, 2013.

Valerie E. Aldman  
Notary Public

My Commission Expires:



IN WITNESS WHEREOF, I have hereunto set my hand and seal this 12 day of March, 2013.

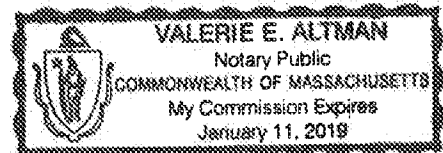
Tyler Rockwell  
Name: TYLER ROCKWELL

COMMONWEALTH/STATE OF MASSACHUSETTS  
COUNTY OF ESSEX

Before me, a Notary Public did personally appear the above-named **Tyler Rockwell** personally known to me and/or proved to me on the basis of satisfactory evidence to be the person who signed and sealed the foregoing instrument and acknowledged the same to be his or her own free act and deed, this 12<sup>th</sup> day of March, 2013.

Valerie E. Aldman  
Notary Public

My Commission Expires:



IN WITNESS WHEREOF, I have hereunto set my hand and seal this 11 day of MARCH, 2013.

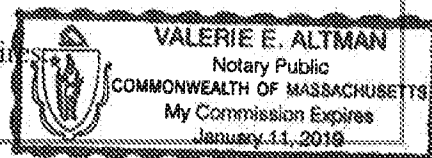
*James W. Wilkinson*  
Name: JAMES W. WILKINSON

COMMONWEALTH/STATE OF MASSACHUSETTS  
COUNTY OF ESSEX

Before me, a Notary Public did personally appear the above-named **James W. Wilkinson** personally known to me and/or proved to me on the basis of satisfactory evidence to be the person who signed and sealed the foregoing instrument and acknowledged the same to be his or her own free act and deed, this 11<sup>th</sup> day of March, 2013.

*Valerie E. Altman*  
Notary Public

My Commission Expires:



IN WITNESS WHEREOF, I have hereunto set my hand and seal this 11 day of March, 2013.

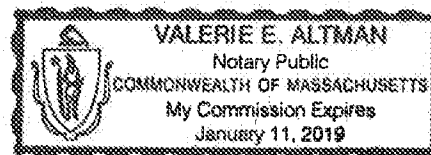
*James Paul Buonodono*  
Name: JAMES PAUL BUONODONO

COMMONWEALTH/STATE OF MASSACHUSETTS  
COUNTY OF ESSEX

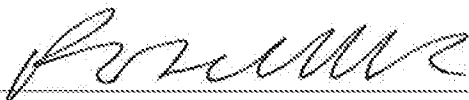
Before me, a Notary Public did personally appear the above-named **James Paul Buonodono** personally known to me and/or proved to me on the basis of satisfactory evidence to be the person who signed and sealed the foregoing instrument and acknowledged the same to be his or her own free act and deed, this 11<sup>th</sup> day of March, 2013.

*Valerie E. Altman*  
Notary Public

My Commission Expires:



IN WITNESS WHEREOF, I have hereunto set my hand and seal this 12 day of March, 2013.



Name: FRANK SINCLAIR

COMMONWEALTH/STATE OF MASSACHUSETTS  
COUNTY OF ESSEX

Before me, a Notary Public did personally appear the above-named **Frank Sinclair** personally known to me and/or proved to me on the basis of satisfactory evidence to be the person who signed and sealed the foregoing instrument and acknowledged the same to be his or her own free act and deed, this 12<sup>th</sup> day of March, 2013.



Notary Public

My Commission Expires:

