

1-7-04



To the Honorable Commissioner of Patents and Trademarks

102642797

Original documents or copy thereof.

1. NAME OF CONVEYING PARTY(IES):

2. NAME AND ADDRESS OF RECEIVING PARTY(IES).

University of Central Florida  
4000 Central Florida Blvd.  
Orlando, Florida 32816

EUV, L.L.C.  
Mail Stop: SC1-02  
2200 Mission College Blvd.  
Santa Clara, CA 95054

Additional name(s) of conveying party(ies)

Additional name(s) and address(es)

attached? \_\_\_ Yes \_\_\_X\_\_\_ No

attached? \_\_\_ Yes \_\_\_X\_\_\_ No

3. NATURE OF CONVEYANCE:

☒ \_X\_

ASSIGNMENT

☐ \_\_\_

SECURITY AGREEMENT

☐ \_\_\_

MERGER

☐ \_\_\_

CHANGE OF NAME

☐ \_\_\_

OTHER \_\_\_\_\_

EXECUTION DATE: 01/05/042004 JAN -7 AM 8:33  
OPR/FINANCE

4. IF THIS DOCUMENT IS BEING FILED TOGETHER WITH A NEW APPLICATION, THE EXECUTION DATE OF THE APPLICATION IS:

Patent Nos.: **Patent No. 5,499,282 Issued March 12, 1996**  
**Patent No. 5,963,616 Issued October 5, 1999**  
**Patent No. 6,188,076 Issued February 13, 2001**  
**Patent No. 6,031,241 Issued February 29, 2000**  
**Patent No. 6,232,613 Issued May 15, 2001**  
**Patent No. 6,576,917 Issued June 10, 2003**

Additional numbers attached? \_\_\_ Yes \_\_\_x\_\_\_ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Brian S. Steinberger, Esq.  
101 Brevard Ave.  
Cocoa, FL 32922  
Customer No.: 23717

6. Total number of applications and patents involved: SIX7. Total Fee (37 CFR 3.41) .... **\$240.00**☒ \_X\_ Enclosed☐ \_\_\_ Authorized to be charged to account

8. Account No. \_\_\_\_\_

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.

BRIAN S. STEINBERGER

(Name of Person Signing)

Date 1/7/04

Signature

Total number of pages including cover sheet, attachments, and document: Nine240.00 DP  
00000068  
01/05/2004 DRYNE  
01.05.2004

Inventorship: William T. Silfvast  
Title: ADJUSTABLE BORE CAPILLARY DISCHARGE  
Patent No. 6,576,917  
Issued: June 10, 2003  
Docket: UCF-221

## ASSIGNMENT

As a below named Assignee of an invention entitled: ADJUSTABLE BORE CAPILLARY DISCHARGE for which a United States Patent No. 6,576,917 was issued June 10, 2003; and

WHEREAS, EUV, L.L.C, an industry consortium, having its principal office and place of business in the City of Santa Clara, State of California, is desirous of obtaining the entire right, title and interest in, to and under the said invention and the said patent in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I/we have sold, assigned, transferred, and set over, and by these presents do hereby sell, assign, transfer, and set over, unto said EUV, L.L.C, its successor, legal representatives, and assigns, the entire right, title, and interest in, to, and under the said invention, and the said patent, and all divisional, renewal, substitution, and continuing applications, thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention, in any country or countries foreign to the United States of America, including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention, all rights to register said invention, in appropriate registries, and all Letters Patent which may be granted for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and I hereby authorize and request the Commissioner of Patents and Trademarks of the United States of America, and any official of any country or countries foreign to the United States of America, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said invention to said EUV, L.L.C, its successors, legal representatives, and assigns, in accordance with the terms of this instrument.

And I/we hereby further covenant and agree that I/we will communicate to said EUV, L.L.C, its successors, legal representatives, and assigns, any fact known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisionals, renewal, substitution, continuing, and reissue applications, make all rightful declarations and/or oaths and generally do everything possible to aid said EUV, L.L.C, its successors, legal representative, and assigns, to obtain and enforce proper patent protection for said invention in all countries.

IN TESTIMONY WHEREOF, I/we authorize and affirm said assignments with the signatures set forth below on the indicated date(s).

Assignee of Record of the entire interest: University of Central Florida

The Undersigned (whose title appears below) is empowered to sign on behalf of the assignee.

By: \_\_\_\_\_

M. J. Soileau  
Vice President for Research  
University of Central Florida

Date: \_\_\_\_\_

1/5/04

State of Florida)  
County of Orange) SS:

Before me personally appeared said M. J. Soileau and acknowledge the foregoing instrument to be his free act and deed this 5th day of January, 2004.

Seal:

(Notary Public)

*Dolores S. Hajra*



Dolores S. J. Hajra  
MY COMMISSION # CC927215 EXPIRES  
April 12, 2004  
BONDED THRU TROY FAIR INSURANCE, INC.

PATENT  
REEL: 014852 FRAME: 0713

Inventorship: William T. Silfvast

Title: DEBRIS BLOCKER/COLLECTOR AND EMISSION ENHANCER FOR DISCHARGE SOURCES

Patent No. 6,232,613

Issued: May 15, 2001

Docket: UCF-201CIP

## ASSIGNMENT

As a below named Assignee of an invention entitled: DEBRIS BLOCKER/COLLECTOR AND EMISSION ENHANCER FOR DISCHARGE SOURCES for which a United States Patent No. 6,232,613 was issued May 15, 2001; and

WHEREAS, EUV, L.L.C, an industry consortium, having its principal office and place of business in the City of Santa Clara, State of California, is desirous of obtaining the entire right, title and interest in, to and under the said invention and the said patent in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I/we have sold, assigned, transferred, and set over, and by these presents do hereby sell, assign, transfer, and set over, unto said EUV, L.L.C, its successor, legal representatives, and assigns, the entire right, title, and interest in, to, and under the said invention, and the said patent, and all divisional, renewal, substitution, and continuing applications, thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention, in any country or countries foreign to the United States of America, including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention, all rights to register said invention, in appropriate registries, and all Letters Patent which may be granted for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and I hereby authorize and request the Commissioner of Patents and Trademarks of the United States of America, and any official of any country or countries foreign to the United States of America, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said invention to said EUV, L.L.C, its successors, legal representatives, and assigns, in accordance with the terms of this instrument.

And I/we hereby further covenant and agree that I/we will communicate to said EUV, L.L.C, its successors, legal representatives, and assigns, any fact known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisionals, renewal, substitution, continuing, and reissue applications, make all rightful declarations and/or oaths and generally do everything possible to aid said EUV, L.L.C, its successors, legal representative, and assigns, to obtain and enforce proper patent protection for said invention in all countries.

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M. J. Soileau  
Vice President for Research  
University of Central Florida

Date: \_\_\_\_\_

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(Notary Public)

Dolores S. Hajra



Dolores S. J. Hajra  
MY COMMISSION # CC927215 EXPIRES  
April 12, 2004  
BONDED THRU TROY FAIN INSURANCE, INC.

PATENT  
REEL: 014852 FRAME: 0714

Inventorship: William T. Silfvast

Title: CONFIGURATIONS, MATERIALS AND WAVELENGTHS FOR EUV LITHIUM PLASMA DISCHARGE LAMPS

Patent No. 5,963,616

Issued: October 5, 1999

Docket: UCF-174

## ASSIGNMENT

As a below named Assignee of an invention entitled: CONFIGURATIONS, MATERIALS AND WAVELENGTHS FOR EUV LITHIUM PLASMA DISCHARGE LAMPS for which a United States Patent No. 5,963,616 was issued October 5, 1999 ; and

WHEREAS, EUV, L.L.C, an industry consortium, having its principal office and place of business in the City of Santa Clara, State of California, is desirous of obtaining the entire right, title and interest in, to and under the said invention and the said patent in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I/we have sold, assigned, transferred, and set over, and by these presents do hereby sell, assign, transfer, and set over, unto said EUV, L.L.C, its successor, legal representatives, and assigns, the entire right, title, and interest in, to, and under the said invention, and the said patent, and all divisional, renewal, substitution, and continuing applications, thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention, in any country or countries foreign to the United States of America, including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention, all rights to register said invention, in appropriate registries, and all Letters Patent which may be granted for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and I hereby authorize and request the Commissioner of Patents and Trademarks of the United States of America, and any official of any country or countries foreign to the United States of America, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said invention to said EUV, L.L.C, its successors, legal representatives, and assigns, in accordance with the terms of this instrument.

And I/we hereby further covenant and agree that I/we will communicate to said EUV, L.L.C, its successors, legal representatives, and assigns, any fact known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisionals, renewal, substitution, continuing, and reissue applications, make all rightful declarations and/or oaths and generally do everything possible to aid said EUV, L.L.C, its successors, legal representative, and assigns, to obtain and enforce proper patent protection for said invention in all countries.

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By: \_\_\_\_\_

M. J. Soileau  
Vice President for Research  
University of Central Florida

Date: \_\_\_\_\_

1/5/04

State of Florida)  
County of Orange) SS:

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Seal: \_\_\_\_\_

(Notary Public)

Dolores S. Hajra



Dolores S. J. Hajra  
MY COMMISSION # CC927215 EXPIRES  
April 12, 2004  
BONDED THRU TROY FAIN INSURANCE, INC.

PATENT  
REEL: 014852 FRAME: 0715

Inventorship: William T. Silfvast

Title: CAPILLARY DISCHARGE EXTREME ULTRAVIOLET LAMP SOURCE FOR EUV MICROLITHOGRAPHY  
AND OTHER RELATED APPLICATIONS

Patent No. 6,031,241

Issued: February 29, 2000

Docket: UCF-183CIP

## ASSIGNMENT

As a below named Assignee of an invention entitled: CAPILLARY DISCHARGE EXTREME ULTRAVIOLET LAMP SOURCE FOR EUV MICROLITHOGRAPHY AND OTHER RELATED APPLICATIONS for which a United States Patent No. 6,031,241 was issued February 29, 2000 ; and

WHEREAS, EUV, L.L.C, an industry consortium, having its principal office and place of business in the City of Santa Clara, State of California, is desirous of obtaining the entire right, title and interest in, to and under the said invention and the said patent in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I/we have sold, assigned, transferred, and set over, and by these presents do hereby sell, assign, transfer, and set over, unto said EUV, L.L.C, its successor, legal representatives, and assigns, the entire right, title, and interest in, to, and under the said invention, and the said patent, and all divisional, renewal, substitution, and continuing applications, thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention, in any country or countries foreign to the United States of America, including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention, all rights to register said invention, in appropriate registries, and all Letters Patent which may be granted for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and I hereby authorize and request the Commissioner of Patents and Trademarks of the United States of America, and any official of any country or countries foreign to the United States of America, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said invention to said EUV, L.L.C, its successors, legal representatives, and assigns, in accordance with the terms of this instrument.

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Assignee of Record of the entire interest: University of Central Florida

The Undersigned (whose title appears below) is empowered to sign on behalf of the assignee.

By: 

M. J. Soileau

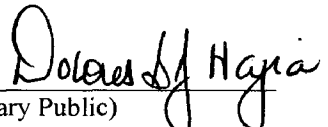
Vice President for Research  
University of Central Florida

Date: 1/5/04

State of Florida)  
County of Orange) SS:

Before me personally appeared said M. J. Soileau and acknowledge the foregoing instrument to be his free act and deed this 5th day of January, 2004.

Seal:

  
(Notary Public)



Dolores S. J. Hajra  
MY COMMISSION # CC927215 EXPIRES  
April 12, 2004  
BONDED THRU TROY FAIR INSURANCE, INC.

PATENT  
REEL: 014852 FRAME: 0716

Inventorship: William T. Silfvast  
Title: DISCHARGE LAMP SOURCES APPARATUS AND METHODS  
Patent No. 6,188,076  
Issued: February 13, 2001  
Docket: UCF-183DIV.B

## ASSIGNMENT

As a below named Assignee of an invention entitled: DISCHARGE LAMP SOURCES APPARATUS AND METHODS for which a United States Patent No. 6,188,076 was issued February 13, 2001; and

WHEREAS, EUV, L.L.C, an industry consortium, having its principal office and place of business in the City of Santa Clara, State of California, is desirous of obtaining the entire right, title and interest in, to and under the said invention and the said patent in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I/we have sold, assigned, transferred, and set over, and by these presents do hereby sell, assign, transfer, and set over, unto said EUV, L.L.C, its successor, legal representatives, and assigns, the entire right, title, and interest in, to, and under the said invention, and the said patent, and all divisional, renewal, substitution, and continuing applications, thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention, in any country or countries foreign to the United States of America, including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention, all rights to register said invention, in appropriate registries, and all Letters Patent which may be granted for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and I hereby authorize and request the Commissioner of Patents and Trademarks of the United States of America, and any official of any country or countries foreign to the United States of America, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said invention to said EUV, L.L.C, its successors, legal representatives, and assigns, in accordance with the terms of this instrument.

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April 12, 2004  
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PATENT  
REEL: 014852 FRAME: 0717

Inventorship: William T. Silfvast  
Title: EFFICIENT NARROW SPECTRAL WIDTH SOFT X-RAY DISCHARGE SOURCES  
Patent No. 5,499,282  
Issued: March 12, 1996  
Docket: UCF-112

## ASSIGNMENT

As a below named Assignee of an invention entitled: EFFICIENT NARROW SPECTRAL WIDTH SOFT X-RAY DISCHARGE SOURCES for which a United States Patent No. 5,499,282 was issued March 12, 1996 ; and

WHEREAS, EUV, L.L.C, an industry consortium, having its principal office and place of business in the City of Santa Clara, State of California, is desirous of obtaining the entire right, title and interest in, to and under the said invention and the said patent in the United States of America and in any and all countries foreign thereto;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, I/we have sold, assigned, transferred, and set over, and by these presents do hereby sell, assign, transfer, and set over, unto said EUV, L.L.C, its successor, legal representatives, and assigns, the entire right, title, and interest in, to, and under the said invention, and the said patent, and all divisional, renewal, substitution, and continuing applications, thereof, and all Letters Patent of the United States of America which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may be filed for said invention, in any country or countries foreign to the United States of America, including all rights of priority, all rights to publish cautionary notices reserving ownership of said invention, all rights to register said invention, in appropriate registries, and all Letters Patent which may be granted for said invention in any country or countries foreign to the United States of America, and all extensions, renewals, and reissues thereof, and I hereby authorize and request the Commissioner of Patents and Trademarks of the United States of America, and any official of any country or countries foreign to the United States of America, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said invention to said EUV, L.L.C, its successors, legal representatives, and assigns, in accordance with the terms of this instrument.

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By: \_\_\_\_\_

M. J. Soileau  
Vice President for Research  
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Date: \_\_\_\_\_

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(Notary Public)

Dolores S. J. Hajra



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MY COMMISSION # CC927215 EXPIRES  
April 12, 2004  
BONDED THRU TROY FAIN INSURANCE, INC.

RECORDED: 01/07/2004

PATENT  
REEL: 014852 FRAME: 0718