PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6110445

| SUBMISSION TYPE: | CORRECTIVE ASSIGNMENT |
|------------------|--|
| | Corrective Assignment to correct the THE NAME OF INVENTOR BOGDAN SWEDEK ON THE ASSIGNMENT previously recorded on Reel 041125 Frame 0616. Assignor(s) hereby confirms the CORRECT FULL NAME OF THE INVENTOR SHOULD HAVE BEEN LISTED ON THE ASSIGNMENT AS BOGUSLAW SWEDEK. |

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------------|----------------|
| Dominic J. Benvegnu | 09/29/2005 |
| Jeffrey Drue David | 09/26/2005 |
| Boguslaw A. Swedek | 09/21/2005 |

RECEIVING PARTY DATA

| Name: | APPLIED MATERIALS, INC. |
|-----------------|-------------------------|
| Street Address: | 3050 BOWERS AVENUE |
| City: | SANTA CLARA |
| State/Country: | CALIFORNIA |
| Postal Code: | 95054 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15403915 |

CORRESPONDENCE DATA

| Fax Number: | (877) | 769-7945 |
|-------------------------|-------|---|
| | | e-mail address first; if that is unsuccessful, it will be sent nat is unsuccessful, it will be sent via US Mail. |
| Phone: | (650) | 839-5070 |
| Email: | wams | sley@fr.com, apsi@fr.com |
| Correspondent Name: | DAVI | D J. GOREN |
| Address Line 1: | FISH | & RICHARDSON P.C. |
| Address Line 2: | P.O.E | 3OX 1022 |
| Address Line 4: | MINN | IEAPOLIS, MINNESOTA 55440-1022 |
| ATTORNEY DOCKET NUMBER: | | 05542-0613005 |

| ATTORNEY DUCKET NUMBER: | 05542-0613005 |
|-------------------------|-----------------|
| NAME OF SUBMITTER: | JEMMA WAMSLEY |
| SIGNATURE: | /Jemma Wamsley/ |
| DATE SIGNED: | 05/18/2020 |
| Total Attachments: 5 | |

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| source=055420613005#page3.tif |
| source=055420613005#page4.tif |
| source=055420613005#page5.tif |

3. The term and covenants of this agreement shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Assignors, their respective heirs, legal representatives and assigns.

4. Said Assignors hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

IN WITNESS WHEREOF, the said Assignors have executed and delivered this instrument to said Assignee on the dates indicated below.

9-29-05 Date: DOMINIC J. BENVEGN 9/26/05 Date: DAVID EFFRE DRUE Date: 50Z. £2 BOSUSLAW SWE 50296903.doc 03/11/20 , 7,5

504203693 01/30/2017 PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4250369

| SUBMISSION TYPE: | | NEW ASSIGNMENT | | |
|--|------------------------------|---|--------------|----------------|
| NATURE OF CONVEYAN | ICE: | ASSIGNMENT | | |
| CONVEYING PARTY DA | ATA | | | |
| | | Name | | Execution Date |
| Dominic J. Benvegnu | | | | 09/29/2005 |
| Jeffrey Drue David | | | | 09/26/2005 |
| Boguslaw A. Swedek | | | | 09/21/2005 |
| RECEIVING PARTY DA | ТА | | | |
| Name: | APPLIE | D MATERIALS, INC. | | |
| Street Address: | 3050 B | OWERS AVENUE | | |
| City: | SANTA | CLARA | | |
| State/Country: | CALIFO | PRNIA | | |
| Postal Code: | 95054 | | | |
| PROPERTY NUMBERS Property Type | Total: 1 | Number | | |
| PROPERTY NUMBERS | Total: 1 | | | |
| Property Type | Total: 1 | Number 15403915 | | |
| Property Type | Total: 1 | | | |
| Property Type Application Number: CORRESPONDENCE D | ATA | 15403915 | | |
| Property Type Application Number: CORRESPONDENCE D Fax Number: | ATA | (877)769-7945 | | |
| Property Type Application Number: CORRESPONDENCE D Fax Number: Correspondence will be | ATA e sent to | 15403915 | | |
| Property Type Application Number: CORRESPONDENCE D Fax Number: Correspondence will be | ATA e sent to provideo | 15403915 (877)769-7945 the e-mail address first; if that ; if that is unsuccessful, it will b (650) 839-5070 | | |
| Property Type Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will be</i> <i>using a fax number, if p</i> Phone: Email: | ATA e sent to provideo | (877)769-7945 <i>the e-mail address first; if that i</i> <i>; if that is unsuccessful, it will b</i> (650) 839-5070 apsi@fr.com | | |
| Property Type Application Number: CORRESPONDENCE D Fax Number: <i>Correspondence will be using a fax number, if p</i> Phone: Email: Correspondent Name: | ATA e sent to provideo | (877)769-7945 the e-mail address first; if that ; if that is unsuccessful, it will b (650) 839-5070 apsi@fr.com DAVID J. GOREN | | |
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| Property Type Application Number: CORRESPONDENCE D. Fax Number: Correspondence will be using a fax number, if p Phone: Email: Correspondent Name: Address Line 1: Address Line 2: | ATA e sent to provideo | (877)769-7945 the e-mail address first; if that ; if that is unsuccessful, it will b (650) 839-5070 apsi@fr.com DAVID J. GOREN FISH & RICHARDSON P.C. P.O.BOX 1022 | e sent via l | |
| Property Type Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if p Phone: Email: Correspondent Name: Address Line 1: Address Line 2: Address Line 4: | ATA e sent to provideo | (877)769-7945 <i>the e-mail address first; if that i</i> <i>; if that is unsuccessful, it will b</i> (650) 839-5070 apsi@fr.com DAVID J. GOREN FISH & RICHARDSON P.C. P.O.BOX 1022 MINNEAPOLIS, MINNESOTA 554 | e sent via l | |
| Property Type Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if p Phone: Email: Correspondent Name: Address Line 1: Address Line 2: Address Line 4: | ATA e sent to provideo | (877)769-7945 the e-mail address first; if that if if that is unsuccessful, it will b (650) 839-5070 apsi@fr.com DAVID J. GOREN FISH & RICHARDSON P.C. P.O.BOX 1022 MINNEAPOLIS, MINNESOTA 554 05542-0613005 | e sent via l | |
| Property Type Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if p Phone: Email: Correspondent Name: Address Line 1: Address Line 2: Address Line 2: Address Line 4: | ATA e sent to provideo | 15403915 (877)769-7945 the e-mail address first; if that (650) 839-5070 apsi@fr.com DAVID J. GOREN FISH & RICHARDSON P.C. P.O.BOX 1022 MINNEAPOLIS, MINNESOTA 554 05542-0613005 CHRISTINE ROGERS | e sent via l | |
| Property Type Application Number: CORRESPONDENCE D Fax Number: Correspondence will be using a fax number, if p Phone: Email: Correspondent Name: Address Line 1: Address Line 2: Address Line 4: | ATA e sent to provideo | (877)769-7945 the e-mail address first; if that if if that is unsuccessful, it will b (650) 839-5070 apsi@fr.com DAVID J. GOREN FISH & RICHARDSON P.C. P.O.BOX 1022 MINNEAPOLIS, MINNESOTA 554 05542-0613005 | e sent via l | |

Case # 009942/02/CMP/05542-613001

ASSIGNMENT FOR APPLICATION FOR PATENT

WHEREAS:

Names and Addresses of Inventors:

Dominic J. Benvegnu 25 Entrada Way P.O. Box 382 La Honda, CA 94020

*) | : • :

> Jeffrey Drue David 2208 Marques Avenue San Jose, CA 95125 Bogdan Gwedek BOGUSLAW SWEDOK 10315 A El Prado Way Cupertino, CA 95014

(hereinafter referred to as Assignors), have invented a certain invention entitled:

SPECTRUM BASED ENDPOINTING FOR CHEMICAL MECHANICAL POLISHING for which application for Letters Patent in the United States was filed on August 26, 2005, under

Serial No.11/213,344, executed on even date herewith; and

WHEREAS, Applied Materials, Inc., a corporation of the State of Delaware, having a place of business at 3050 Bowers Avanue, Santa Clara, California 95054 (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said application (hereinafter referred to as the Application), and the invention disclosed therein (hereinafter referred to as the Invention), and in and to all embodiments of the Invention, heretofore conceived, made or discovered by said Assignors, and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter referred to as the Patents) thereon granted in any and all countries and groups of countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Assignors to have been received in full from said Assignee:

1. Said Assignors hereby sell, assign, transfer and convey to Assignee the full and exclusive right, title and interest (a) in and to said Application and said Invention; (b) in and to all rights to apply for patents on said Invention in any and all countries pursuant to the International Convention for the Protection of Industrial Property or otherwise; (c) in and to any and all Applications filed and any and all Patents granted on said Invention in any and all countries and groups of countries, including each and every Application filed and each and every Patent granted on any application which is a division, substitution, or continuation of said Application; and (d) in and to each and every reissue or extension of any of said Patents.

2. Said Assignors hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest to said Invention herein conveyed in any and all countries and groups of countries. Such cooperation by said Assignors shall include prompt production of pertinent facts and documents, giving testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of said applications; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said Invention; (d) for filing and prosecuting applications for reissuance of any of said Patents; (e) for interference or other priority proceedings involving said Invention; and (f) for legal proceedings involving said Invention and any application therefor and any Patents granted thereon, including without limitation opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Assignors in providing such cooperation shall be paid for by said Assignee.

RECORDED: 05/18/2020