


Form PTO-1596 (Rev. 01-09)  
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## RECORDATION FORM COVER SHEET PATENTS ONLY

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

<b>1. Name of conveying party(ies):</b> Amit Khandelwal (11/08/2007), Averginos V. Gelatos (11/08/2007), Christophe Marcadal (11/08/2007), and Additional name(s) of conveying party(ies) attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>2. Name and address of receiving party(ies)</b> Name: <u>APPLIED MATERIALS, INC.</u> Internal Address: _____ Street Address: _____  3050 Bowers Avenue  City: <u>Santa Clara</u> State: <u>California</u> Country: <u>U.S.A.</u> Zip: <u>95054</u> Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>3. Nature of conveyance/Execution Date(s):</b> Execution Date(s): <u>in parentheses after inventor name</u> <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Change of Name <input type="checkbox"/> Security Agreement <input type="checkbox"/> Joint Research Agreement <input type="checkbox"/> Government Interest Assignment <input type="checkbox"/> Executive Order 9424, Confirmatory License <input type="checkbox"/> Other _____	<b>4. Application or patent number(s):</b> <input type="checkbox"/> This document is being filed together with a new application. A. Patent Application No.(s) 12/426,815 filed April 20, 2009 B. Patent No.(s)  Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>5. Name and address to whom correspondence concerning document should be mailed:</b> Name: <u>B. Todd Patterson</u> <u>PATTERSON &amp; SHERIDAN, LLP</u> Internal Address: Atty. Dir.: APPM/011097.D1 Street Address: 3040 Post Oak Blvd, Suite 1500  City: <u>Houston</u> State: <u>TX</u> Zip: <u>77056</u> Phone Number: <u>(713) 623-4644</u> Fax Number: <u>(713) 623-4646</u> Email Address: <u>tpatterson@pattersonsheridan.com</u>	<b>6. Total number of applications and patents involved:</b> <span style="border: 1px solid black; padding: 2px 10px;">1</span>  <b>7. Total fee (37 CFR 1.21(h) &amp; 3.41)</b> \$ <u>40.00</u> <input checked="" type="checkbox"/> Authorized to be charged to deposit account <input type="checkbox"/> Enclosed <input type="checkbox"/> None required (government interest not affecting title)
<b>8. Signature:</b>  _____ Robert W. Mulcahy - 25,436 Name of Person Signing	<b>8. Payment Information</b> Deposit Account Number <u>50-1074</u> Authorized User Name <u>Robert W. Mulcahy</u>  Date: <u>December 28, 2009</u> Total number of pages including cover sheet, attachments, and documents: <span style="border: 1px solid black; padding: 2px 10px;">4</span>

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted by facsimile to the Patent and Trademark Office, facsimile no. (571) 273-0140, on the date shown below.

Dated: December 28, 2009

Signature:  (Keith M. Tackett)

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<b>RECORDATION FORM COVER SHEET (PTO-1506)</b> (supplemental sheet)	
<b>Additional Conveying Party(ies)/Execution Date(s) (1. Continued):</b>  Mei Chang (11/08/2007)	
<b>Additional Assignees (2. Continued):</b>	
Assignee Name: _____	
Internal Address: _____	
Street Address: _____	
City: _____ State: _____ Country: _____ Zip: _____	
Assignee Name: _____	
Internal Address: _____	
Street Address: _____	
City: _____ State: _____ Country: _____ Zip: _____	
Assignee Name: _____	
Internal Address: _____	
Street Address: _____	
City: _____ State: _____ Country: _____ Zip: _____	
<b>Additional Applications and/or Patents (4. Continued):</b>	
Additional Patent Application Numbers 4A. Continued:	Additional Patent Numbers 4B. Continued:
Additional numbers attached? <input type="checkbox"/> Yes <input type="checkbox"/> No	

Atty. Dkt. No. APPM/011067/CP/LB/AG

**ASSIGNMENT FOR APPLICATION FOR PATENT****WHEREAS:**

Names and Addresses of Inventors:

1) <b>AMIT KHANDLWAL</b> 3770 Flora Vista Avenue, #2402 Santa Clara, CA 95051	2) <b>AVGERINOS V. GELATOS</b> 2851 Eaton Avenue Redwood City, CA 94062
3) <b>CHRISTOPHE MARCADAL</b> 4224 Erie Court Santa Clara, CA 95054	4) <b>MEI CHANG</b> 12881 Corte de Arguello Saratoga, CA 95070

10804 Northview Sq  
Cupertino, CA  
95014

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

**DEPOSITION AND DENSIFICATION PROCESS FOR TITANIUM NITRIDE  
BARRIER LAYERS**

enclosed herewith or for which application for Letters Patent in the United States was filed on October 9, 2007, under Serial No. 11/869,557, 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 Avenue, 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 Application), and the invention disclosed therein (hereinafter referred to as 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 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 conventional, 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 conventional, 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.

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.

1)	<u>11/8/07</u>	(DATE)	<u></u> AMIT KHANDLWAL
2)	<u>11/9/08</u>	(DATE)	<u></u> AVGERINOS V. GELATOS
3)	<u>11/8/07</u>	(DATE)	<u></u> CHRISTOPHE MARCADAŁ
4)	<u>11/8/07</u>	(DATE)	<u></u> MEI CHANG