

## PATENT ASSIGNMENT

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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>DAVID PALAGASHVILI</td><td>04/05/2011</td></tr><tr><td>MICHAEL D. WILLWERTH</td><td>04/05/2011</td></tr><tr><td>JINGBAO LIU</td><td>03/30/2011</td></tr></tbody></table>	Name	Execution Date	DAVID PALAGASHVILI	04/05/2011	MICHAEL D. WILLWERTH	04/05/2011	JINGBAO LIU	03/30/2011	
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DAVID PALAGASHVILI	04/05/2011								
MICHAEL D. WILLWERTH	04/05/2011								
JINGBAO LIU	03/30/2011								
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									
<table border="1"><thead><tr><th>Property Type</th><th>Number</th></tr></thead><tbody><tr><td>Application Number:</td><td>13015106</td></tr></tbody></table>	Property Type	Number	Application Number:	13015106					
Property Type	Number								
Application Number:	13015106								
CORRESPONDENCE DATA									
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ATTORNEY DOCKET NUMBER:	14697US/ETCH/CHMBR/MDD								
NAME OF SUBMITTER:	Pauline Fischer								
Total Attachments: 2 source=14697US_Assignment#page1.tif source=14697US_Assignment#page2.tif									

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PATENT  
REEL: 026138 FRAME: 0252

## ASSIGNMENT FOR APPLICATION FOR PATENT

WHEREAS:

Names and Addresses of Inventors:

- 1) **DAVID PALAGASHVILI**  
49 Showers Dr., K431  
Mountain View, CA 94040
- 2) **MICHAEL D. WILLWERTH**  
3847 Rincon Ave.  
Campbell, CA 95008

- 3) **JINGBAO LIU**  
760 Holbrook Place  
Sunnyvale, CA 94087

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

### **APPARATUS FOR CONTROLLING THE FLOW OF A GAS IN A PROCESS CHAMBER**

for which we have filed an application for a Patent of the United States on January 27, 2011, Serial No. 13/015,106; 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 Assignor, 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 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.

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.

4/5/11, 2010

4/5/11, 2010

3/30/2011, 2010

D. Palagashvili  
DAVID PALAGASHVILI

Michael D. Willwerth  
MICHAEL D. WILLWERTH

Jingbao Liu  
JINGBAO LIU