To the Honorable Commissioner of Patents:

1. Name of conveying party(ies):
   - Ravi Jallapally
   - Shih-Hung Li
   - Alain Duboust
   - Jun Zhao
   - Liang-Yuh Chen
   - Daniel A. Carl
   Date: 07/10/02

2. Name and address of receiving party(ies):
   - Name: Applied Materials, Inc.
   - Internal Address: P.O. Box 450-A
   - Street Address:
     City: Santa Clara, State: CA, Zip: 95052
   Additional name(s) & address(es) attached? Yes X No

3. Nature of conveyance:
   - Assignment
   - Merger
   - Security Agreement
   - Change of Name
   - Other
   Execution Date: See Above

4. Application number(s) or registration number(s):
   - 10/121,568
   If this document is being filed together with a new application, the execution date of the application is: 8/7/02 (Date of Filing)

5. Name and address of party to whom correspondence concerning document should be mailed:
   - Name: Patent Counsel
   - Internal Address: APPLIED MATERIALS, INC.
   - Street Address: P.O. Box 450-A
   City: Santa Clara, State: CA, Zip: 95052
   Additional numbers attached? Yes X No

6. Total number of applications and patents involved: 1

7. Total fee (37 C.F.R. 3.41) $ 40.00
   Enclosed
   Authorized to be charged to deposit account 50-1074/APPM/5415/TCG/BG

8. Deposit account number:
   50-1074/APPM/5415/TCG/BG

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.
   Name of Person Signing: Robert W. Mulcahy, Reg. No. 25,436
   Date: 7/1/02

Mail documents to be recorded with required cover sheet information to:
Commissioner of Patents & Trademarks, Box Assignments
Washington, D.C. 20231

Total number of pages including cover sheet, attachments and document: 11
ASSIGNMENT FOR APPLICATION FOR PATENT

WHEREAS:

Names and Addresses of Inventors:

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APPARATUS AND METHOD FOR FAST-CYCLE ATOMIC LAYER DEPOSITION

for which application for Letters Patent in the United States was filed herewith, under Serial No., to be assigned, 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:

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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.

1) 11/11/2002 ____________________________ Ravi Jallepally

2) ____________________________, 2002 ____________________________ Shih-Hung Li

3) ____________________________, 2002 ____________________________ Alain Duboust

4) ____________________________, 2002 ____________________________ Jun Zhao

5) ____________________________, 2002 ____________________________ Liang-Yuh Chen

6) ____________________________, 2002 ____________________________ Daniel A. Carl
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2) 7/28/02, 2002 ______________________ Shin-Hung Li

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