### 05/15/2015 503309488

### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3356107

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

### **CONVEYING PARTY DATA**

Name	Execution Date	
DANIEL G. BERGER	05/13/2015	
TROY L. GRAVES-ABE	05/13/2015	
SUBRAMANIAN S. IYER	05/13/2015	
TOSHIAKI KIRIHATA	05/14/2015	
ARVIND KUMAR	05/12/2015	
WINFRIED W. WILCKE	05/13/2015	

### **RECEIVING PARTY DATA**

Name:	INTERNATIONAL BUSINESS MACHINES CORPORATION
Street Address:	NEW ORCHARD ROAD
City:	ARMONK
State/Country:	NEW YORK
Postal Code:	10504

### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	14713689

### **CORRESPONDENCE DATA**

Fax Number: (516)742-4366

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ATTORNEY DOCKET NUMBER:	FIS920140296US1 (31626)
NAME OF SUBMITTER:	STEVEN FISCHMAN
SIGNATURE:	/Steven Fischman/
DATE SIGNED:	05/15/2015
	This document serves as an Oath/Declaration (37 CFR 1.63).

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REEL: 035651 FRAME: 0416

# Total Attachments: 11 source=FIS920140296US1\_FiledAssignDec#page1.tif source=FIS920140296US1\_FiledAssignDec#page2.tif source=FIS920140296US1\_FiledAssignDec#page3.tif source=FIS920140296US1\_FiledAssignDec#page4.tif source=FIS920140296US1\_FiledAssignDec#page5.tif source=FIS920140296US1\_FiledAssignDec#page6.tif source=FIS920140296US1\_FiledAssignDec#page7.tif source=FIS920140296US1\_FiledAssignDec#page8.tif source=FIS920140296US1\_FiledAssignDec#page9.tif source=FIS920140296US1\_FiledAssignDec#page10.tif source=FIS920140296US1\_FiledAssignDec#page11.tif

PATENT REEL: 035651 FRAME: 0417

Title of Invention: ARCHITECTURE AND IMPLEMENTATION OF CORTICAL SYSTEM, AND FABRICATING AN ARCHITECTURE USING 3D WAFER SCALE INTEGRATION]

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

Whereas, I ("ASSIGNOR") have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified patent application and further identified by the IBM Docket Number provided above in the header of this document;

Whereas, International Business Machines Corporation (herein referred to as the "ASSIGNEE"), a corporation of New York having a place of business at Armonk, New York, desires to acquire, and I desire to grant to the ASSIGNEE, my entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

Now, therefore, for good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged, I hereby sell or have sold, assign or have assigned, and otherwise transfer or have transferred to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisions. continuations, reissues, reexaminations, renewals, extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the filing of such applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by me had this Assignment not been made; and I agree to execute any and all documents and instruments and perform all lawful acts reasonably related to recording this Assignment or perfecting title to the Invention and all related patents and applications, in the ASSIGNEE, its successors, legal representatives, and assigns, whenever requested by the ASSIGNEE, its successors, legal representatives, or assigns.

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I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

(1) Legal Name of Inventor: Daniel G. Berger	
Signature: Daniel D. Berger	Date: 5/13/2015
(2) Legal Name of Inventor: Troy L. Graves-Abe	
Signature:	Date:
(3) Legal Name of Inventor: Subramanian S. Iyer	
Signature:	Date:
(4) Legal Name of Inventor: Toshiaki Kirihata	
Signature:	Date:
(5) Legal Name of Inventor: Arvind Kumar	
Sìgnature:	Date:
(6) Legal Name of Inventor: Winfried W. Wilcke	
Signature:	Date:

Page 2 of 2

**PATENT** 

REEL: 035651 FRAME: 0419

# DECLARATION (37 C.F.R. 1.63) FOR UTILITY PATENT APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76) AND ASSIGNMENT

Title of Invention: ARCHITECTURE AND IMPLEMENTATION OF CORTICAL SYSTEM, AND FABRICATING AN ARCHITECTURE USING 3D WAFER SCALE INTEGRATION]

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(1) Legal Name of Inventor: Daniel G. Berger	
Signature:	Date:
(2) Legal Name of Inventor: Troy L. Graves-Abe	
Signature: Troy & Grave - abe	Date: May 13, 201
(3) Legal Name of Inventor: Subramanian S. Iyer	
Signature:	Date;
(4) Legal Name of Inventor: Toshiaki Kirihata	
Signature:	Date:
(5) Legal Name of Inventor: Arvind Kumar	
Signature:	Date:
(6) Legal Name of Inventor: Winfried W. Wilcke	
Signature:	Date:

Page 2 of 2

Title of Invention: ARCHITECTURE AND IMPLEMENTATION OF CORTICAL SYSTEM, AND FABRICATING AN ARCHITECTURE USING 3D WAFER SCALE INTEGRATION

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(1) Legal Name of Inventor: Daniel G. Berger	
Signature:	Date:
(2) Legal Name of Inventor: Troy L. Graves-Abe	
Signature:	Date:
(3) Legal Name of Inventor: Subramanian S. Iyer	
Signature: Suhamani- J.	
(4) Legal Name of Inventor: Toshiaki Kirihata	,
Signature:	Date:
(5) Legal Name of Inventor: Arvind Kumar	
Signature: Guild Kinnas	Date: May 12, 2015
(6) Legal Name of Inventor: Winfried W. Wilcke	
Signature:	Date:
Page 2 of 2	

. . . . . . . . . . . .

Title of Invention: ARCHITECTURE AND IMPLEMENTATION OF CORTICAL SYSTEM, AND FABRICATING AN ARCHITECTURE USING 3D WAFER SCALE INTEGRATION

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Signature: Joshul T	Date:5/14/2015.
(5) Legal Name of Inventor: Arvind Kumar	
Signature:	Date:
(6) Legal Name of Inventor: Winfried W. Wilcke	
Signature:	Date:

Page 2 of 2

Title of Invention: ARCHITECTURE AND IMPLEMENTATION OF CORTICAL SYSTEM, AND FABRICATING AN ARCHITECTURE USING 3D WAFER SCALE INTEGRATION]

As a below named and undersigned inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

[] United States application or PCT international application number \_\_\_\_\_\_\_\_.

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(4) Legal Name of Inventor: Toshiaki Kirihata		
Signature:	Date:	
(5) Legal Name of Inventor: Arvind Kumar		
Signature	Date:	

(6) Legal Name of Inventor: Winfried W. Wilcke	
Winfried W. Wille	
Signature:	Date:_May 13, 2015_

Page 3 of 3

PATENT REEL: 035651 FRAME: 0428