

<b>PATENT ASSIGNMENT COVER SHEET</b>
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EPAS ID: PAT5040884

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
WILLIAM J. EGAN	07/03/2018
KENNETH B. GREINER	07/03/2018
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<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16010537
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<b>NAME OF SUBMITTER:</b>	JOHN S. CURRAN
<b>SIGNATURE:</b>	/John S. Curran/
<b>DATE SIGNED:</b>	07/09/2018
<b>Total Attachments: 6</b>	
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**ASSIGNMENT - WORLDWIDE**

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor (hereinafter referred to singly and collectively as "ASSIGNOR") has sold, assigned, and transferred, and by these presents hereby sells, assigns, and transfers, unto

**Coventor, Inc.**  
1000 CentreGreen Way, Suite 200  
Cary, NC 27513

(hereinafter referred to as "ASSIGNEE") its successors and assigns, the full and exclusive right, title and interest for the United States, its territories and possessions, and all foreign countries in and to this invention relating to

**SYSTEM AND METHOD FOR KEY PARAMETER IDENTIFICATION,  
PROCESS MODEL CALIBRATION AND VARIABILITY ANALYSIS  
IN A VIRTUAL SEMICONDUCTOR DEVICE FABRICATION ENVIRONMENT**

as set forth in the following Patent Applications:

U.S. Application No. 16/010,537, filed June 18, 2018  
Korea Patent Application No. 2018-0069418, filed June 18, 2018  
Japan Patent Application No. 2018-115285, filed June 18, 2018  
Taiwan Patent Application No. 107120904, filed June 19, 2018  
China Patent Application No. 201810629679.9, filed June 19, 2018

which claim the benefit of the following Applications:

United States Provisional Application No. 62/631,022, filed February 15, 2018  
United States Provisional Application No. 62/521,506, filed June 18, 2017

as well as in and to (a) all improvements and modifications of the above-identified invention or inventions, (b) the above-identified applications and all other applications for Letters Patent of the United States and countries foreign thereto for above-identified invention or inventions and all improvements and modifications thereof, (c) all Letters Patent which may issue from said applications in the United States and countries foreign thereto, (d) all divisions, continuations, reissues, and extensions of said applications and Letters Patent, and (e) the right to claim for any of said applications the full benefits and priority rights under the International Convention and any other international agreement to which the United States adheres; such right, title, and interest to be held and enjoyed by ASSIGNEE, its successors and assigns, to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by ASSIGNOR had this Assignment not been made.

ASSIGNOR HEREBY AUTHORIZES ASSIGNEE to file patent applications in any or all countries on the above-identified invention or inventions in the name of the undersigned or in the name of ASSIGNEE or otherwise as ASSIGNEE may deem advisable under the International Convention or otherwise.

ASSIGNOR HEREBY AUTHORIZES AND REQUESTS the Commissioner of Patents and Trademarks to issue said Letters Patent to ASSIGNEE as assignee of the entire interest, for the sole use and benefit of ASSIGNEE, its successors and assigns.

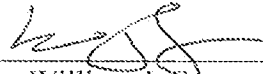
ASSIGNOR HEREBY AGREES (a) to communicate to ASSIGNEE, its successors and assigns, or their representative or agents, all facts and information known or available to ASSIGNOR respecting said invention or inventions, improvements, and modifications including evidence for interference, reexamination, reissue, opposition, revocation, extension, or infringement purposes or other legal, judicial, or administrative proceedings, whenever requested by ASSIGNEE; (b) to testify in person or by affidavit as required by ASSIGNEE, its successors and assigns, in any such proceeding in the United States or a country foreign thereto; (c) to execute and deliver, upon request by ASSIGNEE, all lawful papers including, but not limited to, original, divisional, continuation, and reissue applications, renewals, assignments, powers of attorney, oaths, affidavits, and declarations, depositions; and (d) to provide all reasonable assistance to ASSIGNEE, its successors and assigns, in obtaining and enforcing proper title in and protection for said invention or inventions, improvements, and modifications under the intellectual property laws of the United States and countries foreign thereto.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the law firm of **McCarter & English, LLP** the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

ASSIGNOR UNDERSTANDS AND AGREES that the attorneys and agents of the law firm of **McCarter & English, LLP** do not personally represent ASSIGNOR OR ASSIGNOR's legal interests, but instead represent the interests of ASSIGNEE; since said attorneys and agents cannot provide legal advice to ASSIGNOR with respect to this Assignment, ASSIGNOR acknowledges its right to seek its own independent legal counsel.

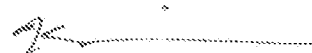
Executed this 3<sup>rd</sup> day of July, 2018.

  
\_\_\_\_\_  
William J. Egan


Witnessed by: Marie Egan  
Signature  
Marie Egan  
Printed Name of Witness

Date: 7/3/18

Executed this 3<sup>rd</sup> day of July, 2018.



\_\_\_\_\_  
Kenneth B. Greiner

Witnessed by: \_\_\_\_\_  
Signature

Date: July 3, 2018

ALAN R. LEVIN  
Printed Name of Witness

Executed this 3<sup>RD</sup> day of JULY, 2018.



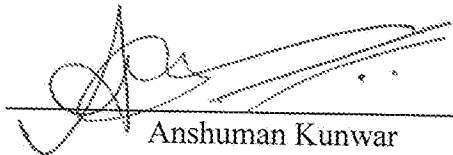
David M. Fried

Witnessed by: Lisa A. Agnelli  
Signature

Date: 7/3/18

Lisa A. Agnelli  
Printed Name of Witness

Executed this 5<sup>th</sup> day of July, 2018.

  
Anshuman Kunwar

Witnessed by:   
Signature

Date: 07/05/2018

YUE HAN  
Printed Name of Witness