## 504488932 08/04/2017

# PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
DAVID J. LOVE	07/06/2017
JIHO SONG	07/05/2017

#### **RECEIVING PARTY DATA**

Name:	PURDUE RESEARCH FOUNDATION
Street Address:	1801 NEWMAN ROAD
City:	WEST LAFAYETTE
State/Country:	INDIANA
Postal Code:	47906

### **PROPERTY NUMBERS Total: 2**

Property Type	Number
Application Number:	62243909
Application Number:	15298795

#### **CORRESPONDENCE DATA**

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

**Email:** jjmartin@prf.org

Correspondent Name: PURDUE RESEARCH FOUNDATION

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ATTORNEY DOCKET NUMBER:	67245-01 AND 02
NAME OF SUBMITTER:	JENI MARTIN
SIGNATURE:	/JENI MARTIN/
DATE SIGNED:	08/04/2017

#### **Total Attachments: 6**

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PATENT

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PATENT REEL: 043195 FRAME: 0690

### ASSIGNMENT

WHEREAS, WE, DAVID J. LOVE, citizen of United States; JIHO SONG, citizen of South Korea; (hereinafter "Assignors"), have made or developed a technology identified in a disclosure to Purdue Research Foundation (PRF) and assigned PRF reference number 2016-LOVE-67245, generally known as:

# "KRONECKER-PRODUCT MONO AND DUAL CODEBOOK DESIGNS FOR FD-MIMO SYSTEMS",

which is further described in a patent application filed in the United States Patent and Trademark Office on <u>October 20, 2015</u>, and accorded Application No. 62/243,909 ("Technology"); and which is further described in a patent application filed in the United States Patent and Trademark Office on <u>October 20, 2016</u>, and accorded Application No. 15/298,795 ("Technology");

WHEREAS, Purdue Research Foundation, a statutory body corporate formed and existing under the Indiana Foundation or Holding Companies Act of 1921, having a place of business at 1281 Win Hentschel Blvd, West Lafayette, IN 47906 (hereinafter "Assignee"), is desirous of accepting and assuming all such right, title, and interests of the Assignor.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, the Assignor(s) do hereby sell, transfer, convey, assign and deliver unto the Assignee, its successors, assigns and legal representatives, any and all intellectual property rights, whether domestic or foreign related to the Technology, including but not limited to: all portions, and works in progress with respect thereto and all inventions, works of authorship, masks works, technology, information, know-how, materials and tools relating thereto or to the development, support or maintenance thereof; all copyright, patent rights, trade secret rights, trademark rights, mask works rights, and all other intellectual property rights and all business, contract rights and goodwill in, incorporated or embodied in, used to develop, or related to any of the foregoing and any registrations and applications for registrations of the foregoing throughout the United States of America and the world and any and all other applications arising therefrom, including any and

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all divisional applications, continuation applications, and continuation-in-part applications (but only and solely to the extent such continuation-in-part applications are described in the priority application to which such continuation-in-part applications claim priority and such priority is not denied), of the Technology, and any and all patents to be issued and obtained therefore and thereon, in the United States and throughout the world, including all reissued Patents, and extensions thereof (collectively, the "Intellectual Property");

AND WE HEREBY agree to communicate to Assignee or its representative any facts known to us respecting the Technology whether or not patentable, which we may conceive, develop, make, produce or reduce to practice in whole or in part as a result of any employment, research, or activity involving or relating to the use of Purdue University resources; and agree to sign all lawful documents and make all rightful oaths and declarations relating to said Technology and Intellectual Property; authorize Assignee to insert herein the date of application, serial number, date of registration, and registration number of patents issued once known; and agree to otherwise aid ASSIGNEE as necessary and desirable to:

- 1. Obtain, enforce, and maintain any issued letters patent in the United States or throughout the world, when reasonably requested to do so by Assignee, including but not limited to executing, acknowledging, and delivering to Assignee such written documents and instruments as Assignee requests and giving testimony in support of Assignee's inventorship, as may be necessary in Assignee's opinion to obtain and maintain patents in the United States of America and throughout the world;
- 2. Secure or aid in securing and maintaining copyright protection in the Intellectual Property and assist Assignee or its nominees in filing applications to register copyright in the name of Assignee as owner in such Intellectual Property; and
- 3. Execute, acknowledge, and deliver to Assignee at its expense, such written documents and instruments and do such other acts as may be necessary in the opinion of Assignee, to vest the entire rights, title, and interests in and to the Intellectual Property to Assignee and to confirm the complete ownership thereof by Assignee.

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PRF Ref No. 2016-LOVE-67245-01 and 02

AND WE HEREBY authorize ASSIGNEE to take any and all action necessary to

effectuate this Assignment, including but not limited to, the filing of the Assignment with the U.S.

Patent and Trademark Office and U.S. Copyright Office.

AND WE HEREBY authorize and request the Director of the U.S. Patent and Trademark

Office or any other proper officer or agency throughout the world to issue any and all said letters

patent to Assignee.

AND WE HEREBY warrant and covenant that we have full rights to convey the entire

right, title and interest herein assigned and that we have not executed and will not execute any

instrument or assignment in conflict herewith;

This Assignment shall be binding upon Assignor(s) and their heirs, successors, and assigns.

Should any term of this Assignment be found invalid or unenforceable, it shall not affect the

validity or enforceability of any other term of this Assignment. The laws of the State of Indiana

will govern the interpretation, validity, and effect of this Assignment, without regard to the place

of making or to the place of performance.

This Assignment is hereby made effective as of the conception date of the Technology.

[SIGNATURES ON NEXT PAGE]

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PATENT REEL: 043195 FRAME: 0693 ACCEPTED BY ASSIGNOR:

Residence Address:

3132 Coversitor St Address
West Latagette, IN 47906
City, State and Zip

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ACCEPTED BY ASSIGNOR:

05 Jul Date

JIHO SONG

Residence Address:

2906 Stockton Ct

Address

Naperville, IL 60564, UsA
City, State and Zip

ACCEPTED BY ASSIGNEE:

August 3, 2017

Date `

By: / All feloui

Printed: Bobak P. Jalaie

Title: Chief Patent Counsel and Director of IP - Legal

Office of Technology Commercialization

Purdue Research Foundation

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