505609279 08/06/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5656080

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
WENTAO HUANG	07/23/2019
JEHOSHUA BRUCK	06/29/2019

RECEIVING PARTY DATA

Name:	me: CALIFORNIA INSTITUTE OF TECHNOLOGY	
Street Address: 1200 E. CALIFORNIA BOULEVARD		
Internal Address:	M/C 6-32	
City:	PASADENA	
State/Country:	CALIFORNIA	
Postal Code:	91125	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15167967

CORRESPONDENCE DATA

Fax Number: (949)852-0004

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.

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Correspondent Name: K

Address Line 1: 2190 S. TOWNE CENTRE PLACE

Address Line 2: SUITE 300

Address Line 4: ANAHEIM, CALIFORNIA 92806

ATTORNEY DOCKET NUMBER:	C9-04625
NAME OF SUBMITTER:	TESS LANGSETH-DEPAOLIS
SIGNATURE:	/Tess Langseth-DePaolis/
DATE SIGNED:	08/06/2019

Total Attachments: 5

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PATENT 505609279 REEL: 049980 FRAME: 0892

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> PATENT REEL: 049980 FRAME: 0893

RECORDATION FORM COVER SHEET		
PATENTS ONLY		
To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.		
1. Name of conveying party(ies)	2. Name and address of receiving party(ies)	
Wentao Huang; Jehoshua Bruck	Name: California Institute of Technology	
	Internal Address: M/C 6-32	
Additional name(s) of conveying party(ies) attached? Yes kellong 3. Nature of conveyance/Execution Date(s):	Street Address: 1200 E. California Boulevard	
Execution Date(s) July 23, 2019; June 29, 2019	Oliebi Addiess.	
Assignment Merger		
Security Agreement Change of Name	City: Pasadena	
Joint Research Agreement	State: CA	
Government Interest Assignment		
Executive Order 9424, Confirmatory License	Country: US Zip: 91125	
Other	Additional name(s) & address(es) attached? Yes Wo	
	document serves as an Oath/Declaration (37 CFR 1.63).	
A. Patent Application No.(s)	B. Patent No.(s)	
15/167,967		
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Additional numbers of		
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5. Name and address to whom correspondence concerning document should be mailed: Name: KPPB LLP	6. Total number of applications and patents	
5. Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: 1 7. Total fee (37 CFR 1.21(h) & 3.41) \$	
5. Name and address to whom correspondence concerning document should be mailed: Name: KPPB LLP Internal Address: Suite 300	6. Total number of applications and patents involved: 1 7. Total fee (37 CFR 1.21(h) & 3.41) \$ Authorized to be charged to deposit account	
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5. Name and address to whom correspondence concerning document should be mailed: Name: KPPB LLP Internal Address: Suite 300 Street Address: 2190 S. Towne Centre Place	6. Total number of applications and patents involved: 7. Total fee (37 CFR 1.21(h) & 3.41) \$ Authorized to be charged to deposit account	
5. Name and address to whom correspondence concerning document should be mailed: Name: KPPB LLP Internal Address: Suite 300 Street Address: 2190 S. Towne Centre Place City: Anaheim	6. Total number of applications and patents involved: 1 7. Total fee (37 CFR 1.21(h) & 3.41) \$ Authorized to be charged to deposit accountEnclosed	
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5. Name and address to whom correspondence concerning document should be mailed: Name: KPPB LLP Internal Address: Suite 300 Street Address: 2190 S. Towne Centre Place City: Anaheim State: CA Zip: 92806	6. Total number of applications and patents involved: 7. Total fee (37 CFR 1.21(h) & 3.41) \$ Authorized to be charged to deposit account Enclosed None required (government interest not affecting title) 8. Payment Information	
5. Name and address to whom correspondence concerning document should be mailed: Name: KPPB LLP Internal Address: Suite 300 Street Address: 2190 S. Towne Centre Place City: Anaheim	6. Total number of applications and patents involved: 7. Total fee (37 CFR 1.21(h) & 3.41) \$ Authorized to be charged to deposit account	
5. Name and address to whom correspondence concerning document should be mailed: Name: KPPB LLP Internal Address: Suite 300 Street Address: 2190 S. Towne Centre Place City: Anaheim State: CA Zip: 92806 Phone Number: 949.852.0000	6. Total number of applications and patents involved: 7. Total fee (37 CFR 1.21(h) & 3.41) \$ Authorized to be charged to deposit account Enclosed None required (government interest not affecting title) 8. Payment Information	
5. Name and address to whom correspondence concerning document should be mailed: Name: KPPB LLP Internal Address: Suite 300 Street Address: 2190 S. Towne Centre Place City: Anaheim State: CA Zip: 92806 Phone Number: 949.852.0000 Docket Number: C9-04625 Email Address: pair@kppb.com	6. Total number of applications and patents involved: 7. Total fee (37 CFR 1.21(h) & 3.41) \$ Authorized to be charged to deposit account	
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5. Name and address to whom correspondence concerning document should be mailed: Name: KPPB LLP Internal Address: Suite 300 Street Address: 2190 S. Towne Centre Place City: Anaheim State: CA Zip: 92806 Phone Number: 949.852.0000 Docket Number: C9-04625 Email Address: pair@kppb.com 9. Signature: /Paul J. Lee/ Signature	6. Total number of applications and patents involved: 7. Total fee (37 CFR 1.21(h) & 3.41) \$	

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ASSIGNMENT AGREEMENT

WHEREAS, I/We, Wentao Huang and Jehoshua Bruck (Assignor(s)) have made certain new and useful inventions, improvements and/or designs set forth in an application for Letters Patent entitled Communication Efficient Secret Sharing, filed on May 27, 2016 and having been assigned Application No. 15/167,967 (Assigned Patent Application);

WHEREAS, California Institute of Technology, a California corporation, having a place of business at 1200 E. California Boulevard, M/C 6-32, Pasadena, California 91125 (Assignee), is desirous of acquiring the entire right, title and interest in and to said inventions, improvements, and/or designs and in and to any and all Letters Patent of the United States and foreign countries which may be obtained therefore;

NOW, THEREFORE, Assignor(s) and Assignee do hereby enter into the following Assignment Agreement.

1. Definitions

The Assigned Patent Rights means certain new and useful inventions, improvements, and designs made by the Assignor(s) for which the Assigned Patent Application has been filed.

The Assigned Patent Rights also includes:

- the Assigned Patent Application;
- all Letters Patent granted based upon an application for Letters Patent forming part of the Assigned Patent Rights;
- any inventions, improvements, and designs disclosed by an application for Letters
 Patent forming part of the Assigned Patent Rights;
- any provisional patent application to which priority is claimed under 35 U.S.C. § 119(e) by an application for Letters Patent forming part of the Assigned Patent Rights that has not previously been assigned by the Assignors;
- all divisional applications, continuation applications, continuation-in-part applications, and design patent applications claiming priority to an application for Letters Patent forming part of the Assigned Patent Rights, as well as any conversions, revival and prolognations of an application for Letters Patent forming part of the Assigned Patent Rights;
- the authority to prosecute/initiate any reissue, reexamination, renewal or extension of the Assigned Patent Application or of any Letters Patent granted based upon an application for Letters Patent forming part of the Assigned Patent Rights;

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- any substitute application filed based upon an application for Letters Patent forming part of the Assigned Patent Rights;
- any priority rights associated with an application for Letters Patent forming part of the
 Assigned Patent Rights, including priority under International Agreements, Treaties
 and Conventions for the protection of intellectual property in its various forms and all
 applications in which a right of priority is claimed and any Letters Patent, Design
 Patent, Utility Model, or equivalent granted therefrom;
- any legal equivalents of priority rights associated with an application for Letters Patent
 forming part of the Assigned Patent Rights, including priority under International
 Agreements, Treaties and Conventions for the protection of intellectual property in its
 various forms and all applications in which a right of priority is claimed and any Letters
 Patent, Design Patent, Utility Model, or equivalent granted therefrom; and
- any right to sue for infringement of any right arising from the filing of an application for Letters Patent forming part of the Assigned Patent Rights.

2. Assignment of the Assigned Patent Rights

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Assignor(s) have and/or do hereby sell, assign, and transfer to Assignee, its successors and assigns, all right, title, and interest for the United States and its territorial possessions and in all foreign countries in and to the Assigned Patent Rights.

3. Cooperation Agreement

The Assignor(s) further agree without further or additional consideration, but at the expense of Assignee, to:

- promptly provide Assignee, upon request, with all pertinent facts and documents relating to the Assigned Patent Rights;
- cooperate with Assignee in the protection and prosecution of the Assigned Patent Rights;
- testify with respect to all pertinent facts and documents relating to the Assigned Patent Rights in any interference, post grant review, inter parties review, litigation, or proceeding relating thereto;
- review, execute, verify, acknowledge and deliver to Assignee or its legal representative any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue, or enforce the Assigned Patent Rights; and
- · perform such other acts as Assignee lawfully may request to obtain or maintain the

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Assigned Patent Rights, or to vest title thereto in said Assignee.

4. Assignors Representations

The Assignor(s) hereby represent and warrant that they have not entered, and will not enter, into any assignment, license agreement, sale agreement, or encumbrance that conflicts with the assignment of the Assigned Patent Rights.

5. Authorization to issue patents in name of Assignee

The Assignor(s) and Assignee hereby confirm that the assignment to the Assignee of the Assigned Patent Rights includes authorization by the Assignor(s) for the United States Commissioner of Patents and Trademarks, and officials of any other country whose duty it is to issue patents on applications, to issue any Letters Patent arising from the Assigned Patent Rights to the Assignee, its successors, or assigns.

Assignor(s) grants the attorney of record the power to insert on this Assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

This Assignment may be executed in one or more counterparts, each of which shall be deemed an original and all of which may be taken together as one and the same Assignment.

IN	TESTIMONY	WHEREOF, I, Wenta	o Huang, hereunto set my hand this 23rd day o
			Worms Hearly.
			Wentao Huang 294 S. Wilson Avenue, #6 Pasadena, CA 91106
			Witnessari

IN TESTIMONY WHEREOF, i, Jehoshua i June 2019.	3ruck, hereunto set my hand this29_ day of
	Jehoshua Bruck 5657 Bramblewood Road La Canada, CA 91011
	Witnessed:
Assignee hereby accepts this Assignmen	1: 7/30/2019
Name	Title Date

Fred Farina
Chief Innovation & Corporate Partnerships Officer
Office of Technology Transfer & Corporate Partnerships