

PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT4557952

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
EMAD BOCTOR	04/16/2017
BEHNOOSH TAVAKOLI	03/03/2017
HYUN-JAE KANG	03/16/2017
XIAOYU GUO	06/29/2017
JIN KANG	02/27/2017
RECEIVING PARTY DATA	
Name:	THE JOHNS HOPKINS UNIVERSITY
Street Address:	3400 N. CHARLES STREET
City:	BALTIMORE
State/Country:	MARYLAND
Postal Code:	21218
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	14561087
CORRESPONDENCE DATA	
Fax Number:	(410)223-1730
<i>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.</i>	
Phone:	4106140300
Email:	colive13@jhmi.edu
Correspondent Name:	JOHNS HOPKINS TECHNOLOGY VENTURES
Address Line 1:	1812 ASHLAND AVENUE
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Address Line 4:	BALTIMORE, MARYLAND 21205
ATTORNEY DOCKET NUMBER:	P12808-02
NAME OF SUBMITTER:	LOUISA RYAN
SIGNATURE:	/Louisa Ryan/
DATE SIGNED:	08/21/2017
Total Attachments: 7	

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WORLDWIDE ASSIGNMENT

WHEREAS, We, Emad Boctor, Behnoosh Tavakoli, Hyun-Jae Kang, Xiaoyu Guo, Jin Kang; hereinafter collectively referred to as the ASSIGNOR(s), have invented a certain new and useful improvement relating to Systems and Methods for Real-Time Tracking of Photoacoustic Sensing (JHU Ref. No. C12808), hereinafter referred to as the INVENTION(s), for which an application was filed in the United States Patent and Trademark Office on December 04, 2014, as United States Patent Application Number 14/561,087, in addition to:

[X] said application(s) having been filed as U.S. Provisional Patent Application(s) on December 04, 2013, and given Application No. 61/911,586; wherein all applications listed above being hereinafter referred to as the APPLICATION(s);

WHEREAS, The Johns Hopkins University, a corporation duly organized under the laws of the State of Maryland, having a place of business at 3400 N. Charles Street, Baltimore, Maryland 21218, USA, hereinafter referred to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to the INVENTION(s) and the APPLICATION(s) and each and every priority right that is or may be predicated upon or arise from the INVENTION(s) and APPLICATION(s), including any divisions, continuations, substitutions, renewals, reissues, reexaminations, and extensions thereof, and any and all applications claiming priority therefrom, and the entire right, title, and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries;

NOW, THEREFORE, that for good and sufficient consideration, the receipt and sufficiency of which is hereby acknowledged, ASSIGNOR(s) hereby sells, assigns, transfers, and sets over, and has assigned, sold, transferred, and set over, to ASSIGNEE, its successors, legal representatives, and assigns, the entire right, title, and interest in and to the INVENTION(s) and the APPLICATION(s) and each and every priority right that is or may be predicated upon or arise from the INVENTION(s) and APPLICATION(s), including any divisions, continuations, substitutions, renewals, reissues, reexaminations, and extensions thereof, and any and all applications claiming priority therefrom, and the entire right, title, and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries, the same to be held and enjoyed by ASSIGNEE, for its own use and benefit and for the use and benefit of its successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent may be granted and/or extended, as fully and entirely as the same would have been held and enjoyed by ASSIGNOR(s), had this sale and assignment not been made;

AND for the same consideration, ASSIGNOR(s) hereby represent and warrant to ASSIGNEE, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, except for any rights, titles and/or interests that have arisen to ASSIGNEE under law or that have already been transferred to ASSIGNEE, ASSIGNOR(s) are the sole and lawful owners of the entire right, title and interest in and to the INVENTION(s) and APPLICATION(s) for Letters Patent, and that the same are unencumbered, and that ASSIGNOR(s) have good and full right and lawful authority to sell and convey the same in the manner set forth herein;

AND for the same consideration, ASSIGNOR(s) hereby covenant and agree to and with ASSIGNEE, its successors, legal representatives, and assigns, that ASSIGNOR(s) will sign, execute, and deliver to ASSIGNEE all papers and documents, including, but not limited to, petitions, specifications, oaths, assignments, invention disclaimers, declarations, and lawful affidavits in form and substance that may be requested by ASSIGNEE, to communicate to or furnish ASSIGNEE with any and all facts relating to the INVENTION(s) or the history thereof and any and all documents, data, photographs, models, samples, prototypes, biological deposits, or other physical exhibits which may embody the INVENTION(s), to testify in any proceedings relating to the INVENTION(s), patent applications, and/or Letters Patent, take all lawful oaths, and otherwise do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of any Letters Patent and applications for Letters Patent for said INVENTION(s), without charge to ASSIGNEE, its successors, legal representatives and assigns, whenever counsel of ASSIGNEE, or counsel of its successors, legal representatives, and assigns, shall advise that any proceeding, including, but not limited to, interference proceedings, in connection with said INVENTION(s), or said APPLICATION(s) for Letters Patent, or Letters Patent, and each and every priority right that is or may be predicated upon or arise from the INVENTION(s) and APPLICATION(s), including any divisions, continuations, substitutions, renewals, reissues, reexaminations, and extensions thereof, and any and all applications claiming priority therefrom, in the United States and its territorial possessions and in any and all foreign countries is lawful and desirable;

AND ASSIGNOR(s) hereby authorize and request the Patent Office Officials in the United States and its territorial possessions, including the Commissioner of Patent and Trademarks, and Patent Office Officials in any and all foreign countries to issue any and all of said Letters Patent, when granted, to ASSIGNEE as the assignee of my/our entire right, title, and interest in said INVENTION(s) and the Letters Patent to be issued thereon, for the sole use and benefit of ASSIGNEE, its successors, legal representatives, and assigns, to the full end of the term or terms for which said Letters Patent may be granted, as fully and entirely as the same would have been held by ASSIGNOR(s) had this Assignment not been made;

AND ASSIGNOR(s) hereby grant an authorized representative of ASSIGNEE the power to insert in this Assignment any further identification, including the application number(s) and filing date(s), which may be necessary or desirable to comply with the rules of the United States Patent and Trademark Office for recordation of this Assignment;

AND ASSIGNOR(s) acknowledge an obligation of assignment in this invention to ASSIGNEE at the time the invention was made;

AND this Assignment is deemed to be effective at least as early as December 04, 2013.

IN WITNESS WHEREOF, each individual collectively referred to as ASSIGNOR has caused this Assignment to be executed.

EXECUTED this 16 day of April, 2017.

ASSIGNOR: **Emad Boctor**

Signature: 

Name: Emad M. Boctor

WITNESS:

Signature: 

Name: Krishna Velaga

EXECUTED this ____ day of _____, 2017.

ASSIGNOR: **Behnoosh Tavakoli**

Signature: _____

Name: _____

WITNESS:

Signature: _____

Name: _____

EXECUTED this ____ day of _____, 2017.

ASSIGNOR: **Hyun-Jae Kang**

Signature: _____

Name: _____

WITNESS:

Signature: _____

Name: _____

EXECUTED this ____ day of _____, 2017.

ASSIGNOR: **Xiaoyu Guo**

Signature: _____

Name: _____

WITNESS:

Signature: _____

Name: _____

EXECUTED this ____ day of _____, 2017.

ASSIGNOR: **Jin Kang**

Signature: _____

Name: _____

WITNESS:

Signature: _____

Name: _____

IN WITNESS WHEREOF, each individual collectively referred to as ASSIGNOR has caused this Assignment to be executed.

EXECUTED this _____ day of _____, 2017.

ASSIGNOR: **Emad Bector**

Signature: _____

Name: _____

WITNESS:

Signature: _____

Name: _____

EXECUTED this 3 day of March, 2017.

ASSIGNOR: **Behnoosh Tavakoli**

Signature: Tavakoli

Name: Behnoosh Tavakoli

WITNESS:

Signature: [Signature]

Name: David Kitscher

EXECUTED this _____ day of _____, 2017.

ASSIGNOR: **Hyun-Jae Kang**

Signature: _____

Name: _____

WITNESS:

Signature: _____

Name: _____

EXECUTED this _____ day of _____, 2017.

ASSIGNOR: **Xiaoyu Guo**

Signature: _____

Name: _____

WITNESS:

Signature: _____

Name: _____

EXECUTED this _____ day of _____, 2017.

ASSIGNOR: **Jin Kang**

Signature: _____

Name: _____

WITNESS:

Signature: _____

Name: _____

IN WITNESS WHEREOF, each individual collectively referred to as ASSIGNOR has caused this
Assignment to be executed.

EXECUTED this ____ day of _____, 2017.

ASSIGNOR: **Emad Boctor**

Signature: _____

Name: _____

WITNESS:

Signature: _____

Name: _____

EXECUTED this ____ day of _____, 2017.

ASSIGNOR: **Behnoosh Tavakoli**

Signature: _____

Name: _____

WITNESS:

Signature: _____

Name: _____

EXECUTED this 16 day of March, 2017.

ASSIGNOR: **Hyun-Jae Kang**

Signature: [Signature]

Name: Hyun-Jae Kang

WITNESS:

Signature: _____

Name: _____

EXECUTED this ____ day of _____, 2017.

ASSIGNOR: **Xiaoyu Guo**

Signature: _____

Name: _____

WITNESS:

Signature: _____

Name: _____

EXECUTED this ____ day of _____, 2017.

ASSIGNOR: **Jin Kang**

Signature: _____

Name: _____

WITNESS:

Signature: _____

Name: _____

IN WITNESS WHEREOF, each individual collectively referred to as ASSIGNOR has caused this Assignment to be executed.

EXECUTED this ____ day of _____, 2017.

ASSIGNOR: **Emad Boctor**

WITNESS:

Signature: _____

Signature: _____

Name: _____

Name: _____

EXECUTED this ____ day of _____, 2017.

ASSIGNOR: **Behnoosh Tavakoli**

WITNESS:

Signature: _____

Signature: _____

Name: _____

Name: _____

EXECUTED this ____ day of _____, 2017.

ASSIGNOR: **Hyun-Jae Kang**

WITNESS:

Signature: _____

Signature: _____

Name: _____

Name: _____

EXECUTED this 29 day of June, 2017.

ASSIGNOR: **Xiaoyu Guo**

WITNESS:

Signature: Xiaoyu Guo

Signature: Xing Xing

Name: Xiaoyu Guo

Name: Xing Xing

EXECUTED this ____ day of _____, 2017.

ASSIGNOR: **Jim Kang**

WITNESS:

Signature: _____

Signature: _____

Name: _____

Name: _____

IN WITNESS WHEREOF, each individual collectively referred to as ASSIGNOR has caused this Assignment to be executed.

EXECUTED this ____ day of _____, 2017.

ASSIGNOR: **Emad Bactor**

Signature: _____

Name: _____

WITNESS:

Signature: _____

Name: _____

EXECUTED this ____ day of _____, 2017.

ASSIGNOR: **Behnoosh Tavakoli**

Signature: _____

Name: _____

WITNESS:

Signature: _____

Name: _____

EXECUTED this ____ day of _____, 2017.

ASSIGNOR: **Hyun-Jae Kang**

Signature: _____

Name: _____

WITNESS:

Signature: _____

Name: _____

EXECUTED this ____ day of _____, 2017.

ASSIGNOR: **Xiaoyu Guo**

Signature: _____

Name: _____

WITNESS:

Signature: _____

Name: _____

EXECUTED this 27 day of Feb, 2017.

ASSIGNOR: **Jin Kang**

Signature: 

Name: Jin Kang

WITNESS:

Signature: _____

Name: _____