PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
KENNETH L. SHEPARD	11/18/2014
JACOB ROSENSTEIN	10/29/2015
SIDDHARTH RAMAKRISHNAN	03/09/2020
JARED ROSEMAN	03/17/2020

RECEIVING PARTY DATA

Name:	THE TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK	
Street Address:	412 LOW MEMORIAL LIBRARY	
Internal Address:	535 WEST 116TH STREET	
City:	NEW YORK	
State/Country:	NEW YORK	
Postal Code:	10027	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14509594

CORRESPONDENCE DATA

Fax Number: (212)309-1100

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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Email: ptony@andrewskurth.com

Correspondent Name: HUNTON ANDREWS KURTH LLP/HAK NY ATTENTIO

Address Line 1: 200 PARK AVENUE

Address Line 4: **NEW YORK, NEW YORK 10016**

ATTORNEY DOCKET NUMBER:	300515US01-109198-0000040	
NAME OF SUBMITTER:	GARY ABELEV	
SIGNATURE:	/s/ Gary Abelev	
DATE SIGNED:	03/17/2020	

Total Attachments: 6

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PATENT REEL: 052142 FRAME: 0236



PATENT REEL: 052142 FRAME: 0237

ASSIGNMENT

WHEREAS, WE, Kenneth L. Shepard, a citizen of the United States, having a residence address at 158 Evan Drive, Ossining, NY 10562; Jacob Rosenstein, a citizen of United States, having residence address at 205 West 103rd St., Apt. 6D, New York, NY 10025 Siddharth Ramakrishnan, a citizen of India, having a residence address of 70 LaSalle Street, apt. 12G, New York, NY 10027 and Jared Roseman, a citizen of United States, having residence address at 1300 SW Mudd, New York, NY 10025 (hereinafter "ASSIGNORS"), have made an invention entitled "SYSTEMS AND METHODS FOR BIOLOGICAL ION CHANNEL INTERFACES" as set forth and described in U.S. Application No. 14/509,594, filed October 8, 2014; International Application No. PCT/US13/031757, filed March 14, 2013; United States Provisional Application No. 61/637,111, filed April 23, 2012 and United States Provisional Application 61/622,234 filed 04/10/2012;

WHEREAS, THE TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK (hereinafter "ASSIGNEE"), having its principal place of business at 412 Low Memorial Library, 535 West 116th Street, New York, NY, 10027, is desirous of acquiring the whole right, title and interest in and to said application for Letters Patent, and any continuations, divisions, extensions, substitutions, reissues and reexaminations thereof;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, BE IT KNOWN, that I, the said ASSIGNORS, for and in consideration of valuable considerations unto us moving from said ASSIGNEE, at or before the ensealing and delivery of these presents, the receipt and sufficiency of which is hereby acknowledged, have sold, assigned, transferred and conveyed and by these presents do sell, assign, transfer and convey, unto said ASSIGNEE, its successors and assigns, the entire right, title and interest in and to the said invention entitled "SYSTEMS AND METHODS FOR BIOLOGICAL ION CHANNEL INTERFACES" and any and all improvements thereto, and in and to said application and any division, continuation or continuation-in-part thereof, and in and to any Letters Patent of the United States which may be issued on any of said applications, and any reissues thereof, and in and to any and all applications for Letters Patent filed in foreign countries for said invention or improvements including all priority rights, and any and all Letters Patent which may be granted in foreign countries therefor, and in and to any other applications based in whole or in part on any of the foregoing, TO HAVE AND TO HOLD THE SAME to the full end of the term or terms for which any and all said Letters Patent may be granted;

AND WE, the said ASSIGNORS, do hereby authorize and request the Commissioner of Patents and Trademarks to issue the said Letters Patent of the United States to said ASSIGNEE. as the assignee of the entire right, title and interest in and to the same, for the sole use and benefit of said ASSIGNEE, its successors and assigns;

AND WE, the said ASSIGNORS, for the considerations aforesaid, do hereby covenant and agree to and with said ASSIGNEE, its successors and assigns, that we have the full power to make this assignment, and that the rights assigned are not encumbered by any grant, license or right heretofore given, and that we, our executors or administrators, shall and will do all lawful acts and things and make, execute and deliver without further compensation, any and all other

C.E.

ASSIGNMENT

WHEREAS, WE, Kenneth L. Shepard, a citizen of the United States, having a residence address at 158 Evan Drive, Ossining, NY 10562; Jacob Rosenstein, a citizen of United States, having residence address at 33 Marshall Street, Providence, RI 02909, Siddharth Ramakrishnan, a citizen of India, having a residence address of 70 LaSalle Street, apt. 12G. 25 to 1320 450 New York, NY 10027 and Jared Roseman, a citizen of United States, having residence address at 1300 SW Mudd, New York, NY 10025 (hereinafter "ASSIGNORS"), have made an invention entitled "SYSTEMS AND METHODS FOR BIOLOGICAL ION CHANNEL INTERFACES" as set forth and described in U.S. Application No. 14/509,594, filed October 8. 2014; International Application No. PCT/US13/031757, filed March 14, 2013; United States Provisional Application No. 61/637.111, filed April 23, 2012 and United States Provisional Application 61/622,234 filed 04/10/2012;

WHEREAS, THE TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK (hereinafter "ASSIGNEE"), having its principal place of business at 412 Low Memorial Library, 535 West 116th Street, New York, NY, 10027, is desirous of acquiring the whole right, title and interest in and to said application for Letters Patent, and any continuations, divisions, extensions, substitutions, reissues and reexaminations thereof;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, BE IT KNOWN, that I, the said ASSIGNORS, for and in consideration of valuable considerations unto us moving from said ASSIGNEE, at or before the ensealing and delivery of these presents, the receipt and sufficiency of which is hereby acknowledged, have sold, assigned, transferred and conveyed and by these presents do sell, assign, transfer and convey, unto said ASSIGNEE, its successors and assigns, the entire right, title and interest in and to the said invention entitled "SYSTEMS AND METHODS FOR BIOLOGICAL ION CHANNEL INTERFACES" and any and all improvements thereto, and in and to said application and any division, continuation or continuation-in-part thereof, and in and to any Letters Patent of the United States which may be issued on any of said applications, and any reissues thereof, and in and to any and all applications for Letters Patent filed in foreign countries for said invention or improvements including all priority rights, and any and all Letters Patent which may be granted in foreign countries therefor, and in and to any other applications based in whole or in part on any of the foregoing, TO HAVE AND TO HOLD THE SAME to the full end of the term or terms for which any and all said Letters Patent may be granted;

AND WE, the said ASSIGNORS, do hereby authorize and request the Commissioner of Patents and Trademarks to issue the said Letters Patent of the United States to said ASSIGNEE, as the assignee of the entire right, title and interest in and to the same, for the sole use and benefit of said ASSIGNEE, its successors and assigns:

AND WE, the said ASSIGNORS, for the considerations aforesaid, do hereby covenant and agree to and with said ASSIGNEE, its successors and assigns, that we have the full power to make this assignment, and that the rights assigned are not encumbered by any grant, license or right heretofore given, and that we, our executors or administrators, shall and will do all lawful acts and things and make, execute and deliver without further compensation, any and all other

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instruments in writing, further applications, papers, affidavits, powers of attorney, assignments, and other documents which, in the opinion of counsel for said ASSIGNEE, its successors and assigns, may be required or necessary more effectively to secure to and vest in said ASSIGNEE, its successors and assigns, the entire right, title and interest in and to said invention and improvements, applications, Letters Patent, rights, titles, benefits, privileges, and advantages hereby sold, assigned, transferred and conveyed, and that we will sign any applications for reissue which may be desired by the owner of the patent or patents which may be issued for the said invention or improvements.

IN WITNESS WHEREOF, I, the said **ASSIGNOR** have executed this Assignment this day of November, 2014.

Kenneth L. Shepard

odenn s

Witness Signature

Jason Ray
Witness Name

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PATENT REEL: 052142 FRAME: 0240 IN WITNESS WHEREOF, I, the said ASSIGNOR have executed this Assignment this day of March, 2010.

Siddharth Ramakrishnan

Witness Signature

Date

Witness 1

Name: $\frac{Dy(g_A - A_A)E(SO_A)}{AA}$ Signature: $\frac{S^2/A^2/2O2O}{ASSE(1)}$ Witness 2

Name: $\frac{ASSE(1)}{AASSE(1)}$