PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3830815

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|--------------------|----------------|
| KARL A. DEISSEROTH | 03/01/2013 |
| FENG ZHANG | 01/28/2013 |

RECEIVING PARTY DATA

| Name: | THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY |
|-------------------|---|
| Street Address: | OFFICE OF THE GENERAL COUNSEL, BUILDING 170, 3RD FLOOR, MAIN QUAD |
| Internal Address: | P.O. BOX 20386 |
| City: | STANFORD |
| State/Country: | CALIFORNIA |
| Postal Code: | 94305-2038 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15097925 |

CORRESPONDENCE DATA

Fax Number: (650)327-3231

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.

6503273400 Phone: Email: lam@bozpat.com

BOZICEVIC, FIELD & FRANCIS LLP **Correspondent Name:**

1900 UNIVERSITY AVENUE Address Line 1:

Address Line 2: SUITE 200

Address Line 4: EAST PALO ALTO, CALIFORNIA 94303

| ATTORNEY DOCKET NUMBER: | MBER: STAN-896DIV | |
|-------------------------|------------------------------------|--|
| NAME OF SUBMITTER: | PAULA A. BORDEN | |
| SIGNATURE: | /Paula A. Borden, Reg. No. 42,344/ | |
| DATE SIGNED: | 04/14/2016 | |

Total Attachments: 3

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PATENT REEL: 038286 FRAME: 0417

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PATENT REEL: 038286 FRAME: 0418

ASSIGNMENT OF APPLICATION

Atty Docket No. STAN-896WO

Page 1 of 2

THIS ASSIGNMENT, by Deisseroth, Karl A. residing in Palo Alto, California, Zhang, Feng residing in Cambridge, Massachusetts, (hereinafter referred to as the assignors), witnesseth:

WHEREAS, the said assignors have invented certain new and useful improvements in:

| "Opsin | Polyne | ptides | and M | ethods | of Use | : Thereof |
|--------|--------|--------|-------|--------|--------|-----------|
|--------|--------|--------|-------|--------|--------|-----------|

| _X_ | filed on December 12, 2012 as PCT International Application No. PCT/US2012/069133 designating the |
|-----|---|
| | United States. |
| | for which an application for a United States Patent was executed on, and |

WHEREAS, The Board of Trustees of the Leland Stanford Junior University, a non-profit organization duly organized under and pursuant to the laws of California, and having its principal place of business at 1705 El Camino Real, Palo Alto, California 94306-1106 (hereinafter referred to as the assignee), is desirous of acquiring their right, title and interest in and to said invention and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW THEREFORE, for good and sufficient considerations, the receipt of which is hereby acknowledged, said assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto the assignee, its successors, legal representatives and assigns, all of their right, title and interest in and to the above-mentioned invention, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations, and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and behalf and the use and behalf of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignors, had this sale and assignment not been made.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and that said assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that said assignors will, whenever counsel of said assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding in connection with said invention, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said invention in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said invention, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

AND said assignors hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said invention and the Letters Patent to be issued thereon for the use and behalf of said assignee, its successors, legal representatives and assigns.

| A | 44 |
|-------------|-------------------------------|
| Date 3/1/13 | Name of Inventor |
| ξ | l y eisseroth, Karl A. |
| Date | Name of Inventor |
| | Zhang, Feng |
| | |

ASSIGNMENT OF APPLICATION

Atty Docket No. STAN-896WO

Page 1 of 2

THIS ASSIGNMENT, by Deisseroth, Karl A. residing in Palo Alto, California, Zhang, Feng residing in Cambridge, Massachusetts, (hereinafter referred to as the assignors), witnesseth:

WHEREAS, the said assignors have invented certain new and useful improvements in:

"Opsin Polypeptides and Methods of Use Thereof"

X filed on December 12, 2012 as PCT International Application No. PCT/US2012/069133 designating the United States.

for which an application for a United States Patent was accounted on a part.

____ for which an application for a United States Patent was executed on ____, and

WHEREAS, The Board of Trustees of the Leland Stanford Junior University, a non-profit organization duly organized under and pursuant to the laws of California, and having its principal place of business at 1705 El Camino Real, Palo Alto, California 94306-1106 (hereinafter referred to as the assignee), is desirous of acquiring their right, title and interest in and to said invention and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW THEREFORE, for good and sufficient considerations, the receipt of which is hereby acknowledged, said assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto the assignee, its successors, legal representatives and assigns, all of their right, title and interest in and to the above-mentioned invention, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations, and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and behalf and the use and behalf of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignors, had this sale and assignment not been made.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and that said assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that said assignors will, whenever counsel of said assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding in connection with said invention, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said invention in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said invention, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

AND said assignors hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said invention and the Letters Patent to be issued thereon for the use and behalf of said assignee, its successors, legal representatives and assigns.

| Date | Name of Inventor |
|-----------------|---------------------------------------|
| Date 1- 28-2013 | Deisseroth, Karl A. Name of Inventor |

ASSIGNMENT OF APPLICATION

Atty Docket No. STAN-896WO

| | | US2012/069133 Filed December 12, 2012 Page 2 of 2 | | |
|---|--|--|--|--|
| Hereby accepted on behalf of the assignee | | | | |
| Kasharine Kr | The company of the contract of | | | |
| Signature | | | | |
| March 6, 2013 | Katharine Ku | | | |
| Date | Name (print) | | | |
| Director of Technology Licensing, Stanford University | | | | |
| Title and Company | | | | |

PATENT REEL: 038286 FRAME: 0421

RECORDED: 04/14/2016