501838321 03/01/2012

PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

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

CONVEYING PARTY DATA

| Name | Execution Date |
|----------------|----------------|
| Kevin Reinhart | 02/20/2012 |
| Stuart Lindsay | 02/21/2012 |
| Peiming Zhang | 02/21/2012 |

RECEIVING PARTY DATA

| IINIame. | Arizona Board of Regents, a body corporate of the State of Arizona Acting for and on behalf of Arizona State University |
|-------------------|---|
| Street Address: | 1475 North Scottsdale Road |
| Internal Address: | Suite 200 |
| City: | Scottsdale |
| State/Country: | ARIZONA |
| Postal Code: | 85257-9908 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 13122104 |

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| ATTORNEY DOCKET NUMBER: | 43639-504N01US |
|-------------------------|------------------|
| NAME OF SUBMITTER: | Brian P. Hopkins |

501838321 REEL: 027790 FRAME: 0126

13122104

Total Attachments: 6

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PATENT REEL: 027790 FRAME: 0127

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|---|---------------------------------|-------------------------|----------------------------------|----------------------------------|--|--|
| TRANSMITTAL FORM | | | Application Number | | 13/122,104 | |
| | | | Filing Date | | March 31, 2011 | |
| | | | First Named Inventor | | Kevin Reinhart | |
| | 1 01(11) | | | onf. No. | NA / 5630 | |
| (to be use | ed for all correspondence after | initial filing) | Examiner N | ame | Not yet assigned | |
| Total Number of | Pages in This Submission | 1 | Attorney Do | cket Number | 43639-504N01US | |
| | EN | CLOSURES | (Check all | that apply | /) | |
| Fee Transn | nittal Form | Drawing(s) | 1 March | | After Allowance Communication to TC | |
| Fee A | Attached | Licensing-rel | ated Papers | | Appeal Communication to Board of Appeals and Interferences | |
| Amendmer | nt/Reply | Petition | | | Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) | |
| After Final Petition to C | | | | | | |
| Affida | evits/declaration(s) | | rney, Revocation rrespondence | Status Letter | | |
| Extension of | of Time Request | Terminal Dis | claimer | | X Other Enclosure(s) (please identify below): | |
| Express At | pandonment Request | Request for | Refund | | Recordation Form Cover Sheet | |
| Information | Disclosure Statement | CD, Number of CD(s) | | | Assignment document | |
| Certified Co | Landso | ape Table on | CD . | | | |
| | issing Parts/ Application | Remarks | | | : · · · | |
| Reply 37 C | | | | | | |
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| | | | | | | |
| SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT | | | | | | |
| Firm Name MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, P.C. | | | | | | |
| Signature | /Brian P. Hopkins/ | | | | | |
| Printed name Brian P. Hopkins, Esq. | | | | | | |
| Date | February 29, 2012 | | * | Reg. No. | 42,669 | |

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| | | | TION FOR | RM COVER SHEET |
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| (Rev. 6 | PTO-1595 -93) lo. 0651-0011 (exp. 4/94) | | | U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office |
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| 1, Na | me of conveying party(ies): | Execution Date: | 2. | Name and address of receiving party(ie) |
| Si | evin REINHART tuart LINDSAY eiming ZHANG | February 20, 2012 February 21, 2012 February 21, 2012 | | Name: Arizona Board of Regents, a body corporate of the State of Arizona Acting for and on behalf of Arizona State University 1475 North Scottsdale Road, Suite 200 Scottsdale, Arizona 85257-9908 |
| | nal name(s) of coweying party(| es) attached? Yes No | | Additional name(s) & address(es) attached? ☐ Yes ☐ No |
| ⊠ □ Ex | Assignment Security Agreement Other ecution Date: See Above | ☐ Merger ☐ Change of Name | | |
| 4. Ap | plication number(s) or patent | number(s): | | |
| If t | his document is being filed toge | ther with a new application, the ex | cecution da | te of the application is |
| Α. | Patent Application No(s) | | В. | Patent No(s): |
| . 1 | 3/122,104 filed on Ma | | mbers attac | hed? ☐ Yes ☒ No |
| 5. Nat | me and address of party to wh accrning document should be | om correspondence nailed: | 6. | Total number of applications and patents involved: [1] |
| Name: Brian P. Hopkins, Esq. Address: MINTZ, LEVIN, COHN, FERRIS GLOVSKY and POPEO, P.C. 666 Third Avenue - 24th Floor New York, New York 10017 | | 7. | Total fee (37 CFR 3.41) \$40.00 ☐ Enclosed ☐ The Commissioner is authorized to charge Deposit Account No: 50-0311, Reference No. 43639-504N01US, Customer No. 35437 for filing fees and any deficiencies. | |
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| Brian | n P. Hopkins, Reg. No. 42 | ,669 Bulo | Je L | February 29, 2012 |
| | Name of Person Signing | | Signature | Date |
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PATENT REEL: 027790 FRAME: 0129

ASSIGNMENT

We, Kevin REINHART, a citizen of the United States, residing at 1060 E. Hawken Way, Chandler, AZ 85286; Stuart LINDSAY, a citizen of the United States, residing at 3229 E. Dessert Lane, Phoenix, AZ 85042; and Peiming ZHANG, a citizen of the United States, residing at 1554 E. Douglas Avenue, Gilbert, AZ 85234, hereinafter collectively referred to as the ASSIGNOR, for good and valuable consideration, the receipt of which is hereby acknowledged, hereby assign and transfer to Arizona Board of Regents, a body corporate of the State of Arizona Acting for and on behalf of Arizona State University, with offices at 1475 North Scottsdale Road, Suite 200, Scottsdale, Arizona 85257-9908 and its successors, assigns and legal representatives, all hereinafter referred to as the ASSIGNEE: (1) our entire right, title and interest for the United States and in all countries, in and to any and all inventions, discoveries and applications which are disclosed in United States Patent application entitled:

NANOPORE AND CARBON NANOTUBE BASED DNA SEQUENCER AND A SERIAL RECOGNITION ELEMENTS

filed with the U.S. Patent and Trademark Office on March 31, 2011 and assigned Serial No. 13/122,104, as well as claiming priority to International Applications Nos. PCT/US2009/059693, filed on October 6, 2009; PCT/US2009/037563, filed on March 18, 2009; PCT/US2009/037570, filed on March 18, 2009 and U.S. Provisional Application No. 61/103,019, filed on October 6, 2008, including any renewals, revivals, reissues, reexaminations, extensions, continuations and divisions of such applications and any substitute applications therefor; including any utility applications claiming benefit thereof and any renewals, revivals, reissues, reexaminations, extensions, continuations and divisions of such utility applications and any substitute applications therefor; (2) the full and complete right to file patent applications in the name of the ASSIGNEE, its designee, or in my/our names at the ASSIGNEE, or its designee's election, on the aforesaid inventions, discoveries and applications in all countries of the world; (3) the entire right, title and interest in and to any Letters Patent which may issue on any utility application claiming benefit of said patent application in the United States or in any country, and any renewals, revivals, reissues, reexaminations and extensions thereof, and any patents of confirmation, registration and importation of the same; and (4) the entire right, title and interest in all Convention and Treaty Rights of all kinds thereon, including without limitation all rights of priority in any country of the world, in and to the above inventions, discoveries and applications.

We hereby authorize and request the competent authorities to grant and to issue any and all such Letters Patents in the United States and throughout the world to the ASSIGNEE of the entire right, title and interest therein, as fully and entirely as the same would have been held and enjoyed by me had this assignment, sale and transfer not been made.

We agree, at any time, upon the request of the ASSIGNEE, to execute and to deliver to the ASSIGNEE any additional applications for patents for said inventions and designs, or any part or parts thereof, and any applications for patents of confirmation, registration and importation based

PATENT
REEL: 027790 FRAME: 0130

Application No. 13/122,104 Attorney Docket No. 43639-504N01US

on any Letters Patent issuing on said inventions and/or designs and divisions, continuations, renewals, revivals, reissues, reexaminations and extensions thereof.

We further agree at any time to execute and to deliver upon request of the ASSIGNEE such additional documents, if any, as are necessary or desirable to give full effect to and to perfect the rights of the ASSIGNEE under this Assignment, including the execution, delivery and procurement of any and all further documents evidencing this assignment, transfer and sale as may be necessary or desirable.

We hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

We further covenant that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention, and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

| | | 1 1 | |
|----|-----|---------|--|
| Da | te: | 2/20/12 | |

Signature of: Kevin Reinhart

State of Angora County of Marcaska

On this <u>20</u> day of <u>February</u>. 2012, before me, the undersigned notary public, personally appeared Kevin Reinhart, proved to me through satisfactory evidence of identification, which was a <u>Ferral Reinhart</u>, to be the person whose name is signed on this document and who swore or affirmed to me that the contents of this document are truthful and accurate to the best of his/her knowledge and belief.

FRANCES M. KENNEDY
Notary Public - State of Attorna
MARICOPA COUNTY
My Comm. Biptres Mar. 14, 2013

Application No. 13/122,104 Attorney Docket No. 43639-504N01US

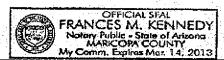
Date: 2/2//2012

Signature of: Peiming Zhang

State of arisma
County of marcins

On this 21 day of 4 Lectury, 2012, before me, the undersigned notary public, personally appeared Peiming Zhang, proved to me through satisfactory evidence of identification, which was a linear linear to be the person whose name is signed on this document. and who swore or affirmed to me that the contents of this document are truthful and accurate to the best of his/her knowledge and belief.

Joanes In Gennely



Application No. 13/122,104 Attorney Docket No. 43639-564N01US

Date: 2/21/12

Signature of: Stuart Lindsay

State of assama

County of Conard

On this 2/ day of 2.2012, before me, the undersigned notary public, personally appeared Stuart Lindsay, proved to me through satisfactory evidence of identification, which was 2.2012 to be the person whose name is signed on this document and who swore or affirmed to me that the contents of this document are truthful and accurate to the best of his/her knowledge and belief.

FRANCES M. KENNEDY
Notary Public - State of Arizona
MARICOPA COUNTY
My Comm. Expires Mac. 14, 2013