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| <b>PATENT ASSIGNMENT COVER SHEET</b> |
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3134312

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|---|------------------------------------|
| <b>SUBMISSION TYPE:</b>   | NEW ASSIGNMENT                     |
| <b>NATURE OF CONVEYANCE:</b>  | ASSIGNMENT                         |
| <b>CONVEYING PARTY DATA</b>   |                                    |
| <b>Name</b>   | <b>Execution Date</b>              |
| MATTHEW DOTY  | 03/15/2013                         |
| JOSHUA ZIDE   | 03/15/2013                         |
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| <b>State/Country:</b>   | DELAWARE                           |
| <b>Postal Code:</b>   | 19711                              |
| <b>PROPERTY NUMBERS Total: 1</b>  |                                    |
| <b>Property Type</b>  | <b>Number</b>                      |
| <b>Application Number:</b>  | 14403765                           |
| <b>CORRESPONDENCE DATA</b>  |                                    |
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| <b>ATTORNEY DOCKET NUMBER:</b>  | UOD-402US                          |
| <b>NAME OF SUBMITTER:</b>   | STEPHEN D. HARPER, REG. NO. 33,243 |
| <b>SIGNATURE:</b>   | /Stephen D. Harper/                |
| <b>DATE SIGNED:</b>   | 12/05/2014                         |
| <b>Total Attachments: 2</b>   |                                    |
| source=UOD-402US-ASSIGNMENT#page1.tif   |                                    |
| source=UOD-402US-ASSIGNMENT#page2.tif   |                                    |

|   |   |                                 |
|---|---|---------------------------------|
| <b>ASSIGNMENT - Patent Application</b>  |   | Docket Number: <b>UOD-402WO</b> |
| Whereas, the Assignor, comprising the following named inventors:  |   |                                 |
| ASSIGNOR(s)/<br>INVENTOR(s)   | 1. <b>Matthew Doty</b>  | 2. <b>Joshua Zide</b>           |
|   | 3.  | 4.                              |
|   | 5.  | 6.                              |
| made an invention entitled: <b>NOVEL NANOSTRUCTURES FOR EFFICIENT UPCONVERSIONS OF PHOTONS</b>  |   |                                 |
| for which an application for Letters Patent of the United States:<br>(Select one of the following):   |   |                                 |
| <input type="checkbox"/> is executed concurrently herewith<br><input checked="" type="checkbox"/> was filed in the U.S. Patent and Trademark Office on <u>May 30, 2012 and June 4, 2012</u> ,<br>as U.S. Patent Application Serial No.: <u>61/652,960 and 61/655,064</u>  |   |                                 |
| ASSIGNEE<br>(Full Name and Address)   | <b>University of Delaware</b><br><b>1 Innovation Way, Suite 500</b><br><b>Delaware Technology Park</b><br><b>Newark, DE 19711</b> |                                 |
| is desirous of acquiring the entire interest in and to said invention and the Letters Patent to be obtained therefor,<br><br>Now, therefore, in consideration of the payment by Assignee to Assignor of a sum corresponding to One Dollar (\$1.00), and for other good and valuable consideration, the receipt of which is hereby acknowledged, Assignor, intending to be legally bound, hereby sells, assigns and transfers to Assignee, its successors and assigns, the full and exclusive right, title and interest in and to said invention, all applications for Letters Patent for said invention, including all divisions, continuations, and continuations-in-part thereof, all rights to claim priority based thereon, and all Letters Patent, including reissues, to be obtained therefor, including any and all foreign patent rights in this invention corresponding thereto.<br><br>Assignor hereby warrants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this Assignment.<br><br>Assignor agrees it shall be legally bound, upon request of the Assignee or its successors or assigns or a legal representative thereof, to supply all information and evidence of which the Assignor has knowledge or possession, relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention in the United States of America and foreign countries in the name of the Assignee, and to execute all instruments proper to carry out the intent of this instrument.<br><br>If the invention requires a biological deposit, Assignor also grants to Assignee such control over any deposit made by Assignor as may be necessary to the validity of the patent rights assigned herein. |   |                                 |

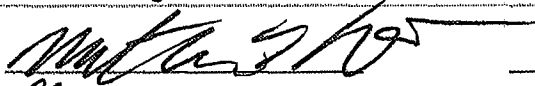

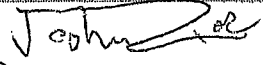
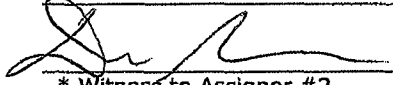
# ASSIGNMENT - Patent Application

Docket Number: **UOD-402WO**

Assignor authorizes Assignor's attorney to insert at the end hereof, the serial number and filing date of the aforesaid application for United States Letters Patent and/or the Attorney Docket or file designation for this application if not identified above.

If the Assignor includes more than one individual, these obligations shall apply to these individuals both individually and collectively.

In witness whereof, this Assignment is executed on the day indicated below. This assignment is effective as of March 15, 2013.

| Typed or Printed Name  | Signature  | Date           |
|------------------------|--|----------------|
| 1. <b>Matthew Doty</b> |                              | <u>3/15/13</u> |
|                        | <br>* Witness to Assignor #1 | <u>3/15/13</u> |
| 2. <b>Joshua Zide</b>  |                               | <u>3/15/13</u> |
|                        | <br>* Witness to Assignor #2 | <u>3/15/13</u> |
| 3.                     | _____  | _____          |
|                        | _____  | _____          |
|                        | * Witness to Assignor #3   |                |
| 4.                     | _____  | _____          |
|                        | _____  | _____          |
|                        | * Witness to Assignor #4   |                |
| 5.                     | _____  | _____          |
|                        | _____  | _____          |
|                        | * Witness to Assignor #5   |                |
| 6.                     | _____  | _____          |
|                        | _____  | _____          |
|                        | * Witness to Assignor #6   |                |

SIGNATURE

Application for United States Letters Patent:

Serial No.: 61/652,960 and 61/655,064

Filed: 05/30/2012 and 06/04/2012

Attorney Docket Number: UOD-402WO

Total Number of Assignment Pages 2

\* Witness signature recommended, mandatory for some countries