

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4063506

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
JIANG TANG	08/19/2016
ANDRAS PATTANTYUS-ABRAHAM	09/19/2016
ILLAN KRAMER	09/20/2016
AARON BARKHOUSE	08/25/2016
XIHUA WANG	08/19/2016
GERASIMOS KONSTANTATOS	09/21/2016
RATAN DEBNATH	08/18/2016
EDWARD H. SARGENT	09/19/2016
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<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	15192361
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(202)403-3212
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<b>ATTORNEY DOCKET NUMBER:</b>	000351US (0964323)
<b>NAME OF SUBMITTER:</b>	RODNEY ROTHWELL
<b>SIGNATURE:</b>	/Rodney Rothwell/

PATENT

<b>DATE SIGNED:</b>	09/22/2016
<b>Total Attachments: 10</b> source=Executed_Assignment#page1.tif source=Executed_Assignment#page2.tif source=Executed_Assignment#page3.tif source=Executed_Assignment#page4.tif source=Executed_Assignment#page5.tif source=Executed_Assignment#page6.tif source=Executed_Assignment#page7.tif source=Executed_Assignment#page8.tif source=Executed_Assignment#page9.tif source=Executed_Assignment#page10.tif	

**ASSIGNMENT**  
(Patent Application)

We, the undersigned, have invented certain inventions and improvements disclosed in a utility (provisional or non-provisional) or design patent application entitled

**“PHOTOVOLTAIC DEVICES WITH DEPLETED HETEROJUNCTIONS AND  
SHELL-PASSIVATED NANOPARTICLES,”**

filed with the U.S. Patent & Trademark Office on **June 24, 2016**

and assigned Application No. **15/192,361**.

For good and valuable consideration, the receipt and sufficiency of which We acknowledge, We

1. Agree to assign, transfer, convey, and sell, hereby assign, transfer, convey, and sell and have assigned, transferred, conveyed, and sold to **The Governing Council of the University of Toronto**, having a principal place of business located at 27 King’s College Circle, Toronto, Ontario, Canada, M5S 1A1 (“Assignee”), the entire right, title, and interest in and to:
  - (a) all intellectual property (including, without limitation, any innovation, information, invention, discovery, product, process, work or design) disclosed, embodied, shown, or claimed in the above-referenced patent application, implicitly or explicitly;
  - (b) the above-referenced patent application, the right to claim priority to the above-referenced patent application, all applications based in whole or in part upon the above-referenced patent application, including, without limitation, all applications that are a provisional, non-provisional, design, divisional, continuation, continuation-in-part, registration, utility model, industrial design, reissue, renewal, substitute, extension, reexamination, post-grant review, inter partes review, supplemental examination or non-U.S. patent application or application for other rights based in whole or in part on the above-referenced patent application;
  - (c) all patents (including, without limitation, all U.S. and non-U.S. patents, registrations, utility models, industrial designs, design patents, counterparts, continuations, continuations-in-part, divisionals, reissues, renewals, substitutes, extensions, reexaminations, post-grant reviews, inter partes reviews and supplemental examinations) that are granted or issued upon, or that claim priority to, any and all applications described in (b) of this paragraph or that disclose or claim intellectual property described in (a) of this paragraph, in whole or in part; and

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Attorney Docket No. 098526-0964323 (000310US)

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- (d) all claims for damages by reason of past infringement of any rights under the applications or patents described in (a), (b) or (c) of this paragraph (including provisional rights to reasonable royalties pursuant to 35 U.S.C. §154(d)) and the right to sue for and collect such damages and royalties for Assignee's own use.
- 2. Authorize and request the U.S. Patent and Trademark Office or any other U.S. or non-U.S. agency to issue to the Assignee any and all patent(s), or other rights or documents, resulting from the intellectual property, patent application(s) and patents described in paragraph 1 of this Assignment.
- 3. Agree to sign all papers and documents, including without limitation, applications, declarations, oaths and petitions, and, at the Assignee's expense, perform any other acts that are necessary in connection with prosecution of patent application(s) or intellectual property described in paragraph 1 of this Assignment and the enforcement of patent(s) or other rights resulting from such patent application(s) or intellectual property.
- 4. Agree that the terms, covenants, and conditions of this Assignment shall inure to the benefit of the Assignee, its successors, assigns and other legal representative, and shall be binding upon us, as well as our heirs, legal representatives, and assigns.
- 5. Promise and affirm that we have not entered, and will not enter, into any assignment, contract, or understanding that conflicts with this Assignment.
- 6. Authorize Kilpatrick Townsend & Stockton to insert above the application number and filing date of the above-described patent application when known.

**Inventors: Please Sign and Date Below:**

Signature: Jiang Tang  
Jiang Tang

Date: Aug 13<sup>th</sup> 2016

Signature: \_\_\_\_\_  
Andras Pattantyus-Abraham

Date: \_\_\_\_\_

Signature: \_\_\_\_\_  
Illan Kramer

Date: \_\_\_\_\_

Signature: \_\_\_\_\_  
Aaron Barkhouse

Date: \_\_\_\_\_

Signature: \_\_\_\_\_  
Xihua Wang

Date: \_\_\_\_\_

Signature: \_\_\_\_\_  
Gerasimos Konstantatos

Date: \_\_\_\_\_

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Attorney Docket No. 098526-0964323 (000310US)

Page 3 of 4

**Inventors: Please Sign and Date Below:**

Signature: \_\_\_\_\_

**Jiang Tang**

Date: \_\_\_\_\_

Signature:  \_\_\_\_\_

**Andras Pattantyus-Abraham**

Date: 9/19/2016

Signature: \_\_\_\_\_

**Illan Kramer**

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**Aaron Barkhouse**

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**Xihua Wang**

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**Gerasimos Konstantatos**

Date: \_\_\_\_\_

**Inventors: Please Sign and Date Below:**

Signature: \_\_\_\_\_

**Jiang Tang**

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**Andras Pattantyus-Abraham**

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**Illan Kramer**

Date: Sept. 20, 2016

Signature: \_\_\_\_\_

**Aaron Barkhouse**

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**Xihua Wang**

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**Gerasimos Konstantatos**

Date: \_\_\_\_\_

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**Jiang Tang**

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

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Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**Illan Kramer**

Date: \_\_\_\_\_

Signature:  \_\_\_\_\_

**Aaron Barkhouse**

Date: 08/25/2016

Signature: \_\_\_\_\_

**Xihua Wang**

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**Gerasimos Konstantatos**

Date: \_\_\_\_\_



**Inventors: Please Sign and Date Below:**

Signature: \_\_\_\_\_  
**Jiang Tang**

Date: \_\_\_\_\_

Signature: \_\_\_\_\_  
**Andras Pattantyus-Abraham**

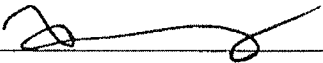
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Signature: \_\_\_\_\_  
**Illan Kramer**

Date: \_\_\_\_\_

Signature: \_\_\_\_\_  
**Aaron Barkhouse**

Date: \_\_\_\_\_

Signature:  \_\_\_\_\_  
**Xihua Wang**

Date: Aug 19, 2016

Signature: \_\_\_\_\_  
**Gerasimos Konstantatos**

Date: \_\_\_\_\_

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Attorney Docket No. 098526-0964323 (000310US)

Page 3 of 4

**Inventors: Please Sign and Date Below:**

Signature: \_\_\_\_\_

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Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**Andras Pattantyus-Abraham**

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**Illan Kramer**

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**Aaron Barkhouse**

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**Xihua Wang**

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**Gerasimos Konstantatos**

Date: 09/21/2016

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Attorney Docket No. 098526-0964323 (000310US)

Page 4 of 4

Signature: 

**Ratan Debnath**

Date: 08/18/16

Signature: \_\_\_\_\_

**Edward H. Sargent**

Date: \_\_\_\_\_

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ASSIGNMENT

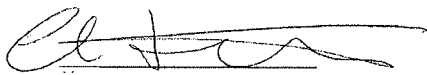
Attorney Docket No. 098526-0964323 (000310US)

Page 4 of 4

Signature: \_\_\_\_\_

**Ratan Debnath**

Date: \_\_\_\_\_

Signature:  \_\_\_\_\_

**Edward H. Sargent**

Date: Sept. 19, 2016

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