

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

EPAS ID: PAT4743071

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
YI ZHANG	12/19/2013
SHUYU YANG	12/19/2013
TOM BAEHR-JONES	01/06/2014
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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>	15825266
<b>CORRESPONDENCE DATA</b>	
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<b>ATTORNEY DOCKET NUMBER:</b>	074381-000506USC3
<b>NAME OF SUBMITTER:</b>	STEPHEN G. RUDISILL
<b>SIGNATURE:</b>	/Stephen G. Rudisill - Reg. No. 20,087/
<b>DATE SIGNED:</b>	12/20/2017
<b>Total Attachments: 4</b>	
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## JOINT ASSIGNMENT

WE, **Yi Zhang, Shuyu Yang, and Tom Baehr-Jones**, believe that we are the inventors of the subject matter disclosed in the application for patent (hereinafter "the invention or inventions") identified herein as

### **A COMPACT AND LOW LOSS Y-JUNCTION FOR SUBMICRON SILICON WAVEGUIDE**

and further identified by Attorney Docket Number UDE-001 which application for patent was filed on **November 29, 2013** and has been assigned Serial No. **14/093,263** by the United States Patent and Trademark Office.

In consideration of the sum of One Dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, the receipt and sufficiency of which is hereby acknowledged, each of the undersigned agrees to assign, and hereby does assign, transfer and set over to **University of Delaware**, a university organized under the laws of the State of **Delaware**, and having a principal place of business at **1 Innovation Way, Suite 500, Newark, DE 1971** (hereinafter designated as the Assignee) his or her entire right, title and interest in the invention or inventions as represented by the application for patent identified herein (the "application") in the United States, its territories, dependencies and possessions, his or her entire right, title, and interest in the application, and his or her entire right, title and interest in the invention or inventions as regards all other national jurisdictions and international entities that have the power to grant patents, wherever situated, including without limitation all applications for patent which claim priority to and/or the benefit of the subject matter disclosed in the application for patent identified herein, including any provisional application, utility application, design application, and/or plant application, as well as any continuation application, divisional application, continuation-in-part application, reissue application, reexamination application, patent interference proceeding, foreign national application and/or any application filed or to be filed under a patent treaty such as the International Convention for Protection of Industrial Property and/or the Patent Cooperation Treaty, and any Letters Patent which may be granted therefor in any jurisdiction.

In addition to the above assignment, each of the undersigned agrees to execute all papers necessary in connection with the application and any continuing applications, divisional applications, or continuations-in-part thereof, and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

Each of the undersigned agrees to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation or division thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.

Each of the undersigned agrees to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

Each of the undersigned agrees to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the Assignee.

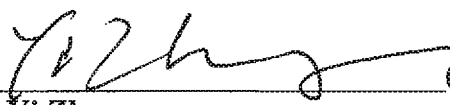
Joint Assignment  
US Serial No.: 14/093,263  
Date Filed: November 29, 2013  
Attorney Docket No.: UDE-001 (Client Identifier UD-14-24)

Each of the undersigned hereby authorizes and requests the Commissioner of Patents to issue any and all Letters Patents of the United States resulting from said application or any divisions or continuing applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he or she has full right to convey the entire interest herein assigned, and that he or she has not executed and will not execute, any agreement in conflict herewith.

Each of the undersigned hereby grants to any duly empowered legal representative, including all patent practitioners associated with Customer Number 88993, the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office or with the rules of any other national or international Patent Office for recordation of this document or a true copy thereof.

In witness whereof, this instrument has been executed by the undersigned on the date opposite the respective name of the undersigned.

This assignment should preferably be signed before: (a) a Notary Public if within the U.S.A. or (b) a U.S. Consul if outside the U.S.A. If neither is available, then it should be signed before at least two witnesses.


Date: 12/19/2013 Signature:  (SEAL)  
Yi Zhang

STATE OF Delaware )  
COUNTY OF New Castle )ss.:

On this 19 day of December, 2013, before me personally came Yi Zhang to me known and known to me to be the person described in and who executed the within instrument and he/she acknowledged to me that he/she executed the same.

Denise Bierlein  
Notary Public  
DENISE M. BIERLEIN  
NOTARY PUBLIC  
STATE OF DELAWARE  
My Commission Expires October 15 2014

Joint Assignment  
US Serial No.: 14/093,263  
Date Filed: November 29, 2013  
Attorney Docket No.: UDE-001 (Client Identifier UD-14-24)

Date: 12/19/2013 Signature:  (SEAL)  
Shuyu Yang

STATE OF Delaware )  
COUNTY OF New Castle )ss.:

On this 19 day of December, 2013, before me personally came **Shuyu Yang** to me known and known to me to be the person described in and who executed the within instrument and he/she acknowledged to me that he/she executed the same.

DENISE M. SIERLEIN  
NOTARY PUBLIC  
STATE OF DELAWARE  
My Commission Expires October 15 2014  
  
Notary Public

Date: \_\_\_\_\_ Signature: \_\_\_\_\_ (SEAL)  
Tom Baehr-Jones

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ )ss.:

On this \_\_\_\_\_ day of \_\_\_\_\_, 201\_, before me personally came **Tom Baehr-Jones** to me known and known to me to be the person described in and who executed the within instrument and he/she acknowledged to me that he/she executed the same.

\_\_\_\_\_  
Notary Public

Joint Assignment  
US Serial No.: 14/093,263  
Date Filed: November 29, 2013  
Attorney Docket No.: UDE-001 (Client Identifier UD-14-24)

Date: \_\_\_\_\_ Signature: \_\_\_\_\_ (SEAL)  
**Shuyu Yang**

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ )ss.:

On this \_\_\_\_\_ day of \_\_\_\_\_, 2013, before me personally came **Shuyu Yang** to me known and known to me to be the person described in and who executed the within instrument and he/she acknowledged to me that he/she executed the same.

\_\_\_\_\_  
Notary Public

Date: 1/6/14 Signature: \_\_\_\_\_ (SEAL)  
**Tom Bachr-Jones**

STATE OF Delaware )  
COUNTY OF New Castle )ss.:

On this 6<sup>th</sup> day of January, 2014, before me personally came **Tom Bachr-Jones** to me known and known to me to be the person described in and who executed the within instrument and he/she acknowledged to me that he/she executed the same.

Car M. Gray  
\_\_\_\_\_  
Notary Public

