11/10/2014 503054945

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
HUILI (GRACE) XING	10/29/2014
DEBDEEP JENA	10/29/2014
KAZUKI NOMOTO	11/06/2014
BO SONG	11/06/2014
MINGDA ZHU	11/07/2014
ZONGYANG HU	10/31/2014

RECEIVING PARTY DATA

Name:	UNIVERSITY OF NOTRE DAME DU LAC
Street Address:	940 GRACE HALL
City:	NOTRE DAME
State/Country:	INDIANA
Postal Code:	46556

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14470569

CORRESPONDENCE DATA

Fax Number: (312)456-8435

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.

Phone: 3124568400

Email: chiipmail@gtlaw.com KEITH R. JAROSIK **Correspondent Name:**

Address Line 1: GREENBERG TRAURIG, LLP Address Line 2: 77 WACKER DR., SUITE 3100 Address Line 4: CHICAGO, ILLINOIS 60601

ATTORNEY DOCKET NUMBER:	135404.UND-14-005
NAME OF SUBMITTER:	KEITH R. JAROSIK
SIGNATURE:	/Keith R. Jarosik/
DATE SIGNED:	11/10/2014

Total Attachments: 8

PATENT REEL: 034138 FRAME: 0197

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PATENT REEL: 034138 FRAME: 0198

PATENT ASSIGNMENT AND DECLARATION

WHEREAS, we, **Huili (Grace) Xing** of 7 Stone Creek Drive, Ithaca, NY 14850, **Debdeep Jena** of 7 Stone Creek Drive, Ithaca, NY 14850, **Kazuki Nomoto** of 5824 Iroquois Lane, Apt. 1A, Mishawaka, IN 46545, **Bo Song** of 2917 Birchwood Drive, Mishawaka, IN 46545, **Mingda Zhu** of 509 Sugar Pine Drive, Mishawaka, IN 46545 and **Zongyang Hu** of 275 Fitzpatrick Hall, Notre Dame, IN 46556, have invented a certain new and useful invention entitled **POLARIZATION DOPED TRANSISTOR** for which a patent application has been prepared for fling with the United States Patent & Trademark Office, which has been assigned application number **14/470,569**.

I. ASSIGNMENT

NOW THEREFORE, be it known that for good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, we, hereby sell and assign to University of Notre Dame du Lac, ("Assignee"), a university, having its principal place of business at 940 Grace Hall, Notre Dame, Indiana 46556-5602, U.S.A., its successors, assigns, nominees, or other legal representatives, the entire right, title, and interest in and to the invention invented by us, and the application for United States patent therefor, the declaration, and all original and reissued patents granted therefor, and all divisions and continuations thereof, including the subject-matter of any and all claims which may be obtained in every such patent, and the right to apply for and obtain patents and Utility Model Registrations which may be granted thereon in such foreign countries, and authorize and request the Commissioner of Patents and Trademarks of the United States, and any official of any other country or countries foreign to the United States whose duty it is to issue patents on applications as aforesaid, to issue said Letters Patent or Utility Model Registration to the said Assignee, its successor, assigns, nominees, or other legal representatives, as assignee of the entire interest herein assigned. We covenant that we have not executed and will not execute any agreement in conflict herewith and agree that we will communicate to said Assignee, its successors, assigns, nominees, or other legal representatives, all facts known to us respecting said invention, whenever requested, and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuing, and reissue applications, make all rightful oaths, and do all lawful acts requisite for the application for such divisional, continuing, or reissue applications, or the procuring thereof, and that if and when said Assignee, its successors, assigns, nominees, or other legal representatives desire to file a disclaimer relating thereto, we will, upon request, sign all lawful papers requisite for the filing of such disclaimer. We further covenant and agree that we will, at any time upon request, do everything legally possible to aid said Assignee, its successors, assignees, nominees, or other legal representatives, either in its or their own names, to apply for, obtain, and enforce proper

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patent and/or Utility Model protection for said invention in all countries, all without further consideration but at the expense of said Assignee, its successors, assigns, nominees, or other legal representatives.

Huili (Grace) Xing (signature) Date

Debdeep Jena (signature) Date

Me May Debdeep Jena (signature) Date

Mazuki Nomoto (signature) Date

Debdeep Jena (signature) Date

II. DECLARATION

Inventor 1

As the below named inventor, I hereby declare that:
This Patent Assignment and Declaration is directed to:
the attached application, or
X United States application or PCT international application number
14/470,569 filed on August 27, 2014.
The above-identified application was made or authorized to be made by me.
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.
I hereby state that I have reviewed and understand the contents of the above-identified application, including the claims; and I am aware of the duty to disclose to the U.S. Patent and Trademark Office all information known by me to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT International filing date of the continuation-in-part application.
IN TESTIMONY WHEREOF, I have hereunto set my hand this 30 day of October, 2014.
Huili (Grace) Xing (signature)
NOTARIAL CERTIFICATE
State of: Indiana County of: SS.
Subscribed and sworn to (or affirmed) before me on this 30 day of 0 to be deeper young day, 2014, by Huili (Grace) Xing proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.
WITNESS my hand and official seal.
ELIZABETH KOVACS
Solution NOTARY PUBLIC ST. JOSEPH COUNTY, IN
Notary Public COMMISSION EXPIRES

March 20. 2015

Inventor 2

As the below named inventor, I hereb	y declare that:
This Patent Assignment and Declarati	ion is directed to:
the attached application, or	
X United States application or PC	T international application number
14/470,569 filed on August 2	27, 2014.
The above-identified application was a	made or authorized to be made by me.
I believe that I am the original invento application.	or or an original joint inventor of a claimed invention in the
I hereby acknowledge that any willful U.S.C. 1001 by fine or imprisonment of not mo	false statement made in this declaration is punishable under 18 are than five (5) years, or both.
including the claims; and I am aware of the duty known by me to be material to patentability as c applications, material information which becam	understand the contents of the above-identified application, y to disclose to the U.S. Patent and Trademark Office all information defined in 37 CFR 1.56, including for continuation-in-part e available between the filing date of the prior application and the continuation-in-part application.
IN TESTIMONY WHEREOF, I have I	hereunto set my hand this the day of November, 2014.
	continuation-in-part application. hereunto set my hand this of November, 2014. Debdeep Jena (signature)
NOTARIAL CERTIFICATE	v
State of: <u>Juleana</u>) SS. County of: <u>St. Joseph</u>)	
	e me on this 10 day of November, 2014, by sfactory evidence to be the person(s) who appeared before me.
WITNESS my hand and official seal.	
Sold Kovacs Notary Public	ELIZABETH KOVACS NOTARY PUBLIC ST. JOSEPH COUNTY, IN COMMISSION EXPIRES March 20. 2015

Inventor 3

As the below named inventor, I hereby d	eclare that:
This Patent Assignment and Declaration	is directed to:
the attached application, or	
X United States application or PCT in	nternational application number
14/470,569 filed on August 27,	2014.
The above-identified application was ma-	de or authorized to be made by me.
I believe that I am the original inventor o application.	r an original joint inventor of a claimed invention in the
I hereby acknowledge that any willful fall U.S.C. 1001 by fine or imprisonment of not more	se statement made in this declaration is punishable under 18 than five (5) years, or both.
including the claims; and I am aware of the duty to known by me to be material to patentability as def	nderstand the contents of the above-identified application, o disclose to the U.S. Patent and Trademark Office all information fined in 37 CFR 1.56, including for continuation-in-part available between the filing date of the prior application and the attinuation-in-part application.
IN TESTIMONY WHEREOF, I have her	reunto set my hand this 6 day of 8 , 8 , 9 , 9 , 9 , 9 , 9 , 9 , 9 , 9
	Kazuki Nomoto (signature)
NOTARIAL CERTIFICATE	
State of: Juliania) SS.	
County of: St. Joseph)	
Subscribed and sworn to (or affirmed) before me o Kazuki Nomoto proved to me on the basis of satis	n this <u>b</u> day of <u>Normbl</u> , 2014, by sfactory evidence to be the person(s) who appeared before me.
WITNESS my hand and official seal.	
Sold Kovacs Notary Public	ELIZABETH KOVACS NOTARY PUBLIC ST. JOSEPH COUNTY, IN COMMISSION EXPIRES

March 20. 2015

Inventor 4

As the below named inventor, I hereby	declare that:
This Patent Assignment and Declaration	n is directed to:
the attached application, or	
X United States application or PCT	international application number
14/470,569 filed on August 27.	, 2014.
The above-identified application was ma	nde or authorized to be made by me.
I believe that I am the original inventor of application.	or an original joint inventor of a claimed invention in the
I hereby acknowledge that any willful fa U.S.C. 1001 by fine or imprisonment of not more	lse statement made in this declaration is punishable under 18 than five (5) years, or both.
including the claims; and I am aware of the duty t known by me to be material to patentability as def	nderstand the contents of the above-identified application, o disclose to the U.S. Patent and Trademark Office all information fined in 37 CFR 1.56, including for continuation-in-part available between the filing date of the prior application and the ntinuation-in-part application.
IN TESTIMONY WHEREOF, I have he	reunto set my hand this <u>Six</u> day of <u>Nove wher</u> , 2014.
	reunto set my hand this Six day of November, 2014. Bo Song (signature)
NOTARIAL CERTIFICATE	V
State of: Indiana	
County of: St. Oseph) SS.	
Subscribed and sworn to (or affirmed) before me on Bo Song proved to me on the basis of satisfactory	evidence to be the person(s) who appeared before me.
WITNESS my hand and official seal.	ELIZABETH KOVACS
/	NOTARY PUBLIC
Notary Public	ST. JOSEPH COUNTY, IN COMMISSION EXPIRES March 20. 2015

Inventor 5

A	s the below named inventor, I hereby declare that:
Т	his Patent Assignment and Declaration is directed to:
whitele	the attached application, or
****	X United States application or PCT international application number
	14/470,569 filed on August 27, 2014.
TI	he above-identified application was made or authorized to be made by me.
I tapplication	believe that I am the original inventor or an original joint inventor of a claimed invention in the
I ł U.S.C. 100	nereby acknowledge that any willful false statement made in this declaration is punishable under 18 1 by fine or imprisonment of not more than five (5) years, or both.
including the known by napplications	nereby state that I have reviewed and understand the contents of the above-identified application, ne claims; and I am aware of the duty to disclose to the U.S. Patent and Trademark Office all information ne to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part s, material information which became available between the filing date of the prior application and the PCT International filing date of the continuation-in-part application.
IN	TESTIMONY WHEREOF, I have hereunto set my hand this $\frac{1}{2}$ day of $\frac{\text{Novembe}_{Y}}{\text{be}_{Y}}$; 2014.
	Mingda Zhu (signature)
NOTARIAI	L CERTIFICATE
County of:	and sworn to (or affirmed) before me on this 7 day of Movember, 2014, by u proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.
	ny hand and official seal.
Jabella Notary Publ	ELIZABETH KOVACS NOTARY PUBLIC ST. JOSEPH COUNTY, IN COMMISSION EXPIRES March 20, 2015

Inventor 6

As the below named inventor, I hereby declare that:
This Patent Assignment and Declaration is directed to:
the attached application, or
X United States application or PCT international application number
14/470,569 filed on August 27, 2014.
The above-identified application was made or authorized to be made by me.
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.
I hereby state that I have reviewed and understand the contents of the above-identified application, including the claims; and I am aware of the duty to disclose to the U.S. Patent and Trademark Office all information known by me to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT International filing date of the continuation-in-part application.
IN TESTIMONY WHEREOF, I have hereunto set my hand this 1 day of October, 2014.
Zongyang Hu (signature)
NOTARIAL CERTIFICATE
State of: Judiana County of: St. Joseph SS.
Subscribed and sworn to (or affirmed) before me on this 3 day of Otober, 2014, by Zongyang Hu proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.
WITNESS my hand and official seal.
ELIZABETH KOVACS NOTARY PUBLIC ST. JOSEPH COUNTY, IN COMMISSION EXPIRES March 20, 2015

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RECORDED: 11/10/2014

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