505680056 09/19/2019

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5726864

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

### **CONVEYING PARTY DATA**

Name	Execution Date
FEI LI	04/06/2017
DABIN LIN	04/07/2017
SHUJUN ZHANG	04/10/2017
THOMAS R. SHROUT	04/04/2017
LONG-QING CHEN	04/01/2019

### **RECEIVING PARTY DATA**

Name:	THE PENN STATE RESEARCH FOUNDATION
Street Address:	304 OLD MAIN
City:	UNIVERSITY PARK
State/Country:	PENNSYLVANIA
Postal Code:	16802-1504

## **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	16471282

## **CORRESPONDENCE DATA**

**Fax Number:** (412)562-1041

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:** 412-392-2121

**Email:** deanna.durika@bipc.com **Correspondent Name:** RALPH G. FISCHER

Address Line 1: 301 GRANT STREET, 20TH FLOOR

Address Line 2: ONE OXFORD CENTRE

Address Line 4: PITTSBURGH, PENNSYLVANIA 15219

ATTORNEY DOCKET NUMBER:	0073605-000415
NAME OF SUBMITTER:	DEANNA A. DURIKA
SIGNATURE:	/Deanna A. Durika/
DATE SIGNED:	09/18/2019
	•

**Total Attachments: 10** 

PATENT REEL: 050428 FRAME: 0366

505680056

0070005 000445 A
source=0073605-000415 Assignments#page1.tif
source=0073605-000415 Assignments#page2.tif
source=0073605-000415 Assignments#page3.tif
source=0073605-000415 Assignments#page4.tif
source=0073605-000415 Assignments#page5.tif
source=0073605-000415 Assignments#page6.tif
source=0073605-000415 Assignments#page7.tif
source=0073605-000415 Assignments#page8.tif
source=0073605-000415 Assignments#page9.tif
source=0073605-000415 Assignments#page10.tif

FOR VALUE RECEIVED, and pursuant to my obligations under my employment agreements/appointments with THE PENNSYLVANIA STATE UNIVERSITY ("University"), I, Fei Li, hereby sell, assign and transfer unto the University's designee, THE PENN STATE RESEARCH FOUNDATION, as assignee, and its successors, assigns and legal representatives, the entire right, title and interest in and to all subject matter invented by me and disclosed or claimed in an application for Letters Patent of the United States of America, entitled:

"Perovskite Relaxor-PbTiO3 Based Ferroelectric Ceramics With Ultrahigh Dielectric and Piezoelectric Properties Through Polar Nanoregions Engineering"

signed by me on the date set forth below; and in and to any and all continuations, continuations-in-part, divisions, reissues, renewals, extensions, substitutions, additions or reexaminations of such application and any U.S. patents issuing thereon; and in and to any and all corresponding international and foreign applications for Letters Patent and any foreign patents issuing thereon; and all Convention and Treaty Rights of any kind, in all countries throughout the world, for all such subject matter; together with all claims for damages by reason of future, present and past infringement, with the right to sue for and collect the same for assignee's use and on behalf of assignee's successors, assigns and legal representative.

I request that any and all patents for said inventions be issued to said assignee, its successors, assigns and legal representatives, or to such nominees as it may designate.

I agree that, when requested, I will, without charge to said assignee but at its expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for securing, maintaining and enforcing patents for said inventions in any and all countries and for vesting title thereto in said assignee, its successors, assigns and legal representatives or nominees.

I authorize and empower the said assignce, its successors, assigns and legal representatives or nominees, to invoke and claim for any application for patent or other form of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from me.

I hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document which may be required in any country for any purpose and more particularly in proof of the right of said assignee or nominee to claim the aforesaid benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it.

I covenant with said assignee, its successors, assigns and legal representatives, that the rights and property herein conveyed are free and clear of any encumbrance, and that I have full right to convey the same as herein expressed.

Signed at University Park, Pennsylvania, this		April	, 2017.
Witness: <u>Gir X Ander</u>	Signed: Fei Li	Tei Co.	
COT'S COT STATE TRANSPORTS SOME TO SEE SOME S			
STATE OF PENNSYLVANIA			
COUNTY OF CENTRE			
On this 6 day of April	200	7 Katamana a Malana 1	Short the comment
for the county and State aforesaid, appeared Fei I	i to me verson	7, before me, a Notary I	ron whose
name is subscribed to the foregoing instrument, a	md acknowledged	I that he executed said in	istroment as his
free and voluntary act for the uses and purposes t	herein expressed.		was an amount of the state.
Witness my hand and seal the day and yes	ar last above gryen	P 1 1 1	
<u> </u>	run SK	T VOTWAR	
William Hotel	ary Public	7	
NOTARIAL SEAL Erm L Clouser NOTARY PUBLIC State College Boro Centre County			
My Commission Expires 09/24/2017			

FOR VALUE RECEIVED, and pursuant to my obligations under my employment agreements/appointments with THE PENNSYLVANIA STATE UNIVERSITY ("University"), I, <u>Dabin Lin</u> hereby sell, assign and transfer unto the University's designee, THE PENN STATE RESEARCH FOUNDATION, as assignee, and its successors, assigns and legal representatives, the entire right, title and interest in and to all subject matter invented by me and disclosed or claimed in an application for Letters Patent of the United States of America, entitled:

"Perovskite Relaxor-PbTiO3 Based Ferroelectric Ceramics With Ultrahigh Dielectric and Piezoelectric Properties Through Polar Nanoregions Engineering"

signed by me on the date set forth below; and in and to any and all continuations, continuations-in-part, divisions, reissues, renewals, extensions, substitutions, additions or reexaminations of such application and any U.S. patents issuing thereon; and in and to any and all corresponding international and foreign applications for Letters Patent and any foreign patents issuing thereon; and all Convention and Treaty Rights of any kind, in all countries throughout the world, for all such subject matter; together with all claims for damages by reason of future, present and past infringement, with the right to sue for and collect the same for assignee's use and on behalf of assignee's successors, assigns and legal representative.

I request that any and all patents for said inventions be issued to said assignee, its successors, assigns and legal representatives, or to such nominees as it may designate.

I agree that, when requested, I will, without charge to said assignee but at its expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for securing, maintaining and enforcing patents for said inventions in any and all countries and for vesting title thereto in said assignee, its successors, assigns and legal representatives or nominees.

I authorize and empower the said assignce, its successors, assigns and legal representatives or nominees, to invoke and claim for any application for patent or other form of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from me.

I hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document which may be required in any country for any purpose and more particularly in proof of the right of said assignee or nominee to claim the aforesaid benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it.

I covenant with said assignee, its successors, assigns and legal representatives, that the rights and property herein conveyed are free and clear of any encumbrance, and that I have full right to convey the same as berein expressed.

Signed this day of	April ,	2017.
Witness: <u>Shun Zhou</u>	Signed:	bin tin

FOR VALUE RECEIVED, and pursuant to my obligations under my employment agreements/appointments with THE PENNSYLVANIA STATE UNIVERSITY ("University"), I, Shujun Zhang, hereby sell, assign and transfer unto the University's designee, THE PENN STATE RESEARCH FOUNDATION, as assignee, and its successors, assigns and legal representatives, the entire right, title and interest in and to all subject matter invented by me and disclosed or claimed in an application for Letters Patent of the United States of America, entitled:

"Perovskite Relaxor-PhTiO3 Based Ferroelectric Ceramics With Ultrahigh Dielectric and Piezoelectric Properties Through Polar Nanoregions Engineering"

signed by me on the date set forth below; and in and to any and all continuations, continuations-in-part, divisions, reissues, renewals, extensions, substitutions, additions or reexaminations of such application and any U.S. patents issuing thereon; and in and to any and all corresponding international and foreign applications for Letters Patent and any foreign patents issuing thereon; and all Convention and Treaty Rights of any kind, in all countries throughout the world, for all such subject matter; together with all claims for damages by reason of future, present and past infringement, with the right to sue for and collect the same for assignce's use and on behalf of assignce's successors, assigns and legal representative.

I request that any and all patents for said inventions be issued to said assignce, its successors, assigns and legal representatives, or to such nominees as it may designate.

I agree that, when requested, I will, without charge to said assignce but at its expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for securing, maintaining and enforcing patents for said inventions in any and all countries and for vesting title thereto in said assignce, its successors, assigns and legal representatives or nominees.

I authorize and empower the said assignee, its successors, assigns and legal representatives or nominees, to invoke and claim for any application for patent or other form of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from me.

I hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document which may be required in any country for any purpose and more particularly in proof of the right of said assignee or nominee to claim the aforesaid benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it.

I covenant with said assignee, its successors, assigns and legal representatives, that the rights and property herein conveyed are free and clear of any encumbrance, and that I have full right to convey the same as herein expressed.

Signed this/O day of A Pv	i.l.	_, 2017.	
Witness: 2hi Li	Signed:	Shujun Zhang	- 24 <u></u>

FOR VALUE RECEIVED, and pursuant to my obligations under my employment agreements/appointments with THE PENNSYLVANIA STATE UNIVERSITY ("University"). I. Thomas R. Shrout, hereby sell, assign and transfer unto the University's designee, THE PENN STATE RESEARCH FOUNDATION, as assignee, and its successors, assigns and legal representatives, the entire right, title and interest in and to all subject matter invented by me and disclosed or claimed in an application for Letters Patent of the United States of America, entitled:

"Perovskite Relaxor-PbTiO3 Based Ferroelectric Ceramics With Ultrahigh Dielectric and Piezoelectric Properties Through Polar Nanoregions Engineering"

signed by me on the date set forth below; and in and to any and all continuations, continuations-in-part, divisions, reissues, renewals, extensions, substitutions, additions or reexaminations of such application and any U.S. patents issuing thereon; and in and to any and all corresponding international and foreign applications for Letters Patent and any foreign patents issuing thereon; and all Convention and Treaty Rights of any kind, in all countries throughout the world, for all such subject matter; together with all claims for damages by reason of future, present and past infringement, with the right to sue for and collect the same for assignee's use and on behalf of assignee's successors, assigns and legal representative.

I request that any and all patents for said inventions be issued to said assignce, its successors, assigns and legal representatives, or to such nominees as it may designate.

I agree that, when requested, I will, without charge to said assignce but at its expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for securing, maintaining and enforcing patents for said inventions in any and all countries and for vesting title thereto in said assignce, its successors, assigns and legal representatives or nominees.

I authorize and empower the said assignee, its successors, assigns and legal representatives or nominees, to invoke and claim for any application for patent or other form of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from me.

I hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document which may be required in any country for any purpose and more particularly in proof of the right of said assignce or nominée to claim the aforesaid benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it.

I covenant with said assignee, its successors, assigns and legal representatives, that the rights and property herein conveyed are free and clear of any encumbrance, and that I have full right to convey the same as herein expressed.

Signed at University Park, Pennsylvania, this
Witness: Marcus Folks Signed: Thomas R. Shrout
STATE OF PENNSYLVANIA :
COUNTY OF CENTRE :
On this 44 day of April .2017, before me, a Notary Public in and for the county and State aforesaid, appeared Thomas R. Shrout, to me personally known to be the person whose name is subscribed to the foregoing instrument, and acknowledged that he executed said instrument as his free and voluntary act for the uses and purposes therein expressed.
Witness my hand and seal the day and year last above given.
Notary Public /
Commonwealth of Pennsylvania  STATE COLLEGE PORC CONTROL  My Commission Court College  County of County of College  County of C

FOR VALUE RECEIVED, and pursuant to my obligations under my employment agreements/appointments with THE PENNSYLVANIA STATE UNIVERSITY ("University"), I, Long-Qing Chen, hereby sell, assign and transfer unto the University's designee, THE PENN STATE RESEARCH FOUNDATION, as assignee, and its successors, assigns and legal representatives, the entire right, title and interest in and to all subject matter invented by me and disclosed or claimed in an application for Letters Patent of the United States of America, entitled:

# "PEROVSKITE RELAXOR-PBTI03 BASED FERROELECTRIC CERAMICS WITH ULTRAHIGH DIELECTRIC AND PIEZOELECTRIC PROPERTIES THROUGH POLAR NANOREGIONS ENGINEERING"

signed by mes on the date set forth below; and in and to any and all continuations, continuations-in-part, divisions, reissues, renewals, extensions, substitutions, additions or reexaminations of such application and any U.S. patents issuing thereon; and in and to any and all corresponding international and foreign applications for Letters Patent and any foreign patents issuing thereon; and all Convention and Treaty Rights of any kind, in all countries throughout the world, for all such subject matter; together with all claims for damages by reason of future, present and past infringement, with the right to sue for and collect the same for assignee's use and on behalf of assignee's successors, assigns and legal representative.

I request that any and all patents for said inventions be issued to said assignee, its successors, assigns and legal representatives, or to such nominees as it may designate.

I agree that, when requested, I will, without charge to said assignee but at its expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for securing, maintaining and enforcing patents for said inventions in any and all countries and for vesting title thereto in said assignee, its successors, assigns and legal representatives or nominees.

I authorize and empower the said assignee, its successors, assigns and legal representatives or nominees, to invoke and claim for any application for patent or other form of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from me.

I hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document which may be required in any country for any purpose and more particularly in proof of the right of said assignee or nominee to claim the aforesaid benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it.

I covenant with said assignee, its successors, assigns and legal representatives, that the rights and property herein conveyed are free and clear of any encumbrance, and that I have full right to convey the same as herein expressed.

Signed thisda	y of <u>April</u>	
Witness: Svy	L'Clousers	igned: Long-Qing Chen
STATE OF PENNSYLV County of Centra	ANIA : : 58:	
whose name is subscribed	foresaid, appeared <u>Long-Oin</u> I to the foregoing instrument	2019, before me, a Notary Public in and g Chen, to me personally known to be the person and acknowledged that he executed said d purposes therein expressed.
Witness my hand	and seal the day and year las	t above given,
	Notary Pi	in Lablic Laborer
	•	

Commonwealth of Pennsylvania

Notarial Seal

ERIN L CLOUSER - Notary Public

STATE COLLEGE BORO, CENTRE COUNTY

My Commission Expires Sep 24, 2021

PATENT REEL: 050428 FRAME: 0377

RECORDED: 09/19/2019