

PATENT ASSIGNMENT

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SUBMISSION TYPE:

NEW ASSIGNMENT

NATURE OF CONVEYANCE:

ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Vinh Q Nguyen	09/14/2010
Jesse A Frantz	09/14/2010
Jasbinder S Sanghera	09/16/2010
Ishwar D Aggarwal	09/15/2010
Michael Cyrus	09/15/2010
Allan James Bruce	09/15/2010
Sergey Frolov	09/15/2010

RECEIVING PARTY DATA

Name:	The Government of the United States, as represented by the Secretary of the Navy
Street Address:	875 N Randolph St.
Internal Address:	Suite 1425
City:	Arlington
State/Country:	VIRGINIA
Postal Code:	22203

Name:	Sunlight Photonics Inc
Street Address:	600 Corporate Court
City:	South Plainfield
State/Country:	NEW JERSEY
Postal Code:	07080

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	12884586

CORRESPONDENCE DATA

Fax Number: (202)404-7380

501294141

PATENT
REEL: 025005 FRAME: 0169

CH \$40.00 12884586

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

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Correspondent Name: Rebecca Forman
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Address Line 2: Code 1008.2
Address Line 4: Washington, DISTRICT OF COLUMBIA 20375

ATTORNEY DOCKET NUMBER:

99918-US2

NAME OF SUBMITTER:

Rebecca L Forman

Total Attachments: 14

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ASSIGNMENT BY INVENTORS (UNITED STATES PATENTS)

THIS ASSIGNMENT, made by Vinh Q. Nguyen; Jesse A. Frantz; Jasbinder S. Sanghera; and Ishwar D. Aggarwal (hereinafter referred to as Assignors), residing at 9213 Bayard Pl, Fairfax, Virginia 22032; 523 Touchdown Drive, Landover, Maryland 20785; 23171 Kleinsmith Way, Ashburn, Virginia 20148; and 9808 Thorn Bush Dr, Fairfax Station, Virginia 22039, respectively;

WHEREAS, Assignors, while employed by the Government of the United States, have invented certain new and useful improvements in SYNTHESIS OF HIGH-PURITY BULK COPPER INDIUM GALLIUM SELENIDE MATERIALS, set forth in a Patent application for Letters Patent of the United States, filed herewith; and

WHEREAS, The Government of the United States of America, as represented by the Secretary of the Navy, a Federal Agency (hereinafter referred to as the Government), is desirous of acquiring the entire right, title and interest in and to said inventions and said Application for Letters Patent of the United States, and in and to any Letters Patent of the United States to be obtained therefore and thereon.

WHEREAS, by acquiring the Assignors' entire right, title, and interest in and to the invention the Government will be enabled to license the invention and share the income from the licensing with the Assignors as allowed by law;

WHEREAS, the conditions under which the invention was made are such as to entitle the Government under Paragraph 1(a) of Executive Order 10096, to the Assignors' entire right, title, and interest therein, including the foreign rights; and

WHEREAS, as to foreign rights, it is the policy of the Government to obtain an option to exercise such rights;

NOW, THEREFORE, in consideration of the premises and other good and sufficient consideration, the receipt of which is hereby acknowledged, Assignors have assigned, transferred and set over, and by these presents do assign, transfer and set over, unto the Government, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions and application for Letters Patent, and in and to any and all direct and indirect divisions, continuations and continuations-in-part of said application, and any and all Letters Patent in the United States which may be granted therefore and thereon, and reissues, reexaminations and extensions of said Letters Patent, the same to be held and enjoyed by the Government, for its own use and benefit and the use and benefit of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent may be granted and/or extended, as fully and entirely as the same would have been held and enjoyed by Assignors, had this assignment not been made.

AND for the same consideration, Assignors hereby represent and warrant to the Government, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents,

except for any rights, titles and/or interests that have arisen to the Government under law or that have already been transferred to the Government, Assignors are the sole and lawful owners of the entire right, title and interest in and to the said inventions and application for Letters Patent above-mentioned, and that the same are unencumbered and that Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, Assignors hereby covenant and agree to and with the Government, its successors, legal representatives and assigns, that Assignors will sign all papers and documents, take all lawful oaths and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of any Letters Patent and applications for Letters Patent for said inventions, without charge to the Government, its successors, legal representatives and assigns, whenever counsel of the Government, or counsel of its successors, legal representatives and assigns, shall advise: that any proceeding in connection with said inventions, or said Patent application for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said inventions including but not limited to interference proceedings, is lawful and desirable; or, that any division, continuation or continuation-in-part of any application for Letters Patent, or any reissue, reexamination or extension of any Letters Patent, to be obtained thereon, is lawful and desirable.

AND Assignors hereby request the Commissioner of Patent and Trademarks to issue said Letters Patent of the United States to

Assignee, as Assignee of said inventions and the Letters Patent to be issued thereon, for the sole use and benefit of the Government, its successors, legal representatives and assigns.

AND the Assignors do hereby also grant unto the Government, the option to take the Assignors' entire right, title, and interest in the invention and all patent applications or other forms of protection thereon in all countries foreign to the United States in which the Government may file, or cause to be filed, applications for Letters Patent or other forms of protection, without payment of any consideration; provided, however, that this grant of an option to take foreign rights in the invention, or applications or other forms of protection thereon, shall have force and effect only as to such applications for which a decision to file in foreign countries is made within eight months of the filing date of any application for United States Letters Patent and/or any provisional application covering the invention, or within eight months from the declassification of the invention, whichever is later, and that all foreign rights not exercised under the option are left to Assignors subject to a nonexclusive, irrevocable, royalty-free license to the Government in any patent or other form of protection which may issue on said invention in any foreign country, including the power to issue sub-licenses for use in behalf of the Government and/or in furtherance of the foreign policies of the Government .

AND the Assignors hereby further agree to make, execute, and deliver to the Government, any and all papers, documents, affidavits, statements, or other instruments that may be necessary in the

prosecution of the application and of any continuation, division, or substitution of the application, or any application for reissue or extension of said Letters Patent, and to assist the Government in every way in protecting the invention as may be requested, provided that any expense arising through such efforts will be paid by the Government.

AND Assignors hereby appoint all practitioners at Customer Number 26384, all of US Naval Research Laboratory, 4555 Overlook Ave, SW, Washington, DC 20375, jointly, and each of them severally, my attorneys at law/patent agent(s), with full power of substitution, delegation and revocation, to prosecute this application, to make alterations and amendments therein, and to transact all business in the U. S. Patent and Trademark Office connected therewith.

AND Assignors hereby grant the following individuals 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 any foreign patent office for recordation of this document:

US NAVAL RESEARCH LABORATORY

All practitioners at Customer Number 26384.

Date: 9/14/10 Signature: Vinh Q Nguyen Seal
Vinh Q Nguyen

Date: 9/14/10

Signature: Jesse A. Frantz
Jesse A. Frantz

Seal

Date: 9/16/10

Signature: Jasbinder S. Sanghera
Jasbinder S. Sanghera

Seal

Date: 9.15.2010

Signature: Ishwar D. Aggarwal
Ishwar D. Aggarwal

Seal

ASSIGNMENT FOR UNITED STATES PATENT APPLICATION
(PATENT APPLICATION PENDING)
(SOLE OR JOINT)

WHEREAS, Allan James Bruce, a United States citizen, residing at 2351 Seneca Road, Scotch Plains, NJ 07076, Michael Cyrus, a United States citizen, residing at 26 Locust Dr., #41, Summit, NJ 07901 and Sergey Frolov, a United States citizen, residing at 226 Gallinson Dr., Murray Hill, NJ 07974 (hereinafter collectively and severally referred to as "assignor") have invented a certain invention entitled:

Low Temperature And High Temperature Synthesis Of High-Purity Bulk $\text{Cu}(\text{In}_{1-x}\text{Ga}_x)\text{Se}_2$
($0 < x < 1$)

for which Provisional Application Serial No. 61/245,402, was filed September 24, 2009; and

WHEREAS, Sunlight Photonics Inc., a Delaware corporation having an office at 600 Corporate Court, South Plainfield, New Jersey 07080 (hereinafter referred to as "assignee", which term includes the successors and assigns of assignee), is desirous of acquiring the entire right, title and interest, in and to said invention and in and to said letters patent or similar legal protection to be obtained therefor in the United States and in any and all foreign countries.

NOW THEREFORE, be it known that in consideration of the payment by assignee to assignor of the sum of one dollar (\$1.00) and for other good and valuable consideration, the receipt of which is hereby acknowledged, assignor hereby sells, assigns and transfers to assignee his full and complete right, title, and interest in and to said invention and said patent application (including the rights of priority thereto) in the United States, its possessions, and in all foreign countries, and to all Letters Patent or similar legal protection in the United States, its possessions, and any and all foreign countries to be obtained on said invention or issuing from said application or any continuation, division, renewal, substitute or reissue thereof or any legal equivalent thereof in a foreign country for the full term or terms for which the same may be granted.

ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment, sale, and transfer.

ASSIGNOR further covenants that assignee will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention, application, and Letters Patent and legal equivalents thereto in such foreign countries as may be known to and within the control of assignor and assignor will in good faith testify as to the same in any interference, proceeding, or litigation related thereto and will promptly execute and deliver to assignee or its legal representative any and all papers, instruments, affidavits, or the like required or useful to apply for, obtain, maintain, issue and enforce said application or Letters Patent or equivalent thereof in any aforesaid country of the world which may be necessary or desirable therefor.

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal this 15th day of Sept, 2010.

Allan James Bruce
Allan James BRUCE

United States of America)

State of (New Jersey))

County of (Middlesex))

On this 15th day of September 2010, before me, the undersigned Notary Public, personally appeared **Allan James Bruce**, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of same.

Given under my hand and notarial seal this 15th day of September 2010.

My commission expires:

Chadeene Gittens
Notary Public Signature

Chadeene Gittens
Printed Name of Notary Public

CHADEENE N. GITTENS
STATE OF NEW JERSEY NOTARY PUBLIC
EXPIRES 8/12/2012
9/15/2010

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal this 15th day of Sept., 2010.


Michael CYRUS

United States of America)

State of (New Jersey))

County of (Middlesex))

On this 15th day of September 2010, before me, the undersigned Notary Public, personally appeared **Michael Cyrus**, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of same.

Given under my hand and notarial seal this 15th day of September 2010.

My commission expires:

CHADEENE N. GITTENS
STATE OF NEW JERSEY NOTARY PUBLIC
EXPIRES 8/18/2012
9/15/2010


Notary Public Signature

Chaddeene Gittens
Printed Name of Notary Public

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal this 15th day of September, 2010.



Sergey FROLOV

United States of America)

State of (New Jersey))

County of (Middlesex))

On this 15th day of September 2010, before me, the undersigned Notary Public, personally appeared **Sergey Frolov**, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of same.

Given under my hand and notarial seal this 15th day of September 2010.

My commission expires:

CHADEENE N. GITTENS
STATE OF NEW JERSEY NOTARY PUBLIC
EXPIRES 8/13/2012

9/15/2010



Notary Public Signature

Chadeene Gittens

Printed Name of Notary Public

ASSIGNMENT FOR UNITED STATES PATENT APPLICATION
(PATENT APPLICATION PENDING)
(SOLE OR JOINT)

WHEREAS, Allan James Bruce, a United States citizen, residing at 2351 Seneca Road, Scotch Plains, NJ 07076, Michael Cyrus, a United States citizen, residing at 26 Locust Dr., #41, Summit, NJ 07901 and Sergey Frolov, a United States citizen, residing at 226 Gallinson Dr., Murray Hill, NJ 07974 (hereinafter collectively and severally referred to as "assignor") have invented a certain invention entitled:

SYNTHESIS OF HIGH-PURITY BULK COPPER INDIUM GALLIUM SELENIDE
MATERIALS

for which application for Letters Patent of the United States has been executed by the inventors on the date of execution of this Assignment; and

WHEREAS, Sunlight Photonics Inc., a Delaware corporation having an office at 600 Corporate Court, South Plainfield, New Jersey 07080 (hereinafter referred to as "assignee", which term includes the successors and assigns of assignee), is desirous of acquiring the entire right, title and interest, in and to said invention and in and to said letters patent or similar legal protection to be obtained therefor in the United States and in any and all foreign countries.

NOW THEREFORE, be it known that in consideration of the payment by assignee to assignor of the sum of one dollar (\$1.00) and for other good and valuable consideration, the receipt of which is hereby acknowledged, assignor hereby sells, assigns and transfers to assignee his full and complete right, title, and interest in and to said invention and said patent application (including the rights of priority thereto) in the United States, its possessions, and in all foreign countries, and to all Letters Patent or similar legal protection in the United States, its possessions, and any and all foreign countries to be obtained on said invention or issuing from said application or any continuation, division, renewal, substitute or reissue thereof or any legal equivalent thereof in a foreign country for the full term or terms for which the same may be granted.

ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment, sale, and transfer.

ASSIGNOR further covenants that assignee will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention, application, and Letters Patent and legal equivalents thereto in such foreign countries as may be known to and within the control of assignor and assignor will in good faith testify as to the same in any interference, proceeding, or litigation related thereto and will promptly execute and deliver to assignee or its legal representative any and all papers, instruments, affidavits, or the like required or useful to apply for, obtain, maintain, issue and enforce said application or Letters Patent or equivalent thereof in any aforesaid country of the world which may be necessary or desirable therefor.

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal this 15th day of Sept., 2010.


Michael CYRUS

United States of America)


State of (New Jersey))

County of (Middlesex))

On this 15th day of September 2010, before me, the undersigned Notary Public, personally appeared **Michael Cyrus**, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of same.

Given under my hand and notarial seal this 15th day of September 2010.

My commission expires:


Notary Public Signature

Chadene Gittens
Printed Name of Notary Public

CHADEENE N. GITTENS
STATE OF NEW JERSEY NOTARY PUBLIC
EXPIRES 8/18/2012
9/15/2010

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal this 15th day of September, 2010.

Allan Bruce
Allan James BRUCE

United States of America)

State of (New Jersey))

County of (Middlesex))

On this 15th day of September 2010, before me, the undersigned Notary Public, personally appeared **Allan James Bruce**, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of same.

Given under my hand and notarial seal this 15th day of September 2010.

My commission expires:

[Signature]
Notary Public Signature

Chadeene Gittens
Printed Name of Notary Public

CHADEENE N. GITTENS
STATE OF NEW JERSEY NOTARY PUBLIC
EXPIRES 8/13/2012
9/15/2010

IN TESTIMONY WHEREOF, I have hereunto set my hand and seal this 15th day of September, 2010.


Sergey FROLOV

United States of America)

State of (New Jersey))

County of (Middlesex))

On this 15th day of September 2010, before me, the undersigned Notary Public, personally appeared **Sergey Frolov**, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of same.

Given under my hand and notarial seal this 15th day of September 2010.

My commission expires:


Notary Public Signature

Chadene G. Gittens
Printed Name of Notary Public

CHADEENE N. GITTENS
STATE OF NEW JERSEY NOTARY PUBLIC
EXPIRES 8/18/2012
9/15/2010