

Form PTO-1595 (Rev. 03/05)  
OMB No. 0651-0027 (exp. 6/30/2005)

U.S. DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office

### RECORDATION FORM COVER SHEET PATENTS ONLY

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

#### 1. Name of conveying party(ies)

Jasbinder S. Sanghera  
Shyam S. Bayya  
Guillermo R. Villalobos  
Ishwar D. Aggarwal  
Robert E. Miklos

Additional name(s) of conveying party(ies) attached?  Yes  No

#### 2. Name and address of receiving party(ies)

Name: The U.S.A. as represented by the Secretary of the Navy

Internal Address: Chief of Naval Research

Office of Counsel (ATTN: CODE OOCIP)

Street Address: One Liberty Ctr.

875 North Randolph Street Suite 1425

City: Arlington

State: VA

Country: \_\_\_\_\_ Zip: 22203

Additional name(s) & address(es) attached?  Yes  No

#### 3. Nature of conveyance/Execution Date(s):

Execution Date(s) 12/22/11; 12/30/11; and 1/17/12

- Assignment  Merger
- Security Agreement  Change of Name
- Joint Research Agreement
- Government Interest Assignment
- Executive Order 9424, Confirmatory License
- Other \_\_\_\_\_

#### 4. Application or patent number(s):

A. Patent Application No.(s)  
13/354,143 - Filed January 19, 2012  
NC 100,094-US2

This document is being filed together with a new application.  
B. Patent No.(s)

Additional numbers attached?  Yes  No

#### 5. Name and address to whom correspondence concerning document should be mailed:

Name: Associate Counsel (PATENTS)

Internal Address: Naval Research Laboratory

(ATTN: CODE 1008.2)

Street Address: 4555 Overlook Avenue, SW

City: Washington

State: DC Zip: 20375

Phone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

Email Address: patent.docketing@nrl.navy.mil

#### 6. Total number of applications and patents involved: 1

#### 7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00

- Authorized to be charged by credit card
- Authorized to be charged to deposit account
- Enclosed
- None required (government interest not affecting title)

#### 8. Payment Information

a. Credit Card Last 4 Numbers \_\_\_\_\_  
Expiration Date \_\_\_\_\_

b. Deposit Account Number 50-0281

Authorized User Name Stephen T. Hunnius

#### 9. Signature:

  
Signature

01/25/12  
Date

Stephen T. Hunnius  
Name of Person Signing

Total number of pages including cover sheet, attachments, and documents:

12

Documents to be recorded (including cover sheet) should be faxed to (703) 306-5995, or mailed to:  
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

PATENT

REEL: 027610 FRAME: 0903

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CH \$40.00 500281 13354143

**ASSIGNMENT BY INVENTORS (UNITED STATES PATENTS)**

**THIS ASSIGNMENT**, made by Jasbinder S. Sanghera; Shyam S. Bayya; Guillermo R. Villalobos; and Ishwar D. Aggarwal (hereinafter referred to as Assignors), residing at 23171 Kleinsmith Way, Ashburn, Virginia 20148; 43747 Webster Ct, Ashburn, Virginia 20148; 7406 Calamo St, Springfield, Virginia 22150; and 9808 Thorn Bush Drive, Fairfax Station, Virginia 22039, respectively;

**WHEREAS**, Assignors, while employed by the Government of the United States, have invented certain new and useful improvements in Spinel Ceramics Via Edge Bonding, set forth in a Patent application for Letters Patent of the United States, already filed on January 31, 2011 as U.S. Application No. 61/437,880; 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: 1/17/12 Signature: Jasbinder S. Sanghera Seal  
Jasbinder S. Sanghera

Date: 12/22/2011 Signature: Shyam S Bayya Seal  
Shyam S. Bayya

Date: 12/30/11 Signature: Guillermo R. Villalobos Seal  
Guillermo R. Villalobos

Date: 12-22-2011 Signature: Ishwar D. Aggarwal Seal  
Ishwar D. Aggarwal

## ASSIGNMENT BY INVENTOR

**THIS ASSIGNMENT**, made by Robert E Miklos (hereinafter referred to as Assignor), residing at 12130 Charles Street, La Plata, Maryland 20646-4435;

**WHEREAS**, Assignor, has invented certain new and useful improvements in Spinel Ceramics Via Edge Bonding, set forth in a Patent application for Letters Patent of the United States, already filed on January 31, 2011 as U.S. Application No. 61/437,880; 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**, Assignor is obligated as employee of Global Strategies Group, Inc. to assign inventions to Contractor, and Contractor is obligated to the Government under contract no. N00173-08-C-2088;



**NOW, THEREFORE**, in consideration of the premises and other good and sufficient consideration, the receipt of which is hereby acknowledged, Assignor has assigned, transferred and set over, and by these presents does assign, transfer and set over, unto the Government, its successors, legal representatives and assigns, subject to a nonexclusive and royalty-free license which is hereby reserved to Contractor, 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, and all rights under the International Convention for the Protection of Industrial Property, 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 Assignor, had this assignment not been made.

**AND** the license reserved to the Contractor shall extend to all existing and future associated and affiliated companies, if any within the corporate structure of Contractor is a part and shall be assignable to the successor of that part of Contractor's business to which such invention pertains.

**AND** for the same consideration, Assignor hereby represents and warrants 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, Assignor is the sole and lawful owner 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 Assignor has good and full right and lawful authority to sell and convey the same in the manner herein set forth.

**AND** for the same consideration, Assignor hereby covenants and agrees to and with the Government, its successors, legal representatives and assigns, that Assignor 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** Assignor hereby requests 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.

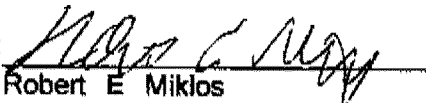
**AND** the Assignor hereby further agree to make, execute, and deliver to the Government, any and all papers, documents, affidavits, statements, or other instruments that may be necessary in the prosecution of the application and of any continuation, division, or substitution of the application, or 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** Assignor hereby appoints 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** Assignor hereby grants 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: Dec. 16, 2011 Signature:  Seal  
Robert E Miklos

Contractor joins in and agrees to the foregoing assignment, and except for the above reservation of a license, relinquishes and assigns all right, title and interest in and to such invention, and further agrees to furnish to the Government, upon request, any available information and documents necessary for the prosecution of any patent application (including prosecution and settlement of interferences) on the above-identified invention, and any substitution, division, continuation-in-part, or continuation of such patent application and any application for reissue of any patent resulting from such patent application.

December 16, 2011  
Date

Justin C Callaway  
Authorized  
Signer: Justin C. Callaway  
Title: Staff Attorney

Digitally signed by Justin C Callaway  
DN: cn=US, o=DST ACCO Business Representative, ou=EDTORA  
DEFENSE SOLUTIONS INC, cn=Justin C Callaway,  
c=US, email=10200300.100.1.1-AMTR@0000152027012000011  
@000  
Date: 2011.12.16 11:14:50 -0500