

Client Code: ZTPLUS.014A

**RECORDATION FORM COVER SHEET  
PATENTS ONLY**

To the Director, U.S. Patent and Trademark Office: Please record the attached original documents or copy thereof.

<p>1. Name of conveying party(ies): (List using letters or numbers for multiple parties)</p> <p>1. Joseph P. Heremans 2. Christopher M. Jaworski 3. Vladimir Jovovic 4. Fred Harris</p> <p>Additional name(s) of conveying party(ies) attached? ( ) Yes (X) No</p>	<p>2. Name and address of receiving party(ies):</p> <p><b>Name:</b> ZT Plus <b>Street Address:</b> 1321 Mountain View Circle <b>City:</b> Azusa <b>State:</b> CA <b>ZIP:</b> 91702</p> <p><b>Name:</b> The Ohio State University <b>Street Address:</b> 1524 North High Street <b>City:</b> Columbus <b>State:</b> OH <b>ZIP:</b> 43201</p> <p>Additional name(s) of receiving party(ies) attached? ( ) Yes (X) No</p>
<p>3. Nature of conveyance:</p> <p>(X) Assignment ( ) Security Agreement ( ) Merger ( ) Change of Name</p> <p>( ) Other:</p> <p>Execution Date: (List as in section 1 if multiple signatures)</p> <p>1. May 30, 2012 2. June 6, 2012 3. June 13, 2012 4. June 18, 2012</p>	<p>4. US or PCT Application number(s) or US Patent number(s):</p> <p>(X) Patent Application No.: 13/436521 Filing Date: March 30, 2012</p> <p>Additional numbers attached? ( ) Yes (X) No</p>
<p>5. Party to whom correspondence concerning document should be mailed:</p> <p><b>Customer No.</b> 20,995 <b>Address:</b> Knobbe, Martens, Olson &amp; Bear, LLP 2040 Main Street, 14<sup>th</sup> Floor Irvine, CA 92614 <b>Return Fax:</b> (949) 760-9502 <b>Attorney's Docket No.:</b> ZTPLUS.014A</p>	<p>6. Total number of applications and patents involved: 1</p>
<p>7. Total fee (37 CFR 1.21(h)): \$40</p> <p>(X) Authorized to be charged to deposit account</p>	<p>8. Deposit account number: 11-1410</p> <p>Please charge this account for any additional fees which may be required, or credit any overpayment to this account.</p>
<p>9. Statement and signature.</p> <p>To the best of my knowledge and belief, the foregoing information is true and correct, and any attached copy is a true copy of the original document.</p> <p><u>Joan Y. Chan</u> Name of Person Signing</p> <p><u>66,385</u> Registration No.</p> <p><u>6-28-2012</u> Date</p> <p><u>Signature</u></p> <p>Total number of pages including cover sheet, attachments and document: 6</p>	

Documents transmitted via Facsimile to be recorded with required cover sheet information to:

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**PATENT**  
**REEL: 028457 FRAME: 0392**

CH \$40.00 111410 13436521

## ASSIGNMENT OF PATENT RIGHTS

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, we, the undersigned, Joseph P. Heremans, a U.S. citizen, residing at 4475 Langport Road, Upper Arlington, OH 43220 (US) and Christopher M. Jaworski, a U.S. citizen, residing at 94 East Tompkins Street, Columbus, OH 43202 (US) (hereinafter "Assignors") hereby sell, assign and transfer to The Ohio State University, an Institution of Higher Education in the State of Ohio having offices located at the Technology Commercialization and Knowledge Transfer Office, 1524 North High Street, Columbus, Ohio 43201 (hereinafter "Assignee"), its successors, assigns and legal representatives, the entire right, title and interest, in and to any and all inventions which are disclosed in

- U.S. Patent Application No. 13/436,521, filed March 30, 2012; Entitled: THERMOELECTRIC MATERIALS HAVING POROSITY (OSU2012-010)

SUCH ASSIGNMENT shall be in and to each said application and extensions thereof including all rights of priority arising therefrom and in and to all non-provisional, divisional, continuing applications, substitute, renewal, reissue applications, all provisional applications directed to the same invention which have been or will be filed and all other applications for Letters Patent which have been or shall be filed in the United States and all countries of the world and all international applications on any of said inventions, and in and to all original and reissued patents which have been or shall be issued in the United States and all countries of the world on said invention. We hereby authorize and request the Commissioner of Patents or other proper Officer to issue such Letters Patent to the above Assignee, its successors and/or assigns.

ASSIGNORS also agree that said Assignee may apply for, receive and maintain Letters Patent for said inventions in its own name; and that, when requested, without charge to, but at the expense of said Assignee, its successors, assigns and legal representatives, Assignors will carry out in good faith the intent and purpose of this assignment and that the undersigned will execute all divisional, continuing, substitute, renewal, reissue and all other patent applications on any and all said inventions for the U.S., all other countries of the world and under all treaties; and will execute all rightful oaths, supplemental oaths, preliminary statements, assignments, powers of attorney, assurance of title, declarations and other papers for the U.S., all other countries and under all treaties, and will communicate to said Assignee, its successors, assign and representatives, all facts known to the undersigned relating to said inventions and the history thereof; and generally do everything possible which said Assignee, its successors, assigns or representatives shall consider desirable for aiding in securing and maintaining proper patent protection for said inventions, and for complying with applicable law and for vesting title to said inventions and all applications for patents and all patents on said inventions in said Assignee, its successors, assigns and legal representatives for the U.S., all other countries and under all related treaties.

ASSIGNORS hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country as proof of the right of said Assignee to apply for, defend or enforce a patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority,

ASSIGNORS FURTHER covenant with said Assignee, its successors, assigns and legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights

and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Date: 5/30/2012 By: J. Heremans  
Joseph P. Heremans

WITNESSED BY:

Joanne Holland  
Printed Name JOANNE HOLLAND  
Date: 5/30/12

Date: 6/6/12 By: Christopher M. Jaworski  
Christopher M. Jaworski

WITNESSED BY:

Joanne Holland  
Printed Name JOANNE HOLLAND  
Date: 6/6/12

13187315

Application No.: 13/436,521  
Filing Date: March 30, 2012

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### ASSIGNMENT

WHEREAS, Vladimir Jovovic, a Serbian citizen, having a mailing address at located at 1321 Mountain View Circle, Azusa, CA 91702 and a resident of Pasadena, CA, and Fred Harris, a US citizen, residing at 1361 Green Hills Court, Duncanville, TX, 75137 (individual(s) hereinafter "ASSIGNOR") invented certain new and useful improvements, technology, inventions, developments, ideas or discoveries related to THERMOELECTRIC MATERIALS HAVING POROSITY (collectively hereinafter referred to as the "Work") for which an application for Letters Patent in the United States has been prepared and filed (identified above) with the United States Patent and Trademark Office (hereinafter the "Application");

AND WHEREAS, ZT Plus, a Delaware Corporation, with its principal place of business at 1321 Mountain View Circle, Azusa, CA 91702 (hereinafter the "ASSIGNEE"), desires to acquire the entire right, title, and interest in and to the Application and the Work:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR hereby acknowledges that ASSIGNOR has sold, assigned, transferred and set over, and by these presents does hereby sell, assign, transfer and set over, unto said ASSIGNEE, its successors, legal representatives and assigns, the entire right, title, and interest throughout the world in the Application and the Work, including all provisional applications relating thereto (including but not limited to U.S. Provisional Application No(s). 61/470,963 and 61/509,088, filed April 1, 2011 and July 18, 2011 (respectively if plural applications)), and all nonprovisional applications claiming priority thereto, including, all divisions, continuations, continuations-in-part, reissues, and reexaminations thereof, and all Letters Patent of the United States which may be granted thereon and all reissues and extensions thereof, and all rights of priority under International Conventions and any related Letters Patent which may hereafter be granted or filed in any country or countries foreign to the United States, all extensions, renewals and reissues thereof; and ASSIGNOR hereby authorizes and requests the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all related Letters Patent to the ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

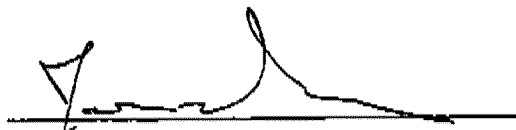
AND ASSIGNOR DOES HEREBY sell, assign, transfer, and convey to ASSIGNEE, its successors, legal representatives, and assigns all claims for damages and all remedies arising out of any violation of the rights assigned hereby that may have accrued prior to the date of assignment to ASSIGNEE, or may accrue hereafter, including, but not limited to, the right to sue for, collect, and retain damages for past infringements of said Letters Patent before or after issuance.

AND ASSIGNOR DOES HEREBY covenant and agree that ASSIGNOR will communicate to said ASSIGNEE, its successors, legal representatives and assigns, any facts known to ASSIGNOR respecting the Work, and testify in any legal proceeding, assist in the preparation of any other provisional or non-provisional applications relating to the Application and the Work or any improvements made thereto, sign all lawful papers, execute and make all rightful oaths and/or declarations in connection with the Application and the Work including any improvements made thereto, any patent applications filed therefrom, and any continuing application filed from any of the aforementioned applications, and generally do everything possible to aid the ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for the Work in all countries.

Application No.: 13/436,521  
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IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 13<sup>th</sup> day of JUN, 2012.

  
Vladimir Jovovic

STATE OF CALIFORNIA )

ss.

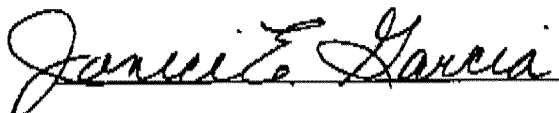
COUNTY OF Los Angeles )

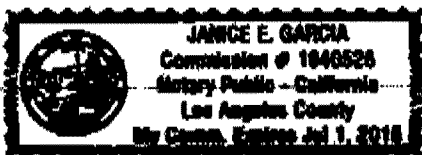
On June 13, 2012, before me, Jarvis E. Garcia, notary public, personally appeared Vladimir Jovovic who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

[SEAL]

  
Notary Signature



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IN TESTIMONY WHEREOF, I hereunto set my hand and seal this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

  
\_\_\_\_\_  
Fred Harris

STATE OF TEXAS

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ss.

COUNTY OF

DALLAS

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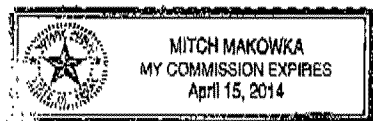
On 6/18/2012, before me, Mitch Makowka, notary public, personally appeared Fred Harris who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

[SEAL]

Mitch Makowka  
\_\_\_\_\_  
Notary Signature



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