



To the Honorable Commissioner of Pa

100855854

attached original documents or copy thereof

<p>1. Name of conveying party(ies): <b>10-1-98</b> Chia-Ling Chien Peter C. Searson</p> <p>Additional name(s) of conveying party(ies) attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>2. Name and address of receiving party(ies): Name: <u>The John Hopkins University</u></p> <p>Internal Address: <u>708 N. Wyman Park Center 3400 N. Charles Street Baltimore, Maryland 21218-2695</u></p> <p>Street Address: <u>708 N. Wyman Park Center 3400 N. Charles Street Baltimore, Maryland 21218-2695</u></p> <p>City: <u>Baltimore</u></p> <p>Country: <u>United States of America</u> Zip Code: <u>21218-2695</u></p> <p>Additional name(s) &amp; address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>3. Nature of Conveyance:</p> <p><input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger</p> <p><input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name</p> <p><input type="checkbox"/> Other _____</p> <p>Execution Date: <u>September 23, 1998</u></p>	

CS25 U.S. PTO  
 09/16/98  
 10/01/98

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

If this document is being filed together with a new application, the execution date(s) of the application is (are): \_\_\_\_\_

A. Patent Application No.(s): \_\_\_\_\_ B. Patent No.(s): \_\_\_\_\_

**091164376**

Additional numbers attached?  Yes  No

<p>5. Name and address of party to whom correspondence concerning document should be mailed:</p> <p>Name: <u>DICKSTEIN SHAPIRO MORIN &amp; OSHINSKY LLP</u></p> <p>Internal Address: <u>Atty. Dkt.: J5450.007/P007</u></p> <p>Attn: <u>Eric Oliver</u></p> <p>Street Address: <u>2101 L Street, N.W.</u></p> <p>City: <u>Washington</u> State: <u>D C</u> Zip: <u>20037</u></p>	<p>6. Total number of applications and patents involved: <u>1</u></p> <p>7. Total fee (37 CFR 3.41) <u>\$40.00</u></p> <p><input checked="" type="checkbox"/> Enclosed</p> <p><input type="checkbox"/> Authorized to be charged to deposit account</p> <p>8. Deposit account number: <u>04-1073</u></p>
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9. Statement and signature.

*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.*

Eric Oliver [Signature] October 1, 1998

Name of Person Signing Signature Date

Reg. No. 35,307

Total number of pages including cover sheet, attachments, and document: 7

RECORDATION FORM COVER SHEET (continued)

**Additional Conveying Parties:**

Kai Liu

**Additional Assignees:**

Assignee Name:

Internal Address:

Street Address:

City:

Country:

Zip Code:

Assignee Name:

Internal Address:

Street Address:

City:

Country:

Zip Code:

**Additional Applications and/or Patents:**

## ASSIGNMENT BY INVENTORS

*etc*

**THIS ASSIGNMENT**, made this 9 day of September, 1998, by Chai-Ling Chien; Peter C. Searson and Kai Liu; (hereinafter referred to as Assignors), respectively residing at:

Dept. Physics and Astronomy, 303 Bloomberg Center/JHU, 3400 North Charles Street, Baltimore, MD 21218;

Dept. of Materials Science and Engineering, 109 Maryland Hall/JHU, 3400 North Charles Street, Baltimore, MD 21218;

Dept. of Physics and Astronomy, 303 Bloomberg Center/JHU, 3400 North Charles Street, Baltimore, MD 21218;

**WHEREAS**, Assignors have invented certain new and useful improvements in **ARRAYS OF SEMI-METALLIC BISMUTH NANOWIRES AND FABRICATION TECHNIQUES THEREOF**, set forth in an application for Letters Patent of the United States, executed on 10/2/97, respectively, already filed on October 2, 1997 as U.S. application Serial No. 60/060,658; and

**WHEREAS**, The John Hopkins University, a corporation organized under and pursuant to the laws of the state of Maryland, having its principal place of business at 708 N. Wyman Park Center; 3400 N. Charles Street; Baltimore, Maryland 21218-2695; (hereinafter referred to as Assignee), 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 therefor and thereon.

**NOW, THEREFORE**, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, Assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto Assignee, 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 and all foreign countries which may be granted therefor 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 Assignee, 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 sale and assignment not been made.

**AND** for the same consideration, Assignors hereby represent and warrant to Assignee, 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 Assignee under law or that have already been transferred to Assignee, 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 Assignee, 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 Assignee, its successors, legal representatives and assigns, whenever counsel of Assignee, or counsel of its successors, legal representatives and assigns, shall advise: that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said inventions in any country, 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 Assignee, its successors, legal representatives and assigns.

**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 for recordation of this document:

**Dickstein Shapiro Morin and Oshinsky L.L.P.**

Gary M. Hoffman, 26,411; Thomas J. D'Amico, 28,371; Donald A. Gregory, 28,954; James W. Brady, Jr., 32,115; Jon D. Grossman, 32,699; Mark J. Thronson, 33,082; Laurence D. Fisher, 37,131; John R. Fuisz, 37,327; Juliana Haydoutova, P43,313; James M. Heintz, 41,828; Herbert V. Kerner, 42,721; Gianni Minutoli, 41,198; Eric Oliver, 35,307; William E. Powell, III, 39,803; James M. Silbermann, 40,413; Richard Veltman, 36,957 and Darius Gambino, 41,472.

**AND** Assignors acknowledge an obligation of assignment of this invention to Assignee at the time the invention was made.



