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| FORM PTO-1595 (M <sup>2</sup> .dified) R<br>(Rev. 6-93)<br>OMB No. 0651-0011 (exp.4/94)   | U.S. DEPARTMENT OF COMMERCE<br>Patent and Trademark Office   |
| Copyright 1994-97 LegalStar   | /00037   |
| Tab settings 🔶 🌪 💙 👘 🔍 🔍  |  |
|   | <ul> <li>s: Please record the attached original documents or copy thereof.</li> <li>2. Name and address of receiving party(ies):</li> </ul>  |
| 1. Name of conveying party(ies):<br>University of Massachusetts Lowell  | 2. Name and address of receiving party(les).   |
| Ferdinando Bruno<br>Lynne Samuelson , 1   | Name: USA as represented by the Secretary of the Army  |
| Michael Sennett   | Internal Address:  |
| Additional names(s) of conveying party(ies) 🛛 🛛 Yes 🛛 No  |  |
|   |  |
| 3. Nature of conveyance:  | 100  |
| 🛛 Assignment 🔲 Merger   | Street Address:  |
| Security Agreement Change of Name   |  |
| Other   | City: Washington State: DC ZIP: 20310  |
| Execution Date:   | - Additional name(s) & address(es) attached? 🏾 Yes 🛛 No  |
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| <ol><li>Application number(s) or registration numbers(s):</li></ol>   |  |
| If this document is being filed together with a new applicatio  | on, the execution date of the application is: February Le 2004   |
| A. Patent Application No.(s)  | B. Patent No.(s)   |
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| <ol><li>Name and address of party to whom correspondence<br/>concerning document should be mailed:</li></ol>  | 6. Total number of applications and patents involved:  |
| Ū.  |  |
| Name: U.S. Army Soldier Systems Center  | 7. Total fee (37 CFR 3.41):\$ 40.00  |
| Internal Address: Attn: Vincent Ranucci, Legal Office   | Enclosed - Any excess or insufficiency should be   |
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| Street Address: <u>15 Kansas Street</u><br>City: <u>Natick</u><br>State: <u>MA</u> ZIP: <u>01760</u>  | Authorized to be charged to deposit account      8. Deposit account number:  |
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| City:       Natick       State:       MA       ZIP:       01760         3/13/2004       LINELLER       0000094       192291       10776579       DO NO         9.       Statement and signature.       To the best of my knowledge and belief, the foregoing inform of the original document.       A   | Authorized to be charged to deposit account         8. Deposit account number:         19-2201         T USE THIS SPACE         mation is true and correct and any attached copy is a true copy         J. J. Canuta         Signature |

REEL: 015096 FRAME: 0535

| Assignment of Rights, Title and Interest in Invention<br>(Multiple inventors; single assignee) |  | Docket No.<br>NA-1219 CIP 2 |
|--|--|-----------------------------|
| This is an Assignment of the following rights, title   | and interest: (check all that apply):  |                             |
| 🕅 United States of America rights, title   | and interest in the invention          |                             |
| Foreign rights, title and interest in the  | e invention                            |                             |
| 🕅 United States Patent Application Ser   | ial No.                                |                             |
| Date of Execution: //-2D-0   | Date of Filing: 2-9-0                  | 4                           |
| United States Provisional Patent Application Serial No.  |  |                             |
| United States Patent No(s).  |  |                             |
| International (PCT) Patent Applicati   | on Serial No.                          |                             |
| Other (specify)  |  |                             |
| <i>Title of the Invention</i> Synthesis of Polyaniline on Multi-Walled Carbon Nation           | anotubes                               |                             |
| Inventors (assignors)  |  |                             |
| Name   | Address                                |                             |
| Ferdinando F. Bruno  | 16 Samos Lane, Andover, MA 01810       |                             |
| Lynne A. Samuelson   | 21 McDonough Drive, Marlboro, MA 01752 | 2                           |
| Michael Sennett  | 41 Stonebrook Road, Sudbury, MA 01776  |                             |
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| Assignee   |  |                             |
| Name   | Address                                |                             |
| USA as represented by the Secretary of the Army  | Washington, DC                         |                             |
|  | [Page 1 of 3 ]                         | AS03A/REV01                 |

Whereas, we, the above-identified Inventors, have invented certain new and useful improvements in the Invention identified above and described in the above-identified patent application(s) and/or patent(s) (hereinafter referred to as "Invention");

And, whereas we desire to assign our above-identified rights, title and interest in the Invention to the above-identified Assignee;

Now, this indenture witnesseth, that for good and valuable consideration, the receipt whereof is hereby acknowledged;

We hereby assign, sell and transfer our above-identified rights, title and interest in said Invention, said application(s) as identified above, including any divisions, continuations, and continuations-in-part thereof, and in and to any and all Letters Patent of the United States, and countries foreign thereto, which may be granted or have granted for said Invention, and in and to any and all reissues and reexaminations thereof, and in and to any and all priority rights, Convention rights, and other benefits accruing or to accrue to us with respect to the filing of applications for patents or securing of patents in the United States and countries foreign thereto, unto said Assignee;

And we hereby authorize and request the Commissioner of Patents and Trademarks to issue any United States Letters Patent which may issue for said Invention to said Assignee, as assignee of the whole right, title and interest thereto;

And we further agree to sign and execute all necessary and lawful future documents, including applications for foreign patents, for filing divisions, continuations and continuations-in-part of said application for patent, and/or, for obtaining any reissue or reissues of any Letters Patent which may be granted for my aforesaid Invention, as the Assignee or its Designee(s) may from time to time require and prepare at its own expense.

| Name                | Signature/Date              |
|---------------------|-----------------------------|
| Ferdinando F. Bruno | Jordsments 7 Bms 11/20/2002 |
| Lynne A. Samuelson  | Fury Jounda Nov. 20 2002    |
| Michael Sennett     | Walnut Servento 1/2/03      |
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Inventors' Signatures (if Notarization is desired, do not sign here and proceed to next page)

[Page 2 of 3]

Assignment of Rights, Title and Interest in Invention Docket No. (Multiple inventors; single assignee) NA-1219 CIP 2 **Notarization** (Although notarization is not necessary, it will be considered prima facie evidence of execution pursuant to 35 U.S.C. 261.) Nov 2002 , in the year **Executed** this 70 day of at Natick, Massachusetts. State of Massachusetts County of Middlesex Before me personally appeared Ferdinando F. Bruno who acknowledged the foregoing instrument to be a free act and deed and also represented that he or she is authorized to execute the same this day of , in the year 2002 20 NDV (Notary Public) 70th Executed this day of November , in the year at Natick, Massachusetts (Signature of Inventor) State of Massachusetts *County of* Middlesex Before me personally appeared Lynne A. Samuelson who acknowledged the foregoing instrument to be a free act and deed and also represented that he or she is authorized to execute the same this day of , in the year 2002 20 NOV (Notary Public) , in the year \_2002 2003 **Executed** this day of Znd January at Natick, Massachusetts. ellu. Signature of Inventor) State of Massachusetts County of Middlesex Before me personally appeared Michael Sennett who acknowledged the foregoing instrument to be a free act and deed and also represented that he or she is authorized to , in the year execute the same this day of January Znd 2002 ZOU3 (Notary Public)

[Page 3 of 3]

|   | ASSIGNMENT  |
|---|---|
|   | FROM CONTRACTOR-EMPLOYEE TO CONTRACTOR<br>AND<br>FROM CONTRACTOR TO GOVERNMENT<br>(AMC-R 825-2)   |
| APPLICATION FOR:                        | Synthesis of Polyaniline on Multi-Walled Carbon Nanotube  |
|   | Short Title of Invention  |
| INVENTOR(S):                            |   |
| * SERIAL NO:                            | * FILING DATE: DATE OATH EXECUTED:  |
| CONTRACTOR:                             | University of Massachusetts Lowell  |
| CONTRACT NO:                            | DAAD-01-C-0011  |
| SUBCONTRACTOR:                          |   |
| * Data not known at exer                | cution time may be added later for better identification.   |
| the Contractor ** ag                    | the terms of the above-identified Government contract with the United States Government,<br>reed, inter alia, to grant to the Government certain rights under inventions and/or<br>red or first actually reduced to practice in the performance of said contract; and |
| WHEREAS, the ab<br>agreed to be grante  | ove-identified patent application discloses invention(s) within the purview of said rights<br>d by the Contractor to the Government; and  |
| WHEREAS, the Go<br>invention(s) be cont | overnment desires that the assignment rights provided for by said contract in and to said<br>firmed; and  |
|   |   |

WHEREAS, under the employment contract, agreement or arrangement the Contractor-employer is entitled to an assignment in and to certain inventions made by the inventor(s) as part of his (their) duties as employee(s) of the Contractor; and

WHEREAS, the above-identified invention(s) was/were made in the performance of the above-identified contract and under such circumstances as to entitle the Government to an assignment of the entire right, title and interest in and to said invention(s) and any and all applications for Letters Patent thereon and in and to any and all Letters Patent granted on said application, subject only to a nonexclusive royalty free license to Contractor, said license to be non-transferable except to the successor of that part of the Contractor's business to which said license is appurtenant.

NOW, THEREFORE, be it known that for and in consideration of these premises and for other good and sufficient consideration, the receipt of which is hereby acknowledged, I (we), the inventor(s), do sell, assign, and transfer to the Contractor-employer the entire right, title and interest in and to said invention(s) and patent application and in and to all Letters Patent wherever they may be granted thereon, as well as divisions, continuations, reissues, and extensions of said application and Letters Patent, the same to be held and enjoyed by the said Contractor-employer to the full end of the term or terms for which Letters Patent are or may be granted, as fully and entirely as the same would have been held or enjoyed by me (us) had this assignment not been made.

\*\*(The terms "Contract" and "Contractor" shall include subcontract and subcontractor, if applicable, wherever they occur.)

AMC FORM 1256-R-E JUL 94

EDITION OF AUG 64 MAY BE USED UNTIL EXHAUSTED (UML 03-10)

Page 1 of 4

| ASSIGNMENT (Continued)                                      | University of Massachusetts Lowell<br>Contract No. DAAD-01-C-0011 |       |
|---|---|-------|
| PRIME CONTRACTOR AND NUMBER:                                |   |       |
| APPLICATION FOR:  | of Polyaniline on Multi-Walled Carbon Nanotubes                   |       |
| INVENTOR(S):<br>SERIAL NO:                                  |   | 1     |
|   | *****   | ¥<br> |
| SIGNATURE OF INVENTOR Man                                   | Name) / (Middle Initial) (Last Name)                              | <br>4 |
| (Locality)<br>DATE: September 17, 2003                      |   | ts    |
| STATE OF <u>Massachusetts</u><br>COUNTY OF <u>Middlesex</u> | ) (Inventor's typed name)<br>) SS.                                |       |
| On the above date Ramaswamy                                 | Nagarajan, known to me to be the individual described in and      |       |

# 3/ 5

,10002333167

On the above who executed the foregoing instrument, duly appeared before me and acknowledged to me that he executed the same as his own free act and deed. . . . .

| (SEAL)   | My commission expires on<br>June 7, 200<br>(First Mame) (Middle Initial | V   | ∍у  |
|--|---|---|-----|
| ADDRESS: 53 Griffin<br>(Locality)                              | Road, Westford, Middlese<br>(County)                                    | x County, Massachusetts<br>(State)  |     |
| DATE: September 1<br>STATE OF Massachus<br>COUNTY OF Middlesex |   | Jayant Kumar<br>(Inventor's typed name)   |     |
| On the above dateJay   | strument, duly appeared before me and                                   | me to be the individual described in and<br>acknowledged to me that he executed the | -   |
| (SEAL)   | My commission expires on<br>June 7, 200                                 | Jua A. Jany<br>J. Signature of Notary Lifta A. Lord                                 | rey |
| AMC FORM 1256-R-E  | (UML 03-10)   | Page 2 of 4   |     |

AMC FORM 1256-R-E JUL 94

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(UML 03-10)

Page 3 of 4

| ASSIGNMENT (Continued)  |   |
|---|---|
| PRIME CONTRACTOR AND NUMBER:  | University of Massachusetts Lowell<br>Contract No. DAAD-01-C-0011                     |
| SUBCONTRACTOR:  |   |
| APPLICATION FOR:  | of Polyaniline on Multi-Walled Carbon Nanotube  |
| INVENTOR(S):  |   |
| SERIAL NO:  | FILING DATE:  |
| Signed for Contractor on  | Bignature of Officer  |
| AI CONTR JN HUAT  | STATE (MIMAM KOJENSTR)  |
| I certify that I am the Secretary of the a                                      | above-identified Corporation; that the officer who signed this instrument             |
| on behalf of the Corporation was then   | Startho Signed this instrument  |
| acting by authority of its governing body                                       | SCALTAC $$ of the Corporation,<br>y and within the scope of its corporate powers.     |
|   | ignature of Secretary Dandem J. De Vur  |
| (Corporate Seal)  | BORBORD DeVico  |
|   | TYPED NAME  |
| State of <u>MASSachwset fs</u><br>County of <u>SUFFO/K</u><br>On <u>9/15/03</u> | >) ss:<br>)<br>eared before meWilliam Rosenberg                                       |
| DAY MONTH YEAR  |   |
| andBarbara DeVico   | to me well known, and known to be the   |
| Director, CVIP, and   | Secretary of <u>University</u> of   |
| (ITLE) , a co   | (TITLE)<br>prporation of <u>Massachusetts</u> , and affixed their names to<br>(STATE) |
| the foregoing instrument in my presenc  | e, and acknowledged the same to be their and said Corporation's free                  |
| act and deed.   |   |
|   | Hathy Kapind  |
| (SEAL) NOTARY   | Commission Expires $\frac{9/10}{04}$  |
|   |   |
| AMC FORM 1256-R-E   | (UML 03-10) Page 4 of 4   |

PATENT REEL: 015096 FRAME: 0542

# 5/ 5

RECORDED: 02/09/2004