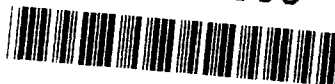


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U.S. DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

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To the Director of the U.S. Patent and Trademark Office: Please

ments or the new address(es) below.

1. Name of conveying party(ies)

Gerard M. LUDTKA

2. Name and address of receiving party(ies)

Name: UT-BATTELLE, L.L.C.

Internal Address: _____

Street Address: One Bethel Valley Road

P.O. Box 2008

City: Oak Ridge

State: Tennessee

Country: US

Zip: 37831-6258

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

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

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

Execution Date(s) March 16, 2006

☒ 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):

☒ This document is being filed together with a new application.

A. Patent Application No.(s)

B. Patent No.(s)

05/07/2006 STEUMEL1 00000068 11415840

05 FEB 2006

40.00 OP

Additional numbers attached? ☐ Yes ☒ No

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

Name: Luedeka, Neely & Graham, P.C.

Internal Address: James R. Palmer (59449.US)

Street Address: P.O. Box 1871

City: Knoxville

State: Tennessee

Zip: 37901

Phone Number: 865-546-4305

Fax Number: 865-523-4478

Email Address: JPalmer@LNG-patent.com

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40

☐ 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 12-2355

Authorized User Name James R. Palmer

9. Signature:

James R. Palmer
Signature

James R. Palmer
Name of Person Signing

5/2/06
Date

Total number of pages including cover sheet, attachments, and documents: 3

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

PATENT
REEL: 017865 FRAME: 0648

ASSIGNMENT

WHEREAS, we the below-named inventors whose residence and post office are as stated below, have invented certain new and useful improvements in

HIGH VOLUME PRODUCTION OF NANOSTRUCTURED MATERIALS

(hereinafter referred to as "Subject Invention") for which an application for United States Letters Patent was executed by us on even date herewith, and

WHEREAS, UT-BATTELLE, LLC, a limited liability company of the State of Tennessee, having an office at One Bethel Valley Road, P. O. Box 2008, Oak Ridge, Tennessee 37831-6258, hereinafter referred to as "ASSIGNEE," is desirous of acquiring the entire right, title and interest of the undersigned in the Subject Invention and to any Letters Patent that may be granted therefor in the United States of America and in any and all foreign countries.

NOW, THEREFORE, in accordance with the terms of our employment agreement with ASSIGNEE and for good and valuable consideration, the receipt of which is hereby acknowledged, we hereby assign to ASSIGNEE our entire right, title and interest in the Subject Invention to all rights of priority thereto pursuant to the International Convention for the Protection of Industrial Property, and in any Letters Patent on the Subject Invention that may be granted in the United States of America and in any and all foreign countries, including any and all Letters Patent that are divisions, reissues, continuations, substitutions or extensions of any Letters Patent or applications therefor on the Subject Invention.

We hereby authorize and request the Commissioner of the United States Patent and Trademark Office and the officials of any and all foreign countries to issue any and all of said Letters Patent, when granted, to the ASSIGNEE.

Further, we hereby agree to communicate to said ASSIGNEE or its representatives any facts known to us respecting said Subject Invention, to testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, substitution, renewal and reissue applications, to execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, and to make all rightful oaths and generally do everything possible to aid said ASSIGNEE and its representatives to obtain and enforce proper protection for said Subject Invention in the United States of America and in any and all foreign countries.

We further agree that the terms, covenants and conditions of this assignment shall inure to the benefit of ASSIGNEE, its successors, assigns, and legal representatives, and shall be binding on us, our heirs, legal representatives, and assigns

Full name of inventor: **Gerard M. Ludtka**

Signature: Gerard M. Ludtka Date: 3/16/2006

Residence: 105 Crestview Lane, Oak Ridge, TN 37830

Post Office Address: 105 Crestview Lane, Oak Ridge, TN 37830

State of Tennessee)
County of Roane)

On this 16TH day of March, 2006, before me, a Notary Public in and for the County and State aforesaid, appeared **Gerard M. Ludtka** to me personally known to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.

WITNESS my hand and seal the day and year last above given.



Nancy D Hammons
Notary Public

My Commission Expires: 8/13/08