

PATENT ASSIGNMENT

Electronic Version v1.1
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SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
CONVEYING PARTY DATA													
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Elizabeth V. Stephens</td> <td>09/26/2012</td> </tr> <tr> <td>Xin Sun</td> <td>09/25/2012</td> </tr> <tr> <td>Wenning Liu</td> <td>11/29/2012</td> </tr> <tr> <td>Jeffry W. Stevenson</td> <td>09/25/2012</td> </tr> <tr> <td>Mohammad A. Khaleel</td> <td>11/30/2012</td> </tr> </tbody> </table>		Name	Execution Date	Elizabeth V. Stephens	09/26/2012	Xin Sun	09/25/2012	Wenning Liu	11/29/2012	Jeffry W. Stevenson	09/25/2012	Mohammad A. Khaleel	11/30/2012
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Mohammad A. Khaleel	11/30/2012												
RECEIVING PARTY DATA													
Name:	BATTELLE MEMORIAL INSTITUTE												
Street Address:	P.O. Box 999, K1-53												
City:	Richland												
State/Country:	WASHINGTON												
Postal Code:	99352												
PROPERTY NUMBERS Total: 1													
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13625134</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13625134								
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Application Number:	13625134												
CORRESPONDENCE DATA													
Fax Number:	5093754487												
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>													
Phone:	(509) 375-3823												
Email:	IPDOCKET@PNNL.GOV												
Correspondent Name:	AJ Gokcek												
Address Line 1:	P.O. Box 999, K1-53												
Address Line 4:	Richland, WASHINGTON 99352												
ATTORNEY DOCKET NUMBER:	16770-E												
NAME OF SUBMITTER:	AJ Gokcek												
Total Attachments: 8													

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ASSIGNMENT OF PATENT RIGHTS

Elizabeth V. Stephens
Xin Sun
Wenning Liu
Jeffry W. Stevenson
Mohammad A. Khaleel

To
Battelle Memorial Institute

WHEREAS, we, Elizabeth V. Stephens of Kennewick, County of Benton, State of Washington; Xin Sun of Richland, County of Benton, State of Washington; Wenning Liu of South Pasadena, County of Los Angeles, State of California; Jeffry W. Stevenson of Richland, County of Benton, State of Washington; and Mohammad A. Khaleel of Richland, County of Benton, State of Washington; hereinafter INVENTORS, have made certain inventions related to, SURFACE MODIFICATION TO PREVENT OXIDE SCALE SPALLATION including those, described and claimed in various disclosures including:

U.S. Patent Application No. 13/625,134, filed September 24, 2012, Entitled: Surface Modification to Prevent Oxide Scale Spallation

For which we are about to make application for Letters Patent of the United States; collectively referred to hereinafter as INVENTIONS;

WHEREAS Battelle Memorial Institute, a corporation of Ohio, organized and existing under the laws of the State of Ohio, and having a place of business in the City of Richland, Washington, is desirous of acquiring all right, title, and interest in the said INVENTIONS and in all patents or patent applications sought or obtained therefor;

NOW, THEREFORE, be it known to all those who may be concerned, that for and in consideration of the sum of One Dollar (\$1.00) each, and other good and valuable considerations, the receipt of which is hereby acknowledged, We the INVENTORS have each sold, assigned, and transferred, and by these presents do sell, assign and transfer unto the said Battelle Memorial Institute, the entire right, title, and interest in and to the INVENTIONS shown, described, or claimed herein, and the full and exclusive right, title, and interest to any and all patents and patent applications that show, describe or claim said INVENTIONS including but not limited to those applications referenced herein, and in and to any extensions, continuations, including continuations in part, reissues, divisions, or renewals thereof; and We each do hereby authorize and request the Commissioner of Patents or other proper Officer, to issue such Letters Patent, or any of them to the said Battelle Memorial Institute, as the assignee of my entire right, title, and interest in and to the same for the sole use and benefit of the said Battelle Memorial Institute, and its successors or assigns.

We each further covenant and agree that we each will, at the request and expense of the said Battelle Memorial Institute, execute such other and further assurances of title as may be necessary or proper to fully convey the interest herein sought to be conveyed; and that each of us will, at the request and expense of the said Battelle Memorial Institute, execute such application papers as may be desired by the said Battelle Memorial Institute, for the filing of any division or renewal of the application herein conveyed, or for reissues or extensions (including continuations or continuations in part applications), or any Letters Patent that may be granted upon said application, and will execute such Supplemental Oaths and Preliminary Statements, or other papers as desired by the said Battelle Memorial Institute.

We each further assign unto the said Battelle Memorial Institute, the whole right, title, and interest to the invention disclosed in the application throughout all countries foreign to the United States, and do hereby authorize the said Battelle Memorial Institute to apply for patents therefor in its own name in countries where such procedure is proper and to claim the benefit of International Conventions and agree to execute applications of the said invention in the several countries where it is necessary that the same be executed by the inventors, and to execute

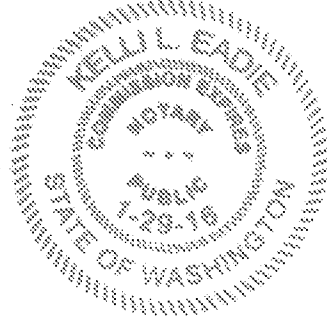
assignments of such applications and the patents to be obtained therefor to the said Battelle Memorial Institute, the assignee herein, as well as all other necessary papers.

Executed at Richland, State of Washington, this 26 day of September 2012.

Elizabeth V. Stephens
Elizabeth V. Stephens

STATE OF Washington)
) ss.
COUNTY OF Benton)

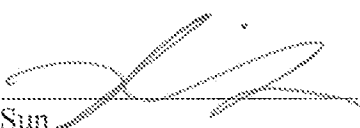
This 26th day of September, 2012, before me personally came the above-named Elizabeth V. Stephens, who executed the foregoing instrument in my presence, and who acknowledged to me that he executed the same of her own free will for the purposes set forth therein.



[SEAL]

Kelli L. Eddie
Notary Public for the State of Washington
My commission expires: 1/29/16

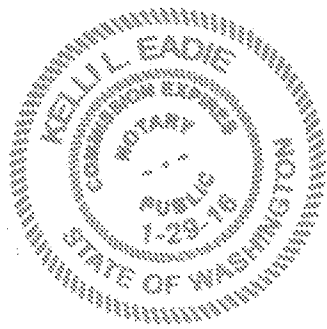
Executed at Richland, State of Washington, this 25th day of September, 2012.



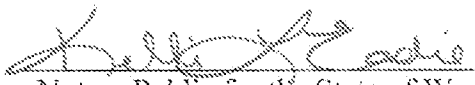
Xin Sun

STATE OF Washington)
) ss.
COUNTY OF Benton)

This 25th day of September, 2012, before me personally came the above-named Xin Sun, who executed the foregoing instrument in my presence, and who acknowledged to me that he executed the same of his own free will for the purposes set forth therein.




[SEAL]



Notary Public for the State of Washington
My commission expires: 1/29/16

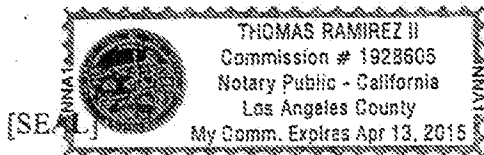
Executed at S. Pasadena State of California, this 29 day of Nov., 2012.


Wenning Liu

STATE OF California)
COUNTY OF Los Angeles)

ss.

This 29 day of Nov, 2012, before me personally came the above-named Wenning Liu, who executed the foregoing instrument in my presence, and who acknowledged to me that he executed the same of his own free will for the purposes set forth therein.



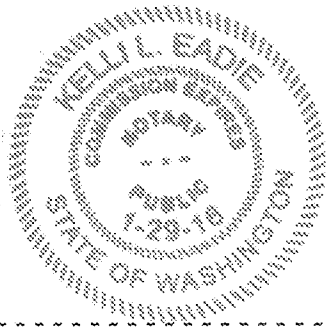

Notary Public for the State of California
My commission expires: April 13 2015

Executed at Richland, State of Washington, this 25th day of September, 2012.

Jeffrey W. Stevenson
Jeffrey W. Stevenson

STATE OF Washington)
) ss.
COUNTY OF Benton)

This 25th day of September 2012, before me personally came the above-named Jeffrey W. Stevenson, who executed the foregoing instrument in my presence, and who acknowledged to me that he executed the same of his own free will for the purposes set forth therein.



[SEAL]

Kelli L. Eadie
Notary Public for the State of Washington
My commission expires: 1/29/18

Executed at Richland, State of Washington, this 30th day of November, 2012.

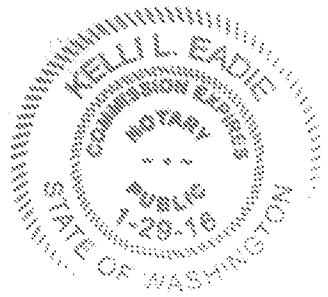
M Khaleel

Mohammad A. Khaleel

STATE OF Washington)
)
COUNTY OF Benton)

ss.

This 30th day of November, 2012, before me personally came the above-named Mohammad A. Khaleel, who executed the foregoing instrument in my presence, and who acknowledged to me that he executed the same of his own free will for the purposes set forth therein.



[SEAL]

Kelli L Eadie

Notary Public for the State of Washington
My commission expires: 1/29/16