

PATENT ASSIGNMENT

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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>Jun Liu</td> <td>05/21/2012</td> </tr> <tr> <td>Yuliang Cao</td> <td>05/30/2012</td> </tr> <tr> <td>Lifen Xiao</td> <td>05/30/2012</td> </tr> <tr> <td>Zhenguo Yang</td> <td>06/08/2012</td> </tr> <tr> <td>Wei Wang</td> <td>05/21/2012</td> </tr> <tr> <td>Daiwon Choi</td> <td>05/21/2012</td> </tr> <tr> <td>Zimin Nie</td> <td>05/21/2012</td> </tr> </tbody> </table>		Name	Execution Date	Jun Liu	05/21/2012	Yuliang Cao	05/30/2012	Lifen Xiao	05/30/2012	Zhenguo Yang	06/08/2012	Wei Wang	05/21/2012	Daiwon Choi	05/21/2012	Zimin Nie	05/21/2012
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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: 3																	
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>61487364</td> </tr> <tr> <td>Application Number:</td> <td>13474963</td> </tr> <tr> <td>PCT Number:</td> <td>US1238505</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	61487364	Application Number:	13474963	PCT Number:	US1238505								
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CORRESPONDENCE DATA																	
Fax Number:	(509)375-4487																
Phone:	509-375-3823																
Email:	IPDOCKET@PNNL.GOV																
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>																	
Correspondent Name:	AJ Gokcek																
Address Line 1:	P.O. Box 999, K1-53																

CH \$120.00 61487364

Address Line 4: Richland, WASHINGTON 99352

ATTORNEY DOCKET NUMBER:

17109-E

NAME OF SUBMITTER:

AJ Gokcek

Total Attachments: 14

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ASSIGNMENT OF PATENT RIGHTS

Jun Liu
Yuliang Cao
Lifen Xiao
Zhenguo Yang
Wei Wang
Daiwon Choi
Zimin Nie

To
Battelle Memorial Institute

WHEREAS, we, Jun Liu of Richland, County of Benton, State of Washington; Yuliang Cao of Wuhan, Country of China; Lifen Xiao of Wuhan, Country of China; Zhenguo Yang of Richland, County of Benton, State of Washington; Wei Wang of Kennewick, County of Benton, State of Washington; Daiwon Choi of Richland, County of Benton, State of Washington; and Zimin Nie of Richland, County of Benton, State of Washington; hereinafter INVENTORS, have made certain inventions related to **Nanomaterials for Sodium-Ion Batteries**, including those, described and claimed in various disclosures including:

U.S. Provisional Application No. 61/487,364, filed May 18, 2011, Entitled:
Nanomaterials for Sodium-Ion Batteries

U.S. Patent Application No. 13/474,963, filed May 18, 2012, Entitled:
Nanomaterials for Sodium-Ion Batteries

PCT Application No. PCT/US12/38505, filed May 18, 2012 Entitled:
Nanomaterials for Sodium-Ion Batteries

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.

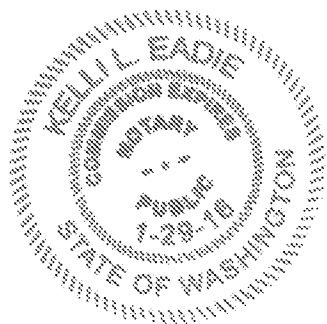
Executed at Richland, State of Washington, this 21 day of May, 2012.

[Signature]

Jun Liu

STATE OF WASHINGTON)
) ss.
County of Benton)

This 21st day of May, 2012, before me personally came the above-named Jun 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.



[SEAL]

[Signature]

Notary Public for the State of Washington
My commission expires: 7/29/18

Executed at Wuhan, State of Hubei, this 30 day
of May, 2012.

Yuliang Cao
Yuliang Cao

STATE OF Hubei)
) ss.
COUNTY OF Wuhan)

This 30 day of May, 2012, before me personally came the above-named Yuliang Cao, 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 _____
My commission expires: _____

[SEAL]

公 证 书

(2012)鄂洪兴证字第 3631 号

申请人：曹余良，男，一九七四年十一月十三日出生，
公民身份号码：420300197411131731，现住湖北省武汉市。

公证事项：签名

兹证明曹余良于二〇一二年五月三十日来到我处，在本
公证员的面前，在前面的文件上签名。

中华人民共和国湖北省武汉市洪兴公证处

公证员：

李建军
二〇一二年六月一日
武汉市洪兴公证处

NOTARIAL CERTIFICATE

(2012) E. HX. Zi. No.3631

Applicant: Cao Yuliang, male, was born on November 13, 1974,
ID Card No. 420300197411131731, now residing in Wuhan City,
Hubei Province.

Issue under notarization: Signature

This is to certify that Cao Yuliang came to our notary public
office and signed the foregoing document on May 30, 2012
before me, the notary public.

Hongxing Notary Public Office, Wuhan City.

Hubei Province

The People's Republic of China

Notary Public: Li Jianjun

June 1, 2012

公 证 书

(2012)鄂洪兴证字第 3629 号

申请人：肖利芬，女，一九七三年十一月二十五日出生，
公民身份号码：410421197311252523，现住湖北省武汉市。
公证事项：签名

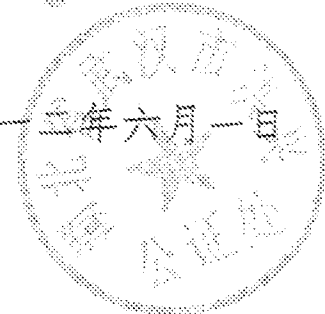
兹证明肖利芬于二〇一二年五月三十日来到我处，在本
公证员的面前，在前面的文件上签名。

中华人民共和国湖北省武汉市洪兴公证处

公证员：

李建军

二〇一二年六月一日



11 278927

NOTARIAL CERTIFICATE

(2012) E. HX. Zi. No.3629

Applicant: Xiao Lifen, female, was born on November 25, 1973,
ID Card No. 410421197311252523, now residing in Wuhan City,
Hubei Province.

Issue under notarization: Signature

This is to certify that Xiao Lifen came to our notary public
office and signed the foregoing document on May 30, 2012
before me, the notary public.

Hongxing Notary Public Office, Wuhan City,

Hubei Province

The People's Republic of China

Notary Public: Li Jianjun

June 1, 2012

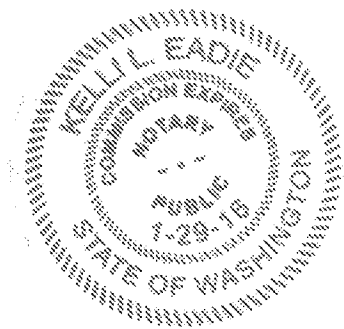
6789279

Executed at Richland, State of Washington, this 8 day of June, 2012.

Zhenguo Yang
Zhenguo Yang

STATE OF WASHINGTON)
) ss.
County of Benton)

This 8th day of June, 2012, before me personally came the above-named
Zhenguo Yang 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]

Nelli L. Eadie
Notary Public for the State of Washington
My commission expires: 7/29/16

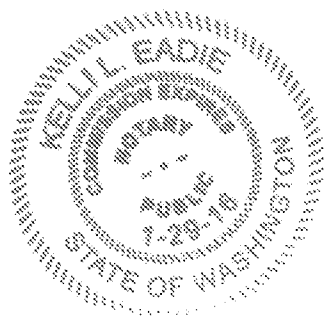
Executed at Richland, State of Washington, this 21st day of May, 2012.

[Signature]

Wei Wang

STATE OF WASHINGTON)
) ss.
County of Benton)

This 21st day of May, before me personally came the above-named Wei Wang 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]

[Signature]

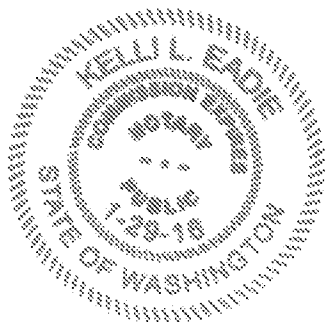
Notary Public for the State of Washington
My commission expires: 1/29/16

Executed at Richland, State of Washington, this 21 day of May, 2012.

Daiwon Choi
Daiwon Choi

STATE OF WASHINGTON)
) ss.
County of Benton)

This 21st day of May, before me personally came the above-named Daiwon Choi 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.



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

[SEAL]

Executed at Richland, State of Washington, this 21 day of May, 2012.

Zimin Nie
Zimin Nie

STATE OF WASHINGTON)
) ss.
County of Benton)

This 21st day of May, 2012, before me personally came the above-named Zimin Nie 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]

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