

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
ARUP SENGUPTA	01/29/2014
ROBERT CREIGHTON	01/29/2014
RYAN C. SMITH	01/29/2014
RECEIVING PARTY DATA	
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PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	14572956
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DATE SIGNED:	03/22/2016
Total Attachments: 4	
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ASSIGNMENT

WHEREAS, each undersigned inventor, Arup **SENGUPTA**, Robert **CREIGHTON**, and Ryan C. **SMITH** hereafter referred to singly and collectively as "Assignor," residing at the address(es) listed below, has invented certain new and useful modifications, improvements, and inventions relating to a(n) **MAGNESIUM OXIDE AND CARBON DIOXIDE FORWARD OSMOSIS PROCESS AND SYSTEM**

- for which an application for a United States Patent will be subsequently filed. Assignor hereby authorizes and requests an attorney having the power of attorney to prosecute the application from Saul Ewing LLP to insert here in parenthesis (Application No. _____, filed _____) the filing date and application number of the application when known and to insert in this Assignment any other identification that may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for the recordation of this Assignment.
- for which a Provisional Patent Application was filed on December 24, 2013, Application Number 61/920,512.

and

WHEREAS, **LEHIGH UNIVERSITY**, whose street address is **Office of Technology Transfer, 354 Whitaker Laboratory, 5 East Packer Avenue, Bethlehem, Pennsylvania 18015**, herein referred to as "Assignee," is desirous of acquiring the entire right, title and interest in the same.

NOW, THEREFORE, in consideration of the sum of one dollar (\$1.00) and other good and valuable consideration the receipt of which from Assignee is hereby acknowledged, Assignor has irrevocably sold, assigned, transferred and set over, and hereby irrevocably sells, assigns, transfers and sets over unto the Assignee, its lawful successors and assigns, Assignor's entire right, title and interest in and to all inventions disclosed in this application, including any modifications, improvements, and related inventions, whether presently disclosed in this application or not, and any related provisional, nonprovisional, original, regular, counterpart,

reissue, and re-examination applications, including extensions, divisional, continuation, and continuation-in-part applications thereof in the United States, any foreign country, or under any international treaty or convention, and all Letters Patent of the United States which may be granted thereon, and all rights to claim priority on the basis of such application, and all applications for Letters Patent that may hereafter be filed for such inventions in any foreign country or under any international treaty or convention and all Letters Patent which may be granted on such inventions in any foreign country or under any international treaty or convention, and all extensions, renewals, and reissues thereof; and Assignor hereby authorizes and requests the Director of the United States Patent and Trademark Office and any official of any foreign country whose duty it is to issue patents on applications or inventions as described herein, to issue all Letters Patent for such inventions to Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, Assignor hereby covenants that Assignor has the full and unencumbered right to convey the interests assigned by this Assignment, and Assignor has not executed and will not execute any agreement in conflict with this Assignment;

AND, Assignor hereby further acknowledges that Assignee has sole control and decision-making authority regarding the prosecution of this application and any application for related inventions, and that Assignee may require Assignor's cooperation for further preparation and prosecution of such applications, which cooperation will be provided without further consideration, including but not limited to reviewing specifications, executing petitions, and oaths, and all assignments, disclaimers, and lawful affidavits in form and substance as may be requested by Assignee; to communicate to Assignee all facts known to Assignor relating to this application or the history thereof; to furnish Assignee with any and all documents, photographs, models, samples and other physical exhibits in Assignor's control or in the control of Assignor's heirs or legal representatives and that may be useful for establishing the facts of conception, disclosure, or reduction to practice of any invention, including evidence for interference, reexamination, reissue, opposition, revocation, extension, or infringement purposes or other legal, judicial, or administrative proceedings; and to testify in person or by affidavit as required by Assignee, its successors and assigns, in any such proceeding in the United States or a country

foreign thereto; it being understood that any expense incident to the execution of such papers or activities shall be borne by the Assignee, its successors and assigns;

AND, Assignor hereby further acknowledges Assignor's obligation to assign this application to Assignee, as well as applications for all modifications, improvements, and related inventions, whether presently included in this application or not;

Assignor hereby declares that all statements made herein of Assignor's own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom.

IN WITNESS WHEREOF and INTENDING TO BE LEGALLY BOUND, We/I hereunto set our/my hand(s) having read and understood this Assignment.

<u>Arup Sengupta</u>	<u>1/29/14</u>	<u>Ryan E. Armi</u>	<u>1/29/14</u>
Assignor	Date	Witness	Date

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Witness	Date

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Assignor	Date	Witness	Date

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Witness	Date

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Assignor Date

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Robert M. Cechter 1/29/2014
Witness Date

Joseph Scroggs 1/29/2014
Witness Date