

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4283852

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
FANXING LI	10/05/2015
YANG LIU	09/21/2015
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	NORTH CAROLINA STATE UNIVERSITY
<b>Street Address:</b>	1021 MAIN CAMPUS DRIVE, 2ND FLOOR
<b>Internal Address:</b>	OFFICE OF TECHNOLOGY TRANSFER
<b>City:</b>	RALEIGH
<b>State/Country:</b>	NORTH CAROLINA
<b>Postal Code:</b>	27606
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	15126332
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(617)646-8646
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Phone:</b>	6176468000
<b>Email:</b>	mchiusano@wolfgreenfield.com
<b>Correspondent Name:</b>	WOLF, GREENFIELD & SACKS, P.C.
<b>Address Line 1:</b>	600 ATLANTIC AVENUE
<b>Address Line 4:</b>	BOSTON, MASSACHUSETTS 02210
<b>ATTORNEY DOCKET NUMBER:</b>	B1152.70031US01
<b>NAME OF SUBMITTER:</b>	BRANDON S. BLACKWELL
<b>SIGNATURE:</b>	/Brandon S. Blackwell/
<b>DATE SIGNED:</b>	02/21/2017
<b>Total Attachments: 3</b>	
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ASSIGNMENT

For valuable consideration, we, Fanxing Li, of Cary, North Carolina and Yang Liu of Raleigh, North Carolina hereby assign to North Carolina State University, a university of the state of North Carolina having a place of business at:

Office of Technology Transfer  
1021 Main Campus Drive, 2<sup>nd</sup> Floor  
Raleigh, North Carolina 27606

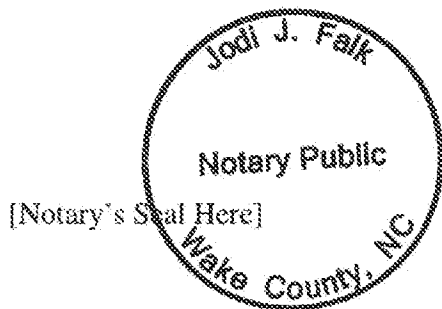
and its successors and assigns (collectively hereinafter called "the Assignee"), our entire right, title and interest throughout the world in the inventions and improvements which are subject of an international patent application filed in the United States Patent and Trademark Office entitled **GAS DELIVERY DEVICES AND ASSOCIATED SYSTEMS AND METHODS**, filed March 17, 2015, and assigned International Application Number PCT/US2015/021009, this assignment including said application, any and all United States and foreign utility patents and patent applications, including continuation, continuation-in-part, divisional, reissue, and reexamination applications, utility models, and design registrations granted for any of said inventions or improvements, and the right to claim priority based on the filing date of said application under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes; and we authorize the Assignee to apply in all countries in our name or in its own name for patents, utility models, design registrations and like rights of exclusion and for inventors' certificates for said inventions and improvements; and we agree for ourselves and our respective heirs, legal representatives and assigns, without further compensation to perform such lawful acts and to sign such further applications, assignments, Preliminary Statements and other lawful documents as the Assignee may reasonably request to effectuate fully this assignment.

DATE: 10/05/15

[Signature]  
Fanxing Li

STATE OF North Carolina  
COUNTY OF Wake ) SS.

Before me this 5<sup>th</sup> day of October, 2015, personally appeared Fanxing Li known to me to be the person whose name is subscribed to the foregoing Assignment, proved to me through satisfactory evidence of identification in the form of North Carolina Drivers License, and acknowledged that he/she executed the same as his/her free act and deed for the purposes therein contained.



[Signature]  
Notary Public  
My Commission Expires: July 29, 2019

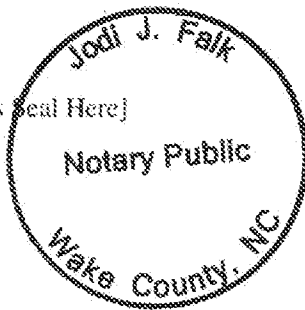
DATE: 09/21/2015

Yang Liu  
Yang Liu

STATE OF North Carolina,  
COUNTY OF Wake ) SS.

Before me this 21<sup>st</sup> day of September, 2015, personally  
appeared Yang Liu known to me to be the person whose name is subscribed to the foregoing  
Assignment, proved to me through satisfactory evidence of identification in the form of  
NC photo ID, and acknowledged that he/she executed the same as  
his/her free act and deed for the purposes therein contained.

[Notary's Seal Here]



Jodi J. Falk  
Notary Public

My Commission Expires:

July 29, 2019