

## PATENT ASSIGNMENT

Electronic Version v1.1  
 Stylesheet Version v1.1

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>William P. Partridge</td> <td>07/02/2013</td> </tr> <tr> <td>James E. Parks II</td> <td>07/02/2013</td> </tr> </tbody> </table>		Name	Execution Date	William P. Partridge	07/02/2013	James E. Parks II	07/02/2013
Name	Execution Date						
William P. Partridge	07/02/2013						
James E. Parks II	07/02/2013						
RECEIVING PARTY DATA							
Name:	UT-Battelle, LLC						
Street Address:	One Bethel Valley Road						
Internal Address:	4500N, MS-6258						
City:	Oak Ridge						
State/Country:	TENNESSEE						
Postal Code:	37831-6258						
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>13912462</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13912462		
Property Type	Number						
Application Number:	13912462						
CORRESPONDENCE DATA							
Fax Number:	8655740381						
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>							
Phone:	(865) 574-4179						
Email:	vanceke@oml.gov						
Correspondent Name:	Colin L. Cini						
Address Line 1:	One Bethel Valley Road						
Address Line 2:	4500N, MS-6258						
Address Line 4:	Oak Ridge, TENNESSEE 37831-6258						
ATTORNEY DOCKET NUMBER:	2759.1 UTB						
NAME OF SUBMITTER:	Karen E. Vance						
Signature:	/KE Vance/						

Date:

07/17/2013

**Total Attachments: 4**

source=2759.1 UTB Assignment#page1.tif

source=2759.1 UTB Assignment#page2.tif

source=2759.1 UTB Assignment#page3.tif

source=2759.1 UTB Assignment#page4.tif

## RECORDATION FORM COVER SHEET PATENTS ONLY

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

**1. Name of conveying party(ies)**  
William P. Partridge  
James E. Parks, II

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

**2. Name and address of receiving party(ies)**  
Name: UT-Battelle, LLC  
Internal Address: 4500N, MS-6258  
Street Address: One Bethel Valley Road  
City: Oak Ridge  
State: TN  
Country: USA Zip: 37831-6258

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

**3. Nature of conveyance/Execution Date(s):**  
Execution Date(s) 07/19/2012

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)  
13/912,462

B. Patent No.(s)

Additional numbers attached?  Yes  No

**5. Name and address to whom correspondence concerning document should be mailed:**  
Name: Colin L. Cini  
Internal Address: UT-Battelle, LLC  
Street Address: One Bethel Valley Road  
4500N, MS-6258  
City: Oak Ridge  
State: TN Zip: 37831-6258  
Phone Number: (865) 574-4179  
Fax Number: (865) 574-0381  
Email Address: cinicl@ornl.gov

**6. Total number of applications and patents involved:** 1

**7. Total fee (37 CFR 1.21(h) & 3.41)** \$ 40.00

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 13-1958  
Authorized User Name Karen E. Bowman

**9. Signature:** \_\_\_\_\_ /Colin L. Cini/ \_\_\_\_\_ 07/17/2013  
Signature Date

Colin L. Cini, Reg. No. 51,563  
Name of Person Signing

Total number of pages including cover sheet, attachments, and documents: 4

## ASSIGNMENT

WHEREAS, we the below-named inventors whose residences are as stated below, have an interest in an invention entitled:

### **EGR Distribution and Fluctuation Probe Based on CO2 Measurements**

(hereinafter referred to as "Subject Invention") for which are described in United States Patent Application No. 13/912,462 filed on June 7, 2013 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 our entire right, title and interest of the undersigned in the same;

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 and transfer to ASSIGNEE and its successors in interest 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 patent 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: William P. Partridge

Signature: [Handwritten Signature] Date: 7-2-2013

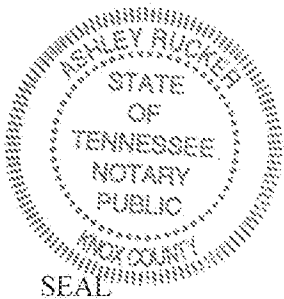
Residence: 852 West Outer Drive, Oak Ridge, Tennessee 37830

State of Tennessee )  
County of KNOW )

On this 2nd day of JULY, 2013, before me, a Notary Public in and for the County and State aforesaid, appeared **WILLIAM P. PARTRIDGE** 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.

[Handwritten Signature]  
Notary Public



My Commission Expires: 7/7/15

Full Name of Inventor: James E. Parks, II

Signature: [Handwritten Signature] Date: 7-2-2013

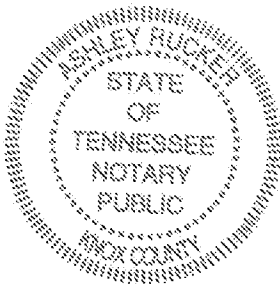
Residence: 1912 Breezy Ridge Trail, Knoxville, Tennessee 37922

State of Tennessee )  
County of KNOX )

On this 2nd day of JULY, 2013, before me, a Notary Public in and for the County and State aforesaid, appeared **JAMES E. PARKS, II** 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.

[Handwritten Signature]  
Notary Public



SEAL

My Commission Expires: 7/7/15