

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT3461832

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
MARY ANNE ALVIN	12/11/2014
IVER . ANDERSON	12/02/2014
ANDY . HEIDLOFF	12/14/2014
EMMA . WHITE	12/02/2014
BRUCE . MC MORDIE	12/11/2014
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	U.S. Department of Energy
<b>Street Address:</b>	1000 Independence Avenue, S.W.
<b>Internal Address:</b>	GC-62, 6F-048
<b>City:</b>	Washington
<b>State/Country:</b>	DISTRICT OF COLUMBIA
<b>Postal Code:</b>	20585-0162
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	14596307
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(202)586-7127
<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>	202-586-2810
<b>Email:</b>	katherine.baldwin@hq.doe.gov
<b>Correspondent Name:</b>	KATHERINE BALDWIN
<b>Address Line 1:</b>	1000 INDEPENDENCE AVENUE, S.W.
<b>Address Line 2:</b>	GC-62, 6F-048
<b>Address Line 4:</b>	WASHINGTON, D.C. 20585-0162
<b>ATTORNEY DOCKET NUMBER:</b>	S-135,645
<b>NAME OF SUBMITTER:</b>	KATHERINE BALDWIN
<b>SIGNATURE:</b>	/Katherine Baldwin/
<b>DATE SIGNED:</b>	07/30/2015

**Total Attachments: 7**

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U.S. Department of Energy  
Patent Assignment Form

Whereas, I/we, Mary Anne Alvin ; Iver Anderson ; Andy Hiedloff ; Emma White ;  
Bruce McMordie

*have invented certain new and useful improvements in :*

**METHOD OF MAKING AN APPARATUS FOR TRANSPIRATION COOLING OF  
SUBSTRATES SUCH AS TURBINE AIRFOILS**

*, for which I/we have/will file an application for United States Letters Patent, identified  
as: S-135,645 (filed as U.S. Application 14/596,307, filed January 14, 2015)*

and;

*WHEREAS, the Government of the United States desires to acquire the entire  
right, title, and interest in and to said invention and in and to any Letters Patent  
wherever they may be issued thereon;*

*NOW, THEREFORE, to all whom it may concern, be it known that good and  
valuable consideration, the receipt of which is hereby acknowledged, we by these  
presents do sell, assign, and transfer unto the said Government of the United States,  
as represented by the United States Department of Energy, and/or its assigns, the  
entire right, title, and interest in and to the said invention and in and to any and all  
Letters Patent wherever they may be granted thereon as well as reissues and  
extensions of said Letters Patent are or may be granted, reissued, or extended, as fully  
and entirely as the same would have been held or enjoyed by us had this assignment  
not been made.*

*I/We agree to make, execute, and deliver unto the Government of the United  
States, or to the United States Department of Energy, any and all papers, documents,  
affidavits, renewal, divisional and reissue applications, statements, or other instruments  
in such usual or other forms, terms and contents as may be required by the United  
States Department of Energy, or its duly authorized representative, in or incident to the  
prosecution or conduct of any and all applications, before as well as after the issuance  
of any Letters thereon, or in the adjustment or settlement of any interferences or other  
actions or proceedings that said applications may encounter or in which they may  
become involved and we agree that we will encounter or in which they may become  
involved and we agree that we will aid the Government of the United States in every  
way in protecting the inventions as may be requested by the United States Department  
of Energy or its assigns, except that any expenses arising through extending such  
assistance will be paid for by proper arrangement with the Government of the United  
States.*

*Further, I/We hereby authorize and request the Government of the United States  
to insert into this assignment the filing date and application number of said application  
when known.*

**Inventor:**

Full name of Inventor: Mary Anne Alvin

Inventor's signature:

Mary Anne Alvin

Date 12-11-2014

Address:

113 Lehigh Avenue, Pittsburgh, PA, 15223

**Witness to Signature:**

Full name of Witness:

Jessica Mae Sosenko

Witness' Signature:

Jessica Mae Sosenko

Date 12/11/14

Assignment to DOE regarding: 57135,645

METHOD OF MAKING AN APPARATUS FOR TRANSPIRATION COOLING OF SUBSTRATES SUCH AS TURBINE AIRFOILS

**Inventor:**

Full name of Inventor: Iver Anderson

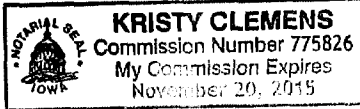
Inventor's signature: Iver Anderson

Date 12/2/2014

Address: 1215 Orchard Drive, Ames, Iowa 50010

**Witness to Signature:**

Full name of Witness: Kristy Clemens



Witness' Signature: [Signature]

Date 12/2/14

Assignment to DOE regarding: S-135,645

METHOD OF MAKING AN APPARATUS FOR TRANSPIRATION COOLING OF SUBSTRATES SUCH AS TURBINE AIRFOILS

**Inventor:**

Full name of Inventor: Andy Hiedloff

Inventor's signature: \_\_\_\_\_

Date \_\_\_\_\_

Address: 5465 Mills Civic Pkwy #427, West Des Moines, IA 50266

**Witness to Signature:**

Full name of Witness: [Signature]

Witness' Signature: \_\_\_\_\_

Date \_\_\_\_\_

Assignment to DOE regarding: S-135,645

METHOD OF MAKING AN APPARATUS FOR TRANSPIRATION COOLING OF SUBSTRATES SUCH AS TURBINE AIRFOILS

**Inventor:**  
 Full name of Inventor: Iver Anderson

Inventor's signature: \_\_\_\_\_ Date \_\_\_\_\_  
 (see page 3 of 7)

Address: 1215 Orchard Drive, Ames, Iowa 50010

**Witness to Signature:**  
 Full name of Witness: \_\_\_\_\_  
 (see page 3 of 7)

Witness' Signature: \_\_\_\_\_ Date \_\_\_\_\_  
 (see page 3 of 7)

Assignment to DOE regarding: 5-135,645  
 METHOD OF MAKING AN APPARATUS FOR TRANSPIRATION COOLING OF SUBSTRATES SUCH AS TURBINE AIRFOILS

**Inventor:**  
 Full name of Inventor: <sup>Heidloff</sup> Andy Heidloff

Inventor's signature: \_\_\_\_\_ Date 12/14/14  
*[Signature]*

Address: ~~5485 Mills Civic Pkwy #120, West Des Moines, IA 50260~~  
 12662 St Julian St, Carmel, IN, 46032

**Witness to Signature:**  
 Full name of Witness: \_\_\_\_\_

Witness' Signature: \_\_\_\_\_ Date 12/14/14  
*[Signature]*

Assignment to DOE regarding: 5-135,645  
 METHOD OF MAKING AN APPARATUS FOR TRANSPIRATION COOLING OF SUBSTRATES SUCH AS TURBINE AIRFOILS

**Inventor:**

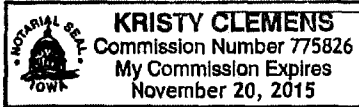
Full name of Inventor: Emma White

Inventor's signature: Emma White Date 12-2-14

Address: 1400 Gateway Hills Park Drive, Unit 909, Ames, Iowa 50014

**Witness to Signature:**

Full name of Witness: Kristy Clemens



Witness' Signature: [Signature] Date 12/2/14

Assignment to DOE regarding: S-135,645

METHOD OF MAKING AN APPARATUS FOR TRANSPIRATION COOLING OF SUBSTRATES SUCH AS TURBINE AIRFOILS

**Contractor Approval and Consent:**

Full Name: LISA LORENZEN

Signature: [Signature] Date 1.9.15

Title: Executive Director

Organization: Iowa State University Research Foundation, Inc

**Witness to Signature:**

Full name of Witness: Leslie F. Geffre



Witness' Signature: [Signature] Date 1.9.2015

Assignment to DOE regarding: S-135,645

METHOD OF MAKING AN APPARATUS FOR TRANSPIRATION COOLING OF SUBSTRATES SUCH AS TURBINE AIRFOILS

**Inventor:**  
Full name of Inventor: Bruce McMordie  
Inventor's signature: Bruce McMordie Date 12/11/2014  
Address: 105 Chelsea Court, Perkasio, PA 18944

**Witness to Signature:**  
Full name of Witness: Rebbie Lintner  
Witness' Signature: Rebbie Lintner Date 12/11/2014

Assignment to DOE regarding: S-135,645  
METHOD OF MAKING AN APPARATUS FOR TRANSPIRATION COOLING OF SUBSTRATES SUCH AS TURBINE AIRFOILS

**Contractor Approval and Consent:**  
Full Name: Kevin M. Klotz  
Signature: [Signature] Date 1/12/15  
Title: President  
Organization: Coatings For Industry, Inc.

**Witness to Signature:**  
Full name of Witness: Rebbie Lintner  
Witness' Signature: Rebbie Lintner Date 1/12/2015

Assignment to DOE regarding: S-135,645  
METHOD OF MAKING AN APPARATUS FOR TRANSPIRATION COOLING OF SUBSTRATES SUCH AS TURBINE AIRFOILS



**Government Acceptance:**

Accepted for the Benefit of the Government of the United States.

Full Name: John T. Lucas

Signature: \_\_\_\_\_ Date 7-13-2015

Title: Assistant General Counsel for Technology  
Transfer + Intellectual Property

**Witness to Signature:**

Full name of Witness: Katherine Baldwin

Witness' Signature: Kath Baldwin Date 7-13-2015

Acceptance of assignment to DOE regarding: S-135,645

METHOD OF MAKING AN APPARATUS FOR TRANSPIRATION COOLING OF SUBSTRATES SUCH AS TURBINE AIRFOILS