PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5526202

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
DEREK RICHARD VARDON	04/26/2019
KATHERINE ELAINE HURST	04/26/2019
STEVEN THOMAS CHRISTENSEN	04/26/2019
MICHAEL BRANDON GRIFFIN	05/03/2019

RECEIVING PARTY DATA

Name:	ALLIANCE FOR SUSTAINABLE ENERGY, LLC	
Street Address:	15013 DENVER WEST PARKWAY, RSF 406	
City:	GOLDEN	
State/Country:	COLORADO	
Postal Code:	80401	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16461476

CORRESPONDENCE DATA

Fax Number: (303)384-7499

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.

Phone: 303-384-7551

Email: ipdocketing@nrel.gov

Correspondent Name: ALLIANCE FOR SUSTAINABLE ENERGY, LLC

Address Line 1: 15013 DENVER WEST PARKWAY

Address Line 2: RSF-406

Address Line 4: GOLDEN, COLORADO 80401-3305

ATTORNEY DOCKET NUMBER:	NREL 16-26	
NAME OF SUBMITTER:	REINA R. BERNFELD	
SIGNATURE:	/Reina R. Bernfeld/	
DATE SIGNED:	05/16/2019	
	This document serves as an Oath/Declaration (37 CFR 1.63).	

Total Attachments: 4

PATENT REEL: 049197 FRAME: 0628

505479398



PATENT REEL: 049197 FRAME: 0629

Signature: Inventor:

Derek Richard Vardon

4/26/19

DATE

PATENT REEL: 049197 FRAME: 0630

ASSIGNMENT AND DECLARATION UNDER 37 C.F.R. § 1.63

(For Use with Signed Application Data Sheet)

Title of Invention:

CATALYSTS, SYSTEMS, AND METHODS FOR THE CONVERSION OF BIOMASS TO CHEMICALS

This assignment and declaration are directed to (check one): the application identified above by the attorney docket no. and title of invention PCT International Application Number, filed United States Application No, filed	
ASSIGNMENT	
For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, as a below-named inventor I have sold and assigned, and by these presents hereby sell and assign, unto:	
Name of Assignee: Alliance for Sustainable Energy, LLC	
Address of Assignee: 15013 Denver West Parkway, Golden, CO 80401	
(hereinafter ASSIGNEE) all my right, title and interest in and to the above-identified invention in any form or embodiment thereof, in the United States and all foreign countries, including applications for patents in the United State and all countries of the world and through the Patent Cooperation Treaty and/or the European Patent Convention, including any and all applications claiming priority thereto such as divisions or continuations thereof, and in and to any and all patents granted in the United States and all countries of the world that may issue on any such applications or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such patents may be granted as fully and entirely as would have been held and enjoyed by me had this Assignment not been made.	i.
I hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue any and all Letters Patent the United States to said ASSIGNEE, its successors, or assigns in accordance herewith.	of
I warrant and covenant that I have the full and unencumbered right to sell and assign the interests herein sold and assign and that I have not executed and will not execute any document or instrument in conflict herewith.	ıed
I further covenant and agree that I will communicate to said ASSIGNEE, its successors, legal representatives, or assign all information known to me relating to said invention or patent application and that I will execute and deliver any paper make all rightful oaths, testify in any legal proceedings, and perform all other lawful acts deemed necessary or desirable by said ASSIGNEE, its successors, legal representatives, or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all patents that may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns, or to assist said ASSIGNEE, its successors, legal representatives, or assigns in obtaining, reissuing, or enforcing patents for said invention.	ers,
DECLARATION	
As a below named inventor, I hereby declare that:	
The above-identified application was made or authorized to be made by me.	
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.	
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fit or imprisonment of not more than five (5) years, or both.	ne

Inventor:

Katherine Elaine Hurst

ASSIGNMENT AND DECLARATION UNDER 37 C.F.R. § 1.63

(For Use with Signed Application Data Sheet)

Title of Invention:

CATALYSTS, SYSTEMS, AND METHODS FOR THE CONVERSION OF BIOMASS TO CHEMICALS

CATALYSIS, SYSTEMS, AND METHODS FOR THE CONVERSION OF BIOMESS TO CHEMICASS
This assignment and declaration are directed to (check one): the application identified above by the attorney docket no. and title of invention PCT International Application Number, filed
United States Application No, filed
<u>ASSIGNMENT</u>
For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, as a below-named inventor I have sold and assigned, and by these presents hereby sell and assign, unto:
Name of Assignee: Alliance for Sustainable Energy, LLC
Address of Assignee: 15013 Denver West Parkway, Golden, CO 80401
(hereinafter ASSIGNEE) all my right, title and interest in and to the above-identified invention in any form or embodiment thereof, in the United States and all foreign countries, including applications for patents in the United States and all countries of the world and through the Patent Cooperation Treaty and/or the European Patent Convention, including any and all applications claiming priority thereto such as divisions or continuations thereof, and in and to any and all patents granted in the United States and all countries of the world that may issue on any such applications or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such patents may be granted as fully and entirely as would have been held and enjoyed by me had this Assignment not been made.
I hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue any and all Letters Patent of the United States to said ASSIGNEE, its successors, or assigns in accordance herewith.
I warrant and covenant that I have the full and unencumbered right to sell and assign the interests herein sold and assigned and that I have not executed and will not execute any document or instrument in conflict herewith.
I further covenant and agree that I will communicate to said ASSIGNEE, its successors, legal representatives, or assigns all information known to me relating to said invention or patent application and that I will execute and deliver any papers make all rightful oaths, testify in any legal proceedings, and perform all other lawful acts deemed necessary or desirable by said ASSIGNEE, its successors, legal representatives, or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all patents that may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns, or to assist said ASSIGNEE, its successors, legal representatives, or assigns in obtaining, reissuing, or enforcing patents for said invention.
DECLARATION
As a below named inventor, I hereby declare that:
The above-identified application was made or authorized to be made by me.
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

PATENT REEL: 049197 FRAME: 0631

Signature: Inventor:

Steven Thomas Christensen

ASSIGNMENT AND DECLARATION UNDER 37 C.F.R. § 1.63

(For Use with Signed Application Data Sheet)

Title of Invention:

CATALYSTS, SYSTEMS, AND METHODS FOR THE CONVERSION OF BIOMASS TO CHEMICALS

This assignment and declaration are directed to (check one): This assignment and declaration are directed to (check one): the application identified above by the attorney docket no, and title of invention		
PCT International Application Number, filed		
United States Application No, filed		
<u>ASSIGNMENT</u>		
For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, as a below-named inventor I have sold and assigned, and by these presents hereby sell and assign, unto:		
Name of Assignee: Alliance for Sustainable Energy, LLC		
Address of Assignee: 15013 Denver West Parkway, Golden, CO 80401		
(hereinafter ASSIGNEE) all my right, title and interest in and to the above-identified invention in any form or embodiment thereof, in the United States and all foreign countries, including applications for patents in the United States and all countries of the world and through the Patent Cooperation Treaty and/or the European Patent Convention, including any and all applications claiming priority thereto such as divisions or continuations thereof, and in and to any and all patents granted in the United States and all countries of the world that may issue on any such applications or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such patents may be granted as fully and entirely as would have been held and enjoyed by me had this Assignment not been made.		
I hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue any and all Letters Patent of the United States to said ASSIGNEE, its successors, or assigns in accordance herewith.		
I warrant and covenant that I have the full and unencumbered right to sell and assign the interests herein sold and assigned and that I have not executed and will not execute any document or instrument in conflict herewith.		
I further covenant and agree that I will communicate to said ASSIGNEE, its successors, legal representatives, or assigns all information known to me relating to said invention or patent application and that I will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings, and perform all other lawful acts deemed necessary or desirable by said ASSIGNEE, its successors, legal representatives, or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all patents that may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns, or to assist said ASSIGNEE, its successors, legal representatives, or assigns in obtaining, reissuing, or enforcing patents for said invention.		
DECLARATION		
As a below named inventor, I hereby declare that:		
The above-identified application was made or authorized to be made by me.		
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.		
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.		

PATENT REEL: 049197 FRAME: 0632

4/26/2019

REEL: 049197 FRAME: 0633

ASSIGNMENT AND DECLARATION UNDER 37 C.F.R. § 1.63

(For Use with Signed Application Data Sheet)

Title of Invention:

RECORDED: 05/16/2019

CATALYSTS, SYSTEMS, AND METHODS FOR THE CONVERSION OF BIOMASS TO CHEMICALS

This assignment and declaration are directed to (check one): ☑ the application identified above by the attorney docket no. and title of invention
PCT International Application Number, filed
United States Application No, filed
ASSIGNMENT
For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, as a below-named inventor I have sold and assigned, and by these presents hereby sell and assign, unto:
Name of Assignee: Alliance for Sustainable Energy, LLC
Address of Assignee: 15013 Denver West Parkway, Golden, CO 80401
(hereinafter ASSIGNEE) all my right, title and interest in and to the above-identified invention in any form or embodiment thereof, in the United States and all foreign countries, including applications for patents in the United States and all countries of the world and through the Patent Cooperation Treaty and/or the European Patent Convention, including any and all applications claiming priority thereto such as divisions or continuations thereof, and in and to any and all patents granted in the United States and all countries of the world that may issue on any such applications or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, or assigns to the full end of the term or terms for which any and all such patents may be granted as fully and entirely as would have been held and enjoyed by me had this Assignment not been made.
I hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue any and all Letters Patent of the United States to said ASSIGNEE, its successors, or assigns in accordance herewith.
I warrant and covenant that I have the full and unencumbered right to sell and assign the interests herein sold and assigned and that I have not executed and will not execute any document or instrument in conflict herewith.
I further covenant and agree that I will communicate to said ASSIGNEE, its successors, legal representatives, or assigns all information known to me relating to said invention or patent application and that I will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings, and perform all other lawful acts deemed necessary or desirable by said ASSIGNEE, its successors, legal representatives, or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all patents that may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns, or to assist said ASSIGNEE, its successors, legal representatives, or assigns in obtaining, reissuing, or enforcing patents for said invention.
<u>DECLARATION</u>
As a below named inventor, I hereby declare that:
The above-identified application was made or authorized to be made by me.
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.
Signature: ## 5/3/2019
Inventor: Michael Brandon Griffin DATE PATENT