506360436 11/18/2020

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT6407191

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
FAHIMA OUCHEN	09/04/2020
EMILY M. HECKMAN	09/16/2020
JEFFREY P. MASSMAN	11/03/2020
ROBERTO S. AGA	09/10/2020

RECEIVING PARTY DATA

Name:	GOVERNMENT OF THE UNITED STATES AS REPRESENTED BY THE SECRETARY OF THE AIR FORCE
Street Address:	2240 B STREET
Internal Address:	BLDG 11, ROOM 204
City:	WRIGHT-PATTERSON AFB
State/Country:	OHIO
Postal Code:	45433-7109

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17014054

CORRESPONDENCE DATA

Fax Number: (937)255-3733

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: 937-904-5077

Email: afmclo.jaz.1@us.af.mil

Correspondent Name: DEPARTMENT OF THE AIR FORCE AFMCLO/JAZ

Address Line 1: 2240 B STREET Address Line 2: **BUILDING 11**

Address Line 4: WRIGHT-PATTERSON AFB, OHIO 45433-7109

ATTORNEY DOCKET NUMBER:	AFD 2082
NAME OF SUBMITTER:	TIMOTHY M. BARLOW
SIGNATURE:	/ Timothy M Barlow /
DATE SIGNED:	11/18/2020

Total Attachments: 8

source=AFD-2082_assignment_Aga#page1.tif
source=AFD-2082_assignment_Aga#page2.tif
source=AFD-2082_Massman_Assignment_signed#page1.tif
source=Heckman signed#page1.tif
source=Ouchen_signed#page1.tif
source=Ouchen_signed#page2.tif
source=Ouchen_signed#page3.tif
source=Ouchen_signed#page4.tif

INVENTOR ASSIGNMENT AND DECLARATION (Contractor Inventor)

WHEREAS, I, ROBERTO S. AGA, while employed by WYLE Laboratories, Inc. ("Contractor"), jointly made or contributed to an invention under contract/subcontract number FA8075-14-D-0025-0005, as described in invention disclosure AFD-2082 entitled "FABRICATION OF ELECTRICAL AND/OR OPTICAL CROSSOVER SIGNAL LINES THROUGH DIRECT WRITE DEPOSITION TECHNIQUES," to be filed as an application for Letters Patent of the United States (Application Serial Number 17/014,054 _______, filed ______ 8 September 2020), and I hereby authorize and request Air Force Patent Counsel to insert here in the above parentheses (Application Serial Number, filed) the filing date and application number of said application when known;

WHEREAS, The above-identified application for Letters Patent was made or authorized to be made by me; WHEREAS, I believe that I am an original joint inventor of a claimed invention in the application;

WHEREAS, I hereby acknowledge that any willful false statement made in this Declaration/Assignment is punishable under 18 U.S.C. § 1001 by fine, imprisonment of not more than five (5) years, or both; and

WHEREAS, Contractor and/or I, ROBERTO S. AGA, has indicated its intention to NOT elect title and NOT file an application for Letters Patent on the aforesaid invention.

NOW, **THEREFORE**, to all whom it may concern, be it known that in recognition of my obligation to the Government of the United States under the above contract and by agreement, or in consideration of the premises and other valuable consideration, **I**, **ROBERTO S. AGA**, elect herein to:

HEREBY HAVE SOLD, ASSIGNED, AND TRANSFERRED, and by these presents do sell, assign, and transfer unto the Government of the United States as represented by the Secretary of the Air Force, my entire right, title, and interest, in and to the aforesaid invention described in the invention disclosure, all subsequent information to support that aforesaid invention, and the resulting application for Letters Patent of the United States including all Letters Patent issuing thereon, and any continuations, continuations-in-part, divisions, and reissues or extensions thereof; and all patent applications claiming priority resulting from the filing of the aforesaid application for patent in the United States in any jurisdiction throughout the world, subject to the reservation of any license to which Contractor and/or I, ROBERTO S. AGA, may be entitled under the above contract:

HEREBY AUTHORIZE AND REQUEST any official whose duty it is to issue patents, to issue any patent thereon to the Government of the United States, as represented by the Secretary of the Air Force, and his successors, as assignee of my entire right, title, and interest in and to the same, for the sole use for the full term or terms for which said patents and any continuations, continuations-in-part, divisions, and reissues or extensions thereof are, or may be, granted as fully and entirely as the same would have been held by me had this Assignment not been made; and

HEREBY AGREE to execute, and assist with executing, any and all applications for Letters Patent, to furnish all data and documents and to execute any papers which may be necessary or convenient for the preparation, filing, or prosecution of such applications, except it is understood that Contractor and/or I, ROBERTO S. AGA, shall not be subject to any out-of-pocket expense relative to such action.

Contractor joins in and agrees to this assignment and, except for the reservation of any license under the above contract, relinquishes, and assigns to the Government of the United States, as represented by the Secretary of the Air Force its entire right, title, and interest throughout the world in and to such inventions, and further agrees to furnish to the Government of the United States, upon request, any available information and documents necessary for the timely preparation, filing, and prosecution of such applications, for Letters Patent.

preparation, filing, and prosecution of such applications, for Letters Pate	tent. 1146 z C)		
·	ROBERTO S. AGA		
SUBSCRIBED AND ACKNOWLEDGED before me by ROBERTO S. AGA this _	lots day of		
September 2020, at the city of Beauticeask	in the County of		
and State of Ohio	·		
ROOSHAN A. BHATTI	12-11. El-		
* Notary Public, State of Ohio Notary Public, State of Ohio Notary Public, State of Ohio	Notary Public		

CONTRACTOR CERTIFICATION

I certify that I am an Officer or Agent of Contractor herein, and that ROBERTO S. AGA, who signed this assignment on behalf of Contractor, was an employee of said Contractor at the time of invention and was authorized to sign this assignment on his/her own behalf. Contractor, further, herein assigns its rights as the employer of ROBERTO S. AGA to the Government of the United States as represented by the Secretary of the Air Force, consistent with our rights and obligations under contract and statute, subject to the reservation to Contractor of any license to which Contractor may be entitled under the above contract or statute. This assignment is duly signed below by Contractor's Officer or Agent for and on behalf of said Contractor by authority of its governing body, and is within the scope of the Officer's or Agent's corporate powers.

FOR CONTRACTOR	Contractor:	WYLE Laboratories, Inc.
	Ву	(Signature of officer or agent)
	Date:	09-29-2020
	Printed Name:	Kristin Schernikau
	Title:	Senior Contracts Specialist
	Business Address: <u>2</u>	2301 Exploration Dr., Lexington Park, MD 201653
	Business Phone:	301-866-2268

INVENTOR ASSIGNMENT AND DECLARATION (Government Inventor)

WHEREAS, I, JEFFERY P. MASSMAN, while employed by the Government of the United States, made or contributed to an invention described in invention disclosure AFD-2082 entitled "FABRICATION OF ELECTRICAL AND/OR OPTICAL CROSSOVER SIGNAL LINES THROUGH DIRECT WRITE DEPOSITION TECHNIQUES," to be filed as an application for Letters Patent of the United States (Application Serial Number 17/014,054 , filed 8 September 2020), and I hereby authorize and request Air Force Patent Counsel to insert here in the above parentheses (Application Serial Number, filed) the filing date and application number of said application when known;

WHEREAS, The above-identified application for Letters Patent was made or authorized to be made by me; WHEREAS, I believe that I am an original joint inventor of a claimed invention in the application;

WHEREAS, I hereby acknowledge that any willful false statement made in this Declaration/Assignment is punishable under 18 U.S.C. § 1001 by fine, imprisonment of not more than five (5) years, or both; and

WHEREAS, the conditions under which said invention was made are such as to entitle the Government of the United States as represented by the Secretary of the Air Force, under Paragraph 1(a) of Executive Order 10096, to the entire right, title, and interest therein, including foreign rights.

NOW, THEREFORE, to all whom it may concern, be it known that for and in consideration of the premises and other valuable considerations, **I, JEFFERY P. MASSMAN**:

HEREBY HAVE SOLD, ASSIGNED, AND TRANSFERRED, and by these presents do sell, assign, and transfer unto the Government of the United States as represented by the Secretary of the Air Force, my entire right, title, and interest, in and to the aforesaid invention described in the invention disclosure, all subsequent information to support that aforesaid invention, and the resulting application for Letters Patent of the United States including all Letters Patent issuing thereon, and any continuations, continuations-in-part, divisions, and reissues or extensions thereof; and all priority resulting from the filing of the aforesaid application for patent in the United States;

HEREBY AUTHORIZE AND REQUEST any official whose duty it is to issue patents, to issue any patent thereon to the Government of the United States, as represented by the Secretary of the Air Force, and his successors, as assignee of my entire right, title, and interest in and to the same, for the sole use for the full term or terms for which said patents and any continuations, continuations-in-part, divisions, and reissues or extensions thereof are, or may be, granted as fully and entirely as the same would have been held by me had this Assignment not been made;

HEREBY ALSO GRANT to the Government of the United States, as represented by the Secretary of the Air Force, the option to take the entire right, title, and interest in the invention or all applications for Letters Patent thereon in all countries or jurisdictions foreign to the United States in which the Government of the United States may file, or cause to be filed, applications for Letters Patent, without payment to me of any further consideration; provided, however, that this grant of an option to take foreign rights in the invention must be exercised by written notice to me within eight months of the first filing date of any application for United States Letters Patent covering the invention or within eight months from the declassification of the invention, whichever is later, and that all foreign rights not exercised under the option are left to me, subject to a nonexclusive, irrevocable, royalty-free license to the Government of the United States in any patent which may issue on said invention in any country or jurisdiction foreign to the United States, including the power to issue sublicenses for use on behalf of the Government of the United States and/or in furtherance of the foreign policies of the United States of America; and

HEREBY AGREE to execute any and all applications for Letters Patent, and to furnish all data and documents and to execute any papers which may be necessary or convenient for the preparation, filing, or prosecution of such applications, except it is understood that I shall not be subject to any out-of-pocket expense relative to such action.

SUBSCRIBED AND ACKNOWLEDGED before me by different P. Massman this 3rd day of November 2020, at the city of November in the county of Finding And State of 1000 in and State of 1

INVENTOR ASSIGNMENT AND DECLARATION (Government Inventor)

WHEREAS, I, EMILY M. HECKMAN, while employed by the Government of the United States, made or contributed to an invention described in invention disclosure AFD-2082 entitled "FABRICATION OF ELECTRICAL AND/OR OPTICAL CROSSOVER SIGNAL UNES THROUGH DIRECT WRITE DEPOSITION TECHNIQUES," to be filed as an application for Letters Patent of the United States (Application Serial Number 17/014,054, filed 8 September 2020), and I hereby authorize and request Air Force Patent Counsel to insert here in the above parentheses (Application Serial Number, filed) the filing date and application number of said application when known;

WHEREAS, The above-identified application for Letters Patent was made or authorized to be made by me; WHEREAS, I believe that I am an original joint inventor of a claimed invention in the application;

WHEREAS, I hereby acknowledge that any willful false statement made in this Declaration/Assignment is punishable under 18 U.S.C. § 1001 by fine, imprisonment of not more than five (5) years, or both; and

WHEREAS, the conditions under which said invention was made are such as to entitle the Government of the United States as represented by the Secretary of the Air Force, under Paragraph 1(a) of Executive Order 10096, to the entire right, title, and interest therein, including foreign rights.

NOW, THEREFORE, to all whom it may concern, be it known that for and in consideration of the premises and other valuable considerations, I, EMILY M. HECKMAN:

HEREBY HAVE SOLD, ASSIGNED, AND TRANSFERRED, and by these presents do sell, assign, and transfer unto the Government of the United States as represented by the Secretary of the Air Force, my entire right, title, and interest, in and to the aforesaid invention described in the invention disclosure, all subsequent information to support that aforesaid invention, and the resulting application for Letters Patent of the United States including all Letters Patent issuing thereon, and any continuations, continuations-in-part, divisions, and reissues or extensions thereof; and all priority resulting from the filing of the aforesaid application for patent in the United States;

HEREBY AUTHORIZE AND REQUEST any official whose duty it is to issue patents, to issue any patent thereon to the Government of the United States, as represented by the Secretary of the Air Force, and his successors, as assignee of my entire right, title, and interest in and to the same, for the sole use for the full term or terms for which said patents and any continuations, continuations-in-part, divisions, and reissues or extensions thereof are, or may be, granted as fully and entirely as the same would have been held by me had this Assignment not been made;

HEREBY ALSO GRANT to the Government of the United States, as represented by the Secretary of the Air Force, the option to take the entire right, title, and interest in the invention or all applications for Letters Patent thereon in all countries or jurisdictions foreign to the United States in which the Government of the United States may file, or cause to be filed, applications for Letters Patent, without payment to me of any further consideration; provided, however, that this grant of an option to take foreign rights in the invention must be exercised by written notice to me within eight months of the first filing date of any application for United States Letters Patent covering the invention or within eight months from the declassification of the invention, whichever is later, and that all foreign rights not exercised under the option are left to me, subject to a nonexclusive, irrevocable, royalty-free license to the Government of the United States in any patent which may issue on said invention in any country or jurisdiction foreign to the United States, including the power to issue sublicenses for use on behalf of the Government of the United States and/or in furtherance of the foreign policies of the United States of America; and

HEREBY AGREE to execute any and all applications for Letters Patent, and to furnish all data and documents and to execute any papers which may be necessary or convenient for the preparation, filing, or prosecution of such applications, except it is understood that I shall not be subject to any out-of-pocket expense relative to such action.

PATENT

REEL: 054403 FRAME: 0977

INVENTOR ASSIGNMENT AND DECLARATION (Contractor Inventor)

WHEREAS, I, FAHIMA OUCHEN, while employed by WYLE Laboratories, Inc. ("Contractor"), jointly made or contributed to an invention under contract/subcontract number FA8075-14-D-0025-0005, as described in invention disclosure AFD-2082 entitled "FABRICATION OF ELECTRICAL AND/OR OPTICAL CROSSOVER SIGNAL LINES THROUGH DIRECT WRITE DEPOSITION TECHNIQUES," to be filed as an application for Letters Patent of the United States (Application Serial Number 17/014,054 _______, filed 8 September 2020 __), and I hereby authorize and request Air Force Patent Counsel to insert here in the above parentheses (Application Serial Number, filed) the filing date and application number of said application when known;

WHEREAS, The above-identified application for Letters Patent was made or authorized to be made by me; WHEREAS, I believe that I am an original joint inventor of a claimed invention in the application;

WHEREAS, I hereby acknowledge that any willful false statement made in this Declaration/Assignment is punishable under 18 U.S.C. § 1001 by fine, imprisonment of not more than five (5) years, or both; and

WHEREAS, Contractor and/or I, FAHIMA OUCHEN, has indicated its intention to NOT elect title and NOT file an application for Letters Patent on the aforesaid invention.

NOW, **THEREFORE**, to all whom it may concern, be it known that in recognition of my obligation to the Government of the United States under the above contract and by agreement, or in consideration of the premises and other valuable consideration, **I**, **Fahima Ouchen**, elect herein to:

HEREBY HAVE SOLD, ASSIGNED, AND TRANSFERRED, and by these presents do sell, assign, and transfer unto the Government of the United States as represented by the Secretary of the Air Force, my entire right, title, and interest, in and to the aforesaid invention described in the invention disclosure, all subsequent information to support that aforesaid invention, and the resulting application for Letters Patent of the United States including all Letters Patent issuing thereon, and any continuations, continuations-in-part, divisions, and reissues or extensions thereof; and all patent applications claiming priority resulting from the filing of the aforesaid application for patent in the United States in any jurisdiction throughout the world, subject to the reservation of any license to which Contractor and/or I, FAHIMA OUCHEN, may be entitled under the above contract;

HEREBY AUTHORIZE AND REQUEST any official whose duty it is to issue patents, to issue any patent thereon to the Government of the United States, as represented by the Secretary of the Air Force, and his successors, as assignee of my entire right, title, and interest in and to the same, for the sole use for the full term or terms for which said patents and any continuations, continuations-in-part, divisions, and reissues or extensions thereof are, or may be, granted as fully and entirely as the same would have been held by me had this Assignment not been made; and

HEREBY AGREE to execute, and assist with executing, any and all applications for Letters Patent, to furnish all data and documents and to execute any papers which may be necessary or convenient for the preparation, filing, or prosecution of such applications, except it is understood that Contractor and/or I, FAHIMA OUCHEN, shall not be subject to any out-of-pocket expense relative to such action.

Contractor joins in and agrees to this assignment and, except for the reservation of any license under the above contract, relinquishes, and assigns to the Government of the United States, as represented by the Secretary of the Air Force its entire right, title, and interest throughout the world in and to such inventions, and further agrees to furnish to the Government of the United States, upon request, any available information and documents necessary for the timely preparation, filing, and prosecution of such applications, for Letters Patent.

FAHIMA OUCHEN

					- Secretary
SUBSCRIBED AN		OGED before me by FAHIMA O		_ day of in the County of	
Ceccos		and State of <u>Mary</u>	······································		
		State of Ohio Notary Public Adam D Poock		Notary Public	
***************************************	· · · · · · · · · · · · · · · · · · ·	Nev Commission Expires 4/11/2024	1		

CONTRACTOR CERTIFICATION

I certify that I am an Officer or Agent of Contractor herein, and that FAHIMA OUCHEN, who signed this assignment on behalf of Contractor, was an employee of said Contractor at the time of invention and was authorized to sign this assignment on his/her own behalf. Contractor, further, herein assigns its rights as the employer of FAHIMA OUCHEN to the Government of the United States as represented by the Secretary of the Air Force, consistent with our rights and obligations under contract and statute, subject to the reservation to Contractor of any license to which Contractor may be entitled under the above contract or statute. This assignment is duly signed below by Contractor's Officer or Agent for and on behalf of said Contractor by authority of its governing body, and is within the scope of the Officer's or Agent's corporate powers.

FOR CONTRACTOR		
	Contractor:	WYLE Laboratories, Inc.
	Ву:	Fristin Schernikau
		(Signature of officer or agent)
	Date:	09-29-2020
	Printed Name:	Kristin Schernikau
	Title:	Senior Contracts Specialist
	Business Address:	22309 Exploration Dr., Lexington Park, ND 2015
	Business Phone:	301-866-2268

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	FABRICATION OF ELECTRICAL AND/OR OPTICAL CROSSOVER SIGNAL LINES THROUGH DIRECT WRITE DEPOSITION TECHNIQUES
As the belo	w named inventor, I hereby declare that:
This declar	
	United States application or PCT international application number
	filed on
The above-	identified application was made or authorized to be made by me.
I believe tha	t I am the original inventor or an original joint inventor of a claimed invention in the application.
	cnowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 aprisonment of not more than five (5) years, or both.
	WARNING:
contribute to (other than a to support a petitioners/a USPTO. Pe application (patent. Furl referenced i	oplicant is cautioned to avoid submitting personal information in documents filed in a patent application that may be identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO petition or an application. If this type of personal information is included in documents submitted to the USPTO, applicants should consider redacting such personal information from the documents before submitting them to the etitioner/applicant is advised that the record of a patent application is available to the public after publication of the funless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a chermore, the record from an abandoned application may also be available to the public if the application is a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms submitted for payment purposes are not retained in the application file and therefore are not publicly available.
LEGAL N	AME OF INVENTOR
Inventor: _ Signature	Fahima Ouchen Date (Optional): 09042020
Note: An appl been previous	lication data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have sly filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO

THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

 The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to

opposing counsel in the course of settlement negotiations.

 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to

the Atomic Energy Act (42 U.S.C. 218(c)).

- 7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
- 8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.

 A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

> PATENT REEL: 054403 FRAME: 0981

RECORDED: 11/18/2020