506430820 01/04/2021

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
BRIAN E. DAMIT	09/02/2020
PLAMEN A. DEMIREV	09/02/2020
ELIZABETH C. CORSON	09/01/2020
FELIX C. SAGE	09/01/2020
BENJAMIN B. ALVAREZ	09/01/2020
CHARLES A. FANCHER	09/01/2020
KELLY A. VAN HOUTEN	09/02/2020
CHRISTOPHER J. ROSENKER	01/04/2021

RECEIVING PARTY DATA

Name:	THE JOHNS HOPKINS UNIVERSITY
Street Address:	34TH AND CHARLES STREET
City:	BALTIMORE
State/Country:	MARYLAND
Postal Code:	21218

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17008859

CORRESPONDENCE DATA

Fax Number: (240)228-5254

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: 240-228-5640

Email: noah.hayward@jhuapl.edu

Correspondent Name: JOHNS HOPKINS UNIV. APPLIED PHYSICS LAB.

Address Line 1: 11100 JOHNS HOPKINS ROAD

Address Line 2: MAIL STOP 7-127

Address Line 4: LAUREL, MARYLAND 20723-6099

ATTORNEY DOCKET NUMBER:	4508-6400
NAME OF SUBMITTER:	NOAH J. HAYWARD
SIGNATURE:	/Noah J. Hayward/

DATE SIGNED:	01/04/2021
	This document serves as an Oath/Declaration (37 CFR 1.63)
Total Attachments: 8	·
source=damit#page1.tif	
source=demirev#page1.tif	
source=corson#page1.tif	
source=sage#page1.tif	
source=alvarez#page1.tif	
ource=fancher#page1.tif	
source=van houten#page1.tif	
source=rosenker#page1.tif	

CYCLONE AND METHODS OF MANUFACTURE THEREOF

Title of Invention	CYCLONE AND METHODS OF MANUFACTURE THEREOF		
As the below name	ed inventor, I hereby declare that:		
This declaration is directed to:	The attached application, or United States application or PCT international application number filed on September 1, 2020		
The above-identifi	ied 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.		
Maryland and hav ASSIGNEE, desir	WHEREAS, The Johns Hopkins University, a corporation organized and existing under the laws of the State of Maryland and having its principal place of business at Baltimore, Maryland, hereinafter referred to as the ASSIGNEE, desires to acquire the entire right, title and interest in and to said invention and to any Letters Patent that may be generated therefore in the United States and its territories and in any and all foreign countries.		
to the ASSIGNEE and in all foreign of granted for said in	PRE, in consideration of my employment by the ASSIGNEE, I do hereby sell, assign and transfer the entire right, title and interest in and to said invention in the United States and its territories countries and the entire right, title and interest in and to any and all Letters Patent which may be evention in the United States and its territories and in any and all foreign countries and in and to ons, reissues, continuations, substitutions and renewals thereof.		
I hereby authorize and request the Patent Office Officials in the United States and its territories and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its successors and assigns, to the full end of the term for which said Letters Patent may be granted.			
I hereby further agree to make, execute and deliver to the ASSIGNEE, its successors, assigns and legal representatives, upon request but at the expense of the ASSIGNEE, any and all papers, documents, affidavits, statements or other instruments that may be necessary in the prosecution of the aforesaid application, and of any United States or foreign applications, and of any divisions, reissues, continuations, substitutions and renewals of said application, or applications for reissues of said Letters Patents, and to aid the ASSIGNEE, its successors, assigns and legal representatives in every way in protecting said invention as may be requested, provided, however that I shall not have to pay any expenses arising from extending such assistance.			
LEGAL NAME O	OF INVENTOR		
Inventor: Brian	E. Damit		
Signature:	Date: 9/2/2020		
	IHU/APL Docket No : 4508-6400		

Title of Invention	CYCLONE AND METHODS OF MANUFACTURE THEREOF
As the below name	ed inventor, I hereby declare that:
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I believe that I am	the original inventor or an original joint inventor of a claimed invention in the application.
I hereby acknowled by fine or imprisor	dge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 ament of not more than five (5) years, or both.
Maryland and havi ASSIGNEE, desire	ohns Hopkins University, a corporation organized and existing under the laws of the State of ng its principal place of business at Baltimore, Maryland, hereinafter referred to as the to acquire the entire right, title and interest in and to said invention and to any Letters Patent ted therefore in the United States and its territories and in any and all foreign countries.
to the ASSIGNEE and in all foreign congranted for said inv	RE, in consideration of my employment by the ASSIGNEE, I do hereby sell, assign and transfer the entire right, title and interest in and to said invention in the United States and its territories ountries and the entire right, title and interest in and to any and all Letters Patent which may be rention in the United States and its territories and in any and all foreign countries and in and to as, reissues, continuations, substitutions and renewals thereof.
foreign countries to entire right, title an	and request the Patent Office Officials in the United States and its territories and any and all issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my d interest in and to the same, for the sole use and behoof of said ASSIGNEE, its successors and and of the term for which said Letters Patent may be granted.
representatives, upon statements or other United States or for said application, or ussigns and legal re	ee to make, execute and deliver to the ASSIGNEE, its successors, assigns and legal on request but at the expense of the ASSIGNEE, any and all papers, documents, affidavits, instruments that may be necessary in the prosecution of the aforesaid application, and of any eign applications, and of any divisions, reissues, continuations, substitutions and renewals of applications for reissues of said Letters Patents, and to aid the ASSIGNEE, its successors, presentatives in every way in protecting said invention as may be requested, provided, however to pay any expenses arising from extending such assistance.
LEGAL NAME OF	INVENTOR
nventor: Plamen	A. Demirev
ignature: Pla	men A-Derrice Date: 09/02/2020
	4508_6400

JHU/APL Docket No.: 4508-6400

Title of Invention	CYCLONE AND METHODS OF MAN	UFACTURE THEREOF
As the below nam	ned inventor, I hereby declare that:	
This declaration is directed to:	The attached application, or United States application or PCT interna- filed on September 1, 2020	17/008,859 ional application number
The above-identif	fied application was made or authorized to be	made by me.
I believe that I an	n the original inventor or an original joint inv	entor of a claimed invention in the application.
	ledge that any willful false statement made in omnent of not more than five (5) years, or bot	this declaration is ponishable under 18 U.S.C. 1001 h.
Maryland and hav ASSIGNEE, desi	ving its principal place of business at Baltime	of in and to said invention and to any Letters Patent
to the ASSIGNED and in all foreign granted for said in	E the entire right, fille and interest in and to so countries and the entire right, title and intere	the ASSIGNEE, I do hereby sell, assign and transfer lid invention in the United States and its territories at in and to any and all Letters Patent which may be a sand in any and all foreign countries and in and to be renewals thereof.
foreign countries entire right, title	cto issue any and all of said Letters Patent, wi	e United States and its territories and any and all ten granted, to said ASSIGNEE as the assigned of my and behoof of said ASSIGNEE, its successors and it may be granted.
I hereby further agree to make, execute and deliver to the ASSIGNEE, its successors, assigns and legal representatives, upon request but at the expense of the ASSIGNEE, any and all papers, documents, affidavits, statements or other instruments that may be necessary in the prosecution of the aforesaid application, and of any United States or foreign applications, and of any divisions, reissues, continuations, substitutions and renewals of said application, or applications for reissues of said Letters Patents, and to aid the ASSIGNEE, its successors, assigns and legal representatives in every way in protecting said invention as may be requested, provided, however that I shall not have to pay any expenses arising from extending such assistance.		
LEGAL NAME	OF INVENTOR	
Inventor: Eliza	abeth C. Corson	
Signature: Z	lizabeth C. Goran	Date: 9/1/2020
<u> </u>		JHU/APL Docker No.: 4508-6400

Title of Invention	CYCLONE AND METHODS OF MANUFACTURE THEREOF	
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WHEREAS, The Johns Hopkins University, a corporation organized and existing under the laws of the State of Maryland and having its principal place of business at Baltimore, Maryland, hereinafter referred to as the ASSIGNEE, desires to acquire the entire right, title and interest in and to said invention and to any Letters Patent that may be generated therefore in the United States and its territories and in any and all foreign countries.		
NOW, THEREFORE, in consideration of my employment by the ASSIGNEE, I do hereby sell, assign and transfer to the ASSIGNEE the entire right, title and interest in and to said invention in the United States and its territories and in all foreign countries and the entire right, title and interest in and to any and all Letters Patent which may be granted for said invention in the United States and its territories and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.		
I hereby authorize and request the Patent Office Officials in the United States and its territories and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEE, its successors and assigns, to the full end of the term for which said Letters Patent may be granted.		
I hereby further agree to make, execute and deliver to the ASSIGNEE, its successors, assigns and legal representatives, upon request but at the expense of the ASSIGNEE, any and all papers, documents, affidavits, statements or other instruments that may be necessary in the prosecution of the aforesaid application, and of any United States or foreign applications, and of any divisions, reissues, continuations, substitutions and renewals of said application, or applications for reissues of said Letters Patents, and to aid the ASSIGNEE, its successors, assigns and legal representatives in every way in protecting said invention as may be requested, provided, however that I shall not have to pay any expenses arising from extending such assistance.		
LEGAL NAME C	OF INVENTOR	
Inventor: Felix	C. Sage	
Signature:	Date: 09/01/2020	

JHU/APL Docket No.: 4508-6400

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foreign countries to entire right, title an	and request the Patent Office Officials in the United States and its territories and any and all o issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of my d interest in and to the same, for the sole use and behoof of said ASSIGNEE, its successors and end of the term for which said Letters Patent may be granted.
representatives, upostatements or other United States or for said application, or assigns and legal re	ree to make, execute and deliver to the ASSIGNEE, its successors, assigns and legal on request but at the expense of the ASSIGNEE, any and all papers, documents, affidavits, instruments that may be necessary in the prosecution of the aforesaid application, and of any reign applications, and of any divisions, reissues, continuations, substitutions and renewals of applications for reissues of said Letters Patents, and to aid the ASSIGNEE, its successors, presentatives in every way in protecting said invention as may be requested, provided, however to pay any expenses arising from extending such assistance.
LEGAL NAME OF	
Inventor: Benjam	nin B. Alvarez
Signature: <u>Bai</u> j	Date: 9/1/20
	4500 (400

JHU/APL Docket No.: 4508-6400

Title of Invention	CYCLONE AND METHODS OF MANUFACTURE THEREOF
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This declaration is directed to	The attached application, or United States application or PCT international application number 17/008,859 filed on September 1, 2020 .
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Thereby acknowle by fine or impriso	edge that any willful (also statement made in this declaration is punishable under 18 U.S.C. 1001 muent of not more than five (5) years, or both
Maryland and has ASSIGNED dead	Johns Hopkins University, a corporation organized and existing under the laws of the State of ing its principal place of business at Baltimore, Maryland, hereinafter referred to as the es to sequire the entire right, title and interest in and to said invention and to any Letters Patent ated there love in the United States and its territories and in any and all foreign countries.
to the ASSESSE and to all foreign contest for each	ORF: in consideration of my employment by the ASSIGNEE, I do hereby sell, assign and transfer the entire right, title and interest in and to said invention in the United States and its territories countries and the entire right, title and interest in and to any and all Letters Patent which may be seen in the United States and its territories and in any and all foreign countries and in and to any countries continuations, substitutions and renewals thereof
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	the formation execute and deliver to the ASSIGNEE, its successors, assigns and legal panets but at the expense of the ASSIGNEE, any and all papers, documents, afficiavits, a instruments that may be necessary in the prosecution of the oforesaid application, and of any resign applications, and of any divisions, reissues, continuations, substitutions and renewals of a applications for reissues of said Letters Patents, and to said the ASSIGNEE, its successors, applications in every way in protecting, said intention as may be requested, provided, however as applying a panets arising from executing such assistance.
CHOAL NAME C Inventor	s A Fauther
season //	14/4/15-11/11 000 15/4/4/12 2020
	2508-6400 BECAPE Docket No.

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LEGAL NAME OF	INVENTOR	
inventor: Kelly A	Yan Houten	
Signature////	Date: <u>1-2-2020</u>	
A Paris	JHU/APL Docket No.: 4508-6400	

Title of Invention	CYCLONE AND METHODS OF MANUFACTURE THEREOF	
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BINDING SUBSTITUTE FOR AN ORIGINAL, HANDWRITTEN SIGNATURE ON THIS DOCUMENT.		
LEGAL NAME AND SIGNATURE OF INVENTOR		
Inventor: Chri	stopher J. Rosenker	
Signature: Christo	pher J Rosenker Rosenker Rosenker Date: 2021.01.04 10:56:09-05'00' Date: 2021.01.04 10:56:09-05'00'	

RECORDED: 01/04/2021

JHU/APL Docket No.: 4508-6400