### 506664465 05/14/2021

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6711279

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

### **CONVEYING PARTY DATA**

Name	Execution Date
GUILLERMO A AMEER	05/27/2015
JIAN YANG	05/28/2015
CHENG SUN	05/22/2015
EVAN C BAKER	05/26/2015
HENRY O.T. WARE	05/26/2015
FAN ZHOU	05/26/2015
ROBERT VAN LITH	04/24/2017

### **RECEIVING PARTY DATA**

Name:	NORTHWESTERN UNIVERSITY
Street Address:	633 CLARK STREET
City:	EVANSTON
State/Country:	ILLINOIS
Postal Code:	60208

### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	17308825

### **CORRESPONDENCE DATA**

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Correspondent Name: DAVID W STAPLE

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ATTORNEY DOCKET NUMBER:	NWEST-34449.304
NAME OF SUBMITTER:	DAVID W STAPLE
SIGNATURE:	/DAVID W STAPLE/
DATE SIGNED:	05/14/2021

PATENT REEL: 056307 FRAME: 0128

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# Total Attachments: 11 source=2020-06-17\_34449-303\_exec\_assignment#page1.tif source=2020-06-17\_34449-303\_exec\_assignment#page2.tif source=2020-06-17\_34449-303\_exec\_assignment#page3.tif source=2020-06-17\_34449-303\_exec\_assignment#page4.tif source=2020-06-17\_34449-303\_exec\_assignment#page5.tif source=2020-06-17\_34449-303\_exec\_assignment#page6.tif source=2020-06-17\_34449-303\_exec\_assignment#page7.tif source=2020-06-17\_34449-303\_exec\_assignment#page8.tif source=2020-06-17\_34449-303\_exec\_assignment#page9.tif source=2020-06-17\_34449-303\_exec\_assignment#page10.tif source=2020-06-17\_34449-303\_exec\_assignment#page11.tif

ASSIGNMENT

Serial No:

62/154,499

Filing Date:

April 29, 2015

Title of U.S. Patent Application: 3D PRINTING OF BIOMEDICAL IMPLANTS

For good and valuable consideration, the receipt and sufficiency of which are hereby agreed, each of the undersigned hereby assigns to Northwestern University, an Illinois not-for-profit corporation, having a place of business at 633 Clark Street, Evanston, Illinois 60208 and its successors and assigns ("Assignee") the entire right, title and interest in and to the inventions of such undersigned disclosed in the application listed above, and in any and all other applications anywhere in the world which the undersigned may file and/or be named as an inventor of, solely or jointly, on said inventions, in any and all patents which may be obtained on any of said applications and in any and all reissues, reexaminations, supplemental examinations, inter partes reviews, oppositions, post-grant reviews, supplementary protection certificates and/or extensions thereof, including without limitation, the right to bring suit and to claim and retain all damages and/or seek other remedies for the past, present and future infringement of any of the foregoing, the right of priority, including without limitation to claim priority benefit of or to said patent applications, and request the Commissioner for Patents in the United States and similar authorities outside the United States to issue said patents to and in the name of the Assignee.

Each of the undersigned states that the application listed above is or was made or authorized to be made by him or her. Each of the undersigned believes himself or herself to be the original inventor or a joint inventor with another undersigned of a claimed invention in the application listed above. Each of the undersigned acknowledges that any willful false statement made by him or her in this paragraph is punishable under 18 U.S.C. §1001 by fine or imprisonment of not more than five years, or both.

Except in favor of Assignee, each of the undersigned warrants that: (i) he or she is the owner of all its rights, titles and interests herein assigned and has the right to make this unconditional and irrevocable assignment to Assignee without obtaining any approval or permission of a third party; and (ii) there are no outstanding encumbrances, liens, prior assignments, licenses, or other obligations or restrictions on the rights, titles and interests herein assigned.

Page 1 of 7

Upon the request of Assignee and at no expense to the undersigned, each of the undersigned hereby agrees to execute any and all applications on said inventions, including without limitation for the reissue, reexamination, supplementary protection certificate or extension thereof and any oath, declaration or affidavit relating thereto that said Assignee may deem necessary or expedient, and to cooperate to the best of the ability of the undersigned with and perform any and all affirmative acts requested by Assignee to prepare, file, prosecute, maintain, defend, enforce and vest in Assignee the rights, titles and interests assigned herein, including without limitation, preparing and executing statements and giving and producing evidence in support thereof, whereby said rights, titles and interests will be held and enjoyed by said Assignee to the full end of the term for which said patents may be granted as fully and entirely as the same would have been held and enjoyed by the undersigned if this assignment had not been made.

NOTARY PUBLIC, STATE OF ILLINOIS MY COMMISSION EXPIRES 5/21/2017

ASSIGNEE: Northwestern University:	
On behalf of Northwestern University, Assignee, the authorized signatory below, hereby confirms	
Assignee's acceptance of all rights, privileges, titles and interests conveyed by this Assignment.	
Signature: Date: 5/09//S Name: Bevefly R. Milligan Title: Invention Specialist, Innovation and New Ventures Office (INVO)	
Undersigned (ASSIGNORS):  5-27-15	
Inventor Name: Guillermo A. Ameer DATE	
State ofss.	
County of Covk	
On this day of 2015, before me, a Notary Public in and for the County and State aforesaid, appeared, to my personally known to be the same person whose name is	
subscribed to the foregoing instrument, and acknowledged that he or she executed said instrument as or her free and voluntary act and for the uses and nurposes therein expressed.	
NOTARY PUBLIC	
[NOTARY SEAL]  STUDY  NOTARY PUBLIC  My Commission Expires: 5/51/50/	7
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Page 2 of 7

Senal No:	62/154,499				
Filing Date:	April 29, 2015		Α,		erit
Title of U.S. F	Patent Application:	3D PRINTING (	)F BROMEDICAL	IMPLANTS	
Undersigned i	(ASSIGNORS) com	timued:	er de		
,	AXO	5/2	8/5		*
Inventor Nan	ne Jian Yang	D	ATE		
State of	hanghai	SS.			
County of				generalis neg	
County and S	State aforesaid, appo the forceoing insir	sared, to me perso ument, and ackno	M 26 M awaal ville	t Notary Public in and e same person whose he executed said instr ressed.	53800580-355
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(NOTARY	SEAL]			oires:	
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			44		

Page 3 of 7

PATENT REEL: 056307 FRAME: 0132

上海中村江布区年一十年

Serial No: 62/154,499

Filing Date: April 29, 2015

Title of U.S. Patent Application: 3D PRINTING OF BIOMEDICAL IMPLANTS

Undersigned (ASSIGNORS) continued:

| State of | State

OFFICIAL SEAL
MOLLY E SCANLON
NOTARY PUBLIC - STATE OF BLINDIS
MY COMMISSION EXPIRES 10/23/15

Serial No:

62/154,499

Filing Date:

April 29, 2015

Title of U.S. Patent Application: 3D PRINTING OF BIOMEDICAL IMPLANTS

Undersigned (ASSIGNORS) continued:

5/24/2015 DATE

Inventor Name: Evan C. Baker

State of LAVOIS

County of \_\_\_(00)

On this 24 day of 420 , 2015, before me, a Notary Public in and for the County and State aforesaid, appeared, to me personally known to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he or she executed said instrument as his

or her free and voluntary act and for the uses and purposes therein expressed.

[NOTARY SEAL]

NOTARY PUBLIC

My Commission Expires: 10/75//4

OFFICIAL SEAL ANA MARIA ANDRAS NOTARY PUBLIC - STATE OF ILLINOIS MY COMMISSION EXPINES 10/23/16

Serial No: 62/154,499

Filing Date: April 29, 2015

Title of U.S. Patent Application

Title of U.S. Patent Application: 3D PRINTING OF BIOMEDICAL IMPLANTS

Undersigned (ASSIGNORS) continued:

A On ). when	5/26/2015
Inversor Name: Henry O.T. Ware	DATE

or her free and voluntary act and for the uses and purposes therein expressed.

State of Illmors	
County of	88.
On thisday of	, 2015, before me, a Notary Public in and for the
County and State aforesaid, app	peared, to me personally known to be the same person whose name is
subscribed to the foregoing inst	rument, and acknowledged that he or she executed said instrument as his

NOTARY PUBLIC

[NOTARY SEAL]

My Commission Expires: 10/83/16

OFFICIAL SEAL
MOLLY E SCANLON
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES 1073/18

Serial No: 62/154,499 Filing Date: April 29, 2015

Title of U.S. Patent Application: 3D PRINTING OF BIOMEDICAL IMPLANTS

Undersigned (ASSIGNORS) continued:

05/26/2015 DATE Inventor Name: Fan Zhou

State of California County of Los Logeles

On this Za day of Aay 2015, before me, a Notary Public in and for the County and State aforesaid, appeared, to me personally known to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he or she executed said instrument as his or her free and voluntary act and for the uses and purposes therein expressed.

> PHILLIP ANDREW FAHRNKOPF My Comm. Expres Jun. 26, 2015

[NOTARY SEAL]

My Commission Expires: June 24, 2015

### ASSIGNMENT

U.S. Serial No: PCT/US2016/029774

Filing Date: April 28, 2016

Inventor: Robert Van Lith

Title of Patent Application: 3D PRINTING OF BIOMEDICAL IMPLANTS

For good and valuable consideration, the receipt and sufficiency of which are hereby agreed, the undersigned hereby assigns to Northwestern University, an Illinois not-for-profit corporation, having a place of business at 633 Clark Street, Evanston, Illinois 60208 and its successors and assigns ("Assignee") the entire right, title and interest in and to the inventions of such undersigned disclosed in the application listed above, and in any and all other applications anywhere in the world which the undersigned may file and/or be named as an inventor of, solely or jointly, on said inventions, in any and all patents which may be obtained on any of said applications and in any and all reissues, reexaminations, supplemental examinations, inter partes reviews, oppositions, post-grant reviews, supplementary protection certificates and/or extensions thereof, including without limitation, the right to bring suit and to claim and retain all damages and/or seek other remedies for the past, present and future infringement of any of the foregoing, the right of priority, including without limitation to claim priority benefit of or to said patent applications, and request the Commissioner for Patents in the United States and similar authorities outside the United States to issue said patents to and in the name of the Assignee.

The undersigned states that the application listed above is or was made or authorized to be made by him or her. The undersigned believes himself or herself to be the original inventor of a claimed invention in the application listed above. The undersigned acknowledges that any willful false statement made by him or her in this paragraph is punishable under 18 U.S.C. §1001 by fine or imprisonment of not more than five years, or both.

Except in favor of Assignee, the undersigned warrants that; (i) he or she is the owner of all its rights, titles and interests herein assigned and has the right to make this unconditional and irrevocable assignment to Assignee without obtaining any approval or permission of a third party; and (ii) there are no outstanding encumbrances, liens, prior assignments, licenses, or other obligations or restrictions on the rights, titles and interests herein assigned.

Page 1 of 3

Upon the request of Assignee and at no expense to the undersigned, the undersigned hereby agrees to execute any and all applications on said inventions, including without limitation for the reissue, reexamination, supplementary protection certificate or extension thereof and any oath, declaration or affidavit relating thereto that said Assignee may deem necessary or expedient, and to cooperate to the best of the ability of the undersigned with and perform any and all affirmative acts requested by Assignee to prepare, file, prosecute, maintain, defend, enforce and vest in Assignee the rights, titles and interests assigned herein, including without limitation, preparing and executing statements and giving and producing evidence in support thereof, whereby said rights, titles and interests will be held and enjoyed by said Assignee to the full end of the term for which said patents may be granted as fully and entirely as the same would have been held and enjoyed by the undersigned if this assignment had not been made.

Undersigned (ASSIGNOR):	<b>8</b> 4/24/2017
Inventor Name: Robert Van Lith  State of //assa.chase/f5 ss.  County ofEsse.x	See collachell Page
On this <u>Z4 / L</u> day of <u>Ayy. /</u> County and State aforesaid, appeared,	. 20/1, before me, a Notary Public in and for the to me personally known to be the same person whose name is and acknowledged that he or she executed said instrument as his or ses and purposes therein expressed.
	NOTARY PUBLIC
(NOTARY SEAL)	My Commission Expires:
	(continued on next page)

Page 2 of 3

# WITNESS PAGE - EXECUTION OF ASSIGNMENT

# NORTHWESTERN UNIVERSITY REFERENCE NUMBER: NU2015-058-02

Serial No:	PCT/US2016/029774
Filing Date:	April 28, 2016
Title of U.S. Pa	ient Application: 3D PRINTING OF BIOMEDICAL IMPLANTS
	(Signature)
INVENTOR PI	RINTED NAME: ROBERT VAN LITH
DATE OF EXE	ECUTION: 4/24/20/7
FIRST WILL	
47C	(Signature)
Printed Name:	<u>Kuloyaporn Chuneh</u> amra i
Witness Date: _	
Home Address:	
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U.Ç.A.	
SECOND WIT	INESS:
	(Signature)
Printed Name:	Lomery Bestigannet
Witness Date: _	4/20/20/2
Home Address:	Little Wig 225
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3 of 3

U.S. Serial No: PCT/US2016/029774

Filing Date: April 28, 2016 Inventor: Robert Van Lith

Title of Patent Application: 3D PRINTING OF BIOMEDICAL IMPLANTS

ASSIGNEE ACCEPTANCE: Northwestern University

On behalf of Northwestern University, Assignee, the authorized signatory below, hereby confirms Assignee's acceptance of all rights, privileges, titles and interests conveyed by this Assignment.

Authorized Signature:

\* Date:

Printed Name

Boverly R. Milligan/Invention Specialist of

Nicole A. Janovick, Ph.D., J.D., Invention Manager

Department: Innovation and New Ventures Office (INVO)

**RECORDED: 05/14/2021**