

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5928274

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
CHRISTOPHER MONROE	08/21/2019
CAROLINE FIGGATT	08/26/2018
NORBERT LINKE	08/02/2018
SHANTANU DEBNATH	08/01/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	UNIVERSITY OF MARYLAND, COLLEGE PARK
<b>Street Address:</b>	7999 REGENTS DRIVE
<b>Internal Address:</b>	2130 MITCHELL BUILDING
<b>City:</b>	COLLEGE PARK
<b>State/Country:</b>	MARYLAND
<b>Postal Code:</b>	20742-5213
<b>PROPERTY NUMBERS Total: 2</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	62701128
<b>Application Number:</b>	16514099
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(301)314-9502
<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>	3014058410
<b>Email:</b>	patents@umd.edu
<b>Correspondent Name:</b>	UNIVERSITY OF MARYLAND, OTC
<b>Address Line 1:</b>	2130 MITCHELL BUILDING, 7999 REGENTS DRIVE
<b>Address Line 2:</b>	ATTN: CHARLENE THOMPSON
<b>Address Line 4:</b>	COLLEGE PARK, MARYLAND 20742-5213
<b>ATTORNEY DOCKET NUMBER:</b>	PS-2018-104
<b>NAME OF SUBMITTER:</b>	CHARLENE E. THOMPSON
<b>SIGNATURE:</b>	/Charlene E. Thompson/
<b>DATE SIGNED:</b>	01/24/2020

**Total Attachments: 4**

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source=PS-2018-104 Assignments Counter-signed DEBNATH FIGGATT LINKE#page1.tif

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## INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT

THIS AGREEMENT by and between: **Christopher Monroe** an individual having a principal residence at **10206 Brightstone Place Ellicott City MD 21042** (hereinafter referred to as "Assignor"), and the University of Maryland, College Park (hereinafter referred to as "Assignee").

### WITNESSETH:

WHEREAS, Assignor has created and developed certain inventions, improvements, discoveries, software, or other intellectual property, as described in Assignee Invention Disclosure No. **PS-2018-104** entitled

### **Multi-Qubit Control with AOMs**

and for U.S. Provisional Patent Application No. **62/701128** filed **July 20, 2018** and for any and all application(s) for Letters Patent in the United States of America and throughout the world, and all divisional, continuation, continuation-in-part, substitutions, renewals, reissues, extensions and other applications pertaining to the foregoing which have or shall be filed in the United States, any foreign country and other jurisdictions (hereinafter collectively referred to as the "Works"); and

WHEREAS, Assignor agrees that, to the extent the Works are, by operation of law or otherwise, not deemed to be works made for hire within the meaning of the Copyright Act, (Title 17, U.S.C. Section 101, et seq.), Assignor agrees to assign all of his/her right, title and interest in and to the Works to Assignee, and further agrees to take such further actions and to execute such further instruments that Assignee might find reasonable or necessary to perfect or to evidence more clearly its right and claim to exclusive ownership of all of Assignor's worldwide intellectual property interests respecting the Works; and

WHEREAS, Assignor and Assignee now wish to perfect and to evidence more clearly the right and claim of Assignee to exclusive ownership of all of Assignor's intellectual property interests respecting the Works.

NOW, THEREFORE, in consideration of the rights granted to Assignor under the University of Maryland Policy on Intellectual Property, as approved by the Board of Regents of the University of Maryland, and as amended by them from time to time, and other good and valuable consideration furnished by Assignee to Assignor, the receipt and sufficiency of which are hereby acknowledged, Assignor and Assignee, intending to be legally bound, do hereby covenant and agree as follows:

### **Section 1. Assignment of the Works.**

Assignor hereby assigns, transfers and conveys to Assignee, its successors, assigns or other legal representatives, without the necessity of any consideration in addition to that recited herein, all of Assignor's right, title and interest in and to the Works. This assignment shall be operative with respect to all intellectual property rights in and to the Works, including (without limitation), (i) all copyrights in the United States and elsewhere, including all rights of registration, publication, renewal, rights to create derivative works and all other rights incident to copyright ownership, for the residue now unexpired of the present term of any and all such copyrights and any term thereafter granted during which the Works are entitled to copyright; (ii) all trade secrets, inventions, know-how, ideas and confidential information embodied or reflected in the Works, including any shop rights, for the longest period of protection accorded to such interest under applicable law; and (iii) all patent rights in the United States and elsewhere, including all rights of registration, publication, renewal, and all other works incident to copyright ownership, for the longest period of protection accorded to such interests under applicable law.

### **Section 2. University of Maryland Policy on Intellectual Property.**

The assignment of rights perfected hereunder shall be governed by the University of Maryland Policy on Intellectual Property as approved by the Board of Regents of the University of Maryland, and as amended by them from time to time. Royalty income shall be allocated as set forth in this policy.

### **Section 3. Warranty.**


Assignor warrants and covenants that he/she is an author or inventor of the Works and that as of the date of this Assignment, has taken no action respecting the Works which purports or attempts to transfer or encumber any right, title or interest in or to the Works to any other party; and covenants not to take such action in the future.

### **Section 4. Jurisdiction.**

The validity, interpretation, and effect of this agreement shall be governed by the laws of the State of Maryland and of the United States of America. Any legal proceedings involving claims or disputes regarding this agreement shall be brought in the appropriate court in the State of Maryland.

WHEREAS, the parties have caused this Assignment to be executed on the dates below.

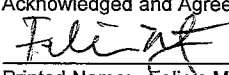
### **ASSIGNOR**

Agreed to by: 

Printed Name: **Christopher Monroe**  
Inventor

Date: 8/21/2019

### **ASSIGNEE (University of Maryland)**

Acknowledged and Agreed to by: 

Printed Name: **Felicia Metz**  
Title: Acting Director

Date: August 21, 2019

## INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT

THIS AGREEMENT by and between: **Shantanu Debnath** an individual having a principal residence at **484 37th St Apt 303** **Oakland** **CA 94609** (hereinafter referred to as "Assignor"), and the University of Maryland, College Park (hereinafter referred to as "Assignee").

### WITNESSETH:

WHEREAS, Assignor has created and developed certain inventions, improvements, discoveries, software, or other intellectual property, as described in Assignee Invention Disclosure No. **PS-2018-104** entitled

### **Multi-Qubit Control with AOMs**

and for U.S. Provisional Patent Application No. **62/701128** filed July 20, 2018 and for any and all application(s) for Letters Patent in the United States of America and throughout the world, and all divisional, continuation, continuation-in-part, substitutions, renewals, reissues, extensions and other applications pertaining to the foregoing which have or shall be filed in the United States, any foreign country and other jurisdictions (hereinafter collectively referred to as the "Works"); and

WHEREAS, Assignor agrees that, to the extent the Works are, by operation of law or otherwise, not deemed to be works made for hire within the meaning of the Copyright Act, (Title 17, U.S.C. Section 101, et seq.), Assignor agrees to assign all of his/her right, title and interest in and to the Works to Assignee, and further agrees to take such further actions, and to execute such further instruments that Assignee might find reasonable or necessary to perfect or to evidence more clearly its right and claim to exclusive ownership of all of Assignor's worldwide intellectual property interests respecting the Works; and

WHEREAS, Assignor and Assignee now wish to perfect and to evidence more clearly the right and claim of Assignee to exclusive ownership of all of Assignor's intellectual property interests respecting the Works.

NOW, THEREFORE, in consideration of the rights granted to Assignor under the University of Maryland Policy on Intellectual Property, as approved by the Board of Regents of the University of Maryland, and as amended by them from time to time, and other good and valuable consideration furnished by Assignee to Assignor, the receipt and sufficiency of which are hereby acknowledged, Assignor and Assignee, intending to be legally bound, do hereby covenant and agree as follows:

### **Section 1. Assignment of the Works.**

Assignor hereby assigns, transfers and conveys to Assignee, its successors, assigns or other legal representatives, without the necessity of any consideration in addition to that recited herein, all of Assignor's right, title and interest in and to the Works. This assignment shall be operative with respect to all intellectual property rights in and to the Works, including (without limitation), (i) all copyrights in the United States and elsewhere, including all rights of registration, publication, renewal, rights to create derivative works and all other rights incident to copyright ownership, for the residue now unexpired of the present term of any and all such copyrights and any term thereafter granted during which the Works are entitled to copyright; (ii) all trade secrets, inventions, know-how, ideas and confidential information embodied or reflected in the Works, including any shop rights, for the longest period of protection accorded to such interest under applicable law; and (iii) all patent rights in the United States and elsewhere, including all rights of registration, publication, renewal, and all other works incident to copyright ownership, for the longest period of protection accorded to such interests under applicable law.

### **Section 2. University of Maryland Policy on Intellectual Property.**

The assignment of rights perfected hereunder shall be governed by the University of Maryland Policy on Intellectual Property as approved by the Board of Regents of the University of Maryland, and as amended by them from time to time. Royalty income shall be allocated as set forth in this policy.

### **Section 3. Warranty.**

Assignor warrants and covenants that he/she is an author or inventor of the Works and that as of the date of this Assignment, has taken no action respecting the Works which purports or attempts to transfer or encumber any right, title or interest in or to the Works to any other party; and covenants not to take such action in the future.

### **Section 4. Jurisdiction.**

The validity, interpretation, and effect of this agreement shall be governed by the laws of the State of Maryland and of the United States of America. Any legal proceedings involving claims or disputes regarding this agreement shall be brought in the appropriate court in the State of Maryland.

WHEREAS, the parties have caused this Assignment to be executed on the dates below.

### **ASSIGNOR**

Agreed to by: Shantanu Debnath

Printed Name: **Shantanu Debnath**  
Inventor

Date: 8/1/2018

**ASSIGNEE (University of Maryland)**  
Acknowledged and Agreed to by:

Felicia Metz  
Printed Name: **Felicia Metz**  
Title: Associate Director

Date: August 19, 2019

## INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT

THIS AGREEMENT by and between: **Caroline Figgatt** an individual having a principal residence at **10109 Lorain Avenue Silver Spring MD 20901** (hereinafter referred to as "Assignor"), and the University of Maryland, College Park (hereinafter referred to as "Assignee").

### WITNESSETH:

WHEREAS, Assignor has created and developed certain inventions, improvements, discoveries, software, or other intellectual property, as described in Assignee Invention Disclosure No. **PS-2018-104** entitled

#### **Multi-Qubit Control with AOMs**

and for U.S. Provisional Patent Application No. **62/701128** filed **July 20, 2018** and for any and all application(s) for Letters Patent in the United States of America and throughout the world, and all divisional, continuation, continuation-in-part, substitutions, renewals, reissues, extensions and other applications pertaining to the foregoing which have or shall be filed in the United States, any foreign country and other jurisdictions (hereinafter collectively referred to as the "Works"); and

WHEREAS, Assignor agrees that, to the extent the Works are, by operation of law or otherwise, not deemed to be works made for hire within the meaning of the Copyright Act, (Title 17, U.S.C. Section 101, et seq.), Assignor agrees to assign all of his/her right, title and interest in and to the Works to Assignee, and further agrees to take such further actions and to execute such further instruments that Assignee might find reasonable or necessary to perfect or to evidence more clearly its right and claim to exclusive ownership of all of Assignor's worldwide intellectual property interests respecting the Works; and

WHEREAS, Assignor and Assignee now wish to perfect and to evidence more clearly the right and claim of Assignee to exclusive ownership of all of Assignor's intellectual property interests respecting the Works.

NOW, THEREFORE, in consideration of the rights granted to Assignor under the University of Maryland Policy on Intellectual Property, as approved by the Board of Regents of the University of Maryland, and as amended by them from time to time, and other good and valuable consideration furnished by Assignee to Assignor, the receipt and sufficiency of which are hereby acknowledged, Assignor and Assignee, intending to be legally bound, do hereby covenant and agree as follows:

#### **Section 1. Assignment of the Works.**

Assignor hereby assigns, transfers and conveys to Assignee, its successors, assigns or other legal representatives, without the necessity of any consideration in addition to that recited herein, all of Assignor's right, title and interest in and to the Works. This assignment shall be operative with respect to all intellectual property rights in and to the Works, including (without limitation), (i) all copyrights in the United States and elsewhere, including all rights of registration, publication, renewal, rights to create derivative works and all other rights incident to copyright ownership, for the residue now unexpired of the present term of any and all such copyrights and any term thereafter granted during which the Works are entitled to copyright; (ii) all trade secrets, inventions, know-how, ideas and confidential information embodied or reflected in the Works, including any shop rights, for the longest period of protection accorded to such interest under applicable law; and (iii) all patent rights in the United States and elsewhere, including all rights of registration, publication, renewal, and all other works incident to copyright ownership, for the longest period of protection accorded to such interests under applicable law.

#### **Section 2. University of Maryland Policy on Intellectual Property.**

The assignment of rights perfected hereunder shall be governed by the University of Maryland Policy on Intellectual Property as approved by the Board of Regents of the University of Maryland, and as amended by them from time to time. Royalty income shall be allocated as set forth in this policy.

#### **Section 3. Warranty.**

Assignor warrants and covenants that he/she is an author or inventor of the Works and that as of the date of this Assignment, has taken no action respecting the Works which purports or attempts to transfer or encumber any right, title or interest in or to the Works to any other party; and covenants not to take such action in the future.

#### **Section 4. Jurisdiction.**

The validity, interpretation, and effect of this agreement shall be governed by the laws of the State of Maryland and of the United States of America. Any legal proceedings involving claims or disputes regarding this agreement shall be brought in the appropriate court in the State of Maryland.

WHEREAS, the parties have caused this Assignment to be executed on the dates below.

#### ASSIGNOR

Agreed to by: \_\_\_\_\_

Printed Name: Caroline Figgatt  
Inventor

Date: 08/26/2018

#### ASSIGNEE (University of Maryland)

Acknowledged and Agreed to by: \_\_\_\_\_

Printed Name: Felicia Metz  
Title: Associate Director

Date: August 19, 2019

## INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT

THIS AGREEMENT by and between: **Norbert Linke** an individual having a principal residence at **8400 Greenspring Avenue Stevenson MD 21153** (hereinafter referred to as "Assignor"), and the University of Maryland, College Park (hereinafter referred to as "Assignee");

### WITNESSETH:

WHEREAS, Assignor has created and developed certain inventions, improvements, discoveries, software, or other intellectual property, as described in Assignor's invention disclosure No. **PS-2016-104** entitled

### Multi-Qubit Control with AOMs

and for U.S. Provisional Patent Application No. 62/701128 filed July 20, 2018 and for any and all application(s) for Letters Patent in the United States of America and throughout the world, and all divisional, continuation, continuation-in-part, substitutions, renewals, reissues, extensions and other applications pertaining to the foregoing which have or shall be filed in the United States, any foreign country and other jurisdictions (hereinafter collectively referred to as the "Works"); and

WHEREAS, Assignor agrees that, to the extent the Works are, by operation of law or otherwise, not deemed to be works made for hire within the meaning of the Copyright Act, (Title 17, U.S.C. Section 101, et seq.), Assignor agrees to assign all of his/her right, title and interest in and to the Works to Assignee, and further agrees to take such further actions and to execute such further instruments that Assignee might find reasonable or necessary to perfect or to evidence more clearly its right and claim to exclusive ownership of all of Assignor's worldwide intellectual property interests respecting the Works; and

WHEREAS, Assignor and Assignee now wish to perfect and to evidence more clearly the right and claim of Assignee to exclusive ownership of all of Assignor's intellectual property interests respecting the Works.

NOW, THEREFORE, in consideration of the rights granted to Assignor under the University of Maryland Policy on Intellectual Property, as approved by the Board of Regents of the University of Maryland, and as amended by them from time to time, and other good and valuable consideration furnished by Assignee to Assignor, the receipt and sufficiency of which are hereby acknowledged, Assignor and Assignee, intending to be legally bound, do hereby covenant and agree as follows:

### Section 1. Assignment of the Works.

Assignor hereby assigns, transfers and conveys to Assignee, its successors, assigns or other legal representatives, without the necessity of any consideration in addition to that recited herein, all of Assignor's right, title and interest in and to the Works. This assignment shall be operative with respect to all intellectual property rights in and to the Works, including (without limitation), (i) all copyrights in the United States and elsewhere, including all rights of registration, publication, renewal, rights to create derivative works and all other rights incident to copyright ownership, for the residue now unexpired of the present term of any and all such copyrights and any term thereafter granted during which the Works are entitled to copyright; (ii) all trade secrets, inventions, know-how, ideas and confidential information embodied or reflected in the Works, including any shop rights, for the longest period of protection accorded to such interest under applicable law; and (iii) all patent rights in the United States and elsewhere, including all rights of registration, publication, renewal, and all other works incident to copyright ownership; for the longest period of protection accorded to such interests under applicable law.

### Section 2. University of Maryland Policy on Intellectual Property.

The assignment of rights perfected hereunder shall be governed by the University of Maryland Policy on Intellectual Property as approved by the Board of Regents of the University of Maryland, and as amended by them from time to time. Royalty income shall be allocated as set forth in this policy.

### Section 3. Warranty.

Assignor warrants and covenants that he/she is an author or inventor of the Works and that as of the date of this Assignment, has taken no action respecting the Works which purports or attempts to transfer or encumber any right, title or interest in or to the Works to any other party; and covenants not to take such action in the future.

### Section 4. Jurisdiction.

The validity, interpretation, and effect of this agreement shall be governed by the laws of the State of Maryland and of the United States of America. Any legal proceedings involving claims or disputes regarding this agreement shall be brought in the appropriate court in the State of Maryland.

WHEREAS, the parties have caused this Assignment to be executed on the dates below:

### ASSIGNOR

Agreed to by: N. Linke

Printed Name: Norbert Linke  
Inventor

Date: 08/02/2018

### ASSIGNEE (University of Maryland)

Acknowledged and Agreed to by:

Felicia Metz

Printed Name: Felicia Metz  
Title: Associate Director

Date: August 19, 2019