

# PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
<b>CONVEYING PARTY DATA</b>													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Name</th> <th style="width: 30%;">Execution Date</th> </tr> </thead> <tbody> <tr> <td>Wilfred M. Bates</td> <td>07/20/2009</td> </tr> <tr> <td>Bo Huang</td> <td>07/20/2009</td> </tr> <tr> <td>Wenqin Wang</td> <td>07/20/2009</td> </tr> <tr> <td>Xiaowei Zhuang</td> <td>07/20/2009</td> </tr> <tr> <td>Howard Hughes Medical Institute</td> <td>11/20/2008</td> </tr> </tbody> </table>		Name	Execution Date	Wilfred M. Bates	07/20/2009	Bo Huang	07/20/2009	Wenqin Wang	07/20/2009	Xiaowei Zhuang	07/20/2009	Howard Hughes Medical Institute	11/20/2008
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Name:</td> <td>President and Fellows of Harvard College</td> </tr> <tr> <td>Street Address:</td> <td>17 Quincy Street</td> </tr> <tr> <td>City:</td> <td>Cambridge</td> </tr> <tr> <td>State/Country:</td> <td>MASSACHUSETTS</td> </tr> <tr> <td>Postal Code:</td> <td>02138</td> </tr> </table>		Name:	President and Fellows of Harvard College	Street Address:	17 Quincy Street	City:	Cambridge	State/Country:	MASSACHUSETTS	Postal Code:	02138		
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<b>PROPERTY NUMBERS Total: 2</b>													
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<b>CORRESPONDENCE DATA</b>													
<p>Fax Number: (617)495-9568</p> <p><i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: (617) 495-3058</p> <p>Email: denlyn_atherton@harvard.edu</p> <p>Correspondent Name: Anne Craig</p> <p>Address Line 1: 1350 Massachusetts Ave</p> <p>Address Line 2: Harvard University, Office of Tech. Dev.</p> <p>Address Line 4: Cambridge, MASSACHUSETTS 02138</p>													
ATTORNEY DOCKET NUMBER:	3114												

OP \$80.00 US0813915

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**PATENT**  
**REEL: 023028 FRAME: 0713**

NAME OF SUBMITTER:

Anne Craig

**Total Attachments: 9**

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3114  
Zhuang

November 20, 2008

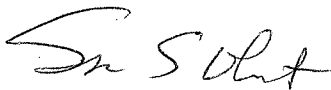
Xiaowei Zhuang, DPhil  
Investigator  
Howard Hughes Medical Institute  
Harvard University  
Department of Chemistry and Chemical Biology  
12 Oxford Street  
Cambridge, MA 02138

Dear Dr. Zhuang:

I have received the executed form assigning your rights in the invention entitled "Sub-Diffraction Limit Image Resolution in Three Dimensions," which is set forth on the invention disclosure dated December 13, 2007 (the "Invention"). HHMI has adopted the practice of appointing you as HHMI's agent for the purpose of assigning its rights in the Invention to President and Fellows of Harvard College ("Institution"), as required under the collaborative arrangement between HHMI and Institution. Enclosed with this letter is an executed document appointing you as HHMI's agent for this purpose. I am sending a copy of the assignment(s), this letter and its enclosure to Denlyn K. Atherton at Institution.

As you are probably aware, you will be asked to execute an assignment of rights to Institution in the event a patent application is filed with respect to the Invention. To ensure that HHMI's rights are properly assigned to Institution, it is important that you have the enclosed executed document with you when you execute that assignment and that, after your signature, you write in "for herself and as agent for the Howard Hughes Medical Institute." If you have any questions at all about this procedure or your role in it, please contact me.

Sincerely,



Sue S. Ohata  
Manager of Intellectual Property

Enclosure

cc: Ms. Denlyn K. Atherton

APPOINTMENT OF INVESTIGATOR AS AGENT

Appointment by the Howard Hughes Medical Institute ("HHMI") of Xiaowei Zhuang, DPhil, an employee of HHMI, as its agent for the purpose of assigning certain rights to President and Fellows of Harvard College ("Institution").

WHEREAS, HHMI and Institution collaborate in the active conduct of medical research pursuant to an Agreement between them dated as of April 14, 2003 (the "Agreement");

WHEREAS, pursuant to the Agreement, HHMI has agreed to assign to Institution HHMI's rights with respect to inventions, discoveries, improvements, and other intellectual property, whether patentable or copyrightable (each a "Subject Property"), conceived or reduced to practice in the course of the research program conducted under the Agreement by employees of HHMI;

WHEREAS, research conducted pursuant to the Agreement by Xiaowei Zhuang, DPhil while employed by HHMI at Institution has resulted in the invention of a certain Subject Property entitled "Sub-Diffraction Limit Image Resolution in Three Dimensions," which is the subject of a patent application entitled "Sub-Diffraction Limit Image Resolution in Three Dimensions" filed in the U.S. Patent and Trademark Office on December 21, 2007 with Serial Number 61/008,661 (the "Invention"), and the Invention is a Subject Property; and

WHEREAS, HHMI wishes Xiaowei Zhuang, DPhil to act as its agent for the purpose of assigning to Institution the rights HHMI has in the Invention by reason of the research program conducted at Institution.

NOW THEREFORE, HHMI hereby appoints Xiaowei Zhuang, DPhil as its agent for the purpose of assigning the rights HHMI has or may acquire in the Invention by reason of the research program conducted at Institution to Institution in accordance with and subject to the conditions of the Agreement.

Executed: November 20, 2008


HOWARD HUGHES MEDICAL INSTITUTE

By:

  
Jack E. Dixon, PhD

Vice President and Chief Scientific Officer

ATTESTED:

  
Craig A. Alexander  
Vice President and General Counsel

Harvard 3114  
HHMI 04049

## ASSIGNMENT

Assignment made 17 November, 2008 by Xiaowei Zhuang, DPhil ("Inventor") to the Howard Hughes Medical Institute, a Delaware corporation ("HHMI").

### Recitals

WHEREAS, Inventor is an employee of HHMI and, as a condition of her employment, has signed the Agreement appended to HHMI's Policy on Intellectual Property (the "Intellectual Property Agreement");

WHEREAS, pursuant to the Intellectual Property Agreement, Inventor has agreed (a) to assign to HHMI all rights she may acquire in any invention, discovery, improvement, or other intellectual property, whether or not patentable or copyrightable, developed directly or indirectly as a result of a program of research financed by HHMI funds or funds under the control of HHMI (each a "Subject Property") and (b) to execute any agreements that may be desired by HHMI in connection with such assignment;

WHEREAS, Inventor has, alone or with others invented "Sub-Diffraction Limit Image Resolution in Three Dimensions" which may be the subject of a patent application (the "Invention"), and the Invention is a Subject Property; and

WHEREAS, Inventor seeks to make a formal assignment of her interest in the Invention to HHMI, and HHMI desires the execution of a formal assignment of all of Inventor's right, title, and interest in the Invention.

NOW, THEREFORE, in consideration of the promises contained in and the acts performed and to be performed pursuant to the Intellectual Property Agreement and of other good and valuable consideration, the receipt of which is hereby acknowledged by Inventor, Inventor agrees as follows:

1. Assignment. Inventor hereby assigns to HHMI her entire right, title, and interest in the Invention; any United State patent applications and all corresponding foreign patent applications which are directed to the Invention (including, without limitation, the patent application entitled "Sub-Diffraction Limit Image Resolution in Three Dimensions" filed in the United States Patent and Trademark Office on December 21, 2007 with Serial Number 61/008,661), and any and all patents issued therefrom; all United States or foreign division and continuation applications based on any of the foregoing, and any and all patents issued therefrom; and all claims which are directed to the Invention and which may be contained in continuation-in-part applications or in patents which issue therefrom.

2. Cooperation. Inventor agrees to execute upon request such further assignments, documents, and other instruments as may be necessary or desirable to assign Inventor's entire right, title and interest in the Invention to HHMI and to assist HHMI (or others at the direction of HHMI) in applying for, obtaining, and enforcing patents, copyrights, or other rights in the United States and in any foreign country with respect to the Invention.

3. Parties. The terms and provisions of the Assignment shall inure to the benefit of HHMI and its successors and assigns and shall be binding on the Inventor and her heirs, personal representatives and assigns.

4. Warranty. Inventor warrants and represents that she has not entered into any assignment, contract, or understanding in conflict herewith, and that there is no other person or entity whose consent is required in order for the Inventor to make the assignment contained herein.

Inventor:

Xiaowei Zhuang, DPhil

Commonwealth of Massachusetts

County of Middlesex

Then personally appeared before me the above-named Xiaowei Zhuang, DPhil and acknowledged that she executed the foregoing instrument in her authorized capacity this 17 day of NOVEMBER, 2008

Notary Public:

John L. Randazzo  
John L. RANDAZZO  
(print name)

My Commission Expires: APRIL 30, 2010

Harvard 3114  
HHMI 04049

**JOHN L. RANDAZZO**  
NOTARY PUBLIC  
My Commission Expires April 30, 2010

## ASSIGNMENT

Assignment made Nov 10, 2008 by Bo Huang, PhD ("Inventor") to the Howard Hughes Medical Institute, a Delaware corporation ("HHMI").

### Recitals

WHEREAS, Inventor is an employee of HHMI and, as a condition of his employment, has signed the Agreement appended to HHMI's Policy on Intellectual Property (the "Intellectual Property Agreement");

WHEREAS, pursuant to the Intellectual Property Agreement, Inventor has agreed (a) to assign to HHMI all rights he may acquire in any invention, discovery, improvement, or other intellectual property, whether or not patentable or copyrightable, developed directly or indirectly as a result of a program of research financed by HHMI funds or funds under the control of HHMI (each a "Subject Property") and (b) to execute any agreements that may be desired by HHMI in connection with such assignment;

WHEREAS, Inventor has, alone or with others invented "Sub-Diffraction Limit Image Resolution in Three Dimensions" which may be the subject of a patent application (the "Invention"), and the Invention is a Subject Property; and

WHEREAS, Inventor seeks to make a formal assignment of his interest in the Invention to HHMI, and HHMI desires the execution of a formal assignment of all of Inventor's right, title, and interest in the Invention.

NOW, THEREFORE, in consideration of the promises contained in and the acts performed and to be performed pursuant to the Intellectual Property Agreement and of other good and valuable consideration, the receipt of which is hereby acknowledged by Inventor, Inventor agrees as follows:

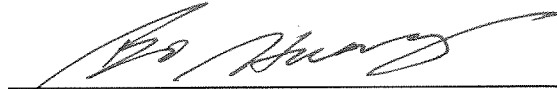
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2. Cooperation. Inventor agrees to execute upon request such further assignments, documents, and other instruments as may be necessary or desirable to assign Inventor's entire right, title and interest in the Invention to HHMI and to assist HHMI (or others at the direction of HHMI) in applying for, obtaining, and enforcing patents, copyrights, or other rights in the United States and in any foreign country with respect to the Invention.

3. Parties. The terms and provisions of the Assignment shall inure to the benefit of HHMI and its successors and assigns and shall be binding on the Inventor and his heirs, personal representatives and assigns.

4. Warranty. Inventor warrants and represents that he has not entered into any assignment, contract, or understanding in conflict herewith, and that there is no other person or entity whose consent is required in order for the Inventor to make the assignment contained herein.

Inventor:

  
Bo Huang, PhD

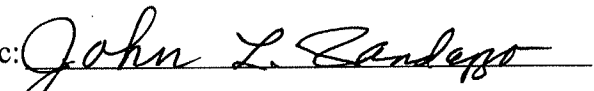
Commonwealth of Massachusetts

County of Middlesex

Then personally appeared before me the above-named Bo Huang, PhD and acknowledged that he executed the foregoing instrument in his authorized capacity this 10 day of November, 2008

(SEAL)

Notary Public:

  
John L. RANDAZZO  
(print name)

My Commission Expires: APRIL 30, 2010

Harvard 3114  
HHMI 04049

**JOHN L. RANDAZZO**  
**NOTARY PUBLIC**  
My Commission Expires April 30, 2010



## ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned:

**Wilfred M. Bates, Bo Huang, Wenqin Wang, and Xiaowei Zhuang**

(hereafter "Assignors") hereby assign, sell, and transfer to:

**President and Fellows of Harvard College  
17 Quincy Street, Cambridge, Massachusetts 02138**

(hereafter "Assignee") its successors and assigns, Assignors' entire right, title and interest throughout the world in and to any and all inventions and improvements for:

***Sub-diffraction Limit Image Resolution in Three Dimensions***

described in international PCT Patent Application No. PCT/US2008/013915 filed December 19, 2008 which claims priority to provisional Patent Application No. 61/008,661 filed December 21, 2007; and in and to the aforesaid application(s), in any form or embodiment thereof, and in and to any application filed in this and any foreign country based thereon, including the right to file said applications and claim priority under the provisions of any international convention or treaty; also the entire right, title and interest throughout the world in and to any and all patents or reissues or extensions thereof to be obtained in this or any foreign country upon said invention or inventions and any divisional, continuation, continuation-in-part or substitute applications which may be filed upon said invention or inventions in this or any foreign country; and authorize and request the issuing authority to issue any and all patents on said application or applications to said Assignee or its successors and assigns.

Assignors hereby warrant that they have full right to convey their entire right, title and interest, both legal and equitable, in and to said inventions, free from all prior assignments, agreements, licenses, mortgages, security interests, or other encumbrances whatsoever; and

Assignors further agree, without further payment or compensation by said Assignee or its successors and assigns, to communicate to said Assignee, its representatives or agents or its successors and assigns, any facts relating to said invention or inventions including evidence for interference purposes or for other legal proceedings, whenever requested; testify in any interference or other legal proceedings whenever requested; execute and deliver, on request, all lawful papers required to make any of the foregoing provisions effective; and generally do everything possible to aid said Assignee, its representatives or agents, or its successors or assigns to secure, obtain and enforce proper patent protection for said invention or inventions in this and any foreign country.

7/20/09 Wilfred M. Bates  
Date Wilfred M. Bates

7/20/09 [Signature]  
Date Witness Signature

MATTHEW KILROY  
Witness's Printed Name

7/20/09 Bo Huang  
Date Bo Huang

7/20/09 [Signature]  
Date Witness Signature

MATTHEW KILROY  
Witness's Printed Name

7. 20. 2009  
Date

Wenqin Wang  
Wenqin Wang

7/20/09  
Date

[Signature]  
Witness Signature

Matthew Kiloy  
Witness's Printed Name

7/20/09  
Date

Xiaowei Zhuang  
Xiaowei Zhuang

7/20/09  
Date

[Signature]  
Witness

Matthew Kiloy  
Witness's Printed Name