

PATENT ASSIGNMENT

Electronic Version v1.1
 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT														
NATURE OF CONVEYANCE:	ASSIGNMENT														
CONVEYING PARTY DATA															
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Ofer Shapira</td> <td>03/05/2013</td> </tr> <tr> <td>Marin Soljadic</td> <td>04/11/2013</td> </tr> <tr> <td>Bo Zhen</td> <td>03/04/2013</td> </tr> <tr> <td>Song Liang Chua</td> <td>04/04/2013</td> </tr> <tr> <td>Jeongwon Lee</td> <td>04/04/2013</td> </tr> <tr> <td>John Joannopoulos</td> <td>03/06/2013</td> </tr> </tbody> </table>		Name	Execution Date	Ofer Shapira	03/05/2013	Marin Soljadic	04/11/2013	Bo Zhen	03/04/2013	Song Liang Chua	04/04/2013	Jeongwon Lee	04/04/2013	John Joannopoulos	03/06/2013
Name	Execution Date														
Ofer Shapira	03/05/2013														
Marin Soljadic	04/11/2013														
Bo Zhen	03/04/2013														
Song Liang Chua	04/04/2013														
Jeongwon Lee	04/04/2013														
John Joannopoulos	03/06/2013														
RECEIVING PARTY DATA															
<table border="1"> <tr> <td>Name:</td> <td>Massachusetts Institute of Technology</td> </tr> <tr> <td>Street Address:</td> <td>77 Massachusetts Avenue</td> </tr> <tr> <td>City:</td> <td>Boston</td> </tr> <tr> <td>State/Country:</td> <td>MASSACHUSETTS</td> </tr> <tr> <td>Postal Code:</td> <td>02139</td> </tr> </table>		Name:	Massachusetts Institute of Technology	Street Address:	77 Massachusetts Avenue	City:	Boston	State/Country:	MASSACHUSETTS	Postal Code:	02139				
Name:	Massachusetts Institute of Technology														
Street Address:	77 Massachusetts Avenue														
City:	Boston														
State/Country:	MASSACHUSETTS														
Postal Code:	02139														
PROPERTY NUMBERS Total: 1															
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13768725</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13768725										
Property Type	Number														
Application Number:	13768725														
CORRESPONDENCE DATA															
<p>Fax Number:</p> <p><i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: 6173424000</p> <p>Email: shouseholder@foley.com</p> <p>Correspondent Name: Foley & Lardner LLP</p> <p>Address Line 1: 3000 K Street N.W., Suite 600</p> <p>Address Line 4: Washington, DISTRICT OF COLUMBIA 20007-5109</p>															
ATTORNEY DOCKET NUMBER:	099477-0176MIT15996US01														
NAME OF SUBMITTER:	Christopher Max Colice														

OP \$40.00 13768725

Signature:	/Christopher Max Colice/
Date:	05/06/2013
Total Attachments: 5 source=099477-0176 MIT15669 Assignment#page1.tif source=099477-0176 MIT15669 Assignment#page2.tif source=099477-0176 MIT15669 Assignment#page3.tif source=099477-0176 MIT15669 Assignment#page4.tif source=099477-0176 MIT15669 Assignment#page5.tif	

ASSIGNMENT - WORLDWIDE

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor (hereinafter referred to singly and collectively as "ASSIGNOR") has sold, assigned, and transferred, and by these presents hereby sells, assigns, and transfers, unto

Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge, Massachusetts 02139

(hereinafter referred to as "ASSIGNEE") its successors and assigns, his or her full and exclusive right, title and interest for the United States, its territories and possessions, and all foreign countries in and to this invention relating to

EXCITATION ENHANCEMENT AND EXTRACTION ENHANCEMENT WITH PHOTONIC CRYSTALS

as set forth in this United States Patent Application

check one ☐ executed concurrently herewith,
 ☐ executed on _____,
 ☒ Serial No. 13/768,725 Filed 2/15/2013

as well as in and to (a) all improvements and modifications of the above-identified invention or inventions, (b) the above-identified application and all other applications for Letters Patent of the United States and countries foreign thereto for above-identified invention or inventions and all improvements and modifications thereof, (c) all Letters Patent which may issue from said applications in the United States and countries foreign thereto, (d) all divisions, continuations, reissues, and extensions of said applications and Letters Patent, and (e) the right to claim for any of said applications the full benefits and priority rights under the Patent Cooperation Treaty, the Paris Convention and any other international agreement; such right, title, and interest to be held and enjoyed by ASSIGNEE, its successors and assigns, to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by ASSIGNOR had this Assignment not been made.

ASSIGNOR HEREBY AUTHORIZES ASSIGNEE to file patent applications in any or all countries on the above-identified invention or inventions in the name of the undersigned or in the name of ASSIGNEE or otherwise as ASSIGNEE may deem advisable under the International Convention or otherwise.

ASSIGNOR HEREBY AUTHORIZES AND REQUESTS the Commissioner of Patents and Trademarks to issue said Letters Patent to ASSIGNEE as assignee of the entire interest, for the sole use and benefit of ASSIGNEE, its successors and assigns.

ASSIGNOR HEREBY AGREES (a) to communicate to ASSIGNEE, its successors and assigns, or their representative or agents, all facts and information known or available to ASSIGNOR respecting said invention or inventions, improvements, and modifications including evidence for interference, reexamination, reissue, opposition, revocation, extension, or infringement purposes or other legal, judicial, or administrative proceedings, whenever requested by ASSIGNEE; (b) to testify in person or by affidavit as required by ASSIGNEE, its successors and assigns, in any such proceeding in the United States or a country foreign thereto; (c) to execute and deliver, upon request by ASSIGNEE, all lawful papers including, but not limited to, original, divisional, continuation, and reissue applications, renewals, assignments, powers of attorney, oaths, affidavits, and declarations, depositions; and (d) to provide all reasonable assistance to ASSIGNEE, its successors and assigns, in obtaining and enforcing proper title in and protection for said invention or inventions, improvements, and modifications under the intellectual property laws of the United States and countries foreign thereto.

ASSIGNOR HEREBY REPRESENTS AND WARRANTS that ASSIGNOR has the full and unencumbered right to sell, assign, and transfer the interests sold, assigned, and transferred herein, and that ASSIGNOR has not executed and will not execute any document or instrument in conflict herewith.

ASSIGNOR HEREBY GRANTS to the law firm of **Foley & Lardner LLP** the power and authority to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

ASSIGNOR UNDERSTANDS AND AGREES that the attorneys and agents of the law firm of **Foley & Lardner LLP** do not personally represent ASSIGNOR OR ASSIGNOR's legal interests, but instead represent the interests of ASSIGNEE; since said attorneys and agents cannot provide legal advice to ASSIGNOR with respect to this Assignment, ASSIGNOR acknowledges its right to seek its own independent legal counsel.

Executed this 5 day of March, 2013.

Ofer Shapira
OFER SHAPIRA

Witness:

03/05/2013
Date

Chia Wei Hsu
Signature

Name: Chia Wei Hsu

Address: 90 Norfolk St.
Cambridge, MA 02139

Executed this 11 day of APRIL, 2013.

Marin Soljacic
MARIN SOLJACIC

Witness:

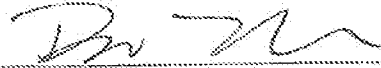
04/11/2013
Date

Ongjen Inc
Signature

Name: Ongjen Inc

Address: 171 Garden Street
Cambridge, MA 02139

Executed this 4th day of March, 2013.



BO ZHEN

Witness:

03/04/2013

Date

Chia Wei Hsu
Signature

Name: Chia Wei Hsu

Address: 90 Norfolk St
Cambridge, MA 02139

Executed this 14 day of April, 2013.



SONG LIANG CHUA

Witness:

4/14/13

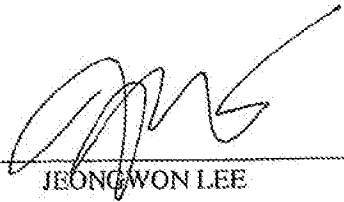
Date

KINEANG SJ
Signature

Name: KINEANG SJ

Address: BLK 331 SERANGUN AVE 3
#12-345 SINGAPORE 550351

Executed this 4 day of March, 2013.


JEONGWON LEE

Witness:

03/04/2013
Date

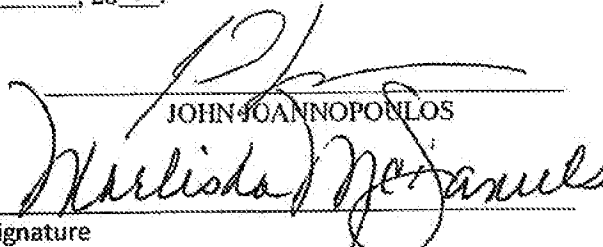
Chia Wei Hsu
Signature

Name: Chia Wei Hsu

Address: 90 Norfolk St
Cambridge, MA 02139

Executed this 6 day of March, 2013.

March 6, 2013
Date


JOHN IOANNOPoulos
Signature

Name: MARKISHA MCDANIELS

Address: 77 MASSACHUSETTS AVE
CAMBRIDGE, MA 02139