

## PATENT ASSIGNMENT COVER SHEET

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 Stylesheet Version v1.2

EPAS ID: PAT2750198

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>JACOB KHURGIN</td> <td>01/19/2014</td> </tr> <tr> <td>YAMAC DIKMELIK</td> <td>02/20/2014</td> </tr> </tbody> </table>		Name	Execution Date	JACOB KHURGIN	01/19/2014	YAMAC DIKMELIK	02/20/2014				
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JACOB KHURGIN	01/19/2014										
YAMAC DIKMELIK	02/20/2014										
RECEIVING PARTY DATA											
<table border="1"> <tr> <td>Name:</td> <td>JOHNS HOPKINS UNIVERSITY</td> </tr> <tr> <td>Street Address:</td> <td>3400 N. CHARLES STREET</td> </tr> <tr> <td>City:</td> <td>BALTIMORE</td> </tr> <tr> <td>State/Country:</td> <td>MARYLAND</td> </tr> <tr> <td>Postal Code:</td> <td>21218</td> </tr> </table>		Name:	JOHNS HOPKINS UNIVERSITY	Street Address:	3400 N. CHARLES STREET	City:	BALTIMORE	State/Country:	MARYLAND	Postal Code:	21218
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PROPERTY NUMBERS Total: 1											
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CORRESPONDENCE DATA											
<p>Fax Number: (215)563-4044</p> <p>Phone: 215-563-4100</p> <p>Email: rdolan@ddhs.com</p> <p><i>Correspondence will be sent via US Mail when the email attempt is unsuccessful.</i></p> <p>Correspondent Name: NIELS HAUN, PH.D.</p> <p>Address Line 1: 1601 MARKET STREET, SUITE 2400</p> <p>Address Line 2: DANN DORFMAN HERRELL &amp; SKILLMAN, PC</p> <p>Address Line 4: PHILADELPHIA, PENNSYLVANIA 19103-2307</p>											
ATTORNEY DOCKET NUMBER:	4682-P04867US1										
NAME OF SUBMITTER:	NIELS HAUN										
Signature:	/NIELS HAUN/										
Date:	03/03/2014										

PATENT

Total Attachments: 4

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# ASSIGNMENT

WHEREAS, Jacob Khurgin and Yamac Dikmelik, and each one of them, hereinafter referred to as ASSIGNOR, is a named inventor of an invention entitled: "HIGHLY POWER-EFFICIENT AND BROADBAND QUANTUM CASCADE LASERS" described and claimed in U.S. Appl. No.12/795,954, filed June 8, 2010, and

WHEREAS, JOHNS HOPKINS UNIVERSITY, a corporation engaged in business at 3400 N. Charles Street, Baltimore, MD 21218, , hereinafter referred to as ASSIGNEE, is desirous of acquiring the said invention and any and all applications for Letters Patent and any and all Letters Patent of the United States and foreign countries that may be issued therefor;

NOW, THEREFORE, the parties hereto, intending to be legally bound, agree that, in consideration of good and valuable consideration paid to ASSIGNOR by ASSIGNEE, the receipt of which is hereby acknowledged, ASSIGNOR has sold, assigned and set over and hereby does sell, assign and set over, unto ASSIGNEE, its successors and assigns, his or her entire right, title and interest for, to and within the United States and all foreign countries, in and to the aforesaid invention and the application identified above, including any and all provisional applications, continuations, divisionals, continuations-in-part, reissues and re-examinations thereof, and in and to any and all Letters Patent that may issue therefor in the United States and in any and all foreign countries (including related rights such as utility model registrations, inventors' certificates and the like). In addition, ASSIGNOR has sold, assigned and set over and hereby does sell, assign and set over, unto ASSIGNEE, its successors and assigns, the right to claim priority in any and all foreign applications, including applications filed under the Patent Cooperation Treaty, to the above-referenced application and any and all provisional, continuation, divisional, and continuation-in-part applications for the invention.

ASSIGNOR covenants that ASSIGNOR has full right to convey the entire interest herein assigned, and that ASSIGNOR has not executed and will not execute any agreement that will conflict with the terms of this assignment. Further, ASSIGNOR hereby authorizes and requests the Commissioner of the U.S. Patent and Trademark Office, and any official of any country foreign to the United States whose duty is to issue patents, design registrations, inventors certificates or the like, to issue any and all Letters Patent, registration or certificate for such invention to ASSIGNEE, its successors and assigns, as the owner of all right, title and interest therein.

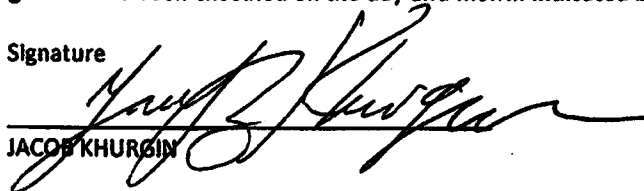
And for said consideration, it is hereby covenanted and agreed that at the request and expense of ASSIGNEE, its successors and assigns, ASSIGNOR will execute any further papers and do such other acts and things as may be necessary and proper to permit ASSIGNEE, its successors and assigns, to procure and enforce Letters Patent for said invention in the United States and in such foreign countries as ASSIGNEE, its successors and assigns may elect, and vest the full title thereto in ASSIGNEE, its successors and assigns.

IN WITNESS WHEREOF, this Assignment has been executed on the day and month indicated below.

Date

1/19/2014

Signature



JACOB KHURGIN

YAMAC DIKMELIK

PATENT

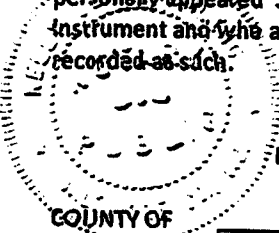
REEL: 032337 FRAME: 0680

Page Two

COUNTY OF  
STATE OF

Baltimore  
Maryland

Before me, the undersigned, a notary public, in and for the county aforesaid, on this 19th day of February, ~~2013~~ <sup>2014</sup>,  
personally appeared Jacob Khurgin, to me known to be the person described in and who executed the foregoing  
instrument and who acknowledged that they executed the same as their free act and deed and desired the same to be  
recorded as such.



KELLY JEAN HEMLING  
NOTARY PUBLIC STATE OF MARYLAND Notary Public  
My Commission Expires February 23, 2016



COUNTY OF  
STATE OF

Before me, the undersigned, a notary public, in and for the county aforesaid, on this \_\_\_\_ day of \_\_\_\_\_, 2013,  
personally appeared Yamac Dikmelik, to me known to be the person described in and who executed the foregoing  
instrument and who acknowledged that they executed the same as their free act and deed and desired the same to be  
recorded as such.

\_\_\_\_\_  
Notary Public

ASSIGNMENT

WHEREAS, Jacob Khurgin and Yamac Dikmelik, and each one of them, hereinafter referred to as ASSIGNOR, is a named inventor of an invention entitled: "HIGHLY POWER-EFFICIENT AND BROADBAND QUANTUM CASCADE LASERS" described and claimed in U.S. Appl. No.12/795,954, filed June 8, 2010, and

WHEREAS, JOHNS HOPKINS UNIVERSITY, a corporation engaged in business at 3400 N. Charles Street, Baltimore, MD 21218, , hereinafter referred to as ASSIGNEE, is desirous of acquiring the said invention and any and all applications for Letters Patent and any and all Letters Patent of the United States and foreign countries that may be issued therefor;

NOW, THEREFORE, the parties hereto, intending to be legally bound, agree that, in consideration of good and valuable consideration paid to ASSIGNOR by ASSIGNEE, the receipt of which is hereby acknowledged, ASSIGNOR has sold, assigned and set over and hereby does sell, assign and set over, unto ASSIGNEE, its successors and assigns, his or her entire right, title and interest for, to and within the United States and all foreign countries, in and to the aforesaid invention and the application identified above, including any and all provisional applications, continuations, divisionals, continuations-in-part, reissues and re-examinations thereof, and in and to any and all Letters Patent that may issue therefor in the United States and in any and all foreign countries (including related rights such as utility model registrations, inventors' certificates and the like). In addition, ASSIGNOR has sold, assigned and set over and hereby does sell, assign and set over, unto ASSIGNEE, its successors and assigns, the right to claim priority in any and all foreign applications, including applications filed under the Patent Cooperation Treaty, to the above-referenced application and any and all provisional, continuation, divisional, and continuation-in-part applications for the invention.

ASSIGNOR covenants that ASSIGNOR has full right to convey the entire interest herein assigned, and that ASSIGNOR has not executed and will not execute any agreement that will conflict with the terms of this assignment. Further, ASSIGNOR hereby authorizes and requests the Commissioner of the U.S. Patent and Trademark Office, and any official of any country foreign to the United States whose duty is to issue patents, design registrations, inventors certificates or the like, to issue any and all Letters Patent, registration or certificate for such invention to ASSIGNEE, its successors and assigns, as the owner of all right, title and interest therein.

And for said consideration, it is hereby covenanted and agreed that at the request and expense of ASSIGNEE, its successors and assigns, ASSIGNOR will execute any further papers and do such other acts and things as may be necessary and proper to permit ASSIGNEE, its successors and assigns, to procure and enforce Letters Patent for said invention in the United States and in such foreign countries as ASSIGNEE, its successors and assigns may elect, and vest the full title thereto in ASSIGNEE, its successors and assigns.

IN WITNESS WHEREOF, this Assignment has been executed on the day and month indicated below.

Date

Signature

2/20/2014

JACOB KHURGIN

Yamac Dikmelik

YAMAC DIKMELIK

Page Two

COUNTY OF \_\_\_\_\_  
STATE OF \_\_\_\_\_

Before me, the undersigned, a notary public, in and for the county aforesaid, on this \_\_\_\_ day of \_\_\_\_\_, 2013, personally appeared Jacob Khurgin, to me known to be the person described in and who executed the foregoing instrument and who acknowledged that they executed the same as their free act and deed and desired the same to be recorded as such.

\_\_\_\_\_  
Notary Public

COUNTY OF Montgomery  
STATE OF Maryland

Before me, the undersigned, a notary public, in and for the county aforesaid, on this 20<sup>th</sup> day of Feb, ~~2013~~, 2014, personally appeared Yamac Dikmelik, to me known to be the person described in and who executed the foregoing instrument and who acknowledged that they executed the same as their free act and deed and desired the same to be recorded as such.

*Benjamin Christopher Gunnell*  
Notary Public

