505965436 03/12/2020

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ANDREI G. PAKHOMOV	03/02/2020
SHU XIAO	03/02/2020
OLGA N. PAKHOMOVA	03/02/2020
MAURA CASCIOLA	03/02/2020

RECEIVING PARTY DATA

Name:	OLD DOMINION UNIVERSITY RESEARCH FOUNDATION	
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City:	NORFOLK	
State/Country:	VIRGINIA	
Postal Code:	23508	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16669419

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ATTORNEY DOCKET NUMBER:	ORNEY DOCKET NUMBER: 14567-705.200	
NAME OF SUBMITTER:	JENNIFER MARCELINO	
SIGNATURE:	URE: /Richard D. Shoop, Reg. No. 45,763/	
DATE SIGNED:	03/12/2020	

Total Attachments: 4

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PATENT REEL: 052102 FRAME: 0940

SG DOCKET NO. 14567-705.200 / ODU 024US

U.S. DEPARTMENT OF COMMERCE

RECORDATION FORM COVER SHEET PATENT AND TRADEMARK OFFICE PATENTS ONLY TO THE HONORABLE DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE. PLEASE RECORD THE ATTACHED ORIGINAL DOCUMENTS OR COPY THEREOF. 1. Name of conveying party(ies): Name and address of receiving party(ies): (1) Andrei G. PAKHOMOV **OLD DOMINION UNIVERSITY** Name: (2) Shu XIAO RESEARCH FOUNDATION (3) Olga N. PAKHOMOVA 4111 Monarch Way, Suite 204 Norfolk, VA 23508 (4) Maura CASCIOLA Additional name(s) of conveying party(ies) attached? Yes No Name and address of receiving party(ies): 3. Nature of Conveyance: Name: Assignment Merger Street Address: Security Agreement Change of Name City: State: Zip: Other Country: **EXECUTION DATE(S): (1)-(4) 03/02/2020** Additional name(s) & address(es) attached? Yes M 4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: Patent No.(s) Patent Application No.(s) - 16/669,419 Title: MEGAHERTZ COMPRESSION OF NANOSECOND PULSE BURSTS X Additional numbers attached? Yes No 6. Total number of applications and patents involved: 5. Name and address of party to whom correspondence concerning document should be mailed: Richard D. Shoop Shay Glenn LLP 2929 Campus Drive, Suite 225 7. Total fee (37 CFR 1.21(h)(1)): \$0.00 San Mateo, CA 94403 None required. Please charge fees to Deposit Account No. 50-4050. DO NOT USE THIS SPACE 8. Statement and signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. March 12, 2020 Richard D. Shoop, Reg. No. 45,763 /Richard D. Shoop/ Name of Person Signing Signature Total number of pages including cover sheet, attachments, and documents: 4

> PATENT REEL: 052102 FRAME: 0941

ASSIGNMENT OF PATENT APPLICATION

SG Docket No.: 14567-705.200/ODU_024US

This Assignment of Patent Application is between:

Andrei G. PAKHOMOV of Norfolk, VA;
Shu XIAO of Norfolk, VA;
Olga N. PAKHOMOVA of Norfolk, VA; and
Maura CASCIOLA of Norfolk, VA

(hereinafter referred to as "Inventor") and

OLD DOMINION UNIVERSITY RESEARCH FOUNDATION, a corporation of the State of Virginia, having a place of business at 4111 Monarch Way, Suite 204, Norfolk, VA 23508 (hereinafter referred to as "Assignee").

WHEREAS Inventor has invented certain new and useful improvements in:

"MEGAHERTZ COMPRESSION OF NANOSECOND PULSE BURSTS"

for which a non-provisional application for a United States Patent was filed on October 30, 2019 and assigned Application No. 16/669,419.

WHEREAS, Assignce is desirous of acquiring the entire right, title and interest of each inventor in and to said application and the invention disclosed therein, and in and to all embodiments of the invention, heretofore conceived, made or discovered by said Inventor (all collectively hereinafter termed "said invention"), and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter termed "patents") thereon granted in the United States and foreign countries.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Inventor to have been received in full from said Assignee:

- 1. Said Inventor does hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said application and said invention: (b) in and to all rights to apply for foreign patents on said invention pursuant to the International Convention for the Protection of Industrial Property or otherwise; (c) in and to any and all applications filed and any and all patents granted on said invention in the United States or any foreign country, including each and every application filed and each and every patent granted on any application which is a divisional, substitution, continuation, or continuation-in-part of any of said applications; and (d) in and to each and every reissue or extensions of any of said patents.
- Said Inventor hereby covenants and agrees to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein conveyed in the United States and foreign countries. Such cooperation by said Inventor shall include prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any of the

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ASSIGNMENT OF PATENT APPLICATION

SG Docket No.: 14567-705.200/ODU_024US

said applications; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said invention; (d) for filing and prosecuting applications for reissuance of any said patents; (e) for interference or other priority proceedings involving said invention; and (f) for legal proceedings involving said invention and any applications therefor and any patents granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contest, public use proceedings, infringement actions and court actions, including the right to sue and collect damages for past infringement; provided, however, that the expense incurred by said Inventor in providing such cooperation shall be paid for by said Assignee.

- 3. The terms and covenants of this assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventor, his heirs, legal representatives and assigns.
- 4. Said Inventor hereby warrants and represents that he has not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

IN WITNESS WHEREOF, said Inventor has executed and delivered this instrument to said Assignee:

	14
Date Date	Andrei G. PAKHOMOV
3/2/2020	
Date	Shu XIAO
#100mm	
Date	Olga N. PAKHOMOVA
Date	Maura CASCIOLA

ASSIGNMENT OF PATENT APPLICATION

SG Docket No.: 14567-705.200/ODU_024US

said applications; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said invention; (d) for filing and prosecuting applications for reissuance of any said patents; (e) for interference or other priority proceedings involving said invention; and (f) for legal proceedings involving said invention and any applications therefor and any patents granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contest, public use proceedings, infringement actions and court actions, including the right to sue and collect damages for past infringement; provided, however, that the expense incurred by said Inventor in providing such cooperation shall be paid for by said Assignee.

- 3. The terms and covenants of this assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventor, his heirs, legal representatives and assigns.
- 4. Said Inventor hereby warrants and represents that he has not entered and will not enter into any assignment, contract, or understanding in conflict herewith.

IN WITNESS WHEREOF, said Inventor has executed and delivered this instrument to said Assignee:

Date	Andrei G. PAKHOMOY
Date	Shu XIAO
Date	Olga N. PAKHOMOVA
03.02.0020 Date	Maura CASCIOLA

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