503537797 10/23/2015

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
XIAODONG LU	10/18/2012
IRFAN-UR-RAB USMAN	10/18/2012

RECEIVING PARTY DATA

Name:	THE UNIVERSITY OF BRITISH COLUMBIA
Street Address:	UNIVERSITY-INDUSTRY LIAISON OFFICE
Internal Address:	103-6190 AGRONOMY ROAD
City:	VANCOUVER, BC
State/Country:	CANADA
Postal Code:	V6T 1Z3

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14354515

CORRESPONDENCE DATA

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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.

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ATTORNEY DOCKET NUMBER:	U008 0911/TAR
NAME OF SUBMITTER:	TODD A. RATTRAY
SIGNATURE:	/ToddARattray/
DATE SIGNED:	10/23/2015

Total Attachments: 3

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PATENT 503537797 REEL: 036869 FRAME: 0148

ASSIGNMENT OF INVENTIONS AND RELATED PATENT RIGHTS

WHEREAS:

Xiaodong LU #218-6328 Larkin Drive Vancouver, British Columbia Canada V6T 2K2 Irfan-ur-rab USMAN 12611 Blundell Road Richmond, British Columbia Canada V6W 1B4

(collectively, the "Assignors"), whose full post office addresses are set out above, are the inventors of certain inventions or improvements (the "Inventions") described and/or claimed in:

- (i) United States provisional patent application No. **61551953** filed on 27 October 2011 and entitled: **DISPLACEMENT DEVICES**;
- (ii) United States provisional patent application No. **61694776** filed on 30 August 2012 and entitled: **DISPLACEMENT DEVICES**; and
- (iii) Patent Cooperation Treaty Application No. PCT/CA2012/050751 filed on 2 October 2012 and entitled DISPLACEMENT DEVICES AND METHODS FOR FABRICATION, USE AND CONTROL OF SAME (collectively, and individually, the "Applications");

The Assignors hereby appoint and instruct Oyen Wiggs Green & Mutala LLP to insert the serial numbers and filing dates of the Applications, when known, into the spaces above.

AND WHEREAS, The University of British Columbia, (the "Assignee") whose full post office address is University-Industry Liaison Office, 103-6190 Agronomy Road, Vancouver, British Columbia, V6T 1Z3, Canada, wishes to own the entire worldwide right, title and interest in and to: the Inventions, the Applications, and all patents which may be granted on or as a result thereof in all countries;

In consideration of ONE (\$1.00) DOLLAR and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Assignors, do hereby, both jointly and severally, sell, assign, transfer and set over to the Assignee the entire worldwide right, title and interest in and to:

- the Inventions;
- the Applications;
- all continuations, divisions, renewals of or substitutes for the Applications;
- the right to file counterparts to the Applications in all countries and regions;
- the right to claim priority from the Applications in all countries and regions;
- all patents which may be granted on or as a result thereof; and
- any reissue or reissues of such patents;

the same to be held and enjoyed by the Assignee, its successors, assigns, nominees or legal representatives, to the full end of the term or terms for which such patents respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by the Assignors, had this Assignment, sale and transfer not been made.

The Assignors hereby covenant that they: have full right to convey the entire interest herein assigned; and have not executed and will not execute any agreement to transfer any rights in the

PATENT REEL: 036869 FRAME: 0149 Inventions and/or the Applications to anyone other than the Assignee or that is otherwise in conflict herewith.

The Assignors promise that they shall:

- each time a request is made and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to the Inventions, the Applications, and the patents in the Assignee, its successors, assigns, nominees or legal representatives;
- communicate to the Assignee, or its nominees, all known facts respecting the Inventions, the Applications and said patents;
- testify in any legal proceedings;

• sign all lawful papers;

• execute all disclaimers and divisional, continuing, reissue and foreign applications;

make all rightful oaths; and

• generally to do everything possible to aid the Assignee, its successors, assigns, nominees and legal representatives to obtain and enforce for its or their own benefit, proper patent protection for the Inventions in all countries;

all at the expense, however, of the Assignee or its successors, assigns, nominees or legal representatives.

Each of the Assignors hereby irrevocably designates and appoints the Assignee and its duly authorized officers and agents, and their successors, as its agents and attorneys-in-fact, to act on the Assignors' behalf and instead of the Assignors, to execute and file applications to patent the Inventions in all countries, and to do all other proper lawfully-permitted acts to further the assignment, prosecution and issuance of patents for the Inventions with the same legal force and effect as if executed by the Assignors. This power of attorney shall be deemed coupled with an interest and is irrevocable.

The Assignors hereby authorize and request any official of any country or countries whose duty it is to issue patents on applications to issue to the Assignee, its successors, assigns, nominees or legal representatives all patents for the Inventions in accordance with the terms of this Assignment.

EXECUTED at Vanague's, (city)	(province/state)	, $\frac{Canada}{\text{(country)}}$ this $\frac{18}{\text{(date)}}$ day of
SIGNED, SEALED & DELIVERED by Xiaodong LU in the presence of:	Xiaodong LU	
SARAH MOURATIONS Print Witness's Name		
103-6190 aground Rd.)		
Print Witness's Address		
Print Witness's Occupation		

Assignment of Inventions to The University of British Columbia		
EXECUTED at <u>Vaucou</u> (city)	(province/state)	, Cauche this /8 day of (country) (date)
(month) (city)	(province/state)	(country) (date)
(month)		
SIGNED, SEALED & DELIVERED		
by Irfan-ur-rab USMAN in the presence of:	} //	
Signature of Witness	Irfan-ar-rab US	MAN
SARAH MOVRADDIS Print Witness's Name		
103-6190 CommungRd.)))	
Print Witness's Address	,)	
Adminis Thats Print Witness's Occupation)))	

PATENT REEL: 036869 FRAME: 0151

RECORDED: 10/23/2015