PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT5730643

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SARA MASOUD	08/18/2019
YOUNG-JUN SON	08/12/2019
RUSSELL E. TRONSTAD	08/12/2019
CHIERI KUBOTA	08/12/2019

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PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16418883

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NAME OF SUBMITTER:	REBECCA L. ENDSLEY, PARALEGAL
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DATE SIGNED:	09/20/2019

Total Attachments: 6

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PATENT REEL: 050448 FRAME: 0458

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PATENT REEL: 050448 FRAME: 0459

ASSIGNMENT OF PATENT RIGHTS

Assignor:

Sara Masoud, The University of Arizona,

1127 E. James E. Rogers Way, Tucson, AZ 85721. Young-Jun Son, The University of Arizona.

1209 E. 2nd Street, Tucson, AZ 85721

Russell E. Tronstad, The University of Arizona,

650 N. Park Ave., Tucson, AZ 85719 Chieri Kubota, The University of Arizona, 1140 E. South Campus Drive, Tucson, AZ 85721

Assignee:

Arizona Board of Regents on Behalf of the University of Arizona, a body corporate duly formed in accordance with Title 15 of the Arizona Revised Statutes, with an address as follows: The University of Arizona, Tech Launch Arizona, University Services Annex, 4th Floor, P.O. Box 210300A, Tucson, AZ 85721 (physically located at The University of Arizona, Tech Launch

Arizona, 220 West Sixth Street, 4th Floor, Tucson, AZ 85701).

For good and valuable consideration, the receipt of which is hereby acknowledged, Assignor hereby sells, assigns, transfers, and conveys unto Assignee, its successors and assigns, all right, title, and interest that exist today and may exist in the future in and to any and all of the following (collectively, the "Patent Rights"):

(a) all patent applications and/or patents listed in the table below (the "Patents");

UA Ref. No.	Patent or Application No.	Country	Filing Date	Title of Patent and First Named Inventor
UA18-160	62/674,574	US	05/21/2018	SYSTEMS AND METHODS FOR SIMULATION-BASED RESOURCE AND LAYOUT OPTIMIZATION -Sara Masoud
UA18-160	16/418,883	US	05/21/2019	SYSTEMS AND METHODS FOR SIMULATION-BASED RESOURCE AND LAYOUT OPTIMIZATION -Sara Masoud

- (b) all patents and patent applications (i) to which any of the Patents directly or indirectly claims priority, (ii) for which any of the Patents directly or indirectly forms a basis for priority, and/or (iii) that were co-owned and directly or indirectly incorporate by reference the Patents;
- (c) all reissues, reexaminations, extensions, continuations, continuations in part, continuing prosecution applications, requests for continuing examinations, divisions, registrations of any item in any of the foregoing categories (a) and (b);
- (d) all foreign patents, patent applications, and counterparts relating to any item in any of the foregoing categories (a) through (c), including, without limitation, certificates of invention,

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utility models, industrial design protection, design patent protection, and other governmental grants or issuances, including, without limitation, all rights under the Paris Convention for the Protection of Industrial Property, the International Patent Cooperation Treaty, or any other convention, treaty, agreement, or understanding;

- (e) all inventions, invention disclosures, and discoveries described in any item in any of the foregoing categories and all other rights arising out of such inventions, invention disclosures, and discoveries, and all causes of action (whether known or unknown or whether currently pending, filed, or otherwise) and other enforcement rights under, or on account of, any of the Patents and/or any item in any of the foregoing categories, including, for past, current, and future infringement; and
- (f) all the rights to claim priority provided by the Paris Convention or the Patent Cooperation Treaty.

Assignor confirms that, at the time the invention was made, Assignor was obligated to assign, and did assign, the invention to Assignee. Assignor represents, warrants and covenants that Assignor has the full power and authority, and has obtained all third party consents, approvals and/or other authorizations required to enter into this Agreement and to carry out its obligations hereunder, including the assignment of the Patent Rights to Assignee.

Assignor hereby authorizes the respective patent office or governmental agency in each jurisdiction to issue any and all patents, certificates of invention, utility models or other governmental grants or issuances that may be granted upon any of the Patent Rights in the name of Assignee, as the assignee to the entire interest therein.

Assignor will, at the reasonable request of Assignee and without demanding any further consideration therefor, do all things necessary, proper, or advisable, including without limitation, the execution, acknowledgment, and recordation of specific assignments, oaths, declarations, and other documents on a country-by-country basis, to assist Assignee in obtaining, perfecting, sustaining, and/or enforcing the Patent Rights. Assignor has not executed, and will not execute, any agreement in conflict herewith.

The undersigned hereby grant(s) the firm of <u>POLSINELLI PC</u> the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

The terms and conditions of this Assignment of Patent Rights will inure to the benefit of Assignee, its successors, assigns, and other legal representatives and will be binding upon Assignor, its successors, assigns, and other legal representatives.

By: Some March	Date: <u>08/18/</u> 2019
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8y:	Date:
Printed Name: Russell E. Tronstad	
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RECORDED: 09/20/2019