

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT4842448

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
ERIK SHAPIRO	10/05/2017
MUHAMMAD JAMAL AFRIDI	01/30/2018
ARUN ROSS	12/01/2017
XIAOMING LIU	12/01/2017
RECEIVING PARTY DATA	
Name:	BOARD OF TRUSTEES OF MICHIGAN STATE UNIVERSITY
Street Address:	450 ADMINISTRATION BUILDING
City:	EAST LANSING
State/Country:	MICHIGAN
Postal Code:	48824-1046
PROPERTY NUMBERS Total: 2	
Property Type	Number
Application Number:	15620545
Application Number:	62348248
CORRESPONDENCE DATA	
Fax Number:	(608)251-9166
<i>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.</i>	
Email:	pat-dept@quarles.com
Correspondent Name:	QUARLES & BRADY LLP
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Address Line 4:	MADISON, WISCONSIN 53703
NAME OF SUBMITTER:	STEPHEN J. GARDNER
SIGNATURE:	/Stephen J. Gardner/
DATE SIGNED:	02/27/2018
Total Attachments: 21	
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ASSIGNMENT

WHEREAS, we, the undersigned inventors, having our residences as set forth below, hereinafter referred to as "ASSIGNORS," have invented a certain new invention for:

SYSTEM AND METHOD FOR QUANTIFYING CELL NUMBERS IN MAGNETIC RESONANCE IMAGING (MRI)

as disclosed in a United States patent application which:

- ☒ Is executed concurrently herewith for filing in the United States Patent and Trademark Office and has been assigned Application Serial No. 15/620,545 with a filing date of June 12, 2017;
- ☐ Was previously filed in the United States Patent and Trademark office on June 10, 2016, as Application Serial No. 62/348,248; and/or
- ☐ Is a United States Application of PCT International Application No. _____ filed _____.

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WHEREAS, Board of Trustees of Michigan State University, hereinafter referred to as "ASSIGNEE", a public university of the State of Michigan organized under the laws of Michigan, with its principal place of business at 450 Administration Building, East Lansing MI 48824-1046, USA, is desirous of acquiring ASSIGNORS' entire right, title and interest in and to said invention, improvements, application and any Letters Patents which may be granted therefor or thereupon in any country, together with any and all non-provisional applications, divisions, continuations, continuations-in-part, reissues and extensions thereof in all countries throughout the world;

NOW, THEREFORE, to all whom it may concern, be it known that for good and valuable consideration by ASSIGNEE to ASSIGNORS, the receipt and sufficiency of which is hereby acknowledged, ASSIGNORS hereby sell, assign, transfer and set over unto ASSIGNEE, its successors and assigns, the entire right, title and interest in and to said invention, improvements, and in and to said application and any Letters Patents which may be granted therefor or thereupon, together with any and all non-provisional applications, divisions, continuations, continuations-in-part, reissues and extensions thereof, and ASSIGNORS authorize and request the Commissioner of Patents and Trademarks to issue any Letters Patent which may be granted for or upon said invention or applications, or patents resulting therefrom, insofar as my interest is concerned, unto ASSIGNEE in accordance with this Assignment. To the extent applicable, ASSIGNORS also hereby assign to ASSIGNEE, its successors and assigns, all right,

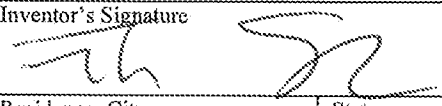
title and interest to sue third parties for any past, present or future infringement, and to collect all damages relating thereto, of all Letters Patents assigned herein.

ASSIGNORS also assign to ASSIGNEE, all right, title and interest in and to the invention disclosed in said application throughout the world, including the right to file applications and obtain patents, utility models, industrial models and designs throughout the world, including all rights to publish cautionary notices reserving ownership of said invention and all rights to register said invention in appropriate registries; and ASSIGNORS further agree to execute any and all powers of attorney, applications, assignments, declarations, affidavits, and any other papers in connection therewith necessary to perfect such right, title and interest in ASSIGNEE.

ASSIGNORS will communicate to ASSIGNEE, its successors and assigns or their representatives, any facts known to us respecting said invention and improvements; and, at the expense of ASSIGNEE, ASSIGNORS will fully cooperate in any legal proceedings, including any proceeding within the United States Patent and Trademark Office or other Patent Office anywhere in the world, relating thereto, sign all lawful papers, execute all non-provisional, divisional, continuing, continuations-in-part, reissue and substitute applications, make all rightful oaths and declarations, and, in addition, execute any and all documents required to vest title in ASSIGNEE and to aid ASSIGNEE to obtain and enforce proper protection for said invention in all countries.

ASSIGNORS covenant that ASSIGNORS have the full right to convey the interest assigned by this Assignment, and that ASSIGNORS have not executed and will not execute any agreement in conflict with this Assignment.

This Assignment shall be binding on the parties' successors, assigns and legal representatives.

NAME OF SOLE OR FIRST INVENTOR:			
Given Name (first and middle[if any])		Family Name or Surname	
Erik		Shapiro	
Inventor's Signature		Date	
		10-5-17	
Residence: City	State	Country	Citizenship
Okemos	MI	US	US
Address		Postal Code	Country
4548 Spicewood Dr.		48864	US

Witness: Dianne Dombrowski 10/5/17
Dianne Dombrowski

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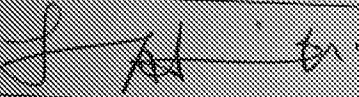
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Given Name (first and middle[if any])		Family Name or Surname	
Erik		Shapiro	
Inventor's Signature			Date
Residence: City	State	Country	Citizenship
Okemos	MI	US	US
Address		Postal Code	Country
4548 Spicewood Dr.		48864	US

JOINT ASSIGNMENT

Attorney Docket No. TEC2016-0095-01/203128.00015

NAME OF ADDITIONAL JOINT INVENTOR, if any:			
Given Name (first and middle(if any))		Family Name or Surname	
Muhammad Jamal		Afridi	
Inventor's Signature		Date	
			
Residence City	State	Country	Citizenship
Woodbury	MN	US	Pakistan
Address		Postal Code	Country
10300 City Walk Dr., Unit 420		55129	US

NAME OF ADDITIONAL JOINT INVENTOR, if any:			
Given Name (first and middle[if any]) Arun		Family Name or Surname Ross	
Inventor's Signature			Date
Residence: City East Lansing	State MI	Country US	Citizenship US
Address 1149 Harrington Lane		Postal Code 48823	Country US

NAME OF ADDITIONAL JOINT INVENTOR, if any:			
Given Name (first and middle[if any]) Xiaoming		Family Name or Surname Liu	
Inventor's Signature		Date	
Residence: City Okemos	State MI	Country US	Citizenship P.R. China
Address 2607 Sophiea Pkwy.		Postal Code 48824	Country US

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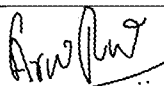
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Given Name (first and middle[if any])		Family Name or Surname	
Erik		Shapiro	
Inventor's Signature		Date	
Residence: City	State	Country	Citizenship
Okemos	MI	US	US
Address		Postal Code	Country
4548 Spicewood Dr.		48864	US

NAME OF ADDITIONAL JOINT INVENTOR, if any:			
Given Name (first and middle[if any])		Family Name or Surname	
Muhammad Jamal		Afridi	
Inventor's Signature		Date	
Residence: City	State	Country	Citizenship
Woodbury	MN	US	Pakistan
Address		Postal Code	Country
10300 City Walk Dr., Unit 420		55129	US

NAME OF ADDITIONAL JOINT INVENTOR, if any:			
Given Name (first and middle[if any]) Arun		Family Name or Surname Ross	
Inventor's Signature  Arun Ross		Date 1 Dec 2017	
Residence: City East Lansing	State MI	Country US	Citizenship US
Address 1149 Harrington Lane		Postal Code 48823	Country US

NAME OF ADDITIONAL JOINT INVENTOR, if any:			
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Xiaoming		Liu	
Inventor's Signature			Date
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Given Name (first and middle[if any])		Family Name or Surname	
Xiaoming		Liu	
Inventor's Signature 		xiaoming Liu	Date 12/1/2017
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Address		Postal Code	Country
2607 Sophiea Pkwy.		48824	US