PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JENNIFER K. BARTON	04/27/2016
RAYMOND K. KOSTUK	04/27/2016

RECEIVING PARTY DATA

Name:	THE ARIZONA BOARD OF REGENTS ON BEHALF OF THE UNIVERSITY OF ARIZONA
Street Address:	220 WEST SIXTH STREET, 4TH FLOOR
Internal Address:	TECH TRANSFER OFFICE
City:	TUCSON
State/Country:	ARIZONA
Postal Code:	85701

PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	13500461
Application Number:	61381369

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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Address Line 1: 265 FRANKLIN STREET

Address Line 2: DAVID R. BURNS

Address Line 4: BOSTON, MASSACHUSETTS 02110

ATTORNEY DOCKET NUMBER: 122288-60102

NAME OF SUBMITTER: ANITA M. BOWLES

SIGNATURE: /Anita M. Bowles/

DATE SIGNED: 04/29/2016

Total Attachments: 6

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PATENT REEL: 038422 FRAME: 0288

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PATENT REEL: 038422 FRAME: 0289

ASSIGNMENT OF PATENT RIGHTS

Assignor: Raymond K. Kostuk of Tucson, Arizona

Jennifer K. Barton of Tucson, Arizona

Assignee: The 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 Transfer Arizona, University Services Annex, 4th Floor, P.O. Box 210300A, Tucson, AZ 85721 (physically located at The University of Arizona, Tech Transfer 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 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"):

the provisional patent applications, patent applications and patents listed in the table below (a) (the "Patents");

UA Ref. No.	Patent or Application No.	Country	Filing Date	Title of Patent and First Named Inventor
UA10-045	13/500,461	US	9/14/2012	System, Method and Apparatus for Contrast Enhanced Multiplexing of Images; -George Barbastathis
UA10-045	PCT/US10/51979	РСТ	10/8/2010	System, Method and Apparatus for Contrast Enhanced Multiplexing of Images -George Barbastathis
UA10-045	61/381,369	US	9/09/2010	System, Method and Apparatus for Contrast Enhanced Multiplexing of Images; -George Barbastathis

- 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 applications that directly or indirectly incorporate by reference the Patents;
- 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);
- 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, 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; and
- 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

PATENT REEL: 038422 FRAME: 0290 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.

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 McCarter & English, LLP, 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.

IN WITNESS WHEREOF this Assignment of Patent Rights is executed on the dates below.

ASSIGNOR:	
By: Japan // Sixty	Date: 4-27-20/6
Printed Name: Raymond K. Kostuk	
STATE OF ARIZONA)	
STATE OF ARIZONA) COUNTY OF PIMH) ss.	
On this 27th day of Agriculture day of Ugriculture undersigned Notary Public or Witness, personally app Kostuk), known to me (or proven to me on the basis of are subscribed to the within instrument, and acknowless.	f satisfactory evidence) to be the persons whose names
SEAL OFFICIAL SEAL NANCY J EMPTAGE NOTARY PUBLIC - State of Arizona PIMA COUNTY My Comm. Expres May 5, 2019	NAME OF ENDOY NOTARY PUBLIC OF WITNESS MY COMMISSION EXPIRES: 744 5 -2019

PATENT REEL: 038422 FRAME: 0291

ASSIGNOR:			
Ву:			Date:
Printed Name: <u>Jenn</u>	ifer K. Barton		
STATE OF)	SS.	
COUNTY OF	j		
undersigned Notary Public Barton), known to me (or p	or Witness, pers	onally ap the basis (in the year of, before me, the opeared the above-named ASSIGNOR (Jennifer K. of satisfactory evidence) to be the persons whose name vledged that they executed the same.
			NOTARY PUBLIC or WITNESS MY COMMISSION EXPIRES:

SEAL

ASSIGNMENT OF PATENT RIGHTS

Assignor:

Raymond K. Kostuk of Tucson, Arizona Jennifer K. Barton of Tucson, Arizona

Assignee:

The 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 Transfer Arizona, University Services Annex, 4th Floor, P.O. Box 210300A, Tucson, AZ 85721 (physically located at The University of Arizona, Tech Transfer Arizona, 220 West Sixth Street, 4th Floor, Tucson, AZ 85701).

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·			'	Images;
				-George Barbastathis
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- (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.

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.

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IN WITNESS WHEREOF this Assignment of Patent Rights is executed on the dates below.

ASSIGNOR:	
Ву:	Date:
Printed Name: Raymond K. Kostuk	
STATE OF)	
COUNTY OF) ss.	
undersigned Notary Public or Witness, personally	, in the year of, before me, the appeared the above-named ASSIGNOR (Raymond K. sis of satisfactory evidence) to be the persons whose names nowledged that they executed the same.
OTA I	NOTARY PUBLIC or WITNESS MY COMMISSION EXPIRES:
SEAL	

ASSIGNOR:				
By: Jufk Burk	Date: 4/27/16			
Printed Name: <u>Jennifer K. Barton</u>	_			
STATE OF Arizona) ss.				
COUNTY OF time)				
On this 27th day of April , in the year of 2016 , before me, the undersigned Notary Public or Witness, personally appeared the above-named ASSIGNOR (Jennifer K. Barton), known to me (or proven to me on the basis of satisfactory evidence) to be the persons whose names are subscribed to the within instrument, and acknowledged that they executed the same.				
ROSE M EVANS NOTARY PUBLIC - ARIZONA Pima County My Commission Expires February 3, 2019	NOTARY PUBLIC OF WITNESS MY COMMISSION EXPIRES: Feb 3, 2019			