

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT2841716

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
RADU MARCULESCU	04/29/2014
PAUL BOGDAN	04/30/2014
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	CARNEGIE MELLON UNIVERSITY, A PENNSYLVANIA NON-PROFIT CORPORATION
<b>Street Address:</b>	4615 FORBES AVENUE
<b>Internal Address:</b>	SUITE 302
<b>City:</b>	PITTSBURGH
<b>State/Country:</b>	PENNSYLVANIA
<b>Postal Code:</b>	15213
<b>PROPERTY NUMBERS Total: 2</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	14252265
<b>Application Number:</b>	61853829
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(412)456-2864
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>	
<b>Phone:</b>	4124562817
<b>Email:</b>	pjb@muslaw.com
<b>Correspondent Name:</b>	PETER J. BORGHETTI
<b>Address Line 1:</b>	535 SMITHFIELD STREET
<b>Address Line 2:</b>	SUITE 1300
<b>Address Line 4:</b>	PITTSBURGH, PENNSYLVANIA 15222
<b>ATTORNEY DOCKET NUMBER:</b>	279430.138_NP
<b>NAME OF SUBMITTER:</b>	PETER J. BORGHETTI
<b>SIGNATURE:</b>	/Peter J. Borghetti/
<b>DATE SIGNED:</b>	05/05/2014
<b>Total Attachments: 4</b>	
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ASSIGNMENT

WHEREAS, Radu Marculescu of Pittsburgh, Pennsylvania, U.S.A. and Paul Bogdan of Los Angeles, California, U.S.A. (herein collectively referred to as "ASSIGNORS"), are the owners of all right, title, and interest, for all countries, in and to any and all inventions and improvements which are disclosed and claimed, and any and all improvements which are disclosed but not claimed, in the following United States Patent Application (said inventions, improvements, and patents collectively referred to herein as "PATENT PROPERTY"):

IMPLANTABLE PACEMAKERS CONTROL AND OPTIMIZATION VIA FRACTIONAL CALCULUS APPROACHES

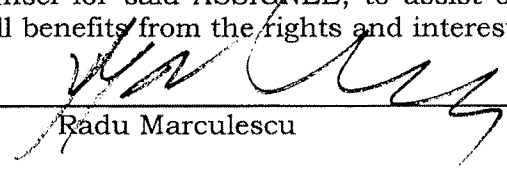
for which an application for United States Patent was filed on April 14, 2014 and assigned application serial number 14/252,265, which claims the benefit of U.S. provisional application serial number 61/853,829 filed on April 12, 2013 (the "PATENT PROPERTY").

AND WHEREAS Carnegie Mellon University, a Pennsylvania Non-Profit Corporation, having an office at 4615 Forbes Avenue, Suite 302, Pittsburgh, Pennsylvania 15213, U.S.A. (herein "ASSIGNEE"), is desirous of acquiring ASSIGNORS' entire right, title, and interest in and to said PATENT PROPERTY and the inventions and improvements therein disclosed.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, and intending to be bound hereby, ASSIGNORS hereby assign, sell, transfer, and set over unto said ASSIGNEE, effective immediately, their entire right, title, and interest in and to said PATENT PROPERTY and the inventions and improvements therein disclosed or hereinafter developed for the United States and all foreign countries and any Letters Patent which may issue therefrom in the United States and all foreign countries and all divisionals, reissues, continuations, continuations in part, requests for continued examinations, renewals, and/or extensions thereof including all priority rights under the International Convention associated therewith for each country in the Union, said ASSIGNEE to have and to hold the interests herein assigned to the full ends of the terms of said Letters Patent and any and all divisionals, reissues, continuations, requests for continued examinations, renewals, and/or extensions thereof, respectively, as fully and entirely as the same would have been held and enjoyed by ASSIGNORS had this assignment not been made.

And for the consideration aforesaid, ASSIGNORS agree that they will communicate to said ASSIGNEE or the representatives thereof any facts known to ASSIGNORS respecting said inventions and improvements, and will, upon request, but at ASSIGNEE'S expense, testify in any legal proceedings, sign all lawful papers, execute all divisional, reissue, continuation, continuation in part, request for continued examination, renewal, and/or extension applications, make all rightful oaths, and generally do all other and further lawful acts, deemed necessary or expedient by said ASSIGNEE or by counsel for said ASSIGNEE, to assist or enable said ASSIGNEE to obtain and enforce full benefits from the rights and interests herein assigned.

Dated: 04/29/14.

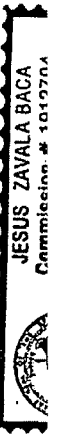
  
\_\_\_\_\_  
Radu Marculescu

Dated: \_\_\_\_\_

\_\_\_\_\_

Dated: 04/30/2014

Paul Bogdan  
Paul Bogdan



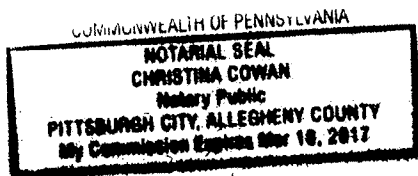
Commonwealth of Pennsylvania :  
:  
County of Allegheny :

Before me, a Notary Public in and for the said County and State, personally appeared Radu Marculescu, who acknowledged that he is the person who executed the foregoing Assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this 29<sup>th</sup> day of April, 2014.

Christ. Cowan  
Notary Public

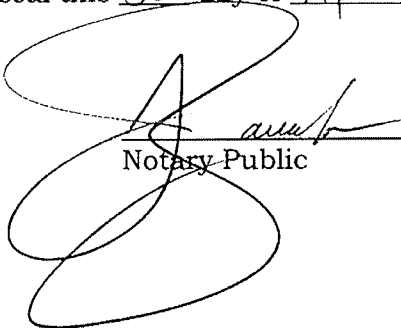
(NOTARY SEAL)



State of California :  
County of Los Angeles :

Before me, a Notary Public in and for the said County and State, personally appeared Paul Bogdan, who acknowledged that he is the person who executed the foregoing Assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this 30 day of April, 2014.

  
Notary Public

(NOTARY SEAL)

