

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT3418952

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
WARREN M GRILL JR	06/24/2015
ALAN D DORVAL II	06/24/2015
ROBERT STROTHER	06/25/2015
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<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	14529291
<b>CORRESPONDENCE DATA</b>	
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<b>ATTORNEY DOCKET NUMBER:</b>	37696-00041
<b>NAME OF SUBMITTER:</b>	TODD A. BENNI
<b>SIGNATURE:</b>	/Todd A. Benni/
<b>DATE SIGNED:</b>	06/30/2015
This document serves as an Oath/Declaration (37 CFR 1.63).	
<b>Total Attachments: 6</b>	

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**COMBINED ASSIGNMENT AND DECLARATION OF PATENT APPLICATION**

**Assignment of Patent Application**

Whereas, we, Warren M. Grill, Jr., having an address at 405 Rock Garden Road, Chapel Hill, NC 27516, United States of America; Alan D. Dorval II, having an address at 1118 Herbert Avenue, Salt Lake City, UT 84105, United States of America; and Robert Strother, having an address at 37895 Rogers Road, Willoughby Hills, OH 44094, hereinafter referred to as "Assignors," have invented, a new and useful invention, for which a U.S. Utility Continuation-in-Part Patent Application was filed on October 31, 2014, having Attorney Docket No. 37696-00041 and Application No. 14/529,291; U.S. Continuation Patent Application filed on October 5, 2009, having Attorney Docket No. 37696-00002 and Application No. 12/587,295, now U.S. Patent 8,447,405; U.S. Provisional Patent Application filed on October 3, 2008, having Application No. 61/102,575; and any subsequent applications filed in connection with the above invention (the "Patent").

Whereas, Duke University, having an address at 2812 Erwin Road, Suite 306, Durham, NC 27705, hereinafter referred to as "Assignee," is desirous of acquiring the entire right, title and interest in and to said Patent;

NOW, THEREFORE, in consideration of the sum of ten dollars (\$10.00), and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, we, the Assignors, by these presents do sell, assign and transfer unto Assignee, its successors and assigns, the full and exclusive right to the Patent and all letters patent of foreign countries which may be or have been issued on the invention disclosed in the Patent, all divisions, reissues, and continuations thereof, and all inventions disclosed therein, together with all claims for damages by reason of past or future infringement, with the right to sue for and collect the same for the use and benefit of Assignee and its successors and assigns.

Ref. #37696-00041

**“NON-REGULAR ELECTRICAL STIMULATION PATTERNS FOR TREATING  
NEUROLOGICAL DISORDERS”**

Assignors warrant that they are the exclusive owners of the entire legal and equitable interest in the Patent and the invention disclosed therein, free and clear of all liens and encumbrances; and that they have full power, authority, and capacity to make this Assignment to Assignee. Assignors covenant and agree, for themselves and for their successors and assigns that, at Assignee's request, Assignors will cause to be executed and delivered any applications, affidavits, assignments, and other instruments as may be deemed necessary or desirable by Assignee to secure for or vest in Assignee, its successors or assigns, all right, title, and interest in and to any application, patent, or other right or property covered by this assignment, including the right to apply for and obtain patents in foreign countries under the provisions of the International Convention; and Assignors hereby request and authorize the United States Commissioner of Patents and Trademarks to issue any and all United States patents granted on the Patent to Assignee as owner of the entire right, title, and interest in and to the same, and authorizes appropriately empowered officials of foreign countries to issue any letters patent granted on the Patent to Assignee as owner of the entire right, title, and interest in and to the same.

**Declaration (37 CFR 1.63) For Utility Or Design Application Using An Application Data  
Sheet (37 CFR 1.76)**

Title of Invention:    Non-Regular Electrical Stimulation Patterns For Treating Neurological  
   Disorders

As the below named inventor, I hereby declare that this declaration is directed to the attached application.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

Ref. #37696-00041

**“NON-REGULAR ELECTRICAL STIMULATION PATTERNS FOR TREATING  
NEUROLOGICAL DISORDERS”**

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR §1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

**[Signature pages follow.]**

Ref. #37696-00041

"NON-REGULAR ELECTRICAL STIMULATION PATTERNS FOR TREATING  
NEUROLOGICAL DISORDERS"

Legal Name of Inventor: Warren M. Grill, Jr.

By: Warren M. Grill  
Warren M. Grill, Jr.

Date: 6/24/2015

WITNESS:

Tianke Zhang

Tianke Zhang  
Print Name

6/24/2015  
Date

Ref. #37696-00041

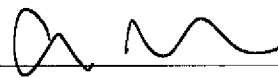
"NON-REGULAR ELECTRICAL STIMULATION PATTERNS FOR TREATING  
NEUROLOGICAL DISORDERS"

Legal Name of Inventor: Alan D. Dorval II

By:   
Alan D. Dorval II

Date: 24 JUN 2015

WITNESS:

  
\_\_\_\_\_

Charles Mitchell  
Print Name

6/24/15  
Date

Ref. #37696-00041

"NON-REGULAR ELECTRICAL STIMULATION PATTERNS FOR TREATING  
NEUROLOGICAL DISORDERS"

Legal Name of Inventor: Robert Strother

By: *Robert B. Strother*  
Robert Strother

Date: 25 June 2015

WITNESS:

*Kelly J. Marcelletti*

Kelly J. Marcelletti  
Print Name

July 25, 2015  
Date