505611355 08/07/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5658157

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|--------------------------------|----------------|
| TIMOTHY SLEASMAN | 07/02/2019 |
| LAURA PULIDO MANCERA | 07/01/2019 |
| JONAH GOLLUB | 07/30/2019 |
| MICHAEL BOYARSKY | 07/08/2019 |
| THOMAS FROMENTEZE | 06/27/2019 |
| SEYEDMOHAMMADREZA FAGHIH IMANI | 07/30/2019 |
| DAVID R. SMITH | 07/05/2019 |

RECEIVING PARTY DATA

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| State/Country: | NORTH CAROLINA |
| Postal Code: | 27705 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 16436037 |

CORRESPONDENCE DATA

Fax Number: (415)248-2101

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|----------------------------------|---------------------|
| NAME OF SUBMITTER: | KORY D. CHRISTENSEN |
| SIGNATURE: /Kory D. Christensen/ | |

505611355 PATENT REEL: 049993 FRAME: 0569

| DATE SIGNED: | 08/07/2019 |
|---|--------------------|
| Total Attachments: 8 | |
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PATENT REEL: 049993 FRAME: 0570

PATENT APPLICATION
Docket No.: DU5129US

ASSIGNMENT

We, Timothy Sleasman, Laura Pulido Mancera, Jonah Gollub, Michael Boyarsky, Thomas Fromenteze, Seyedmohammadreza Faghih Imani, and David R. Smith, have invented the inventions described in a United States Patent Application Serial No. 16/436,037 filed June 10, 2019, for SINGLE-FREQUENCY DYNAMIC METASURFACE MICROWAVE IMAGING SYSTEMS AND METHODS OF USE, in the United States Patent and Trademark Office.

The Assignee, Duke University, 2812 Erwin Rd., Ste 306, Duke Box #90083, Durham, NC 27705, desires to secure the entire right, title and interest therein.

For good and valuable consideration, the receipt and sufficiency of which we hereby acknowledge, WE HEREBY ASSIGN TO THE ASSIGNEE:

The entire right, title, and interest in the above-identified United States patent application and in all patents issuing thereon, any inventions described in said application, and in all divisions, continuations, continuations-in-part, reissues, or extensions of said application, and in all corresponding applications filed in countries foreign to the United States and all foreign patents issuing thereon.

The right to file foreign patent applications on said invention in its own name, wherever such right may be legally exercised, including the right to claim the benefits of the International Convention for such applications.

We hereby authorize and request the United States Commissioner of Patents and Trademarks, and such Patent Office officials in foreign countries as are duly authorized by their patent laws to issue patents, to issue any and all patents on said invention to the Assignee as the owner of the entire interest, for the sole use and benefit of the said Assignee, its successors, assigns and legal representatives.

We hereby agree, without further consideration and without expense to us, to sign all lawful papers and to perform all other lawful acts which the Assignee may request of us to make this Assignment fully effective, including, by way of example but not of limitation, the following:

Prompt execution of all original, divisional, substitute, reissue, and other United States and foreign patent applications on said invention, and all lawful documents requested by the Assignee to further the prosecution of any of such patent applications.

PATENT REEL: 049993 FRAME: 0571

| This assignment and agreement shall be binding upon our hei | rs and legal representatives. |
|---|-------------------------------|
| Joseph Sham | |
| Timothy Sleasman | |
| 2019-07-02 | |
| DATE (YYYY-MM-DD) | |
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| | |
| Laura Pulido Mancera | |
| | |
| DATE (YYYY-MM-DD) | |
| | |
| Jonah Gollub | |
| | |
| DATE (YYYY-MM-DD) | |
| | |
| Michael Boyarsky | |
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| DATE (YYYY-MM-DD) | |
| | |
| Thomas Fromenteze | |
| i nomas l'iomenieze | |
| DATE (YYYY-MM-DD) | |
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This assignment and agreement shall be binding upon our heirs and legal representatives.

| Timothy Sleasman | |
|---------------------------------|---------|
| DATE (YYYY-MM-DD) | |
| Thursday 1 | |
| Laura Pulido Mancera | |
| 2019/07/01 DATE (YYYY-MM-DD) | <u></u> |
| Jonah Gollub | |
| DATE (YYYY-MM-DD) | |
| Michael Boyarsky | |
| DATE (YYYY-MM-DD) | |
| Thomas Fromenteze | |
| ATE (YYYY-MM-DD) | |

| This assignment and agreement shall be binding upon our heirs and legal representatives. |
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| Timothy Sleasman |
| DATE (YYYY-MM-DD) |
| Laura Pulido Mancera |
| DATE (YYYY-MM-DD) |
| Johan Gallub 2019-07-30 DATE (YYYY-MM-DD) |
| Michael Boyarsky |
| DATE (YYYY-MM-DD) |
| Thomas Fromenteze |
| DATE (YYYY-MM-DD) |

This assignment and agreement shall be binding upon our heirs and legal representatives.

Timothy Sleasman DATE (YYYY-MM-DD) Laura Pulido Mancera DATE (YYYY-MM-DD) Jonah Gollub DATE (YYYY-MM-DD) Michael Boyarsk 2019-07-DATE (YYYY-MM-DD) Thomas Fromenteze DATE (YYYY-MM-DD)

This assignment and agreement shall be binding upon our heirs and legal representatives.

| Timothy Sleasman |
|------------------------------|
| DATE (YYYY-MM-DD) |
| Laura Pulido Mancera |
| DATE (YYYY-MM-DD) |
| Jonah Gollub |
| DATE (YYYY-MM-DD) |
| Michael Boyarsky |
| DATE (YYYY-MM-DD) |
| Thomas Fromenteze |
| DATE (YYYY-MM-DD) 2019-06-27 |

| M. M. | |
|--------------------------------|--|
| Seyedmohammadreza Faghih Imani | |
| 2019 _07-30 | |
| DATE (YYYY-MM-DD) | |
| | |
| David R. Smith | |
| DATE (YYYY-MM-DD) | |

| | Seyedmohammadreza Faghih Imani |
|------------|--------------------------------|
| | DATE (YYYY-MM-DD) |
| Daid R. LL | |
| | David R. Smith |
| 2019-07-05 | |
| | DATE (YYYY-MM-DD) |

PATENT REEL: 049993 FRAME: 0578

RECORDED: 08/07/2019