

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
MAIKEN H. MIKKELSEN	05/10/2017
DAVID R. SMITH	04/18/2017
GLEB M. AKSELROD	07/12/2017
RECEIVING PARTY DATA	
Name:	DUKE UNIVERSITY
Street Address:	2812 ERWIN ROAD
Internal Address:	SUITE 306
City:	DURHAM
State/Country:	NORTH CAROLINA
Postal Code:	27705
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	15508198
CORRESPONDENCE DATA	
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<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>	
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ATTORNEY DOCKET NUMBER:	210-57-UTIL
NAME OF SUBMITTER:	BENTLEY J. OLIVE
SIGNATURE:	/Bentley J. Olive/
DATE SIGNED:	12/06/2017
Total Attachments: 7	
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Atty Docket No.: 210-57-UTIL
Duke Ref.: DU4456 & DU4517

ASSIGNMENT

THIS ASSIGNMENT, effective on the 15th day of March, 2017, by **Maiken H. Mikkelsen**, 2812 Erwin Road, Suite 306, Durham, North Carolina, 27705, United States; **David R. Smith**, 2812 Erwin Road, Suite 306, Durham, North Carolina, 27705, United States; and **Gleb M. Akselrod**, 2812 Erwin Road, Suite 306, Durham, North Carolina, 27705, United States; (hereinafter referred to as Assignor[s]);

WHEREAS, Assignors have invented certain new and useful improvements in **NANOPATCH ANTENNAS AND RELATED METHODS FOR TAILORING THE PROPERTIES OF OPTICAL MATERIALS AND METASURFACES**, for which a Patent Application was made on March 2, 2017 in the United States as application no. 15/508,198, which claims priority to PCT International Patent Application No. PCT/US2015/055033, filed October 10, 2015, which claims the benefit of U.S. Provisional Patent Application Number 62/062,235, filed October 10, 2014, and U.S. Provisional Patent Application Number 62/102,787, filed January 13, 2015; and

WHEREAS, Duke University, a College organized under and pursuant to the laws of North Carolina having its principal place of business at 2812 Erwin Rd., Ste 306, Durham, North Carolina 27705 (hereinafter referred to as Assignee), is desirous of acquiring the entire right, title and interest in and to said invention and said Application for Letters Patent of the United States and all foreign countries, and in and to any Letters Patent of the United States and all foreign countries to be obtained therefore and thereon.

NOW, THEREFORE, for good and sufficient consideration, the receipt of which is hereby acknowledged, Assignor have assigned, transferred and set over, and by these presents do assign, transfer and set over, unto Assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned invention and applications for Letters Patent, and in and to any and all divisionals, continuations and continuations-in-part of said applications, and any and all Letters Patent in the United States and all foreign countries which may be granted

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therefore and thereon, and reissues, reexaminations and extensions of said Letters Patent, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by Assignee, for its own use and benefit and the use and benefit of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent may be granted and/or extended, as fully and entirely as the same would have been held and enjoyed by Assignors, had this assignment not been made. The assignment of the right to claim entitlement and/or priority is executed *nunc pro tunc* and is considered effective as of the filing date of the earliest application to which priority and/or entitlement is claimed.

This Assignment is based on our employment relationship with Duke University to assign the foregoing invention, and any patent applications therefore, in exchange for Assignee payment of patent prosecution costs and other valuable consideration, the receipt and sufficiency of which is hereby expressly acknowledged by the inventors.

AND, for the same consideration, Assignors hereby represent and warrant to Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, except for any rights, titles and/or interests that have arisen to Assignee under law or that have already been transferred to Assignee, Assignors are the sole and lawful owners of the entire right, title, and interest in and to the said inventions and applications for Letters Patent above-mentioned, and that the same are unencumbered and that Assignors have good and full right and lawful authority to assign and convey the same in the manner herein set forth.

AND, for the same consideration, Assignors hereby covenant and agree, and likewise binds his heirs, legal representatives and assigns, to and with Assignee, its successors, legal representatives and assigns, that Assignors will sign all papers and documents, take all lawful oaths and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of any Letters Patent and applications for Letters Patent for said invention, whenever counsel of Assignee, or counsel of its successors, legal representatives and assigns, shall advise: that any proceeding in connection with said invention, or said Patent application for Letters

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Patent, or any proceeding in connection with any Letters Patent or applications for Letters Patent for said invention in any country, including but not limited to derivative or post-grant proceedings, is lawful and desirable; or that any division, continuation or continuation-in-part of any application for Letters Patent, or any reissue, reexamination or extension of any Letters Patent, to be obtained thereon, is lawful and desirable.

AND Assignors hereby request the U.S. Commissioner of Patent and Trademarks and the Patent and Trademark Offices of all foreign countries respectively, to issue said Letters Patent of the United States and all foreign countries to Assignee, as Assignee of said invention and the Letters Patent to be issued thereon, for the sole use and benefit of Assignee, its successors, legal representatives and assigns.

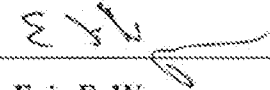
AND Assignors acknowledge an obligation of assignment of this invention to Assignee at the time the invention was made.

<< Signature Page Follows >>

Atty Docket No.: 210-57-UTIL
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ASSIGNEE

Executed this 17 day of July, 2017

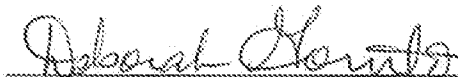
Assignee Signature: 
Eric F. Wagner

Title: Associate Director -- Legal

Address: Duke University
2812 Erwin Rd, Ste.
Mail Box 90083
Durham, NC 27708

Witnessed by:

 7/17/17
Name Date

 7/17/17
Name Date

Atty Docket No.: 210-57-UTIL
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ASSIGNORS

Executed this 10 day of May, 2017

Inventor Signature: M. Mikkelsen
Maiken H. Mikkelsen

Witnessed by:

Alex Wassere 5/10/17
Name Date

Sharon Delay 5/10/17
Name Date

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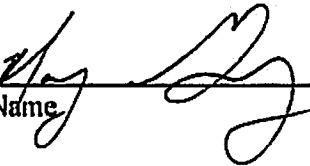
ASSIGNORS

Executed this 18th day of April, 2017

Inventor Signature: 
David R. Smith

Witnessed by:


 / KAROLINA ANGELL 4/18/17
Name Date

 18 Apr 2017
Name Date

Atty Docket No.: 210-57-UTIL
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ASSIGNORS

Executed this 12 day of July, 2017

Inventor Signature: 
Gleb M. Akselrod

Witnessed by:

 7/12/17
Name Date

 7/12/17
Name Date