

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
ALAN E. WILLNER	01/19/2017
YONGXIONG REN	01/18/2017
LONG LI	01/19/2017
GUODONG XIE	01/19/2017
YINWEN CAO	01/19/2017
ZHE WANG	01/19/2017
CONG LIU	01/19/2017
ASHER J. WILLNER	01/29/2017
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PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	15372256
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NAME OF SUBMITTER:	KETAN S. VAKIL

PATENT

SIGNATURE:	/Ketan S. Vakil/
DATE SIGNED:	03/16/2017
Total Attachments: 9 source=71523-01800 Assignment#page1.tif source=71523-01800 Assignment#page2.tif source=71523-01800 Assignment#page3.tif source=71523-01800 Assignment#page4.tif source=71523-01800 Assignment#page5.tif source=71523-01800 Assignment#page6.tif source=71523-01800 Assignment#page7.tif source=71523-01800 Assignment#page8.tif source=71523-01800 Assignment#page9.tif	

**IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE**

**COMBINED DECLARATION AND ASSIGNMENT FOR UTILITY OR DESIGN
APPLICATION USING AN APPLICATION DATA SHEET**

Inventor(s): Alan E. Willner
Yongxiong Ren
Long Li
Guodong Xie
Yinwen Cao
Zhe Wang
Cong Liu
Asher J. Willner

Docket No.: 71523-01800

Serial No.: 15/372,256

Filing Date: December 7, 2016

Title: **SYSTEMS AND TECHNIQUES FOR COMMUNICATION USING
COMBINED ORBITAL ANGULAR MOMENTUM AND
MULTIPLE-INPUT-MULTIPLE-OUTPUT PROCESSING**

Pursuant to 35 U.S.C. § 115(e), Applicant(s) herewith submit for recordation a combined declaration and assignment.

Declaration

As the below named inventor, I/we hereby declare that:

The captioned application was made or authorized to be made by me/us.

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

I/we 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 (5) years, or both.

I/we acknowledge that a person may not execute an oath or declaration for an application unless that person has reviewed and understands the contents of the application, including the claims, and is aware of the duty to disclose to the U.S. Patent and Trademark Office all information known to the person to be material to patentability as defined in 37 CFR 1.56.

Assignment

WHEREAS, the undersigned inventors of the addresses indicated below (“ASSIGNOR”) has invented subject matter disclosed and/or claimed in the captioned patent application;

AND WHEREAS, University of Southern California, an entity organized and existing under and by virtue of the laws of California, having a place of business and mailing address at USC

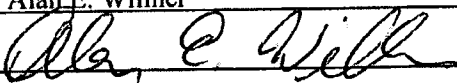
Stevens Institute for Innovation, 1150 South Olive Street, Suite 2300, Los Angeles, CA 90015, hereinafter, "ASSIGNEE", is desirous of obtaining an interest or memorializing its interest therein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR by these presents does sell, assign and transfer unto ASSIGNEE, its successors, assigns and legal representatives, any and all of ASSIGNOR'S rights, title, and interest to the subject matter and inventions, as described in the aforesaid application, including patent, copyright and any other intellectual property rights, any provisional, non-provisional, continuation, continuation in part, divisional, reissue, reexamination, foreign, PCT or other patent application or like document, or any other application which claims priority to said application, including the rights to sue for all past and future causes of action related to said inventions and subject matter, in the United States and all foreign countries, together with the right of priority under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States adheres, and hereby authorizes and requests all countries to issue said patents to ASSIGNEE, including all renewals, extensions, and reissue and reexamination certificates for the sole use and benefit of ASSIGNEE, its successors, assigns and legal representatives;

AND HEREBY AGREES, without further remuneration, to transfer to ASSIGNEE, its successors, assigns and legal representatives a like interest in and to any improvements, related new matter, and derivative works, and applications based thereon, growing out of or relating to the inventions or subject matter, and to provide all reasonable assistance and execute any papers, if accurate, desired by ASSIGNEE, its successors, assigns and legal representatives, to preserve, acquire and/or perfect ASSIGNEE'S full rights, title and interest in and to the invention(s) and subject matter and any improvements and to file any of the aforementioned applications, or to further memorialize ASSIGNEE'S prior agreement to do so; ASSIGNOR authorizes ASSIGNEE and its appointed patent counsel to insert on this document any further identification that may be necessary or desirable by any patent office.

EXECUTED as of the date(s) written below by DECLARANT/ASSIGNOR:


Full name of inventor: Alan E. Willner

Inventor's signature:  Date: 1/19/2017

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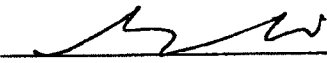
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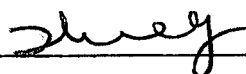
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Inventor's signature: *Yinwen Cao* Date: 1/19/2017

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Full name of inventor: Cong Liu

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Inventor's signature:  Date: 01-29-12

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