JUN 2 7 2019 5

**YO-1595** (Rev. 03-09) No. 0651-0027 (exp. 03/31/2009) 07/01/2019



103680564

U.S. DEPARTMENT OF COMMERCE United States Patent and Trademark Office

T

PAIENIS UNLT	
To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.	
Name of conveying party(ies)	2. Name and address of receiving party(ies)
	Name: NAVY, SECRETARY OF THE UNITED STATES
PURDUE UNIVERSITY	Internal Address: OF AMERICA
Additional name(s) of conveying party(ies) attached? Yes X No	OFFICE OF NAVAL RESEARCH
3. Nature of conveyance/Execution Date(s):  Execution Date(s) / 3/8	Street Address: 875 NORTH RANDOLPH STREET
Assignment Merger	
Security Agreement Change of Name	City: ARLINGTON
Joint Research Agreement	State:VA
Government Interest Assignment	Country: USA Zip: 22203-1995
Executive Order 9424, Confirmatory License	Country, 03A 21p. 22203-1993
Other	Additional name(s) & address(es) attached? Yes X No
4. Application or patent number(s):	document is being filed together with a new application.
A. Patent Application No <sub>s</sub> (s)	B <sub>.</sub> Patent No.(s)
16/057 120	
16/057,130	•
Additional numbers att	ached? Yes XNo
5. Name and address to whom correspondence 6. Total number of applications and patents	
concerning document should be mailed:	involved: 1
Name: CAROL PETROSKY	7. Total fee (37 CFR 1.21(h) & 3.41) \$
Internal Address: OFFICE OF NAVAL RESEARCH	
OFFICE OF COUNSEL	Authorized to be charged to deposit account
Street Address: 875 NORTH RANDOLPH STREET	Enclosed
	None required (government interest not affecting title)
City: arlington	8. Payment Information
State: VA Zip: 22203-1995	
Phone Number: 703-696-4008	Danasit Assault Number
Fax Number: 703-696-6909	Deposit Account Number
Email Address: CAROL, PETROSKY@NAVY. MIL	Authorized User Name
9. Signature:	TORKY 06/26/2019
Signature	Date
CAROL PETROSKY  Name of Person Signing	Total number of pages including cover sheet, attachments, and documents:

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to: Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

## License to the United States Government

Sign and submit the executed document to the appropriate runding agency (e.g. upload in iEdison).
Invention Title: Holey Optical Device
Inventor(s): Vladimir Shalaev, Satoshi Ishii, Alexander Kildishev
U.S. Filing/Issue Date: 08/07/2018
Patent or Application Serial No.: 16/057,130
Grant/Contract Number(s): N00014-10-1-0942
Foreign Applications filed/intended in (countries):
The invention identified above is a Subject Invention under <b>35 U.S.C. 200, et seq.</b> , and the Standard Patent Rights clause at <b>37 CFR 401.14, FAR 52.227-11</b> or <b>FAR 52.227-12</b> (if applicable) which are included among the terms of the above identified grant or contract award from the United States Government. This document is confirmatory of:
<ol> <li>The nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the invention described in any patent application and in any and all divisions, continuations, and continuations in part, and in any and all patents and re-issues granted thereon throughout the world; and</li> <li>All other rights acquired by the Government by reason of the above identified grant/contract award and the laws and regulations that are applicable to the award.</li> </ol>
The Government is hereby granted an irrevocable power to inspect and make copies of the above-identified patent application.
Signed this 20 18.
By Bobak P. Jalaie  (Institutional Business Official)  (Signature)
Fitle Chief Patent Counsel
For PURDUE UNIVERSITY
(Grantee/Contractor Organization)
At Office of Technology Commercialization Purdue Research Foundation 1281 Win Hentschel
Blvd. West Lafayette, IN 47906 (Business Address)

PATENT REEL: 049637 FRAME: 0536

**RECORDED: 06/27/2019**