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OSSC Combined In-Person & Webinar

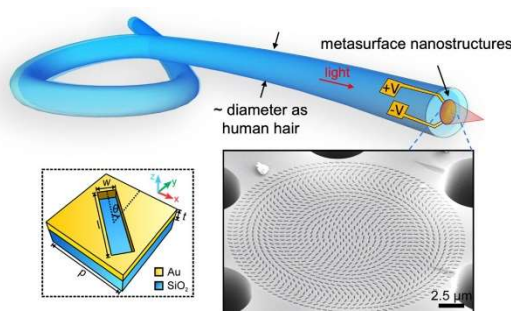
“Meta”-Optical Fibers: Integration of Metaphotonics with Fiber Optics

Dr. Howard (Ho Wai) Lee, Associate Professor

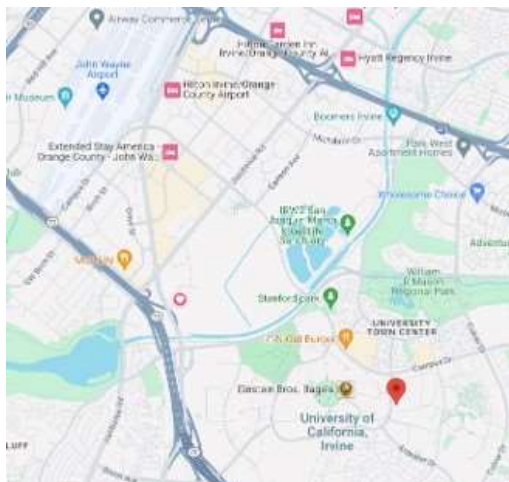
UC Irvine, Department of Physics and Astronomy

Abstract: (See complete abstract and references online.)

In this talk, I will present our recent development of “Meta”-optical fiber, an advanced optical fiber integrated with emerging nanophotonic concepts such as optical metasurfaces [1-2], plasmonic nanowires, and zero-index photonics [3-8]. I will present the development of ultrathin optical metalens which is cascaded on the facet of a photonic crystal fiber that enables light focusing. I will also discuss the first experimental demonstration of zero-index resonance excitation in an optical fiber coated with AZO nanolayer and excitation of plasmonic resonances on holey optical fiber for advanced optical sensing and tip-enhanced Raman spectroscopy. These advanced “meta”-optical fibers open a pathway to revolutionary in-fiber optical imaging/endoscopy, lasers/spectroscopies, and optical communication devices.



About our Speaker: Howard Lee is currently an Associate Professor in the Department of Physics and Astronomy at UC Irvine. Before joining UCI, he was an Associated Professor in the Department of Physics at Baylor University and IQSE Fellow and visiting professor in the Institute for Quantum Science and Engineering (IQSE) at TexasA&M. He was a Postdoctoral Fellow at the Caltech, working with Prof. Harry Atwater in active plasmonics/metasurfaces. He received his PhD in Physics from the Max Planck Institute for the Science of Light in Germany in 2012 under the supervision of Prof. Philip Russell. His work on nano-optics, plasmonics, and photonic crystals has led to 45 journal publications in various journals, such as Science, Nano Letters, and Advanced Materials, as well as 80 invited talks and 150 conference papers. Dr. Lee is a recipient of a 2024 SPIE Fellow, a 2023/2022 Finalist of Moore Inventor Fellow, a 2023 UCI Beall Innovation Award in Physical Sciences, a 2022 iCANX Young Scientist Award, 2021 Finalist of Rising Stars of Light, 2020 SPIE Rising Researcher, a 2020 Baylor Outstanding Professor Award, a 2019 DARPA Director's Fellowship, a 2019 IEEE OGC Young Scientist Award, a 2018 NSF CAREER Award, a 2017 DARPA Young Faculty Award, a 2018 OSA Ambassador, and a 2017 APS Robert S. Hyer Award.



Parking and directions are online.

OSSC Combined In-person and Online Event May 15, 2024

Registration Required

Reception: 6:00pm Dinner: 7:00pm Presentation: 8:00pm
Dinner - Members: \$35 Non-Members: \$40 Students: \$10

Late Fees of \$10, after 11:59 pm May 10

Venue: UC Irvine - Division of Continuing Education
510 E Peltason Dr., Irvine, CA 92697

No fee for in-person without dinner or for online attendees

Registration Required for Online too !!

Online Registration until Tue. May 14, 2024

Register Here for In-Person and Online Attendance

www.osscc.org