Wenzhuo **HUANG**

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Summary

PhD candidate in ECE photonics with strong analytic and experimental skills. 4 years of solid undergraduate background in physics at Peking University and 3+ years of research experience in nano-photonics and metamaterials at UC San Diego, with expertise in designing photonic devices, building optical setup and performing measurement. Currently looking for a summer internship in optics/photonics related fields.

Education

University of California, San Diego — *La Jolla, CA, USA*

PH.D. IN ELECTRICAL AND COMPUTER ENGINEERING, PHOTONICS — *2016 - Present*

M.S. IN ELECTRICAL AND COMPUTER ENGINEERING, PHOTONICS — *2016 - 2018*

Peking University — *Beijing, China*

B.S. IN PHYSICS — *2012 - 2016*

Skills

Simulation FDTD (Lumerical, MEEP), FEM (COMSOL), RCWA (S^4)

Experiment Visible & IR spectroscopy, opto-mechanical assemblies and alignment processes, Optical material characterization

Data analysis Optimization and Regression analysis, Image processing, Neural networks

Programming Python, Matlab, Linux, LaTeX

Projects

Nanophotonics with Two-Dimensional Semiconductors

GRADUATE STUDENT RESEARCHER AT UC SAN DIEGO, ECE DEPARTMENT — *2017 - Present*

- Extract refractive indexes of monolayer WS_2, MoS_2 using Lorentz Dispersion Model and Transfer Matrix Method.
- Perform electromagnetic simulations of waveguiding and scattering properties of photonic nanostructures (e.g. photonic crystals).
- Design and perform optical measurement for light with linear/circular polarizations.

Plasmonic Metamaterials in Opto-mechanical System

GRADUATE STUDENT RESEARCHER AT UC SAN DIEGO, ECE DEPARTMENT — *2016 - 2017*

- Multiphysics simulation of light absorption and thermo-mechanical effect in plasmonic microcavities and metamaterials.
- Built optical measurement setup in a vacuum chamber.

Black Hole Mass and Accretion Rate in Active Galaxy Nuclei (AGN)

UNDERGRADUATE STUDENT RESEARCHER AT PKU, KAVLI INSTITUTE FOR ASTRONOMY AND ASTROPHYSICS — *2014 - 2015*

- Modified the thin-disk model of AGN based on thousands of galaxy spectra with different cosmological redshift.

Nano-optical Antenna based on Surface Plasmon Polariton (SPP)

UNDERGRADUATE STUDENT RESEARCHER AT PKU, SCHOOL OF PHYSICS — *2013 - 2015*

- Designed an ultra-compact slot antenna that launches unidirectional SPP.

Honors & Awards

2015 **Academic Innovation Award,** Peking University — *Beijing, China*

2012 **Gold Medalist,** 43rd International Physics Olympiad — *Tallinn, Estonia*

2011 **Gold Medalist,** 28th Chinese Physics Olympiad — *Xi'an, China*

Courses and Activities

Selected courses Lasers and Optics, Optical Information Processing, Optical Modulation and Detection, Integrated Photonics, Optical Processes in Semiconductors, General Relativity

Teaching Assistantship Electronic Devices and Circuits for NanoEngineers, Fundamentals of Devices and Materials

Volunteering Graduate mentor of Jacobs Undergraduate Mentoring Program (JUMP)

Selected Publications

- **W. Huang**, C. De-Eknamkul, X. Zhang, E. Leewong, M. Zhao, A. T. Charlie Johnson, and E. Cubukcu. "Monolayer Excitonic Emission for Imaging Spatial Dispersion of Photonic Crystals." *ACS Photonics* 6.9 (2019): 2312-2319.
- **W. Huang**, J. Yang, X. Xiao, J. Zhang. "Surface Plasmon Polariton Unidirectional Nano-Launcher Based on the Strong Coupling Effects in an Asymmetric Optical Slot Nanoantenna Pair." *Plasmonics* 10.6 (2015):1551-1556.