FISH.

Yunbo Guo, Ph.D.

Associate
Austin
512-226-8108
guo@fr.com

Overview

Yunbo Guo, Ph.D., is a patent prosecutor and strategist with over 10 years of prosecution and research experience on optical devices and systems (holography, optical sensors, fiber optics, integrated optics, displays, 3D imaging, AR/VR), laser systems (fiber lasers, optofluidic lasers, laser diodes), semiconductor (memory devices), electronics (microcontrollers, circuits, electric motors), telecommunications, nanotechnology, medical devices, autonomous vehicles, and computer/network technology (blockchain, artificial intelligence and machine learning).

He has drafted and prosecuted hundreds of patent applications and provided strategic counseling, opinion work, due diligence studies, development and management of patent portfolios, and patent litigation support for clients including startups, entrepreneurs, research institutions, and large companies.

Prior to joining Fish & Richardson, Yunbo was a research scientist for Omega Optics Inc., where he conceived and developed a photodetector integrated photonic crystal structure and broadly applied it in acoustic transducer arrays, label-free biosensors, and ultrasound medical imaging systems. He also has previous experience as a research fellow in the department of biomedical engineering at the University of Michigan, where he performed interdisciplinary research in the areas of fiber/capillary systems, optofluidics, Raman spectroscopy, and fluorescence immunoassay.

During his Ph.D. study, Yunbo developed a novel photonic crystal sensor for sensitive biomolecular detection, which a startup company was founded upon. Yunbo has over 30 publications in refereed journals and conferences and holds various U.S. patents.

Recognitions & awards

Newport Spectra-physics Excellence Research Travel Award

SPIE 2010

Rackham Graduate School Research Award

The University of Michigan 2010

First prizes of poster competitions in Electrical Engineering and Biomedical Engineering

The University of Michigan 2008-2009

National Scientific and Technological Achievement Award

China Ministry of Education 2004

Issued patents

U.S. Patent 7,639,362, Photonic crystal sensor
U.S. Patent 9,157,856, Integrated photonic crystal structures and their applications
U.S. Patent 9,223,064, Photonic crystal-metallic structures & applications
U.S. Patent 9,581,592, SERS, fluorescence, absorption, and luminescence detection with flow-through multi-hole capillaries

---

Fellowships

- Riethmiller Fellowship, The University of Michigan (2007-2008)
- EECS Department Fellowship, The University of Michigan (2005-2006)

Additional insights

Publications

- "Ultrasensitive optofluidic surface-enhanced Raman scattering detection with flow-through multi-hole capillaries," ACS Nano 6, 381-388 (2012)
- "Optofluidic Fabry-Pérot cavity biosensor with integrated flow-through micro/nano channels," Appl. Phys. Lett. 98, 041104 (2011)
- "Real-time biomolecular binding detection using a sensitive photonic crystal biosensor," Anal. Chem. 82, 5211-5218 (2010)
- "Sensitive bioassay using a photonic crystal structure in total internal reflection," Opt. Express 16, 11741-11749 (2008)
- "Improvement of photorefractive properties and holographic applications of lithium niobate crystal," Opt. Express 12, 5556-5561 (2004)

Services

Post-Grant
Inter Partes Review

Post-Grant Review
Ex Parte Reexamination

Patent
Patent Prosecution
Strategic Patent Counseling & Opinions
Patent Portfolio Management

Industries

Electrical & Computer Technology
Software & Internet
Hardware
Semiconductors
Optics
Artificial Intelligence
Energy & Chemicals
Petrochemical
Medical Devices
Transportation, Aerospace & Defense
Manufacturing
Autonomous Vehicles

Admissions

U.S. Patent and Trademark Office (2012)
New Jersey (2021)
Texas (2023)

Languages

English
Mandarin Chinese

Education

J.D., Rutgers School of Law, Newark (2021)
Ph.D., Electrical Engineering, University of Michigan (2010)
M.S., Optical Engineering, Tsinghua University (2005)
B.S., Mechanical Engineering, Tsinghua University (2002)
