

Postdoctoral positions in ultrafast THz spectroscopy and THz sensing

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Two postdoctoral research positions are available in Prof. Jun Xiao's research group in the Department of Materials Science and Engineering at the University of Wisconsin-Madison. We welcome highly motivated candidates with a Ph.D. in Materials Science and Engineering, Physics, Electrical Engineering, Applied Physics, or a closely related field who are interested in advancing the frontiers of ultrafast and nonlinear spectroscopy, quantum materials, and THz optoelectronic technologies.

Position 1 – Ultrafast THz Spectroscopy

- Experience in ultrafast optical spectroscopy is required.
- Experience with THz time-domain spectroscopy is preferred, while experience with 2D THz spectroscopy is highly desirable.
- Experience in 2D materials fabrication is a plus.

Position 2 – THz Sensing and Computational Imaging

- Experience in THz device fabrication and characterization is preferred. Experience in 2D materials device fabrication is preferred.
- Experience in computational THz imaging and AI-assisted imaging process is highly desirable.

The appointments are for an initial term of two years, with the possibility of renewal based on performance and funding availability. To apply, please send a CV and contact information for three references to jun.xiao@wisc.edu. Applications will be reviewed immediately and will continue until the positions are filled. The preferred start date is January or February 2027, although some flexibility is possible depending on the candidate's availability.

About Prof. Jun Xiao

Prof. Jun Xiao joined the University of Wisconsin-Madison as an Assistant Professor in Fall 2021. Prior to UW-Madison, he was a postdoctoral scholar with Prof. Aaron Lindenberg and Prof. Tony

Heinz at Stanford University and SLAC National Accelerator Laboratory. He received his Ph.D. from the University of California, Berkeley under the supervision of Prof. Xiang Zhang, and his B.S. in Physics from Nanjing University. His research focuses on ultrafast light-matter interactions, nonlinear terahertz spectroscopy, and emergent quantum phenomena in two-dimensional materials, with applications in quantum information science, energy-efficient electronics, and THz optoelectronics. His work has been published in leading journals including *Nature*, *Science*, *Nature Physics*, *Nature Nanotechnology*, *Nature Electronics*, and *Physical Review Letters*. He is the recipient of the 2023 NSF CAREER Award, and his research program is supported by the National Science Foundation (NSF), Department of Energy (DOE), Office of Naval Research (ONR), and other funding agencies.

About the University of Wisconsin-Madison

The University of Wisconsin-Madison is one of the world's leading public research universities and is consistently ranked among the top 40 national universities by *U.S. News & World Report*. Its Materials Science and Engineering graduate program is consistently ranked among the top 15 in the United States, reflecting the department's excellence in research, education, and interdisciplinary collaboration.

Located in Madison, Wisconsin, the university offers an outstanding research environment together with an exceptional quality of life. Madison is consistently recognized as one of the best places to live in the United States, known for its:

- Safe, welcoming, and family-friendly community
- Affordable cost of living compared with major coastal cities
- Beautiful lakes, extensive parks, and outdoor recreation year-round
- Vibrant downtown, diverse restaurants, and thriving arts and music scene
- Strong technology and biotechnology ecosystem with numerous startups and industry partners
- Short commute times and an excellent work-life balance

The Xiao Research Group provides a highly collaborative, interdisciplinary environment with access to state-of-the-art ultrafast laser facilities, terahertz spectroscopy systems, advanced nanofabrication and characterization facilities, and extensive collaborations across Materials Science, Physics, Electrical Engineering, Chemistry, and national laboratories. The group is committed to supporting postdoctoral researchers in developing independent research programs and preparing for successful careers in academia, national laboratories, and industry.