

Dr. Michael Chini

Associate Professor
Department of Physics
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Citizenship: USA

EDUCATION

University of Central Florida, Orlando FL

Ph.D. in Physics **2010-2012**

Dissertation: “Characterization and Application of Isolated Attosecond Pulses”

Advisor: Zenghu Chang

Kansas State University, Manhattan KS

Ph.D. Candidate in Physics **2007-2010**

Advisor: Zenghu Chang

McGill University, Montreal QC (Canada)

B.Sc. in Physics (Great Distinction) **2003-2007**

Thesis: “Forces, Charges, and Light Emission During the Rupture of Adhesive Contacts”

Minor: Music Technology

Advisor: Roland Bennewitz

EMPLOYMENT

Department of Physics, The Ohio State University

Associate Professor (with tenure) **2024-present**

Department of Physics, University of Central Florida

Associate Professor (with tenure) **2020-2024**

Assistant Professor **2015-2020**

CREOL, the College of Optics and Photonics, University of Central Florida

Secondary Joint Appointment **2017-2024**

Laser Plasma Laboratory, Townes Laser Institute, University of Central Florida

Senior Research Scientist **2014-2015**

Supervisor: Martin Richardson

Institute for the Frontier of Attosecond Science and Technology, University of Central Florida

Postdoctoral Research Associate **2012-2014**

Supervisor: Zenghu Chang

HONORS AND AWARDS

Optica Fellow **2024**

Optica, The Optical Society

Early Career Research Award **2018**

U.S. Department of Energy, Office of Science

Erasmus+ Guest Professorship Friedrich-Schiller Universität, Jena	2018
Young Investigator Program Award U.S. Air Force Office of Scientific Research	2016
Ralph E. Powe Junior Faculty Award Oak Ridge Associated Universities	2016

SELECTED PUBLICATIONS

A full list of publications can be found on my [Google Scholar page](#).

** indicates graduate student co-author*

*** indicates undergraduate student co-author*

1. Truong, T.-C.*, Beetar, J. E.* & Michael Chini “Light-field synthesizer based on multidimensional solitary states in hollow-core fibers.” *Opt. Lett.* 48, 2397-2400 (2023). ***Selected as an Editor’s Pick.***
2. Liu, Y., Beetar, J. E.*, Nesper, J.*, Gholam-Mirzaei, S.* & Michael Chini “Single-shot measurement of few-cycle optical waveforms on a chip” *Nature Photon.* 16, 109-112 (2022). ***Highlighted in Nature Photonics News & Views: “An optical oscilloscope for the mid-infrared,”*** <https://www.nature.com/articles/s41566-021-00952-2>.
3. Beetar, J. E.*, Nrisimhamurty, M., Truong, T.-C.*, Liu, Y. & Michael Chini “Thermal Effects in Molecular Gas-Filled Hollow-Core Fibers.” *Opt. Lett.* 46, 2437 (2021).
4. Liu, Y., Gholam-Mirzaei, S.*, Beetar, J. E.*, Nesper, J.*, Yousif, A.*, Nrisimhamurty, M. & Michael Chini “All-optical sampling of few-cycle infrared pulses using tunneling in a solid.” *Photon. Res.* 9, 929 (2021). ***Selected as an Editor’s Pick.***
5. Beetar, J. E.*, Madugugula, N. M., Truong, T.-C.*, Nagar, G. C., Liu, Y., Nesper, J.*, Suarez, O.** , Rivas, F.** , Wu, Y., Shim, B. & Michael Chini “Multi-Octave Supercontinuum Generation and Frequency Conversion based on Rotational Nonlinearity.” *Sci. Adv.* 6, eabb5375 (2020). ***Highlighted by Optics & Photonics News: “Toward Attosecond Science with Workaday Lasers”.***
6. Liu, Y., Beetar, J. E.*, Hosen, M. M., Dhakal, G., Sims, C., Etienne, M. B.** , Kabir, F., Dimitri, K., Regmi, S., Kaczorowski, D., Liu, Y., Pathak, A. K., Neupane, M. & Michael Chini “Time- and Angle-Resolved Photoemission Spectroscopy using an Ultrafast Extreme-Ultraviolet Source at 21.8 eV.” *Rev. Sci. Instrum.* 91, 013102 (2020).
7. Jiang, S., Gholam-Mirzaei, S.* , Crites, E.** , Beetar, J. E.* , Singh, M.* , Liu, R., Michael Chini & Lin, C.-D. “Crystal symmetry and polarimetry of high-order harmonics in ZnO.” *J. Phys. B: At. Mol. Opt. Phys.* 52, 225601 (2019).
8. You, Y. S., Yin, Y., Chew, A., Ren, X., Gholam-Mirzaei, S.* , Michael Chini, Chang, Z. & Ghimire, S. “High-harmonic generation in amorphous solids.” *Nature Commun.* 8, 724 (2017). ***Highlighted by DOE Science News Source: “A Potential New and Easy Way to Make Attosecond Laser Pulses: Focus a Laser on Ordinary Glass,”*** http://www.newswise.com/doescience/?article_id=681997.

9. Li, J., Ren, X., Yin, Y., Zhao, K., Chew, A., Cheng, Y., Cunningham, E., Wang, Y., Wu, Y., Michael Chini & Chang, Z. “53-attosecond x-ray pulses reach the carbon K-edge’.” Nature Commun. 8, 186 (2017). **Highlighted by Laser Focus World:** “Once again, CREOL researchers set record for shortest light pulse,” <http://www.laserfocusworld.com/articles/2017/08/once-again-creol-researchers-set-record-for-shortest-light-pulse.html>.
10. You, Y. S., Wu, M., Yin, Y., Chew, A., Ren, X., Gholam-Mirzaei, S.*, Browne, D. A., Michael Chini, Chang, Z., Schafer, K. J., Gaarde, M. B. & Ghimire, S. “Laser waveform control of petahertz electron dynamics in solids.” Opt. Lett. 42, 1816 (2017).

MEMBERSHIPS AND SERVICE ACTIVITIES

Memberships

American Physical Society, Optical Society of America, IEEE, IEEE Photonics Society, APS National Mentoring Community, European Optical Society

Selected Service Activities

Member, APS Division of Laser Science Carl E. Anderson Dissertation Award Selection Committee (2022-present)

Member-at-Large, APS Division of Laser Science (2022-present)

Member, Department of Energy LaserNetUS Facilities Committee (2021-2024)

Co-chair, 8th International Conference on Attosecond Physics (2019-2022)

Instructor, Florida Prison Education Program (2018-2024)

Mentor, APS National Mentoring Community (2016-present)