

Al Fischer, PhD

Curriculum Vitae

Instrumentation Specialist
Western Carolina University
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Employment

Western Carolina University

Department of Chemistry and Physics
Cullowhee, NC

Instrumentation Specialist & Instructor (2018-Present)

University of Georgia

Department of Chemistry
Athens, GA

Research and Teaching Assistant (2012-2018)

Hummingbird Scientific

Lacey, WA

Engineering Technician (2011-2012)

Education

University of Georgia

Athens, GA

PhD, Analytical Chemistry (2018)

The Evergreen State College

Olympia, WA

BS, Environmental Chemistry (2011)

Publications

Cheng, Z., K. Atwi, O. Hajj, I. Ijeli, **D.A. Fischer**, G.D. Smith, and R. Saleh (2020) Discrepancies Between Brown Carbon Light-absorption Properties Retrieved from Online and Offline Measurements. *Aerosol Science and Technology* DOI: 10.1080/02786826.2020.1820940 (in press)

Fierce, L., T.B. Onasch, C.D. Cappa, C. Mazzoleni, S. China, J. Bhandari, P. Davidovits, **D.A. Fischer**, T. Helgestad, A.T. Lambe, A.J. Sedlacek III, G.D. Smith, and L. Wolff (2020) Radiative absorption enhancements by black carbon controlled by particle-to-particle heterogeneity in composition. *PNAS*, Volume 117, No. 10, 5196-5203.

Fischer, D.A. and G.D. Smith (2018) Can ozone be used to calibrate aerosol photoacoustic spectrometers? *Atmospheric Measurement Techniques*, Volume 11, No. 12, 6419-6427.

Fischer, D.A. and G.D. Smith (2017) A 4-wavelength, Single-cell Photoacoustic Instrument for Aerosol Absorption. *Aerosol Science and Technology*, Volume 52, No. 4, 393-406.

Presentations & Proceedings

Fischer, D.A. and G.D. Smith (2017) UV-Visible Photoacoustic Spectroscopy for Aerosol Absorption. *American Association for Aerosol Research Annual Conference*, Raleigh, NC.

Renbaum-Wolff, L., **D.A. Fischer**, T. Helgestad, A. Lambe, G. Smith, C. Cappa, A.J. Sedlacek, P. Davidovits, **T. ONASCH**, A. Freedman. (2016) Broadband Measurements of the Mass Absorption Coefficient of Soot. *American Association for Aerosol Research Annual Conference*, Portland, OR. 7CA.1.

Renbaum-Wolff, L., **D.A. Fischer**, T. Helgestad, A. Lambe, G. Smith, C. Cappa, A. Sedlacek, P. Davidovits, T. Onasch, and **A. FREEDMAN**. (2016) Measurements of Soot Mass Absorption Coefficients from 300 to 660 nm. *European Geophysical Union General Assembly 2016*, Vienna, Austria. EGU2016-9236.

Fischer, D.A. (2016) UV-visible Photoacoustic Spectroscopy: A new tool for climate science. *Northeast Georgia Section of the American Chemical Society*

L. RENBAUM-WOLFF, A. Lambe, T. Onasch, A. Freedman, L. Williams, T. Helgestad, C. Cappa, **D.A. Fischer**, G. Smith, S. China, C. Mazzoleni, A.J. Sedlacek, E. Browne, G. Isaacman-VanWertz, J. Kroll, J. Brogan, Y. Parmar, A. Lee, N. Sharma, J. Bhandari, J. Jayne, D. Worsnop, P. Davidovits. (2015) New Optical Experiments "Shed Light" on Role of Particle Morphology and Chemical Composition in the Absorption Enhancement of Coated Soot Particles. *American Association for Aerosol Research Annual Conference*, Minneapolis, MN. 12CC.3.

Fischer, D.A. and G.D. Smith. (2015) A UV-Vis Broadband Cavity Enhanced Spectrometer for Ambient Aerosols. *Eleventh International User Meeting and Summer School on Cavity Enhanced Spectroscopy*, Boulder, CO.

Instruments I've Designed and Built

Click each item for more information.

- Continuous Flow Liquid Stage for Scanning Electron Microscopy
- Vapor Delivery System for SEM and TEM
- A UV-visible Broadband Cavity Enhanced Spectrometer
- An Incoherent-Coherent "Hybrid" UV-visible Photoacoustic Spectrometer
- A Single-Cell, 4-Wavelength Photoacoustic Instrument for Atmospheric Aerosols

Research & Grants I've Supported

- Duncan, S. (PI), L. Lefler (co-PI), **D.A. Fischer (co-PI)**, F. Forcino (co-PI), and A. Bobilya (co-PI) *Assessing air pollution exposures for Cherokee youth with Traditional Ecological Knowledge and Western Science Methods* Provost's Internal Funding Support Grant (submitted / in review).
- Duncan, S. and **D.A. Fischer**. *The Air We Breathe: Air Quality at WCU and Across the Region*. Campus theme sponsored event: Sustainability and Environment (2019-2020).
- Marulanda, N.A. (PI), L. McGregor (student), T. Muth (other), **D.A. Fischer (other)**, *From Waste to Energy: Biogas digesters gas characterization and feasibility study in WNC*. Provost's Internal Funding Support Grant (2019-2020).
- Wallen, J. R. (PI), Youker, R. T. (co-PI), Gainey, M. D. (co-PI), Byrd, B. D. (co-PI), Coan, H. A. B. (co-PI), Storm, A. (co-PI), Koralege, R. (co-PI), **Fischer, D.A. (Other)**, *Acquisition of a Molecular Devices SpectraMax iD5 Multi-Mode Plate Reader to Enhance High-Throughput Life Sciences Research at Western Carolina University*, Sponsored by Institutional Development Grant, North Carolina Biotechnology Center, State, Funded. (May 1, 2019 - April 30, 2020).