

CHRISTOS STAMATIS

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EDUCATION

- Virginia Tech, Postdoctoral Researcher** Civil and Environmental Eng. **2022-present**
Advisor: Dr. Gabriel Isaacman-VanWertz
- University of California Riverside, Ph.D.** Chemical and Environmental Eng. **2021**
GPA: 3.77 *Advisor:* Dr. Kelley Barsanti
- University of Patras, Diploma (B.S.)** Chemical Eng. **2016**
GPA: 7.8/10 *Advisor:* Dr. Spyros Pandis

RESEARCH

- 2022 – present: Post-doctoral Research Associate**, Virginia Tech
- Developing new methods for parameterizing wet removal of aerosol-forming oxygenated gases.
 - Deployed state-of-the-art mass spectrometer (VOCUS) to sample biomass burning smoke samples and analyzed the data to characterize the effects of fuel type and fire conditions on fire emissions.
 - Developed and applied automation protocols for communication and data storage with laboratory instruments.
- 2016 – 2021: Graduate Research Associate**, University of California Riverside
- Developed and applied algorithms for data pre- and post-processing using two-dimensional gas chromatography with time-of-flight mass spectrometry (GC×GC-TOFMS) data.
 - Development and application of machine learning approaches to characterize the effects of fuel type and fire conditions on wildland fire emissions.
- 2014 – 2016: Undergraduate Research Assistant**, University of Patras at the [Center of Studies on Air quality and Climate Change](#) (CSTACC)
- Simulated air pollution over Patras using the PMCAMx air quality model.
 - Simulated urban road scale air pollution from road car emissions using the ANSYS platform.
- 2014 – 2016: Research Intern** in the [Center of Studies on Air quality and Climate Change](#) (CSTACC) at the [Institute of Chemical Engineering Sciences](#) (FORTH/ICE-HT), Patras, Greece
- Integrated and tested DustTrack, CO, CO₂ and NO_x analyzers on a mobile air pollution laboratory for urban environments.

TEACHING EXPERIENCE

- 2018 – 2020: Teaching Assistant**, University of California Riverside
- Numerical analysis. My work involved; 1) grading, 2) teaching students how to code in MATLAB and 3) constructing solvers (integration, ODEs, etc) in MATLAB for teaching purposes.

PUBLICATIONS

1. Liang, Y., **Stamatis, C.**, Fortner, E. C., Wernis, R. A., Van Rooy, P., Majluf, F., Yacovitch, T. I., Daube, C., Herndon, S. C., Kreisberg, N. M., Barsanti, K. C., and Goldstein, A. H.: “Emissions of organic compounds from western US wildfires and their near-fire transformations”, *Atmos. Chem. Phys.*, 22, 9877–9893, <https://doi.org/10.5194/acp-22-9877-2022>, 2022.
2. **C. Stamatis**, K.C. Barsanti, “Development and Application of a Supervised Pattern Recognition Algorithm for Identification of Fuel-Specific Emissions Profiles”, “*Atmos. Meas. Tech.*” 15, 2591–2606, <https://doi.org/10.5194/amt-15-2591-2022>, 2022.
3. P. Roth, J. Yang, **C. Stamatis**, K.C. Barsanti, D.R. Cocker, T.D. Durbin, A.A. Awuku, G. Karavalakis, “Evaluating the relationships between aromatic and ethanol levels in gasoline on secondary aerosol formation from a gasoline direct injection vehicle”, *Science of The Total Environment*, Vol. 737, 2020, 140333, ISSN 0048-9697, <https://doi.org/10.1016/j.scitotenv.2020.140333>.
4. L.E. Hatch, C.N. Jen, N.M. Kreisberg, V. Selimovic, R.J. Yokelson, **C. Stamatis**, R.A. York, D. Foster, S.L. Stephens, A.H. Goldstein, and K.C. Barsanti, “Highly Speciated Measurements of Terpenoids Emitted from Laboratory and Mixed-Conifer Forest Prescribed Fires”, *Environmental Science & Technology* 2019 53 (16), 9418-9428, <https://doi.org/10.1021/acs.est.9b02612>.
5. C.N. Jen, Y. Liang, L.E. Hatch, N.M. Kreisberg, **C. Stamatis**, K. Kristensen, J.J. Battles, S.L. Stephens, R.A. York, K.C. Barsanti, and A.H. Goldstein, “High Hydroquinone Emissions from Burning Manzanita”, *Environmental Science & Technology Letters* 2018 5 (6), 309-314, <https://doi.org/10.1021/acs.estlett.8b00222>.

CONFERENCE PRESENTATIONS

1. “Effects of Wet Removal on Aerosol Mass and Chemical Composition”, American Association for Aerosol Research, Raleigh, North Carolina, USA, October 2022, (*Poster*)
2. “Analyses of Gaseous Organic Compounds in Biomass Burning Smoke Samples Collected from Ground and Airborne Platforms during the Fire Influence on Regional and Global Environments Experiment (FIREX) Field Campaign”, American Geophysical Union, *Virtual Conference*, December 2020, (*Poster*).
3. “Effects of fuel type on pyrogenic terpenoid emissions and air quality predictions”, 8th International Fire Ecology and Management Congress, Tuscon, Arizona, USA, November 2019, (*Oral*).
4. “Application of Fisher Ratio and Principal Component Analysis for Identification of Unique Features in Complex Combustion-Emission Samples”, International Aerosol Conference, Saint Louis, Missouri, USA, September 2018 (*Poster*).
5. “Development of a mobile lab for studying air quality with high spatial and temporal resolution”, 10th Panhellenic Scientific Conference in Chemical Engineering, Patras, June 2015, (*Oral*).

AWARDS

- UCR Bourns College of Engineering Dean's Distinguished Fellowship 2016 – 2018
- UCR Graduate Division: Outstanding Teaching Assistant Award 2021

COMMUNITY & UNIVERSITY SERVICE

- **American Association for Aerosol Research Student Chapter, UCR:** Vice President, 2019.
- **Graduate Student Association:** Co-President for the College of Engineering at University of California Riverside, 2018 – 2019.
- **Hellenic Red Cross:** Lifeguard, 2014 – 2016.

RELEVANT SKILLS

Coding (r-read, w-write, x-execute)

Python (rwx), Matlab (rwx), SQLite (rwx), C (rwx), Fortran (r)

Software

Pandas, scikit-learn, NumPy, EPA PMF, ChromaTOF

Instrumentation Techniques

- Mass spectrometry, operation and data analysis. Including: quadrupole MS, time-of-flight MS, electron impact ionization, proton transfer reaction ionization (specifically VOCUS)
- Gas chromatography, operation and data analysis. Including: GC×GC, custom field deployable GC including Thermal desorption Aerosol Gas chromatograph (TAG)
- Disdrometry, operation and data analysis. Including: Parsivel laser disdrometer, interface with the DOE ARM database