

DAVID C. LAFFERTY

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EDUCATION

- University of Illinois at Urbana-Champaign** *Jan 2019 – Present*
Ph.D. in Atmospheric Science
- Ruprecht-Karls-Universität Heidelberg** *Sep 2016 – Oct 2018*
M.Sc. in Physics
- University of Glasgow** *Sep 2012 – May 2016*
B.Sc. in Theoretical Physics

RESEARCH EXPERIENCE

- University of Illinois at Urbana-Champaign** *Jan 2019 – Present*
Graduate Research Assistant, Department of Atmospheric Sciences
- *Assessing the suitability of downscaled and bias-corrected climate information for use in agricultural modeling*
 - Python; statistical analysis of large climate datasets, statistical (regression) modeling
- Ruprecht-Karls-Universität Heidelberg** *Nov 2017 – Oct 2018*
Graduate Research Assistant, Institute for Theoretical Physics
- *Developing an improved Gauss law parametrization of the complex in-medium heavy quark potential*
 - Mathematica, gnuplot, L^AT_EX; analytical and numerical solving of ordinary differential equations, statistical (regression) modeling
- GSI Helmholtz Centre for Heavy Ion Research** *July – Sep 2016*
HGS-HIRe Summer Student Program
- *Investigating the nuclear properties of Beryllium-9 using a toy-model in non-relativistic scattering theory*
 - Mathematica, L^AT_EX; numerical solving of ordinary differential equations
- University of Glasgow** *June – July 2016*
Research Assistant, Optics Group
- *Simulating focused azimuthally and radially polarised vector vortex beams*
 - Mathematica; numerical Fourier analysis
- University of Glasgow** *Sep – Dec 2016*
Undergraduate Research Assistant, Particle Physics Theory Group
- *Phenomenology of composite Higgs boson models via top quark partner spectra*
 - Python; singular value decomposition
- TU Dortmund** *June – Aug 2015*
DAAD RISE Summer Program
- *Boosted decision trees for LHCb data analysis*
 - Python; statistical modeling

TEACHING EXPERIENCE

ATMS 421: Earth System Modeling

Fall 2019

University of Illinois at Urbana-Champaign

- Graded monthly homework exercises for 29 students, held weekly office hours, assisted students during twice-weekly computer lab sessions

ATMS 201: General Physical Meteorology

Fall 2019

University of Illinois at Urbana-Champaign

- Graded weekly homework exercises for 23 students and held weekly office hours

ATMS 120: Severe and Hazardous Weather

Summer 2019

University of Illinois at Urbana-Champaign

- Graded weekly homework exercises for 121 students

PUBLICATIONS

3. (*submitted*) **Lafferty, D.**, Sriver, R., Haqiqi, I., Hertel, T., Keller, K., Nicholas, R., Statistically bias-corrected and downscaled climate models underestimate the severity of U.S. maize yield shocks (2021).
2. **Lafferty, D.** & Rothkopf, A., Improved Gauss law model and in-medium heavy quarkonium at finite density and velocity, *Physical Review D* (2020). [10.1103/PhysRevD.101.056010]
1. **Lafferty, D.** & Rothkopf, A., Quarkonium Phenomenology from a Generalised Gauss Law, *Universe* (2019). [doi:10.3390/universe5050119]

PRESENTATIONS

* denotes oral presentation; † denotes poster presentation

6. *Uncertainties in driving agricultural models with bias-corrected and downscaled climate information (2020), *AGU Fall Meeting*, Virtual.
5. †Uncertainties in driving agricultural models with bias-corrected and downscaled climate information (2020), *Graduate Climate Conference*, Virtual.
4. (*invited*) *Estimating crop yield variability and shocks using downscaled climate models (2020), *MSD Working Group on Uncertainty Quantification and Scenario Development*, Virtual Webinar.
3. †Climate uncertainty in agricultural modeling: the effects of downscaling and bias-correction (2019), *AGU Fall Meeting*, San Francisco, CA.
2. †Climate uncertainty in agricultural modeling: the effects of downscaling and bias-correction (2019), *Midwest Student Conference on Atmospheric Research*, Urbana, IL.
1. *Quarkonium Phenomenology from a Generalised Gauss Law (2018), *Zimányi Winter Workshop on Heavy Ion Physics*, Budapest, Hungary.

PROFESSIONAL ACTIVITIES

- **Co-Chair**, Midwest Student Conference on Atmospheric Research, University of Illinois at Urbana-Champaign, 2020
- **Invited lecturer**, ATMS 404 (Risk Analysis in Earth Science), Department of Atmospheric Sciences, University of Illinois at Urbana-Champaign, Spring 2020

- **Planning Committee Member**, Midwest Student Conference on Atmospheric Research, University of Illinois at Urbana-Champaign, 2019
- **Attendee**, Summer School on Sustainable Climate Risk Management, Pennsylvania State University, 2019
- **Attendee**, AAG-UCGIS Summer School on Reproducible Problem Solving with CyberGIS and Geospatial Data Science, University of Illinois at Urbana-Champaign, 2019

AWARDS & HONORS

- 3rd Place Poster Presentation, Midwest Student Conference on Atmospheric Research *2019*
- *(team)* Award for Advancing Reproducible Geospatial Research *2019*
UCGIS-CyberGIS Center at University of Illinois at Urbana-Champaign
- DAAD Study Scholarship for Graduates of All Disciplines *2016 – 2018*

TECHNICAL SKILLS

Programming Languages	Python, R, Mathematica, L ^A T _E X, Linux shell, gnuplot
	English (native), German (limited working proficiency)