

Michael L. Larsen, Ph.D.  
[LarsenML@cofc.edu](mailto:LarsenML@cofc.edu)  
<http://larsenml.people.cofc.edu>

Phone: (843) 953-2128  
Fax: (843) 953-4824

Professor of Physics  
College of Charleston  
Department of Physics and Astronomy  
317 Rita Hollings Science Center  
58 Coming Street  
Charleston, SC 29424

---

## EDUCATION

- Doctor of Philosophy (Physics), August 2006  
Department of Physics, Michigan Technological University, Houghton, MI  
Thesis title: Studies of Discrete Fluctuations in Atmospheric Phenomena  
Thesis advisor: Dr. Alexander B. Kostinski  
Graduate GPA : 3.88
  - Bachelor of Science (Physics), May 2001  
Department of Physics, Michigan Technological University, Houghton, MI  
GPA : 3.95 / Graduated *summa cum laude*
- 

## PROFESSIONAL EMPLOYMENT

### College of Charleston, Charleston, SC

### Department of Physics and Astronomy

- Professor, 2023-present
- Associate Professor, 2016-2023
- Assistant Professor, 2010-2016

### Michigan Technological University, Houghton, MI

### Department of Physics

- Adjunct Associate Professor, 2018-Present
- Visiting Scholar, 2021 & 2022 (Summer Visiting Scholar); 2017-2018 (Sabbatical)
- National Defense Science and Engineering Graduate Fellow, 2003-2006
- Graduate Research Assistant, 2002-2003
- Graduate Fellow, 2002

### Max Planck Institute for Dynamics and Self-Organization, Göttingen, Germany

- Guest Investigator (Sabbatical), 2024

### ThermoAnalytics, Calumet, MI

### Research & Engineering Department

- Senior Research Scientist (Sabbatical), 2024

### University of Nebraska at Kearney, Kearney, NE

### Department of Physics and Physical Science

- Assistant Professor, 2007-2010

### Army Research Laboratory, Adelphi, MD

### Battlefield Environment Division

- Consultant, 2007-2009
- National Research Council Postdoctoral Fellow, 2006-2007 (Funded Proposal: Analysis of the Role of Number Fluctuations in an Apparatus to Detect Hazardous Airborne Particles)

### NASA-Goddard Space Flight Center, Greenbelt, MD

### GSSP Summer Program

### NASA-Goddard Earth Science and Technology Center

- Graduate Researcher in GSSP Summer Program, 2003 (Project Title: A New Approach to Simulating a Realistic Spatial Structure of Cloud Droplets)

## AWARDS

- [Norine Noonan Sustained Achievement Award](#) (2022)  
(Awarded to a College of Charleston School of Science and Mathematics faculty or staff member in recognition of efforts that either directly benefited the school overall or for contributions outside the school that enhanced the reputation of the school over a three year period)
  - [William V. Moore Distinguished Teacher-Scholar Award](#) (2019)  
(Award made to one College of Charleston faculty member each year that honors faculty members who have been selected by their peers as exemplifying the teacher-scholar model. The recipients' exemplary scholarship and exemplary teaching have enriched the intellectual lives of College of Charleston students throughout their careers)
  - [Gordon E. Jones Distinguished Achievement Award](#) (2019)  
(Awarded to a College of Charleston School of Science and Mathematics faculty member in recognition of a particularly outstanding achievement in the area of teaching, research, or service, or an extraordinary combination in these areas)
  - National Research Council Postdoctoral Fellowship (2006)
  - National Defense Science and Engineering Graduate Fellowship (2003)
- 

## PROFESSIONAL MEMBERSHIPS

- American Geophysical Union (AGU)
  - American Meteorological Society (AMS)
  - American Physical Society (APS)
  - European Geophysical Union (EGU)
  - ΦκΦ Member (Multidisciplinary Honor Society)
- 

## FUNDING

### Awarded Research Funding

Total Funding Awarded (After Post-Doc): \$1,413,048

- Sole PI 2020-2024 [Collaborative Research to Explore the Spatial/Temporal Statistical Physics Structures of Rain in the Vertical Plane](#). National Science Foundation(\$399,196)
- Sole PI 2023 Ice Nucleating Properties of Flash Frozen Raindrops. College of Charleston Faculty Research & Development Grant (\$4,998)
- PI 2022-2023 Exploration of the Properties of Flash Frozen Raindrops. South Carolina Space Grant Research and Education Awards Program (SCSG REAP)(\$20,000)
- CoI 2022-2023 Interactions between Individual Raindrops and the Microbial World. South Carolina Space Grant Research and Education Awards Program (SCSG REAP)(\$20,000)

### **Awarded Research Funding (Continued)**

- Sole PI 2020-2022 Investigation of Deviations from the Beer-Lambert-Bouguer Law in Laboratory-Generated Clouds. South Carolina Space Grant Research and Education Awards Program (SCSG REAP)(\$20,000)
  - Sole PI 2018-2021 [The Relationship of the Spatial/Temporal Variability of Rain to Scaling](#). National Science Foundation(\$142,244)
  - Sole PI 2017 Carolina Eclipse Initiative Grant Proposal(\$1,500)
  - Sole PI 2015-2020 [Meteorological Variability of the Two Dimensional/Temporal Structures of Drop Size Distributions and Rain](#). National Science Foundation(\$345,911)
  - Substitute PI 2016-2017 Measurement of Trace Gas and Particle Air-Surface Exchange in a Coastal Environment. Environmental Protection Agency via Amec Foster Wheeler(\$49,564) [took over contract for vacated faculty member].
  - Sole PI 2015 Development of a Dense Rain Gauge Array at Dixie Plantation. College of Charleston Faculty Research & Development Grant (\$3,828)
  - CoI 2014-2015 Quantifying Deviations from the Beer-Lambert-Bouguer Law in Uncorrelated Media in the Presence of Scattering. Connecticut Space Grant College Consortium (\$7,445)
  - Sole PI 2012-2016 [Characterization of the Two-dimensional/Temporal Mosaic of Drop Size Distributions and Spatial Variability \(Structure\) in Rain](#). National Science Foundation (\$325,402)
  - Sole PI 2011-2012 [Absorption and Scattering in Correlated Random Media](#). Research Corporation Cottrell College Science Award (\$35,000)
  - Primary PI 2011-2012 Cloud Coverage as an Indicator of Regional Climate Change. South Carolina Space Grant Geospatial Institute for Students and Teachers in Climate Change (\$9,650)
  - Sole PI 2010-2011 [Turbulent Mixing of Aerosols](#). College of Charleston Faculty Research & Development Grant (\$3,310)
  - Sole PI 2010 Characterization of Affordable Drop-by-Drop Rain Detection Instruments. NASA Space Grant Minigrant (\$10,000)
  - Sole PI 2009-2010 Development of Precipitation Monitoring Systems for a Distributed Rain-Sensing Network. NASA Space Grant Minigrant (\$10,000)
  - Sole PI 2009 NASA travel grant (\$1,000)
  - Sole PI 2009 UNK Program of Excellence Funds for a 3D-Ultrasonic Anemometer (\$3,000)
  - Sole PI 2008-2009 UNK Focused Assessment Grant (\$1,000)
-

**PUBLICATIONS****Peer-Reviewed Publications**

Green names indicate coauthors who were undergraduate students at the time of the work. Purple names indicate coauthors who were graduate students at the time of the work.

1. Locally Narrow Droplet Size Distributions are Ubiquitous in Stratocumulus Clouds  
N. Allwayin, M.L. Larsen, S. Glienke, and R.A. Shaw  
*Science*, 384(6695), 528-532 (2024)  
doi: 10.1126/science.adi5550
2. Automated Identification of Characteristic Droplet Size Distributions in Stratocumulus Clouds Utilizing a Data Clustering Algorithm  
N. Allwayin, M.L. Larsen, A.G. Shaw, and R.A. Shaw  
*Artificial Intelligence for the Earth Systems (AIES)*, 1(3), (2022)  
doi: 10.1175/AIES-D-22-0003.1
3. Preliminary Statistical Characterizations of the Lowest Kilometer Time-Height Profiles of the Rainfall Rate using a Vertically Pointing Radar  
A.R. Jameson and M.L. Larsen  
*Atmosphere*, 13, 635 (2022).  
Special Issue on “Advances on Remote Sensing of Precipitation”  
doi: 10.3390/atmos13040635
4. Improved Estimates of the Vertical Structures of Rain Using Single Frequency Doppler Radars  
A.R. Jameson, M.L. Larsen, and D.B. Wolff  
*Atmosphere*, 12, 699 (2021)  
doi: 10.3390/atmos12060699
5. Multivalent Surface Cations Enhance Heterogeneous Freezing of Water  
N. Lata, J. Zhou, P. Hamilton, M.L. Larsen, S. Sarupria, and W. Cantrell  
*Journal of Physical Chemistry Letters*, 2020, 11, 8682–8689 (2020)  
doi:10.1021/acs/jpclett.0c02121
6. Refinements to Data Acquired by 2-Dimensional Video Disdrometers  
M.L. Larsen and C.K. Blouin  
*Atmosphere*, 11, 855 (2020)  
Special Issue on “Measurement and Modeling of the Precipitation Particle Size Distribution”  
doi: 10.3390/atmos11080855
7. Light Scattering in a Turbulent Cloud: Simulations to Explore Cloud-Chamber Experiments  
C. Packard, M.L. Larsen, S. Thomas, W. Cantrell, and R. Shaw  
*Atmosphere*, 11, 837 (2020)  
Special Issue on “The Motion of Particles in Turbulence”  
doi: 10.3390/atmos11080837
8. Holographic Observations of Centimeter-Scale Nonuniformities with Marine Stratocumulus Clouds  
S. Glienke, A.B. Kostinski, R.A. Shaw, M.L. Larsen, J.P. Fugal, O. Schlenczek, and S. Borrmann  
*Journal of the Atmospheric Sciences*, 77, 499-512 (2020)  
doi: 10.1175/JAS-D-19-01641

**Peer-Reviewed Publications (Continued)**

9. Light Scattering in a Spatially-Correlated Particle Field: Role of the Radial Distribution Function  
C.D. Packard, M.L. Larsen, W.H. Cantrell, and R.A. Shaw  
*Journal of Quantitative Spectroscopy and Radiative Transfer*, 236, 106601 (2019)  
doi: [10.1016/j.jqsrt.2019.106601](https://doi.org/10.1016/j.jqsrt.2019.106601)
10. Fine-scale Droplet Clustering in Atmospheric Clouds: 3D Radial Distribution Function from Airborne Digital Holography  
M.L. Larsen, R.A. Shaw, A.B. Kostinski, and S. Glienke  
*Physical Review Letters*, 121, 204501 (2018).  
doi: [10.1103/PhysRevLett.121.204501](https://doi.org/10.1103/PhysRevLett.121.204501)
11. Identification and Characterization of an Anomaly in 2-Dimensional Video Disdrometer Data  
M.L. Larsen and M. Schönhuber  
*Atmosphere*, 9, 315 (2018).  
doi: [10.3390/atmos9080315](https://doi.org/10.3390/atmos9080315)
12. A Method for Computing the Three-Dimensional Radial Distribution Function of Cloud Particles from Holographic Images  
M.L. Larsen and R.A. Shaw  
*Atmospheric Measurement Techniques Discussion*, (2018).  
doi: [10.5194/amt-2018-60](https://doi.org/10.5194/amt-2018-60)  
*Atmospheric Measurement Techniques*, 11, 4261–4272 (2018).  
doi: [10.5194/amt-11-4261-2018](https://doi.org/10.5194/amt-11-4261-2018)
13. On the Detection of Statistical Heterogeneity in Rain Measurements  
A.R. Jameson, M.L. Larsen, and A.B. Kostinski  
*Journal of Atmospheric and Oceanic Technology*, 35, 1339–1413 (2018).  
doi: [10.1175/JTECH-D-17-0161.1](https://doi.org/10.1175/JTECH-D-17-0161.1)
14. Sampling Variability Effects in Drop-Resolving Disdrometer Observations  
M.L. Larsen and K. O'Dell  
*Journal of Geophysical Research: Atmospheres*, 121, (2016).  
doi: [10.1002/2016JD025491](https://doi.org/10.1002/2016JD025491)
15. An Example of Persistent Microstructure in a Long Rain Event  
A.R. Jameson, M.L. Larsen, and A.B. Kostinski  
*Journal of Hydrometeorology*, 17, 1661–1673 (2016).  
doi: [10.1175/JHM-D-15-0180.1](https://doi.org/10.1175/JHM-D-15-0180.1)
16. Estimates of the Statistical Two-Dimensional Spatial Structure in Rain over a Small Network of Disdrometers  
A.R. Jameson and M.L. Larsen  
*Meteorology and Atmospheric Physics*. 128, 401–413 (2016).  
doi: [10.1007/s00703-016-0438-0](https://doi.org/10.1007/s00703-016-0438-0)
17. The Variability of Rainfall Rate as a Function of Area  
A.R. Jameson and M.L. Larsen  
*Journal of Geophysical Research: Atmospheres*, 121, (2016).  
doi: [10.1002/2015JD024126](https://doi.org/10.1002/2015JD024126)

**Peer-Reviewed Publications (Continued)**

18. Identifying Individual Rain Events with a Dense Disdrometer Network  
[M.L. Larsen](#) and [J.B. Teves](#)  
*Advances in Meteorology*, 2015, Article ID 582782, 12 pages (2015).  
doi: 10.1155/2015/582782
19. Disdrometer Network Observations of Finescale Spatial-Temporal Clustering in Rain  
A.R. Jameson, [M.L. Larsen](#), and A.B. Kostinski  
*Journal of the Atmospheric Sciences*, 72(4), 1648–1666 (2015).  
doi:10.1175/JAS-D-14-0136.1
20. On the Variability of Drop Size Distributions over Areas  
A.R. Jameson, [M.L. Larsen](#), and A.B. Kostinski  
*Journal of the Atmospheric Sciences*, 72(4), 1386–1397 (2015).  
doi: 10.1175/JAS-D-14-0258.1
21. Scaling Properties of Raindrop Size Distributions as Measured by a Dense Array of Optical Disdrometers  
[M.L. Larsen](#), [T.B. Hayward](#), and [J.B. Teves](#)  
*Journal of Hydrology*, 521, 424–432 (2015).  
doi: 10.1016/j.jhydrol.2014.12.016
22. Further Evidence for Super-Terminal Raindrops  
[M.L. Larsen](#), A.B. Kostinski, and A.R. Jameson  
*Geophysical Research Letters*, 41(19), 6914–6918 (2014).  
doi: 10.1002/2014GL061397
23. On the Recovery of 3D Spatial Statistics of Particles from 1D Measurements: Implications for Airborne Instruments  
[M.L. Larsen](#), [C.A. Briner](#), and [P. Boehner](#)  
*Journal of Atmospheric and Oceanic Technology*, 31(10), 2078–2087 (2014).  
doi: 10.1175/JTECH-D-14-00004.1
24. On the Link Between Particle Size and Deviations from the Beer-Lambert-Bouguer Law for Direct Transmission  
[M.L. Larsen](#) and A.S. Clark  
*Journal of Quantitative Spectroscopy and Radiative Transfer*, 133, 646–651 (2014).  
doi: 10.1016/j.jqsrt.2013.10.001
25. Scale Localization of Cloud Particle Clustering Statistics  
[M.L. Larsen](#)  
*Journal of the Atmospheric Sciences*, 69 (11), 3277–3289 (2012).  
doi: 10.1175/JAS-D-12-02.1
26. Identifying the Scaling Properties of Rainfall Accumulation as Measured by a Rain Gauge Network  
[M.L. Larsen](#), A. Clark, [M. Noffke](#), [G. Saltzgeber](#), and [A. Steele](#)  
*Atmospheric Research*, 96, 149–158 (2010).  
doi: 10.1016/j.atmosres.2009.12.008

---

**Peer-Reviewed Publications (Continued)**

27. Simple Dead-Time Corrections for Discrete Time Series of Non-Poisson Data  
M.L. Larsen and A.B. Kostinski  
*Measurement Science and Technology*, 20, 095101 (2009).  
doi: [10.1088/0957-0233/20/9/095101](https://doi.org/10.1088/0957-0233/20/9/095101)
  28. Spatial Distributions of Aerosol Particles: Investigation of the Poisson Assumption  
M.L. Larsen  
*Journal of Aerosol Science*, 38 (8), 807-822 (2007).  
doi: [10.1016/j.jaerosci.2007.06.007](https://doi.org/10.1016/j.jaerosci.2007.06.007)
  29. The Texture of Rain: Exploring Stochastic Micro-Structure at Small Scales  
A.B. Kostinski, M.L. Larsen, and A.R. Jameson  
*Journal of Hydrology*, 328 (1-2), 38-45 (2006).  
doi: [10.1016/j.jhydrol.2005.11.035](https://doi.org/10.1016/j.jhydrol.2005.11.035)
  30. Observations and Analysis of Uncorrelated Rain  
M.L. Larsen, A.B. Kostinski, and A. Tokay  
*Journal of the Atmospheric Sciences*, 62 (11), 4071-4083 (2005).  
doi: [10.1175/JAS3583.1](https://doi.org/10.1175/JAS3583.1)
  31. Small-Scale Drop Size Variability: Impact on Estimation of Cloud Optical Properties  
Y. Knyazikhin, A. Marshak, M.L. Larsen, W.J. Wiscombe, J.V. Martonchik, and R.B. Myneni  
*Journal of the Atmospheric Sciences*, 62 (7), 2555-2567 (2005).  
doi: [10.1175/JAS3488.1](https://doi.org/10.1175/JAS3488.1)
  32. Small-Scale Drop Size Variability: Empirical Models for Drop-Size-Dependent Clustering in Clouds  
A. Marshak, Y. Knyazikhin, M.L. Larsen, and W.J. Wiscombe  
*Journal of the Atmospheric Sciences*, 62 (2), 551-558 (2005).  
doi: [10.1175/JAS-3371.1](https://doi.org/10.1175/JAS-3371.1)
  33. Response from Authors to Comment on Detection of Spatial Correlations among Aerosol Particles  
M.L. Larsen, W. Cantrell, A.B. Kostinski, and J. Kannosto  
*Aerosol Science and Technology*, 38 (2), 129-130 (2004).  
doi: [10.1080/02786820490250863](https://doi.org/10.1080/02786820490250863)
  34. Detection of Spatial Correlations among Aerosol Particles  
M.L. Larsen, W. Cantrell, J. Kannosto, and A.B. Kostinski  
*Aerosol Science and Technology*, 37 (6), 476-485 (2003).  
doi: [10.1080/02786820390126402](https://doi.org/10.1080/02786820390126402)
  35. Towards Quantifying Droplet Clustering in Clouds  
R.A. Shaw, A.B. Kostinski, and M.L. Larsen  
*Quarterly Journal of the Royal Meteorological Society*, 128 (582), 1043-1057 (2002).  
doi: [10.1256/003590002320373193](https://doi.org/10.1256/003590002320373193)
-

## National/International Scientific Conference Presentations

Green names indicate coauthors who were undergraduate students at the time of the work. Purple names indicate coauthors who were graduate students at the time of the work.

1. Reconsideration of Disdrometer Data  
M.L. Larsen  
 International Conference on Clouds and Precipitation (ICCP 2024), Jeju, South Korea. 14-19 July, 2024.
2. Investigating Links between Particle Spatial Clustering and Local Size Distributions in Marine Stratocumulus Clouds  
M.L. Larsen, **N. Allwayin**, S. Glienke, and R.A. Shaw  
 International Conference on Clouds and Precipitation (ICCP 2024), Jeju, South Korea. 14-19 July, 2024.
3. Observations of Locally Narrow Characteristic Droplet Size Distributions in Stratocumulus Clouds and their Implications for Cloud Representations (Submitted)  
**N. Allwayin**, M.L. Larsen, K.K. Chandrakar, K.G. Meyer, D.J. Miller, S. Glienke, J. Yeom, and R.A. Shaw  
 International Conference on Clouds and Precipitation (ICCP 2024), Jeju, South Korea. 14-19 July, 2024.
4. Revisiting Nonterminal Hydrometeors: Refining Instrument Uncertainty  
M.L. Larsen, A. Vakhtin, and A. Gomez  
 EGU General Assembly 2024, Vienna, Austria and Online. 14-19 April, 2024.
5. Understanding Cloud Structures with Machine Learning - An Algorithm to Represent Sub-Grid Scale Variability in Stratocumulus Clouds  
**N. Allwayin**, M.L. Larsen, **A. Shaw**, K.K. Chandrakar, S. Glienke, and R.A. Shaw  
 EGU General Assembly 2024, Vienna, Austria and Online. 14-19 April, 2024.
6. New Insights from Holographic Observations of Stratocumulus Clouds  
M.L. Larsen, **N. Allwayin**, S. Glienke, and R.A. Shaw  
[104th AMS Annual Meeting, First Symposium on Cloud Physics](#). Baltimore, MD. 28 January - 1 February, 2024.
7. Monodisperse Aerosol Generator for Field Calibration of Disdrometers and Cloud Probes  
 A.B. Vakhtin, A.L. Gomez, and M.L. Larsen  
[104th AMS Annual Meeting, 24th Symposium on Meteorological Observation and Instrumentation](#). Baltimore, MD. 28 January - 1 February, 2024.
8. Locally Narrow Droplet Size Distributions in Stratocumulus Clouds: Insights from ACE-ENA and LES  
**N. Allwayin**, M.L. Larsen, K.K. Chandrakar, D.J. Miller, K.G. Meyer, S. Glienke, and R.A. Shaw  
[AGU Fall Meeting](#). San Francisco, CA. 11-15 December, 2023.
9. The Need for Calibration Tools for Commercial Disdrometers  
M.L. Larsen, A. Vakhtin, and A. Gomez  
[AGU Fall Meeting](#). San Francisco, CA. 11-15 December, 2023.
10. Field Deployable Monodisperse Aerosol Generator  
 A. Vakhtin, A. Gomez, and M.L. Larsen  
[AGU Fall Meeting](#). San Francisco, CA. 11-15 December, 2023.
11. Locally Narrow Droplet Size Distributions in Stratocumulus Clouds: Insights from ACE-ENA and LES  
**N. Allwayin**, K.K. Chandrakar, S. Glienke, M.L. Larsen, K.G. Meyer, D.J. Miller, and R.A. Shaw  
[2023 ARM/ASR Joint User Facility and PI Meeting](#). Rockville, MD. 7-10 August, 2023.

**National/International Scientific Conference Presentations (Continued)**

12. Are Cloud Droplet Sizes Gamma Distributed at Centimeter Scales?  
[N. Allwayin](#), [M.L. Larsen](#), [S. Glienke](#), and [R.A. Shaw](#)  
[AGU Fall Meeting](#). Chicago, IL. 12-16 December, 2022.
13. Freezing Temperatures of Lab-Simulated and Real Rainwater Samples  
[M.L. Larsen](#), [L.F. Boss](#), [G.P. Hall](#), [M.E. Rhodes](#), and [M. Rutter](#)  
[AGU Fall Meeting](#). Chicago, IL. 12-16 December, 2022.
14. Machine Learning Identifies Characteristic “Local” Droplet Size Distributions in Stratocumulus Clouds  
[N. Allwayin](#), [M.L. Larsen](#), [A.G. Shaw](#), [S. Glienke](#), [S. Joshi](#), [C. Mazzoleni](#), and [R.A. Shaw](#)  
[2022 ARM/ASR Joint User Facility and PI Meeting](#). Rockville, MD. 24-27 October, 2022.
15. Do Local Droplet Size Distributions Represent the Globally-Averaged Distribution? A Method for Identifying Characteristic Local Droplet Size Distributions in Stratocumulus Clouds  
[N. Allwayin](#), [M.L. Larsen](#), [A.G. Shaw](#), [S. Glienke](#), and [R.A. Shaw](#)  
[16th Conference on Cloud Physics, Collective Madison Meeting](#). Madison, WI. 8-12 August, 2022.
16. Changes to Heterogeneous Ice Nucleation Rate Due to Changing Concentrations of Dilute Salt Solutions on an Insoluble Surface  
[G. Hall](#), [L. Boss](#), [M.L. Larsen](#), and [W.H. Cantrell](#)  
[16th Conference on Cloud Physics, Collective Madison Meeting](#). Madison, WI. 8-12 August, 2022.
17. Variability of Raindrop Size Distributions in the Lower Boundary Layer as Measured by a MicroRain Radar  
[M.L. Larsen](#), [C. Blouin](#), [C.A. Barber](#), [A.R. Jameson](#), [B. Hirth](#), and [E.C. Bruning](#)  
[16th Conference on Cloud Physics, Collective Madison Meeting](#). Madison, WI. 8-12 August, 2022.
18. Alternatives to Fixed-Time Partitioning of Disdrometer Data  
[M.L. Larsen](#) and [B. Brunson](#)  
[16th Conference on Cloud Physics, Collective Madison Meeting](#). Madison, WI. 8-12 August, 2022.
19. Development of a System to Characterize the Natural Variability of Raindrop Freezing Temperatures  
[L. Boss](#), [G. Hall](#), and [M.L. Larsen](#)  
[Gordon Research Conference on Climate Engineering](#). Newry, ME. 26 June - 1 July, 2022.
20. Intercomparison between 2DVD and MRR Datasets  
[C. Blouin](#), [C. Barber](#), and [M.L. Larsen](#)  
[European Geosciences Union General Assembly 2022](#). Vienna, Austria. 23-27 May, 2022.
21. An Examination of Alternate Partitioning Methods for Disdrometer Data  
[B. Brunson](#) and [M.L. Larsen](#)  
[European Geosciences Union General Assembly 2022](#). Vienna, Austria. 23-27 May, 2022.
22. A Safe Solar Viewer (SSV) as a Tool for Engaging STEM Minorities in Eclipse Activities  
[T.R. Richardson](#) and [M.L. Larsen](#)  
[Solar Eclipse Planning Workshop](#). Virtually Anywhere. 8-9 April, 2022.
23. An Attempt to Partition Raindrop Arrival Data in Statistically Stationary Intervals  
[B. Brunson](#) and [M.L. Larsen](#)  
[International Conference on Clouds and Precipitation \(ICCP 2021\)](#). Pune, India. 2-6 August, 2021.

**National/International Scientific Conference Presentations (Continued)**

24. Investigations into Rain Droplet Fall Velocity Variability  
[M.L. Larsen](#), [B. Ierace](#), [K. O'Dell](#), and A.B. Kostinski  
[International Conference on Clouds and Precipitation \(ICCP 2021\)](#). Pune, India. 2-6 August, 2021.
25. Numerical Simulations to Explore Deviations from the Beer-Lambert-Bourguier Law in a Correlated Random Medium  
[C. Blouin](#) and [M.L. Larsen](#)  
[virtual EGU General Assembly 2021](#). 19-30 April 2021.
26. Modifications to the Effective Sample Area in Data Acquired by 2-Dimensional Video Disdrometers  
[M.L. Larsen](#) and [C. Blouin](#)  
[virtual EGU General Assembly 2021](#). 19-30 April 2021.
27. Preliminary Intercomparison of Rain Accumulations as Measured by 1- and 2-Dimensional Video Disdrometers  
[T. Anderson](#) and [M.L. Larsen](#)  
[101st Annual Meeting of the American Meteorological Society; 21st Symposium on Meteorological Observation and Instrumentation](#). New Orleans, LA. 10-14 January, 2021.
28. Preliminary Analysis of Bulk Rain Variables Acquired from Laser Precipitation Monitors Mounted at Different Heights on a Vertical Tower  
[C. Barber](#), [M.L. Larsen](#), E. Bruning, and B. Hirth  
[101st Annual Meeting of the American Meteorological Society; 21st Symposium on Meteorological Observation and Instrumentation](#). New Orleans, LA. 10-14 January, 2021.
29. Adjustments to the Effective Sample Area for 2-Dimensional Video Disdrometer Measurements  
[C. Blouin](#) and [M.L. Larsen](#)  
[101st Annual Meeting of the American Meteorological Society; 21st Symposium on Meteorological Observation and Instrumentation](#). New Orleans, LA. 10-14 January, 2021.
30. Exploring the Possible Physical Origins of Raindrops Falling at Non-Terminal Fallspeeds  
[B. Ierace](#), [M.L. Larsen](#), [K. O'Dell](#), and A.B. Kostinski  
[2020 Fall AGU Meeting](#). Online Everywhere/San Francisco, CA. 1-17 December, 2020.
31. Effect of Multivalent Surface Cations on Heterogeneous Freezing of Water  
[J. Zhou](#), [N. Lata](#), [P. Hamilton](#), [M.L. Larsen](#), W. Cantrell, and S. Sarupria  
[American Institute of Chemical Engineers \(AIChE\) Annual Meeting](#) San Francisco, CA. 15-20 November, 2020.
32. Light Propagation in Clouds: From Digital Holography to Non-Exponential Extinction  
R.A. Shaw, J.P. Fugal, S. Glienke, [C.D. Packard](#), W.H. Cantrell, [M.L. Larsen](#), S.M. Spuler, and J.L. Stith  
[OSA Laser Congress](#) Vienna, Austria. 29 September - 3 October, 2019.
33. Characterization of an Anomaly in 2-Dimensional Video Disdrometer Data  
[M.L. Larsen](#), M. Schönhuber, and G. Lammer  
[2018 Fall AGU Meeting](#). Washington DC, 10-14 December, 2018.

**National/International Scientific Conference Presentations (Continued)**

34. Insights into Aerosol-Cloud Coupling from Laboratory Experiments in a Turbulent Environment  
W. Cantrell, [K.K. Chandrakar](#), [N. Desai](#), G. Kinney, [J. Anderson](#), [A.S.M. Shawon](#), S. Krueger, [M.L. Larsen](#), and R.A. Shaw  
[Aerosols and Clouds: Connections from the Laboratory to the Field to the Globe](#). Telluride, CO. 30 July - 3 August, 2018.
35. Laboratory Measurements of Cloud Scavenging of Interstitial Aerosol by Activation in a Turbulent Environment  
W. Cantrell, [K.K. Chandrakar](#), G. Kinney, [J. Anderson](#), [A.S.M. Shawon](#), R.A. Shaw, and [M.L. Larsen](#)  
[15th AMS Conference on Cloud Physics](#). Vancouver, Canada. 9-13 July, 2018.
36. Fine-Scale Droplet Clustering in Stratocumulus Clouds from Airborne Digital Holography: 3D Radial Distribution Functions  
[M.L. Larsen](#), A.B. Kostinski, R.A. Shaw, and [S. Glienke](#)  
[15th AMS Conference on Cloud Physics](#). Vancouver, Canada. 9-13 July, 2018.
37. Sampling Considerations Associated with the Interpretation of Disdrometric Data  
[M.L. Larsen](#), [K. O'Dell](#), and [J. Niehaus](#)  
[15th AMS Conference on Cloud Physics](#). Vancouver, Canada. 9-13 July, 2018.
38. A New Algorithm for Computing the Radial Distribution Function in Three-Dimensional Measurement Volumes  
[M.L. Larsen](#) and R.A. Shaw  
[15th AMS Conference on Cloud Physics](#). Vancouver, Canada. 9-13 July, 2018.
39. A Dense Disdrometer Network in the Southeastern United States: Results and New Directions  
[M.L. Larsen](#), A.R. Jameson, A.B. Kostinski, and [J. Niehaus](#)  
[European Geosciences Union General Assembly 2018](#). Vienna, Austria. 8-13 April, 2018.
40. On the Detection of Statistical Heterogeneity in Rain Measurement  
A.R. Jameson, [M.L. Larsen](#), and A.B. Kostinski  
[32nd Conference on Hydrology and 25th Conference on Probability and Statistics during 98th American Meteorological Society Annual Meeting](#) Austin, TX. 6-11 January, 2018.
41. Analysis of Interarrival Times of Aerosol Particles as Measured by an Aerodynamic Particle Sizer Spectrometer  
[M. Mullis](#), [J. Niehaus](#), and [M.L. Larsen](#)  
[2017 Fall AGU Meeting](#). New Orleans, LA. 11-15 December, 2017.
42. Measurement of Air-surface Exchange of Speciated Nitrogen and Sulfur Compounds in a Coastal Environment  
G. Beachley, J.T. Walker, [M.L. Larsen](#), [J. Niehaus](#), [M. Mullis](#), and I. Rumsey  
[National Atmospheric Deposition Program Scientific Symposium and Fall Meeting](#). San Diego, CA. 30 October - 3 November, 2017.
43. An Index of the Statistical Heterogeneity of Rain Observations  
A.R. Jameson, [M.L. Larsen](#), and A.B. Kostinski  
[European Meteorological Society Annual Meeting](#). Dublin, Ireland. 4-8 September, 2017.

**National/International Scientific Conference Presentations (Continued)**

44. Development of a New Theoretical Framework for the Analysis of Disdrometer Data  
[M.L. Larsen](#), [R. Lemasters](#), [K. O'Dell](#), and [J. Teves](#)  
[17th International Conference on Clouds and Precipitation](#). Manchester, UK. 25-29 July, 2016.
45. Investigating a New Disdrometer Sampling Method to Reduce Measurement Variability  
[K. O'Dell](#) and [M.L. Larsen](#)  
[17th International Conference on Clouds and Precipitation](#). Manchester, UK. 25-29 July, 2016.
46. Statistical Assessment of Rainfall Properties over Varying Scales  
[J.B. Teves](#) and [M.L. Larsen](#)  
[17th International Conference on Clouds and Precipitation](#). Manchester, UK. 25-29 July, 2016.
47. A Study of Realistic Sampling-Variability Effects on Precipitation Measurements  
[K. O'Dell](#) and [M.L. Larsen](#)  
[2015 Fall AGU Meeting](#). San Francisco, CA. 14-18 December, 2015.
48. Novel Insights from Studying Raindrop Arrivals on Sub-Second Timescales  
[M.L. Larsen](#) and [R. Lemasters](#)  
[2015 Fall AGU Meeting](#). San Francisco, CA. 14-18 December, 2015.
49. Resolving Airborne Particulate Concentration Inhomogeneities with a Schlieren Optical Technique  
[A. Payne](#), [A. Teklu](#), and [M.L. Larsen](#)  
[46th Annual Meeting of the APS Division of Atomic, Molecular, and Optical Physics](#). Columbus, OH. 8-12 June, 2015.
50. Confirmation of the Existence of Super-Terminal Raindrops  
[M.L. Larsen](#), [A.B. Kostinski](#), and [A.R. Jameson](#)  
[2014 Fall AGU Meeting](#). San Francisco, CA. 15-19 December, 2014.
51. Investigating the Dependence of Fractal Dimension on Raindrop Size for Drop Arrival Times as Measured by a Two-Dimensional Video Disdrometer  
[R. Lemasters](#) and [M.L. Larsen](#)  
[2014 Fall AGU Meeting](#). San Francisco, CA. 15-19 December, 2014.
52. Self-Consistency of Rain Event Definitions  
[J. Teves](#) and [M.L. Larsen](#)  
[2014 Fall AGU Meeting](#). San Francisco, CA. 15-19 December, 2014.
53. Parameters Governing Deviations from the Beer-Lambert-Bouguer Law for Direct Transmission  
[A.S. Clark](#), [M.L. Larsen](#), and [J.B. Teves](#)  
[14th AMS Conference on Atmospheric Radiation](#). Boston, MA. 7 - 11 July, 2014.
54. Development of a Site to Investigate Rainfall Accumulation and Drop Size Distribution Variability on Small Spatio-Temporal Scales  
[M.L. Larsen](#), [J.C. Harris](#), [R. Lemasters](#), [K. O'Dell](#), and [J. Teves](#)  
[38th Annual Meeting of the National Weather Association](#). North Charleston, SC. 12-17 October 2013.
55. Development of a Ballistic Photon Transport Model that Explicitly Resolves Cloud Microstructure  
[M.L. Larsen](#), [A. Clark](#), [A. Steele](#), and [D. Hayes](#).  
[13th AMS Conference on Cloud Physics, jointly with 11th AMS Conference on Atmospheric Radiation](#). Portland, OR. 28 June - 3 July, 2010.

**National/International Scientific Conference Presentations (Continued)**

56. Examination of Sub-Pixel Accumulation Variability in Central Nebraska  
[M.L. Larsen](#), A. Clark, [M. Noffke](#), [G. Saltzgaber](#), and [A. Steele](#).  
[34th Conference on Radar Meteorology](#). Williamsburg, VA. 5-9 October, 2009.
57. Direct Simulation of Radiative Transfer through a 3-Dimensional Correlated Medium  
[M.L. Larsen](#), A. Clark, and [A. Steele](#).  
[Gordon Research Conference on Radiation and Climate](#). Colby-Sawyer College. New London, NH. 5-10 July, 2009.
58. Unresolved Small-Scale Optical Variability of Clouds: Two Ways of Assessing its Impact on Remote Sensing Observations and Energy Budget Estimations  
A.B. Davis, [M.L. Larsen](#), and K. Pfeilsticker.  
[2006 Fall AGU Meeting](#). San Francisco, CA. 11-15 December, 2006.
59. A New Model of Spatial Cloud Drop Distribution that Simulates the Observed Drop Clustering: Effect of clustering in Extinction Coefficient Estimates  
A. Marshak, Y. Knyazikhin, [M.L. Larsen](#), and W. Wiscombe.  
[2006 Fall AGU Meeting](#). San Francisco, CA. 11-15 December, 2006.
60. Impact of Unresolved, Correlated, or Anti-Correlated Spatial Structure on the Bulk Transport of Radiation Inside and Between Clouds, with Applications to Remote Sensing and Energy Budgeting  
A.B. Davis, [M.L. Larsen](#), and M.K. Dubey.  
[2nd International Conference on Global Warming and the Next Ice Age](#). Sante Fe, New Mexico. 17-21 July, 2006.
61. A New Model of Cloud Drop Distribution that Simulates the Observed Drop Clustering: Effects of Clustering on Extinction Coefficient Estimates  
Y. Knyazikhin, A. Marshak, [M.L. Larsen](#), and W.J. Wiscombe.  
[16th Annual Meeting of the ARM Science Team](#). Albuquerque, New Mexico. 27-31 March, 2006.
62. Reconsideration of Certain Aspects of the Z-R Problem  
[M.L. Larsen](#) and A.B. Kostinski.  
[14th International Conference on Cloud Physics and Precipitation – ICCP 2004](#). Bologna, Italy. 13-18 July, 2004.
63. Exploring the Stochastic Micro-structure of Rain: Scale Dependence of Spatial Correlations  
A.B. Kostinski, A.R. Jameson, and [M.L. Larsen](#).  
[17th Conference on Hydrology](#). [83rd Annual Meeting of the American Meteorological Society](#). Long Beach, California. 9-13 February, 2003.
64. Spatial Correlations among Aerosol Particles  
W. Cantrell, A.B. Kostinski, [M.L. Larsen](#), and [D. Harrington](#).  
[2002 Fall Meeting of the American Geophysical Union](#). San Francisco, California. 6-10 December, 2002.
65. Stochastic Micro-structure of Rain and Scale Dependence of Spatial Correlations  
A.B. Kostinski, A.R. Jameson, and [M.L. Larsen](#).  
[2002 Fall Meeting of the American Geophysical Union](#). San Francisco, California. 6-10 December, 2002.

### National/International Scientific Conference Presentations (Continued)

66. Possible Implications of Droplet Clustering for Radiative Transfer in Clouds  
A.B. Kostinski, [M.L. Larsen](#), and R.A. Shaw.  
*11th AMS Conference on Cloud Physics, jointly with 11th AMS Conference on Atmospheric Radiation.*  
Ogden, Utah. 3-7 June, 2002.
  67. Quantifying Droplet Clustering in Clouds  
[M.L. Larsen](#), A.B. Kostinski, and R.A. Shaw.  
*11th AMS Conference on Cloud Physics.* Ogden, Utah. 3-7 June, 2002.
- 

### (Nonreviewed) Books

1. Discrete Fluctuations in Atmospheric Physics: Theory, Models, and Empirical Observations  
(Ph.D. Dissertation Excerpt). [M.L. Larsen](#)  
[218 pp.](#), VDM Verlag Dr. Mueller e.K. (2008).
2. Investigations in Earth Science  
(Internal Lab/Activity Book for PHYS 201 (Earth Science) at University of Nebraska at Kearney)  
[M.L. Larsen](#)  
160 pp., Published In-House by UNK (2008).  
2nd Ed. 183 pp., Published In-House by UNK (2009).  
3rd Ed. 193 pp., Published In-House by UNK (2010).

### Invited Talks and Local/Regional Scientific Presentations

1. Reconsideration of Disdrometer Data  
M.L. Larsen  
*27th Annual Allen Weber Mini-Technical Conference of the Palmetto Chapter of the American Meteorological Society, Columbia, SC. 21 March 2024.*
2. Investigations in Atmospheric Microphysics: Discreteness Matters  
M.L. Larsen  
*Department of Physics and Astronomy Colloquium, Western University, London, Ontario, Canada. 6 March 2023.*
3. Small Scale Physics in the Sky: Atmospheric Physics Research at a Predominantly Undergraduate Institution  
M.L. Larsen  
*Department of Physics Colloquium, Illinois Wesleyan University, Bloomington, IL. 28 February 2023.*
4. Experimental Atmospheric Physics Research at a Predominantly Undergraduate Institution  
M.L. Larsen  
*Berry College Physics Colloquium, Berry College, Rome, GA. 9 January 2023.*
5. Experimental Research in Atmospheric Physics at a Predominantly Undergraduate Institution  
M.L. Larsen  
*Truman State University Physics Colloquium, Truman State University. Kirksville, MO. 13 December 2022.*
6. Heterogeneous Ice Nucleation on Insoluble Surfaces  
G. Hall and M.L. Larsen  
*Southern Appalachian Weather and Climate Workshop. Asheville, NC. 25-26 March, 2022.*
7. Aerosol, Cloud, and Microphysics Research at a Predominantly Undergraduate Institution  
M.L. Larsen  
*Bucknell University, Department of Physics Seminar. Bucknell University. Lewisburg, PA. 8 March 2022.*
8. Quantifying Rain Rate's Influence on Tipping Bucket Rain Gauge Accuracy  
G. Connors and M.L. Larsen  
*25th Annual Allen Weber Mini-Technical Conference of the Palmetto Chapter of the American Meteorological Society. Columbia, SC. 6 March, 2019.*
9. Sabbatical in the Snow: Results from a year spent investigating atmospheric microphysics at Michigan Technological University  
M.L. Larsen  
*College of Charleston, Department of Physics and Astronomy Colloquium. College of Charleston. Charleston, SC. 17 January, 2019.*
10. Rainfall Spatio-Temporal Variability Explored with a Dense Disdrometer Array  
M.L. Larsen  
*Michigan Technological University, Department of Physics Colloquium. Michigan Technological University. Houghton, MI. 29 March, 2018.*

### Invited Talks and Local/Regional Scientific Presentations (Continued)

11. Explorations of Raindrop Size Distribution Variability using a Dense Disdrometer Array  
M.L. Larsen  
*College of Charleston, Department of Physics and Astronomy Colloquium.* College of Charleston. Charleston, SC. 2 October, 2014.
12. Spatial Statistics through a 1-D Lens  
M.L. Larsen  
*2012 Annual Meeting of the South Carolina Academy of Science.* University of South Carolina-Aiken. Aiken SC. 13 April, 2012.
13. Characterizing Rainfall Variability on Small Spatial and Temporal Scales  
M.L. Larsen  
*10th Annual Turkey Creek Watershed Initiative meeting. 5th Eco-Hydrologic Monitoring meeting.* College of Charleston. Charleston, SC. 22 April, 2011.
14. Identification and Characterization of Small-Scale Rainfall Fluctuations  
M.L. Larsen  
*2011 Annual Meeting of the South Carolina Academy of Science.* South Carolina State University. Orangeburg, SC. 16 April, 2011.
15. Physics within the Pixel – Rainfall Variability on Unresolved Scales  
M.L. Larsen  
*17th Annual Mini-Technical Conference of the Palmetto Chapter of the American Meteorological Society.* Columbia, SC. 24 March, 2011.
16. Affordable Ways of Measuring Rain One Drop at a Time  
M.L. Larsen  
*120th Annual Meeting of the Nebraska Academy of Sciences.* Nebraska Wesleyan University. Lincoln, NE. 23 April, 2010.
17. Developing an Undergrad Research Program from Scratch: Perspective from Two Physicists  
M.L. Larsen and L. Kreminska  
*Research at Primarily Undergraduate Institutions.* University of Nebraska at Kearney. Kearney, NE. 6 March, 2009.
18. Have You Been Discrete Enough? Describing where Aerosol Particles are and Where they are Not  
M.L. Larsen  
*Remote Sensing Institute Seminar.* Michigan Technological University. Houghton, MI. 17 March, 2008.
19. Spatial Statistics in Atmospheric Microphysics: An Introduction with Applications  
M.L. Larsen  
*SciMath Colloquium.* Kearney, NE. 11 October, 2007.
20. Being Discrete in a Crowd: Detection and Implications of Aerosol Clustering  
M.L. Larsen  
*JCET Radiation Focus Group Seminar, Climate and Radiation Branch Seminar* Greenbelt, MD. 23 July 2003.

## MEDIA MENTIONS AND APPEARANCES

1. Jeffers, Elizabeth (2024). Cloudy with a chance of climate predictions. [NSF News; Discovery Files](#)
2. Robertson, Mike (2024). College of Charleston Professor Co-Authors Paper on Clouds. [The College Today](#)
3. Stafford, Robert (2024). Marine Stratocumulus Clouds Seem to Consist of Neighborhoods of Relatively Uniform Properties: Researchers show Common Reflective Clouds are not Spatially Homogeneous. [ARM News & Events](#)
4. Goodwin, Darcy (2023). Second Annual EXPO Award Recipients Present Stellar Projects. [The College Today](#)
5. Williams, Dylan (2022). [RAIN: The Untold Story](#). Produced by Cwmni Da TV, MacTV, Below the Radar, and LIC. Distributed by TVF International. International Documentary Series sponsored by BBC UK and TG4 Ireland. Approximately 5 minutes of the first episode in the documentary features segments of discussions with Mike Larsen filmed on 9/10/21.

### Media Regarding the Documentary:

- TVF [Trailer](#)
- Nation CYMRU Staff Writers (2022). Welsh TV company going global with show that busts the myths about raindrops – ‘they look more like hamburgers’ [Nation CYMRU](#)
- Realscreen [article](#) (2022) on TVFI winter slate
- Television Business International [article](#) (2022) indicating the series has been picked up by National Geographic Eastern Europe, Movistar Plus+ in Spain, Ceska Televize in Czech Republic as well as Al Jazeera across the Middle East.

### Known showings:

- [2022 London Screenings](#) (1-4 March, 2022).
  - [Maori Television](#) (December 11, 2022).
6. Shaw, Raymond A. (2022). Identifying the Characteristic Cloud Size Distributions that Make up a Cloud. [US DoE ARM Research Highlight](#)
  7. Goodwin, Darcy (2022). Summer Research Grants open a World of Possibilities for Students. [The College Today](#)
  8. Dickison, Dan (2020). Summer Research Grants Fund a Variety of Student Projects. [The College Today](#)
  9. Brack, Andy (2019). Good News: CofC Cloud Study, new United Way CEO, more. [Charleston Currents](#)
  10. Lutz, Alicia (2019). College of Charleston Celebrates Faculty. [The College Today](#)
  11. Allen, Michael (2018). Raindrop Formation in Turbulent Clouds is Observed at Long Last. [Physics World](#)
  12. Christensen, Kelley (2018). The Secret Life of Cloud Droplets. [Phys.org](#)
  13. Kunnen, Rudie P.J. (2018). Cloud Drops Stick Together. [Physics Viewpoint](#)

### Media Mentions and Appearances (Continued)

14. Space Daily Staff Writers (2018). Droplet Clustering Inside Clouds Confirmed by Airborne Digital Holography. [Space Daily](#)
15. Robertson, Mike (2018). CofC Professor Takes a New Look at Clouds. [The College Today](#)
16. Lutz, Alicia (2017). Eclipse Outreach Grant Brings College Community to Light. [The College Today](#)
17. Petersen, Bo (2017). Changes in Daily Rain, Not Flood or Drought, Might Leave South Carolina Dry. [Post and Courier](#)
18. Petersen, Bo (2016). The Smaller the Drop the Faster the Rain, C of C Research Says. [Post and Courier](#)
19. Berry, Mark (2015). Right as Rain [The College Today](#)
20. Bryner, Jeanna (2015). Some Racing Raindrops Break their 'Speed Limit'. [Live Science](#)
21. Luntz, Stephen (2015). Superfast Raindrops Seem to Break the Laws of Physics. [IFL Science](#)
22. Mills, Allison (2015). Falling faster – Researchers Confirm Super-Terminal Raindrops. [Michigan Tech News](#)
23. Heller, Andy (2014). Some Rain Falls at Super-Terminal Speeds [Matzav.com](#)
24. Larson, Chris (2014). Raindrops are Falling...Faster and Faster [Today's Science](#)
25. Ornes, Stephen (2014). Raindrops Break the Speed Limit. [Science News for Students](#)
26. Perkins, Sid (2014). Confirmed: Some Raindrops Fall Faster than they Should. [Science Magazine](#)
27. Sumner, Thomas (2014). Falling raindrops break terminal velocity. [Science News](#)
28. Today's Science (2014). Conversations with Scientists: Michael L. Larsen: Untangling the World's Mysteries. [Today's Science](#)

**COURSES TAUGHT**

➤ Introductory Undergraduate Level

- Earth Science<sup>†</sup> (F'07, F'08, S'09, F'09, S'10)
- General Physics I (Calculus Based) (F'16, F'18, F'21, F'22)
- General Physics II (Calculus Based) (F'20)
- General Physics I Lab (Calculus Based) (F'21)
- General Physics II Lab (Calculus Based) (F'10, S'11)
- Honors Earth Science<sup>†</sup> (F'07, F'08, S'09, F'09, S'10)
- Honors Physics of Sound and Music<sup>†</sup> (S'20)
- Honors Physics I (Calculus Based) (F'15)
- Honors Physics I Lab (Calculus Based) (F'15)
- Honors Physics II (Calculus Based) (S'16)
- Honors Physics II Lab (Calculus Based) (S'16)
- Introduction to Air Pollution<sup>†</sup> (S'21)
- Introductory Physics I (Algebra Based) (F'20)
- Introductory Physics I Lab (Algebra Based) (F'11, F'18(x2), S'22)
- Introductory Physics II (Algebra Based) (F'10, S'11, F'11, S'19)
- Introductory Physics II Lab (Algebra Based) (S'11, F'11, S'12, F'13, S'14)
- Meteorology<sup>†</sup> / Introduction to Meteorology<sup>†</sup> (S'08, S'09, S'10, F'23)
- Physical Science (F'07, S'08, F'08, S'09)
- Physics of Sound and Music<sup>†</sup> (S'12, S'14)
- Physics of Sports<sup>†</sup> (S'13, F'14)

➤ Intermediate Undergraduate Level

- Atmospheric Physics<sup>†</sup> (F'10, F'12, F'14, F'16)
- Mathematical Methods in Physics/Methods of Applied Physics<sup>†</sup> (F'12, F'13, F'14, S'20)
- Modern Physics (F'09, S'12, F'15, S'17, F'19)

### Courses Taught (Continued)

#### ➤ Advanced Undergraduate Level

- Classical Mechanics (S'13, S'14, S'15, S'17, S'21)
- Cloud and Precipitation Physics<sup>†</sup> (F'19, F'21, F'23)
- Computers in Physics<sup>†</sup> (S'10)
- Electricity and Magnetism I / Electrodynamics I (F'12, F'13, F'19, F'23)
- Experimental Physics (F'22, S'23)
- Fluid Mechanics (S'19)
- Individual Enrollment Courses (Research Mentorship, Senior Capstone, etc.)  
*109 sections at CofC from 2011-2023*
- Physics Problem Solving<sup>†</sup> (S'09, F'09, F'11, F'12, F'14, F'15, F'16, F'18, F'19, F'20, F'21, F'23)
- Remote Sensing of Precipitation (Tutorial)<sup>†</sup> (S'21)
- Research Seminar (S'13, S'14, S'15, S'16, S'17, F'18, F'20)
- Thermal Physics (S'22)

#### ➤ Graduate Level

- Special Topics in Cloud Physics (Michigan Technological University)<sup>†</sup> (S'24)

† = Courses that were either designed or substantially modified by Michael Larsen.

**STUDENT MENTORSHIP****Mentoring of Undergraduate/High School Student Research**

Maroon names indicate College of Charleston Students

Blue names indicate University of Nebraska-Kearney Students

Orange names indicate Clemson University Students

Green names indicate Academic Magnet High School Students

Name and Dates(*) (†)	Peer-Reviewed Journal Coauthorships	Professional Conference Coauthorships	Senior Capstone Project	Student Research Presentations
Trey Anderson, 2020	0	1	-	1
Carson Barber, 2019-2021	0	3	Yes	3
Tobin Barrett, 2011-2013	0	0	Yes	1
Kami Beats, 2023	0	0	-	0
Josh Beck(+), 2009-2010	0	0	N/A	2
Chris Blouin(*) (+), 2018-present	1	5	Yes	9
(Dr.) Philip Boehner(+), 2010-2012	1	0	Yes	6
Lili Boss(+), 2021-2023	0	3	Yes	7
Michael Brandon(+), 2019	0	0	-	1
Harrison Briner(*), 2012	1	0	-	2
Brianna Brunson(*), 2020-2022	0	3	-	6
Liam Brunson(+), 2021-2022	0	0	-	1
Susanna Brylawski, 2011-2013	0	0	-	0
Kensley Burriss(+), 2015-2016	0	0	-	1
Dawn Carillo, 2008-2010	0	0	N/A	0
Jose Carillo, 2008-2010	0	0	N/A	0
Michael Chute, 2012-2013	0	0	Yes	2
Gavin Connors, 2018-2019	0	1	Yes	3
Eric Davidson, 2019-2020	0	0	-	0
Erin Deck(+), 2011	0	0	-	1
Grant Farmer, 2018-2019	0	0	-	0
Benjamin Fullerton(+), 2009-2010	0	0	N/A	4
Griffin Hall(+), 2021-present	0	4	Yes	5
Joerael Harris, 2011-2014	0	1	Yes	4
Pearce Hamilton(+), 2019-2020	1	1	-	3
David Hayes(+), 2009-2010	0	1	N/A	1
(Dr.) Timothy Hayward(*), 2013-2014	1	0	-	2
Bridget Ierace, 2020	0	2	-	0
Cassidy Jenks, 2013-2014	0	0	Yes	2
Parker LeClerc, 2018-2019	0	0	Yes	1
(Dr.) Robert Lemasters(*) (+), 2013-2015	0	4	Yes	3
Abbie Long, 2019	0	0	N/A	2
Will McLoud(*), 2020-2022	0	0	Yes	2
Joshua Moravec(+), 2010	0	0	N/A	0

Notes: Some publications had multiple student authors and are thus multiply counted above.

(\*) indicates student won at least one research presentation award. (†) indicates student won at least one funding award.

**NOTE – Continues on Following Page!**

**Mentoring of Undergraduate/High School Student Research (Continued)**

Maroon names indicate College of Charleston Students

Blue names indicate University of Nebraska-Kearney Students

Orange names indicate Clemson University Students

Green names indicate Academic Magnet High School Students

Name and Dates(*) (†)	Peer-Reviewed Journal Coauthorships	Professional Conference Coauthorships	CofC Senior Capstone Project	Student Research Presentations
Sophia Morrison(+), 2023	0	0	-	1
Monica Mullis(+), 2017-2018	0	2	Yes	3
(Dr.) Joseph Niehaus, 2010-2011	0	4	-	4
Matthew Noffke(*) (+), 2008-2010	1	1	N/A	7
(Dr.) Kate O'Dell(*) (+), 2012-2016	1	7	Yes	13
(Dr.) Linsey Passarella, 2016	0	0	-	1
(Dr.) Alexis Payne(*) (+), 2013-2015	0	1	Yes	2
Hilary Powell(+), 2018-2019	0	0	-	1
Robbie Prentice, 2023	0	0	-	0
Maria Rutter, 2023	0	0	-	1
David Ruwadi(+), 2011	0	0	-	1
(Dr.) Grant Saltzgaber M.D. (+), 2007-2010	1	1	N/A	7
Adrian Sanabria-Diaz(+), 2009-2010	0	0	N/A	0
Cameron Self, 2010-2011	0	0	Yes	1
Jenn Smaroff, 2010-2011	0	0	-	0
(Dr.) Conor Smith, 2010-2011	0	0	Yes	2
Kyle Smydra(+), 2008-2010	0	0	N/A	4
(Dr.) Aaron Steele(+), 2008-2009	1	3	N/A	4
Patricia (Annie) Steele, 2013-2014	0	0	-	0
(Dr.) Jeremy Stromer(+), 2009	0	0	N/A	3
Joshua Teves(+), 2012-2016	2	5	Yes	11
Derek Tuck, 2014-2015	0	0	Yes	2
Caleb Ussery, 2023	0	0	-	1
Lucy Williamson, 2021	0	0	-	0
Gabe Wohlfarth(+), 2022-2023	0	0	-	1
Danielle Wolf (Policarpio)(+), 2009-2010	0	0	N/A	1
<b>TOTALS</b>				
College of Charleston (44 Students)	8	47	19	109
University of Nebraska at Kearney (13 Students)	3	6	N/A	33
Clemson University (1 Student)	0	0	N/A	2
Academic Magnet High School (2 Students)	0	0	1	2
Grand Total (60 Students)	11	53	20	146

Notes: Some publications had multiple student authors and are thus multiply counted above.

(\*) indicates student won at least one research presentation award. (†) indicates student won at least one funding award.

**Mentorship and/or Formal Collaboration with Graduate Students while Employed at CofC**

Name and Start Date	Academic Institution and Relationship	Peer-Reviewed Journal Coauthorships	Professional Conference Coauthorships
Nithin Allwayin 2020	Michigan Tech Univ. Collaborator/Coauthor	1 (+1 in review)	9
(Dr.) Jesse Anderson 2017	Michigan Tech Univ. Ph.D. Committee Member Collaborator/Coauthor	0	2
Brianna Brunson 2020	College of Charleston Masters Committee Member Collaborator/Coauthor	0	3
Thomas Cannon 2019	College of Charleston Masters Committee Member	0	0
(Dr.) Kamal K. Chandrakar 2017	Michigan Tech Univ. Collaborator/Coauthor	0	2
(Dr.) Neel Desai 2017	Michigan Tech Univ. Collaborator/Coauthor	0	1
(Dr.) Susanne Glienke 2017	Michigan Tech Univ. Johannes Gutenberg Univ. Max Planck Institute for Chem. Collaborator/Coauthor	2	2
(Dr.) Nurun Nahar Lata 2019	Michigan Tech Univ. Collaborator/Coauthor	1	1
(Dr.) Corey Packard 2017	Michigan Tech Univ. Ph.D. Committee Member Collaborator/Coauthor	2	1
(Dr.) Abu Sayeed Md Shawon 2018	Michigan Tech Univ. Ph.D. Committee Member Collaborator/Coauthor	0	2
(Dr.) Subin Thomas 2018	Michigan Tech Univ. Collaborator/Coauthor	1	0
(Dr.) Jiarun Zhou 2020	Clemson Univeristy Collaborator/Coauthor	1	0

Note: Some publications had multiple student authors and are thus multiply counted above.

Note 2: Some of these students I continued to collaborate with after they graduated; in this chart I only include collaborative publications while they were still graduate students.

**Graduate Advisory Committee Work**

Name	Academic Institution	Event	Date	Other Committee Members
(Dr.) Jesse Anderson	Michigan Tech Univ.	Ph.D. Topic Defense	5/2/19	Will Cantrell (Advisor) Jeremy Bos Caroline Jarrold
		Ph.D. Thesis Defense	9/15/22	Raymond Shaw
Brianna Brunson (Best MASC Thesis Award)	College of Charleston	Masters Thesis Defense	5/10/22	Bo Kai (Advisor) Jiexiang Li
Enrico Chinchella	University of Genoa	Ph.D. Thesis External Reviewer	2/10/23	Luca Lanza (Advisor) Mareile Wolff (External Reviewer)
Thomas Cannon	College of Charleston	Masters Thesis Defense	7/24/20	Jon Hakkila (Advisor) Ayman Hajja Amy Langville
(Dr.) Corey Packard	Michigan Tech Univ.	Ph.D. Thesis Defense	11/6/19	Raymond Shaw (Advisor) Jeremy Bos John Valenzuela
(Dr.) Abu Sayeed Md Shawon	Michigan Tech Univ.	Ph.D. Topic Defense	11/15/18	Will Cantrell (Advisor) Claudio Mazzoleni
		Ph.D. Thesis Defense	11/17/21	Raymond Shaw

**Former Undergraduate Research Students With Doctoral Degrees:**

1. Dr. Aaron Steele, Notre Dame, Computer Science, 2013
2. Dr. Joseph Niehaus, Michigan Technological University, Atmospheric Science, October 2015
3. Dr. Jeremy Stromer, University of Connecticut, Mechanical Engineering, May 2016
4. Dr. Philip Boehner, Florida State University, Computational Science, July 2018
5. Dr. Conor Smith, University of Miami, Applied Marine Physics, September 2018
6. Dr. Grant Saltzgaber (M.D.), University of Nebraska College of Medicine, 2019
7. Dr. Timothy Hayward, College of William & Mary, Physics, March 2021
8. Dr. Kate O'Dell, Colorado State University, Atmospheric Science, June 2021
9. Dr. Alexis Payne, North Carolina State University, Material Science and Engineering, July 2021
10. Dr. Robert Lemasters, Emory University, Physics, July 2021
11. Dr. Linsey Passarella, University of Tennessee-Knoxville, Data Science and Engineering, August 2022

### **Mentee Funding and Awards while in Larsen Research Group**

- College of Charleston Alumni Association Award for Best Poster  
2023 (Lili Boss)
- College of Charleston School of Science and Mathematics Summer Research Funding Award  
2023 (Sophia Morrison)  
2022 (Lili Boss)  
2019 (Chris Blouin)
- College of Charleston Summer Undergraduate Research with Faculty (SURF) Award  
2023 (Gabe Wohlfarth)  
2022 (Liam Brunson)  
2022 (Griffin Hall)  
2020 (Chris Blouin)  
2020 (Pearce Hamilton)
- ΣΕ “Communicating Science” Award  
2023 (Lili Boss)
- ΣΕ Awards for Outstanding Student Research at the South Carolina Academy of Science Annual Meeting  
2023 Physics and Astronomy Poster Session, 1st Place (Lili Boss)  
2022 Engineering, Math, and Meteorology Poster Session, 2nd Place (Will McCloud)  
2015 Earth Sciences, 1st Place (Kate O’Dell)  
2015 Physics, 1st Place (Robert Lemasters)  
2014 Physics, 1st Place (Timothy Hayward)
- College of Charleston Research Presentation Grant  
2023 (Lili Boss)  
2022 (Lili Boss)  
2017 (Monica Mullis)  
2015 (Katelyn O’Dell)  
2014 (Robert Lemasters)  
2014 (Joshua Teves)
- NASA Space Grant Undergraduate Student Research Award  
2022 (Lili Boss)  
2022 (Griffin Hall)  
2015-2016 (Joshua Teves)  
2010 (Kyle Smydra)  
2009 (Grant Saltzgaber)
- CofC Research Expo Award  
2022 Physics, 1st Place (Will McCloud)
- Awards for College of Charleston School of Science and Math Poster Session  
2021 Mathematics 1st Place (Brianna Brunson)  
2021 Special Award in Atmospheric Physics (Chris Blouin)  
2016 Physics 1st Place (Joshua Teves)  
2015 Physics 1st Place (Alexis Payne)  
2012 Award of Merit (Harrison Briner)

### **Mentee Funding and Awards while in Larsen Research Group (Continued)**

- Department of Physics and Astronomy Outstanding Graduate Award
  - 2021 (Chris Blouin)
  - 2016 (Katelyn O'Dell)
  - 2015 (Robert Lemasters)
- Department of Physics and Astronomy Outstanding Undergraduate Research in Physics Award
  - 2021 (Chris Blouin)
  - 2016 (Katelyn O'Dell)
- Department of Physics and Astronomy Summer Undergraduate Research Funding Support
  - 2022 (Liam Brunson)
  - 2019 (Michael Brandon)
  - 2019 (Pearce Hamilton)
  - 2019 (Hilary Powell)
  - 2016 (Kensley Burriss)
- College of Charleston Chapter of  $\Phi\kappa\Phi$  Undergraduate Research and Creative Works Award
  - 2016 (Joshua Teves; Honorable Mention)
- Horatio Hughes Academic Year Award
  - 2015-2016; 2014-2015 (Joshua Teves)
- Harry Ricker, Jr. Endowed Award
  - 2014-2015 (Katelyn O'Dell)
- CofC Major Academic Year Support Research (MAYS)
  - 2014-2015 (Alexis Payne)
  - 2011-2012 and 2010-2011 (Philip Boehner)
- Horatio Hughes Summer Research Award
  - 2013 (Katelyn O'Dell)
- NASA Space Grant Students and Teachers in Climate Change Participants.
  - 2011 (Erin Deck)
  - 2011 (David Ruwadi)
- UNK Summer Student Research Program (SSRP)
  - 2010 (Joshua Moravec)
  - 2009 (Kyle Smydra)
  - 2009 (Jeremy Stromer)
  - 2008 (Matthew Noffke)
- NASA Space Grant Student Researchers
  - 2009-2010 (Ben Fullerton)
  - 2009-2010 (Kyle Smydra)

### **Mentee Funding and Awards while in Larsen Research Group (Continued)**

- UNK Undergraduate Research Fellows
  - 2009-2010 (Josh Beck)
  - 2009-2010 (Matthew Noffke)
  - 2009-2010 (Danielle Policarpio)
  - 2009-2010 (Kyle Smydra)
  - 2009-2010 (Ben Fullerton)
  - 2009-2010 (David Hayes)
  - 2009-2010 (Joshua Moravec)
  - 2009-2010 (Adrian Sanabria-Diaz)
  - 2008-2009 (Matthew Noffke)
  - 2008-2009 (Grant Saltzgaber)
  - 2008-2009 (Aaron Steele)
  
- Best Undergraduate Student Paper at the 12th Annual High Plains Conference of the NWA/AMS
  - 2008 (Matthew Noffke)

Further information regarding accomplishments of my lab, former student achievements, and information about data we have available in our lab can be found on our lab web page [here](#).

**PROFESSIONAL SERVICE**

**Service to the Public and the Scientific Community**

- Selected peer-reviewer for 35 different journals/external funding agencies:

<i>Acta Astronautica</i>	<i>Journal of Computational Physics</i>
<i>Advances in Water Research</i>	<i>Journal of Geophysical Research – Atmospheres</i>
<i>Aerosol Science and Technology</i>	<i>Journal of Hydrology</i>
<i>Applied Spectroscopy</i>	<i>Journal of Hydrometeorology</i>
<i>Atmosphere</i>	<i>Journal of Quantitative Spectroscopy and Radiative Transfer</i>
<i>Atmospheric Chemistry and Physics</i>	<i>Journal of the Atmospheric Sciences</i>
<i>Atmospheric Measurement Techniques</i>	<i>Journal of Scientific Research and Reports</i>
<i>Atmospheric Research</i>	<i>Land Degradation and Development</i>
<i>Earth and Space Science</i>	<i>Meteorological Applications</i>
<i>Geophysical Research Letters</i>	<i>National Science Foundation</i>
<i>Hydrological Sciences Journal</i>	<i>Nonlinear Processes in Geophysics</i>
<i>IEEE Communications Letters</i>	<i>Physical Review Fluids</i>
<i>International Journal of Climatology</i>	<i>Physical Review Letters</i>
<i>International Journal of Computers and Applications</i>	<i>Quarterly Journal of the Royal Meteorological Society</i>
<i>Journal of Applied Meteorology and Climatology</i>	<i>Science of the Total Environment</i>
<i>Journal of Atmospheric and Oceanic Technology</i>	<i>Theoretical and Applied Climatology</i>
<i>Journal of Atmospheric and Solar-Terrestrial Physics</i>	<i>Water</i>
	<i>Water Resources Research</i>

- Regularly serves as judge for various science fairs.
- Regularly participates in a wide variety of departmental and Physics club outreach activities
- Consulted with local legal office in regards to identifying weather conditions for eye-witness testimony (2014).
- Consulted with local officials in reference to weather monitoring for Carriage Horse health issues (2011).

### **Current Institutional Service at the College of Charleston**

- Academic Advisor for numerous students in Physics and Meteorology programs (2010-present)
- Atmospheric Physics/Meteorology Steering Committee (2010-present) [chair from 2011-2013, 2018-2019, 2023-2024]
- Departmental Alumni Coordinator (2020-present)
- Meteorology Program Coordinator (2010-present)
- Physics Major/Minor Coordinator (2019-present)
- Transfer Evaluator Physics (2013-present)
- Transfer Evaluator Atmospheric Physics and Meteorology (2010-present)

### **Former Institutional Service at the College of Charleston**

- Acting Physics Department Chair (2023 [August 9 - August 15 & July 3 - July 7]; 2015 [July 13-July 17])
- College of Charleston American Meteorological Society (AMS) Student Chapter Faculty Mentor (2023)
- College of Charleston School of Science, Math, and Engineering Awards Committee (2023)
- Departmental Handbook Editor (2023,2022,2021,2020)
- Departmental Newsletter Editor (2023, 2022,2021,2020,2019,2017)
- Departmental Tenure/Promotion/Faculty Mentoring Committee (2023,2022,2021,2020,2019,2018,2017,2016)
- Departmental Weekly Announcements Writer/Editor (2023,2022,2020,2019,2017)
- Faculty Connect (Recruiting) Participant (2023,2022,2021,2020,2019)
- Faculty Mentor for Dr. Qian Zhang (2023,2022)
- Physics Curriculum Committee (2023,2022,2017,2016)
- Responsible Conduct of Research(RCR)/Research Ethics Trainer (2023,2022,2021,2020,2019,2018,2017)
- Visiting Assistant Professor of Astronomy Search Committee (2023,2022,2016) [chair in 2023]
- Visiting Assistant Professor of Physics Search Committee (2023,2022,2016) [chair in 2023]
- William V. Moore Distinguished Teacher-Scholar Award Selection Committee (2023,2022,2020)
- College of Charleston Distinguished Research Award Committee (2022,2021,2019) [chair in 2022 and 2021]

**Former Institutional Service at the College of Charleston (Continued)**

- College of Charleston Faculty Research and Development Committee (2022,2021,2020,2019,2018) [chair in 2022,2021,2020,2019]
- Mebane Chair in Physics selection committee (2022)
- Summer Undergraduate Research with Faculty (SURF) Reviewer (2021,2014,2012)
- Departmental Colloquium Committee (2021,2020,2019,2011,2010)
- Astrophysics Faculty Search Committee (2017,2016)
- Society of Physics Students Advisor / Sigma Pi Sigma Coordinator (2017,2016,2015,2014,2013,2012,2011)
- Masters of Environmental Studies Fellowship Reviewer (2016)
- Physics Department Resources and Awards Committee Member (2015,2014,2013,2012) [chair 2015,2014]
- Associate Acting Physics Department Chair (2014 [July 16-August 8])
- College of Charleston Faculty Curriculum Committee Member (2015,2014)
- Air Quality Faculty Search Committee (2014,2013)
- Atmospheric Physics Faculty Search Committee (2013,2012)
- Air Quality Faculty Search Committee (2013,2012)
- UCAR Affiliate Representative for CofC (2013,2012,2011)
- Atmospheric Physics Faculty Search Committee (2012,2011,2010)

**Institutional Service at the University of Nebraska at Kearney**

- College of Natural and Social Sciences Oversight Committee (2009-2010)
- Young Nebraska Scientist Initiative Advisory Committee Member (2009-2010)
- Research Services Council Committee Member (2008-2010) (Sole Natural Science Rep.)
- College of Natural and Social Sciences ITech Committee (2007-2010)
- Sci-Math Colloquium Steering Committee Member (2007-2010)