DAVID J. DELENE

Research Professor, Department of Atmospheric Sciences
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EDUCATIONAL BACKGROUND

University of Wyoming, Laramie, WY September 1995 - December 1998
Ph.D. in Atmospheric Science, GPA 3.43/4.0
Dissertation: Vertical Profiles of Cloud Condensation Nuclei at Midcontinental Sites Through the Development and Use of a Balloon-borne Instrument

Michigan Technological University, Houghton, MI September 1993 - August 1995
Master of Science in Geophysics, GPA 3.62/4.0
Thesis: Remote Sensing of Volcanic Ash Clouds Using Special Sensor Microwave Imager Data

Michigan Technological University, Houghton, MI September 1989 - May 1993
Bachelor of Science in Applied Physics, GPA 3.53/4.0
Emphasis on Computational Physics

PROFESSIONAL EXPERIENCE

Employment History (Teaching and Research)

January 2023 - Present
Aerospace Research Fellow in the John D. Odegard School of Aerospace Sciences, University of North Dakota, Grand Forks, ND.
Coordinate research activities for the Aerospace College.

August 2019 - Present
Research Professor in the Department of Atmospheric Sciences, University of North Dakota, Grand Forks, ND.
Working with a teams of researchers to conduct significant scientific research.

August 2011 - August 2019
Associate Research Professor in the Department of Atmospheric Sciences, University of North Dakota, Grand Forks, ND.
Working with Department of Atmospheric Sciences, University researchers, and with scientists around the work to conduct scientific research.

July 2002 - July 2011
Assistant Research Professor in the Department of Atmospheric Sciences, University of North Dakota, Grand Forks, ND.
I am working with the aircraft team within the Department of Atmospheric Sciences and with scientists around the work to conduct significant scientific research.

April 2001 - June 2002
Scientific Computing Research Associate at the John D. Odegard School of Aerospace Sciences, Grand Forks, ND.
Worked with the Upper Midwest Aerospace Consortium to develop products and services for agriculture and natural resource management using satellite technology.

January 1999 - March 2001
Research Associate at the Cooperative Institute for Research in Environmental Sciences, Boulder, CO.
Worked with the aerosol group of the Climate Monitoring and Diagnostics Laboratory to evaluate uncertainties in satellite retrievals of aerosol optical depth due to assumptions made in the aerosol retrieval algorithm. The research aim is to use statistics derived from long-term, in situ aerosol measurements to quantify the uncertainties in satellite retrievals due to assumptions made about the aerosol properties.

September 1995 - December 1998
Research Assistantship in the Department of Atmospheric Science, University of Wyoming, Laramie, WY.
Worked with Dr. Terry Deshler on balloon-borne aerosol measurements. During this work, I conducted an extensive calibration of a new balloon-borne cloud condensation nuclei counter and developed C and Matlab codes to process and analyze the aerosol measurements.

June 1994 - August 1994
Internship at Science Applications International Corporation, Hampton, VA.
Worked with Dr. Er-Woom Chiou at NASA Langley Research Center developing IDL and FORTRAN codes for the reconstruction of SAGE II ozone and water vapor fields for the polar regions.

September 1993 - August 1995.
Research Assistantship Department of Geological Engineering and Science, Michigan Technological University, Houghton, MI.
Worked with Dr. William Rose on remote sensing of volcanic ash clouds using AVHRR and SSMI data. Developed ***IDL*** and FORTRAN codes to process and analyze satellite data.

1991-1993 School Years
Coach for the Physics Learning Center, Michigan Technological University , Houghton, MI.
Individual and group tutoring for general physics classes

Training Activities

- Attended "Cloud Probe" Workshop at the International Commission on Clouds and Precipitation conference in Jeju, South Korea (July 12 and 13, 2024)
- Attended "American Meteorological Society (AMS) Open Radar" Short Course in Minneapolis, Minnesota (Sunday August 27, 2023).
- Attended "Supervisors: Engaging Your Workforce for Increased Productivity and Healthy Morale" session by Chris Zygarlicke in Grand Forks, North Dakota (Wednesday, 4 March 2020, 3:00 - 5:00 p.m.)
- Attended "LROSE AMS 2020 Mini Workshop" in Boston, Massachusetts (Sunday, 12 January 2020, 10:00 a.m.–4:00 p.m. at Westin Waterfront Bulfinch Room).
- Attended "Machine Learning in Python for Environmental Science" short course sponsored by the American Meteorological Society in Boston, Massachusetts (Saturday, 11 January 2020, 8:30 a.m.–5:00 p.m. at Boston Convention and Exhibition Center room 156A).
- Attended "Python for Synoptic Meteorology Using Metpy" short course sponsored by the American Meteorological Society in Austin, Texas (Sunday, 6 January 2019, 8:30 a.m.–3:45 p.m. at Phoenix Convention Center).
- Attended "Reproducible Atmospheric Science Workflows Using Open Source Tools: An Introduction to the Popper Experimentation Protocol" short course sponsored by the American Meteorological Society in Austin, Texas (Sunday, 7 January 2018, 8:30 a.m.–12:00 p.m. at Austin Convention Center 13AB).
- Attended the "Active Learning Overview Workshop at the Center for Instructional and Learning Technologies at University of North Dakota on March 6, 2017.
- Attended the "ASCE Lunch and Learn" on January 19, 2017.
- Attended "A Beginner's Course to Using Python in Climate and Meteorology" two day short course sponsored by the American Meteorological Society in Phoenix, Arizona (January 3-4, 2015).
- Attended TITAN Radar workshop sponsored by Weather Modification Association in Reno, Nevada (April 25, 2014).
- Attended Principal Investigator effort seminar (November 14, 2011).
- Attended Cloud Condensation Nuclie Counter workshop sponsored by Droplet Measurement Technology in Boulder, Colorado (December 10-11, 2009).
- Attended four tutorials workshops (two days) at the AAAR 28th Annual Conference (October 26, 2009).
- Attended Airport Transportation Security Administration Training (October 2, 2009).
- Attended the Speeding Up Matlab Applications Workshop (September 22, 2009).
- Visited Droplet Measurements Technologies and the National Center for Atmospheric Research (NCAR) Research Aviation Facility to learn about new developments in aircraft research instrumentation (May 1, 2009).

Professional Skills

- Expert in conducting airborne measurements, including working with the Science Engineering Associates (SEA) Aircraft Data Acquisition System.

- Experience in cloud field measurements with cloud microphysical instruments (cloud scattering probes, cloud imaging probes, and hot wire instruments).
- Familiarity with aerosol instruments (condensation particle counters, cloud condensation nuclei counters, optical particle counters, nephelometers, and differential mobility analyzers).
- Experience with statistical analysis of large data sets using the Linux operating system.
- System administration experience on Fedora, Red Hat, Ubuntu, Mint, Solaris and Windows operating systems.
- Proficient at scientific programming (Python, IDL, GDL, Matlab, Scilab, Perl, Bash, Csh, C, and FORTRAN).
- Extensive knowledge of open source software including creating repositories (ADPAA, ATAE, CoPAS) and using open source packages (LROSE, Libreoffice, Zotero, Foxit, SeaMonkey, Gallery, and Google Earth).
- Experience with remote sensing satellite and radar data, and in using the LROSE radar software package.

COURSES AND TEACHING EXPERIENCE

Courses Taught (University - Semester - Class Titles)

- University of North Dakota - Fall Semester 2024: AtSc 520 - Atmospheric Chemistry
- University of North Dakota - Spring Semester 2024: AtSc 252 - Applied Weather Modification
- University of North Dakota - Spring Semester 2024: AtSc 594 - Field Projects Aircraft-based Physical Meteorology Observations
- University of North Dakota - Spring Semester 2023: AtSc 252 - Applied Weather Modification (Graduate Teaching Assistant: Lucas Castro)
- University of North Dakota - Fall Semester 2022: AtSc 594-02 - Aircraft Measurement Systems
- University of North Dakota - Spring Semester 2022: AtSc 252 - Applied Weather Modification (Graduate Teaching Assistant: Julia Poblotzki)
- University of North Dakota - Fall Semester 2019: AtSc 520 - Atmospheric Chemistry
- University of North Dakota - Fall Semester 2018: AtSc 535 - Measurement Systems
- University of North Dakota - Fall Semester 2017: AtSc 405 - Numerical Methods (Graduate Teaching Assistant: Matt Tuftedal)
- University of North Dakota - Fall Semester 2016: AtSc 535 - Measurement Systems
- University of North Dakota - Fall Semester 2015: AtSc 565 - Air Quality
- University of North Dakota - Fall Semester 2014: AtSc 535 - Measurement Systems
- University of North Dakota - Spring Semester 2014: AtSc 540 - Statistical Methods in Atmospheric Science
- University of North Dakota - Fall Semester 2013: AtSc 520 - Atmospheric Chemistry
- University of North Dakota - Fall Semester 2012: AtSc 535 - Measurement Systems (Graduate Teaching Assistant: Travis Toth)
- University of North Dakota - Fall Semester 2011: AtSc 520 - Atmospheric Chemistry
- University of North Dakota - Fall Semester 2010: AtSc 535 - Measurement Systems (Graduate Teaching Assistant: David Keith)
- University of North Dakota - Fall Semester 2008: AtSc 535 - Measurement Systems
- University of North Dakota - Spring Semester 2007: AtSc 270 - Computer Concepts in Meteorology (Graduate Teaching Assistant: Jason Naylor)
- University of North Dakota - Fall Semester 2006: AtSc 405 - Numerical Methods in Meteorology
- University of North Dakota - Fall Semester 2006: AtSc 535 - Measurement Systems
- University of North Dakota - Spring Semester 2006: AtSc 270 - Computer Concepts in Meteorology (Graduate Teaching Assistant: Derek Blestrud)
- University of Wyoming - Spring Semester 1997: Introduction to Meteorology (Laboratory Instructor)
- University of Wyoming - June 2-13, 1997: Engineering Summer Program (Laboratory Instructor)

Advisees - Undergraduate

Senior Capstone Project (AtSc 492/493) - Chair

1. Steven Sobus, Spring 2024
2. Nathan Dahlseng, Summer 2023
3. Isiah Nault, Summer 2022
4. Erin Doyle, Spring 2021
5. Julianna Glinskas, Spring 2021

6. Caleb Hess, Spring 2020
7. Harrison P. Rademacher, Spring 2020
8. Kyle Pederson, Spring 2019
9. Alexa Otto, Spring 2019
10. Lance Wilson, Spring 2018
11. Courtney Steimann, Spring 2018
12. Blake Sorenson - Spring 2018
13. Nicholas Gapp - Spring 2016
14. Cody Troop - Spring 2014
15. Timm Uhlmann - Spring 2014
16. Nicole Bart - Fall 2012
17. Chris Kruse - Spring 2011
18. Dan Koller - Spring 2009
19. Matt Ham - Spring 2009
20. Peter Johnson - Spring 2009
21. Robert Mitchell - Spring 2009

Senior Capstone Project (AtSc 492) - Committee Member

1. Phondie Simelane - Fall 2012
2. Mariusz Starzec - Fall 2012
3. David Brown - Spring 2005

Special Studies in Meteorology (AtSc 494)

1. Jacob Halmos - Fall 2024 (Aircraft Observations [Atmospheric Sciences])
2. Bryce Rickbeil - Fall 2024 (Cloud Droplet Probe (CDP) Surface Fog Measurements [Atmospheric Sciences])
3. Davyd Perdomo Betanco - Fall 2024 (Aircraft Probe Fluid Flow Modeling [Mechanical/Aerospace Engineering])
4. Davyd Perdomo Betanco - Spring 2024 (Aircraft Probe Fluid Flow Modeling [Mechanical/Aerospace Engineering])
5. Ben Olson - Spring 2024 (Meteorological Weather Stations [Electrical Engineering])
6. Tyler Nynas - Spring 2024 (Meteorological Weather Stations [Electrical Engineering])
7. Lucas Casttro - Fall 2022 (Presentation on Summer 2022 Weather Modification Project Experience [Atmospheric Sciences])

Internship (ATSC 494/497)

1. Lucas Castro - Spring 2021
2. Maddi Cruff - Spring 2021
3. Michael Lienert - Fall 2020
4. Maddi Cruff - Summer 2020
5. David Singewald - Spring 2020
6. Eli Peske - Spring 2020
7. Mike Lienert - Spring 2020 (Withdrawn)
8. Noah Cocos - Summer 2016
9. Nicholas Gapp - Fall 2015
10. Marc Provencher - Fall 2013
11. Phondie Simelane - Fall 2012
12. Chris Kruse - Summer 2010

Summer Advised Students (Not Directly Employed by Research Grants)

1. Liz Cardoza - Summer 2024, Research Experience for Undergraduate Student, National Science Foundation REU Program
2. Alex Mandex - Summer 2023, Research Experience for Undergraduate Student, National Science Foundation REU Program
3. Evelyn Hasse - Summer 2022, Research Experience for Undergraduate Student, National Science Foundation REU Program
4. Victoria Lang - Summer 2019, Research Experience for Undergraduate Student, National Science Foundation REU

Program
5. Harrison Rademacher - Fall 2018 - Spring 2020, MARC U-STAR Program, National Institute of General Medical Sciences (NIGMS), National Institutes of Health (NIH)
6. Frida Garcia - Summer 2018, Research Experience for Undergraduate Student, National Science Foundation REU Program
7. Julie Hibarger - Summer 2018, Research Experience for Undergraduate Student (Pasadena City College), National Science Foundation REU Program
8. Shekinah Bass - Summer 2018, Research Experience for Undergraduate Student (Winston Salem State University), National Science Foundation REU Program
9. Alexa Otto - Fall 2017- Spring 2019, MARC U-STAR Program, National Institute of General Medical Sciences (NIGMS), National Institutes of Health (NIH)
10. Frida Garcia - Summer 2018, Research Experience for Undergraduate Student (Mayville State University), National Science Foundation REU Program
11. Jesus Bautista Cide - Summer 2017, Research Experience for Undergraduate Student (Eastern Michigan University), National Science Foundation REU Program
12. Taylor L. Hennessy - Summer 2016, Research Experience for Undergraduate Student, National Science Foundation REU Program

Graduate Student Advising

Master Thesis Graduate Committee Chair (Advisor)

1. James Klinman, UND Atmospheric Sciences Master Student
2. Kendra Sand, UND Atmospheric Sciences Master Student (Signed Thesis 12/2024)
3. Jennifer Moore, UND Atmospheric Sciences Master Student (Signed Thesis 12/2023)
4. Michael Willette, UND Atmospheric Sciences Master Student (Signed Thesis 12/2013)
5. Joseph O'Brien, UND Atmospheric Sciences Ph.D. Student (Signed Thesis 07/2023)
6. Logan Twohey, UND Atmospheric Sciences Master Student (Signed Thesis 07/2022)
7. Christian Nairy, UND Atmospheric Sciences Master Student (Signed Thesis 07/2022)
8. Greg Sova, UND Atmospheric Sciences Master Student (Signed Thesis 12/2021)
9. Sankha Subhra Maitra, UND Atmospheric Sciences Master Student (Signed Thesis 12/2021)
10. Shawn Wagner: UND Atmospheric Sciences Master Student (Signed Thesis 12/2019)
11. Matt Tuftedal: UND Atmospheric Sciences Master Student (Signed Thesis 07/2019)
12. Nicholas Gapp: UND Atmospheric Sciences Master Student (Signed Thesis 07/2019)
13. Jamie Ekness: UND Atmospheric Sciences Master Student (Signed Thesis 12/2017)
14. Kurt Hibert: UND Atmospheric Sciences Master Student (Signed Thesis 07/2017)
15. David Keith: UND Atmospheric Sciences Master Student (Signed Thesis 05/2013)
16. Gokhan Sever: UND Atmospheric Sciences Master Student (Signed Thesis 12/2010)

Master Thesis Committee Member (Advisees)

1. Imteaz Osmani: UND Mechanical Engineering
2. Victor Oyebamiji Ojo: UND Mechanical Engineering
3. Joseph Lafayette Gufford: UND Atmospheric Sciences Master Student (Signed Thesis 05/2023)
4. Ian McCann: UND Space Studies Master Student (Switched to Non-thesis Option 05/2021)
5. Nicole Loeb: UND Atmospheric Sciences Master Student (Signed Thesis 11/2020)
6. Samantha Carr: UND Atmospheric Sciences Master Student (Signed Thesis 07/2018)
7. Joseph R O'Brien: UND Atmospheric Sciences Master Student (Signed Thesis 07/2016)
8. Lawrence Burkett: UND Geography Master Student (Signed Thesis 07/2015)
9. Kendell LaRoche: UND Atmospheric Sciences Master Student (Signed Thesis 07/2015)
10. Mariusz Starzec: UND Atmospheric Sciences Master Student (Signed Thesis 12/2014)
11. Daniel Burtch: UND Atmospheric Sciences Master Student (Signed Thesis 5/2014)
12. Ricardo Contreras: UND Atmospheric Sciences Master Student (Signed Thesis 12/2013)
13. Andrea Neumann: UND Atmospheric Sciences Master Student (Signed Thesis 7/2012)
14. Dan Adriaansen: UND Atmospheric Sciences Master Student (Signed Thesis 12/2009)
15. Timothy Logan: UND Atmospheric Sciences Master Student (Switched Committee Members)
16. Adam Mohs: UND Chemical Engineering Master Student (Signed Thesis 06/2008)

17. Bradley Klotz: UND Atmospheric Sciences Master Student: (Signed Thesis 07/2008)
18. David Brown: UND Atmospheric Sciences Master Student (Signed Thesis 08/2007)
19. Chris Theisen: UND Atmospheric Sciences Master Student (Signed Thesis 05/2006)

Doctoral Dissertation Committee (Department Member)

1. Christian Nairy: UND Atmospheric Sciences Ph.D. Student
2. Joseph O'Brien: UND Atmospheric Sciences Ph.D. Student

Doctoral Dissertation Committee (Member-at-Large)

1. Brett Nespor: UND Chemistry Ph.D. Student
2. Jana Rousova: UND Chemistry Ph.D. Student
3. Josef Beranek: UND Chemistry Ph.D. Student (Signed Dissertation 02/2010)

Curriculum Development Activities

- Development of a Enroll Anytime Online Course in Applied Weather Modification (Underdevelopment 2024/2025)
- Developed ADTAE test program for processing two-dimensional Cloud Physics data (Fall 2019 - Cloud Physics).
- Developed Computer Tools material (Fall 2018 - Introduction to Research).
- Developed adpaa_readplot_ccncdata module to introduce students to Python programming (Fall 2017 - Introduction to Research).
- Developed new Flow Meter Lab (Fall 2016 - Measurements Systems).
- Installed and tested GR radar software (January 2014 - Radar).
- Developed new Passive Cavity Aerosol Spectrumeter Lab (Fall 2012 - Measurements Systems).
- Installed and tested GRLevel3 software (October 2011 - Radar).
- Installed and tested RAOB 6.2 software for Fred Remer's class (January 2011).
- Developed new Cloud Particle Imager Lab (Fall 2010 - Measurement Systems).
- Installed GR2Analysis Software (Summer 2010 - Radar).
- Developed Inlet, Pressure Transducer, Forward Scattering Spectrometer Probe, and Passive Cavity Aerosol Spectrometer Probe Labs (Fall 2008 - Measurement Systems).
- Developed Partial Differential Equations, Fall Velocity, Finite-divided-difference, Round-Off, Uncertainty, and Terminal Velocity Labs (Fall 2006 - Numerical Methods).
- Computer Concepts in Meteorology class was the first full course on Itunes at the University of North Dakota (Spring 2007).
- Developed Pressure, Acoustics, Temperature, Winds, and Analog to Digital Labs (Fall 2006 - Measurement Systems).
- Developed set of example codes (Spring 2006 - Computer Concepts in Meteorology).

Employed Student Research Assistants

1. Bryce Rickbeil: October 31, 2024 - Present
2. Jacob Halmos: October 31, 2024 - Present
3. Jenna Post: August 16, 2024 - Present
4. Kathryn Bouslough: October 20 2023 - Present
5. Conrad Slag: October 16, 2023 - Present
6. Nicholas Camp: May 2021 - Summer 2024
7. Rebecca Jacoby: January 2, 2024 - August 31, 2024
8. David Brannon: November 2021 - May 2023
9. Lucas Castro: October 2020 - May 2023
10. Nathan Dahlseng: December 2019 - September 2022
11. Alex Troxel: April 2022 - September 2022
12. David Singewald: May 2019 - Spring 2022
13. Addison Espy: October 2021 - May 2021
14. Andrew Fitzgerald: December 2019 - Spring 2021
15. Maddi Cruff: October 2019 - Fall 2021
16. Ryan Kucera: December 2019 - Spring 2021
17. Carter Swenson: Summer 2020

18. Kyle Pederson: September 2018 - May 2019
19. Eli Peske: June 2018 - May 2020
20. Arianna Riley: October 2017 - December 2017
21. Genevieve Stivers-Biscuso: October 2017 - June 2018
22. Courtney Steimann: October 2017 - May 2018
23. Alexa Ottt: January 2017 - September 2017
24. Alex Butland: May 2016 - August 2016
25. Noah Cocos: May 2016 - December 2016
26. Blake Sorenson: August 2015 - May 2018
27. Jamie Ekness: May 2015 - September 2017
28. Lance Wilson: October 2014 - December 2018
29. Benjamin Kading: August 2014 - August 2016
30. Kurt Hibert: July 2014 - August 2017
31. Nicholas Gapp: May 2014 - December 2016
32. Cody Troop: November 2013 - August 2014
33. Marc Provencher: May 2013 - August 2013
34. Phondie Simelane: May 2012 - September 2013
35. Timm Uhlmann: July 2011 - August 2013
36. Nicole Bart: May 2011 - May 2013
37. Mariusz Starzec: September 2010 - August 2012 (Advisor, Gretchen Mullendore)
38. Korey Southerland: July 2010 - May 2011
39. Emily Danielson: May 2010 - December 2010
40. Miranda Hilgers: May 2010 - December 2010
41. Matt Clegg: August 2009 - December 2009
42. Aymie Oliver: May 2009 - December 2009
43. Karen Larson: May 2009 - December 2009
44. Jon Mason: May 2009 - August 2009
45. Angelle Van Oploo: October 2008 - December 2009
46. Gokhan Sever: August 2008 - May 2010
47. David Keith: August 2008 - December 2009; Summer 2010
48. Peter Johnson: August 2008 - August 2009
49. Dan Adriaansen: May 2008 - August 2008
50. Dan Koller: May 2008 - August 2009
51. Robert Mitchell: May 2008 - August 2009
52. Matt Ham: April 2008 - May 2009
53. Kelsey Watkins: January 2008 - August 2009
54. Chris Kruse: November 2007 - May 2011

SERVICE

Department

On-going

- Assist with the management of the Ballooning Laboratory (2022 - Present).
- Management and contribution to the development of the Atmospheric Sciences Wiki site (2004 - Present).
- Assisted with computer, network, and instrumentation support (2004 - Present).
- Managed the Airborne, Radar, and Glacial Ridge Field Site Web Sites (2003 - Present).
- Chair of Department of Atmospheric Sciences Information Technology Committee (2003 - Present).

Concluded

- Committee Member for Open Rank Professor Search (2023/2024)
- Committee Member for Assistance Professor Search (2023/2024)
- Managed the Undergraduate Clifford Hall 422 Computer Lab (2003 - 2023).
- Mentor operations of the Glacial Ridge Field Site (2006 - 2021).
- Administrated Department's IDL licenses (2003 - 2021).

- Management the department's ESX virtual machine server (2008 - 2018).
- Recruit Students for the February 2018 Essential Studies Program Assessment Week
- Conducted informal course, Pizza and Programming (9 session during 2017 Fall Semester)
- Conducted informal course, Learning the Oscilloscope (2016 Spring Semester)
- Conducted informal course, Python Programming (Wednesday 7:00 pm Spring 2015 semester).
- Guest lecture in Computer Science Graduate Seminar - CsCi 500 (March 13, 2014).
- Guest lecture in UAS Remote Sensing - Avit 333 (November 12, 2013).
- Guest lecture in Earth System Science - SpSt 430 (October 10, 2013).
- Guest lecture in Special Topics in Meteorology - AtSc 494 (February 7, 2012).
- Guest lecture in Physical Meteorology - AtSc 353 (January/February 2012).
- Guest lecture in Introduction to Scientific Programming - CsCi 130 (November 4, 2011).
- Lecture on Aerosol Measurements in Freshman Orientation - AtSc 100 (October 20, 2011; October 18, 2012).
- Worked with Chris Theisen and the Scientific Computer Center to upgrade the radar system computer (2010).
- Administrated the department's academic Matlab licenses (2008 - 2012).
- Lecture on Balloon-borne Measurements in AtSc 500 (November 8, 2007; November 13, 2008; September 30, 2010; October 6, 2011; October 4, 2012).
- Talked to the undergraduate physics students at Michigan Technological University about our Atmospheric Science graduate program (October 17, 2008).

College

- Organized the Future Aerospace Strategic Thinking (FAST) Workshop (February 12, 2024)
- Organized the Future Aerospace Strategic Thinking (FAST) Workshop (November 13, 2024)
- Organized the Future Aerospace Strategic Thinking (FAST) Workshop (September 11, 2024)
- Provided written input to Scientific Computer Center director, Henry Borysewicz, on consolidation of all NDUS computer services (August 8, 2016).
- Faculty Advisor for Atmospheric Science Department on Aerospace's Scientific Computing Center (SCC) Information Technology Meetings (2012-Present)
- Provided written and oral feed back to Scientific Computer Center director, Henry Borysewicz, concerning recent and proposed changes to the Aerospace College's information technology infrastructure (August/September 2010).
- Faculty Advisor for Ron Fevig lead Rocksat Project (Fall 2008, Spring 2009, Summer 2009).

University

- Conducted informal course, Plotting and Programming in Python Workshop (August 22 and 23, 2024)
- Conducted informal course, Plotting and Programming in Python Workshop (2023 Fall Semester)
- Conducted informal course, Plotting and Programming in Python Workshop (2021 Fall Semester)
- Conducted informal course, Plotting and Programming in Python Workshop (2020 Spring Semester)
- Conducted informal course, Plotting and Programming in Python Workshop (2020 Fall Semester)
- Hosted Young Southeast Asian Leaders Initiative (YSEALI) Fellow, Sengvilayvanh Singthavikhoun (May 2019).
- Attended most of the Institute for Energy Studies meetings (2010, 2011, 2012).
- Attended most of the University of North Dakota's Core Technology Forms (2009, 2010).
- Chair of the Mathematics and Natural Sciences Subcommittee for the University of North Dakota's Seed Money Committee (Spring 2007).
- Worked in support of Will Gosnold's efforts to form a Climate Research Center (2003, 2004).
- Member of the University of North Dakota's Balloon Group (2002 - 2007).

Professional Associations

- Member of the American Association for Aerosol Research
- Member of the American Association for the Advancement of Science
- Member of the American Geophysical Union
- Member of the American Meteorological Society
- Member of the American Society of Civil Engineers
- Member of the European Geo-sciences Union
- Member of the Lake Agassiz Chapter of the American Meteorological Society

- Member of the Weather Modification Association

Community

Editorship

1. Journal of Weather Modification (2012 - 2021).

Science Committees

1. Atmospheric Water Management Standards Committee (AWM SC) of the American Society of Civil Engineers (ASCE), Environmental and Water Resources Institute (EWRI) (2014-Present).

Proposal Review Panels

1. NSF CIF Review Panel (June 11 and 12, 2024)
2. MARC U-STAR Panel (2019 -Present).
3. NASA ACCESS17 Review Panel (March 2018).
4. NCAR EOL OFAR Review Panel (Spring - 2018 - Fall 2020).

Proposal Reviews

1. Reviewed proposal for NSF (June 2023)
2. Reviewed proposal for DOE Office of Science (January 2023)
3. Reviewed proposal for NSF (June 2023)
4. Reviewed proposal for NSF (April 2022).
5. Reviewed proposal for NASA Postdoctoral Program (December 2021).
6. Reviewed proposal for National Science Centre Poland (November 2021)
7. Reviewed proposals (2) for NASA Instrument Incubator Program (August 2019).
8. Reviewed proposal for NSF (June 2019).
9. Reviewed proposals (2) for NASA Postdoctoral Program (April 2019).
10. Reviewed proposals (2) for NASA Postdoctoral Program (December 2018).
11. Reviewed proposal for NSF (October 2018).
12. Reviewed proposals (2) for NASA Postdoctoral Program (May 2018).
13. Reviewed proposal for NASA Postdoctoral Program (March 2017).
14. Reviewed proposals (2) for NASA Postdoctoral Program (August 2016).
15. Reviewed proposal for NASA Postdoctoral Program (March 2016).
16. Reviewed proposal for NASA Experimental Program to Stimulate Competitive Research (EPSCoR) (April 2015).
17. Reviewed three proposal for NASA ESTO's (May 2014).
18. Reviewed proposals for NASA (December 2012).
19. Reviewed proposal for NSF (July 2011).
20. Reviewed two proposal for NASA ESTO's ACT solicitation (May 2011).
21. Reviewed proposal for North Dakota NASA EPSCoR Faculty Seed Research Opportunities (September 2010).
22. Reviewed a proposal for Physical and Dynamic Meteorology division of the NSF (June 2010).
23. Reviewed a proposal for Natural Environment Research Council of the UK (2008).
24. Reviewed a NSF proposal (2007).
25. Reviewed a NSF proposal (2006).
26. Reviewed two proposals for NASA (2006).
27. Reviewed three proposals for DOE's Atmospheric Science Program (July 2004).

Article Reviews

1. Reviewed a manuscript for Bulletin of the American Meteorological Society (September 2024)
2. Reviewed a manuscript for Physics and Chemistry of the Earth (November 2023)
3. Reviewed a manuscript for Remote Sensing (November 2021)
4. Reviewed a manuscript for Atmospheric Research (February 2021)
5. Reviewed a manuscript for Biointerphases (April 2020)
6. Reviewed a manuscript for Biointerphases (January 2020)
7. Reviewed a manuscript for Remote Sensing (January 2020)

8. Reviewed a manuscript for Journal of Atmospheric Measurement Techniques (April 2019)
9. Reviewed a manuscript for Journal of Atmospheric Measurement Techniques (February 2019)
10. Reviewed a manuscript for Journal of Atmospheric Research (July 2018).
11. Reviewed a manuscript for Journal of Atmospheric Research (May 2018).
12. Reviewed a manuscript for Journal of Atmospheric Measurement Techniques (February 2018).
13. Reviewed a manuscript for Bulletin of the American Meteorological Society (February 2018).
14. Reviewed a manuscript for Journal of Geophysical Research (January 2018).
15. Reviewed a manuscript for Bulletin of the American Meteorological Society (January 2018).
16. Reviewed a manuscript for Journal of Geophysical Research (November 2017).
17. Reviewed a manuscript for Journal of Atmospheric Research (February 2017).
18. Reviewed a manuscript for Journal of Atmospheric Research (November 2016).
19. Reviewed a manuscript for Bulletin of the American Meteorological Society (November 2016)
20. Reviewed a manuscript for Journal of Atmospheric Chemistry and Physics (August 2016).
21. Reviewed a manuscript for Journal of Atmospheric Chemistry and Physics (May 2016).
22. Reviewed a manuscript for Journal of Atmospheric Chemistry and Physics (February 2016).
23. Reviewed a manuscript for Journal of Atmospheric Chemistry and Physics (August 2015).
24. Reviewed a manuscript for Atmospheric Environment (June 2015).
25. Reviewed a manuscript for Journal of Atmospheric Chemistry and Physics (February 2015).
26. Reviewed a manuscript for Journal of Atmospheric Measurement Techniques (March 2014).
27. Reviewed a manuscript for Journal of Geophysical Research (January 2014).
28. Reviewed a manuscript for Journal of Atmospheric Measurement Techniques (January 2014).
29. Reviewed a manuscript for Journal of Journal of Hydrometeorology (December 2013).
30. Reviewed a manuscript for Journal of Geophysical Research (August 2013).
31. Reviewed a manuscript for Aerosol and Air Quality Research Journal (July 2013).
32. Reviewed a manuscript for Journal of Applied Meteorology and Climatology (June 2013).
33. Reviewed a manuscript for Institute of Electrical And Electronics Engineers (April 2013).
34. Reviewed a manuscript for Arabian Journal of Geosciences (March 2013).
35. Reviewed a manuscript for Institute of Electrical And Electronics Engineers (February 2013).
36. Reviewed a manuscript for Institute of Electrical And Electronics Engineers (December 2012).
37. Reviewed a manuscript for Institute of Electrical And Electronics Engineers (August 2012).
38. Reviewed a manuscript for Atmospheric Chemistry and Physics Discussions (June 2012).
39. Reviewed a manuscript for Atmospheric Chemistry and Physics Discussions (July 2011).
40. Reviewed a manuscript for Journal of Geophysical Research (March 2011).
41. Reviewed a manuscript for Journal of Atmospheric and Oceanic Technology (December 2010).
42. Reviewed a manuscript for Journal of Atmospheric Chemistry and Physical (Spring 2010).
43. Reviewed a manuscript for Journal of Weather Modification (February 2009).
44. Reviewed a manuscript for Journal of Meteorology and Atmospheric Physics (2006).
45. Reviewed a manuscript about aerosol measurements during the INDOX field project for publication in Atmospheric Environment (July 2005).
46. Reviewed a manuscript for Earth Interactions on radiative forcing based on AERONET observations over Europe (August 2003).

Tours

- October 30, 2024: Fargo Jet Center Tour (Summer Coleman, Mounir Chrit, Marwa Majdi, Christian Nairy)
- September 4, 2024 Fargo Jet Center Tour (Susanne Glienke, Shawn Wagner, Daile Zhang, Davyd Betanco)
- September 2, 2022: Fargo Jet Center North Dakota Aircraft Tour (Fredrik Borgstrom and Kim Kaisti, Skyfora)
- August 10, 2022: Clifford Hall Labs Tour (Min-Seong Kim and Group, Korea Meteorological Administration)
- February 2, 2022: Aerospace Tour (Dr. Sun W. Kim and Group, Sunny Air Inc. South Korea)
- October 15, 2021: Fargo Jet Center North Dakota Aircraft Tour (Dr. Lulin Xue, National Center for Atmospheric Research)
- August 11, 2019: Fargo Jet Center North Dakota Aircraft Tour (Dr. James Doyle, Marine Meteorology Division, U.S. Naval Research Laboratory)
- June 12, 2019: Fargo, North Dakota Tour of Air Quality Site, Fargo Jet Center, and NDUS NDAWN Met. Stations.
- April 4, 2019: Tour of Clifford Hall 423 Lab for North Dakota State Science and Engineering Fair
- June 6, 2018: Fargo, North Dakota Tour of Air Quality Site, Fargo Jet Center, and NDUS NDAWN Met. Stations.
- May 17, 2017: Brenda Zinke and Students, Clifford Hall 423 Atmospheric Chemistry and Instrumentation Lab.

- August 12, 2015: Sylke Boyd and Students, University of Minnesota-Morris, Citation Research Aircraft.
- August 11, 2015: Atmospheric Science/Earth System Science, University of Alabama in Huntsville, Citation Research Aircraft.
- August 3, 2015: CAPE2015 Field Project Team, Citation Research Aircraft
- July 30, 2015: Fire Department Personnel, Titusville Florida, Citation Research Aircraft
- July 28, 2015: Department of Atmospheric Sciences, University of Illinois, Citation Research Aircraft
- June 17, 2015: Grand Forks Girls Scouts, Citation Research Aircraft
- May 18, 2015: Northern Plains Convective Storm Symposium, Citation Research Aircraft
- May 15, 2015: UND Chemistry Graduate Student Association, Citation Research Aircraft
- May 5, 2015: Tribal High School Tour, Citation Research Aircraft.
- March 16-17, 2015: BioCon High School Workshop, Citation Research Aircraft.
- June 24, 2014: Academic High-Altitude Conference, Citation Research Aircraft.
- March 17-18, 2014: Dakota BioCon High School Workshop, Citation Research Aircraft.
- February 5, 2014: Digital Day, Somers Elementary School, Citation Research Aircraft
- May 14th, 2013: Northern Plains Convective Symposium, Citation Research Aircraft.
- April 20th, 2013: UND Aerospace Parent's Weekend, Citation Research Aircraft.
- March 11-12, 2013: Air pollution Workshop, Citation Research Aircraft
- March 12-13, 2012: Air pollution Workshop, Citation Research Aircraft

Other Community Activities

- Mentor 9th Grade (Britney House Class) Science Project on November 25, 2024 (Virtual Meeting - 11:15-12:15)
- Main 4 Head Start Visit on May 8, 2024. Discussed cloud-in-jar and lightning.
- Judge at the University of North Dakota Graduate Research Achievement Day on March 5, 2020.
- Judge at the NE Regional Science and Engineering Fair on 14 March 2017.
- Provided filter changing services for Dr. Renata Raina's (Uregina University, Canada) pesticide measurements at the Glacial Ridge Field Site (2012-Present).
- Co-Chair EUFAR ICCP Workshop On Data Processing, Analysis and Presentation Software in Manchester, UK on 23-24 July 2016.
- Present class for Osher Lifelong Learning Institute Class entitled, From Air Pollution to Climate Change: The Role of Particles in our Lives (September 16, 2015)
- Present at the Unidata Workshop (June 25, 2015)
- Judge at the 2015 North Dakota FLL Championship Tournament (February 7, 2015).
- Interviewed by Japan filming crew about weather modification projects (December 29, 2014).
- Judge at the American Geophysical Union Meeting (December 15-19, 2014).
- Assisted with the University of North Dakota's Dakota BioCon for high school students (March 17-18, 2014).
- Assisted with the University of North Dakota's Air Pollution Workshop for high school students (March 11-12, 2013).
- Judge at the North Dakota State Science Fair (March 30, 2012).
- Assisted with the University of North Dakota's Air Pollution Workshop for high school students (March 12-13, 2012).
- Assisted with the University of North Dakota's Air Pollution Workshop for high school students (March 14-15, 2011).
- Hosted a group of visitors from Morocco (December 8, 2010).
- Hosted a group of student visitors from South Korea (July 26, 2010).
- Talked with reporters from the Grand Forks Herald about the POLCAST3 field project (July 2010).
- Assisted with the University of North Dakota's Air Pollution Workshop for high school students (March 15-16, 2010).
- Presented a learning session about meteorology to Michelle McDonald's East Grand Forks Middle School (November 2009).
- Gave presentation about outer space to Jamie Parlow's East Grand Forks Elementary School class (November 18, 2009).
- Judge at the Maddock, North Dakota High School science fair (March 3, 2009).
- Presented learning session about science to Mrs. Parklow's East Grand Fork's second grade class (November 19, 2008).
- Presented 'cloud in a bottle' demonstration to East Grand Fork's third grade class (October 24, 2008).
- Presented learning session to East Grand Forks second grade class about clouds and demonstrated how to create a cloud in a gallon jar (October 23 and December 14 , 2007).
- Gave presentation and demonstrated aerosol instruments for the University of North Dakota's Air Pollution Workshop for high school students (March 15 , 2007).
- Judge at the NE Regional Science and Engineering science fair (March 7, 2007).
- Judge at the Maddock, North Dakota High School science fair (March 6, 2007).
- Judge at the NE Regional Science and Engineering fair (March 8, 2006).

- Judge at the Maddock, North Dakota High School science fair (March 2, 2006).
- Conducted tour of the University of North Dakota's Citation Research Aircraft in Fairbanks, Alaska for faculty and graduate students from the Geophysical Institute (September, 2005).
- Conducted Sunday morning tour of the University of North Dakota's Citation Research Aircraft in Elmira, New York (February, 2005).
- Exhibited the Department's Citation Research Aircraft to the public at the Grand Forks Air Force Base open house (July 10, 2004).
- Judge at Regional Science fair (March 10, 2004).
- Judge at Regional Science fair (March 5, 2003).

PUBLICATIONS (First author edited manuscript and is senior authors unless noted.)

Referred/Juried

Journal Articles

1. Chrit, Mounir, Mark Askelsona, Marwa Majdia, David Delene, AeroVis: A Software System for Operational Visibility Nowcasting to Support Unmanned Aircraft Systems Operations, Artificial Intelligence for the Earth Systems, in preparation, 2024.
2. Sanchez, Kevin J., David Painemal, Matthew D. Brown, Ewan C. Crosbie, Francesca Gallo, Johnathan W. Hair, Chris A. Hostetler, Carolyn E. Jordan, Claire E. Robinson, Amy Jo Scarino, Taylor J. Shingler, Michael A. Shook, Kenneth L. Thornhill, Elizabeth B. Wiggins, Edward L. Winstead, Luke D. Ziemba, Scott Chambers, Alastair Williams, and Richard H. Moore, Multi-campaign Ship and Aircraft Observations of Marine Cloud Condensation Nuclei, and Droplet Concentrations, Science Data, in preparation, 2024.
3. Nairy, C. M., Delene, D. J., Schmidt, J. M., Harasti, P. R., Järvinen, E. and Walker T. D., Case Study of Chain Aggregates in Florida Cirrus Cloud Anvils from Electrified Thunderstorms. Journal of Geophysical Research: Atmospheres. In Public Release Review 2024.
4. Sorenson, Blake, Michael Mullins, Kyle Foerster, Denise Buckner, Caitlin Nolbyc, Marissa Saadc, James Casler, Ronald Fevig, Naima Kaabouch, David Delene, Development at the University of North Dakota of a Digital, Thermosonde Instrument for the Study of Atmospheric Optical Turbulence (Cn2), American Journal of Undergraduate Research, in review, 2024.
5. Gapp, Nicholas, David J. Delene, Jerome Schmidt, and Paul Harasti, Comparison of Concurrent Radar and Aircraft Measurements of Cirrus Clouds, Journal of Atmospheric Science, in review, 2024.
6. Schima, Julian, Greg McFarquhar, David Delene, Andrew Heymsfield, Aaron Bansemer, Martin Schnaiter, Joseph Finlon, Emma Jarvinen, Franziska Nehlert, A Multi-Probe Automated Classification of Ice Crystal Habits During the IMPACTS Campaign, Journal of Geophysical Research Atmospheres, In Press, 2024
7. Järvinen, Emma, Bastuaan van Diedenhoven, Nathan Magee, Steven Neshyba, Martin Schnaiter, Guanglang Xu, Olivier Jourdan, Olivier; David Delene, Fritz Waitz, Simone Lolli, and Seiji Kato, Ice Crystal Complexity and Link to Cirrus Cloud Radiative Effect, Clouds and Their Climatic Impacts, 47-85. American Geophysical Union, 2023. https://doi.org/10.1002/9781119700357.ch3
8. Sanchez, Kevin J., David Painemal, Matthew D. Brown, Ewan C. Crosbie, Francesca Gallo, Johnathan W. Hair, Chris A. Hostetler, Carolyn E. Jordan, Claire E. Robinson, Amy Jo Scarino, Taylor J. Shingler, Michael A. Shook, Kenneth L. Thornhill, Elizabeth B. Wiggins, Edward L. Winstead, Luke D. Ziemba, Scott Chambers, Alastair Williams, Ruhi S Humphries, Melita D. Keywood, Jason P. Ward, Luke Cravigan, Ian M. McRobert, Connor Flynn, Gourihar R. Kulkarni, Lynn M. Russell, Gregory C. Roberts, Greg M. McFarquhar, Athanasios Nenes, Sarah F. Woods, Jeffery S. Reid, Jennifer Small-Griswold, Sarah Brooks, Simon Kirschler, Christianne Voigt, Jian Wang, David J. Delene, Patricia K. Quinn and Richard H. Moore, Multi-campaign Ship and Aircraft Observations of Marine Cloud Condensation Nuclei and Droplet Concentrations, Science Data, 10, 471, https://doi.org/10.1038/s41597-023-02372-z, 2024.
9. Gultepe Eren, Sen Wang, Byron Walter Blomquist, Harindra J S Fernando, O Patrick Kreidl, David J Delene and Ismail Gultepe, Machine Learning Analysis and Nowcasting of Marine Fog Visibility Using FATIMA Grand-Banks Campaign Measurements, Frontiers in Earth Science, 11, https://doi.org/10.3389/feart.2023.1321422, 2024.
10. Varcie, Troy Zaremba, Robert M. Rauber, Greg M. McFarquhar, Joseph A. Finlon, Lynn A. McMurdie, Alexander Ryzhkov, Martin Schnaiter, Emma Järvinen, Fritz Waitz, David Delene, Michael Poellot, Matthew McLinden, and Andrew Janiszeski, Precipitation Growth Processes in the Comma Head Region of the 7 February 2020 Northeast Snowstorm: results from IMPACTS, Journal of Atmospheric Sciences, Published Online Ahead of Print 2023, Accessed December 19, 2022, https://doi.org/10.1175/JAS-D-22-0118.1.
11. Wagner, S. W. and Delene, D. J., Technique for comparison of backscatter coefficients derived from in-situ cloud probe

measurements with concurrent airborne Lidar, Atmos. Meas. Tech., 15, 6447-6466, https://doi.org/10.5194/amt-15-6447-2022, 2022.
12. Dunnavan, Edwin Lee, Jacob Carlin, Jiaxi Hu, Petar Bukovcic, Alexander Ryzhkov, Greg McFarquhar, Joseph Finlon, Sergey Matrosov, David Delene, Radar Retrieval Evaluation and Investigation of Dendritic Growth Layer Polarimetric Signatures in a Winter Storm, Journal of Applied Meteorology and Climatology, Published Online Ahead of Print 2022, Accessed Aug 23, 2022, https://doi.org/10.1175/JAMC-D-21-0220.1.
13. Tuftedal, Matthew, David J. Delene and Andrew Detwiler, Precipitation Evaluation of the North Dakota Cloud Modification Project (NDCMP) using Rain Gauge Observations, Atmospheric Research, 2022, https://doi.org/10.1016/j.atmosres.2021.105996.
14. Skow, Andrea, Michael Poellot, David Delene, Mark Askelson, Kirk North, K., and Mariko Oue, A Multi-Platform, In-Situ Kinematic and Microphysical Analysis of a Hybrid Parallel/Trailing Stratiform Mesoscale Convective System, Monthly Weather Review, 150 (4), 927-948 2022, https://doi.org/10.1175/MWR-D-21-0009.1.
15. Gupta, Siddhant, Greg M. McFarquhar, Joseph R. O'Brien, Michael R. Poellot, David J. Delene, Rose M. Miller, and Jennifer D. Small Griswold, Factors Affecting Precipitation Susceptibility of Marine Stratocumulus with Variable Above and Below-Cloud Aerosol Concentrations over the Southeast Atlantic, Atmospheric Chemistry and Physics, 22 (4), 2767-2793, 2022, DOI https://doi.org/10.5194/acp-22-2769-2022.
16. Gupta, Siddhant, Greg M. McFarquhar, Joseph R. O'Brien, David J. Delene, Michael R. Poellot, Amie Dobracki, James R. Podolske, Jens Redemann, Samuel E. LeBlanc, Michal Segal-Rozenhaimer, and Kristina Pistone, Impact of the Variability in Vertical Separation between Biomass-Burning Aerosols and Marine Stratocumulus on Cloud Microphysical Properties over the Southeast Atlantic, Atmospheric Chemistry and Physics, 21, 4615-4635, 2021, https://doi.org/10.5194/acp-21-4615-2021.
17. Nespora, Brett, Richard Cochran, Haewoo Jeong, Frank Bowman, David Delene, Evguenii Kozliak, Alena Kubátová, Occurrence of both Nonvolatile and Volatile Carbonaceous Air Particulate Markers using Thermal Desorption-Pyroysis-Gas Spectrometer, Atmospheric Environment, 246, 2021, https://doi.org/10.1016/j.atmosenv.2020.118058.
18. Schmidt, Jerome M., Piotr J. Flatau, Paul R. Harasti, Robert D. Yates, David J. Delene, Nicholas J. Gapp, William J. Kohri, Jerome R. Vetter, Jason E. Nachamkin, Joshua D. Hoover, Mark J. Anderson; Seth Green, and James E. Bennett, Radar Detection of Individual Raindrops, Bulletin of the American Meteorological Society, 2019.
19. David J. Delene, Kurt Hibert, Michael Poellot, and Neil Brackin, The North Dakota Citation Research Aircraft Measurement Platform, 2019 SAE International Conference on Icing of Aircraft, Engines, and Structures, Paper Number 2019-01-1990, 2019, doi: 10.4271/2019-01-1990.
20. Delene, D. J., Suitability of North Dakota for Conducting Effective Hygroscopic Seeding, Journal of Weather Modification, 48, 43-67, 2016, URL: http://www.weathermodification.org/publications/index.php/JWM/article/view/549.
21. Delene D. J., Grainger C., Kucera P., Langerud D., Ham M., Mitchell R., and Kruse C., The Second Polarimetric Cloud Analysis and Seeding Test, Journal of Weather Modification, 43, 14-28, 2011.
22. Delene, D. J., Aircraft Data Processing and Analysis Software Package, Earth Science Informatics, 4(1), 1-16, 2011, URL: http://dx.doi.org/10.1007/s12145-010-0061-4, DOI: 10.1007/s12145-010-0061-4.
23. Delene, D. J., and J. A. Ogren, Variability of aerosol optical properties at four North American surface monitoring sites, *Journal of Atmospheric Sciences*, 59, 1135-1150, 2002. (Senior Author J. A. Ogren)
24. Sheridan, P. J., D. J. Delene, and J. A. Ogren, Four years of continuous surface aerosol measurements from the Department of Energy's Atmospheric Radiation Measurement Program Southern Great Plains Cloud and Radiation Testbed site, *Journal of Geophysical Research - Atmospheres*, 106, 20735-20747, 2001, DOI: 10.1029/2001JD000785. (Senior Author J. A. Ogren)
25. Delene, D. J. and T. Deshler, Vertical profiles of cloud condensation nuclei above Wyoming, *Journal of Geophysical Research - Atmospheres* , 106, 12579-12588, 2001, DOI: 10.1029/2000JD900800. (Senior Author T. Deshler)
26. Delene, D. J. and T. Deshler, Calibration of a photometric cloud condensation nucleus counter designed for deployment on a balloon package, *Journal of Atmospheric and Oceanic Technology*, 17, 459-467, 2000, DOI: 10.1175/1520-0426(2000)017<0459:COAPCC>2.0.CO;2. (Senior Author T. Deshler)
27. Delene, D. J., T. Deshler, P. Wechsler, and G. A. Vali, A balloon-borne cloud condensation nuclei counter, *Journal of Geophysical Research - Atmospheres*, 103, 8927-8934, 1998, DOI: 10.1029/98JD00053. (Senior Author T. Deshler)
28. Delene, D. J., W. I. Rose, and N. C. Grody, Remote sensing of volcanic ash clouds using special sensor microwave imager data, *Journal of Geophysical Research - Solid Earth, 101,* 11,579-11,588, 1996, DOI: 10.1029/96JB00643. (Senior Author W. I. Rose)
29. Rose, W. I., D. J. Delene, D. J. Schneider, G. J. S. Bluth, A. J. Krueger, I. Sprod, C. McKee, H. L. Davies, and G. G. J. Ernst, Ice in the 1994 Rabaul eruption cloud: implications for volcano hazard and atmospheric effects, *Nature,* 375, 477-479, 1995. (Senior Author W. I. Rose)

Data Collections

1. David Delene, Shawn Wagner and Christian Nairy 2024. NCAR Particle Probes IMPACTS. Dataset available online from the NASA Global Hydrometeorology Resource Center DAAC, Huntsville, Alabama, U.S.A. DOI: http://dx.doi.org/10.5067/IMPACTS/PROBES/DATA101.
2. Bansemer, Aaron , David Delene, Andrew J Heymsfield, Joseph O'Brien, Michael R Poellot, Kendra Sand, Greg Sova, Jennifer Moore and Christian Nairy 2022. NCAR Particle Probes IMPACTS. Dataset available online from the NASA Global Hydrometeorology Resource Center DAAC, Huntsville, Alabama, U.S.A. DOI: http://dx.doi.org/10.5067/IMPACTS/PROBES/DATA101.
3. Delene, David and Michael R Poellot.2022. UND Cloud Microphysics IMPACTS. Dataset available online from the NASA Global Hydrometeorology Resource Center DAAC, Huntsville, Alabama, U.S.A. DOI: http://dx.doi.org/10.5067/IMPACTS/MULTIPLE/DATA101.
4. Neumann, A., M. Poellot, D. Delene, M. Askelson, K. North, M. Oue, 2020: A Multi-Platform, In-Situ Kinematic and Microphysical Analysis of a Parallel Stratiform Mesoscale Convective System. University of North Dakota Scholarly Commons, Grand Forks, North Dakota, U.S.A., https://doi.org/10.31356/data018.
5. Tuftedal, Matthew E. and Delene, David J., 2020: "Precipitation Evaluation of the North Dakota Cloud Modification Project (NDCMP) Using Rain Gauge Observations" (2020), University of North Dakota Scholarly Commons, Grand Forks, North Dakota, U.S.A., https://doi.org/10.31356/data017.
6. Gapp, Nicholas and Delene, David J., 2020: "Comparison of Concurrent Radar and Aircraft Measurements of Cirrus Clouds" (2020), University of North Dakota Scholarly Commons, Grand Forks, North Dakota, U.S.A., https://doi.org/10.31356/data016.
7. Wagner, Shawn and Delene, David J., 2020: "Analysis of Concurrent Backscatter Coefficients from In-situ Cloud Probes and Airborne Lidar", University of North Dakota Scholarly Commons, Grand Forks, North Dakota, U.S.A., https://doi.org/10.31356/data015.
8. Delene, David . 2017. *GPM Ground Validation UND Citation Navigation Data OLYMPEX* [indicate subset used]. Dataset available online from the NASA Global Hydrology Center DAAC, Huntsville, Alabama, U.S.A. DOI: http://dx.doi.org/10.5067/GPMGV/OLYMPEX/NAV/DATA101. (26 Citation Research Aircraft (N555DS) Flights, 23 October 2015 - 22 January 2016)
9. Delene, David and Michael R Poellot. 2016. *GPM GROUND VALIDATION UND CITATION CLOUD MICROPHYSICS GCPEX V2* [indicate subset used]. Dataset available online from the NASA Global Hydrology Center DAAC, Huntsville, Alabama, U.S.A. DOI: http://dx.doi.org/10.5067/GPMGV/GCPEX/MULTIPLE/DATA203. (18 Citation Research Aircraft (N555DS) Flights, 11 January - 25 February 2012)
10. Delene, David J. and M. Poellot, 2015: GPM Ground Validation UND Citation Cloud Microphysics IPHEX. Dataset available online [http://ghrc.nsstc.nasa.gov] from the NASA EOSDIS Global Hydrology Resource Center Distributed Active Archive Center, Huntsville, Alabama, U.S.A. DOI: http://dx.doi.org/10.5067/GPMGV/IPHEX/MULTIPLE/DATA201. (33 Citation Research Aircraft (N555DS) Flights, 1 May - 15 June 2014, 183 GB)
11. Poellot, Michael R., Andrew J. Heymsfield, and David J. Delene, 2014: GPM Ground Validation UND Citation Cloud Microphysics GCPEx. Dataset available online [http://ghrc.nsstc.nasa.gov] from the NASA EOSDIS Global Hydrology Resource Center Distributed Active Archive Center Huntsville, Alabama, U.S.A. DOI: http://dx.doi.org/10.5067/GPMGV/GCPEX/MUTIPLE/DATA201. (18 Citation Research Aircraft (N555DS) Flights, 11 January - 25 February 2012)
12. Poellot, Michael R.,and David J. Delene, 2012. *GPM GROUND VALIDATION UND CITATION CLOUD MICROPHYSICS MC3E* [indicate subset used]. Dataset available online from the NASA Global Hydrology Center DAAC, Huntsville, Alabama, U.S.A. DOI: http://dx.doi.org/10.5067/GPMGV/MC3E/MULTIPLE/DATA201. (15 Citation Research Aircraft (N555DS) Flights, 20 March - 2 June 2011)

Non-refereed/Non-juried

Open Source Software Archives

1. Delene, D., Andrea, S., Hibert, K., Nairy, C., Moore, J., Twohey, L., Kim, M.-S., Gapp, N., O'Brien, J., & Klinman, J. Airborne Data Processing and Analysis Software Package (Version 4632). Zenodo, January 16, 2024. https://doi.org/10.5281/zenodo.10519255.
2. Delene, David, Community Packages for Airborne Science (CoPAS) (v1.0.0), Zenodo, 22, June, 2022, doi:10.5281/zenodo.6685575.
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4. Delene, David J., A. Skow, J. O'Brien, N. Gapp, S. Wagner, K. Hibert, K. Sand, and G. Sova, Airborne Data Processing and

Analysis Software Package (Version 3981), Zenodo, 30 March 2020, doi:10.5281/zenodo.3733448.
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7. Delene, D. J., A. Neumann, N. Gapp, C. Kruse, R. Mitchell, J. O'brien, G. Sever, and M. Starzec, January 28, 2016, Airborne Data Processing and Analysis Software Package (Revision Version 2525), *Zenodo*, doi:10.5281/zenodo.45253. https://zenodo.org/record/45253 (Accessed January 26, 2018).
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Journal Articles

1. Delene, D. J., Editor Message 2018, Journal of Weather Modification, 50, vi, 2018, http://journalofweathermodification.org/index.php/JWM/article/view/613.
2. Delene, D. J., Editor Message 2017, Journal of Weather Modification, 49, vi, 2017, http://journalofweathermodification.org/index.php/JWM/article/view/567/pdf_1.
3. Delene, D. J., Journal Notes, Advertisement Information, Journal of Weather Modification, 49, 56, 2017, http://journalofweathermodification.org/index.php/JWM/article/view/571/pdf.
4. Delene, D. J., Author's Guide, Journal of Weather Modification, 49, 57-59, 2017, http://journalofweathermodification.org/index.php/JWM/article/view/572/pdf.
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11. Delene, D. J., Editor Messeage, Journal of Weather Modification, 45, vi, 2013. http://journalofweathermodification.org/index.php/JWM/article/view/132/pdf.
12. Delene, D. J., Journal Notes and Author's Guide, Journal of Weather Modification, 45, 72-75, 2013, http://journalofweathermodification.org/index.php/JWM/article/view/135/pdf.
13. Delene, D. J., Editor Messeage, Journal of Weather Modification, 44, vi, 2012, http://journalofweathermodification.org/index.php/JWM/article/view/96/80.

Technical Reports

1. Kruse, C. and D. Delene, Field Test of Combination Seeding Flares, Submitted to Ice Crystal Engineering (through North Dakota Atmospheric Research Board), Davenport, North Dakota, April 2010. (Senior Author David J. Delene)
2. Delene, D., M. Poellot, C. Grainger, and J. Tilley, Kingdom of Saudi Arabia Assessment of Rainfall Augmentation: 2009 Spring Field Season Final Report, Peer-reviewed by scientists at Weather Modification Inc. and presented to the Presidency of Meteorology and Environment (PME), Kingdom of Saudi Arabia, March 2010.
3. Delene, D., Kingdom of Saudi Arabia Assessment of Rainfall Augmentation: 2009 Spring Field Season Intensive Operation Period Report, Submitted to Weather Modification Inc., Fargo, North Dakota, August 2009.
4. Delene, D. and G. Sever, Feasibility Study for the Augmentation of Rain in Mali Airborne Measurements Report, National Center for Atmospheric Research, Boulder, Colorado, June 2009.
5. Kucera P., D. Axisa, R. Burger, D. Delene, M. Chapman, Kingdom of Saudi Arabia Assessment of Rainfall Augmentation: 2007-2008 Field Season Operational Summary Report, Submitted to the Presidency of Meteorology and Environment, Kingdom of Saudi Arabia, October 2008.
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Data Report, Submitted to the National Center for Atmospheric Research, Boulder, Colorado, October 2008.
7. Kucera, Paul A., David Delene, Michael B. Chapman, Stefanie Hermann, and Roeloft T. Bruintjes, Feasibility Study for the Augmentation of Rain in Mali, Submitted to the Direction Nationale de la Meteorologie, Bamako, Mali, April 2008.

SCIENTIFIC DATA SETS

Aircraft

1. Delene, David J., Kendra Sand, Shawn Wagner, ,Henno Havenga, Martin Schnaiter, and Danial Walker, CapeEx19 Field Project, 12 North Dakota Citation Research Aircraft (N555DS) Flights (26.5 hours), 22 July - 3 August 2019.
2. Delene, David J., M. Poellot, Greg McFarguhar, Joseph O'Brien, and Siddhant Gupta, ObseRvations of Aerosols above CLouds and their intEractionS (ORACLES) 2018 Field Project, 20 NASA P3 (N426NA) Flights, 19 September - 27 October 2018.
3. Delene, David J., M. Poellot, Greg McFarguhar, Joseph O'Brien, and Siddhant Gupta, ObseRvations of Aerosols above CLouds and their intEractionS (ORACLES) 2017 Field Project, 18 NASA P3 (N426NA) Flights, 1 August - 3 September 2017.
4. Delene, David J., M. Poellot, Greg McFarguhar, Joseph O'Brien, and Siddhant Gupta, ObseRvations of Aerosols above CLouds and their intEractionS (ORACLES) 2016 Field Project, 19 NASA P3 (N426NA) Flights, 2 August - 27 September 2016.
5. Delene, David J., Ophir 2016 Flight Testing, *Ophir Corporation,* 5 Citation Research Aircraft (N555DS) Flights, 15 March - 14 April 2016.
6. Delene, David J., J. Ekness, and N. Gapp, Florida 2015 Airplane and Cloud Measurements (CAPE2015), *Naval Surface Warfare Center,* 12 Citation Research Aircraft (N555DS) Flights, 28 July - 11 August 2015 (75 GBytes, excluding video).
7. Delene, David J., UTC Fall 2015 Flight Testing, *United Technologies Corporation Aerospace Systems,* 4 Citation Research Aircraft (N555DS) Flights, 12 July - 06 August 2015 (13 GBytes).
8. Delene, David J., UTC Fall 2014 Flight Testing, *United Technologies Corporation Aerospace Systems,* 4 Citation Research Aircraft (N555DS) Flights, 20 September - 13 October 2014 (67 GBytes).
9. Delene, David J., Ophir 2013 Flight Testing, *Ophir Corporation,* 5 Citation Research Aircraft (N555DS) Flights, 31 July - 22 November 2013.
10. Delene, David J., Optical Icing Conditions Detector Flight Testing, *United Technologies Corporation Aerospace Systems,* 4 Citation Research Aircraft (N555DS) Flights, 16 August - 30 November 2012.
11. Delene, David J., Polarimetric Cloud Analysis & Seeing Test 4, *North Dakota Atmospheric Research Board,* 11 Cessna 340 Research Aircraft Flights, 25 June - 3 August 2012.
12. Delene, David J. and Michael Poellot, Goodrich Optical Icing Conditions Detector Flight Testing 2011, *Goodrich Sensor Systems,* 9 Citation Research Aircraft (N555DS) Flights, 9 July - 22 November 2011.
13. Delene, David J. and Michael Poellot, Goodrich Optical Icing Conditions Detector Flight Testing, *Goodrich Sensor Systems,* 7 Citation II Research Aircraft Flights, 18 November - 30 December 2010. 15 Citation Research Aircraft (N555DS) Flights, 20 March - 2 June 2011)
14. Delene, David J., Cedric Grainger, and Chris Kruse, Polarimetric Cloud Analysis & Seeing Test 3, *North Dakota Atmospheric Research Board,* 5 Citation Research Aircraft (N555DS) Flights, 21 June - 23 July 2010.
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16. Delene, David J., Gokhan Sever and Robert Mitchell, Saudi Arabia Atmospheric Research Spring 2009, *Weather Modification Inc.,*16 King Air 200 Research Aircraft (N825ST) Flights, 17 March - 12 April 2009.
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18. Delene, David J. and Roelof Burger, Summer 2008 Saudi Arabia Field Project, *National Center for Atmospheric Research,* 52 King Air 200 Research Aircraft (N825ST) Flights, 28 June - 10 September 2008.
19. Delene, David J. and Cedric Grainger, Polarimetric Cloud Analysis & Seeing Test 2, *North Dakota Atmospheric Research Board,* 12 Cessna 340 Research Aircraft Flights, 10 June - 11 July 2008.
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22. Delene, David J., Fall 2005 Sikorsky Natural Icing Testing, *Sikorsky Aircraft Corporation*, 8 Citation Research Aircraft

(N77ND) Flights, 13 September - 30 September 2005.
23. Delene, David J. and Cedric Grainger, Tropospheric Airborne Meteorological Data Reporting (TAMDAR) Turbulence Evaluation, *AirDat LLC*, 6 Citation Research Aircraft (N77ND) Flight Days, 23 August - 9 September 2005.
24. Delene, David J. and Cedric Grainger, Winter 2005 Sikorsky Natural Icing Testing, *Sikorsky Aircraft Corporation*, 29 Citation Research Aircraft (N77ND) Flight Days, 9 January - 19 March 2005.
25. Delene, David J. and Fred Remer, L3COMM Aircraft Icing Certification Project, *L3Comm*, 13 Citation Research Aircraft (N77ND) Flight Days, 23 November - 8 December 2004.
26. Poellot, Michael, Cedric Grainger and David Delene, Mixed-Phase Arctic Cloud Experiment (MPACE), *Department of Energy Atmospheric Radiation Measurement Program*, 18 Citation Research Aircraft (N77ND) Flight Days, 24 September - 23 October 2004.
27. Delene, David J. and Cedric Grainger, Tropospheric Airborne Meteorological Data Reporting (TAMDAR) Instrument Development, *AirDat LLC*, 1 Citation Research Aircraft (N77ND) Flight Days, 29 July 2004.
28. Delene, David J., University of North Dakota Intensive Operating Period - 1 (IOP1), *University of North Dakota*, 5 Citation Research Aircraft (N77ND) Flight Days, 15 June - 5 July 2004.
29. Delene, David J. and Michael Poellot, Spring 2004 Sikorsky Natural Icing Testing, *Sikorsky Aircraft Corporation*, 22 Citation Research Aircraft (N77ND) Flight Days, 29 March - 22 April 2004.
30. Poellot, Michael and David Delene, 2004 Winter Icing and Storms Project (WISP-04), *Federal Aviation Administration*, 9 Citation Research Aircraft (N77ND) Flight Days, 28 February - 28 March 2004.
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33. Grainger, Cedric and David Delene, CO2 Budget and Regional Airborne Study: North America 2003, *NASA Earth Science Enterprise*, 37 Citation Research Aircraft (N77ND) Flight Days, 23 May - 28 June 2003.
34. Poellot, Michael and David Delene, Tropospheric Airborne Meteorological Data Reporting (TAMDAR) Instrument Development, *AirDat LLC*, 4 Citation Research Aircraft (N77ND) Flight Days, 7-11 May 2003.
35. Poellot, Michael, Mark Askelson, and David Delene, The Cirrus Regional Study of Tropical Anvils and Cirrus Layers - Florida Area Cirrus Experiment (CRYSTAL-FACE), NASA Earth Science Mission, 14 CitationResearch Aircraft (N77ND) Flight Days, 3 July - 29 July 2002.

Surface

1. Delene, David J., Nicole Bart, Phondie Simelane, Richard Cochran, Haewoo Jeong and Alena Kubatova, Grand Forks North Dakota Continuous Aerosol Measurements, *North Dakota Atmospheric Research Board*, 25 June - 19 October 2012.
2. Raina, Renata and David Delene, Pesticide Sampling, *University of North Dakota*, Summers of 2012, 2013, 2014, 2016, 2017, 2018.
3. Keith, David J., David Delene, Allison Coffman and Alena Kubatova, Grand Forks North Dakota Continuous Aerosol Measurements, *North Dakota Atmospheric Research Board,* 21 June - 31 August 2010.
4. Delene, David J. and John Ogren, Bondville Illinois Continuous Aerosol Measurements, *NOAA*, 1 January 1999 - December 31 2000.
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Balloon

1. Delene, David J. and Terry Deshler, Vertical Profiles of Cloud Condensation Nuclei, *NASA*, 14 Balloon Flights, 10 June 1996 - 3 February 2008.

SCIENTIFIC SOFTWARE PROJECTS (Names listed are package developers.)

1. Wagner, Shawn and David J. Delene, OID Analysis, Sourceforge, Registered Date 2019-09-03, https://sourceforge.net/projects/oid-analysis/.
2. Tuftedal, Matt and David J. Delene, Evaluation of NDCMP - Tuftedal 2019, Sourceforge, Registered Date 2019-07-05, https://sourceforge.net/projects/evaluationofndcmp-tuftedal2019.
3. Delene, David J., Community Packages for Airborne Science (CoPAS), Github, Registered Date 2016-12-24, https://

github.com/daviddelene/CoPAS/.
4. Delene, David J., Airborne Data Testing and Evaluation (ADTAE), Sourceforge, Registered Date 2016-11-28, https://sourceforge.net/projects/adtae/.
5. Delene, David J., Andrea Skow, and Joseph O'Brien, Airborne Data Processing and Analysis (ADPAA), Sourceforge, Registered Date 2008-11-08, https://sourceforge.net/projects/adpaa/.

PROFESSIONAL PRESENTATIONS

National/International

1. David Delene, James Klinman, Andrew Detwiler, V Chandrasekar, Patrick Kennedy, and Ivan Arias, Quantitative Interpretation of Polarimetric Radar Observations of Hail, Poster presentation given at the International Conference on Clouds and Precipitation 2024, 19 (Fri) July 2024 (15:00-16:30), Lobby (3F), Code PP609-19P(Fri)-276, International Convention Center Jeju, South Korea.
2. Christian M. Nairy, David J. Delene, Andrew G. Detwiler, John E. Yorks, Joseph A. Finlon, and Kenneth L. Thornhill, Segregating Chain Aggregates using In-situ Cloud Particle Properties Observed in Winter Storms. Poster presentation given at the International Conference on Clouds and Precipitation 2024, 18 (Thr) July 2024 (15:00-16:30), Lobby (3F), Code PP566-18PThu)-185, International Convention Center Jeju, South Korea. (Abstract 566 [docx, pdf])
Marwa Majdi, Christian Nairy, and David Delene, An Evaluation of a Convolutional Neural Network for Classifying Images from In-situ, High-resolution Cloud Probes, Poster presentation given at the International Conference on Clouds and Precipitation 2024, 15 (Monday) - July 2024 (15:03-16:30), Lobby (3F), Code PP495-15p(Mon)-175, International Convention Center Jeju, South Korea. (Abstract [docx, pdf]; Poster [odp, pdf])
3. Delene, David and Christian Nairy, CapeEx19 Field Project (CapeEx19) 3 August 2019 Case Study, Presentation given on July 11, 2024, Jeju, South Korea.
4. Detwiler, Andrew, Lynnlee Rosolino, David Delene, Conrad Slad, Christian Nairy, Marwa Majdi, Kurt Hibert, Youssef Wehbe, Bruce Boe, Asma Sroji, Ayman Albar, Udaya Gunturu, and Abdulmonam Aldhaif, Cloud Observations and Processes in Convection over Central Saudi Arabia, Talk given at the 2024 Weather Modification Association Annual Meeting, April 16 - 18, 2024 in Las Vegas, Nevada.
5. Camp, Nicholas, Catherline Finely, Jake Mulholland, Bruce Lee, and David Delene, Analysis of Variation in Thermodynamic and Kinematic Properties within Supercell Inflow using Balloon Borne Radiosondes, Poster presented at the 2024 Severe Storms & Doppler Radar Conference, March 27th - March 29th, 2024.
6. Nairy, Christian, David Delene, Andrew Detwiler, John Yorks, and Joseph Finlon, Chain Aggregate Particles in Mid-to-upper Tropospheric Clouds during IMPACTS – 15 January 2023 Case Study, Talk presentation given 2024 American Meteorological Society Annual Meeting on Thursday 1 February 2024 (Johnson AB First Floor, Hilton Baltimore Inner Harbor) at 4:45 - 5:00 PM.
7. Brechner, Peter Anthony, Greg M. McFarquhar, Julian Christopher Schima, David J. Delene, Christian Nairy, K. Lee Thornhill, Joseph Finlon, Darin W. Toohey, David Noone, Andrew J. Heymsfield, Aaron Bansemer, Robert M. Rauber, Emma Jarvinen, and Martin Schnaiter, Multimodal Ice Crystal Size Distributions in Atlantic Coast Snowstorms: Results from IMPACTS, Poster presentation given 2024 American Meteorological Society Annual Meeting on Thursday 1 February 2024 (Poster #946, Hall E 100 Level, Baltimore Convention Center) at 3:00-4:30 PM.
8. Schima, Julian Christopher, Greg M. McFarquhar, David J. Delene, Emma Jarvinen, Martin Schnaiter, Andrew J. Heymsfield, Aaron Bansemer, and Joseph Finlon, A Multi-Probe Automated Classification of Ice Crystal Habits During the IMPACTS Campaign, Poster presentation given 2024 American Meteorological Society Annual Meeting on Thursday 1 February 2024 (Poster #944, Hall E 100 Level, Baltimore Convention Center) at 3:00-4:30 PM.
9. Majdi, Marwa, Christian Nairy, and David Delene, An Evaluation of a Convolutional Neural Network for Classifying Images from In-situ, High-resolution Cloud Probes, Poster presentation given 2024 American Meteorological Society Annual Meeting on Thursday 1 February 2024 (Poster #943, Hall E 100 Level, Baltimore Convention Center) at 3:00-4:30 PM.
10. McFarquhar, Greg M., Rober M. Rauber, David M. Plummer, Brain Jewett, Andrew Michael Dzambo, Peter Anthony Brechner, Christian Hal, Julian Schima, Parker Davis, Jonathan Douglas, Amanda M. Murphy, David J. Delene, Christian Nairy, Darin W. Toohey, David Noone, Emma Jarvinen, Martin Schnaiter, Joseph Finlon, K. Lee Thornhill, Andrew J. Heymsfield, and Aaron Bansemer, Use of In-Situ Airborne Measurements of Cloud Microphysical Properties to Quantify Processes Occurring in Wintertime Snow Storms, Talk given at the 2024 American Meteorological Society Annual Meeting on Thursday 1 February 2024 (15A.1 Cloud Properties in Winter Storms I, Johnson AB, First Floor, Hilton Baltimore Inner Harbor) at 1:45 - 2:00 PM.
11. Delene, David, B. A. Boe, K. Hibert, M. D. Willette, M. Majdi, Y. Wehbe, A. Detwiler, A. Albar, U. Gunturu, K. Abandah, M.

Alkhalaf, A. Aldhaif, and P. Ioannidis, Cloud Observations and Processes in Sea Breeze Induced Convection over South-West Saudi Arabia, Poster presentation given at the 24th Conference on Planned and Inadvertent Weather Modification, 2024 American Meteorological Society Annual Meeting on Wednesday 31 January 2024 (Poster #663, Hall E 100 Level, Baltimore Convention Center) at 3:30-4:30.

12. Wehbe, Youssef, David J. Delene, Michael Willette, Bruce A. Boe, Kurt Hibert, Ayman Albar, Udaya Gunturu, Khalid Abandah, Moath Alkhalaf, Abdulmonam Aldhaif, Panagiotis Ioannidis, Marwa Majdi, and Andrew Detwiler, The Saudi Aerosol-Cloud-Precipitation Enhancement Campaign (SARPeC): Outlook and Research Roadmap, Poster given given at the 2024 American Meteorological Society Annual Meeting on Wednesday 31 January 2024 (Poster Number 661 Hall E 100 Level, Baltimore Convention Center) at 3:00-4:30 PM.
13. Boe, Bruce A., Adam R. Brainard, Caleb Steele, Youssef Wehbe, Kurt Hibert, David J. Delene, Michael Willette, Ayman Albar, Uday Gunturu, Khalid Abandah, Moath Alkhalaf, Abdulmonam Aldhaif, Panagiotis Ioannidis, Observations of Wind Flow Related to Thunderstorm Genesis Along the Red Sea Escarpment of Saudi Arabia, Talk given at the 2024 American Meteorological Society Annual Meeting on Wednesday 31 January 2024 (11.2 314, Baltimore Convention Center) at 2:00-2:15 PM.
14. Delene, David and Christian Nairy, IMPACTS Data Workshop - UND Cloud Probes, Session held at the 2024 American Meteorological Society Annual Meeting on Wednesday 31 January 2024 (Paca Room, Third Floor Hilton Baltimore Inner Harbor) at 10:00 - 11:30.
15. Majdi, Marwa, David Delene, Mounir Chrit, Automatic Fog Detection and Visibility Estimation From Camera Images Using Deep Learning Features For Aviation Operations Involving Uncrewed Aircraft Systems (UAS), Poster presentation given at the 2024 American Meteorological Society Annual Meeting on Tuesday 30 January 2024 (Poster #410, Hall E 100 Level, Baltimore Convention Center) at 3:30-4:30 PM.
16. Nairy, Christian, David Delene, Andrew Detwiler, John Yorks, and Joseph Finlon, Chain Aggregate Particles in Upper-tropospheric Clouds During IMPACTS – 15 January 2023 Case Study, Poster Presented at IMPACTS Data Workshop, 24 October 2023. (pdf)
17. Klinman, James, Andy Detwiler, David Delene, Pat Kennedy, Ivan Arias, Quantitative Interpretation of Polarimetric Radar Observations of Hail, Poster presentation given at the 40th Conference on Radar Meteorology in Minneapolis, MN on Monday 28 August 2023. (Abstract - docx, pdf, Poster - pptx, pdf, Picture - jpeg)
18. Majdi, Marwa, Christian Nairy and David Delene, An Evaluation of a Convolution Neural Network for Classifying Images from In-situ Cloud Probes, Poster presentation at the 32nd Conference on Weather Analysis and Forecasting (WAF)/28th Conference on Numerical Weather Prediction (NWP)/20th Conference on Mesoscale Processes, 17-21 July 2023, Madison, WI.
19. Brechner, Peter, Greg M. McFarquhar, Julian Schima, David Delene, Christian Nairy, Kenneth Lee Thornhill, Joe Finlon, Darin Toohey, Andrew Heymsfield, Aaron Bansemer, Bob Rauber, Emma Jarvinen, and Martin Schnaiter, Multimodal Ice Crystal Size Distributions in Atlantic Coast Snowstorms: Results from IMPACTS 2020, Presentation at the 32nd Conference on Weather Analysis and Forecasting (WAF)/28th Conference on Numerical Weather Prediction (NWP)/20th Conference on Mesoscale Processes, 17-21 July 2023, Madison, WI.
20. McFarquhar, Greg, Siddhant Gupta, Joe O'Brien, Rose Miller, David Delene, and Michael Poellot, Impacts of Aerosols on Microphysical Properties of Marine Stratocumulus over the Southeast Atlantic Ocean: Results from ORACLES, American Meteorological Society 2023 Annual Meeting.
21. Majdi, Marwa, Christian Nairy and David Delene, An Evaluation of a Convolutional Neural Network for Classifying Images from In-situ Cloud Probes, American Geophysical Union Fall Meeting 2022, Poster (A55Q-1353) Presented on Friday 16 December 2022 at 14:45 - 18:15, McCormick Place - Poster Hall A. (Poster; PDF)
22. Brechner, Peter, Greg M. McFarquhar, David Delene, Christian Nairy, Lee Thornhill, Joe Finlon, Darin Toohey, Andrew Heymsfield, Aaron Bansemer, Bob Rauber, Emma Jaervinen, Martin Schnaiter, A35N-1652 - A Multi-Probe Automated Classification of Ice Crystal Habits During the IMPACTS Campaign, American Geophysical Union Fall Meeting 2022 Poster (A35N-1544) Presented on Wednesday 14 December 2022: 14:45 - 18:15, McCormick Place, Poster Hall A.
23. Nairy, Christian, David Delene, and Andrew Detwiler, Chain Aggregate Particles in Upper-tropospheric Clouds, American Geophysical Union Fall Meeting 2022 Poster (A35N-1544) Presented on Wednesday 14 December 2022: 14:45 - 18:15, McCormick Place, Poster Hall A.
24. Majdi, Marwa and David Delene, A15G-1313 - Automatic Fog Detection and Visibility Determination from Camera Images using Deep Learning Features for Aviation Operations Involving Unmanned Aircraft Systems (UAS), American Geophysical Union Fall Meeting 2022, Poster Presented on Monday 12 December 2022 at 14:45 - 18:15, McCormick Place - Poster Hall A.
25. Fevig, Ronald, David J. Delene, Ismail Gultepe, Nick Craine, and Gary Pundsack, Rocket Plume Sampling using a Balloon Deployed Unmanned Aerial Vehicle, Poster presentation given at the 2022 Academic High Altitude Conference on 23 September 2022.

26. Haase, Evely, David J. Delene, and Ron Fevig, Development of an Open Hardware Weather Balloon Package, Poster presentation given at the 2022 Academic High Altitude Conference on 23 September 2022.
27. Delene, David J., Bruce Boe, and Andrew Detwiler, Methodology and 2017 Results of using Radar Observations to Evaluate Hail Mitigation by the Alberta Hail Suppression Project, Poser presentation given at 2022 North American Workshop on Hail and Hailstorms on 21 September 2022.
28. Delene, David J., Andrew Detwiler, V. Chandrasekar, Andrew Heymsfield, Aaron Bansemer, T-28 Research Aircraft and Polarimetric Radar Observations of Hailstorms, Presentation given at 2022 North American Workshop on Hail and Hailstorms on 21 September 2022.
29. Delene, David J., Christian Nairy, Nicholas Camp, Marwa Majdi, Aaron Bansemer, Andrew Detwiler, Andrew Heymsfield, Greg McFarquhar, Joseph Finlon, Robert Rauber, and Emma Jarvinen, Particle Shattering of Tube-type Cloud Microphysical Probes, American Geophysical Union Fall Meeting 2022.
30. Delene, David J., Christian Nairy, Aaron Bansemer, Andrew Detwiler, Greg McFarquhar, and Andrew Heymsfield. Particle Shattering Analysis of Airborne Microphysical Probes Using IMPACTS Observations, Poster (#394) presentation given (3:00 pm CST) at the 16th American Meteorological Society Conference on Cloud Physics (Online Program), 11 August 2022.
31. Moore, Jennifer, and David J. Delene, Comparison of Water Content Measurement System (WCM-3000), King Probe, and Cloud Droplet Probe in Liquid Water Clouds using IMPACTS 2022 Campaign Data, Poster (393) presentation given (3:00-4:30 pm CST) at the 16th American Meteorological Society Conference on Cloud Physics, 11 August 2022.
32. Siddhant Gupta, G. M. McFarquhar, J. O'Brien, M. Poellot, D. J. Delene, I. Chang, L. Gao, F. Xu, and J. Redemann, In-Situ and Satellite-Based Estimates of Cloud Properties and Aerosol-Cloud Interactions over the Southeast Atlantic Ocean: Results from ORACLES, Poster (370) presentation given (3:00-4:30 pm CST) at the 16th American Meteorological Society Conference on Cloud Physics, 11 August 2022.
33. Julian Christopher Schima, G. M. McFarquhar, D. J. Delene, A. J. Heymsfield, A. Bansemer, M. Schnaiter, E. Järvinen, F. Waitz, and J. Finlon, https://ams.confex.com/ams/CMM2022/meetingapp.cgi/Paper/406253, Poster (245) presentation given (3:00-4:30 pm CST) at the 16th American Meteorological Society Conference on Cloud Physics, 11 August 2022.
34. Nairy, Christian Nairy, David J Delene and Andrew G Detwiler, Observations of Chain Aggregates in Florida Cirrus Cloud Anvils during the CapeEx19 Field Campaign, Virtual presentation given at the American Geophysical Union (AGU) Fall 2021 Meeting on 13 December 2021.
35. Delene, David J. and Sankha Maitra, Methods for Evaluation of the Alberta Hail Suppression Project Using Radar Observations, Poster given (15:00 - 16:00 UTC, 10:00-11:0 CDT) at Weather Modification session on Thursday 5 August 2021 at the International Conference on Clouds and Precipitation 2021 in Pune, India.
36. Delene, David J. and Christian Nairy, Observations of Chain Aggregates in Florida Cirrus Cloud Anvils, Poster given (15:30-16:30 UTC, 10:30-11:30 CDT) at Cirrus Cloud session on Monday 2 August 2021 at the International Conference on Clouds and Precipitation 2021 in Pune, India.
37. Majdi, Marwa and David J. Delene, Visibility Nowcasting For UAS Operations using Deep Learning, Presentation given (13:38 CEST on Thursday 29 April 2021) at the 2021 European Geophysical Union Annual Meeting.
38. Tuftedal, Matthew, David J. Delene, and Andrew Detwiler, Precipitation Evaluation of the North Dakota Cloud Modification Project, Presentation given (3:00 pm on Wednesday 28 April 2021) at the 2021 Weather Modification Association Annual Meeting. (Abstract)
39. Sankha Subhra and Delene, David J., Evaluation of the Alberta Hail Suppression Project Using Radar Observations, Poster (#367) at the 2021 American Meteorological Society's Annual Meeting, Mesoscale Processes Across Scales: Engaging with Communities in the Physical and Social Sciences Conference on 11 January 2021 at 2 pm Eastern Time.
40. Christian Nairy, David J. Delene, Emma Jarvinen, Observations of Chain Aggregates in Florida Cirrus Cloud Anvils, Virtual poster (A148-0007) given in the Thunderstorm Electrification and Lightning Meteorology III session (AE010) at the American Geophysical Union (AGU) Fall 2020 Meeting on December 14, 2020 at 11 am - 1 pm Central (CT).
41. Detwiler, Andrew G., David J. Delene, Christian Nairy, Radar and Airborne Observations in Florida Thunderstorm Anvils, Virtual presentation (AE010-07) given at the American Geophysical Union (AGU) Fall 2020 Meeting on December 10, 2020 at 07:54-07:58 Central (CT).
42. Delene, David J., Eli Peske, Mascha Rauscher, *Laboratory Measurements of the Size Distribution and Activation Ratio of Synthetic Ice Nuclei*, Poster (3722) given (Tuesday, 05 May 2020) at the 2020 European Geophysical Union Meeting, https://doi.org/10.5194/eguspere-egu2020-3722.
43. Mathew Tuftedal and David J. Delene, *Precipitation Evaluation of the North Dakota Cloud Modification Project*, Poster (#1316) in the 22nd Conference on Planned and Inadvertent Weather Modification Poster Session 1 (Wednesday, January 15, 2020 at 4:00 - 6:00 p.m.) at the 2020 American Meteorological Society Annual Meeting on Wednesday 15 January 2020 (4:00 pm) in Boston, MA.
44. Shawn Wagner and David J. Delene, *Uncertainty of Backscatter Coefficients from In Situ Cloud Probe Measurements in*

Cloud Probe Measurements in Cirrus Clouds, Poster (#424) in 10th Symposium on Lidar Atmospheric Applications Poster Session (Monday, January 13, 2020 at 4:00 - 6:00 p.m.) at the 2020 American Meteorological Society Annual Meeting in Boston, MA.

45. Nicholas Gapp, David J. Delene, Matthew Gilmore, Jerome Schmidt, and Paul Harasti, *Concurrent Radar and Aircraft Measurements of Thunderstorm Cirrus Clouds during 2015 and 2019 Florida Field Projects*, Poster (#310) in 20th Symposium on Meteorological Observations and Instrumentation Poster Session 1 (Monday, January 13, 2020 at 4:00 - 6:00 p.m.) at the 2020 American Meteorological Society Annual Meeting (Recordings) in Boston, MA.
46. Harrison P. Rademacher, David J. Delene, and Karin Ardon-Dryer, and Michael San Francisco, *Biological Particles (Bacteria and Fungi) in Thunderstorms*, Poster (#S21) in Atmospheric Chemistry, Aerosols, and Air Quality Student Poster Session 3 (Sunday, January 12, 2020 at 6:30 - 8:30 p.m.) at the 2020 American Meteorological Society Annual Meeting in Boston, MA
47. Delene, David J., *Airborne Measurements of Microdust*, Talk given at the Conference on Prediction and Countermeasures of Climate Change on 29 October 2019 in Seoul, South Korea.
48. David J. Delene, The North Dakota Citation Research Aircraft: A Scientific Application Example, Talk given at the 2019 Aircraft Workshop in Beijing, China on 27 June 2019.
49. David J. Delene, Kurt Hibert, Michael Poellot, and Neil Brackin, The North Dakota Citation Research Aircraft Measurement Platform, Talk (19ICE-0188/2019-01-1990) at the 2019 SAE International Conference on Icing of Aircraft, Engines, and Structures at the Aircraft Inflight Icing: Flight Test Campaigns session (ICE104) on Wednesday 19 June 2019 (10-12 am, Mirage Room, 30 minutes presentations) in Minneapolis MN.
50. Delene, David J., Kyle Pederson, Bruce Boe, and Charlie Harper, An Experiment Designed to Test Ice Nucleation of Silver Iodide Cloud Seeding Flares using the Pi Cloud Chamber, Presentation given (2:00 pm on Wednesday 24 April 2019) at the 2019 Weather Modification Association Annual Meeting in Phoenix, Arizona.
51. Delene, David J., Aircraft Observations of Cloud Particle Clustering using In-situ Probes, Poster (EGU2019-5411) given at the GI3.2/AS5.4/BG1.11/HS9.1.8/OS4.26 - Airborne observations, campaigns, applications and future plans session (board number X1.48) on Monday, 08 Apr 2019, at 10:45-12:30 during the 2019 European Geosciences Union General Assembly in Vienna Austria.
52. Delene, David J., *Removal of Microdust from the Atmosphere*, Talk given at the 2019 International Conference for Fine Dust on Friday February 22 at 13:30 in Seoul, South Korea.
53. Carr, Samantha, Michael Poellot, Cedric Grainger, and David J. Delene, *Clustering Analysis of Precipitation Sized Particles in Various Synoptic Regimes Using In Situ Observations*, Talk (12A.4) given (11:15 am in Session 12A, Global and Regional Remote Sensing Precipitation Estimation, Evaluation, and Applications) at the 2019 American Meteorological Society Annual Meeting on Thursday 10 January 2019 in Phoenix AZ.
54. Gapp, Nicholas, Jerome Schmidt, David J. Delene, Paul Harasti, Joshua Hoover, and Peter Jones, *Comparisons of Florida Thunderstorm Cirrus Clouds using Concurrent Radar and Aircraft Measurements*, Poster (629) at the 2019 American Meteorological Society Annual Meeting on Tuesday 8 January 2019 (4-6 pm) in Phoenix AZ.
55. Sorenson, Blake, David J. Delene, Michael Mullins, and Kyle Foerster, *Development at the University of North Dakota of a Digital Thermosonde Instrument for the Study of Atmospheric Optical Turbulence*, Poster (S188) at the 2019 American Meteorological Society Career Fair and Student Poster Session on 6 January 2019 (6:30-8:30 pm) in Phoenix AZ.
56. Rademacher, Harrison P., David J. Delene, and Aaron Kennedy, *Bacteria in Thunderstorm Anvils*, Poster (S96) at the 2019 American Meteorological Society Career Fair and Student Poster Session on 6 January 2019 (6:30 - 8:30 pm) in Phoenix AZ.
57. Otto, Alexa, David J. Delene, and Will Cantrell, *Characterization of Liquid Smoke by Size Distribution and Kappa Values*, Poster (S45) at the 2019 American Meteorological Society Career Fair and Student Poster Session on 6 January 2019 (6:30-8:30 pm) in Phoenix AZ.
58. Gapp, Nicholas, Paul Harasti, David J. Delene, Jerome Schmidt, and Joshua Hoover, *Concurrent Radar and Aircraft Reflectivity Comparisons of Florida Thunderstorm Cirrus Clouds*, Presentation given at the American Meteorological Society (AMS) 15th Conference on 9-13 July 2018 in Cloud Physics in Vancouver, BC.
59. Wagner, Shawn and David J. Delene, *A Comparison of Size Distribution Calculation Methods on Single Scattering Properties of Anvil Cirrus Clouds*, Presentation given at the American Meteorological Society (AMS) 15th Conference on 9-13 July 2018 in Cloud Physics in Vancouver, BC.
60. Delene, D. J., *Experiments to Evaluate Cloud Seeding Materials using Cloud Chambers*, Talk given at the Environment Water Resources Institute (EWRI) World Environmental & Water Resource Congress 2018, 5 June 2018, Minneapolis, Minnesota.
61. Delene, D. J., *Update on Cloud Seeding Flare Testing using the Pi Cloud Chamber*, Talk given at the 2018 Weather Modification Association Annual Meeting , 26 April 2018, Estes Park, Colorado.
62. Hibert, K. J., and David J. Delene, *Analysis-ready Data from Aircraft Measurements using Open Source Software*, Talk

given at the 2018 Weather Modification Association Annual Meeting, 26 April 2018, Estes Park, Colorado.

63. Delene, D. J., and Jamie Ekness, *Statistical Analysis of the 2008, 2010, and 2012 POLCAST Data Set*, Talk given at the 2018 Weather Modification Association Annual Meeting, 25 April 2018, Estes Park, Colorado.
64. Delene, D. J., Alexa Otto, Johannes Kassmannhuber, Mascha Rauscher, and Werner Lubitz, *Size Distribution and Cloud Condensation Nuclei Activation Ratio of Fabricated Organic Ice Nuclei*, Poster given at the 2018 European Geosciences Union General Assembly, 11 April 2018, Vienna Austria.
65. Delene, D. J., Alexa Otto, Johannes Kassmannhuber, Mascha Rauscher, and Werner Lubitz, *Size Distribution and Cloud Condensation Nuclei Activation Ratio of Fabricated Organic Ice Nuclei*, Poster given at the 2018 European Geosciences Union General Assembly, 11 April 2018, Vienna Austria.
66. Gapp, Nicholas J. Paul R. Harasti, David J. Delene, Jerome Schmidt, and Jshua Hoover, *Observations of Ice Particles in using Concurrent Radar and Aircraft Measurements*, Poster given at the Atmospheric and Meteorological Instrumentation session of the 2018 European Geosciences Union General Assembly, 9 April 2018, Vienna Austria.
67. Delene, D. J., Nicholas J. Gapp, Kurt Hibert, and Dennis Afseth, *Research Aircraft Observations of the Micro-physics of Ice Clouds*, Talk given at the 6th Workshop on Microphysics of Ice Clouds, April 7, 2018, Vienna Austria.
68. Berg, Tyson, Brett Nespor, Alena Kubatova, David J. Delene, Ales Kubat, and James More, *Unmanned aircraft as a tool for localized sampling of carbonaceous air particulate matter*, Meeting of the American Chemical Society (ACS) on March 18, 2018 in New Orleans, LA.
69. Delene, D. J., *2nd International Form on Rain Enhancement Science*, Invited Panel Discussion at the 2nd International Form on Rain Enhancement Science entitled Innovations in Water Management and the Role of Rain Enhancement on January 16, 2018, Ada Dhabi, UAE.
70. Gapp, Nicholas J., Paul R. Harasti, David J. Delene, Jerome Schmidt, and Mark J. Anderson, *Comparison of Concurrent Radar and Aircraft Measurements of Cirrus Clouds*, Poster (Poster Session 1, #665, Exhibit Hall 3) given (3:45-5:30 pm) at the 2018 American Meteorological Society Meeting, Symposium on Meteorological Observations and Instrumentation in Austin, Texas.
71. Otto, Alexa, Johannes Kassmannhuber, Werner Lubitz, and David Delene, *Size Distribution and CCN Activation Ratio of Bacteria Ghosts*, Poster (#S141) given in the Observations and Instrumentation Session at the 2018 American Meteorological Society Career Fair and Student Poster Session on 7 January 2018 (6:15 pm) in Austin, Texas.
72. Miller, Rose, Gregory McFarquhar, Michael Poellot, Joseph O'Brien, and David Delene, *Size Intercomparison of Microphysical Properties Derived from In-Situ Cloud and Remote Sensing Probes over the South East Atlantic Ocean*, Poster given at the American Geophysical Union (AGU) Fall 2017 Meeting on December 2018 in New Orleans, LA.
73. Delene, D. J., *Instrumentation & Airborne Science*, Invited Keynote talk given at the 2017 Academic High Altitude Conference, 28 October 2017, Minneapolis, Minnesota.
74. Delene, D. J., Nicholas J. Gapp, and Dennis Afseth, *The North Dakota Citation Research Aircraft*, Poster given at the 2nd International Conference on Airborne Research for the Environment, 11 July 2017, Oberpfaffenhofen, Germany.
75. Gapp, Nicholas J., Paul R. Harasti, David Delene, Jerome Schmidt, and Mark J. Anderson, *Cirrus Cloud Particles Concurrently Measured with In-situ Aircraft Probes and a High-Resolution, C-Band Radar*, Poster given at the 2nd International Conference on Airborne Research for the Environment, 11 July 2017, Oberpfaffenhofen, Germany [PDF].
76. David Delene, *BAMS Paper Update*, Presentation given at the 2017 EUFAR/ICCP/IUGG/IAMAS Expert Workshop on Processing of Cloud Particle Measurements, 9 July 2017, Oberpfaffenhofen, Germany.
77. David Delene, Airborne Data Processing and Analysis (ADPAA), *Presentation given at the 2017 EUFAR/ICCP/IUGG/IAMAS Expert Workshop on Processing of Cloud Particle Measurements*, 8 July 2017, Oberpfaffenhofen, Germany.
78. Gapp, Nicholas and David Delene, *2D-C and 2D-S Data*, Tutorial given at the 2017 EUFAR/ICCP/IUGG/IAMAS Expert Workshop on Processing of Cloud Particle Measurements, 8 July 2017, Oberpfaffenhofen, Germany.
79. Gapp, Nicholas and David Delene, *Getting Started*, Tutorial given at the 2017 EUFAR/ICCP/IUGG/IAMAS Expert Workshop on Processing of Cloud Particle Measurements, 7 July 2017, Oberpfaffenhofen, Germany.
80. Delene, D. J., *Cloud Chamber Evaluation of Nuclei used by Weather Modification Projects*, Talk given at the 2017 Environment Water Resources Institute (EWRI) World Environmental & Water Resource Congress, May 23 (9:00 am PST, Room 317) 2017, Sacramento, California.
81. Ekness, Jamie and D. J. Delene, *Statistical Analysis of the Polarimetric Cloud Analysis and Seeding Test (POLCAST) Field Projects*, Talk given at the 2017 Joint Western Snow Conference / Weather Modification Association Conference, 19 April 2017, Boise, Idaho.
82. Hibert, Kurt and D. J. Delene, *Calibration Uncertainties in the Droplet Measurement Technologies Cloud Condensation Nuclei Counter*, Talk given at the 2017 Joint Western Snow Conference / Weather Modification Association Conference, 19 April 2017, Boise, Idaho.
83. Delene, D. J., Alexa Otto, and Bruce Boe, *Setup of the Pi Cloud Chamber for Cloud Seeding Flare Testing*, Talk given at the 2017 Joint Western Snow Conference / Weather Modification Association Conference, 18 April 2017, Boise, Idaho.

84. Delene, D. J., Kurt Hibert, Jamie Ekness, Dennis Afseth, Ryan Richter, *World Class Platform for Weather Modification and Atmospheric Research*, Poster given at the 2017 Joint Western Snow Conference / Weather Modification Association Conference, 17 April 2017, Boise, Idaho.
85. Delene, D. J., P. R. Harasti, J. Schmidt, M. J. Anderson, *Clustering of Cloud Particles Observed with In-situ Probes*, Talk given at the 2017 Join Annual Japan Geophysical Union - American Geophysical Union Conference, 16 December 2016 at 10:50 at A52C Role of Cloud Physics in Understanding Links between Aerosols, Clouds, Radiation, and Precipitation II session in Moscone West 3006, San Francisco, California.
86. Gupta, Sidhant, Gregory McFarquhar, Michael Poellot, Joseph O'Brien, and David J. Delene, *Spatio-temporal variability in cloud microphysical properties over the South East Atlantic*ls
87. , Poster given at the 2016 American Geophysical Union Annual Conference, December 2016, San Francisco, California.
88. Delene, D. J., A. Korolev, M. Freer, J. Crosier, S. Gagne, A. Bansemer, C. Gurganus, and W. Wu, *Processing Package Summary (ADPAA, D2G, EGADS, OASIS, SAMAC, SODA, SPEC, UIOPS)*, Summary given at the European Facility for Airborne Research (EUFAR) International Conference on Clouds and Precipitation (ICCP) Workshop On Data Processing, Analysis and Presentation Software, 24 July 2016 in Manchester, United Kingdom.
89. Delene, D. J., *Airborne Data Processing and Analysis (ADPAA),* Talk given at the EUFAR ICCP Workshop On Data Processing, Analysis and Presentation Software, 23 July 2016 in Manchester, United Kingdom.
90. Delene, D. J., *In-situ Aircraft Observations for Atmospheric Research*, Invited Keynote Talk given at the International Workshop on Cloud Physics and Aerosol, 2 July 2016 in Daegu, South Korea.
91. Delene, D. J. and Nicholas Gapp, *Observations of Convective Storm Anvils in Florida*, Talk given at the 2016 Northern Plains Convective Storm Symposium, 3 May 2016 in Grand Forks, North Dakota.
92. Ekness, J. and D. J. Delene, *Precipitation in Eastern North Dakota during June and July 2008, 2010, and 2012*, Talk given at the 2016 Northern Plains Convective Storm Symposium, 3 May 2016 in Grand Forks, North Dakota.
93. Gapp, N., D. J. Delene and W. Seyler, *The Online Publishing Process of the Journal of Weather Modification*, Poster presented at the 2016 Annual Weather Modification Association Conference, 27 April 2016 in Long Beach, California.
94. Delene, D. J. and M. Shamrukh, *Investing in Rainfall Enhancement: An Innovative Plan for Arid Regions*, Poster given at the Qatar Foundation Annual Research Conference 2016, 22 March 2016 in Doha, Qatar. Available in the Qatar Foundation Annual Research Conference Proceedings: Vol 2016 1, EEPP1916, DOI: 10.5339/qfarc.2016.EEPP1916, 21 Mar 2016.
95. Ekness, J. and Delene, D. J., *Statistical Analysis of Aerosol, cloud Condensation Nuclei (CCN), Cloud Base Temperature and Pressure in Summer-Time North Dakota,* Poster presented at the American Association for Aerosol Research 34th Annual Conference, 15 October 2015 in Minneapolis Minnesota.
96. Hibert, K. and Delene, D. J., *Calibration Uncertainties in Cloud Condensation Nuclei Counters,* Poster presented at the American Association for Aerosol Research 34th Annual Conference, 15 October 2015 in Minneapolis Minnesota.
97. Cai, J., R. K. Mirza, Y. Zhang, D. J. Delene, and J. S. Tilley, Cai*Concept Design and Feasibility Studies for a Ka-band, UAS-based Cloud Sensing Radar,* Poster presented at the 37th Confrence on Radar Meteorology, 16 September 2015 in Norman, Oklahoma.
98. Fevig, R. and D. J. Delene, *Total Eclipse Aircraft Mission (TEAM),* Poster given at the 2015 Academic High Altitude Conference, 24 June 2015 in Chicago, Illinois.
99. Delene, D. J. and M. Poellot, *University of North Dakota Citation Research Aircraft,* Poster presented at the 2015 Annual Weather Modification Association Conference, 22 April 2015 in Fargo, North Dakota.
100. Gapp, N., Delene, D. J. and W. Seyler, *A Switch to Digital: The Transition of the Journal of Weather Modification to Online Publishing,* Poster presented at the 2015 Annual Weather Modification Association Conference, 22 April 2015 in Fargo, North Dakota.
101. Delene, D. J., N. Gapp, K. Hibert and D. Langerud, Analysis of In-situ Observations Made during the POLCAST Field Projects, Talk given at the 2015 Weather Modification Association Annual Conference, 22 April 2015 in Fargo, North Dakota (2:00 pm, Wednesday).
102. Delene, D. J., N. Gapp, K. Hibert and D. Langerud, *Suitability of Atmospheric Conditions in North Dakota for Conducting Effective Hygroscopic Cloud Seeding*, Talk given at the 95th American Meteorological Society Meeting, 20th Conference on Planned and Inadvertent Weather Modification Program, January 8, 2015 in Phoenix, Arizona.
103. Delene, D. J., *Near Real-time Review of Instrument Performance using the Airborne Data Processing and Analysis Software Package*, Poster given at the 2014 Annual American Geophysical Union Conference, December 18, 2014 in San francisco, California.
104. Jeong, H., R. Cochran, D. J. Delene, and A. Kubatova, *Variation in the Heterogeneous Chemistry of Particulate Matter during the Polarimetric Cloud Analysis and Seeding Test (POLCAST) 2012 Campaign in Grand Forks, North Dakota*, Poster (PP16-053) given at the 2014 International Aerosol Conference, August 31, 2014 in Busan, Korea.
105. Delene, D. J. and M. Starzec, *Cloud Base Cloud Condensation Nuclei Measurements in Summertime North Dakota*, Poster

given at the 14th Conference on Cloud Physics, July 9, 2014 in Boston, Massachusetts.

106. Delene, D. J., *Comparison between Research Aircraft and Balloon-borne Radiosonde Observations*, Poster given at the 2014 Academic High Altitude Conference, June 25, 2014 in Grand Forks, North Dakota.
107. Delene, D. J., M. Starzec, C. Troop, and D. Langerud, *Observations of In-situ Cloud Condensation Nuclei and Satellite Cloud Droplet Effective Radius during the POLCAST4 Field Project in North Dakota*, Talk given at the 2014 Annual Weather Modification Association Conference, April 23, 2014 (2:30 pm) in Reno, Nevada.
108. Burtch, D., G. L. Mullendore, D. J. Delene, and B. Storm, *Using Reanalysis Data for the Prediction of Seasonal Wind Turbine Power Losses Due to Icing*, Presentation at 2014 Annual American Geophysical Union Conference in San Francisco, California, December 2013.
109. Cochran, R., H. Jeong, D. J. Delene, and A. Kubatova, *Investigating Chemical Variation in Particulate Matter during the Polarimetric Cloud Analysis and Seeding Test (POLCAST) 2012 Campaign in Grand Forks, North Dakota*, Presentation given at the 32nd Annual American Association for Aerosol Research Conference, October 3, 2013 in Portland Oregon.
110. Delene, D. J., *The North Dakota Hydroscopic Seeding Research Project*, Invited presentation given at the 2013 Semi-annual Weather Modification Association Conference, September 25, 2013 in Santiago, Chile.
111. Delene, D. J., *Techniques to Enhance Rainfall: Theory, Application and Evaluation*, Invited presentation given at the 2013 Semi-annual Weather Modification Association Conference, September 25, 2013 in Santiago, Chile.
112. Starzec, M., G. Mullendore, D. J. Delene, P. A. Kucera, D. Langerud, *Objecti-based Verification of Regional WRF Simulations of Summertime Convection*, Poster given at the 2013 Weather and Research Forcasting Model Workshop in Boulder, Colorado on June 26, 2013.
113. Delene, D. J., N. Bart, and D. Langerud, *Analysis of Cloud Condensation Nuclei Measurements Conducted during the Polarimetric Cloud Analysis and Seeding Test Projects*, Talk given at the 2013 Annual Weather Modification Association Conference, April 11, 2013 in San Antonio, Texas.
114. Delene, D. J., P. Simelane, H. Ahlness, and D. Langerud, *Comparison of Pilot and Aircraft Integrated Meteorological Measurement System (AIMMS) Cloud Base Updrafts*, Talk given at the 2013 Annual Weather Modification Association Conference, April 10, 2013 in San Antonio, Texas.
115. Tilley, J. S. and D. J. Delene, *Relationships Between Cloud Liquid Water Content, Cloud Droplet Number Concentration, and Cloud Droplet Distribution for Summertime Convective Clouds in the Northern Plains*, Poster presented at the 93rd Annual American Meteorological Society Conference, January 9, 2013 in Austin, Texas.
116. Tilley, J. S., D. J. Delene, and P. A. Kucera, *Potential Influences of Aerosol Concentrations on Mode and Degree of Development in Mid-continental Convective Clouds during POLCAST4*, Talk given by Jeffrey Tilley at the 93rd Annual American Meteorological Society Conference, January 9, 2013 in Austin, Texas.
117. Kucera, P. A., C. Weeks, D. J. Delene, G. L. Mullendore, and D. Langerud, *Overview of the POLarimetric Cloud Analysis and Seeding Test (POLCAST) Field Program in Eastern North Dakota*, Talk given by Paul Kucera at the 93rd Annual American Meteorological Society Conference, January 9, 2013 in Austin, Texas.
118. Starzec, M., G. Mullendore, P. A. Kucera, D. J. Delene, and D. Langerud, *Effects of Increased Horizontal Resolution on Resolving Convection and Convective Initiation*, Talk given by Mariusz Starzec at the 93rd Annual American Meteorological Society Conference, January 8, 2013 in Austin, Texas.
119. Bart, N. and D. J. Delene, *North Dakota Aircraft and Surface CCN Measurements during the Summers of 2010 and 2012*, Poster presented at the 93rd Annual Conference of the American Meteorological Society, January 6, 2013 in Austin, Texas.
120. Robak, H., M. S. Gilmore, M. A. Askelson, C. Theisen, and D. J. Delene, *Hydrometeor Classifications of Snow using Polarimetric Radar and In Situ Observations*, Poster presented at the 93rd Annual American Meteorological Society Conference, January 6, 2013 in Austin, Texas.
121. Gilmore, M, L. Osborne, D. Delene, L. Munski, M. Askelson, C. Theisen, F. Rember, A. Kennedy, A. Neumann, J. Naylor, D. Koller, M. Clegg, Y. Shi, C. Amiot, H. Robak, and M. Coker, *Student Nowcasting and Observations with the DOW at UND: Education through Research*, Poster presented at the November 27, 2012 Radar Workshop in Boulder, Colorada.
122. Bart, N. and D. J. Delene, *Cloud Condensation Nuclei Comparisons from Surface and Aircraft Measurements in North Dakota*, Poster presented at the 31th Annual American Association for Aerosol Research Conference, October 9, 2012 in Minneapolis, Minnesota.
123. Delene, D. J., J. S. Tilley, C. Grainger, M. Starzec, G. Mullendore, and D. Langerud, *Airborne Measurements during the POLCAST Field Projects in North Dakota*, Talk given by David Delene at the 2012 Annual Weather Modification Association Conference, 25 April 2012, in Las Vegas, NV.
124. Tilley, Jeffrey S., D. J. Delene, M. Gilmore, J. Delhommelle, G. Mullendore, and M. Hoffmann, I*mproving Understanding of the Role of Anthropogenically-generated Sulfate in Convective Cloud and Precipitation Processes Using Observations and Multiscale Modeling*, Poster presented by Jeffery Tilley at 14th Conference on Mesoscale Processes, 1 August 2011, in Los Angeles, California.

125. Anderson, K. J., G. E. Halama, M. D. Ray, M. P. Nesnidal, R. Ide, M. Poellot and D. J. Delene, *Cloud Phase Discrimination Using the Optical Icing Conditions Detector: Wind Tunnel and Flight Test Results*, Paper present at SAE 2011 International Conference on Aircraft and Engine Icing and Ground Deicing, 13 June 2011, in Chicago, Illinios.
126. Southerland, K., D. J. Delene, G. Mullendore, M. Starzec, C. Grainger, P. Kucera, and D. Langerud, *Report on the Polarimetric Cloud Analysis and Seeding Test 3 (POLCAST3) Field Project*, Poster presented by Korey Southerland at the 2011 Annual American Meteorological Society Conference, 26 January 2011 in Seattle, Washington. [PDF]
127. Delene, D. J., J. S. Tilley. and T. Krauss, *Case study of the 9 April 2009 'brown' cloud: Observations and modeling of convection clouds in Saudi Arabia*, Poster presented by Jeffrey Tilley at the 2010 Annual Weather Modification Conference, April 22, 2010 in Santa Fe, New Mexico.
128. Kruse, C. J., D. J. Delene, and C. Grainger, *Evaluation of 3-dimensional winds measured by the Aircraft Integrated Meteorological Measurement System (AIMMS)*, Poster presented at the 2009 Annual American Geophysical Union Conference, December 14, 2009 in San Francisco, California.
129. Delene, D. J., *Case Study of the 9 April 2009 'brown' cloud: Observations of unusually high cloud droplet concentrations in Saudi Arabia*, Poster presented at the 2009 fall meeting of the American Geophysical Union, December 14, 2009 in San Francisco, California.
130. Delene, D. J. and G. Sever, *Leak Testing the DMT Cloud Condensation Nuclei Counter for Deployment on Pressurized Aircraft*, Talk presented at the Droplet Measurement Technology Cloud Condensation Nuclei Workshop, December 10, 2009 in Boulder, Colorado.
131. Delene, D. J. and K. Larson, *Sub-micrometer Aerosol Measurements from a Cabin Window Location on a King Air 200 Aircraft*, Poster presented at the 28th Annual American Association for Aerosol Research Conference, October 29, 2009 in Minneapolis, Minnesota.
132. Sever, G. and D. J. Delene, *Analysis of Airborne Cloud Condensation Nuclei, Condensation Nuclei, and Optical Aerosol Measurements Made During the Spring 2009 Saudi Arabia Field Project*, Poster presented at the 28th Annual American Association for Aerosol Research Conference, October 29, 2009 in Minneapolis, Minnesota.
133. Sever, G. and D. J. Delene, *Comparison of Two Cloud Condensation Nuclei Counters: An Analysis of Ground and Airborne Measurements*, Poster presented at the 28th Annual American Association for Aerosol Research Conference, October 29, 2009 in Minneapolis, Minnesota.
134. Oliver-Wedwick, A. and D. J. Delene, *Atmospheric Measurements of Hygroscopic Flare Aerosols*, Poster presented at the 28th Annual American Association for Aerosol Research Conference, October 29, 2009 in Minneapolis, Minnesota.
135. Keith, D. and D. J. Delene, *Comparison between MODIS, AERONET, and Aircraft based Passive Cavity Aerosol Spectrometer Probe Aerosol Optical Depth data over Mali, West Africa*, Poster presented at the 28th Annual Conference of the American Association for Aerosol Research, October 29, 2009 in Minneapolis, Minnesota.
136. Koller, D. R., J. S. Tilley, and D. J. Delene, *Investigation of Crop Harvesting as a Source of Climatically Important Aerosols*, Poster presented at the 2009 Weather Research and Forecasting Modeling Workshop, June 24, 2009 in Boulder, Colorado.
137. Delene, D. J., *Relationship between Cloud Base Aerosols and Cloud Droplet Concentrations Derived from Three Years of Airborne Measurements in West Africa*, Poster presented at the 2009 Joint Assembly of the American Geophysical Union Conference, May 25, 2009 in Toronto, Canada.
138. Sever, G. and D. J. Delene, *Comparison of Two Cloud Condensation Nuclei Counters: An Analysis of Ground-Based Measurements*, Poster presented at the 2009 Joint Assembly of the American Geophysical Union Conference, May 23, 2009 in Toronto, Canada.
139. Delene, D. J., Paul Kucera, Darin Langerud, Matt Ham, and Robert Mitchell, *Report on the Polarimetric Cloud Analysis and Seeding Test 2 (POLCAST2)*, Talk given at the 2009 Annual Weather Modification Association Conference, April 22, 2009 in Anaheim, California.
140. Delene, D. J., *Three Years of Airborne Measurements in Mali, West Africa*, Talk given at the 2009 Annual Weather Modification Association Conference, April 22, 2009 in Anaheim, California.
141. Delene, D. J., *Measurements of the Statistical Relationship between Cloud Base Aerosols and Cloud Droplet Concentrations*, Poster presented at the 2008 Annual American Geophysical Union Conference, December 18, 2008 in San Francisco, California.
142. Delene, D. J., *Saudi Arabia 2007/2008 Cloud Microphysics*, Talk given at the Saudi Arabia Science Team Project Review Meeting, September 22, 2008 in Boulder, Colorado.
143. Delene, D. J., *Evaluation of Mali, West Africa Airborne Measurements to Access the Potential of Enhancing Precipitation using Cloud Seeding Techniques*, Talk given at the Joint Weather Modification Association Annual Meeting & American Meteorological Society 17th Conference on Planned & Inadvertent Weather Modification, April 23, 2008 in Westminster, Colorado.
144. Murray J., L. Nguyen, T. Daniels, P. Minnis, P. Schaffner, M. Cagle, C. Wolff, M. Anderson, D. Mulally, K. Jensen, A.

Grainger, and D. Delene, *TAMDAR Icing Sensor Performance During the 2003/2004 AIRS II*, AIAA-2005-258, 43rd AIAA Aerospace Sciences Meeting and Exhibit, Reno, Nevada, Jan. 10-13, 2005.

145. Daniels T., J. Murray, M. Anderson, D. Mulally, K. Jensen, A. Grainger, and D. J. Delene, *TAMDAR Sensor Validation in 2003 AIRS II*, AIAA-2005-259, 43rd AIAA Aerospace Sciences Meeting and Exhibit, Reno, Nevada, Jan. 10-13, 2005.
146. Delene, D. J., X. Dong, Y. Chen, M. Poellot, and J. Penner, *Analysis of the aerosol-cloud interactions from aircraft, surface measurements, and cloud parcel model during the March 2000 IOP at the ARM SGP site*, Poster presented at the 13th Annual ARM Science Team Meeting, March 23, 2004 in Albuquerque, New Mexico.
147. Delene, D. J. and J. A. Ogren, *Variability of aerosol properties as determined by long-term surface observations*, Talk given at the 81st Annual American Meteorological Society Conference, January 18, 2001 in Albuquerque, New Mexico.
148. Delene, D. J. and J. A. Ogren, *Opportunities for the use of In-situ Aerosol Measurements with Chemical Transport Models and Satellite Climatologies*, Talk given at the GACP Third Science Team Meeting , October 12, 2000 in Lanharn-Seabrook, Maryland.
149. Snider, J. R., W. Cantrell, G. Shaw, and D. J. Delene, Cloud Condensation Nuclei Measurement Uncertainties: Implications for Climate Models, 15th International Conference on Nucleation and Atmospheric Aerosols, August 6-11, 2000 in Rolla, Missouri.
150. Delene, D. J. and P. J. Sheridan, and J. A. Ogren, *North American measurements of aerosol light absorption and single-scattering albedo* , Poster presented at the Climate Monitoring and Diagnostics Lab 2000 Annual Meeting, May 4, 2000 in Boulder, Colorado.
151. Delene, D. J. and J. A. Ogren, Variability of Aerosol Properties Among Surface Monitoring Stations, Poster presented at the 1999 Annual American Geophysical Union Conference, December 16, 1999 in San Francisco, California.
152. Delene, D. J. and J. A. Ogren, Long-term In-situ Aerosol Data Sets for Determining Uncertainties in Satellite Retrieval Algorithms, Talk given at the GACP Second Science Team Meeting , September 30, 1999 in New York City, New York
153. Delene, D. J., *Vertical Profiles of Cloud Condensation Nuclei above Laramie, Wyoming and Lauder, New Zealand*, Poster presented at the Climate Monitoring and Diagnostics Lab 1999 Annual Meeting, May 13, 1999 in Boulder, Colorado.
154. Sheridan, P., D. Delene, J. Ogren, In Situ Measurement of Aerosol Light Absorption and Single-Scattering Albedo at the NSA and SGP CART Sites, Poster presented at the Tenth ARM Science Team Meeting, March 15, 2000 in San Antonio, Texas.
155. Delene, D. J., *Vertical Profiles of Cloud Condensation Nuclei above Midlatitude Continental Sites*, Talk given at the 1998 Annual American Geophysical Union Conference, December 9, 1998 in San Francisco, California.
156. Delene, D. J., and T. Deshler, *Balloon-based measurements of cloud condensation nuclei at Laramie, Wyoming*, Poster presented at the 1996 Annual American Geophysical Union Conference December 16, 1996 in San Francisco, California.
157. Delene, D. J., and W. I. Rose, *Remote sensing of volcanic clouds using special sensor microwave imager data*, Poster presented at the 1995 Annual American Geophysical Union Conference, December 13, 1998 in San Francisco, California.

Regional

1. Delene, David, Jennifer Moore, Christian Nairy, and Marwa Majdi, Processing and Analysis of P-3 Aircraft Cloud Probe Data, Talk given at IMPACTS 2023 Science Team Meeting, 25 October 2023 at 2:00 pm.
2. Delene, David, Jennifer Moore, Christian Nairy, and Marwa Majdi, IMPACTS 2023 P-3 Aircraft Cloud Probe Data, Talk given at IMPACTS Data Workshop, 24 October 2023 at 11:00 am.
3. Nairy, Christian, David Delene, Andrew Detwiler, John Yorks, and Joseph Finlon, Chain Aggregate Particles in Upper-tropospheric Clouds During IMPACTS – 15 January 2023 Case Study, Poster Presented at IMPACTS Data Workshop, 24 October 2023.
4. Delene, David J., Jennifer Moore, Christian Nairy, and Michael Willette, IMPACTS 2022 Cloud Probes – Instruments, Presentation given (10:10 am MST) at the 2022 IMPACTS Science Team Meeting, 27 July 2022.
5. Delene, David J., Jennifer Moore, Christian Nairy, Nicholas Camp, and Marwa Majdi, IMPACTS 2022 Cloud Probes – Science, Presentation given (10:45 am MST) at the 2022 IMPACTS Science Team Meeting, 26 July 2022.
6. Delene, David J., Airborne Data Processing and Analysis (ADPAA), Presentation given (3:00 pm CST) at the Department of Atmospheric Sciences on 10 August 2022 for International visitors.
7. Hopp, Patricia, David Delene, and Michael Poellot, A Comparison of In-Situ Cloud Droplet Measurements during IMPACTS 2020, Poster given at the 2021 IMPACTS Science Team Meeting, 29 September 2021.
8. Delene, David J., Mike Poellot, Kendra Sand, Greg Sova, and Trece Hopp, IMPACTS 2020 Cloud Probes – Instruments, Presentation given at the 2021 IMPACTS Science Team Meeting, 29 September 2021.
9. Sova, Greg, Michael Poellot, and David Delene, Evaluation of the Performance of a Rosemount Icing Detector During

IMPACTS 2020, Poster given at the 2021 IMPACTS Science Team Meeting, 28 September 2021.

10. Delene, David J., Mike Poellot, Kendra Sand, Greg Sova, and Trece Hopp, IMPACTS 2020 Cloud Probes – Science, Presentation given at the 2021 IMPACTS Science Team Meeting (Picture), 28 September 2021.
11. Majdi, Marwa and David J. Delene, Visibility Nowcasting For UAS Operations using Deep Learning, Presentation given at the 3rd NOAA Workshop on Leveraging AL in Environmental Sciences, 13-17 September 2021.
12. Nespor, Brett, Haewoo Jeong, Richard Cochran, David Delene, Evguenii Kozilak, and Alena Kubatova, *Comprehensive Approach for Determination of Low and High Molecular Weight Carbonaceous Compounds in Air Particulate Matter Using Thermal Desorption – Pyrolysis Gas Chromatography Mass Spectrometry*, Poster on 17 April 2018) at the ND EPSCor Conference in Grand Forks, North Dakota.
13. Berg, Tyson, Brett Nespor, David Delene, Ales, Kubat, James, Moe, and Alena Kubatova, *Unmanned Aircraft as a Tool for Localized Sampling of Carbonaceous Particulate Matter*, Poster given at the 2017 Undergraduate Research in the Molecular Sciences Meeting, 21 March 2017 in Fargo, North Dakota.
14. Delene, D. J. and N. Gapp, *Observations of Convective Storm Anvils in Florida*, Talk given at the 2016 Northern Plains Convective Storm Symposium, 3 May 2016 in Grand Forks, North Dakota.
15. Ekness, J. and D. J. Delene, *Precipitation in Eastern North Dakota during June and July 2008, 2010, and 2012*, Talk given at the 2016 Northern Plains Convective Storm Symposium, 3 May 2016 in Grand Forks, North Dakota.
16. Delene, D. J., J. Tilley, M. Starzec, N. Bart, G. Mullendore, and C. Grainger, *Case Study of the 13 and 15 July 2010 Convective Systems using POLCAST3 Field Project Observations*, Talk given at the 2012 Northern Plains Convective Storms Symposium , May 4, 2012 in Grand Forks, North Dakota.
17. Delene, D. J., *Recommendations for Future Research in Riyadh, Saudi Arabia*, Talk given at the Presidency of Meteorology and Environment, April 7, 2010 in Riyadh, Saudi Arabia.
18. Delene, D. J., *Analysis and Processing of 3-dimensional Winds Measured by the Aircraft Integrated Meteorological Measurement System*, Talk given at the Presidency of Meteorology and Environment, April 6, 2010 in Riyadh, Saudi Arabia. [PDF, OpenOffice]
19. Delene, D. J., *Sub-micrometer Aerosol and Hygroscopic Flare Measurements from a Cabin Window Location on a King Air 200*, Talk given at the Presidency of Meteorology and Environment, April 6, 2010 in Riyadh, Saudi Arabia.
20. Delene, D. J., *9 April 2009 Case Study: Current Analysis*, Talk given at the Presidency of Meteorology and Environment, April 5, 2010 in Riyadh, Saudi Arabia.
21. Delene, D. J., *Cloud Properties and Precipitation Formation Processes Observed During Spring 2009 Field Project*, Talk given at the Presidency of Meteorology and Environment, April 5, 2010 in Riyadh, Saudi Arabia.
22. Delene, D. J., *Overview of the Spring 2009 Field Program and Summary of Key Results*, Talk given at the Presidency of Meteorology and Environment, April 4, 2010 in Riyadh, Saudi Arabia.
23. Delene, D. J., *Overview Of Measurements For Understanding Precipitation Enhancement*, Talk given to the Presidency of Meteorology and Environment, July 29, 2008 in Abha, Saudi Arabia.
24. Delene, D. J., *Cloud Liquid Water Measurements*, Talk given at the Presidency of Meteorology and Environment, March 25, 2008 in Riyadh, Saudi Arabia.
25. Delene, D. J., *FSSP Data Processing Comparison*, Talk given at the Presidency of Meteorology and Environment, March 9, 2008 in Riyadh, Saudi Arabia.
26. Delene, D. J., *Cloud Spectrum Measurements*, Talk given at the Presidency of Meteorology and Environment, February 3, 2008 in Riyadh, Saudi Arabia.
27. Delene, D. J., *Components of an Airborne Measurement Program*, Talk given at the Presidency of Meteorology and Environment, January 27, 2008 in Riyadh, Saudi Arabia.
28. Delene, D. J., *Mali 2006/2007 Airborne Measurements*, Talk given at the National Meteorological Service of Mali, September 26, 2007 in Bamako, Mali.

State/Local

1. Mendex, Alex and David Delene, Measured Atmospheric Change In Lead Particulate Matter From UL94 Fuel Switch by Major Aerospace College, Poster presentation given at the University of North Dakota Research Experience for Undergraduae Capstone at the Medical School Building from 9 am to 12 pm on Thursday 3 August 2023.
2. David Delene, Introduction to Weather Modification, Presentation given remotely to Katelyn Barber's Aviation Meteorology Class (MET390) at Oswego State University of New York on April 26, 2023.
3. David Delene, Research at the John D. Odegard School of Aerospace Sciences, Presentation given at University of North Dakota Proposal Writing Workshop on April 12, 2023.
4. Willette, Michael, David Delene, Marwa Majdi, Design Concept and Feasibility Analysis for Conducting Fog Abatement Using Unmanned Aircraft Vehicles, Poster Presentation at the 2023 University of North Dakota Graduate Research

Achievement Day on March 2, 2023.

5. Delene, David, FAST (Future Aerospace Strategic Thinking) Presentation, Aerospace Research Council, Presentation on Monday, February 27, 2023 at 1:45-2:45 meeting.
6. Delene, David J., Using CHORDS/Granafa to Archive/Display Real-time MetTrailer Observations, Presentation given at the ASGSA ScalAR Seminar Series, 9 November 2021 in Grand Forks.
7. Delene, David J., NASA IMPACTS Field Project: Introduction to Measurement Systems, Presentation given at the ASGSA ScalAR Seminar Series, 4 March 2022 in Grand Forks.
8. Twohey, Logan and David J Delene, Microphysical Observations in the Melting Layer of Precipitating Clouds, Poster given at the 2022 University of North Dakota Graduate Research Achievement Day on 3 March 2022.
9. Maitra, Sankha Subhra (Advisor David J. Delene), *Evaluation of the Alberta Hail Suppression Project Using Radar Observations*, Poster given at the 2020 University of North Dakota Graduate Research Achievement Day, 5 March 2020, Grand Forks, North Dakota.
10. Delene, David J., *CapeEx19 Field Project Citation Research Aircraft*, Talk given at the Naval Research Laboratory, 22 January 2020 in Monterey, California
11. Delene, David J., Shaping the Research Enterprises of the Odegard School: Strategies for Success, Talk given at the John D. Odegard School of Aerospace Sciences on 1 November 2019 in Grand Forks, North Dakota.
12. Lang, Victoria, Jessica Emond, David J. Delene, and Alena Kubatova, C*haracteristics of Carbonaceous Fractions in Atmospheric Particulate Matter for Grand Forks, North Dakota*, Poser given at the 2019 Interdisciplinary Renewable & Environmental Chemistry REU Meeting, 8 August 2019 in Grand Forks, North Dakota.
13. Delene, David J., *Nucleation of Water Droplets and Ice Particles in the Earth's Atmosphere*, Talk given at the Department of Chemistry Seminar Series on Friday, 05 Apr 2019, at 12:00-12:50 p.m. in Grand Forks, North Dakota.
14. Delene, David J., *Introduction to Werner Lubitz's Seminar Entitled Bacterial Ghost Platform Technology,* Talk given at the University of North Dakota's Department of Atmospheric Sciences Seminar Series on Thursday November 8, 2018 in Grand Forks, North Dakota.
15. Delene, David J., *CIP Image Data Examples*, Talk given at the CAPE2015 Technical Exchange and Planning Meeting on Wednesday August 22, 2018 in Monterey, California.
16. Delene, D. J., *CIP Image Data Examples*, Talk given at the CAPE2015 Technical Exchange and Planning Meeting on Wednesday August 22, 2018 in Monterey, California.
17. Delene, David J., *Aircraft Configuration & Ground Communication*, Talk given at the CAPE2015 Technical Exchange and Planning Meeting on Tuesday August 21, 2018 in Monterey, California.
18. Delene, David J., *Aircraft Data Processing and Issue*, Talk given at the CAPE2015 Technical Exchange and Planning Meeting on Tuesday August 21, 2018 in Monterey, California.
19. Hibarger, Julie, Rebecca Simmons, and David J. Delene, *DNA and Ice Nucleation Potential*, Poser given at the 2018 Interdisciplinary Renewable & Environmental Chemistry REU Meeting, 2 August 2018 in Grand Forks, North Dakota.
20. Garcia, Frida, David J. Delene, and Rebecca Simmons, *Analysis of E.coli Bacteria on Atmospheric Filters*, Poser given at the 2018 Interdisciplinary Renewable & Environmental Chemistry REU Meeting, 2 August 2018 in Grand Forks, North Dakota.
21. Bass, Shekinah, David J. Delene, Gretchen Mullendore, Andy Detwiler, and Mariusz Starzec, *Improving Accuracy of Weather Forecast Models*, Poster given at the 2018 Interdisciplinary Renewable & Environmental Chemistry REU Meeting, 2 August 2018 in Grand Forks, North Dakota.
22. Delene, D. J. and Bruce Boe, *Experimental Plan to Evaluated Cloud Seeding Materials using Cloud Chambers*, Talk given at the Pi Cloud Chamber AgI Flare Testing June 2018 Experiment Meeting on Monday June 18, 2018 in Houghton, Michigan.
23. Delene, D. J., *Understanding Clouds and Rain*, Public Meeting on Weather Modification at the North Central Research Extension Center on February 27, 2018 in Minot, North Dakota.
24. Otto, Alexa, Johannes Kassmannhuber, Werner Lubitz, and David Delene, *Size Distribution and CCN Activation Ratio of Bacteria Ghosts*, Poster (#S141) given at the University of North Dakota Fall 2018 UNDergraduate Showcase Poster in Grand Forks, North Dakota.
25. Jesus Bautista Cid, Kurt Hibert, and David Delene, *Investigating Diurnal Cycles in a Spectrum of Cloud Condensation Nuclei*, Presentation given at the 2017 Interdisciplinary Renewable & Environmental Chemistry REU Meeting, 10 August 2017 in Grand Forks, North Dakota.
26. Otto, Alexa, and David Delene, *Design and Testing of a Sampling System for the ICE Flare Testing Project*, Poster given at the 2017 University of North Dakota Undergraduate Research Day, May 11, 2017, Grand Forks, North Dakota.
27. Delene, D. J., *Remote Sensing: Flights, Theory, and Data*, Talk given at the 2017 KMA King Air 350 Instrument Training Workshop, 15 April 2017, Fargo, North Dakota.
28. Delene, D. J., *Air Quality: Flights, Theory, and Data*, Talk given at the 2017 KMA King Air 350 Instrument Training

Workshop, 14 April 2017, Fargo, North Dakota.

29. Delene, D. J., *Clouds: Flights, Theory, and Data*, Talk given at the 2017 KMA King Air 350 Instrument Training Workshop, 13 April 2017, Fargo, North Dakota.
30. Delene, D. J., *Aerosols: Flights, Theory, and Data*, Talk given at the 2017 KMA King Air 350 Instrument Training Workshop, 12 April 2017, Fargo, North Dakota.
31. Delene, D. J., *Data Processing, Analysis, and Visualization*, Talk given at the 2017 KMA King Air 350 Instrument Training Workshop, 12 April 2017, Fargo, North Dakota.
32. Sorenson, B. (Advisor D. J. Delene), Andrew Urvig, and Zoe Thompson, *Development of Digital Thermosonde Instrument for Quantification of Relative Cn2 Estimation Error between NWP Analysis and Thermosonde Measurements*, Poster given at the 2017 University of North Dakota Grad Day, 2 March 2017, Grand Forks, North Dakota.
33. Gapp, N. and Delene, D. J., *Radar and Aircraft Reflectivity Comparisions of Florida Thunderstorm Cirrus Clouds*, Poster given at the 2017 University of North Dakota Grad Day, 2 March 2017, Grand Forks, North Dakota.
34. Delene, D. J. and B. Boe, *Cloud Chamber Experiments to Determine Ice Production as a Function of Temperature*, Talk given at Michigan Technological Universit on 17 November 2016.
35. Delene, D. J., *Chamber Research to Enable New Weather Modification Products*, Talk given at the Center of Excellence & Research Excellence Commission Meeting in Fargo, North Dakota on September 28, 2016 (2:15 pm).
36. Delene, D. J. and N. Gapp, *Aircraft Observations of Florida Convective Storm Anvils*, Presentation given at New York University Adu Dhabi, 22 August 2016 in Adu Dhabi, UAE.
37. Hennessy, T., N. Larson, K. Hibert, D. J. Delene, and F. Bowman, *Air Quality Monitoring System*, Presentation given at the 2016 Interdisciplinary Renewable & Environmental Chemistry REU Meeting, 11 August 2016 in Grand Forks, North Dakota.
38. Delene, D. J., *Airborne Science using the North Dakota Citation Research Aircraft,* Invited talk given at the University of Minnesota - Morris, 20 November 2015 in Morris, Minnesota.
39. Delene, D. J., *CAPE2015 Field Project Citation Research Aircraft,* Talk given at the Navel Research Laboratory, 22 September 2015 in Monterey California.
40. Delene, D. J., *From Air Pollution to Climate Change: The Role of Particles in our Lives, Invited talk given at the Osher Lifelong Learning Institute Class*, 16 September 2015 in Grand Forks, North Dakoata.
41. Delene, D. J., *Data Management (Aircraft User Case),* Invited talk given at the 2015 Unidata Workshop, 25 June 2015 in Boulder, Colorado.
42. Delene, D. J., *Scientific Data Processing and Visulization Software Company*, Talk given at the COE Commision meeting in Fargo, North Dakota on November 21, 2014.
43. Delene, D. J., *Proof of Concept: Cloud Condensation Nucleus Counter for Unmanned Aircraft Systems*, Talk given at the COE Commission meeting in Fargo, North Dakota on June 3, 2014 (11:00 am).
44. Delene, D. J., *Instrument and Preliminary Observations from the University of North Dakota Citation Research Aircraft during the NASA IPHEx Project*, Talk given at the North Carolina A&T State University in Greensboro, North Carolina on May 29, 2014 (11:00 am).
45. Delene, D. J., *Measurements: Key to Scientific Progress*, Talk given at the STEM Cafe in Grand Forks, North Dakota on May 6, 2014 (7:00 pm).
46. Delene, D. J., *Relationship between Cloud Condensation Nuclei and Satellite Retrievals of Cloud Droplet Effective Radius*, Talk given at the North Dakota NASA EPSCoR Conference in Fargo, North Dakota on April 28, 2014 (11:00 am).
47. Starzec, M. (Faculty Sponsor - D. J. Delene), Cloud Condensation Nuclei Retrievals at Cloud Base in North Dakota, Presentation given at the 2014 Univesity of North Dakota Graduate School Form in Grand Forks, March 12, 2014 in North Dakota.
48. Troop, C. and D. J. Delene, MODIS Observed Droplet Effective Radius in Developing Cumulus Clouds over North Dakota in Summer 2012, Presentation given at the 2014 Univesity of North Dakota Graduate School Form, March 12, 2014 in Grand Forks, North Dakota.
49. Delene, D. J., Theory, Application and Evaluation of Rainfall Enhancement Techniques, Presentation given at the 2013 University of North Dakota Atmospheric Sciences Department Seminar Series, September 19, 2013 in Grand Forks, North Dakota.
50. Delene, D. J. and P. Simelane, University of North Dakota Facilities for Studying Convective Storms, Poster given at the 2013 Northern Plains Convective Storm Symposium, May 13, 2013 in Grand Forks, North Dakota.
51. Simelane, P., D. J. Delene, H. Ahlness and D. Langerud, Convective Cloud-base Updraft Measurements, Talk given at the 2013 Northern Plains Convective Storm Symposium, May 13, 2013 in Grand Forks, North Dakota.
52. Delene, D. J. and N. Bart, *Concentration of Cloud Condensation Nuclei Before and After Convective Storms*, Talk given at the 2013 Northern Plains Convective Storm Symposium, May 13, 2013 in Grand Forks, North Dakota.
53. Delene, D. J., *High Impact Atmospheric Research to Advance Scientific Understanding of Aerosol-Cloud-Precipitation*

Interaction, Talk given the University of North Dakota Atmospheric Science Department, April 3, 2013 in Grand Forks, North Dakota.

54. Delene, D. J., *Airborne Atmospheric Measurements*, Talk given at the University of North Dakota's Air Pollution High School Workshop, March 11, 2012 and March 12, 2012 in Grand Forks, North Dakota.
55. Robak, H., M. Gilmore, M. Askelson, C. Theisen, and D. J. Delene, *Hydrometeor Classification of Snow using a Fuzzy Logic Method*, Poster given at the University of North Dakota EPSCoR Conference, September 18, 2012 in Grand Forks, North Dakota.
56. Delene, D. J., *Airborne Atmospheric Measurements*, Talk given at the University of North Dakota's Air Pollution High School Workshop, March 12, 2012 and March 13, 2012 in Grand Forks, North Dakota.
57. Weber J., J. S. Tilley, D. J. Delene, and M. S. Gilmore, Relationships Between Cloud Liquid Water, Number Concentration and Cloud Droplet Distribution for Summertime Convective Clouds in the Northern Plains, Talk given by Justin Weber at UND Fall Undergraduate Research Forum, November 18, 2011 in Grand Forks, North Dakota.
58. Starzec, M., G. Mullendore, D. J. Delene, and P. Kucera, Accuracy of Locally Forecasted Precipitation as Determined by UND Radar, Poster presented by Mariusz Starzec at UND Fall Undergraduate Research Forum, November 18, 2011 in Grand Forks, North Dakota.
59. Bart, N. and D. J. Delene, The use of Geographical Information Systems to Interpret Research Aircraft Measurements, Poster presented by Nicole Bart at UND Fall Undergraduate Research Forum, November 18, 2011 in Grand Forks, North Dakota.
60. Weber, J., J. S. Tilley, D. J. Delene, M. S. Gilmore and K. N. Ngale, *Relationships between Cloud Liquid Water Content, Number Concentration and Cloud Drop Distribution for Mid-latitude Summertime Convective Clouds*, Poster presented at the ND-SD 2011 Joint EPSCoR Conference, October 4, 2011 in Fargo, North Dakota.
61. Delene, D. J., *Airborne Atmospheric Measurements*, Talk given at the University of North Dakota's Air Pollution High School Workshop, March 14, 2011 and March 15, 2011 in Grand Forks, North Dakota.
62. Tilley, J. S., D. J. Delene and T. Krauss, *Case Study of the 9 April 2009 'Brown cloud': Observations and Preliminary Modeling of Convective Clouds in Saudi Arabia*, Invited seminary presented by Jeffrey Tilley at the University of Alaska Fairbanks, July 28, 2010 in Fairbanks, Alaska.
63. Delene, D. J., *Case study of the 9 April 2009 'brown' cloud: Observations of Unusually High Cloud Droplet Concentrations in Saudi Arabia*, Talk given at the University of Wyoming's Department of Atmospheric Science Graduate Seminar Series, December 8, 2009 in Laramie, Wyoming.
64. Delene, D. J., *Importance of Quality Control and Quality Assurance of Airborne Measurements*, Talk given at the University of North Dakota's Department of Atmospheric Science Graduate Seminar Series, October 15, 2009 in Grand Forks, North Dakota.
65. Sever, G. and D. J. Delene, *A Triad for Cloud Condensation Nuclei Matter: To Measure or How to Measure*, Poster presented at the 2009 University of North Dakota's Scholarly Form, March 12, 2009 in Grand Forks, North Dakota.
66. Watkins, K. R. and D. J. Delene, *Analysis of Aerosol Size Spectrum measurements from North Dakota, Saudi Arabia, and Mali*, Poster presented at the 2009 University of North Dakota's Scholarly Form, March 12, 2009 in Grand Forks, North Dakota.
67. Delene, D. J., A. Neumann, K. Watkins, R. Mitchell, M. Ham, Angelle van Oploo, D. Keith, T. Logan, D. Adriaansen, G. Sever, Z. Feng, R. Johnson, and C. Kruse, *Atmosphere Sciences Instrumentation Lab*, Talk given at the University of North Dakota's Department of Atmospheric Science Graduate Seminar Series, November 20, 2008 in Grand Forks, North Dakota.
68. Delene, D. J., *Evaluation of Mali, West Africa Airborne Measurements to Access the Potential of Enhancing Precipitation using Hygroscopic Seeding*, Talk given at the University of North Dakota's Department of Atmospheric Science Graduate Seminar Series, October 18, 2007 in Grand Forks, North Dakota.
69. Delene, D. J., *Atmospheric Particle Concentration Measurements: Surface, Aircraft and Balloon Platforms*, Talk given at the University of North Dakota's Air Pollution High School Workshop, March 15, 2007 in Grand Forks, North Dakota.
70. Delene, D. J., *First Aircraft Measurements with a Fast Mobility Particle Sizer*, Talk given at the University of North Dakota's Department of Atmospheric Science Graduate Seminar Series, December 2, 2005 in Grand Forks, North Dakota.
71. Delene, D. J., *Aircraft Measurements of Cloud Liquid Water Content using the Forward Scattering Spectrometer Probe*, Talk given at the University of North Dakota's Department of Atmospheric Science Graduate Seminar Series, October 15, 2004 in Grand Forks, North Dakota.
72. Delene, D. J., Calibration of the University of North Dakota's Citation Aircraft Wind System, Talk given at the University of North Dakota's Department of Atmospheric Science Graduate Seminar Series, November 14, 2003 in Grand Forks, North Dakota.
73. Delene, D. J., *Variability of aerosol properties from long-term surface monitoring station data*, Talk given at the

University of North Dakota's Department of Atmospheric Science Graduate Seminar Series, September 20, 2002 in Grand Forks, North Dakota.

GRANTS AND CONTRACTS (List Does Not Include Preproposals)

Future Funding

Under Development Proposals

1. **Project Title:** INSPYRE Cloud Probes Research and Observations, **Supporting Agency:** National Aeronautics and Space Administration, **Principal Investigator:** David Delenes, **Investigator Support:** 3 Months per Year, **Project Dollar Value:** TBD, **Project Duration:** July 1, 2025 - June 30, 2030.

Under Review Proposals

1. **Project Title:** Research Infrastructure: MRI: Track 1 Acquisition of Pyrolysis-Gas Chromatograph with a High-Resolution Mass Spectrometer (Pyr-GC-HR-MS), **Supporting Agency:** National Science Foundation, **Principal Investigator** Alena Kubatova, **Investigator Support:** 2.0 months (Indirectly), **Project Dollar Value:** $804,139, **Project Duration:** July 1, 2025 - June 30, 2028.
2. **Project Title:** Aerosol Sensor NOAA SBIR 2024: University of North Dakota Support, **Supporting Agency:** NOAA SBIR, **Principal Investigator** Robert Kraus, **Investigator Support:** 1.0 months, **Project Dollar Value:** $50,000, **Project Duration:** January 1, 2025 - December 31, 2026.
3. **Project Title:** Markov-Chain Radiative Transfer Formalism for Investigating Cloud Microstructure with LIDAR, **Supporting Agency:** NASA, **Principal Investigator** Markus Allgaier, **Investigator Support:** 1.0 months, **Project Dollar Value:** $579,225, **Project Duration:** June 1, 2025 - May 30, 2028.
4. **Project Title:** Atmospheric Methane Observations and Analysis in Western North Dakota, **Supporting Agency:** Department of Energy EPA-MRP, **Principal Investigator** David Delene, **Investigator Support:** 3.33 months per year, **Project Dollar Value:** $714,703, **Project Duration:** January 1, 2025 - September 30, 2027.

Funded

Current Research Grants

1. **Project Title:** Improving North Dakota Thunderstorm Forecasting using Machine Learning Neural Network **Supporting Agency:** North Dakota Atmospheric Resource Board, **Principal Investigator:** Marwa Majdi, **Investigator Support:** 0.5 months, **Project Dollar Value:** $131,892, **Project Duration:** August 16, 2024 - June 30, 2025.
2. **Project Title:** Summer and Fall 2023 Saudi Arabia Field Project and Analysis **Supporting Agency:** Weather Modification International, **Principal Investigator:** David Delene, **Investigator Support:** 5.0 months, **Project Dollar Value:** $299,930, **Project Duration:** September 1, 2023 - June 30, 2025.
3. **Project Title:** Collaborative Research: Comparison between In-situ and Polarimetric Radar Hail Observations in Convective Storms, **Supporting Agency:** National Science Foundation, **Principal Investigator:** David Delene, **Investigator Support:** 1.0 months, **Project Dollar Value:** $277,610, **Project Duration:** August 1, 2022 - July 31, 2025.
4. **Project Title:** IMPACTS (Investigation of Microphysics & Precip for Atlantic Coast-Threatening Snowstorms), **Supporting Agency:** National Aeronautics and Space Administration, **Principal Investigator:** David Delene, **Investigator Support:** 2.0 months, **Project Dollar Value:** $612,627, **Project Duration:** January 1, 2019 - December 31, 2023.
5. **Project Title:** Interdisciplinary Renewable and Environmental Chemistry (IREC) REU, **Supporting Agency:** National Science Foundation, **Principal Investigator:** Guodong Du, **Co-Principal Investigator** Ji Yun and David Delene, **Investigator Support:** 0.5 months, **Project Dollar Value** $330,000, **Project Duration:** May 1, 2022 - April 30, 2025.

Previous Research Grants

1. **Project Title:** Interdisciplinary Renewable and Environmental Chemistry Research Experience for Undergraduates (REU), **Supporting Agency:** National Science Foundation, **Principal Investigator:** Frank Bowman, **Investigator Support:** 0.5 months, **Project Dollar Value:** $330,000, **Project Duration:** May 1, 2018 - Aril 30, 2023.
2. **Project Title:** Weather Balloon Flights in Support of NASA DCOTSS, **Supporting Agency:** National Aeronautics and Space Administration, **Principal Investigator:** Gretchen Ullendore, **Investigator Support:** 0.5 months, **Project Dollar Value:** $286,970, **Project Duration:** January 1, 2019 - December 31, 2023.

3. **Project Title:** Cape Experiment 2019 (CapeEx19 Year 2, **Supporting Agency:** United States Navy Surface Warfare Center Dahlgren Division, **Principal Investigator:** David Delene, **Investigator Support:** 3.0 months, **Project Dollar Value:** $137,000, **Project Duration:** May 1, 2021 - October 31, 2022.
4. **Project Title:** Comparison of Ground-Based and GOES-R Fog and Low Stratus Observations over North Dakota, **Supporting Agency:** North Dakota NASA EPSCoR, **Principal Investigator:** David Delene, **Investigator Support:** 0.0 months, **Project Dollar Value:** $22,500, **Project Duration:** January 15, 2022 - August 31, 2022
5. **Project Title:** RAPID: North Dakota Field Measurement Campaign to Improve Understanding of Fog Processes, **Supporting Agency:** National Science Foundation, **Principal Investigator:** David Delene, **Investigator Support:** 1.0 months, **Project Dollar Value:** $45,000, **Project Duration:** August 15, 2021 - July 31, 2022
6. **Project Title:** Cloud and Precipitation Experiment (CAPE) 2019, **Supporting Agency:** United States Navy Surface Warfare Center Dahlgren Division, **Principal Investigator:** David Delene, **Investigator Support:** 3.0 months, **Project Dollar Value:** $848,809, **Project Duration:** July 1, 2019 - April 30, 2021.
7. **Project Title:** Evaluation of the Alberta Weather Modification Project using Historical Radar Data, **Supporting Agency:** Weather Modification International, **Principal Investigator:** David Delene, **Investigator Support:** 1.0 months, **Project Dollar Value:** $80,342, **Project Duration:** May 16, 2019 - September 30, 2020.
8. **Project Title:** Improving Education using Open Hardware, Software, and Course Material in a Hands-on, Project-based Learning Environment, **Supporting Agency:** John D Odegard School of Aerospace Sciences Research Seed Grant Program, **Principal Investigator** David Delene and Marwa Majdi, **Investigator Support:** 0.0 months total, **Project Dollar Value:** $10,000, **Project Duration:** January 1, 2021 - December 31, 2021.
9. **Project Title:** Unmanned Aircraft System (UAS) Icing Protection System to Enable Supercooled Fog Flights, **Supporting Agency:** North Dakota Department of Commerce - Research ND, **Principal Investigator** David Delene, **Investigator Support:** 4.0 months total, **Project Dollar Value:** $200,000 ($400,000 with match), **Project Duration:** December 13, 2019 - June 30, 2021.
10. **Project Title:** Unmanned Aircraft System (UAS) Fog Dispersal Research, **Supporting Agency:** North Dakota Department of Commerce - Research ND, **Principal Investigator** David Delene, **Investigator Support:** 6.0 months total, **Project Dollar Value:** $300,000 ($600,000 with match), **Project Duration:** September 25, 2019 - June 30, 2021.
11. **Project Title:** New Engineered Organic Nuclei, **Supporting Agency:** North Dakota Department of Commerce - Research ND, **Principal Investigator** David Delene, **Investigator Support:** 2.0 months total, **Project Dollar Value:** $75,00 ($150,000 with match), **Project Duration:** September 25, 2019 - June 30, 2021.
12. **Project Title:** Coherent Backscattering of Cloud Particles, **Supporting Agency:** North Dakot Department of Commerce - Research ND, **Principal Investigator:** David Delene, **Investigator Support:** 3.0 months per year, **Project Dollar Value:** $600,000, **Project Duration:** July 1, 2016 - August 15, 2020.
13. **Project Title:** Proof of Concept of Drone (UAS) Sample Collection to Investigate Occurrence of Atmospheric Carbonaceous Particulate Matter, **Supporting Agency:** North Dakota Space Grant Consortium, **Principal Investigator:** Alena Kubatova, **Investigator Support:** 0.0 months, **Project Dollar Value:** $16,255, **Project Duration:** October, 2016 - October 2019.
14. **Project Title:** Evaluation of Commercially Produced Ice Nuclei, **Supporting Agency:** North Dakota Department of Commerce - Research ND, **Principal Investigator:** David Delene, **Investigator Support:** 1.0 months per year, **Project Dollar Value:** $223,540, **Project Duration:** October 1, 2016 - October 31, 2019.
15. **Project Title:** Development of Digital Thermosonde Instrument for Quantification of Relative Cn2 Estimation Error between NWP Analysis and Thermosonde Measurements **Supporting Agency:** NASA Undergraduate Student Instrument Project (USIP), **Principal Investigator:** James Casler, **Investigator Support:** 0.0 months, **Project Dollar Value:** $199,279, **Project Duration:** May 16, 2016 - August 15, 2019.
16. **Project Title:** Analysis of CAPE 2015 Data Set, **Supporting Agency:** United States Navy Surface Warfare Center Dahlgren Division, **Principal Investigator:** David Delene, **Investigator Support:** 5.0 months, **Project Dollar Value:** $75,000, Extension I - $50,000, Extension II - $50,000, Extension III - $50,000, **Project Duration:** May 28, 2016 - May 31, 2019 (Including Extensions).
17. **Project Title:** Interdisciplinary Renewable and Environmental Chemistry (IREC) REU, **Supporting Agency:** National Science Foundation, **Principal Investigator:** Alena Kubatova, **Co-Investigator:** Frank Bowman, David Delene, Gretchen Mullendore, Evguenii Kozliak, Will Gosnold, Yun Ji, Guodong Du, Wayne Seames, Sean Hightower, Gautham Krishnamoorthy, and La Vallie Audrey **Investigator Support:** 0.0 months, **Project Dollar Value** $270,000, **Project Duration:** June 1, 2015 - May 30, 2019.
18. **Project Title:** Precipitation Evaluation of the North Dakota Cloud Modification Project (NDCMP) using Rain Gauge and Radar Observations, **Supporting Agency:** North Dakota Atmospheric Resource Board, **Principal Investigator:** David Delene, **Investigator Support:** 0.45 months, **Project Dollar Value:** $31,352, **Project Duration:** September 1, 2018 - May 30, 2019.

19. **Project Title:** Scientific Support for Korea Research Aircraft **Supporting Agency:** Weather Modification International, **Principal Investigator:** David Delene, **Investigator Support:** 3.0 months, **Project Dollar Value:** $107,479, **Project Duration:** August 1, 2016 - December 31, 2018.
20. **Project Title:** Journal of Weather Modification Project 2015-17, **Supporting Agency:** Weather Modification Association, **Principal Investigator:** David Delene, **Investigator Support:** 0.0 months, **Project Dollar Value:** $18,712, **Project Duration:** January 1, 2015 - December 1, 2016.
21. **Project Title:** Ophir 2016 Flight Testing, **Supporting Agency:** Ophir Corporation **Principal Investigator:** David Delene, **Investigator Support:** 0.5 months per year, **Project Dollar Value:** $83,785, **Project Duration:** February 1, 2016 - June 30, 2016.
22. **Project Title:** Proof of Concept Cloud Condensation Nucleus Counter for Unmanned Aircraft Systems, **Supporting Agency:** North Dakota Department of Commerence, **Principal Investigator:** David Delene, **Investigator Support:** 2.0 months, **Project Dollar Value:** $99,739, **Project Duration:** June 1, 2014 - May 15, 2016.
23. **Project Title:** Analysis of Polarmetric Cloud Analysis and Seeding Test Measurements, **Supporting Agency:** North Dakota Atmospheric Research Board, **Principal Investigator:** David Delene, **Co-Principal Investigator:** Gretchen Mullendore, **Investigator Support:** 2.5 months, **Project Dollar Value:** $120,510, **Project Duration:** May 16, 2014 - May 15, 2016.
24. **Project Title:** UTC Fall 2015 Flight Testing, **Supporting Agency:** United Technologies Corporation - Aerospace Systems, **Principal Investigator:** David Delene, **Investigator Support:** 0.5 months, **Project Dollar Value:** $105,007, **Project Duration:** June 16, 2015 - December 15, 2015.
25. **Project Title:** Florida 2015 Airplane and Cloud Measurements, **Supporting Agency:** United States Navy Surface Warfare Center Dahlgren Division, **Principal Investigator:** David Delene, **Investigator Support:** 2.5 months, **Project Dollar Value:** $359.978, **Project Duration:** July 23, 2015 - September 30, 2015.
26. **Project Title:** UTC Fall 2014 Flight Testing, **Supporting Agency:** United Technologies Corporation - Aerospace Systems, **Principal Investigator:** David Delene, **Investigator Support:** 0.33 months, **Project Dollar Value:** $104,046, **Project Duration:** July 16, 2014 - December 15, 2014.
27. **Project Title:** Additional Instrument Deployment during Fall 2014 Flight Testing, **Supporting Agency:** United Technologies Corporation - Aerospace Systems, **Principal Investigator:Investigator Support:** 0.33 months, **Project Dollar Value:** $5,099, **Project Duration:** July 16, 2014 - December 15, 2014.
28. **Project Title:** Installation of Two Optical Sampling Windows, **Supporting Agency:** United Technologies Corporation - Aerospace Systems, **Principal Investigator:** David Delene, **Investigator Support:** 0.25 months, **Project Dollar Value:** $30,408, **Project Duration:** May 16, 2014 - November 15, 2015.
29. **Project Title:** Journal of Weather Modification Project 2014, **Supporting Agency:** Weather Modification Association, **Principal Investigator:** David Delene, **Investigator Support:** 0.0 months, **Project Dollar Value:** $8,033. **Project Duration:** April 28, 2014 - December 1, 2014.
30. **Project Title:** Relationship between Cloud Condensation Nuclei and Satellite Retrievals of Cloud Droplet Effective Radius in the North Dakota Region, **Supporting Agency:** North Dakota NASA EPSCoR **Principal Investigator:** David Delene, **Investigator Support:** 0.5 months per year, **Project Dollar Value:** $36,364, **Project Duration:** October 1, 2013 - August 31, 2014.
31. **Project Title:** Research Aircraft Support of IPHEX, **Supporting Agency:** NASA **University of North Dakota Principal Investigator:** Mike Poellot, **Investigator Support:** 1.75 months per year, **Project Dollar Value:** $657,139, **Project Duration:** July 1, 2013 - June 30, 2015.
32. **Project Title:** Ophir 2013 Flight Testing, **Supporting Agency:** Ophir Corporation **Principal Investigator:** David Delene, **Investigator Support:** 0.5 months per year, **Project Dollar Value:** $76,889, Ext #1 $9,177, Ext #2, $11,424, **Project Duration:** July 1, 2013 - April 30, 2014.
33. **Project Title:** Polarimetric Cloud Analysis & Seeing Test 4, **Supporting Agency:** North Dakota Atmospheric Research Board, **Principal Investigator:** David Delene, **Co-Principal Investigator:** Gretchen Mullendore and Jeffrey Tilley **Investigator Support:** 3.0 months, **Project Dollar Value:** $128,473, **Project Duration:** April 16, 2012 - May 31, 2014.
34. **Project Title:** Journal of Weather Modification Project - 2013 Project, **Supporting Agency:** Weather Modification Association, **Principal Investigator:** David Delene, **Investigator Support:** 0.25 months, **Project Dollar Value:** $7,901 **Project Duration:** January 1, 2013 - December 1, 2013.
35. **Project Title:** Installation of the Ophir Optical Air Data System on Citation, **Supporting Agency:** Ophir Corporation, **Principal Investigator:** David Delene, **Investigator Support:** 0.0 months, **Project Dollar Value:** $22,190, **Project Duration:** May 16, 2012 - December 31, 2013.
36. **Project Title:** Optical Icing Detector Flight Testing: Summer 2012, **Supporting Agency:** United Technologies Corporation - Aerospace Systems, **Principal Investigator:** David Delene, **Investigator Support:** 0.0 months, **Project Dollar Value:** $92,601, **Project Duration:** June 16, 2012 - November 30, 2013.

37. **Project Title:** Cloud Condensation Nuclei Resulting from Energy Production in the Upper Midwest, **Supporting Agency:** UND Energy Institute, **Principal Investigator:** David Delene, **Co-Principal Investigator:** Jeffrey Tilley and Alena Kubatova **Investigator Support:** 0.25 months, **Project Dollar Value:** $2,000, **Project Duration:** July 1, 2012 - December 31, 2012.
38. **Project Title:** Journal of Weather Modification Project, **Supporting Agency:** Weather Modification Association, **Principal Investigator:** David Delene, **Investigator Support:** 0.25 months, **Project Dollar Value:** $7,219 **Project Duration:** October 15, 2011 - November 1, 2012.
39. **Project Title:** Polarimetric Cloud Analysis & Seeing Test 3, **Supporting Agency:** North Dakota Atmospheric Research Board, **Principal Investigator:** David Delene, **Co-Principal Investigator:** Cedric (Tony) Grainger and Gretchen Mullendore **Investigator Support:** 3.0 months, **Project Dollar Value:** $129,634, **Project Duration:** May 1, 2010 - January 31, 2012.
40. **Project Title:** Saudi Arabia Atmospheric Research Spring 2009, **Supporting Agency:** Weather Modification Inc, **Principal Investigator:** David Delene, **Investigator Support:** 4.5 months, **Project Dollar Value:** $363,981; $9,290 extension I; $20,841 extension II, **Project Duration:** March 1, 2009 - August 31, 2012.
41. **Project Title:** Goodrich Optical Icing Detector Flight Testing 2011, **Supporting Agency:** Goodrich Sensor Systems **Principal Investigator:** David Delene, **Investigator Support:** 2.0 months, **Project Dollar Value:** $93,704, extension $93,704 , **Project Duration:** July 1, 2011 - December 31, 2011.
42. **Project Title:** Processing and Analysis of Airborne Data for Evaluation of the TAMDAR System, **Supporting Agency:** AirDat LLC, **Principal Investigator:** David Delene, **Investigator Support:** 0.5 months, **Project Dollar Value:** $6,754, **Project Duration:** November 15, 2010 - May 30, 2011.
43. **Project Title:** Goodrich Optical Icing Conditions Detector Flight Testing, **Supporting Agency:** Goodrich Sensor Systems **Principal Investigator:** David Delene, **Investigator Support:** 1.0 months, **Project Dollar Value:** $113,600; $10,000 extension, **Project Duration:** November 1, 2010 - December 31, 2010.
44. **Project Title:** Polarimetric Cloud Analysis & Seeing Test 2, **Supporting Agency:** North Dakota Atmospheric Research Board, **Principal Investigator:** David Delene, **Co-Principal Investigator:** Cedric (Tony) Grainger **Investigator Support:** 1.0 months, **Project Dollar Value:** $51,539, **Project Duration:** April 15, 2008 - December 31, 2009.
45. **Project Title:** Weather Modification Research in Mali - 2008 Field Project, **Supporting Agency:** National Center for Atmospheric, **Principal Investigator:** David Delene, **Investigator Support:** 4.5 months, **Project Dollar Value:** $120,905, **Project Duration:** July 15, 2008 - July 14, 2009.
46. **Project Title:** Summer 2008 Saudi Arabia Field Project, **Supporting Agency:** National Center for Atmospheric Research, **Principal Investigator:** David Delene, **Co-Principal Investigator:** Cedric (Tony) Grainger **Investigator Support:** 2.5 months, **Project Dollar Value:** $92,989, **Project Duration:** June 24, 2008 - December 31, 2008.
47. **Project Title:** 2007/2008 Saudi Arabia Field Project, **Supporting Agency:** National Center for Atmospheric Research, **Principal Investigator:** David Delene, **Investigator Support:** 6.5 months, **Project Dollar Value:** $193,371, **Project Duration:** November 1, 2007 - December 31, 2008.
48. **Project Title:** 2007 Burkina Faso Training Program, **Supporting Agency:** National Center for Atmospheric Research, **Principal Investigator:** David Delene, **Investigator Support:** 0.5 months, **Project Dollar Value:** $10,820, **Project Duration:** October 1, 2007 - March 31, 2008.
49. **Project Title:** Weather Modification Research in Mali, Africa, **Supporting Agency:** National Center for Atmospheric Research, **Principal Investigator:** David Delene, **Investigator Support:** 4.0 months, **Project Dollar Value:** $108,684, **Project Duration:** July 1, 2007 - June 30, 2008.
50. **Project Title:** Validation of ground-and satellite-based cloud retrievals using UND's in situ aircraft measurements, **Supporting Agency:** North Dakota NASA EPSCoR, **Principal Investigator:** Xiquan Dong, **Investigator Support:** 1.0 months, **Project Dollar Value:** $24,551, **Project Duration:** January 1, 2004 - July 15, 2004.
51. **Project Title:** Sikorsky Aircraft Icing Certification, **Supporting Agency:** Sikorsky Aircraft Corporation, **Principal Investigator:** Michael Poellot, **Investigator Support:** 1.0 months, **Project Duration:** March 2004 - July 2004.
52. **Project Title:** Determination of Mercury in a Power Plant Plume, **Supporting Agency:** Department of Energy, **Principal Investigator:** Dennis Laudal, **Investigator Support:** 1.5 months, **Project Dollar Value:** $389,284, **Project Duration:** September 2002 - September 2004.

Submitted but Not Funded (Does Not Include Submitted Pre-proposals)

1. **Project Title:** Sustainable Software for Processing Airborne Data to Support the Workflow of Atmospheric Science Researchers, **Supporting Agency:** National Aeronautics & Space Administration, **Principal Investigator** David Delene, **Investigator Support:** 3.0 months per year, **Project Dollar Value:** $576,429, **Project Duration:** May 16, 2021 - May 15, 2024.

2. **Project Title:** Mid-scale RI-1 (M1:DP): Design Study for a Storm-penetrating Research Aircraft Facility, **Supporting Agency:** South Dakota School of Mines & Technology, **Principal Investigator** David Delene, **Investigator Support:** 2.0 months per year, **Project Dollar Value:** $446,911, **Project Duration:** October 1, 2021 - September 30, 2023.
3. **Project Title:** Novel Characterization of the Liquid Layer Associated with Ice Crystal Aggregates Found in Cirrus Clouds, **Supporting Agency:** Air Force Office of Scientific Research, **Principal Investigator** Hallie Chelmo, **Investigator Support:** 1.5 months per year, **Project Dollar Value:** $559.965, **Project Duration:** September 1, 2021 - August 31, 2024.
4. **Project Title:** Improved Fog Forecast for Aviation Operations involving Unmanned Aircraft Systems (UAS), **Supporting Agency:** Department of Transportation FAA Aviation Research and Development Grants (FAA-12-01) **Principal Investigator:** Marwa Majdi, **Investigator Support:** 3.0 months per year, **Project Dollar Value:** $795,582, **Project Duration:** January 1, 2021 - December 31, 2023.
5. **Project Title:** Airborne Measurements Support for L3COM 2016 Natural Icing Project, **Supporting Agency:** L3 Communication Inc., **Principal Investigator** David Delene, **Investigator Support:** 3.0 months per year, **Project Dollar Value:** $738,716, **Project Duration:** September 1, 2020 - June 30, 2021.
6. **Project Title:** Arctic Investigation Modeling Processes of Aerosols, Clouds, and Transport (IMPACT), **Supporting Agency:** NASA, **UND Principal Investigator** Michael Poellot, **Co-Investigator** David Delene, **Investigator Support:** N/A, **Project Dollar Value:** $630,783, **Project Duration:** October 1, 2018 - September 30, 2023.
7. **Project Title:** Relationship between Cloud Condensation Nuclei Concentration and Convective Cold Pool Development, **Supporting Agency:** NASA, **Principal Investigator:** David Delene, **Investigator Support:** 0.0 months per year, **Project Dollar Value:** $50,000, **Project Duration:** May 16, 2018 - May 15, 2019.
8. **Project Title:** Towards Antonymous Plume Mapping using Unmanned Aircraft Systems and Continuously Point Location Measurements, **Supporting Agency:** University of North Dakota Seed Money, **Principal Investigator:** David Delene, **Co-Investigator:** Chris Theisen, Alena Kubatova, and Frank Bowman **Investigator Support:** 0.0 months per year, **Project Dollar Value:** $10,000, **Project Duration:** May 16, 2018 - May 15, 2019.
9. **Project Title:** Transformative Research on the Aerosol-Cloud Effect for Rain Study (TRACERS), **Supporting Agency:** National Center for Meteorology and Seismology, United Arab Emirates, **Principal Investigator:** David Delene, **Co-Investigator:** Frank Bowman, Jeffrey Tilley, Bruce Boe, and Marouane Temimi ,**Investigator Support:** 5.0 months, **Project Dollar Value:** $1,500,000, **Project Duration:** May 1, 2018 - April 30, 2021.
10. **Project Title:** New Approaches in Rainfall Enhancement Science For Arid Regions, **Supporting Agency:** National Center for Meteorology and Seismology, United Arab Emirates, **Principal Investigator:** David Delene, **Co-Investigator:** Gretchen Mullendore, Frank Bowman and Bruce Boe, **Investigator Support:** 6.0 months, **Project Dollar Value:** $1,500,000, **Project Duration:** May 1, 2016 - April 30, 2019.
11. **Project Title:** Scientific Data Processing and Visualization Software Company, **Supporting Agency:** North Dakota Department of Commerence, **Principal Investigator:** David Delene, **Investigator Support:** 3.0 months, **Project Dollar Value:** $99,999, **Project Duration:** October 1, 2014 - December 31, 2015.
12. **Project Title:** UTC 2014 Flight Testing, **Supporting Agency:** UTC Aerospace Systems, **Principal Investigator:** David Delene, **Investigator Support:** 3.0 months, **Project Dollar Value:** $109,145, **Project Duration:** July 16, 2014 - December 15, 2015.
13. **Project Title:** Cloud Analysis and Seeding Test 5: 2014 Field Season, **Supporting Agency:** North Dakota Atmospheric Research Board, **Principal Investigator:** David Delene, **Co-Principal Investigator:** Gretchen Mullendore, **Investigator Support:** 3.0 months, **Project Dollar Value:** $153,230, **Project Duration:** April 1, 2014 - May 15, 2016
14. **Project Title:** Journal of Weather Modification Project - 2014, **Supporting Agency:** Weather Modification Association, **Principal Investigator:** David Delene, **Investigator Support:** 0.0 months, **Project Dollar Value:** $6,987. **Project Duration:** January 1, 2014 - December 31, 2014.
15. **Project Title:** Installation of Optical Head Support Boom, **Supporting Agency:** UTC Aerospace Systems, **Principal Investigator:** David Delene, **Investigator Support:** 0.25 months, **Project Dollar Value:** $40,053, **Project Duration:** February 1, 2014 - November 30, 2014.
16. **Project Title:** Impact of Aerosols on Forecast Skills for Accumulated Precipitation and Resolved Convective Cycle, **Supporting Agency:** DOE/Office of Science Program Office, **University of North Dakota Principal Investigator:** Gretchen Mullendore, **Investigator Support:** 5.0, **Project Dollar Value:** ~$750,000, **Project Duration:** January 1, 2014 - December 31, 2016.
17. **Project Title:** A Multi-Regime Observational and Modeling Study of Relationships Between Aerosols, Ice Nuclei, and Resulting Hydrometeor Distributions in Mixed Phase Stratiform and Convective Clouds, **Supporting Agency:** DOE/Office of Science Program Office, **University of North Dakota Principal Investigator:** David Delene, **Investigator Support:** 6.75, **Project Dollar Value:** $263,112, **Project Duration:** January 1, 2014 - December 31, 2016.
18. **Project Title:** Major Research Instrumentation: Acquisition of an Aerosol Mass Spectrometer, **Supporting Agency:**

National Science Foundation, **Principal Investigator:** Frank Bowman, **Co-Principal Investigator:** David Delene, Alena Kubatove, Steve Benson, Wayne Seames, **Investigator Support:** 0.0 months per year, **Project Dollar Value:** $717,478, **Project Duration:** September 1, 2013 - August 31, 2016.

19. **Project Title:** Collaborative Research: NORCIS - Northern Plains Convective Initiation Study, **Supporting Agency:** National Science Foundation, **University of North Dakota Principal Investigator:** David Delene, **University of North Dakota Co-Principal Investigator:** Leon Osborne and William Semke, **University of North Dakota Co-Investigator:** John Nordlie, **Investigator Support:** 4.0 months per year, **Project Dollar Value:** $1,327,333, **Project Duration:** June 1, 2013 - May 31, 2016.
20. **Proposal Title:** Physical Science and Public Policy Impact of the Indirect Climate Effects of Organic Aerosols, **Funding Agency:** Seed/Planning Grant for Collaborative Research solicitation from the Vice President for Research & Economic Development office at University of North Dakota, **Proposal Submitted:** December 3, 2012, **Proposed Project Period:** January, 2013 to December 31, 2013, **Total Funds Requested:** $75,000, **Principal Investigator:** David Delene, Alena Kubatova, Frank Bowman, and Bo Wood
21. **Proposal Title:** Laser Air Data Sensor 2012 Flight Testing, **Funding Agency:** UTC Aerospace Systems, **Proposal Submitted:** October 5, 2012, **Proposed Project Period:** October 16, 2012 to November 30, 2012, **Total Funds Requested:** $48,538, **Principal Investigator:** David Delene
22. **Proposal Title:** Discovering the Importance of Chemical Processes on Aerosol-Cloud-Climate Interactions: An integrative observational and modeling synthesis, **Funding Agency:** NSF EPSCoR, **Proposal Submitted:** March 1, 2012, **Proposed Project Period:** July 1, 2013 to June 30, 2018, **Total Funds Requested:** $6,000,000, **Investigator:** Bowman, F. et al.
23. **Proposal Title:** On the Establishment of a High-Performance Computing Research Center to Facilitate Multi-scale, Multi-disclipinary Collaborative Research on Cloud Processes and Their Key Role in the Earth Climate System, **Funding Agency:** Infrastructure Proposal to NIST, **Proposal Submitted:** March 22, 2011, **Proposed Project Period:** October 1, 2011 to September 30, 2014, **Total Funds Requested:** $9,993,000, **Investigator:** Tilley, J. S. et al.
24. **Proposal Title:** Harvesting as a of Source Climatically Important Aerosols, **Funding Agency:** National Aeronautics and Space Administration, **Proposal Submitted:** March 22, 2011, **Proposed Project Period:** October 1, 2011 to September 30, 2013, **Total Funds Requested:** $2,120,552, **Principal Investigator:** David Delene, **Co-Principal Investigators:** Jeffrey S. Tilley, Alena Kubatova, and William Semke, **Co-Investigators:** John Nordlie
25. **Proposal Title:** Airborne Research for Phase 2 of the India Cloud Aerosol Interaction and Precipitation Enhancement Experiment, **Funding Agency:** Indian Institute of Tropical Meteorology **Proposal Submitted:** December 23, 2009, **Proposed Project Period:** January 1, 2010 - December 31, 2010, **Total Funds Requested:** $748,753, **Principal Investigator:** David Delene, **Co-Principal Investigators:** Jeff Tilley, Michael Poellot, Cedric Grainger
26. **Proposal Title:** Burkina Faso Weather Modification Training, **Funding Agency:** Programme SAAGA, Government of Burkina Faso **Proposal Submitted:** July 15, 2008, **Proposed Project Period:** October 1, 2008 to September 30, 2011, **Total Funds Requested:** $150,818, **Principal Investigator:** David Delene
27. **Proposal Title:** Investigation of Crop Harvesting as a Source of Climatically Important Aerosols, **Funding Agency:** National Science Foundation (Physical and Dynamic Meteorology), **Proposal Submitted:** July 21, 2006, **Proposed Project Period:** January 1, 2007 to December 31, 2009, **Total Funds Requested:** $395,952, **Principal Investigator:** David Delene, **Co-Principal Investigators:** Alena Kubatova, **Co-Principal Investigators:** Santhosh Seelan
28. **Proposal Title:** Development of an Acoustic Cloud Condensation Nuclei Counter, **Funding Agency:** NSF, **Proposal Submitted:** January 20, 2005, **Proposed Project Period:** August 1, 2006 to July 31, 2009, **Total Funds Requested:** $372,381, **Principal Investigator:** Marcellin Zahui, **Co-Principal Investigators:** David Delene.
29. **Proposal Title:** Development of an Acoustic Cloud Condensation Nuclei Counter, **Funding Agency:** NASA, Instrument Incubator Program **Proposal Submitted:** November 2, 2004, **Proposed Project Period:** June 1, 2005 to May 31, 2008, **Total Funds Requested:** 424,173, **Principal Investigator:** Marcellin Zahui, **Co-Principal Investigators:** David Delene.
30. **Proposal Title:** Toward Closure between Cloud Condensation Nuclei, Updraft Velocity, and Cloud Droplets Measurements, **Funding Agency:** Department of Energy Atmospheric Science Program, **Proposal Submitted:** June 18, 2004, **Proposed Project Period:** November 1, 2004 to October 31, 2007, **Total Funds Requested:** 230,968, **Principal Investigator:** David Delene, **Co-Principal Investigators:** None.
31. **Proposal Title:** Development of a Small Aircraft Cloud Condensation Nuclei Counter, **Funding Agency:** NOAA Office of Global Programs, **Proposal Submitted:** July 31, 2003, **Proposed Project Period:** FY 2004 - FY 2007, **Total Funds Requested:** 299,371, **Principal Investigator:** David Delene, **Co-Principal Investigators:** David Heckmann and Grant Dunham.
32. **Proposal Title:** Five years of Stratus cloud properties and aerosol size distributions from the Department of Energy's Atmospheric Radiation Measurement Program Southern Great Plains Cloud and Radiation Testbed site, **Funding**

Agency: NSF Physical Meteorology, **Proposal Submitted:** June, 2003, **Proposed Project Period:** January 1, 2004 to December 31, 2006, **Total Funds Requested:** ~450,000, **Principal Investigator:** Xiquan Dong, **Co-Principal Investigators:** David Delene and Mark Askelson.

PROFESSIONAL EDUCATIONAL/CONSULTANT/BUSINESS ACTIVITIES

Supported by External Grants to the University

1. Conducted an airborne measurements training program for Burkina Faso personnel in Fargo, North Dakota (March 5-9, 2012).
2. Conducted an airborne measurements training program for Morocco personnel in Fargo, North Dakota (December 13-17, 2010).
3. Conducted an airborne measurements, TITAN radar software and atmospheric modeling training program for personnel visiting from Saudi Arabia (June 21-July 16, 2010).
4. Conducted an instrumentation training program in Burkina Faso (October 1-14, 2007).

Unfunded (Pro Bono) Consultant Service Activities

1. **Description:** Instrument Review Panel Member (Optical Air Data System - November 19, 2015 Manassas, VA), **Organization:** UTC Aerospace Systems, **Type:** Scientific, **Collaborator:** Mark Miller, **Duration:** 2015/11-2016/08.
2. **Description:** Instrumentation Consultant, **Organization:** Weaither Modification International (Previously Weather Modificiation Inc.), **Type:** Scientific, **Collaborator:** Dennis Afseth, **Duration:** 2007/07-Present.
3. **Description:** Aircraft Instrumentation Consultant, **Organization:** Panasonic Weather Solution (Previously AirDat LLC), **Type:** Scientific, **Collaborator:** Daniel Mulally, **Duration:** 2001/08-Present.

Buisness Activities

1. Open Science Associates LLC: Founder and President (2014-Present). Only scientific proposals are included in this curriculum vitae.

CURRENT RESEARCH COLLABORATIONS (Investigators; Institution; Keywords)

International Off-Campus Collaborators

- Emma Jarvinen, University of Wuppertal, Papers and Proposals
- Ismail Gultepe: Ontario Tech University, Papers and Proposals
- Martin Schnaiter: Karlsruher Institut fur Technologies (Germany), PHIPS Probe, Papers, and Proposals
- Renata Raina: University of Regina (Canada); Pesticide Measurements
- Werner Lubitz: Johannes Kassmannhuber, and Mascha Rauscher: Bird-C (Austria); Bacterial Ice Nuclei

National (United States) Off-Campus Collaborators

- Bruce Boe, Alex Sailsbury, Kurt Hibert, and Dennis Afseth: Weather Modification International; Airborne Measurement, Weather Modification
- Jerome Schmidty, Jason Nachamkin, Paul Harasti, Mark J Anderson and Joshua Hoover: U.S. Navy (NRL); CAPE2015 Project, Cirrus Cloud Anvil.
- Jeffrey Tilley: Tilley Weather Associates; UAE Proposal
- Karin Ardon-Dryer: Texas Tech University; Atmospheric Bateria Research
- Max Caldwell and Phil Acott: Ophir Corporation; Airborne Instrumentation Development
- Mark Ray, Kaare Anderson, and Mark Anderson: UTC Aerospace Systems; Airborne Instrumentation Development
- Jerome Schmidty, Jason Nachamkin, Paul Harasti, Mark J Anderson and Joshua Hoover: U.S. Navy (NRL); CAPE2015 Project, Cirrus Cloud Anvil.

On-Campus (University of North Dakota) Collaborators

- Alena Kubatova and Guodong Du: Chemistry Department; REU Project, Air Pollution Workshop.
- Brandon Lewis and Chris Theisen: Northern Plains UAS Test Site, Fog Research

- Frank Bowman: Chemical Engineering Department; REU Project, Aerosol Chamber, UAE Weather Modification Research.
- Glenda Lindseth: Nursing; MARC Program
- Hallie Chelmo: Mechical Engineering, Laboratory Ice Particle Measurements
- Markus Allgaier: Physics and Astrophysics, Lidar Measurements and Analysis
- Naima Kaabouch: School of Electrical Engineering & Computer Science; Balloon Measurements, MARC Program
- Rebecca Simmons: Biology Department; NSF REU Project, Bacterial DNA Analysis
- Ron Fevig and James Casler: Space Studies Department; Balloon Measurements.

HONORS

- University of North Dakota's Student Chapter of the American Meteorology Society 'Golden Remer' Award (April 2018).
- University of North Dakota's 'Spirit Faculty Achievement' Award (May 7, 2014).
- University of North Dakota's Student Chapter of the American Meteorology Society 'Golden Remer' Award (April 2013).
- University of North Dakota's Student Chapter of the American Meteorology Society 'Golden Remer' Award (April 2007).
- Member of the National Physics Honor Society, Sigma Pi Sigma.
- MTU chapter president of the Society of Physics Students, 1992-1993 school year.
