

DAVID J. DELENE

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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

August 2019 - Present
Research Professor in the Department of Atmospheric Sciences, University of North Dakota, Grand Forks, ND.
I am working with a team of research 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.
I am 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 "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-physics instruments (cloud scattering probes, cloud imaging probes, hot wire instruments, and cloud imaging probes).
 - Familiarity with aerosol instruments (condensation nuclei 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 satellite data (GOES, MODIS, AVHRR, SSMI, and SAGE II) and in using image processing software (EDRAS, Terrascan, and ENVI).
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COURSES AND TEACHING

Courses Taught

- 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 Projects (ATSC 492) - Chair

1. Harrison P. Rademacher, Spring 2019

2. Kyle Pederson, Spring 2019
3. Alexa Otto, Spring 2019
4. Lance Wilson, Spring 2018
5. Courtney Steimann, Spring 2018
6. Blake Sorenson - Spring 2018
7. Nicholas Gapp - Spring 2016
8. Cody Troop - Spring 2014
9. Timm Uhlmann - Spring 2014
10. Nicole Bart - Fall 2012
11. Chris Kruse - Spring 2011
12. Dan Koller - Spring 2009
13. Matt Ham - Spring 2009
14. Peter Johnson - Spring 2009
15. Robert Mitchell - Spring 2009

Senior Capstone Projects (ATSC 492) - Committee Member

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

Internship (ATSC 497)

1. Noah Cocos - Summer 2016
2. Nicholas Gapp - Fall 2015
3. Marc Provencher - Fall 2013
4. Phondie Simelane - Fall 2012
5. Chris Kruse - Summer 2010

Summer Advised Students (Not Directly Employed by Research Grants)

1. Harrison Rademacher - Fall 2018- Spring 2019, MARC U-STAR Program, National Institute of General Medical Sciences (NIGMS), National Institutes of Health (NIH)
2. Julie Hibarger - Summer 2018, Research Experience for Undergraduate Student (Pasadena City College), National Science Foundation REU Program
3. Shekinah Bass - Summer 2018, Research Experience for Undergraduate Student (Winston Salem State University), National Science Foundation REU Program
4. Alexa Otto - Fall 2017- Spring 2019, MARC U-STAR Program, National Institute of General Medical Sciences (NIGMS), National Institutes of Health (NIH)
5. Frida Garcia - Summer 2018, Research Experience for Undergraduate Student (Mayville State University), National Science Foundation REU Program
6. Jesus Bautista Cide - Summer 2017, Research Experience for Undergraduate Student (Eastern Michigan University), National Science Foundation REU Program
7. 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. Sankha Subhra Maitra, UND Atmospheric Sciences Master Student
2. Shawn Wagner: UND Atmospheric Sciences Master Student
3. Matt Tuftedal: UND Atmospheric Sciences Master Student (Signed Thesis 07/2019)
4. Nicholas Gapp: UND Atmospheric Sciences Master Student (Signed Thesis 07/2019)
5. Jamie Ekness: UND Atmospheric Sciences Master Student (Signed Thesis 12/2017)
6. Kurt Hibert: UND Atmospheric Sciences Master Student (Signed Thesis 07/2017)

7. David Keith: UND Atmospheric Sciences Master Student (Signed Thesis 05/2013)
8. Gokhan Sever: UND Atmospheric Sciences Master Student (Signed Thesis 12/2010)

Master Thesis Committee Member (Advisees)

1. Samantha Carr: UND Atmospheric Sciences Master Student (Signed Thesis 07/2018)
2. Joseph R O'Brien: UND Atmospheric Sciences Master Student (Signed Thesis 07/2016)
3. Lawrence Burkett: UND Geography Master Student (Signed Thesis 07/2015)
4. Kendell LaRoche: UND Atmospheric Sciences Master Student (Signed Thesis 07/2015)
5. Mariusz Starzec: UND Atmospheric Sciences Master Student (Signed Thesis 12/2014)
6. Daniel Burtch: UND Atmospheric Sciences Master Student (Signed Thesis 5/2014)
7. Ricardo Contreras: UND Atmospheric Sciences Master Student (Signed Thesis 12/2013)
8. Andrea Neumann: UND Atmospheric Sciences Master Student (Signed Thesis 7/2012)
9. Dan Adriaansen: UND Atmospheric Sciences Master Student (Signed Thesis 12/2009)
10. Timothy Logan: UND Atmospheric Sciences Master Student
11. Adam Mohs: UND Chemical Engineering Master Student (Signed Thesis 06/2008)
12. Bradley Klotz: UND Atmospheric Sciences Master Student: (Signed Thesis 07/2008)
13. David Brown: UND Atmospheric Sciences Master Student (Signed Thesis 08/2007)
14. Chris Theisen: UND Atmospheric Sciences Master Student (Signed Thesis 05/2006)

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

- Developed adpaa_readplot_ccncdata module to introduce students to Python programming.
- Developed new Flow Meter Lab for Measurements Systems Class (Fall 2016).
- Installed and tested GR radar software for radar class (January 2014).
- Developed new Passive Cavity Aerosol Spectrometer Lab for Measurements Systems Class (Fall 2012).
- Installed and tested GRLevel3 software for radar class (October 2011).
- Installed and tested RAOB 6.2 software for Fred Remer's class (January 2011).
- Developed new Cloud Particle Imager Lab for Measurements Systems Class (Fall 2010).
- Installed GR2Analysis Software for Radar Class (Summer 2010).
- Developed Inlet, Pressure Transducer, Forward Scattering Spectrometer Probe, and Passive Cavity Aerosol Spectrometer Probe Labs for Measurement Systems Class (Fall 2008).
- Developed Partial Differential Equations, Fall Velocity, Finite-divided-difference, Round-Off, Uncertainty, and Terminal Velocity Labs for Numerical Methods Class (Fall 2006).
- 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 for Measurement Systems Class (Fall 2006).
- Developed set of example codes for Computer Concepts in Meteorology (Spring 2006).

Employed Student Research Assistants

1. David Singewald: May 2019 - Present
2. Kyle Pederson: September 2018 - May 2019
3. Eli Peske: June 2018 - Present
4. Arianna Riley: October 2017 - December 2017
5. Genevieve Stivers-Biscuso: October 2017 - June 2018
6. Courtney Steimann: October 2017 - May 2018

7. Alexa Ottt: January 2017 - September 2017
 8. Alex Butland: May 2016 - August 2016
 9. Noah Cocos: May 2016 - December 2016
 10. Blake Sorenson: August 2015 - May 2018
 11. Jamie Ekness: May 2015 - September 2017
 12. Lance Wilson: October 2014 - December 2018
 13. Benjamin Kading: August 2014 - August 2016
 14. Kurt Hibert: July 2014 - August 2017
 15. Nicholas Gapp: May 2014 - December 2016
 16. Cody Troop: November 2013 - August 2014
 17. Marc Provencher: May 2013 - August 2013
 18. Phondie Simelane: May 2012 - September 2013
 19. Timm Uhlmann: July 2011 - August 2013
 20. Nicole Bart: May 2011 - May 2013
 21. Mariusz Starzec: September 2010 - August 2012 (Advisor, Gretchen Mullendore)
 22. Korey Southerland: July 2010 - May 2011
 23. Emily Danielson: May 2010 - December 2010
 24. Miranda Hilgers: May 2010 - December 2010
 25. Matt Clegg: August 2009 - December 2009
 26. Aymie Oliver: May 2009 - December 2009
 27. Karen Larson: May 2009 - December 2009
 28. Jon Mason: May 2009 - August 2009
 29. Angelle Van Oploo: October 2008 - December 2009
 30. Gokhan Sever: August 2008 - May 2010
 31. David Keith: August 2008 - December 2009; Summer 2010
 32. Peter Johnson: August 2008 - August 2009
 33. Dan Adriaansen: May 2008 - August 2008
 34. Dan Koller: May 2008 - August 2009
 35. Robert Mitchell: May 2008 - August 2009
 36. Matt Ham: April 2008 - May 2009
 37. Kelsey Watkins: January 2008 - August 2009
 38. Chris Kruse: November 2007 - May 2011
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SERVICE

Department

On-going

- Mentor operations of the Glacial Ridge Field Site (2006 - 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).
- Managed the Undergraduate Clifford Hall 422 Computer Lab (2003 - Present).
- Administrated Department's IDL licenses (2003 - Present).

Concluded

- Management the department's ESX virtual machine server (2008 - 2018).
- Recruit Students for the February 2018 Essential Studies Program Assessment Week (David_Delene_ES_Program2017-2018.pdf)

- 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

- 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

- 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 Lake Agassiz Chapter of the American Meteorological Society
- Member of the Weather Modification Association

Community

Editorship

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

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. NCAR EOL OFAR Review Panel (Spring - 2018 - Present).
2. NASA ACCESS17 Review Panel (March 2018).

Proposal Reviews

1. Reviewed proposals (2) for NASA Instrument Incubator Program (August 2019).
2. Reviewed proposals (2) for NASA Postdoctoral Program (April 2019).
3. Reviewed proposals (2) for NASA Postdoctoral Program (December 2018).
4. Reviewed proposal for NSF (October 2018).
5. Reviewed proposals (2) for NASA Postdoctoral Program (May 2018).
6. Reviewed proposal for NASA Postdoctoral Program (March 2017).
7. Reviewed proposals (2) for NASA Postdoctoral Program (August 2016).
8. Reviewed proposal for NASA Postdoctoral Program (March 2016).
9. Reviewed proposal for NASA Experimental Program to Stimulate Competitive Research (EPSCoR) (April 2015).
10. Reviewed three proposal for the NASA ESTO's (May 2014).
11. Reviewed proposals for the NASA (December 2012).
12. Reviewed proposal for the NSF (July 2011).
13. Reviewed two proposal for the NASA ESTO's ACT solicitation (May 2011).
14. Reviewed proposal for the North Dakota NASA EPSCoR Faculty Seed Research Opportunities (September 2010).
15. Reviewed a proposal for the Physical and Dynamic Meteorology division of the National Science Foundation (June 2010).
16. Reviewed a proposal for the Natural Environment Research Council of the UK (2008).
17. Reviewed a National Science Foundation proposal at the request of Andrew Detwile (2007).
18. Reviewed a National Science Foundation proposal (2006).
19. Reviewed two proposals for the National Aeronautics and Space Administration (2006).
20. Reviewed three proposals for the Department of Energy's Atmospheric Science Program (July 2004).

Article Reviews

1. Reviewed a manuscript for the Journal of Atmospheric Measurement Techniques (April 2019)
2. Reviewed a manuscript for the Journal of Atmospheric Measurement Techniques (February 2019)
3. Reviewed a manuscript for the Journal of Atmospheric Research (July 2018).
4. Reviewed a manuscript for the Journal of Atmospheric Research (May 2018).
5. Reviewed a manuscript for the Journal of Atmospheric Measurement Techniques (February 2018).
6. Reviewed a manuscript for the Bulletin of the American Meteorological Society (February 2018).
7. Reviewed a manuscript for the Journal of Geophysical Research (January 2018).
8. Reviewed a manuscript for the Bulletin of the American Meteorological Society (January 2018).
9. Reviewed a manuscript for the Journal of Geophysical Research (November 2017).
10. Reviewed a manuscript for the Journal of Atmospheric Research (February 2017).
11. Reviewed a manuscript for the Journal of Atmospheric Research (November 2016).
12. Reviewed a manuscript for the Bulletin of the American Meteorological Society (November

2016)

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

Tours

- 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

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

Referred/Juried

Journal Articles

1. 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 preparation, 2018.
2. Ekness, Jamie Lynn, David J. Delene, Gerry Dunnigan, and Paul A. Kucera, Analysis of Randomized Hygroscopic Seeding conducted during the Polarimetric Cloud Analysis and Seeding Test (POLCAST) Field Projects, *Atmospheric Research*, in preparation, 2018.
3. Hibert, Kurt, and David Delene, Calibration of the Droplet Measurement Technologies Cloud Condensation Nuclei Counter for Airborne Measurements, *Atmospheric Chemistry and Physics*, in preparation, 2018.
4. Nespora, Brett, Richard Cochran, Haewoo Jeong, Frank Bowman, David Delene, Evguenii Kozliak, Alena Kubátová, Organic tracers of low and high molecular weight in atmospheric particulate matter using thermal desorption - pyrolysis - gas chromatography - mass spectrometry, *ACS Earth and Space Chemistry*, in review, 2019.
5. 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*, in press, 2019.
6. 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.
7. 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>.
8. 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.
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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., 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.
3. 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.
4. 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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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.
15. Delene, David J., Cedric Grainger and Chris Kruse, Polarimetric Cloud Analysis & Seeing Test 3, *North Dakota Atmospheric Research Board*, 11 Cessna 340 Research Aircraft Flights, 21 June -

- 23 July 2010.
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.
 17. Delene, David J., Michael Chapman and Paul Kucera, Weather Modification Research in Mali - 2008 Field Project, *National Center for Atmospheric Research*, 9 King Air 200 Research Aircraft (N811ND) Flights, 22 September - 8 October 2008.
 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.
 20. Delene, David J., Duncan Axisa and Roelof Burger, 2007/2008 Saudi Arabia Field Project, *National Center for Atmospheric Research*, 48 King Air 200 Research Aircraft (N825ST) Flights, 29 November 2007 - 28 March 2008.
 21. Delene, David J., and Roelof Bruintjes, Rainfall Enhancement Studies for Mali: 2007 Summer Season, *National Center for Atmospheric Research*, 37 Cheyenne Research Aircraft (N233PS) Flights, 20 July - 30 September 2007.
 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.
 31. Grainger, Cedric and David Delene, The Observing-system Research and predictability experiment (THORpex), *NASA Earth Science Enterprise*, 31 Citation Research Aircraft (N77ND) Flight Days, 15 November - 17 December 2003.
 32. Grainger, Cedric and David Delene, Tropospheric Airborne Meteorological Data Reporting (TAMDAR) Instrument Development, *AirDat LLC*, 7 Citation Research Aircraft (N77ND) Flight Days, 23 July - 8 October 2003.
 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 Citation Research 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.
5. Delene, David J. and John Ogren, South Pole Continuous Aerosol Measurements, *NOAA*, 1 January 1999 - December 31 2000.

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. Delene, David J., Community Packages for Airborne Science (CoPAS), Github, Registered Date 2016-12-24, <https://github.com/daviddelene/CoPAS/>.
2. Delene, David J., Airborne Data Testing and Evaluation (ADTAE), Sourceforge, Registered Date 2016-11-28, <https://sourceforge.net/projects/adtae/>.
3. 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 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.
2. 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.
3. 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.
4. 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.
5. 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.
 6. 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.
 7. 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.
 8. 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.
 9. 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.
 10. 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.
 11. 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.
 12. 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.
 13. 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.
 14. 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.
 15. 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.
 16. 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.
 17. 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.
 18. 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.
 19. 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.
 20. 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.
21. 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.
 22. 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.
 23. 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.
 24. 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.
 25. 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.
 26. Delene, D. J., *Instrumentation & Airborne Science*, Invited Keynote talk given at the 2017 Academic High Altitude Conference, 28 October 2017, Minneapolis, Minnesota.
 27. 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.
 28. 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].
 29. 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.
 30. 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.
 31. 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.
 32. 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.
 33. 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.
 34. 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.
 35. 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.
 36. 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.
 37. 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.
38. 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 Joint 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.
 39. 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*, Poster given at the 2016 American Geophysical Union Annual Conference, December 2016, San Francisco, California.
 40. 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.
 41. 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.
 42. 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.
 43. 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.
 44. 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.
 45. 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.
 46. 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.
 47. 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.
 48. 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.
 49. Cai, J., R. K. Mirza, Y. Zhang, D. J. Delene, and J. S. Tilley, *CaiConcept Design and Feasibility Studies for a Ka-band, UAS-based Cloud Sensing Radar*, Poster presented at the 37th Conference on Radar Meteorology, 16 September 2015 in Norman, Oklahoma.
 50. 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.
 51. 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.
 52. 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.
 53. 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).
54. 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.
 55. 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.
 56. 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.
 57. 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.
 58. 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.
 59. 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.
 60. 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.
 61. 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.
 62. 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.
 63. 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.
 64. Starzec, M., G. Mullendore, D. J. Delene, P. A. Kucera, D. Langerud, *Object-based Verification of Regional WRF Simulations of Summertime Convection*, Poster given at the 2013 Weather and Research Forecasting Model Workshop in Boulder, Colorado on June 26, 2013.
 65. 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.
 66. 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.
 67. 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.
 68. 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.
 69. 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.
70. 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.
 71. 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.
 72. 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.
 73. 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, Colorado.
 74. 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.
 75. 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.
 76. Tilley, Jeffrey S., D. J. Delene, M. Gilmore, J. Delhommelle, G. Mullendore, and M. Hoffmann, *Improving 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.
 77. 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, Illinois.
 78. 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]
 79. 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.
 80. 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.
 81. 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.
 82. 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.
 83. 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.
 84. 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.
85. 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.
 86. 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.
 87. 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.
 88. 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.
 89. 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.
 90. 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.
 91. 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.
 92. 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.
 93. 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.
 94. 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.
 95. 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.
 96. 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.
 97. 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.
 98. 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.
 99. 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.
 100. 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 Lanham-Seabrook, Maryland.

101. 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.
102. 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.
103. 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.
104. 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
105. 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.
106. 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.
107. 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.
108. 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.
109. 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. Nespor, Brett, Haewoo Jeong, Richard Cochran, David Delene, Evgenii 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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]
8. 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.

9. 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.
10. 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.
11. 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.
12. 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.
13. Delene, D. J., *Cloud Liquid Water Measurements*, Talk given at the Presidency of Meteorology and Environment, March 25, 2008 in Riyadh, Saudi Arabia.
14. Delene, D. J., *FSSP Data Processing Comparison*, Talk given at the Presidency of Meteorology and Environment, March 9, 2008 in Riyadh, Saudi Arabia.
15. Delene, D. J., *Cloud Spectrum Measurements*, Talk given at the Presidency of Meteorology and Environment, February 3, 2008 in Riyadh, Saudi Arabia.
16. 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.
17. 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. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. Delene, D. J., *Aircraft Configuration & Ground Communication*, Talk given at the CAPE2015 Technical Exchange and Planning Meeting on Tuesday August 21, 2018 in Monterey, California.
11. Delene, D. J., *Aircraft Data Processing and Issue*, Talk given at the CAPE2015 Technical Exchange and Planning Meeting on Tuesday August 21, 2018 in Monterey, California.
12. 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.
13. 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.
14. 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.
 15. 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.
 16. 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.
 17. 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.
 18. 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.
 19. 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.
 20. 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.
 21. 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.
 22. 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.
 23. Gapp, N. and Delene, D. J., *Radar and Aircraft Reflectivity Comparisons of Florida Thunderstorm Cirrus Clouds*, Poster given at the 2017 University of North Dakota Grad Day, 2 March 2017, Grand Forks, North Dakota.
 24. Delene, D. J. and B. Boe, *Cloud Chamber Experiments to Determine Ice Production as a Function of Temperature*, Talk given at Michigan Technological University on 17 November 2016.
 25. 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).
 26. Delene, D. J. and N. Gapp, *Aircraft Observations of Florida Convective Storm Anvils*, Presentation given at New York University Abu Dhabi, 22 August 2016 in Abu Dhabi, UAE.
 27. 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.
 28. 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.
 29. Delene, D. J., *CAPE2015 Field Project Citation Research Aircraft*, Talk given at the Naval Research Laboratory, 22 September 2015 in Monterey California.
 30. 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 Dakota.
 31. Delene, D. J., *Data Management (Aircraft User Case)*, Invited talk given at the 2015 Unidata Workshop, 25 June 2015 in Boulder, Colorado.
 32. Delene, D. J., *Scientific Data Processing and Visualization Software Company*, Talk given at the COE Commission meeting in Fargo, North Dakota on November 21, 2014.
 33. 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).
 34. 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).

35. 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).
36. 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).
37. Starzec, M. (Faculty Sponsor - D. J. Delene), *Cloud Condensation Nuclei Retrievals at Cloud Base in North Dakota*, Presentation given at the 2014 University of North Dakota Graduate School Form in Grand Forks, March 12, 2014 in North Dakota.
38. 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 University of North Dakota Graduate School Form, March 12, 2014 in Grand Forks, North Dakota.
39. 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.
40. 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.
41. 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.
42. 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.
43. 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.
44. 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.
45. 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.
46. 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.
47. 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.
48. 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.
49. 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.
50. 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.
51. 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.
52. 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.
53. 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.
 54. 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.
 55. 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.
 56. 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.
 57. 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.
 58. 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.
 59. 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.
 60. 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.
 61. 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.
 62. 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.
 63. 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.
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GRANTS AND CONTRACTS (List Does Not Include Preproposals)

Future Funding

Under Development Proposals

1. **Project Title:** Method Development for Assessment of Health Impacts of Particle Size Using a Mouse Model, **Supporting Agency:** National Institutes of Health (NIH), National Institute of Environmental Health Sciences (NIEHS), **Principal Investigator:** David Delene and Colin Combs, **Investigator Support:** N/A, **Project Dollar Value:** \$100,000, **Project Duration:** May 16, 2020 - May 15, 2022.

Under Review Proposals

1. **Project Title:** Unmanned Aircraft System (UAS) Fog Dispersal Research, **Supporting Agency:** North Dakota Department of Commerce - Research ND, **Principal Investigator** David Delene, **Investigator Support:** 2.0 months per year, **Project Dollar Value:** \$300,000 (\$600,000 with match), **Project Duration:** October 1, 2019 - September 30, 2022.
2. **Project Title:** New Engineered Organic Nuclei, **Supporting Agency:** North Dakota Department of Commerce - Research ND, **Principal Investigator** David Delene, **Investigator Support:** 1.0 months per year, **Project Dollar Value:** \$75,00 (\$150,000 with match), **Project Duration:** October 1, 2019 - September 30, 2021.
3. **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, 2018 - June 30, 2019.

Funded

Current Research Grants

1. **Project Title:** Cloud and Precipitation Experiment (CAPE) 2019, **Supporting Agency:** United States Navy Surface Warfare Center Dhlgren Division, **Principal Investigator:** David Delene, **Investigator Support:** 3.0 months, **Project Dollar Value:** \$848,809, **Project Duration:** July 1, 2019 - May 14, 2021.
2. **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.
3. **Project Title:** Interdisciplinary Renewable and Environmental Chemistry (IREC) REU, **Supporting Agency:** National Science Foundation, **Principal Investigator:** Frank Bowman, **Co-Principal Investigator** Guodong Du, **Investigator:** David Delene, **Co-Investigator:** Ron Fevig, Yun Ji, Evguenii Kozliak, Gautham Krishnamoorthy, Alena Kubatova, Daniel Laudal, Gretchen Mullendore, Michael Mann, and Rebecca Simmons, **Investigator Support:** 0.5 months, **Project Dollar Value** \$330,000, **Project Duration:** May 1, 2018 - April 30, 2021.
4. **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 - September 30, 2019.
5. **Project Title:** Coherent Backscattering of Cloud Particles, **Supporting Agency:** North Dakota 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.
6. **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.

Previous Research Grants

1. **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.
2. **Project Title:** Analysis of CAPE 2015 Data Set, **Supporting Agency:** United States Navy Surface Warfare Center Dhlgren 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).

3. **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.
4. **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.
5. **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.
6. **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.
7. **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.
8. **Project Title:** Proof of Concept Cloud Condensation Nucleus Counter for Unmanned Aircraft Systems, **Supporting Agency:** North Dakota Department of Commerce, **Principal Investigator:** David Delene, **Investigator Support:** 2.0 months, **Project Dollar Value:** \$99,739, **Project Duration:** June 1, 2014 - May 15, 2016.
9. **Project Title:** Analysis of Polarimetric 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.
10. **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.
11. **Project Title:** Florida 2015 Airplane and Cloud Measurements, **Supporting Agency:** United States Navy Surface Warfare Center Dhlgren Division, **Principal Investigator:** David Delene, **Investigator Support:** 2.5 months, **Project Dollar Value:** \$359,978, **Project Duration:** July 23, 2015 - September 30, 2015.
12. **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.
13. **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.
14. **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.
15. **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.

16. **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.
17. **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.
18. **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.
19. **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.
20. **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.
21. **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.
22. **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.
23. **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.
24. **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.
25. **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.
26. **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.
27. **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.
28. **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.
29. **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.
30. **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.
 31. **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.
 32. **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.
 33. **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.
 34. **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.
 35. **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.
 36. **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.
 37. **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.
 38. **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:** 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.
2. **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.
3. **Project Title:** Towards Anonymous 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.
4. **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.
5. **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.
 6. **Project Title:** Scientific Data Processing and Visualization Software Company, **Supporting Agency:** North Dakota Department of Commerce, **Principal Investigator:** David Delene, **Investigator Support:** 3.0 months, **Project Dollar Value:** \$99,999, **Project Duration:** October 1, 2014 - December 31, 2015.
 7. **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.
 8. **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
 9. **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.
 10. **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.
 11. **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.
 12. **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.
 13. **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.
 14. **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.
 15. **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
 16. **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
17. **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.
 18. **Proposal Title:** On the Establishment of a High-Performance Computing Research Center to Facilitate Multi-scale, Multi-disciplinary 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.
 19. **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-Principal Investigators:** John Nordlie
 20. **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
 21. **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
 22. **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
 23. **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.
 24. **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.
 25. **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.
 26. **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.
 27. **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:** Weather Modification International (Previously Weather Modification 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).
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CURRENT RESEARCH COLLABORATIONS (Investigators; Institution; Keywords)

Off-Campus (Exterior)

- Dennis Afseth, Bruce Boe, and Kurt Hibert; Weather Modification International; Aircraft Measurement, Cloud Seeding Flares
- Max Caldwell and Phil Acott; Ophir Corporation; Airborne Instrumentation Development
- Rachel Joyce, University of Florida; Ice Nuclei.
- Werner Lubitz, Johannes Kassmannhuber, and Mascha Rauscher; Bird-C; Bacterial Ice Nuclei
- Renata Raina; University of Regina; Pesticide Measurements
- 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.
- Jeffrey Tilley, Tilley Weather Associates, UAE Proposal
- Marouane Temimi, Masdar Institute, UAE Proposal

On-Campus (Internal)

- Frank Bowman - Chemical Engineering Department, University of North Dakota; REU Project,

- Aerosol Chamber, UAE Weather Modification Research.
- Ron Fevig and James Casler - Space Studies Department, Naima Kaabouch - Electrical Engineering, University of North Dakota; Balloon Measurements.
 - Alena Kubatova and Guodong Du, Chemistry Department, University of North Dakota; REU Project, Air Pollution Workshop.
 - Gretchen Mullendore and Michael Poellot; Atmospheric Sciences Department, University of North Dakota; Airborne Research, POLCAST, Weather Modification Research.
 - Rebecca Simmons; Biology Department, University of North Dakota, NSF REU Project, Bacterial DNA Analysis
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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.
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