

VITA
JERRY MICHAEL STRAKA
06 July 2016

PERSONAL INFORMATION

Born: Milwaukee, WI, USA (14 October 1961)
Spouse: Katharine Marie Kanak (Married 09 March 1991)
Current Residence: Norman, OK 73072, USA (Since 1990)

PROFESSIONAL EXPERIENCE

Jul. 2010 - Present, Professor, School of Meteorology, University of Oklahoma
Jul. 1996 - 2010, Associate Professor, School of Meteorology, University of
Oklahoma
Aug. 1990 - 1996, Assistant Professor, School of Meteorology, University of
Oklahoma
Jan. 1989 - Aug. 1990, Research Associate-Post Doctorate position, Space Science and
Engineering Center, University of Wisconsin, Madison (Dr. John R. Anderson)
Sept. 1984 - Dec. 1988 Research and teaching assistant in the University of Wisconsin
system.

EDUCATION

Post Doctoral Position: May 1989-July 1990, University of Wisconsin, Madison, Space Science
and Engineering. (Advisor Dr. John R. Anderson)
Ph.D. in Meteorology, May 1989, University of Wisconsin, Madison
Dissertation title: Hail Growth in a Highly Glaciated Central High Plains
Multi-cellular Hailstorm (Advisor: Dr. Pao K. Wang)
M.S. in Geophysical Sciences, August 1986, University of Wisconsin, Milwaukee
Thesis title: A Mesoscale Numerical Study of Environmental Conditions
Preceding the 08 June 1984 Tornado Outbreak over South Central Wisconsin.
(Advisor: Dr. Robert Ballentine)
B.S. in Atmospheric Sciences, Dec 1984, University of Wisconsin, Milwaukee

SCHOLASTIC AWARDS

1986, Schwerdtfeger Award for Best academic record during first year of graduate studies at the
University of Wisconsin, Madison (based on course load, difficulty, and Grade Point Average of
4.0)

NOTABLE ACCOMPLISHMENTS

Had a 4.0 out of 4.0 Grade Point Average as graduate student at the University of Wisconsin-Madison.

Most accessed paper at *Atmospheric Science Letters* for 2006:

Kanak, K.M, and J. M. Straka, 2006: An idealized numerical simulation of mammatus like clouds. *Atmos. Sci. Letters*, **6**, 2-8. doi: 10.1002/ASL.121

RESEARCH INTERESTS AND ACTIVITIES

Supercell / Tornado dynamics / kinematics

Tornado damage and damage surveys

Influence of microphysics on storm morphology and evolution

Tornadogenesis via the recycling hypothesis

Role of boundaries in development of tornadic supercells

Development of the rear flank downdraft

Supercells and tornadoes at night, with low and high CAPE, and low and high shear

Radar interpretation of tornadoes

Storm and tornado climate (local and regional)

Lightning and lightning modeling

Three-dimensional lightning modeling

Dendritic lightning modeling

Charge structure

Hail and hailstorm modeling

Three-dimensional hail modeling

Radar interpretation of hail

Hail climate (local and regional)

Polarimetric Radar

Understanding polarimetric signatures in clouds and precipitation systems

Fuzzy logic to deduce hydrometeor type (hail, rain, snow, freezing rain)
and amount / size

Understanding precipitation processes

Understanding precipitation systems

Precipitation climate (local and regional)

Cloud model development

Numerical techniques and MPI/MPP computing techniques

Developing/Programming cloud models (**Straka Atmospheric Model**)

Use of higher-order numerical schemes for all terms in governing equations

Turbulence and surface layer physics, Microphysics, Radiation

Microphysics / cloud physics / unique clouds

Parameterization design, development, evaluation
Deep Convective cloud development
Mammatus cloud development
Reticular cloud development

Precipitation systems

Airmass storms – wet and dry microbursts
Supercells storms– hail and precipitation development
Tropical squall lines and convection
 Boundary layer air transport to the tropopause by convective elements
 Hadley cell maintenance
Ice crystal habit development
Small Cumulus hydrometeor development
Low Precipitation (LP), Classic (CL), and High Precipitation (HP) supercells
Hurricanes
 Lightning
 Phenomena at landfall (tornadoes)
 Very high-resolution simulations
Precipitation climate (local and regional)

Instrumentation development for observations

Direct tornado measurements at ground level
Mobile radars to study tornadoes, squall lines, hurricanes and precipitation research
Mobile Mesonets for severe storm and precipitation research
Radars to observe precipitation enhance efforts

FIELD PROGRAMS

VORTEX 1 (1994-1995; Co-PI; Co-Director)
MIGHT (1994-1995; Co-PI, Director, Lead forecaster and nowcaster)
SCMS (1996; Co-PI)
Sub-VORTEX (1996-1999; Co-Director, Co-Lead forecaster and nowcaster)
STEPS (2000; Co-PI)
TELEX (2003-2004; Co-PI; Lead forecaster and nowcaster)
VORTEX 2 (2009-2010) (Co-PI)

EXTERNAL GRANT FUNDING

Funding Agencies

National Science Foundation
Department of Commerce / National Oceanic and Atmospheric Administration
Federal Aviation Administration
Weathernews
Private Donations (Merage Foundation)

Funded External Grants

Title: Challenges in understanding tornadogenesis and associated phenomena (supplement)

PI: Straka(100%)

Amount: \$28,941

Dates: 1 April 2015-31 March 2017

Agency: NSF [AGS 1036237 Dr. Chungu Lu (Program Manager)]

Title: Challenges in understanding tornadogenesis and associated phenomena

Co-PIs: Straka (65%), and Kanak (35%) year one; then Straka (100% thereafter)

Amount: \$749,778

Dates: 1 April 2011-31 March 2017 (plus two, one year no-cost extensions)

Agency: NSF [AGS 1036237 Dr. Chungu Lu (Program Manager)]

Title: Collaborative Research: Development of Unmanned Aircraft System for Research in a Severe Storm Environment and Deployment within the VORTEX 2

Co-P.I.s J. M. Straka (75%) and K.M. Kanak (25%)

Dates: Spring 2009-Spring 2011

Amount: \$44,041 Agency: NSF

Title: Supplement: Challenges in tornadogenesis and associated phenomena (VORTEX2)

Co-P.I.s J. M. Straka (75%) and K.M. Kanak (25%)

Dates: Spring 2009

Amount: \$86,784 Agency: NSF

Title: Severe storm research

Co-PIs: Fred Carr (50%) and Jerry Straka (50%)

Amount \$21,500 in 2009; from Jonathon Mering Foundation

Title: Severe storm research

Co-PIs: Fred Carr (50%) and Jerry Straka (50%)

Amount \$19,900 in 2008; from Jonathon Mering Foundation

Title: Mobile C-band dual-polarimetric radar for testing multi-mission phased array polarimetric radar designs.

(PI) Biggerstaff (60%), (Co-PIs) Straka (10%), Wicker (10%), Zrnic (10%), Zahari (10%)

Agency, DOC/NOAA; Amount \$200,000

Title: Challenges in tornadogenesis and associated phenomena

Co-PIs: Straka(65%), and Kanak (35%)

Amount: \$584,170

Dates: Jan 2008-Dec 2010

Agency: NSF

Title: Formative dynamics of the mammatus clouds in thunderstorm cirrus

Co-PIs Straka (50%), and Kanak (50%)

Amount: \$318,006

Dates: Mar 2007-Feb 2010

Agency: NSF

Title: Development of a Mobile C-band Dual-Polarimetric Weather Radar to Evaluate Polarimetric Designs for the Multi-Mission Phased Array Radar

(PI): Biggerstaff: 60%), (Co-PIs: Wicker 10%, Zahari 10%, Zrnic 10%, Straka 10%)

Amount: \$125,000,

Dates: Jun 2007 - May 2008. DOC/NOAA

Title: MRI Development of C-Band Mobile Polarimetric Weather Radars

Co-PIs Biggerstaff (45%), Straka (15%), Wicker (20%), Zrnic (20%), Zahari

Amount, \$438,816 with equal match from VPR (Lee Williams) and NSSL

Dates: Oct 2006-Sept 2010

Agency: NSF

Title: Polarimetric upgrade to a mobile X-band weather radar for kinematic and microphysical studies of storms.

Co-PIs, M. Biggerstaff, J.M. Straka, L. and Wicker

Dates: Oct 2005- Oct 2006

Amount: \$100,400 (DOC) + 50,000 matching from OU ORA

Agency: DOC/NOAA

Title: Collaborative Research: Improved Understanding/Prediction of Severe Convective Storms and Attendant Phenomena through Advanced Numerical Simulation

PI: Jerry Straka (100%).

Dates: June 2005- May 2008

Amount: \$58,000

Agency: NSF

Title: Numerical modeling studies of storm electrification and lightning (ATM-0737393)

Co-PIs: E.N. Mansell (25%), J. M. Straka (25%), C. Ziegler (25%) MacGorman (25%)

Dates March 2005-February 2009

Amount: \$816,891

Agency: NSF

Title: Polarimetric upgrade to a mobile C-band weather radar for kinematic and microphysical studies of storms.

Co-PIs: J.M. Straka (34%), M. Biggerstaff (33%), L. Wicker (33%)

Dates: July 2004 to Jun 2005

Amount: \$35,400 (DOC) + 12,000 matching from OU VPR and \$6,000 from SoM at OU

Agency: DOC/NOAA

Title: Collaborative research: Concentrating vorticity near the ground: Investigation of supercell rear-flank precipitation, vorticity generation, and transport processes.

Co-PIs: E.N. Rasmussen and J.M. Straka

Dates: 15 Mar 2004 – 14 Mar 2007

Amount: \$550,000 (Cost-share \$12,500 matching from OU VPR)

Agency: NSF

Title: Numerical studies of electrification and lightning in STEPS storms

Co-PIs: E.N. Mansell (34%), C. Ziegler (33%) and J. M. Straka (33%)

Dates Sep 2001-Aug 2005

Amount: \$355,293

Agency: NSF-GEO/ATM Mesoscale and Dynamic Meteorology

Title: Dual mobile C-band Doppler radar with dual-polarization capability-Part III.

Co-PIs: J.M. Straka, C. Ziegler, L. and Wicker

Dates: March-2001 to March-2002

Amount: \$7,500 (DOC)

Agency: DOC/NOAA

Title: SGER Formation Flying of Rapidly Deployable Remotely Piloted Vehicles for Mesoscale Meteorological Observations

Co-PIs: E.N. Rasmussen (65%), J. M. Straka (35%)

Dates: Mar 15, 2001-Mar 14, 2002

Amount: \$50,000 total

Agency: NSF-GEO/ATM Mesoscale and Dynamic Meteorology

Title: The concentration of vorticity at the ground by precipitation processes in supercells and other severe thunderstorms

Co-PIs: E.N. Rasmussen (45%), J. M. Straka (55%)

Dates: Jan 2001-Dec 2004

Amount: \$473,274

Agency: NSF

Title: Dual mobile C-band Doppler radar with dual-polarization capability-Part II.

Co-PIs, J.M. Straka, C. Ziegler, L. and Wicker

Dates: 2000

Amount: \$75,000 (DOC) and (Cost-share \$34,000 from OU VPR)

Agency: DOC/NOAA

Title: Dual mobile C-band Doppler radar with dual-polarization capability-Part I.

Co-PIs: J.M. Straka, C. Ziegler, and L. Wicker

Dates: 2000

Amount: \$50,000 (DOC) and (Cost-share \$50,000 OU)

Agency: DOC/NOAA

Title: Supplement: Studies of tornadogenesis and associated phenomena
Co-PIs: E.N. Rasmussen, and J. M. Straka
Dates: Spring 2000
Amount: \$18,844 + (Cost-share \$2,500 OU and \$3000 Carr and Lamb)
Agency: NSF

Title: Dual mobile C-band Doppler radar with dual-polarization capability-Part II.
Co-PIs: J.M. Straka, C. Ziegler, and L. Wicker
Dates: 2000
Amount: \$75,000 (DOC/NOAA) & \$75,000 (Cost-share OU)
Agency: DOC/NOAA

Title: Center for Analysis and Prediction of Storms
Co-PIs: Kelvin Droegemeier, Fred Carr, Jerry M. Straka, Alan Shapiro, Ming Xue and Keith Brewster.
Dates: Feb 1999 to Jan 2000
Amount: \$1,550,000
Agency: NSF-GEO/ATM Mesoscale and Dynamic Meteorology sub-grant

Title: VORTEX and the Center for Analysis and Prediction of Storms (ATM 912-0009)
Co-PIs: Jerry M. Straka and Kelvin Droegemeier
Dates: Feb 1999 to Jan 2000
Amount: \$40,033
Agency: NSF sub-grant

Title: VORTEX and the Center for Analysis and Prediction of Storms
Co-PIs: Kelvin Droegemeier, Fred Carr, Jerry M. Straka, Alan Shapiro, Ming Xue and Keith Brewster.
Dates: Feb 1998 to Jan 1999
Amount: \$1,550,000
Agency: NSF-GEO/ATM Mesoscale and Dynamic Meteorology sub-grant

Title: VORTEX and the Center for Analysis and Prediction of Storms
Co-PIs: Jerry M. Straka and co-PI Kelvin Droegemeier
Dates: Feb 1998 to Jan 1999
Amount: \$120,000
Agency: NSF-GEO/ATM Mesoscale and Dynamic Meteorology sub-grant

Title: VORTEX and the Center for Analysis and Prediction of Storms
Co-PIs: Jerry M. Straka and co-PI Kelvin Droegemeier
Dates: Feb 1997 to Jan 1998
Amount: \$210,708
Agency: NSF-GEO/ATM Mesoscale and Dynamic Meteorology sub-grant

Title: Studies of tornadogenesis and associated phenomena
Co-PIs: E.N. Rasmussen, J. M. Straka and J. Wurman
Dates: May 1997 to April 2000
Amount: \$304,283 total with increases possible
Agency: NSF-GEO/ATM Mesoscale and Dynamic Meteorology

Title: Observation and Analysis of the Structure of Tornadoes by Means of High Resolution data from Mobile Doppler Radars and Photogrammetry
Co-PIs: J. Wurman, J. M. Straka, and E.N. Rasmussen
Dates: April 1997 to March 2000
Amount: \$119,878
Agency: NSF-GEO/ATM Mesoscale and Dynamic Meteorology

Title: Highly Mobile anemometers for high-speed wind events: Phase I
Co-PIs: S. Richardson, K. Nixon, J. Snow, and J. M. Straka
Dates: 1997
Amount: \$50,000
Agency: SBIR Proposal No. 97-1-031
Contract No. 50-DKN-7-90084

Title: VORTEX and the Center for Analysis and Prediction of Storms
Co-PIs: Jerry M. Straka and Kelvin Droegemeier
Dates: Feb 1997 to Jan 1998
Amount: \$210,708
Agency: NSF-GEO/ATM Mesoscale and Dynamic Meteorology

Title: VORTEX and the Center for Analysis and Prediction of Storms
Co-PI: Jerry M. Straka and Kelvin Droegemeier
Dates: Feb 1996 to Jan 1997
Amount: \$146,000 (Cost-share \$17,500 OU)
Agency: NSF-GEO/ATM Mesoscale and Dynamic Meteorology

Title: The operational significance of low-level boundaries in severe convective storm forecasting: A proposed study related to the importance of adaptive observing strategies in data sparse regions utilizing VORTEX data sets.
Co-PIs: E.N. Rasmussen, J. Weaver, and J.M. Straka.
Dates: June 1996 to May 1997
Amount: \$66,000
Agency: USWRP-NOAA-DOC

Title: Study of the Use of Doppler Weather Radar for Private Industry
Co-PIs: Peter J. Lamb and J. M. Straka
Dates: 10 September 1995 to 31 October 1995
Amount: \$7,500
Agency: Weathernews, Inc. and YKS International, Inc. (for Kyushu Power in Japan)

Title: Feasibility Study on the Use of a Doppler Radar System for Electric Power Company's Operation.

Co-PIs: Peter J. Lamb and Yoshi Sasaki and senior scientist J. M. Straka

Dates: 1 June 1995 to 31 August 1995

Amount: \$20,668

Agency: Weathernews, Inc. and YKS International, Inc.

Title: Research Experiences for Undergraduates for VORTEX and related activities in 1995

Co-PIs: Jerry M. Straka, William Beasley, Erik Rasmussen, Jean Schneider, and John Cortinas

Dates: June 1995 to June 1996

Amount: \$7938

Agency: DOC/NOAA

Title: Acquisition of equipment to create the environmental computing applications system.

Co-PIs: Kelvin Droegemeier, and Co-PI's C. Duchon, M. Richman, J. M. Straka, J. Wurman, B. Fiedler, B. Vieux, L. Wallace, D. Legates, M. Morrissey, G. Schnell, R. Knox, T. Rizzuti, S. Lakshmivarahan (ATM-9512145)

Dates: November 1995 to October 1998

Amount: \$580,000 (Cost-share \$898,671 from OU and from \$80,000 from the Oklahoma EPSCOR program)

Agency: NSF

Title: REU for Spring/Summer 1995

Co-PIs: Jerry M. Straka and co-PI William Beasley

Dates: May 1995 to July 1995

Amount: \$70,674 (plus \$5,000 Match from CAPS)

Agency: NSF

Title: A Mobile Pulsed X-Band Weather Radar

Co-PIs: Jerry M. Straka and Joshua Wurman

Dates: 15 Feb 1995 to 14 Feb 1996

Amount: \$38,833 (Cost-share \$25,000 OU and from \$3000 College of Geosciences Match)

Agency: DOC/NOAA

Title: Center for Analysis and Prediction of Storms

Co-PIs: Kelvin Droegemeier, Fred Carr, Jerry M. Straka, and Qin Xu.

Dates: February 1995 to January 2000

Amount: \$1,586,383 (annual amount)

Agency: NSF

Straka's work with the CAPS grants

Title: Center for Analysis and Prediction of Storms/VORTEX

PI: Jerry M. Straka

Dates: Feb 1995 to Jan 1996

Amount: \$301,025 (Cost-share \$12,500 from OU)

Title: Moisture Initialization in Storm Prediction Models;

PI: Jerry M. Straka

Dates: Feb 1995 to Jan 1996

Amount: \$34,632

Title: Development of Models and Algorithms for Retrieval, Assimilation and Short Range Prediction of Weather Hazardous to Aircraft Operations

Co-PIs: Kelvin Droegemeier (1994-1999; Douglas K. Lilly from 1992-1994, Jean Lee, Fred Carr, Jerry M. Straka, and Qin Xu

Dates: February 1992 to January 1996

Amount: \$1,200,000 total during the period (\$270,000 to 315,000 per year)

Agency: FAA

Title: VORTEX Upper Air Soundings and Radar Analysis of Storms

PI: Jerry M. Straka

Dates: 15 March 1994 to 14 March 1995

Amount: \$37,944

Agency: DOC/NOAA

Title: Analysis and Prediction of Storms During VORTEX

PI: Jerry M. Straka

Dates: 1 March 1994 to 28 August 1995

Amount: \$36,388

Agency: DOC/NOAA

Title: Measurements of Ground Pressure and Temperature In and Near Mesocyclones and Tornadoes

PI: Jerry M. Straka

Dates: 1 March 1994 to 28 August 1995

Amount: \$7,500 (Cost-share \$7,500 from OU)

Agency: DOC/NOAA

Title: VORTEX and the Center for Analysis and Prediction of Storms

Co-PIs: Jerry M. Straka and co-PI Fred Carr

Dates: Feb 1994 to Jan 1995

Amount: \$301,025 (Cost-share \$45,000 from OU)

Agency: NSF (attached by NSF to the CAPS budget)

Title: Use of Polarimetric Radar Measurements to Initialize Moisture Fields in Mesoscale Numerical Weather Prediction Models: The Severe Hailstorm

Co-PIs: Jerry M. Straka and Dusan S. Zrnica

Dates: 15 Jan 1994 to 14 Jan 1997

Amount: \$169,000 (Cost-share \$3500 from OU)

Agency: NSF

Title: Use of Polarimetric Radar Measurements to Initialize Moisture Fields in Mesoscale Numerical Weather Prediction Models: Supplement for Participation in SCMS

Co-PIs: Jerry M. Straka and Dusan S. Zrnica

Dates: 15 Jan 1995 to 14 Jan 1997

Amount: \$46,742 (Cost-share \$3500 from OU)

Agency: NSF

Straka's Sub-grant from the NSF-CAPS grant-1994

Title: Initializing Storm Scale Numerical Weather Prediction Models

PI: Jerry M. Straka

Dates: Feb 1994 to Jan 1995

Amount: \$35,425

Agency: NSF-Center for Analysis and Prediction of Storms (CAPS)

Title: Effects of Wind Shear, Entrainment and Moist Convection in the Atmospheric Mixed Layer Derived from a Large Eddy Simulation Model

Co-PIs: Zbigniew Sorbjan, Jerry M. Straka and Douglas K. Lilly

Dates: November 1993 to December 1996

Amount: \$300,000

Agency: NSF

Straka's Sub-grant from the NSF-CAPS grant-1993

Title: Initializing Storm Scale Numerical Weather Prediction Models

P.I. Jerry M. Straka

Dates: Feb 1993 to Jan 1994

Amount: \$27,772

Agency: NSF-Associated with Center for Analysis and Prediction of Storms (CAPS)

Straka's Sub-grant from the NSF-CAPS grant-1992

Title: Initializing Storm Scale Numerical Weather Prediction Models

PIs: Jerry M. Straka

Dates: Feb 1992 to Jan 1993

Amount: \$27,987

Agency: NSF-Associated with Center for Analysis and Prediction of Storms (CAPS)

Funded National External Peer Reviewed Facility Requests

Title: Coordinated T-28 Aircraft and Polarimetric Cimarron Radar Measurements

Co-PIs: Jerry M. Straka and Dusan S. Zrnica

Dates: May 1994

Amount: \$58,000 (Amount to SDSMT)

Agency: NSF/SDSMT

Title: Fixed CLASS for VORTEX 1994

PI: Jerry M. Straka

Dates: May 1994

Amount: \$31,200 (Amount to ATD)

Agency: NSF/ATD

Title: Coordinated T-28 Aircraft and Polarimetric Cimarron Radar Measurements

PIs: Jerry M. Straka and Dusan S. Zrnica

Dates: May 1995

Amount: \$110,000 (Amount to SDSMT)

Agency: NSF/SDSMT

Title: Fixed CLASS for VORTEX 1995

PIs: Jerry M. Straka and Erik N. Rasmussen

Dates: April-June 1995

Amount: \$118,000 (Amount to ATD)

Agency: NSF/ATD

Title: CSU CHILL

Co-PIs: Jerry M. Straka, Dusan Zrnica, Steve Rutledge, and V. Bringi

Dates: June 1995

Amount: (Amount to CSU CHILL)

Agency: NSF/ATD

Title: CSU CHILL

Co-PIs: Jerry M. Straka, Erik Rasmussen, Katharine Kanak, and Joshua Wurman

Dates: June 1996

Amount: (Amount to CSU CHILL)

Agency: NSF/ATD

Funded Significant External Computer Resource Requests

Title: Improving efficiency and wallclock of increasingly sophisticated cloud models

Co-PIs: Leigh Orf, Matthew Gilmore, Jerry M. Straka, George Bryan, Robert Wilhelmson

Agency: NSF/NCSA Spring 2007

Title: Supplemental Metacenter Proposal for Supercomputing Resources
Co-PIs: Kelvin K. Droegemeier and Jerry M. Straka (*primary author*)
Dates: Nov 1997 to Apr 1998
Award: 300 SUs on the Cray C90 and 30,000 SUs on the Cray T3D/E
Agency: NSF/Metacenter Allocations Committee

Title: Metacenter Proposal for Supercomputing Resources
Co-PIs: Kelvin K. Droegemeier and Jerry M. Straka (*primary author*)
Dates: Apr 1997 to Apr 1998
Award: 1000 SUs on the Cray C90 and 100,000 SUs on the Cray T3D/E
Agency: NSF/Metacenter Allocations Committee

Title: Metacenter Proposal for Supercomputing Resources
Co-PIs: Kelvin K. Droegemeier and Jerry M. Straka (*primary author*)
Dates: Jan 1996 to Jan 1997
Award: 1000 SUs on the Cray C90 and 100,000 SUs on the Cray T3D
Agency: NSF/Metacenter Allocations Committee

Title: Metacenter Proposal for Supercomputing Resources
Co-PIs: Kelvin K. Droegemeier and Jerry M. Straka (*primary author*)
Dates: Jan 1995 to Jan 1996
Award: 1000 SUs on the Cray C90 and 80,000 SUs on the Cray T3D
Agency: NSF/Metacenter Allocations Committee

INTERNALLY FUNDED PROPOSALS FROM UNIVERSITY OF OKLAHOMA

Title: Dual-polarization X-band Radar
PI: Jerry M. Straka
Dates: 2005-2006
Amount: \$50,000
Agency: OU Vice president for research (Dr. Williams)

Title: Supercomputer upgrade
PI: Jerry M. Straka
Dates: 2004
Amount: \$8,333
Agency: OU Vice president for research (Dr. Williams)

Title: Supercomputer upgrade
PI: Jerry M. Straka
Dates: 2004
Amount: \$4,167
Agency: OU Vice president for research (Dr. Williams)

Title: Radar upgrade
PI: Jerry M. Straka.
Dates: 2004
Amount: \$12,000
Agency: OU Vice president for research (Dr. Williams)

Title: Radar upgrade
PI: Jerry M. Straka.
Dates: 2004
Amount: \$6,000
Agency: SoM (Director Dr. Fred Carr)

Title: Mobile Mesonet II
PI: Jerry M. Straka
Dates: 1998-1999
Amount: \$8,400
Agency: SoM (Director Dr. Fred Carr) and OU Vice president for research (Dr. Smith)

Title: Mobile Doppler Weather Radar
Co-PI: Jerry M. Straka and Joshua Wurman.
Dates: 1996
Amount: \$20,100
Agency: OU Vice president for research (Dr. Smith)

Title: Equipment for Meteorological Instruction.
Co-PIs: Jerry M. Straka, Kenneth Crawford and Howard C. Bluestein.
Dates: July 1993 to June 1994
Amount: \$26,913
Agency: Provost's Program for University of Oklahoma Instructional and Advising Improvement

Title: New university-wide undergraduate natural science core curriculum course on "Severe and Unusual Weather"
Co-PIs: Kelvin Droegemeier and Jerry M. Straka
Dates: July 1991 to May 1992
Amount: \$7,800
Agency: Provost's Program for OU Instructional and Advising Improvement

Title: Oklahoma Summer Scholars Program
PI: Jerry Straka
Dates: Summer 1991
Amount: \$1000
Agency: Honors College at OU

INVITED SEMINARS IN PAST TEN YEARS

University of Oklahoma (OU) August 2006 on mammatus clouds (“What causes mammatus”)

University of Illinois (UI) October 2006 on mammatus clouds (“Do we know what causes mammatus”)

South Dakota School of Mines and Technology (SDSMT) October 2006 on mammatus clouds (“Do we know what causes mammatus”)

University of North Dakota (UND) October 2006 on mammatus clouds (“Do we know what causes mammatus”)

Penn State University (PSU) December 2006 on mammatus clouds (“Do we know what causes mammatus”)

University of Illinois (UI) February 2009 on supercells (“Arching vortex lines in supercells”)

University of North Dakota (UND) April 2010 on supercells and tornadoes (“Supercells and Tornadoes”)

Convocation dinner talk at University of North Dakota (UND) April 2010 on ‘Wisdom’

Penn State University (PSU) August 2011 on ‘Long Track Tornadoes’

BOOKS

Straka, Jerry, M., 2009: Cloud and Precipitation Microphysics: Principles and Parameterizations. Cambridge University Press. Cambridge. 406pp. (Available July 31, 2009.)

PEER-REVIEWED PUBLICATIONS

On 77 published peer reviewed papers Straka was 1st or 2nd author on 32 papers, and supporting author on additional 45 papers (student’s and post-doc papers have an * preceding the lead author name). Ordered by publication date. Citations as of 13 and 21 July 2015 from Thomson Reuters Web of Science/Web of Knowledge. My H-index number 30 as of 10 May 2016. I have included Google Scholar Citations for paper not on WoS, but I believe they are higher than would be found if on WoS so should be considered with caution. In the future I will include both WoS and GS for comparison.

Andrić, Jelena*, Matthew R. Kumjian, Dušan S. Zrnić, Jerry M. Straka, and Valery M. Melnikov, 2013: Polarimetric Signatures above the Melting Layer in Winter Storms: An Observational and Modeling Study. *J. Appl. Meteor. Climatol.*, **52**, 682–700.
doi: <http://dx.doi.org/10.1175/JAMC-D-12-028.1> (13 citations “Web of Science”)

Giangrande, Scott E., Scott Collis, Jerry Straka, Alain Protat, Christopher Williams, and Steven Krueger, 2013: A Summary of Convective-Core Vertical Velocity Properties Using ARM UHF Wind Profilers in Oklahoma. *J. Appl. Meteor. Climato.*, **52**, 2278-2295. doi: <http://dx.doi.org/10.1175/JAMC-D-12-0185.1> (4 citations “Web of Science”)

Melnikov, Valery, and Jerry M. Straka, 2013: Axis Ratios and Flutter Angles of Cloud Ice Particles: Retrievals from Radar Data. *J. Atmos. Oceanic Technol.*, **30**, 1691–1703. doi: <http://dx.doi.org/10.1175/JTECH-D-12-00212.1> (0 citations “Web of Science”)

Yuter, S. E., M. A. Miller, M. D. Parker, P. M. Markowski, Y. P. Richardson, H. E. Brooks, and J. M. Straka, 2013: Comment on “Why do tornados and hailstorms rest on weekends?” *J. Geophys. Res.*, **118**, 1–7. (2 citations “Web of Science”)

Fierro, A. O., E. J. Zipser, M. A. Lemone, J. M. Straka, and J. (Malkus) Simpson, 2012: Tropical oceanic hot towers: Need they be undilute to transport energy from the boundary layer to the upper troposphere effectively? An answer based on trajectory analysis of a simulation of a TOGA COARE convective system. *J. Atmos. Sci.*, **68**, 195-213. (12 citations “Web of Science”)

Elston, Jack, Brian Argrow, Erik Frew, Adam Houston, and Jerry Straka, 2011: Evaluation of unmanned aircraft systems for severe storm sampling using hardware-in-the-loop simulations. *AIAA (Amer. Inst. Aeronautics Astronautics.) J. Aerospace Computing, Information and Communication (JACIC)*, **9**, 269-294. doi: [10.2514/1.53737](https://doi.org/10.2514/1.53737) (unknown number of citations; 4 Citations Google Scholar)

Straka, J. M., and K. M. Kanak, 2011: Multi-moment cloud microphysical parameterizations in cloud models. *2011 McGraw-Hill Yearbook of Science & Technology*. (Invited paper). pp. 214-219. (unknown number of citations)

*Kis, Amanda K., and Jerry M. Straka, 2010: Nocturnal Tornado Climatology. *Wea. Forecasting*, **25**, 545–561. doi: [10.1175/2009WAF2222294.1](https://doi.org/10.1175/2009WAF2222294.1) (9 citations “Web of Science”)

Ziegler, C.L., E.R. Mansell, J. M. Straka, D. R. MacGorman, and D. W. Burgess, 2010: The impact of spatial variations of ambient low-level stability on the full life cycle of a simulated supercell storm. *Mon. Wea. Rev.*, **138**, 1738-1765. (23 citations “Web of Science”)

Kanak, K. M. and J. M. Straka, 2009: Numerical simulations of mammatus clouds in shear. *Atmos. Sci. Letters*, **10**, 226-232. doi: [10.1002/asl.224](https://doi.org/10.1002/asl.224) (1 citation “Web of Science”)

Fierro, A. O., J. (Malkus) Simpson, M. A. Lemone, J. M. Straka, and B. F. Smull, 2009: On how hot towers fuel the Hadley cell: Observational and modeling study of typical line-organized convection in the equatorial trough from TOGA COARE. *J. Atmos. Sci.*, **66**, 2730–2746 (12 citations “Web of Science”)

*Beatty, K, E. N. Rasmussen, J. M. Straka, and L. Lemon, 2009: The supercell spectrum. Part II: A semi-objective method for radar classification of supercell type. *Electronic J. Severe Storms Meteor.*, **4**, 1-30. (unknown number of citations; 7 Citations Google Scholar)

Frame, J., P. Markowski, Y. Richardson, J. Straka, and J. Wurman, 2009: Polarimetric and Dual-Doppler Radar Observations of the Lipscomb County, Texas, Supercell Thunderstorm on 23 May 2002. *Mon. Wea. Rev.*, **137**, 544–561. (9 citations “Web of Science”)

*Beatty, K., E. N. Rasmussen, and J. M. Straka, 2008: The supercell spectrum. Part I: A review of research related to supercell precipitation morphology. *Electronic J. Severe Storms Meteor.*, **3**, 1-21. (unknown number of citations; 2 Citations Google Scholar)

Markowski, P., E. Rasmussen, J. Straka, R. Davis-Jones, Y. Richardson, and R. Trapp, 2008: Vortex lines within low-level mesocyclones obtained from pseudo-dual-Doppler radar observations. *Mon. Wea. Rev.*, **136**, 3513-3535. (30 citations “Web of Science”)

*Van Den Broeke, M., J. M. Straka, and E. N. Rasmussen, 2008: Polarimetric radar observations at low-levels during tornado life cycles in a small sample of classic Southern Plains supercells. *J. Appl. Meteor. Climato.*, **47**, 1232-1247. (9 citations “Web of Science”)

MacGorman D.R., et al., 2008: TELEX: The Thunderstorm Electrification and Lightning Experiment. *Bull. Amer. Metr. Soc.*, **89**, 997-1013. (55 citations “Web of Science”)

Kanak, K. M. J. M. Straka, and D. M. Schultz, 2008: Numerical simulations of mammatus clouds. *J. Atmos. Sci.*, **65**, 1606-1621. (6 citations “Web of Science”)

*Jung, Y., Ming X., Zhang, G., and J. M. Straka, 2008: Assimilation of Simulated Polarimetric Radar Data Using Ensemble Kalman Filter: Observation Operators, Error Modeling and Data Impact. *Mon. Wea. Rev.*, **136**, 2246-2260. (26 citations “Web of Science”)

Fierro, A., L. M. Leslie, E. Mansell, and J. M. Straka, D. MacGorman, and C. Ziegler, 2008: Numerical simulation of the microphysics and electrification of the 22nd of February 1993 TOGA COARE tropical squall line. *Mon. Wea. Rev.*, **136**, 364-379. (26 citations “Web of Science”)

Schultz et al., 2008: Reply: Comments on “The mysteries of mammatus clouds: Observations and formation mechanisms”. *J. Atmos. Sci.*, **65**, 1095-1097. (3 citations “Web of Science”)

*Gilmore, M.S., and J. M. Straka, 2008: The Berry and Reinhart 1974 autoconversion scheme: A digest. *J. Appl. Meteor. Climato.*, **47**, 375-396. (5 citations “Web of Science”)

Schultz, D. M., Kanak, K. M., Straka, J. M., et al., 2007: What causes mammatus?. *Bull. Amer. Meteor. Soc.*, **88**, 146-147. (unknown number of citations)

Straka J. M., E. N. Rasmussen, and R. P. Davies-Jones, P. M. Markowski, 2007: An observational and numerical examination of low-level counter-rotating vortices in the rear flank of supercells. *Electronic J. Severe Storms Meteor.*, **2**, 1-22. (unknown number of citations; 43 Citations Google Scholar)

*Kennedy, A., J. M. Straka, and E. N. Rasmussen, 2007: A characterization of descending reflectivity cores in supercells. *Wea. Forecasting*, **22**, 1191-1199. (4 citations “Web of Science”)

*Kennedy, A., E. N. Rasmussen, and J. M. Straka, 2007: A Visual Observation of the 6 June 2005 Descending Reflectivity Core. *Electronic J. Severe Storms Meteor.*, **2**, 1-12. (unknown number of citations; 5 Citations Google Scholar)

Straka, J. M., K. M. Kanak and M. S. Gilmore, 2007: The behavior of number concentration tendencies for the continuous collection equations using one- and two-moment bulk parameterization schemes. *J. Appl. Meteor. Climato.*, **46**, 1264-1274. (3 citations “Web of Science”)

*Straka, Jerry M., Matthew S. Gilmore, Katharine M. Kanak, and Erik N. Rasmussen, 2007: Corrigendum: A comparison of the conservation of number concentration for the continuous collection and vapor diffusional growth equations using one and two moments. *J. Appl. Meteor. Climato.*, **46**, 1138-1139. (unknown number of citations)

*Fierro, A., L. Leslie, E. Mansell, J. Straka, D. MacGorman, and C. Ziegler, 2007: A high-resolution simulation of microphysics and electrification in an idealized hurricane like vortex. *Meteorol. Atmos. Phys.*, **98**, 13-33. doi: 10.1007/s00703-006-0237-0. (20 citations “Web of Science”)

Rasmussen, E. N. and J. M. Straka, 2007: Evolution of angular momentum in the 2 June 1995, Dimmitt, Texas tornado. *J. Atmos. Sci.*, **64**, 1365-1378. (Paper of Note in BAMS; 11 citations “Web of Science”)

Rasmussen, E. N., J. M. Straka, M. S. Gilmore, R. Davies-Jones, 2006: A survey of the occurrence of rear-flank descending reflectivity cores in a sample of supercells. *Wea. Forecasting*, **21**, 923– 938. (30 citations “Web of Science”)

Straka, J. M., and M. S. Gilmore, 2006: Does the influence of oblate-like distortions in larger raindrops make a difference in collection and evaporation parameterizations? *J. Appl. Meteor. Climato.*, **45**, 1582-1591. (3 citations “Web of Science”)

Schultz, D. M., K. M. Kanak, J. M. Straka, R. J. Trapp, B. A. Gordon, D. S., Zrnica, G. H. Bryan, A. J. Durant, T. J. Garrett, P. M. Klein, and D. K. Lilly, 2006: The mysteries of mammatus clouds: Observations and formation mechanisms. *J. Atmos. Sci.*, **63**, 2409-2435. (30 citations “Web of Science”)

Rasmussen, E. N., J. M. Straka, M. S. Gilmore, R. Davies-Jones, 2006: A survey of the occurrence of rear-flank descending reflectivity cores in a sample of supercells. *Wea. Forecasting*, **21**, 923-938. (18 citations “Web of Science”)

Straka, J. M., and M. S. Gilmore, 2006: Does the influence of oblate-like distortions in larger raindrops make a difference in collection and evaporation parameterizations? *J. Appl. Meteor. Climato.*, **45**, 1582-1591. (3 citations “Web of Science”)

Schultz, D. M., K. M. Kanak, J. M. Straka, R. J. Trapp, B. A. Gordon, D. S., Zrnica, G. H. Bryan, A. J. Durant, T. J. Garrett, P. M. Klein, and D. K. Lilly, 2006: The mysteries of mammatus clouds: Observations and formation mechanisms. *J. Atmos. Sci.*, **63**, 2409-2435. (30 citations “Web of Science”)

*Fierro, A. O., M. S. Gilmore, E. R. Mansell, L. J. Wicker, and J. M. Straka, 2006: Electrification and lightning in an idealized boundary-crossing supercell simulation of 2 June 1995. *Mon. Wea. Rev.*, **134**, 3149-3172. (19 citations “Web of Science”)

*Kuhlman, K., E. R. Mansell, C. L. Ziegler, D.R. MacGorman, and J. M. Straka, 2006: Numerical simulations of the 29 June STEPS supercell: Microphysics, Electrification, and Lightning. *Mon. Wea. Rev.*, **134**, 2734-2757. (43 citations “Web of Science”)

Kanak, K.M, and J. M. Straka, 2006: An idealized numerical simulation of mammatus like clouds. *Atmos. Sci. Letters*, **6**, 2-8. doi: 10.1002/ASL.121. (8 citations “Web of Science”)

Straka, J. M., M. S. Gilmore, and E. N. Rasmussen, 2005: A comparison of the conservation of number concentration for the continuous collection and vapor diffusional growth equations using one and two moments. *J. Appl. Meteor. Climato.*, **44**, 1884-1889. (4 citations “Web of Science”)

Mansell, E. R., D. R. MacGorman, C. L. Ziegler, and J. M. Straka, 2005: Charge structure and lightning sensitivity in a simulated multicell thunderstorm, *J. Geophys. Res.*, **110**, D12101, doi:10.1029/2004JD005287. (69 citations “Web of Science”)

Biggerstaff, M. I., L. J. Wicker, J. Guynes, C. Ziegler, J. M. Straka, E. N. Rasmussen, A. Doggett IV, L. D. Carey, and J. L. Schroeder, 2005: The Shared Mobile Atmospheric Research and Teaching (SMART) Radar: A collaboration to enhance research and teaching., *Bull. Amer. Meteor. Soc.*, **86**, 1263-1274. (57 citations “Web of Science”)

*Askelson, M. A., and J. M. Straka, 2005: An extension of the general response function to multiple dimensions Part I: Framework for Interpreting the Response Function, *Mon. Wea. Rev.*, **133**, 2117-2131. (3 citations “Web of Science”)

*Askelson, M. A., P. M. Pauley, and J. M. Straka, 2005: Response functions for arbitrary weight functions and data distributions. Part II: Response Function Derivation and Verification, *Mon. Wea. Rev.*, **133**, 2132-2147. (3 citations “Web of Science”)

Straka, J. M. and T. R. Mansell, 2005: A bulk microphysics parameterization with multiple ice precipitating categories. *J. Appl. Meteor. Climato.*, **44**, 445-466. (51 citations “Web of Science”)

*Gilmore, M. S., J. M. Straka, and E. N. Rasmussen, 2004: Precipitation uncertainty due to variations in precipitation particle parameters within a simple microphysics scheme. *Mon. Wea. Rev.*, **132**, 2610-2627. (120 citations “Web of Science”)

- *Gilmore, M., J. M. Straka, and E. N. Rasmussen, 2004: Precipitation and evolution in simulated deep convective clouds between liquid-only and simple ice and liquid phase microphysics. *Mon. Wea. Rev.*, **132**, 1897-1916. Plus supplement. (82 citations “Web of Science”)
- *Markowski, P. M., J. M. Straka, and E. N. Rasmussen, 2003: Tornadogenesis resulting from the circulation transport of a downdraft: idealized numerical simulations. *J. Atmos. Sci.*, **60**, 795–823. (43 citations “Web of Science”)
- *Loney, M. L., D. S. Zrnic, J. M. Straka, and A.V. Ryzhkov, 2002: Enhanced polarimetric radar signatures above the melting level in a supercell storm, *J. Appl. Meteor.*, **41**, 1179-1194. (24 citations “Web of Science”)
- *Mansell, E. R., D.R. MacGorman, C. L. Ziegler, and Jerry M. Straka; 2002: Simulated three-dimensional branched lightning in a numerical thunderstorm model. *J. Geophys. Res.*, **107** (9). doi: 10.1029/2000JD000244. (84 citations “Web of Science”)
- *Markowski, P., J. M. Straka, and E. N. Rasmussen, 2002: Direct surface thermodynamic observations within the rear-flank downdrafts of nontornadic and tornadic supercells. *Mon. Wea. Rev.*, **130**, 1692-1721. (Paper of Note in BAMS; 120 citations “Web of Science”)
- Kanak, K. M., and J. M. Straka, 2002: An unusual reticular cloud formation. *Mon. Wea. Rev.*, **130**, 416-421. (1 citation “Web of Science”)
- *Lasher-Trapp, S. G., C. A. Knight, and J. M. Straka, 2001: Early radar echos and precipitation formation from ultragiant aerosols. *J. Atmos. Sci.*, **23**, 3545-3562. (22 citations “Web of Science”)
- Zrnic, D. S., A. Ryzhkov, J. M. Straka, Y. Liu, and R. Vivekanandan, 2001: Testing a procedure for automatic classification of hydrometeor types ‘using polarimetric data’. *J. Atmos. Oceanic Tech.*, **18**, 892-913. (79 citations “Web of Science”)
- Ziegler, C. L., E. N. Rasmussen, T. Shepard, A. Watson, and J. M. Straka, 2001: The evolution of low level rotation in the 29 May 1994 Newcastle, Texas storm during VORTEX: *Mon. Wea. Rev.*, **129**, 1339-1368. (26 citations “Web of Science”)
- MacGorman, D. R., J. M. Straka, and C. L. Ziegler, 2001: A new lightning parameterization to redistribute charge. *J. Appl. Meteor.*, **40**, 459-478. (50 citations “Web of Science”)
- *Askelson, M. A., J. P. Aubagnac, and J. M. Straka, 2000: An adaptation of the Barnes filter applied to the objective analysis of radar data. *Mon. Wea. Rev.*, **128**, 3050-3082. (20 citations “Web of Science”)
- Straka, J. M., D. S. Zrnic, and A. V. Ryzhkov, 2000: Bulk hydrometeor classification and quantification using multi-parameter radar data. A synthesis. *J. Applied Meteor.*, **40**, 1341-1372. (180 citations “Web of Science”)

*Markowski, P. M., and J. M. Straka, 2000: Some observations of rotating updrafts in a low-buoyancy, highly sheared environment. *Mon. Wea. Rev.*, **128**, 449-461. (10 citations “Web of Science”)

Rasmussen, E. N., S. J. Richardson, J. M. Straka, and P. M. Markowski, 2000: The association of significant tornadoes with a baroclinic boundary on 2 June 1995. *Mon. Wea. Rev.*, **128**, 174-191. (55 citations “Web of Science”)

*Markowski, P., J. M. Straka, E. N. Rasmussen, and D. O. Blanchard, 1999: Corrigendum: Variability of storm-relative helicity during VORTEX (1998). *Mon. Wea. Rev.*, **128**, 940. (unknown number of citations)

Vivekanandan, J., D. S. Zrnic, S. M. Ellis, D. Oye, A.V. Ryzhkov, and J. M. Straka, 1999: Cloud Physics Retrieval Using S-band Dual-Polarization Radar Measurements. *Bull. Amer. Meteor. Soc.*, **80**, 908. (unknown number of citation)

Vivekanandan, J., D. S. Zrnic, S. M. Ellis, D. Oye, A.V. Ryzhkov, and J. M. Straka, 1999: Cloud Physics Retrieval Using S-band Dual-Polarization Radar Measurements. *Bull. Amer. Meteor. Soc.*, **80**, 381-387. (174 citations “Web of Science”)

*Markowski, P. M., E. N. Rasmussen, and J. M. Straka, 1998: The occurrence of tornadoes and supercells interacting with boundaries during VORTEX 1995. *Wea. Forecasting*, **13**, 582-589. (82 citations “Web of Science”)

*Markowski, P. M., E. N. Rasmussen, J. M. Straka, and D. C. Dowell, 1998: Observations of low-level baroclinic zone generated by anvil shadows. *Mon. Wea. Rev.*, **126**, 2942-2958. (26 citations “Web of Science”)

*Markowski, P., J. M. Straka, E. N. Rasmussen, and D. O. Blanchard, 1998: Variability of storm-relative helicity during VORTEX. *Mon. Wea. Rev.*, **126**, 2959-2971. (46 citations “Web of Science”)

Rasmussen, E. N., and J. M. Straka, 1998: Variations in Supercell morphology. Part I. Hypotheses and observations. *Mon. Wea. Rev.*, **126**, 2406-2421. (45 citations “Web of Science”)

Straka, J. M., and E. N. Rasmussen, 1997: Toward improving microphysical parameterizations of convection parameterizations. *J. Appl. Meteor.*, **36**, 896-902. (12 citations “Web of Science”)

Wurman, J., J. M. Straka, E. N. Rasmussen, M. Randell, and A. Zaharai, 1997: A portable pencil-beam pulsed Doppler Radar. *J. Atmos. Oceanic Tech.*, **14**, 1502-1512. (138 citations “Web of Science”)

Cortinas, J. V., J. M. Schneider, J. M. Straka, W. H. Beasley, and C. M. Machacek, 1996: Experiences of the 1996 REU at the University of Oklahoma Weather Center. *Bull. Amer. Meteor. Soc.*, **77**, 381-387. (3 citations “Web of Science”)

Orf, L., J. R. Anderson, and J. M. Straka, 1996: Colliding microburst outflows. *J. Atmos. Sci.*, **53**, 2490-2511. (17 citations “Web of Science”)

Straka, J. M., E. N. Rasmussen and S. E. Fredrickson, 1996: A mobile mesonet for fine-scale meteorological observations. *J. Atmos. Oceanic Tech.*, **13**, 921-936. (71 citations “Web of Science”)

Wurman, J., J. M. Straka (co-first authors), and E. N. Rasmussen, 1996: Fine-scale radar observations of tornadic storms. *Science*, **272**, 1773-1775. (69 citations “Web of Science”)

Rasmussen, E. N., J. M. Straka, R. P. Davies-Jones, C. E. Doswell III, F. Carr, M. Eilts, and D.R. MacGorman, 1994: Verification of the Origins of Rotation in Tornadoes EXperiment: VORTEX. *Bull. Amer. Meteor. Soc.*, **75**, 995-1006. (126 citations “Web of Science”)

Straka, J. M., 1994: Representing moisture processes in mesoscale numerical models. Mesoscale Modeling of the Atmosphere. Invited Paper. Editors: R. A. Pielke and R. Pearce., Meteorol. Monogr., Amer. Meteor. Soc., Boston, MA, **25**, 29-38. (unknown number of citations)

*Johnson, D. E., P. K. Wang, and J. M. Straka, 1993: A study of microphysical processes in the 2 August 1981 CCOPE supercell storm. *J. Atmos. Research.*, **33**, 93-123. (18 citations “Web of Science”)

*Johnson, D. E., P. K. Wang, and J. M. Straka, 1993: The role of ice phase physics in a highly glaciated northern high plains supercell storm. *J. Appl. Meteor.*, **32**, 745-759. (50 citations “Web of Science”)

Straka, J. M., R. B. Wilhelmson, L. J. Wicker, J. R. Anderson, and K. K. Droegemeier, 1993: Numerical solutions to a nonlinear density current problem: A benchmark solution and comparisons. *Intl. J. for Numerical Methods in Fluids*, **17**, 1-22. (62 citations “Web of Science”)

Straka, J. M., and J. R. Anderson, 1993: Numerical simulations of multi-dimensional non-linear fluid problems with the local spectral method. *Mon. Wea. Rev.*, **121**, 2103-2918. (7 citations “Web of Science”)

Straka, J. M., and J. R. Anderson, 1993: The numerical simulations of microburst producing thunderstorms: Some results from storms observed during the COHMEX experiment. *J. Atmos. Sci.*, **50**, 1329-1348. (47 citations “Web of Science”)

Anderson, J. R., L. Orf, and J. M. Straka, 1992: A 3-D model for simulating thunderstorm microburst outflows. *Meteorol. Atmos. Phys.*, **49**, 125-131. (10 citations “Web of Science”)

Conference Preprints and Abstracts and other Reports

Yuter, Sandra, Matthew Miller , Matthew Parker , Paul Markowski , Yvette Richardson, Harold Brooks , Jerry Straka, 2013: Do tornadoes and hailstorms really ‘rest’ on weekends? AMS annual meeting, Inadvertent Weather Modification. Atlanta, Georgia.

S. Giangrnade, Straka, J.M., M. Jensen, 2012: Mammatus during MCS, Fall AGU meeting, San Francisco, CA.

Straka, J.M., S. Giangrnade, M. Jensen, 2012: Towards improvement in Models of Continental Convective Clouds: How Convective Clouds are Influenced by the Variability in Wind Parameters as Derived from the Dense MC3E Rawinsonde Network, Fall AGU meeting, San Francisco, CA.

Reames, L., and J.M. Straka, 2012: Diurnal variations in severe weather forecast parameters of RUC-2 model-derived proximity environments associated with tornadoes from 2003-2011. AMS Severe Local Storms, Nashville, TN.

Kis, Amanda K., and J. M. Straka, 2012: Numerical investigation of the bent hodograph shape and its effects on storm structure and evolution. AMS Severe Local Storms, Nashville, TN.

Straka, Jerry M., and M. S. Gilmore, 2010: A novel, multiple liquid and ice hydrometeor species, hybrid-bulk/bin, three-moment microphysics parameterization scheme. AMS Cloud Physics Conf., Portland, OR.

Reames, L. J., J. M. Straka, 2010: Synoptic, meso, and storm-scale conditions associated with strong-to-violent nocturnal tornadoes. AMS Severe Local Storms, Denver, CO.

Kis, Amanda K., and J. M. Straka, 2010: New quantification of hodograph shape in nocturnal tornadic environments and its application to forecasting. AMS 25th Severe Local Storms, Denver, CO.

Kis, Amanda K., and J. Straka, 2010: Nocturnal tornado climatology. AMS SLSC. Denver, CO.

Magsig, M.A., J.G. Ladue, E.N. Rasmussen, and J.M. Straka, 2010: GPS based stereo photogrammetry in VORTEX 2. AMS Severe Local Storms, Denver, CO, P6.3.

Van Den Broeke, M.S., J.M. Straka, and E.N. Rasmussen, 2010: Mesocyclone and RFD evolution in simulated supercell storms with varying wind profiles. AMS Severe Local Storms, Denver, CO, 8A.6.

Andric, Jelena, Dusan Zrnica, Jerry Straka, and Valary Melnikov, 2010: The enhanced Zdr signature above melting layer in stratiform clouds. AMS Cloud Physics, Portland, Oregon.

Kis, Amanda K., J. M. Straka and K. M. Kanak, 2008: On the role of descending rain curtains in tornadogenesis, AMS Severe Local Storms, Savannah, Georgia.

Kis, Amanda, K., J. M. Straka and K. M. Kanak, 2008: Nocturnal tornadoes and low-level static stability. AMS Severe Local Storms, Savannah, Georgia.

Ziegler, Conrad L., E. R. Mansell, J. M. Straka, D. R. MacGorman, and D. W. Burgess, 2008: Impact of spatially varying inversion strength on the evolution of a simulated supercell storm. AMS Severe Local Storms, Savannah, Georgia.

Orf, Leigh, M. S. Gilmore, J. M. Straka, R. B. Wilhelmson, L. J. Wicker, and E. N. Rasmussen, Descending Reflectivity Cores in a simulated supercell, 2008: AMS Severe Local Storms, Savannah, Georgia.

Kanak, K.M. and J.M. Straka, 2008: The effects of ambient wind shear and varying initial conditions on numerically simulated mammatus-like clouds, 2008: AMS Severe Local Storms, Savannah, Georgia.

Schultz, D. M., K. M. Kanak, J. M. Straka, 2007: What causes mammatus? European Geophysical Union, Fourth European Conference on Severe Storms, 10-14 September, Trieste, Italy.

Schultz, D. M., K. M. Kanak, J. M. Straka, R. J. Trapp, B. A. Gordon, D. S. Zrnica, G. H. Bryan, A. J. Durant, T. J. Garrett, P. M. Klein, and D. K. Lilly, 2007: What causes mammatus? European Geophysical Union General Assembly 2007, 15-20 April, Vienna, Austria, EGU.

Schultz, D. M., K. M. Kanak, J. M. Straka, R. J. Trapp, B. A. Gordon, D. S. Zrnica, G. H. Bryan, A. J. Durant, T. J. Garrett, P. M. Klein, and D. K. Lilly, 2006: What causes mammatus? AMS Cloud Physics, 10-14 July, Madison, WI.

Kanak, K. M., J. M. Straka, D. M. Schultz, 2006: Numerical Simulation of Mammatus-Like Clouds in Cirrus Outflow Anvils and Comparison with Observations and Cloud Base Detrainment Instability Theory. AMS Cloud Physics, 10-14 July, Madison, WI.

N. Lund, D. MacGorman¹, D. Rust, T. Schuur, P. Krehbiel, W. Rison, T. Hamlin, J. Straka, and M. Biggerstaff, 2007: Relationship Between Lightning Location and Polarimetric Radar Signatures in an MCS. ICAE, Beijing, China

Jung, Youngsun, Ming Xue, Guifu Zhang, and Jerry Straka, 2007: Assimilation of simulated polarimetric radar data using ensemble Kalman filter: Observation operators and data impact. AMS NWP conference, Salt Lake City. UT.

MacGorman, Don, Kristin Kuhlman, David Rust, Mike Biggerstaff, Terry Schuur, Jerry Straka, Paul Krehbiel, William Rison, and Larry Carey, 2007: Lightning and electrical structure of a heavy-precipitation supercell storm during TELEX, ICAE, Beijing, China

Ziegler, Conrad L., Edward R. Mansell, Jerry M. Straka, and Donald R. MacGorman, Don Burgess, 2007: Impact of varying inversion strength on the evolution of charge, lightning, airflow, and microphysics in a simulated tornadic supercell storm, ICAE, Beijing, China.

Straka, J.M., Edward R. Mansell,, and Donald R. MacGorman, Ziegler, Conrad L, and Eric Bruning, 2007: Modeled and observed lightning in a dissipating low precipitation supercell. ICAE, Beijing, China.

Cronce, L.M, M.S Gilmore,, R.B. Wilhelmson, J.M. Straka, 2006: Hail embryo differences between simulated High Plains and Oklahoma storms, Severe Local Storms conference, St. Louis, MO.

Orf, L., M.S Gilmore, R.B. Wilhelmson, J.M. Straka, and E.N. Rasmussen, 2006: The Role of Hook Echo Microbursts in Simulated Tornadic Supercells. Part I Association with counter-rotating vortices and tornadogenesis. AMS Severe Local Storms conference, St. Louis, MO.

Gilmore, M.S., L. Orf, R.B. Wilhelmson, J.M. Straka, and E.N. Rasmussen, 2006: The Role of Hook Echo Microbursts in Simulated Tornadic Supercells. Part II: Sensitivity to Microphysics Parameterization. AMS Severe Local Storms conference, St. Louis. MO.

Kennedy, Aaron, Jerry M. Straka, and Erik Rasmussen, 2006: The Existence of Descending Reflectivity Cores in Rear-Flank Appendages of Supercells. AMS Severe Local Storms conference, St. Louis, MO.

MacGorman, D, D. Rust, C. Ziegler, T, Schuur, E. Mansell, M. Biggerstaff, J. Straka, E. Bruning, K. Kuhlman, N. Ramig, C. Payne, N. Biermann, P. Krehbeil, W. Rison, T. Hamlin, and L. Carey, 2005: Lightning relative to storm structure, evolution and microphysics in TELEX. AMS Radar Conference, Albuquerque, NM.

Jung, Youngsun, Ming Xue, and Jerry M. Straka, 2005: Assimilation of Polarimetric Radar Data using Ensemble Kalman Filter: Experiments with Simulated Data. AMS Numerical Weather Prediction Conference. Washington, D.C.

Fierro, A.O., M.S. Gilmore, L.J. Wicker, E.R., Mansell, J.M. Straka, E.N. Rasmussen., 2005; Electrification and lightning in an idealized boundary-crossing supercell simulation of 2 June 1995. AMS Hurricane Conference, San Diego, CA.

Askelson, M.A., and J.M. Straka, 2004; Response functions for arbitrary weight functions and data distributions. Part I: Framework for interpreting the response function. Technical report 2004-001 Army high performance computing research center. Minneapolis, MN. 55358-1459. 35 pp.

Askelson, M.A., J.M. Straka, and E.N. Rasmussen, 2004: Precipitation, the rear flank downdraft, and tornadoes. AMS Severe Local Storms Conference.

Beatty, K.A., J.M. Straka, E.N. Rasmussen, and L.R. Lemon, 2004: A quasi-objective method for discriminating supercell archetypes using the WSR-88D, AMS Severe Local Storms Conference.

Fierro, A.O., M.S. Gilmore, L.J. Wicker, E.R., Mansell, J.M. Straka and, E.N. Rasmussen, 2004: Electrification and lightning in an idealized boundary-crossing supercell simulation of 2 June 1995. AMS Severe Local Storms Conference.

Gilmore, M. S., S. van Den Heever, J. Straka, E. Rasmussen, R. Wilhelmson, and W. Cotton, 2004: Constant slope or constant intercept. The impact of using single-moment microphysics. 14th International Conference on Clouds and Precipitation, Bologna, Italy, 18-23 July 2004

Gilmore, M. S., R. Wilhelmson, J. Straka, R. Davies-Jones, and E. Rasmussen, 2004: Radial rain transport in tornadic supercells: Implications for microphysics and tornado intensity. 14th International Conference on Clouds and Precipitation, Bologna, Italy, 18-23 July 2004

Kuhlman, K., M., E. R. Mansell, C.L.Ziegler, D.R. MacGorman, and J. M. Straka, 2004: Numerical simulations of the 29 June STEPS supercell. AMS Severe Local Storms Conference.

MacGorman, D.; and C. Ziegler, T. Mansell, J. Straka, P. Krehbiel, B. Rison, and T. Hamlin, 2004: An overview of severe storm signatures in three-dimensional lightning mapping observations. AMS Severe Local Storms Conference.

Rust, D.; and D. MacGorman, T. Schuur, E. Bruning, J. Straka, B. Rison, T. Hamlin, P. Krehbiel, C. Ziegler, T. Mansel, M. Biggerstaff, K. Eack, and B. Beasley 2004; Overview of the 2003 and 2004 field program phases of the Thunderstorm Electrification and Lightning Experiment (TELEX). AMS Severe Local Storms Conference.

Straka, J., M. Gilmore, and E. Rasmussen, 2004: Conservation Properties of Cloud and Precipitation Physics Parameterizations. 14th International Conference on Clouds and Precipitation, Bologna, Italy, 18-23 July 2004.

Gilmore, Matthew S. Alexander Fierro, Edward R. Mansell, Louis J. Wicker, Jerry M. Straka, and Erik Rasmussen, 2003: The influence of local environmental conditions upon supercell kinematics, microphysics, electrification, and lightning. ICAE (12 Int'l Conf. Atmos. Elec.). Versailles 9-12.

Rust D., MacGorman D., Schuur T, Straka J. Krehbiel P., W. Rison, and E. Bruning, 2003: An Overview of the Year-One Field Program Phase of the Thunderstorm Electrification and Lightning Experiment (TELEX) 2003 AGU

Kuhlman, K.M., E.R. Mansell, C.L. Zeigler, J.M. Straka, and D.R. MacGorman., 2003., Charging and lightning in simulations of the 29 Steps supercell, ICAE (12th Int'l Conf. Atmos. Elec.). Versailles, France, pp. 199-202.

Mansell, Edward R., Donald R. MacGorman, Jerry M. Straka, and Conrad L. Ziegler, 2003: Electrification and lightning in simulated storms. ICAE (12th Int'l Conf. Atmos. Elec.). Versailles, France, pp. 119-122.

Mansell, Edward R., Kuhlman, K.M., Conrad L. Ziegler, Jerry M. Straka, and Donald R. MacGorman, 2003: Simulated three-dimensional. ICAE (12th Int'l Conf. Atmos. Elec.). EOS Trans. AGU 86(46) Fall meeting supplement, Abstract AE51B-01. (Invited)

Straka, Jerry M., Edward R. Mansell, Conrad L. Ziegler, Donald R. MacGorman, and Matt S. Gilmore. 2003: Electrification, lightning and microphysics in a simulated, 'bow echo' severe storm. ICAE (12th Int'l Conf. Atmos. Elec.). Versailles, 257.

Ziegler, Conrad L., Edward R. Mansell, Donald R. MacGorman, and Jerry M. Straka: Electrification and lightning in a simulated tornadic, supercell storm. ICAE (12th Int'l Conf. Atmos. Elec.). Versailles 271-274.

Rasmussen, E. N., M. Gilmore, J. M. Straka, and R. P. Davies-Jones. 2002: The occurrence of rear-flank reflectivity maxima in the supercells of 2 June 1995. , AMS Severe Local Storms, San Antonio, TX.

Gilmore, M. S., L. J. Wicker, T. Mansell, J.M. Straka, and E. N. Rasmussen, 2002: Idealized Boundary-Crossing Supercell Simulations of 2 June 1995, AMS Severe Local Storms, San Antonio, TX.

Gilmore, M., J. M. Straka, and E. N. Rasmussen, 2002: Quantitative Precipitation in Simulated Deep Convection: Sensitivity to the Hail/Graupel Category. AMS Severe Local Storms, San Antonio, TX.

Mansell., E.R., D.R. Magorman, J.M. Straka, and C.L. Ziegler, 2001: Lightning flash rate and CD polarity relationships in simulated storms. EOS transactions, AGU., 82(47), Fall meeting supplement, Abstract AE12A-0088.

Zrnic, D.S., M.L.Loney, J.M. Straka, and A.V. Ryhzhkov, 2002: Enhanced polarimetric radar signatures above the melting level in a supercell storm. IGARS.

Gilmore, M. S., E. N. Rasmussen, and J. M. Straka, 2001: Quantitative Precipitation in Simulated Deep Convective: Sensitivity to the hail/graupel category. Preprints. AMS Num. Wea. Pred., San Antonio, TX, pp 139-142.

Gilmore, M. S., E. N. Rasmussen, and J. M. Straka, 2001: Quantitative Precipitation Sensitivity in Simulated Deep Convective Storms due to Variations in the Particle Density and Size Distribution for the "Large Ice" Category, Eos Trans. AGU, 82(47), Fall Meet. Suppl., Abstract A11A-27.

Wicker, L. J., M. S. Gilmore, E. N. Rasmussen, and J. M. Straka, 2001: Influences of the Local Environment on Supercell Cloud-to-Ground Lightning, Radar Characteristics, and Severe Weather on 2 June 1995, Eos Trans. AGU, 82(47), Fall Meet. Suppl., Abstract AE12A-87.

Mansel, E.R., D. Macgorman, J.M. Straka, and C. Ziegler, 2001: Lightning flash rate and CG polarity changes in simulated storms. Eos Trans. AGU, 82(47) Fall Meeting Suppl., Abstract AE12A-0088.

Markowski, P.M., J.M. Straka, and E.N. Rasmussen, 2000: Surface thermodynamic characteristics of RFDs as measured by mobile mesonets. AMS Severe Local Storms, Orlando, FL, pp. 252-254.

Mansell, E., D.R. MacGorman, J.M. Straka, and C. Ziegler, 1999: Numerically simulated lightning production in severe storms. AMS Severe Local Storms, Orlando, FL, 162-165.

Zrnic, D. S., J.M. Straka, A. Ryzhkov, Y. Liu, and R. Vivekanandan, 2000: Sensitivity of an automatic algorithm for hydrometeor classification. IGARS
Straka, J.M., 2000: Problems in supercell-simulating cloud models and suggested remedies. Symposium on Project VORTEX: What we have learned and where we must go. AMS Annual Meeting.

Straka, J.M., 2000: Evidence for the role of barotropic processes in the rearflank downdraft in tornadogenesis. Symposium on Project VORTEX: What we have learned and where we must go. AMS Annual Meeting.

Ziegler, C; E. Rasmussen, T.R. Shephard, A. I. Watson, and J.M. Straka, 2000: Evolution of the low level mesocyclone rotation, The 29 May 1994, Newcastle, Texas storm during VORTEX, AMS Annual Meeting.

Straka, J.M., and E.N. Rasmussen 2000: Tornadogenesis, maintenance, demise in the Dimmitt, TX storm. AMS Annual Meeting.

Markowski, P.M., J.M. Straka, J., and E.N. Rasmussen, 2000: Some surface observations in hook echos obtained by a mobile mesonet. AMS Annual Meeting.

#Loney, M.L., D. S. Zrnic, A.V. Ryzhkov, and J.M. Straka, 1999: In situ and multiparameter observations of an isolated Oklahoma supercell at far range. International Radar Conf. 4pp.

MacGorman, D.R., E. Mansell, J.M. Straka, and C. Ziegler, 1999: A new lightning parameterization to redistribute charge. International Conf. Atmos. Elec. Switzerland.
Mansell, E., D.R. MacGorman, J.M. Straka, and C. Ziegler, 1999: A comparison of simulated and observed lightning in supercell storms. International Conf. Atmos. Elec., Guntersville, Alabama, 1999. 4pp.

Rasmussen, E.N., editor: J.M. Straka, C. Ziegler, M. Biggerstaff, L. Wicker, and contributors, 1999: The scientific justification for dual mobile C-band Doppler radar with dual-polarization capability. NSSL Document. 14 pp.

Ziegler, C.L., J.M. Straka, and D.R. MacGorman, 1999: Simulation of early electrification in a three-dimensional cloud model. International Conf. Atmos. Elec., Switzerland.

Askelson, M.A., J.M. Straka, and D.S. Zrnic, 1998: A study of the kinematics and microphysical evolution of a supercell from first echo using polarization diversity radar. AMS Severe Local Storms, Minneapolis, MN, pp. 56-59.

Blanchard, D.O., and J.M. Straka, 1998: Some possible mechanisms for tornadogenesis failure in supercells. AMS Severe Local Storms, Minneapolis, MN, pp. 116-119.

#Markowski, P.M., J.M. Straka, and E.N. Rasmussen, 1998: Helicity sensitivity and a preliminary study of the effects of small hodograph changes on simulated storms. AMS Severe Local Storms, Minneapolis, MN, pp. 363-366.

#Markowski, P.M., J.M. Straka, and E.N. Rasmussen, 1998: A preliminary investigation of the importance of helicity 'location' in the hodograph, AMS Severe Local Storms, Minneapolis, MN, pp. 230-233.

#MacGorman, D., J.M. Straka, C. Ziegler, E.N. Rasmussen, 1998: A new lightning parameterization to redistribute charge. AMS Severe Local Storms, Minneapolis, MN, pp. 697-700.

#Lasher-Trapp, S.G., C.A. Knight, and J.M. Straka, 1998: The importance of ultragravit nuclei to warm rain formation in a continental cumulus. AMS Cloud Phys. Conf., Everett, WA.

#Liu, Y., and J. M. Straka, 1998: The tangent linear model and adjoint model of a simple moist convective model with ice physics including implications for incorporating dual-polarimetric radar data. AMS Severe Local Storms, Minneapolis, MN, pp. 338-341.

#Richardson, S.J., K. Nixon, J. Snow, and J.M. Straka, 1998: A ruggedized system for measuring extreme winds. AMS Meteor. Obs. and Inst., Phoenix, AZ.

Straka, J.M., D. R. MacGorman, C. L. Ziegler, and E.N. Rasmussen, 1998: Early electrification and lightning in simulations of airmass, multicell and supercell storms: Some comparisons. AMS Severe Local Storms, Minneapolis, MN, pp. 348-351.

Straka, J.M., and E.N. Rasmussen, 1998: Thirty years of cloud modeling: Does the Emperor wear clothes. AMS Severe Local Storms, Minneapolis, MN, pp. 342-347.

#C.L. Ziegler, Watson, A.I., T.R. Shepherd, E.N. Rasmussen, and J.M. Straka, 1998: The Dimmitt, TX mesocyclone and tornado complex as seen by the NOAA P3 during VORTEX 1995. AMS Severe Local Storms, Minneapolis, MN, pp. 112-115.

Askelson, M.A., J.M. Straka, and D.S. Zrnic, 1997: A study of the kinematics and microphysical evolution of a supercell from first echo using polarization diversity radar. Preprints, AMS 28th International. Radar Conf., pp 9-10.

Askelson, M.A., J.M. Straka, and D.S. Zrnic, 1997: A study of the kinematics and microphysical evolution of a supercell from first echo using polarization diversity radar. Preprints. The 2nd

US-Korea Joint Workshop for Storm and Mesoscal Weather Analysis and Prediction. 7-10 Oct 1997, 5pp.

#Richardson, S.J., K. Nixon, J. Snow, and J.M. Straka, 1998: A ruggedized system for measuring extreme winds. SBRI Phase I Report. Computational Geosciences Inc., SBRI Proposal No. 97-1-031, Contract No. 50-DKNA-7-90084, University of Oklahoma, Dec., 12 1997, 16pp.

#Straka, J.M., 1997: A review of tornadogenesis hypotheses and a new conceptual model, 1997. VORTEX Workshop. Monterey, CA.

#Cortinas, J.V., J.M. Schneider, J.M. Straka, W.H. Beasley, and C.M. Machacek, 1996: The 1995 Research Experiences for Undergraduates program at the University of Oklahoma Weather Center. AMS Annual Meeting.

Kanak, K.M., E.N. Rasmussen, and J.M. Straka, 1996: Mobile field coordination in VORTEX. AMS Severe Local Storms, San Francisco, CA.

#MacGorman D.R., C.L. Ziegler, J.M. Straka, 1996; Considering the complexities of thunderstorm electrification. Proc. 10th Intl. Conf. on Atmos. Elec. June 10-15, Osaka, Japan.

#Rasmussen, E.N., and J.M. Straka, 1996: Mobile mesonet observations near tornadoes. AMS Severe Local Storms, San Francisco, CA.

Straka, J. M., 1996: Hydrometeor fields in supercell storms as deduced from dual-polarization radar. AMS Severe Local Storms, San Francisco, CA.

#Straka, J.M., J. Wurman, and E.N. Rasmussen, 1996: Observations of the low-levels of tornadic storms using a portable X-band Doppler radar. AMS Severe Local Storms, San Francisco, CA.

#Watson, A.I., C.L. Ziegler, T.R. Shepherd, E.N. Rasmussen, and J.M. Straka, 1996: The Dimmitt, TX mesocyclone and tornado complex as seen by the NOAA P3 during VORTEX 1995. AMS Severe Local Storms, San Francisco, CA.

#Wurman, J., J.M. Straka, and E.N. Rasmussen, 1996: Observations of the flow fields and structures in tornadoes using a portable X-band Doppler weather radar. AMS Severe Local Storms, San Francisco, CA.

#Zrnic, D.S., J.M. Straka, A. Detweiler, A. Ryzhkov, and B. Gordon, 1996: Measurement interpretation and ground truthing of hydrometeor-a polarimetric perspective. Remote sensing of cloud and precipitation session of the 1996 Union Radio Scientifique Internationale. Abstract. Invited presentation (presented by Zrnic)

#Askelson, M.A., and J.M. Straka, 1995: A Report on the Utilization of Doppler Weather Radar to Monitor Precipitation Rates and Lightning Activity, For Weathernews Inc. and Kyushu Power Company, Japan. CIMMS, University of Oklahoma, 43pp.

Gordon, B.A., D.S. Zrnic, and J.M. Straka, 1995: Polarimetric measurements of a mammata? AMS Conf. on Radar Meteorology, Aspen, CO.

#Rasmussen, E.N. (editor) and in alphabetical order; H.C. Bluestein, M. Branic, R.P. Davies-Jones, C.A. Doswell III, R.A. Maddox, J. Metin, J.M. Straka, and A.I. Watson, 1995: VORTEX - 1995 Operations Plan. National Severe Storm Laboratory, Norman, OK. 141pp.

#Straka, J. M., E. A. Rasmussen and S. E. Frederickson, 1995: VORTEX-1994 intercept vehicles: Integrating GPS and mobile surface meteorological measurements. AMS Ninth Symp. on Meteor. Obs. and Inst., Charelston, SC.

#Wurman, J., J.M. Straka, E.N. Rasmussen, M. Randell, A. Zahrai, 1995: Design and first results from a portable pencil-beam pulsed Doppler Radar. International Conf. on Radar Meteorology, Aspen, CO.

Brewster, K, F. Carr, N. Lin, J.M. Straka, and J. Krause, 1994: A local analysis system for initializing real-time convective scale models. AMS Numerical Weather Prediction, Portland, OR.

Davies-Jones, R.P., E.N. Rasmussen, J.M. Straka, K.M. Kanak, 1994: Overview of VORTEX, A Tornado Field Experiment. Amer. Geophys. Union, 1994 Fall Meeting, San Francisco, CA.

Rasmussen, E.N. (editor) and in alphabetical order; H.C. Bluestein, M. Branic, R.P. Davies-Jones, C.A. Doswell III, R.A. Maddox, J. Metin, J.M. Straka, and A.I. Watson, 1994: VORTEX - 1994 Operations Plan. National Severe Storm Laboratory, Norman, OK, 219pp.

Rasmussen, E.N. and J.M. Straka, 1994: Field coordination for VORTEX. Amer. Geophys. Union, 1994 Fall Meeting, San Francisco, CA.

Straka, J. M., F.W. Gallagher III, and E.N. Rasmussen, 1994: Instrument packages to measure pressure, temperature, and relative humidity in and near mesocyclones and tornadoes. Abstract, Amer. Geophys. Union, 1994 Fall Meeting, San Francisco, CA.

Straka, J. M., and E. A. Rasmussen, 1994: VORTEX field program. CAPS News Funnel, the Newsletter of the Center for Analysis and Prediction of Storms. Winter 1994-1995, 6-7.

Straka, J. M., E. A. Rasmussen and S. E. Frederickson, 1994: A prototype mobile mesonet for fine-scale meteorological observations. Amer. Geophys. Union, 1994 Fall Meeting, San Francisco, CA.

Straka, J. M., D. S. Zrnic, and M. A. Askelson, 1994: Comparison of T-28 aircraft and multiparameter radar measurements. Amer. Geophys. Union, 1994 Fall Meeting, San Francisco, CA.

Zrnic, D.S., A. Ryzhkov, J. M. Straka, 1994: Polarimetric measurements of a distant hailstorm. Amer. Geophys. Union, 1994 Fall Meeting, San Francisco, CA.

Straka, J. M., H. C. Bluestein, 1993: Numerical Simulations of Low-Precipitation (LP) Supercells Using Detailed Microphysics. AMS Severe Local Storms, St. Louis, MO, 184.

Straka, J. M., Y. Liu, L. J. Wicker, 1993: The Influence of Ice-phase Microphysics on Convective Storm Structure and Evolution. AMS Severe Local Storms, St. Louis, MO, 178-182.

Straka, J. M., R. B. Wilhelmson, L. J. Wicker, K. K. Droegemeier, and J. R. Anderson, 1993: Workshop on numerical methods for solving nonlinear problems. National Center for Supercomputing Applications, Preprint 021.

Straka, J. M. and D. S. Zrnic, 1993: An algorithm to deduce hydrometeor types and contents from multi-parameter radar data. International Conf. on Radar Meteorology, Norman, OK, pp. 513-515.

Weygandt, S, J.M. Straka, K.K. Droegemeier, 1993: Sensitivity of storm-scale prediction to initialization with simulated Doppler radar data. International Conf. on Radar Meteorology, Norman, OK, pp. 193-195.

Ziegler, C. L., D. R. MacGorman, and J. M. Straka, 1993: Incorporation of electrification mechanisms into dynamic cloud simulation models: AMS Severe Local Storms, St. Louis, MO, J1-J7.

Ziegler, C. L., D. R. MacGorman, and J. M. Straka, 1992: Incorporation of electrification mechanisms into dynamic cloud simulation models: Part II., Amer. Geophys. Union, Fall Meeting, San Francisco, CA.

Droegemeier, K.K., M. Xue, P.V. Reid, J.M. Straka, J. Bradley III, and R. Lindsay, 1991: The Advanced Regional Prediction System (ARPS) Version 2.0. Theoretical and numerical formulation. Report No. 1. Center for Analysis and Prediction of Storms, University of Oklahoma, 55pp.

Straka, J. M., R. B. Wilhelmson, L. J. Wicker, K. K. Droegemeier, and J. R. Anderson, 1991: Workshop on numerical methods for solving nonlinear problems. Preprints, 9th Conf. on Numerical Weather Prediction, Denver, CO, pp. 274-278.

Ziegler, C. L., D. R. MacGorman, and J. M. Straka, 1991: Incorporation of electrification mechanisms into dynamic cloud simulation models: Part I. Amer. Geophys. Union, Fall Meeting, San Francisco, CA.

Brooks, H. E., B. F. Jewett, L. J. Wicker, J. M. Straka, D. Vigneux, and R. B. Wilhelmson, 1990: The role of hail in numerical simulations of the 29 May 1986 Montreal storm. AMS Severe Local Storms, Kananaskis Park, Alberta, Canada, pp. 46-51.

Jewett, B. F., R. B. Wilhelmson, J. M. Straka, and L. J. Wicker, 1990: Impact of ice parameterization on the low-level structure of modeled supercell thunderstorms. AMS Severe Local Storms, Kananaskis Park, Alberta, Canada, pp. 275-280.

Straka, J.M., L. Orf, and J.R. Anderson, 1990: Experimental microburst forecasts with a three-dimensional cloud model. AMS Severe Local Storms, Kananaskis Park, Alberta, Canada.

TEACHING AND ACADEMIC ADVISING

Classes Taught

[Course and Year(s): Note that this is incomplete]

Introduction to Meteorology (Metr 1004: 1990)
Introduction to Meteorology-Honors (Metr 1004-H: 1991, 1992, 1993, 1994)
Introduction to Meteorology I-Honors (Metr 2013-H: 2012, 2013, 2014, 2015)
Introduction to Meteorology II-Honors (Metr 2023-H: 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015 [planned])
Introduction to Meteorology I (Metr 2013: 2006)
Introduction to Meteorology II (Metr 2023: 2007, 2008)
Severe and Unusual Weather (Metr 2603: 1994, 1995, 1996, 1997)
Physical Meteorology II (Metr 3213: 2000, 2001, 2002, 2003)
Atmospheric Kinematics and Dynamics I (Metr 3113: 1992, 1993)
Honors Research (Metr 3890: 2011, 2012, 2014, 2015)
Dynamics II (Metr 4213: 1997, 1998, 1999)
Mesoscale Meteorology (Metr 4433: 1999, 2010, 2012, 2014)
Cloud and Precipitation Physics (Metr 5233: 1991, 1992, 1993, 1994, 1995, 1999, 2008, 2010)
Master Thesis hours (Metr 5980: 1999, 2000, 2001, 2002, 2003, 2004, 2008, 2009, 2010, 2011, 2012)
Independent Study (Metr 5990: 1999, 2000, 2004, 2008, 2009)
Dissertation Hours (Metr 6980: 1999, 2000, 2001, 2002, 2003, 2008, 2009, 2010, 2011, 2012, 2013, 2014)
Advanced Cloud Physics (Metr 6990: 2004, 2006, 2009)
Nocturnal QLCS tornadoes (Metr 6990: 2010)

Post Doctoral Research Associates

[peer reviewed papers published]

Matt S. Gilmore (2002-2005: Associate Professor at University of North Dakota) [7 papers]
Paul M. Markowski (Fall 2001: Professor at Penn State University) [1 paper]
Dave Blanchard (1999-2002: SOO Flagstaff, AZ at NWS) [4+papers]
Scott Richardson (Fall 1998: Research Scientist at PSU) [1 paper]

Graduate Students-Chair
[peer reviewed papers published]

Ph.D. Degrees (5 completed)

Allison Silveira (Ph.D. Spring 2016; Employed)
Matthew van den Broeke (Ph.D. Spring 2011: Assistant Professor at University of Nebraska-Lincoln)
Mark A. Askelson (Ph.D. Fall 2002: Professor at University of North Dakota) [2 Ph.D. papers]
Paul M. Markowski (Ph.D. Fall 2001: Professor at Penn State University [3 Ph.D. papers + 2 other paper]
Sonia G. Lasher-Trapp (Ph.D Spring 1998: Blue Waters Professor at University of Illinois) [1 Ph.D. Paper]

M.S. Degrees (17 completed)

Sean Waugh (MS Spring 2012; Ph.D. student at OU)
Stefani Henry (MS Spring 2011: Co-Chaired Dr. Katharine M. Kanak; Meteorologist NWS)
Karen Braun (MS Spring 2011; Thomson Reuters)
Owen Sheih (MS Spring 2010-non-thesis)
Amanda Kis (MS Spring 2009) [1 M.S. paper]
Matthew van den Broeke (MS Spring 2007) [3 MS papers+2 other papers]
Aaron Kennedy (MS Spring 2006: Assistant Professor at UND) [2 MS papers]
Allison Silveira (MS Summer 2005: Co-Chaired Dr. Katharine Kanak)
Paul Schlatter (MS Fall 2003: Co-Chaired Dr. Dusan Zrnich; executive advisor to Dr. Jack Hayes, Assistant Administrator for Weather Services and Director of the NWS executive advisor to Dr. Jack Hayes, Assistant Administrator for Weather Services and Director of the NWS)
Kyle Beatty (MS Fall 2003: Co-Chaired Dr. Erik Rasmussen; President at Verisk Climate) [2 MS papers]
Robert Carver (MS Summer 2001: Co-Chaired Dr. Louis Wicker; Head Scientist at Weather Underground)
Loney, Matthew L. (MS Spring 1999: Co-Chaired Dr Zrnich; Meteorologist and program manager at Environment Canada) [1 MS paper]
Paul N. Markowski (MS Fall 1997) [3 MS papers+1 other paper]
Mark A. Askelson (MS Fall 1996) [1 MS paper]
Brent Gordon (MS Summer 1995: Co-Chaired Dr. Dusan Zrnich; Chief of the Systems Integration Branch at the National Centers for Environmental Prediction (NCEP) Central Operations, in Camp Springs, MD) [1 MS paper]
Yidi Liu (MS Summer 1994)
Mike Rehbein (non-thesis MS Fall 1991: Co-Chaired Dr. Doug Lilly; Service Hydrologist at NWS Elkhart, IN)

Graduate Students-Committee Member

Ph.D. Degrees (15 completed, 2 in progress)

Daniel Benton (Ph.D. expected Spring 2015: Biggerstaff)
Jeffery Snyder (Ph.D Spring 2014: Bluestein)

Kristen Kuhlman (Ph.D. Spring 2010: MacGorman/Biggerstaff)
Dan Dawson (Ph.D. Fall 2009: Xue)
Yungsun Jung (Ph.D. Spring 2009: Xue)
Scott Giangrade (Ph.D. Fall 2008: Ryzhkov/Biggerstaff)
Luciano Flesichfresser (Ph.D. 2000: Fiedler)
Edward Mansell (Ph.D. 2000: MacGorman)
Steve Weygandt (Ph.D. 1998: Droegemeier/Shapiro)
Quin Fu Liu (Ph.D. 1997: Kogan/Lilly)
Maraht F. Khairoutdinov (Ph.D. 1997: Kogan/Lilly)
Mikhail Ovtchinnikov (Ph.D. 1997: Kogan/Lamb)
Steve Lazarus (Ph.D. 1996: Droegemeier/Shapiro)
Richard L. Carpenter, Jr. (Ph.D. 1994: Droegemeier)
Robert J. Trapp (Ph.D. 1994: Fiedler)
Qingyun Zhao (Ph.D. 1993: Carr)

M.S. Degrees (19 completed)

Michael Bowlan (MS 2013: Biggerstaff)
Jelena Andric (MS 2011: Zrnic) [Co-authored one paper]
Daniel Benton (MS 2011: Biggerstaff)
Joey Picca (MS 2010: Ryzhkov/Chilson)
Nicolas Bierman (MS 2010: Biggerstaff)
Alexandre O. Fierro (MS 2003: Wicker/Gilmore) [Co-authored one paper]
Stephen G. Gaddy (MS 1999: Bluestein)
Scott Ellis (MS 1997: Shapiro)
David Hokyin (MS 1996: Lamb)
William Gargan (MS 1995: Sasaki)
Daniel C. Bickford (MS 1994: Hane/Droegemeier)
Gordona Sindic-Rancic (MS 1994: Carr)
Limin Zhao (non-thesis MS 1994: Lilly)
Samuel P. Cotorino (non-thesis MS 1993: Carr)
Michael R. Babcock (MS 1992: Droegemeier)
James T. Johnson (MS 1992: Droegemeier)
Renee A. McPherson (MS 1992: Droegemeier)
Richard L. Thompson (MS 1992: Lewis)
William G. Mc-Pherson (MS 1991: Droegemeier)

SERVICE

Participation in field programs (two as Director, one as Co-Dierctor, two as co-lead forecaster, two as lead forecaster/nowcaster)
Graduate studies committee member twice and Graduate studies committee Chair once
Reviewed many papers and proposals (American and International)
Served on several University of Oklahoma academic committees
Judged scholarship applications

PEER REVIEW JOURNAL AND FUNDING AGENCY REVIEW SERVICE

Journal of the Atmospheric Sciences

Monthly Weather Review

Weather and Forecasting

Journal of Applied Meteorology

Journal of Applied Meteorology and Climatology

Geophysical Research Letters

Journal of Geophysical Research - Atmospheres

Quarterly Journal of Royal Meteorological Society

Atmospheric Research

Atmospheric Chemistry and Physics

Meteorologische Zeitschrift

Electronic Journal on Severe Storms

National Science Foundation

NASA ROSES 2014 Proposal Panel Reviewer