

Joshua Wurman's CV

Education:

ScD Meteorology MIT 1991 Thesis: Forcing Mechanisms of Thunderstorm Downdrafts
SM Meteorology MIT 1982 Thesis: The Long Range Dispersion of Radioactive Particulates
SB Interdisc Sci MIT 1982 Physics, Interdisciplinary Science
Courses Harvard 1978 Astrophysics, Astronomy

Work:

1998-2009 President, Center for Severe Weather Research, Boulder, CO
2009-2009 Visiting Scientist, National Center for Atmospheric Research, Boulder, CO
2009-2009 Adjoint Professor of Meteorology, University of Colorado, Boulder, CO
2004-2009 Adjunct Assoc. Professor of Meteorology, Penn. State Univ., State College, PA
2001-2004 Affiliate Scientist, National Center for Atmospheric Research, Boulder, CO
2000-2003 Assoc. Professor w/ Tenure, School of Meteorology, U. of Oklahoma, Norman, OK
1994-2000 Assistant Professor, School of Meteorology, University of Oklahoma, Norman, OK
1998-1999 Visiting Associate Professor, Hokkaido University, Sapporo, Japan
1998 Visiting Scientist, National Center for Atmospheric Research, Boulder, CO
1995-2009 President, BINET Inc., Norman, OK and Boulder, CO
1991-1994 Visiting Scientist, National Center for Atmospheric Research, Boulder, CO
1985-1986 Visiting Instructor of Meteorology, Department of Landscape Architecture, University of Pennsylvania, Philadelphia, PA
1984-1986 Research Meteorologist, OPHIR Corporation, Lakewood, CO

Patents:

USA applied (x3)2005 Rapid-Scan and Adaptable Observing technologies/methods
USA 6,462,699 2002 Real-Time Bistatic Processing
USA 6,456,229 2002 Incoherent Bistatic Network
USA 6,377,204 2002 Multi-frequency Rapid-Scan radar
Europe ----- 1999 Wide-angle weather radar network
USA 5,623,267 1997 Wide-angle multiple-Doppler radar network
USA 5,471,211 1995 Receiver antenna for bistatic Doppler radar network
USA 5,469,169 1995 Receiver for bistatic Doppler radar network
USA 5,434,570 1995 Wide-angle multiple-Doppler radar network
USA 5,410,314 1995 Bistatic multiple-Doppler radar network

Publications: Refereed:

- Byko, Z., P. Markowski, Y. Richardson, **J. Wurman**, and E. Adlerman, 2009: Descending reflectivity cores in supercell thunderstorms observed by mobile radars and in a high-resolution numerical simulation, *Weather and Forecasting*, **24**, 155-186.
- 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. *Monthly Weather Review*, **137**, 544-561.
- Wurman, J.**, C. Alexander, P. Robinson, and Y. Richardson, 2008: Reply (2). *Bulletin of the American Meteorological Society*, **89**, 1580-1581.
- Richardson, Y., P. Markowski, J. Verlinde, and **J. Wurman**, 2008: Integrating classroom learning and research: The Pennsylvania Area Mobile Radar Experiment (PAMREX), *Bulletin of the American Meteorological Society*, **89**, 1097-1101.
- Wurman, J.**, C. Alexander, P. Robinson, and Y. Richardson, 2008: Reply. *Bulletin of the American Meteorological Society*, **89**, 90-94.
- Majcen, M. P. Markowski, Y. Richardson, D. Dowell, and **J. Wurman**, 2008: Multi-pass objective analyses of radar data. *The Journal of Atmospheric and Oceanic Technology*, **25**, 1845-1858.
- Marquis, J., Y. Richardson, **J. Wurman**, and P. Markowski, 2008: Single and dual-Doppler analysis of a tornadic vortex and surrounding storm-scale flow in the Crowell, TX, supercell of 30 April 2000. *Monthly Weather Review*, **136**, 5017-5043.
- Kosiba, K., R.J. Trapp, **J. Wurman**, 2008: An Analysis of the Axisymmetric Three-Dimensional Low Level Wind Field in a Tornado Using Mobile Radar Observations, *Geo. Res. Let.*, **35**, L05805, doi:10.1029/2007GL031851.
- Wurman, J.**, Y. Richardson, C. Alexander, S. Weygandt, P.-F. Zhang, 2007: Dual-Doppler and Single-Doppler Analysis of a Tornadic Storm Undergoing Mergers and Repeated Tornadogenesis, *Mon. Weather Rev.*, **135**, 736-758.
- Marquis, J., Y. Richardson, **J. Wurman**, 2007: Kinematic Observations of Misocyclones Along Boundaries During IHOP, *Mon. Weather Rev.*, **135**, 1749-1768.
- Wurman, J.**, Y. Richardson, C. Alexander, S. Weygandt, P.-F. Zhang, 2007: Dual-Doppler Analysis of Winds and Vorticity Budget Terms Near a Tornado, *Mon. Weather Rev.*, **135**, 2392-2405.
- Wurman, J.**, C. Alexander, P. Robinson, Y. Richardson, 2007: Low Level Winds in Tornadoes and Potential Catastrophic Tornado Impacts in Urban Areas, *Bull. Amer. Meteor. Soc.*, **88**, 31-46.
- Beck, J.R., J. Schroeder, **J. Wurman**, 2006: High-Resolution Dual-Doppler Analyses of the 29 May 2001 Kress, Texas, Cyclic Supercell, *Mon. Weather Rev.*, **134**, 3125-3148.

- Arnot, N., Y. Richardson, **J. Wurman**, and E. Rasmussen, 2005: Relationship between a weakening cold front, mesocyclones, and cloud development on 10 June 2002 during IHOP, *Mon. Weather Rev.*, **134**, 311-335.
- Lee, W.-C., and **J. Wurman**, 2005: The diagnosed structure of the Mulhall tornado, *J. Atmos. Sci.*, **62**, 2373-2393.
- Wurman, J.**, and C. Alexander, 2005: The 30 May 1998 Spencer, South Dakota Storm. Part 2: Comparison of Observed Damage and Radar-Calculated Winds in the Supercell Tornadoes, *Mon. Weather Rev.*, **132**, 97-119.
- Alexander, C., and **J. Wurman**, 2005: The 30 May 1998 Spencer, South Dakota Storm. Part 1: The Structural Evolution and Environment of the Supercell Tornadoes, *Mon. Weather Rev.*, **132**, 72-96.
- Dowell, D., C. Alexander, **J. Wurman**, and L. Wicker, 2005: Centrifuging of scatterers in tornadoes, *Mon. Weather Rev.*, **133**, 1501-1524
- Shapiro, A., P. Robinson, **J. Wurman**, J. Gao, 2003: Single-Doppler Velocity Retrieval with Rapid-Scan Radar Data. *Journal of Atmospheric and Oceanic Technology*, **20**, 1758–1775.
- Gibson, B., S. Postawko, J. Ensworth, M. Morrissey, **J. Wurman**, S. Ellis, 2003: Introducing High-tech and Low-tech Geoscience-related Technology to Disadvantaged Schools in the Tropical Pacific, *J. Geoscience Education*, **51**, March 2003.
- Satoh, S., and **J. Wurman**, 2003: Accuracy of Wind Fields Observed by a Bistatic Doppler Radar Network, *J. Ocean. Atmos. Tech.*, **20**, 1077-1091
- Lockhart and others, **J. Wurman**, 2003: Radars in Support of Meteorology: Handbook on Weather, Water, and Climate, Wiley Interscience, 895-920
- Wurman, J.**, 2002: The Multiple-Vortex Structure of a Tornado, *Wea. and Forecasting*, **17**, 473-505.
- Burgess, D. M. Magsig, **J. Wurman**, D. Dowell, and Y. Richardson, 2002: Radar Observations of the 3 May 1999 Oklahoma City Tornado, *Wea. and Forecasting*, **17**, 456-471.
- Gibson, B., S. Postawko, M. Morrissey, **J. Wurman**, 2001: Rainfall Measurements in the Schools of the Pacific Rainfall Climate Experiment (SPaRCE), *J. Environ. Educ.*
- Wurman, J.**, and S. Gill, 2000: Fine-Scale Radar Observations of the Dimmitt, Texas Tornado, *Mon. Weather Rev.*, **128**, p2135-2164
- Wurman, J.**, 1999: Tornadoes Observed by the Doppler On Wheels Radar, *J. of Visualizat.*, **2**, 1
- Wurman, J.**, J. Winslow, 1998: Intense Sub-Kilometer-Scale Boundary Layer Rolls Observed in Hurricane Fran, *Science*, **280**, p555-7
- Wurman, J.**, J. Straka, E. Rasmussen, M. Randall, A. Zahrai, 1997: Design and Deployment of a Portable, Pencil-Beam, Pulsed Doppler Radar, *J. Atm. Ocean. Tech.*, **14**, 1502-12

Wurman, J., J. Straka, E. Rasmussen, 1996: Fine Scale Doppler Radar Observation of Tornadoes, *Science*, **272**, p1774-1777

Wurman, J., J. Straka, E. Rasmussen, 1994: Wurman J., M. Randall, C. Frush, E. Loew, and C. Holloway, 1994: Design of a bistatic dual-Doppler radar for retrieving vector winds using one transmitter and a remote low-gain passive receiver, *Proceedings of the IEEE, Special Issue on Remote Sensing Instruments for Environmental Research*, **82**, Dec 1994

Wurman, J., 1994: Vector winds from a single transmitter bistatic dual-Doppler radar network, *Bull. Amer. Meteor. Soc.*, **75**, 983-994

Wurman, J., S. Heckman, and D. Boccippio, 1993: A bistatic multiple-Doppler network:, *Journal of Applied Meteorology*, **32**, 1802-1814

Schaaf, C.B., **J. Wurman**, and R.M. Banta, 1988: Thunderstorm-producing terrain features, *Bull. Amer. Meteor. Soc.*, **79**, 272-277

Publications and Conference Presentations: Non-refereed, partial list into 2004

Joshua Wurman, 2009: DOW Tornado & Hurricane Research Leading up to VORTEX2, Proceedings National Storm Chaser Convention, Denver, CO

Joshua Wurman, C. R. Alexander, Y. P. Richardson, P. Robinson, and W. Lee, 2008: GBVTD analysis of the Spencer, South Dakota (1998) Tornado, Proceedings 24th Conference on Severe Local Storms, Savannah, GA, American Meteorological Society

Joshua Wurman, and P. Robinson, W. Lee, C. R. Alexander, and K. A. Kosiba, 2008: Rapid-Scan Mobile Radar 3D GBVTD and traditional analysis of tornadogenesis, Proceedings 24th Conference on Severe Local Storms, Savannah, GA, American Meteorological Society

Christopher C. Weiss and J. Wurman, 2008: Coordinated in-situ and remote sampling of supercell thunderstorms, Proceedings 24th Conference on Severe Local Storms, Savannah, GA, American Meteorological Society

Timothy P. Marshall and D. McCarthy, J. G. LaDue, J. Wurman, C. R. Alexander, P. Robinson, and K. A. Kosiba, 2008: Damage survey and deduction of vortex structure of the Greensburg, KS tornado, Proceedings 24th Conference on Severe Local Storms, Savannah, GA, American Meteorological Society

Yvette P. Richardson, J. M. Wurman and P. M. Markowski, 2008: High-resolution observations of cyclic tornadogenesis on 12 May 2004 near Attica, KS, Proceedings 24th Conference on Severe Local Storms, Savannah, GA, American Meteorological Society

Mario Majcen, P. Markowski, Y. Richardson, and J. Wurman, 2008: Dual-Doppler analyses on nontornadic supercells observed with mobile ground-based Doppler radars, Proceedings 24th Conference on Severe Local Storms, Savannah, GA, American Meteorological Society

James N. Marquis, Y. Richardson, J. Wurman, P. Markowski, and D. C. Dowell, 2008: Mobile radar observations of tornadic supercells with multiple rear-flank gust fronts, Proceedings 24th Conference on Severe Local Storms, Savannah, GA, American Meteorological Society

Joshua Wurman and K. A. Kosiba, 2008: DOW observations of multiple vortex structure in several tornadoes, Proceedings 24th Conference on Severe Local Storms, Savannah, GA, American Meteorological Society

Joshua Wurman, 2008: Preliminary Results and Report of the ROTATE-2008 radar / in-situ / mobile mesonet experiment, Proceedings 24th Conference on Severe Local Storms, Savannah, GA, American Meteorological Society

Curtis R. Alexander and J. Wurman, 2008: Updated mobile radar climatology of supercell tornado structures and dynamics, Proceedings 24th Conference on Severe Local Storms, Savannah, GA, American Meteorological Society

Joshua Wurman, 2007: Low Level winds in tornadoes observed by radars and in situ instrumentation, Proceedings 33rd Conference on Radar Meteorology, Cairns, Queensland, Australia

Curtis R. Alexander and J. Wurman, 2007: DOW-based dynamic climatology of tornadoes, Proceedings 33rd Conference on Radar Meteorology, Cairns, Queensland, Australia

Mario Majcen, P. Markowski, Y. Richardson, D. Dowell, and J. Wurman, 2007: Multi-pass objective analyses of radar data: Preliminary results, Proceedings 33rd Conference on Radar Meteorology, Cairns, Queensland, Australia

Tammy M. Weckwerth, J. W. Wilson, J. M. Wurman, M. Hagen, and V. Wulfmeyer, 2007: Convection Initiation in Germany's Black Forest, Proceedings 33rd Conference on Radar Meteorology, Cairns, Queensland, Australia

Wurman, Joshua, 2007: DOW Observations of Tornado Structure, Genesis and Evolution, Proceedings 4th European Conference on Severe Storms, Trieste, Italy

Jeffrey Beck, J. L. Schroeder, **J. Wurman**, and C. Alexander, 2004: High-resolution dual-Doppler radar observations of a non-tornadic supercell, Proceedings 22nd Conference on Severe Local Storms, Hyannis, MA, American Meteorological Society

Curtis R. Alexander, and **J. Wurman**, 2004: Comparison between DOW observed tornadoes and parent mesocyclones observed by WSR-88Ds, Proceedings 22nd Conference on Severe Local Storms, Hyannis, MA, American Meteorological Society

Joshua Wurman, C. Alexander, 2004: Scales of motion in tornadoes, what radars cannot see, what is a tornado, Proceedings 22nd Conference on Severe Local Storms, Hyannis, MA, American Meteorological Society

William A. Gallus, Jr., P. Sarkar, F. L. Haan, K. Le, R. Kardell, and **J. Wurman**, 2004: A translating tornado simulator for engineering tests: comparison of radar, numerical model, and simulator winds, Proceedings 22nd Conference on Severe Local Storms, Hyannis, MA, American Meteorological Society

Joshua Wurman, T. Samaras, 2004: Comparison of in-situ pressure observations and DOW Doppler winds in a tornado, Proceedings 22nd Conference on Severe Local Storms, Hyannis, MA, American Meteorological Society

Nettie R. Arnott, and Y. P. Richardson and **J. Wurman**, 2004: High resolution observations of a cold front on 10 June 2002, Proceedings 22nd Conference on Severe Local Storms, Hyannis, MA, American Meteorological Society

Yvette P. Richardson, J. Marquis, E. N. Rasmussen, **J. M. Wurman**, and N. R. Arnott, 2004: Analysis of convection initiation along a dryline on 19 June 2002, Proceedings 22nd Conference on Severe Local Storms, Hyannis, MA, American Meteorological Society

James Marquis, Y. P. Richardson and **J. Wurman**, 2004: Observations of mesocyclones along boundaries during IHOP, Proceedings 22nd Conference on Severe Local Storms, Hyannis, MA, American Meteorological Society

Wurman J., 2004: Observations of Hurricane Landfalls with Mobile Radars, 58th Interdepartmental Hurricane Conference, Charleston, SC

Wurman, J., 2004: Comparison of Boundary Layer Rolls in 6 Landfalling Hurricanes, AMS Hurricane Conference

Wurman, J., and S. Weygandt, 2003: Mobile Radar Observations of the Big Elk (2002) and Roberts (2003), 5th Symposium on Fire and Forest Meteorology, Orlando, American Meteorological Society, J2.10

Wurman, J., 2003: Preliminary results from the Rapid-DOW, a multi-beam inexpensive alternative to phased arrays, 31st Conference on Radar Meteorology, Seattle, American Meteorological Society

Wurman, J., and Weygandt, S., 2003: Fires observed by mobile radar, 31st Conference on Radar Meteorology, Seattle, American Meteorological Society

Arnot, N., Richardson, Y., **Wurman, J.**, and Lutz, J., 2003: A solar alignment technique for determining mobile radar pointing angles, 31st Conference on Radar Meteorology, Seattle, American Meteorological Society

Wurman, J., 2003: Observations of plumes of particles and water released from aircraft, 31st Conference on Radar Meteorology, Seattle, American Meteorological Society

Lee, W.-C. and **Wurman, J.**, 2003: Diagnosed structure of the Mulhall, Oklahoma tornado, 31st Conference on Radar Meteorology, Seattle, American Meteorological Society

Montgomery, M., Terwey, W., Elenbaas M. Lee, W.-C., and **Wurman, J.**, 2003: Preliminary stability analysis of the DOW-observed Mulhall, Oklahoma tornado, 31st Conference on Radar Meteorology, Seattle, American Meteorological Society

Wurman, J., 2003: Multiple-Doppler observations of tornadoes and tornadogenesis during the ROTATE-2003 project, 31st Conference on Radar Meteorology, Seattle, American Meteorological Society

Arnot, N., Richardson, Y., **Wurman, J.**, 2003: A multiple-Doppler analysis of convective initiation on 10 June 2003 during IHOP-2002, 31st Conference on Radar Meteorology, Seattle, American Meteorological Society

- Richardson, Y., **Wurman, J.**, and Hartman, C., 2003: Multi-Doppler analysis of convective initiation on 19 June 2003 during IHOP-2002, 31st Conference on Radar Meteorology, Seattle, American Meteorological Society
- Wurman, J.**, 2002: A discussion of radar observations of extreme winds in tornadoes, *21st Conference on Severe Local Storms*, San Antonio, American Meteorological Society
- Alexander, C., and **Wurman, J.**, 2002: Comparison of DOW Doppler velocities and the damage survey of the 30 May 1998 Spencer, South Dakota Tornado, *21st Conference on Severe Local Storms*, San Antonio, American Meteorological Society
- Wurman, J.**, 2002: The rapid-scan DOW, *21st Conference on Severe Local Storms*, San Antonio, American Meteorological Society
- Lee, W.-C., and **Wurman, J.**, 2002: Diagnosed structure of the Mulhall tornado using VTD algorithm, *21st Conference on Severe Local Storms*, San Antonio, American Meteorological Society
- Richardson, Y., **Wurman, J.**, and Weckwerth, T., 2002: Multiple-Doppler radar observations of convective initiation during IHOP, *21st Conference on Severe Local Storms*, San Antonio, American Meteorological Society
- Dowell, D., Richardson, Y., **Wurman, J.**, 2002: Observations of the formation of low-level rotation: the 5 June 2001 Sumner County, Kansas, tornado, *21st Conference on Severe Local Storms*, San Antonio, American Meteorological Society
- Richardson, Y., **Wurman, J.**, 2002: Two modes of tornadogenesis in storm A on 3 May 1999, *21st Conference on Severe Local Storms*, San Antonio, American Meteorological Society
- Magsig, M., Burgess, D., Dowell, D., Richardson, Y., and **Wurman, J.**, 2002: The structure and evolution of hook echoes during tornadogenesis as revealed by high resolution radar data, *21st Conference on Severe Local Storms*, San Antonio, American Meteorological Society
- Wurman, J.**, 2001: The DOW mobile multiple-Doppler network, Preprints, *30th Conference on Radar Meteorology*, Munich, American Meteorological Society
- Wurman, J.**, and M. Randall, 2001: An inexpensive, mobile, rapid-scan radar, *30th Conference on Radar Meteorology*, Munich, American Meteorological Society
- Wurman, J.**, 2001: Bistatic Radar Networks, *30th Conference on Radar Meteorology*, Munich, American Meteorological Society
- Satoh, S. and **J. Wurman**, 2001: Accuracy of wind fields in convective and stratiform echoes observed by a bistatic Doppler radar network, *30th Conference on Radar Meteorology*, Munich, American Meteorological Society

- Shapiro, A., P. Robinson, and **J. Wurman**, 2001: Single-Doppler velocity retrievals with rapid-scan radar data, *30th Conference on Radar Meteorology*, Munich, American Meteorological Society
- Zhang, P., **J. Wurman**, and Y. Richardson, 2001: Correlation technique for navigation of mobile dual-Doppler network data, *30th Conference on Radar Meteorology*, Munich, American Meteorological Society
- Richardson, Y., D. Dowell, and **J. Wurman**, 2001: High resolution dual-Doppler analyses of two thunderstorms during the pre-tornadogenesis and mature tornado stages, *30th Conference on Radar Meteorology*, Munich, American Meteorological Society
- Wurman, J.**, 2001: Radar observations of a multiple vortex tornado, *30th Conference on Radar Meteorology*, Munich, American Meteorological Society
- Burgess, D., M. Magsig, **J. Wurman**, D. Dowell, and Y. Richardson, 2001: A comparison of wsr-88d and dop radar observations for the oklahoma city tornado of May 3, 1999, *30th Conference on Radar Meteorology*, Munich, American Meteorological Society
- Lee, W.-C., and **J. Wurman**, 2001: Evolution and structure of a tornado during the 4 may 1999 tornado outbreak near Oklahoma City, *30th Conference on Radar Meteorology*, Munich, American Meteorological Society
- Dowell, D., **J. Wurman**, and L. Wicker, 2001: Centrifuging of scatterers in tornadoes, *30th Conference on Radar Meteorology*, Munich, American Meteorological Society
- Wurman, J.**, 1999: Fine-Scale Boundary Layer Structure Observed in Hurricane Georges (1998): *Preprints, 29th Conference on Radar Meteorology, Montreal, American Meteorological Society*
- Wurman, J.**, 1999: Tornado Observations from the ROTATE-98 and -99 Field Programs: *Preprints, 29th Conference on Radar Meteorology, Montreal, American Meteorological Society*
- Hagen, M., P. Meischner, **J. Wurman**, M. Randall, and C. Burghart, 1999: A C-Band Bistatic Radar System at DLR Oberpfaffenhofen: *Preprints, 29th Conference on Radar Meteorology, Montreal, American Meteorological Society*
- Satoh, S., and **J. Wurman**, 1999: Accuracy of Composite Wind Fields: *Preprints, 29th Conference on Radar Meteorology, Montreal, American Meteorological Society*
- Wurman, J.** 1999: Review of *Tornado Alley* by Howard Bluestein, *Bull. Amer. Met. Soc.*,
- Wurman, J.** 1998: Preliminary Results from the ROTATE-98 Tornado Experiment, *Preprints, Conference on Severe Local Storms, Minneapolis, American Meteorological Society*

- Gill, S., and **J. Wurman**, 1998: Wind Field Evolution of the Dimmitt, TX and Rolla, KS Tornadoes, *Preprints, Conference on Severe Local Storms*, Minneapolis, American Meteorological Society
- Kilambi, A, A. Protat, A. Singh, I. Zawadzki, **J. Wurman**, M. Randall, C. Burghart, 1997: A Bistatic Radar System at McGill University, *Preprints, 27th Conference on Radar Meteorology*, Austin, American Meteorological Society
- Wurman, J.**, J. Straka, E. Rasmussen, 1996: Preliminary Radar Observations of the Structure of Tornadoes, *Preprints, Conference on Severe Local Storms*, San Francisco, Amer. Meteor. Soc.
- Straka, J., **J. Wurman**, E. Rasmussen, 1996: Observations of the Low-Levels of Tornadic Storms Using a Portable X-Band Doppler Radar, *Preprints, Conference on Severe Local Storms*, San Francisco, American Meteorological Society.
- Gibson, B., M. Morrissey, S. Postawko, **J. Wurman**, 1996: The Schools of the Pacific Rainfall Climate Experiment Field Training Sessions: Phase 1, *Preprints, 5th Symposium on Education*, Atlanta, GA, American Meteorological Society.
- Wurman, J.**, J. Straka, E. Rasmussen, M. Randall, A. Zahrai, 1995: Design and First Results from a Portable, Pencil-Beam, Pulsed Doppler Radar, *Preprints, Conference on Severe Local Storms*, San Francisco, American Meteorological Society.
- Wurman, J.**, S. Heckman, and D. Boccippio, 1993: Bistatic multiple-Doppler radar concepts, *Preprints, 26th Conference on Radar Meteorology*, Norman, OK, American Meteorological Society, 404-406
- Wurman, J.**, C. Frush, J. VanAndel, J. Downing, 1993: Vector windfields and design of a bistatic dual-Doppler network, *Preprints, 26th Conference on Radar Meteorology*, Norman, OK, American Meteorological Society, 407-409
- Wurman, J.**, 1991: Forcing mechanisms of thunderstorm downdrafts, *Proceedings, 25th Conference on Radar Meteorology, Paris, France*, American Meteorological Society, Boston, MA J63-66
- Wurman, J.**, 1989: Triple Doppler analyses of COHMEX data: *Proceedings, 24th Conference on Radar Meteorology*, American Meteorological Society, Boston, MA, 750-753
- Schaaf, C.B., C. Crouch, **J. Wurman**, and R.M. Banta, 1986: *Orographically Initiated Convection in Honduras*, AFGL-TR-87-0054
- Schaaf, C.B., **J. Wurman**, and R.M. Banta, 1986: *Satellite Climatology of Thunderstorm Initiation Sites in the Rocky Mountains of Colorado and New Mexico*, AFGL-TR-86-0075
- Wurman, J.**, 1986: *A PTaylor Library for Tektronix Compatible Devices*, AFGL-TR-86-0014

Field Programs:

VORTEX2 (2009), High Planes, PI/co-PI/Steering Committee
Hurricane Ike (2008) DOW mobile radar intercept, Galveston, Texas, PI
Hurricane Gustav (2008) DOW mobile radar intercept, Waterproof, Louisiana, PI
COPS(2007) Convective and Orographically-induced Precipitation Study, Germany/France
Hurricane Rita (2005) DOW mobile radar intercept, Port Arthur, Texas, PI
Hurricanes Frances (2004) DOW mobile radar intercept, Ft. Pierce, Florida, PI
Hurricane Ivan (2004) DOW mobile radar intercept, Gulf Shores, Alabama, PI
PAMREX (2003-4) Educational Experiment at Pennsylvania State University
Fire (2003) Testing of Fire Suppression Air Drops, California, PI
Hurricane Isabel DOW mobile radar intercept, Atlantic North Carolina, PI
Canadian River Homeland Security (2003) Detection of Simulated Terrorist Bacteria Releases
IHOP (2002) Convective Initiation and Boundary Layer Study, co-PI
IPEX (2000) Intermountain Precipitation Experiment, Utah
JAWS Alaska Turbulence Experiment (2000, 2002-03)
Goodwin Creek Rainfall Experiment (2000-01)
STEPS (2000) Thunderstorm Study, Colorado/Kansas
MAP (99) Mesoscale Alpine Project, Italy/Switzerland
ROTATE-98,99,2000, 01, 03, 04, 05, 06,07,08 Dual-Mobile-Doppler (DOW) tornado study, PI
HAL (98,99,02,03, 04, 05) Hurricanes at Landfall dual-DOW intercepts of hurricanes, PI
CALJET (98) Low Level Jets and Boundary Layer, California, co-PI w/CMRP
CASES (97) Bistatic Network and Rainage study
Tornado (97) Dual-Mobile-Doppler (DOW) tornado study, PI
CMRP (97) Marine Boundary Layer Experiment, Florida, co-PI
TORNADO (96) DOW Portable Radar Observations of tornadoes, PI
LIFT (96) DOW Portable Radar Observations of boundary layer, Illinois
Hurricane Fran (96) Mobile Doppler Radar (DOW) Observations of typhoon landfall, PI
SPaRCE (95,97,99) Automated Weather Station Development and Observations, South Pacific
VORTEX (95) Portable Radar Development and Observations of tornadoes, High Planes
SCMS (95) DOW Portable Radar Observations
LANTEX (94) Hong Kong, ISS Operator
TOGA-COARE (92-93) Integrated Sounding System (ISS) Operator, Kapingamaringi
RAPS (92-93) Hail/Tornado Chasing
Orlando Microburst Experiment (90-91) MIT C-band Radar Operator
ERICA (89-90) Forecaster/Observer/Radar Operator
NEWSEX (82-83) Forecaster/Observer

Selected Invited External Presentations:

American MENSA (2009)
Congressional Natural Hazards Caucus (2006)
National Chaser Convention (2006)
Ohio Severe Weather Symposium (2005)
National Hurricane Conference (2005)
National Chaser Convention (2004,2005)
Severe Weather Convention, Calif. Univ. of Penn. (2004)
Denver University (2003)
Severe Weather Symposium, Norman (2003)
State-Farm Severe Weather Symposium (2003)
Fujita Symposium, AMS(2003)
Penn State University (2002)
University of Connecticut (2002)
Iowa Severe Storms Keynote (2002)
Nagoya University, Japan (2001)
University of Wisconsin (2001)
Iowa State University (2001)
Indiana University (2000)
Beijing Meteorological Agency, China (2000)
Reinsurance Institute, Bahamas (2000)
OU Physics REU Colloquium, Oklahoma (1999)
Defence Academy, Japan (1999)
Osaka-Kyoiku University (1999)
University of Alabama, Huntsville (1999)
Insurance Day Conference, Missouri (1999)
Yamaguchi University, Ube Japan (1999)
Weather Service Severe Storms Conference, Amarillo (1999)
Hokkaido University, Sapporo, Japan (1998,1999)
Technology Entertainment and Design Conference, California (1998,1999)
Tokyo University, Tokyo, Japan (1998)
Kyoto University, Kyoto, Japan (1998)
Weather Data Incorporated, Tokyo, Japan (1998)
OU Physics Colloquium, Oklahoma (1998)
NWA Severe Storms Conference, Iowa (1998)
Petroleum and Natural Gas Conference, Norman (1998)
Texas A&M University, College Station (1997)
Korean Meteorological Agency, Seoul Korea (1997)

Selected Newspaper and Magazine Articles and TV Documentaries Featuring Research

Physicsworld (2009), Riding the storm out
Scientific American (2009) Why don't tornadoes hit cities more often?
Scientific American (2009) 10 Important Atmospheric Science Experiments
Atlanta Journal-Constitution, (2009) Tornado chasers' goal is to improve forecasts
Discover Magazine (April 2009) The World's Biggest Tornado Hunt
Washington Post (April 20, 2009) Tornado-Chasing Project Aims to Improve Forecasts
Planet Green (2008) Greensburg: One year Later
Larry King Live (2008), Twister Terror
St. Petersburg Times Sunday Edition (2005) Storm chasers to be tracking gusts
Big Weather (2005) (Book)
Economist (2003)
USA Today (1996,1997,1998,1999, 2003)
Discover Magazine (1999)
FHM (UK) (1999)
Dallas Morning News (1996,1999)
Miami Herald (1999)
New York Times (1996,1999)
Science News (1996,1999)
Cousteau (France) (1998)
Popular Science (1997)
Weatherwise (1997)
Cafe (Sweeden)
Agora (Japan) (1997)
Science Spectra (1997)
Washington Post (1996)
New Scientist (1996)
Der Spiegel (1996)
Newton (Japan) (1996)

DOW and Wurman work referenced in many popular weather books.

Television/Radio/Film (first airing year) (partial list)

Discovery Channel TV, Science of Storm Chasing: A Passion for Extreme Weather (2008)
Discovery Channel TV, Science of Storm Chasing: Tornado Intercept Attempt (2008)
Discovery Channel TV, Storm Chasers (2007,2008)
National Geographic Tornado Intercept (2005)
National Geographic The True Face of Hurricanes (2005)
National Geographic TV, The True Face of Hurricanes (2005)
National Geographic Forces of Nature IMAX (2004)
Entertainment Tonight (2004)
National Geographic Channel (2004)
IMAX: Forces of Nature (2004)
NOVA: The Hunt for the Supertwister (2004)
Today, NBC: (2004), Sunday Today, NBC (2004)
National Geographic TV, Tornado Special Unknown Title (2004)
NBC Dateline (2003) Hurricane Isabel
History Channel (2001, 2003)
New Zealand Television (2001)
National Geographic Television (2001) Forces of Nature
Discovery Chan (1997,1998,1999,2000) Storm Force, Raging Planet, others
CBS 48 Hours (1998, 1999, 2000)
Weather Channel (1997-2000) Chase Documentary+various features
The Learning Channel (1996,1998,1999,2000)
BBC (1998) Violent Planet, others (2000)
NBC Dateline (1999) Gone With the Wind
NPR (1996,1998,1999)
NHK (Japan) (1998) 90 min doc Tornado Hunter
California Public TV (1998) Real Science
German TV (1998) Killersturmen
Colombian TV (1998)
El Globo (Brazil) (1996)
TV Asahi (Japan) (1996) Chasing the Tornado

Other Interviews, Articles, Documentaries:

Time, Newsweek, Biography, NBC, CBS, ABC, ABC Good Morning America, MSNBC, CNN,
AP, BBC, Weather Channel, City TV, Night Line, many local papers and TV