

Robert M. Rauber Professor and Head-Department of Atmospheric Sciences

- Education:** *Ph.D.* (1985), *M.S.* (1981) Atmospheric Science, Colorado State University
B.S. (1978, Physics), *B.A.* (1973, English) Pennsylvania State University
- Professional Experience:** *Head, Department of Atmospheric Sciences, Univ. of Illinois* (2008-present)
Acting Head, Department of Atmospheric Sciences, Univ. of Illinois (2006-2008)
Professor, University of Illinois (2002-present);
Associate Professor, University of Illinois (1992-2002)
Assistant Professor, University of Illinois; (1987-92)
Scientist, Electronic Techniques Inc., Auburn CA (1985-87)
Research Associate, Colorado State University, (1981-85)
Graduate Research Assistant, Colorado State University (1978-1981)
Research Fellow, Arecibo Observatory, Puerto Rico (1978)
- Publications:** 79 publications in reviewed literature in the following journals and books: *Nature, Monthly Weather Review, the Journal of Atmospheric Sciences, the Journal of Applied Meteorology, the Journal of Atmospheric and Oceanic Technology, the Journal of Geophysical Research, Geophysical Research Letters, the Bulletin of the American Meteorological Society, Weather and Forecasting, Encyclopedia of the Atmospheric Sciences, Encyclopedia of Imaging Technology, Encyclopedia of World Geography, Handbook of Meteorology, World Book Encyclopedia* (2002, 1st ed., 2005, 2nd ed, 2008, 3rd ed.):
- Textbooks:** *Severe and Hazardous Weather* (currently used by over 90 universities)
Active learning exercises for Severe and Hazardous Weather
Instructor's Manual for Severe and Hazardous Weather
- Grants:** *Principal investigator on 22 National Science Foundation Grants* (total awarded ~ \$9.4 million)
Principal investigator on 2 COMET/UCAR grants (total awarded ~ \$68,000)
Principal investigator in 1 AT&T grant (total awarded ~ \$161,000)
Principal investigator on NSF facility grants (Facilities awarded: Aircraft: NCAR C130 (3 campaigns), NCAR Electra (3 campaigns), King Air aircraft (2 campaigns), NOAA P-3 (1 campaign), Radars: CP2 (1 campaign), CP3 (2 campaigns), CP4 (2 campaigns), CHILL (3 campaigns), SPOL (1 campaign), ELDORA (2 campaigns), WCR (1 campaign), Sounding and surface facilities, dropsondes: (6 campaigns)
Principal investigator on 4 Univ. of Illinois Research Board Grants (total awarded ~ \$50,000)
Principal investigator on 2 Univ. of Illinois Education Grants (total awarded ~ \$38,000)
- Editorships:** *Chief Editor, Journal of Applied Meteorology and Climatology* (2005-2011)
Chief Editor, Journal of Applied Meteorology (2003-2005)
Editor, Journal of Applied Meteorology (1998-2002)
Associate Editor, Weather and Forecasting (1998-2001)
- Special awards and honors** *Fellow, American Meteorological Society* (2006)
Delta Sigma Omicron Distinguished Teaching Award, University of Illinois (2002)
Alumni Discretionary Award (2003)
Campus Award for Excellence in Graduate and Professional Teaching, Univ. of Illinois (2006)
UI List of Teachers ranked excellent by their Students (S88, S91, S93, S95, S97, F97, S98, F02 (2 courses), S03, F03 (2 courses), S04, F04, S05, S06, F06 (2 courses), F07 (2 courses), F08, F09, F10 (2 courses))
- Conf. Chair:** *American Meteorological Society Conference on Cloud Physics* (1998)
United States Weather Research Program Quantitative Precipitation Workshop (2004)
American Meteorological Society 35th Conf on Radar Meteorology (co-chair) 2011
- Current Panels and Committees** *American Meteorological Society Radar Meteorology Committee* (2007-)
National Center for Research-Research Appl. Program Advisory Comm. (2006-)
UCAR Members Committee (2007-2010), *PACUR Committee* (2010-12), *Members Rep* (2006-)
American Meteorological Society Publications Commission (2003-2011)
UCAR Heads and Chairs representative (2006-)
- Field Campaigns** *Investigator in 22 Field campaigns including* (most recently) *Profiling of Winter Storms (PIOWS 2004, 2009, 2009-10), the Rain in Cumulus over the Ocean(RICO, 2004-5), the Bow Echo and MCV Experiment (BAMEX, 2003) the Snow Band Dynamics project* (1997-98), *and the Small Cumulus Microphysics Study (SCMS, 1995)*

Publications:

Books

1. Rauber, R. M., J. Walsh and D. Charlevoix, 2002: Severe and Hazardous Weather, Kendall Hunt Publishing Company, 616 pp.
2. Rauber, R. M., J. Walsh and D. Charlevoix, 2002: Active learning exercises for Severe and Hazardous Weather, Kendall Hunt Publishing Company, 102 pp.
3. Rauber, R. M., J. Walsh and D. Charlevoix, 2002: Instructor's manual for Severe and Hazardous Weather, Kendall Hunt Publishing Company, 273 pp.
4. Rauber, R. M., J. Walsh and D. Charlevoix, 2005: Severe and Hazardous Weather, an Introduction to High Impact Meteorology, 2nd Edition, Kendall Hunt Publishing Company, 558 pp.
5. Rauber, R. M., J. Walsh and D. Charlevoix, 2005: Active learning exercises for Severe and Hazardous Weather, an Introduction to High Impact Meteorology 2nd Edition, Kendall Hunt Publishing Company, 103 pp.
6. Rauber, R. M., J. Walsh and D. Charlevoix, 2005: Instructor's manual for Severe and Hazardous Weather, an Introduction to High Impact Meteorology, 2nd Edition. Kendall Hunt Publishing Company, 284 pp.
7. Rauber, R. M., J. Walsh and D. Charlevoix, 2008: Severe and Hazardous Weather, an Introduction to High Impact Meteorology, 3rd Edition, Kendall Hunt Publishing Company, in press, 642 pp
8. Rauber, R. M., J. Walsh and D. Charlevoix, 2008: Active learning exercises for Severe and Hazardous Weather, an Introduction to High Impact Meteorology, 3rd Edition, Kendall Hunt Publishing Company, 211 pp.
9. Rauber, R. M., J. Walsh and D. Charlevoix, 2008: Instructor's manual for Severe and Hazardous Weather, an Introduction to High Impact Meteorology. 3rd Edition, Kendall Hunt Publishing Company.
10. Rauber, R. M., J. Walsh and D. Charlevoix, 2012: Severe and Hazardous Weather, an Introduction to High Impact Meteorology, 4th Edition, Kendall Hunt Publishing Company, in preparation (Past editions now used at over 100 Universities)

Invited Contributions to books:

1. Beard, K. V., and R. M. Rauber, 1989: Cloud Microphysics and Radar. Chapter 23B, Radar in Meteorology, Amer. Meteor. Soc., 341-347.
2. Rauber, R. M., 2000: Glossary of Meteorology, contributing author to section on radar meteorology.
3. Rauber, R. M., 2000: The Atmosphere. Encyclopedia of World Geography. Salem Press, Inc.
4. Rauber, R. M., 2001: Radar Meteorology. Encyclopedia of Science and Technology, 9th Ed., McGraw-Hill, Inc., 4 pp.
5. Rauber, R. M. and L. Di Girolamo, 2002: Imaging in Meteorology. Encyclopedia of Imaging Science and Technology, Wiley Inc. pp. 757-773.
6. Rauber R. M., 2002: Weather Radar. Encyclopedia of Imaging Science and Technology. Wiley Inc. 26 pp. pp. 1450-1474.
7. Rauber, R. M., 2003: Microphysical processes in the atmosphere. In Handbook of Weather, Climate and Water, John Wiley and Sons, Inc., Hoboken, NJ, pp. 255-299.
8. Rauber, R. M. and M. K. Ramamurthy, 2003: Cloud and Rain Bands. Encyclopedia of Atmospheric Sciences, Academic Press, Inc., pp. 1243-1250
9. Rauber, R.M., 2008: Monsoon. World Book Encyclopedia. World Book Publishing, Chicago, IL.
10. Rauber, R.M., 2008: Storm. World Book Encyclopedia. World Book Publishing, Chicago, IL.
11. Rauber, R.M., 2008: Thunderstorm. World Book Encyclopedia. World Book Publishing, Chicago, IL.
12. Rauber, R.M., 2008: Flash Flood. World Book Encyclopedia. World Book Publishing, Chicago, IL.
13. Rauber, R.M., 2011: Fahrenheit Scale. World Book Encyclopedia. World Book Publishing, Chicago

14. Rauber, R.M., 2011: Ice Storm. World Book Encyclopedia. World Book Publishing, Chicago, IL.
15. Rauber, R.M., 2011: Isobar. World Book Encyclopedia. World Book Publishing, Chicago, IL.
16. Rauber, R.M., 2011: Isotherm. World Book Encyclopedia. World Book Publishing, Chicago, IL.
17. Rauber, R. M. 2012: Cloud and Rain Bands. Encyclopedia of Atmospheric Sciences, Academic Press, Inc., in progress

Peer reviewed Publications:

1. Rauber, R. M., D. Feng, L. O. Grant, and J. B. Snider, 1986: The characteristics and distribution of cloud water over the mountains of northern Colorado during wintertime storms. Part I: Temporal variations. *J. Climate Appl. Meteor.*, 25, 468–488.
2. Rauber, R. M., and L. O. Grant, 1986: The characteristics and distribution of cloud water over the mountains of northern Colorado during winter-time storms. Part II: Spatial distribution and microphysical characteristics. *J. Climate Appl. Meteor.*, 25, 489–504.
3. Sassen, K., R. M. Rauber, and J. B. Snider, 1986: Multiple remote sensor observations of supercooled liquid water in a winter storm at Beaver, Utah. *J. Climate Appl. Meteor.*, 25, 825–834.
4. Cotton, W. R., G. J. Tripoli, R. M. Rauber, and E. Mulvihill, 1986: Numerical simulation of the effects of varying ice crystal nucleation rates and aggregation processes on orographic snowfall. *J. Climate Appl. Meteor.*, 25, 1658–1680.
5. Rauber, R. M., and L. O. Grant, 1987: Supercooled liquid water structure of a shallow orographic cloud system in southern Utah. *J. Climate Appl. Meteor.*, 26, 208–215.
6. Rauber, R. M., 1987: Characteristics of cloud ice and precipitation during wintertime storms over the mountains of northern Colorado. *J. Climate Appl. Meteor.*, 26, 488–524.
7. Heggli, M. F., R. M. Rauber, and J. B. Snider, 1987: Field evaluation of the dual-channel microwave radiometer. *J. Atmos. Oceanic Tech.*, 4, 204–213.
8. Blumenstein, R. R., R. M. Rauber, L. O. Grant, and W. G. Finnegan, 1987: Application of ice nucleation kinetics in orographic clouds. *J. Climate Appl. Meteor.*, 26, 1363–1376.
9. Rauber, R. M., and M. F. Heggli, 1988: The influence of cloud droplets on the measurement of ice particle concentrations with a Particle Measuring System's 2DC optical array probe. *J. Atmos. Oceanic Tech.*, 5, 123–128.
10. Uttal, T., R. M. Rauber, and L. O. Grant, 1988: Distributions of liquid, vapor, and ice in an orographic cloud from field observations. *J. Atmos. Sci.*, 45, 1110–1122.
11. Rauber, R. M., R. D. Elliott, J. O. Rhea, A. W. Huggins, and D. W. Reynolds, 1988: A diagnostic technique for targeting during airborne seeding experiments in wintertime storms over the Sierra Nevada. *J. Appl. Meteor.*, 27, 811–828.
12. Grant, L. O., and R. M. Rauber, 1988: Radar observations of wintertime mountain clouds over Colorado and Utah. *J. Wea. Modif.*, 20, 37–43.
13. Heggli, M. R., and R. M. Rauber, 1988: The characteristics and evolution of supercooled water in wintertime storms over the Sierra Nevada: A summary of microwave radiometric measurements taken during the Sierra Cooperative Pilot Project. *J. Appl. Meteor.*, 27, 989–1015.
14. Beard, K. V., and R. M. Rauber, 1989: Cloud Microphysics and Radar. Chapter 23B, *Radar in Meteorology*, Amer. Meteor. Soc., 341–347.
15. Ramamurthy, M. K., B. P. Collins, R. M. Rauber, and P. C. Kennedy, 1990: Evidence of very-large-amplitude solitary waves in the atmosphere. *Nature*, 348, (22 Nov.), 314–317.
16. Shields, M. T., R. M. Rauber, and M. K. Ramamurthy, 1991: Dynamical forcing and mesoscale organization of precipitation bands in a Midwest winter cyclonic storm. *Mon. Wea. Rev.*, 119, 936–964.
17. Rauber, R. M., and A. Tokay, 1991: An explanation for the existence of supercooled water at the top of cold clouds. *J. Atmos. Sci.*, 48, 1005–1023.
18. Rauber, R. M., 1991: Microphysical structure and evolution of a central Sierra Nevada orographic cloud system. *J. Appl. Meteor.*, 31, 3–24.

19. Rauber, R. M., K. V. Beard, and B. M. Andrews, 1991: A mechanism for giant raindrop formation in warm, shallow convective clouds. *J. Atmos. Sci.*, 48, 1791–1797.
20. Ramamurthy, M. K., R. M. Rauber, B. P. Collins, M. T. Shields, P. C. Kennedy, and W. L. Clark, 1991: UNIWIPP: A University of Illinois field experiment to investigate the structure of mesoscale precipitation in winter storms. *Bull. Amer. Meteor. Soc.*, 72, 764–776.
21. Martner, B. E., R. M. Rauber, R. M. Rasmussen, E. T. Prater, and M. K. Ramamurthy, 1992: Impacts of a destructive and well-observed cross country storm. *Bull. Amer. Meteor. Soc.*, 73, 169–172.
22. Ramamurthy, M. K., R. M. Rauber, B. P. Collins, and N. K. Malhotra, 1993: A comparative study of large amplitude gravity wave events. *Mon. Wea. Rev.*, 121, 2951–2974.
23. Rauber, R. M., M. K. Ramamurthy, and A. Tokay, 1994: Synoptic and mesoscale structure of a severe freezing rain event: The St. Valentine's Day ice storm. *Wea. Forecasting*, 9, 183–208.
24. Laird, N. F., D. A. R. Kristovich, R. M. Rauber, H. T. Ochs III and L. J. Miller, 1995: The Cape Canaveral sea and river breezes: Kinematic structure and convective initiation. *Mon. Wea. Rev.*, 123, 2942–2956.
25. Austin, G. R., R. M. Rauber, H. T. Ochs III and L. J. Miller, 1996: Tradewind clouds and Hawaiian rainbands. *Mon. Wea. Rev.*, 124, 2126–2151.
26. Rauber, R. M., N. F. Laird and H. T. Ochs III, 1996: Precipitation efficiency of tradewind clouds over the north-central tropical Pacific Ocean. *J. Geophysical Res., Atmospheres*, 101, (D21), 26,247–26,253.
27. Szumowski, M. J., R. M. Rauber, H. T. Ochs III and L. J. Miller, 1997: The microphysical structure and evolution of Hawaiian rainband clouds. Part I: Radar observations of rainbands containing high reflectivity cores. *J. Atmos. Sci.*, 54, 369–385.
28. Szumowski, M. J., R. M. Rauber, H. T. Ochs III, and K. V. Beard, 1998: The microphysical structure and evolution of Hawaiian rainband clouds. Part II: Microphysical measurements in rainbands containing high reflectivity cores. *J. Atmos. Sci.*, 55, 208–226.
29. Szumowski, M. J., R. M. Rauber and H. T. Ochs III, 1999: The microphysical structure and evolution of Hawaiian rainband clouds. Part III: A test of the ultragravitant nuclei hypothesis. *J. Atmos. Sci.*, 56, 1980–2003.
30. Kristovich, D. A. R., G. S. Young, J. Verlinde, P. J. Sousounis, P. Mourad, D. Lenschow, R. M. Rauber, M. K. Ramamurthy, B. J. Jewett, K. Beard, E. Cutrim, P. J. DeMott, E. W. Eloranta, M. R. Hjelmfelt, S. M. Kreidenweis, Jon Martin, J. Moore, H. T. Ochs, D. C. Rogers, J. Scala, G. Tripoli, and J. Young, 2000: The lake-induced convection experiment (Lake-ICE) and the Snowband Dynamics Project. *Bull. Amer. Meteor. Soc.*, 81, 519–542.
31. Wang, J.-J., R. M. Rauber, H. T. Ochs III, and R. E. Carbone, 2000: The effects of the Island of Hawaii on offshore rainband evolution. *Mon. Wea. Rev.*, 128, 1052–1069.
32. Rauber, R. M., L. S. Olthoff, M. K. Ramamurthy, and K. E. Kunkel, 2000: The relative importance of warm rain and melting processes in freezing precipitation events. *J. Appl. Meteor.*, 39, 1185–1195.
33. Laird, N. F., H. T. Ochs, R. M. Rauber and L. J. Miller, 2000: Initial precipitation formation in warm Florida cumulus. *J. Atmos. Sci.*, 57, 3740–3751.
34. Rauber, R. M., M. Yang, and M. K. Ramamurthy 2001: Origin, evolution, and finescale structure of the St. Valentine's Day mesoscale gravity wave observed during STORM-FEST. Part I: Origin and evolution. *Mon. Wea. Rev.*, 129, 198–217.
35. Yang, M., R. M. Rauber and M. K. Ramamurthy 2001: Origin, evolution, and finescale structure of the St. Valentine's Day mesoscale gravity wave observed during STORM-FEST. Part II: Finescale structure. *Mon. Wea. Rev.*, 129, 218–236.
36. Rauber, R. M., L. S. Olthoff, M. K. Ramamurthy, and K. E. Kunkel, 2001: Further investigation of a physically based, nondimensional parameter for discriminating between locations of freezing rain and ice pellets. *Wea. and Forecasting*, 16, 185–191.
37. Bluestein, H. B., B. A. Albrecht, M. Hardesty, D. Rust, D. Parsons, R. Wakimoto, and R. M. Rauber, 2001: Ground-based mobile instrument workshop summary, 23–24 February 2001, Boulder, Colorado. *Bull. Amer. Met. Soc.* 82, 681–694.

38. Rauber, R. M., L. S. Olthoff, M. K. Ramamurthy, K. E. Kunkel, and D. Miller, 2001: A synoptic weather pattern and sounding based climatology of freezing precipitation in the United States east of the Rocky Mountains. *J. Appl. Meteor.*, 40, 1724-1747..
39. Rauber, R. M., and R. W. Scott, 2001: Central Illinois cold air funnel outbreak. *Mon. Wea. Rev.*, 129, 2815-2821.
40. Laird, N. F., H. T. Ochs, R. M. Rauber and L. J. Miller, 2001: Corrigendum. *J. Atmos. Sci.*, 58, 2668-2669.
41. Jewett, B. J., M. K. Ramamurthy, and R. M. Rauber, 2003: Origin, evolution, and fine scale structure of the St. Valentine's Day gravity wave observed during STORM-FEST. Part III: Gravity wave genesis and the role of evaporation. *Mon. Wea. Rev.*, 131, No. 4, pp. 617–633
42. Rauber, R. M., 2003: Editorial. *J. Appl. Met. Clim.*, 42, 3.
43. Rauber, R. M., M. Garstang, and D. A. R. Kristovich, 2003: Editorial. *J. Appl. Met. Clim.*, 42, 3.
44. Davis, C., N. Atkins, D. Bartels, L. Bosart, M. Coniglio, G. Bryan, W. Cotton, D. Dowell, B. Jewett, R. Johns, D. Jorgensen, J. Knievel, K. Knupp, W-C. Lee, G. McFarquhar, J. Moore, R. Przybylinski, R. Rauber, B. Smull, J. Trapp, S. Trier, R. Wakimoto, M. Weisman, and C. Ziegler, 2004: The Bow-Echo And MCV Experiment (BAMEX): Observations and Opportunities. *Bull. Amer. Met. Soc.*, 85, 1075-1093..
45. Ralph, M., R. M. Rauber, B. F. Jewett, D. E. Kingsmill, P. Pisano, P. Pugner, R. M. Rasmussen, D. W. Reynolds, T. W. Schlatter, R. E. Stewart, J. S. Waldstricher, 2005: Improving Short Term (0-48 Hour) Cool Season Quantitative Precipitation Forecasting: Recommendations From A USWRP Workshop. *Bull. Amer. Met. Soc.*, 86, 1619-1632.
46. Cellitti, M., J. W. Walsh, R. M. Rauber, and D. Portis, 2006: Cold Air Outbreaks, the Polar Vortex, and the Large Scale Circulation. *J. Geophys. Res. Atmospheres*. 111, D02114: doi:10.1029/2005JD006273.
47. Colón-Robles, M., R. M. Rauber, and J. B. Jensen (2006), Influence of low-level wind speed on droplet spectra near cloud base in trade wind cumulus, *Geophys. Res. Lett.*, 33, L20814, doi:10.1029/2006GL027487.
48. Grim, J. A., R. M. Rauber, M. K. Ramamurthy, B. F. Jewett and M. Han 2007: High resolution observations of the trowal/warm frontal region of two continental winter cyclones *Mon. Wea. Rev.*, 135, 1629–1646.
49. Han, M., R. M. Rauber, M. K. Ramamurthy, B. F. Jewett and J. A. Grim, 2007: Mesoscale dynamics of the trowal and warm frontal regions of two continental winter cyclones *Mon. Wea. Rev.*, 135, 1647–1670.
50. Rauber, R. M., K. Heideman, and J. Klemp, 2006: Editorial. *J. Appl. Met. Clim.*, 45, 3.
51. Jorgensen, D. P., R. M. Rauber, K. F. Heideman, M. E. Fernau, M. A. Friedman, and A. L. Schien, 2007: The history of scholarly publications of the American Meteorological Society. *Bull. Amer. Meteor. Soc.*, 88, 1122-1126
52. Jorgensen, D. P., R. M. Rauber, K. F. Heideman, M. E. Fernau, M. A. Friedman, and A. L. Schien, 2007: What happens to my paper after it is sent to the AMS? Peer Review and Publication. *Bull. Amer. Meteor. Soc.*, 88, 1126-1129.
53. Jorgensen, D. P., R. M. Rauber, K. F. Heideman, M. E. Fernau, M. A. Friedman, and A. L. Schien, 2007: What determines how much we pay? The cost of AMS publications. *Bull. Amer. Meteor. Soc.*, 88, 1129-1131.
54. Jorgensen, D. P., R. M. Rauber, K. F. Heideman, M. E. Fernau, M. A. Friedman, and A. L. Schien, 2007: What's new – The electronic workflow. *Bull. Amer. Meteor. Soc.*, 88, 1131-1134.
55. McFarquhar, G.M., M.S. Timlin, R.M. Rauber, B.F. Jewett, J.A. Grim and D.P. Jorgensen, 2007a: Vertical variability of cloud hydrometeors in the stratiform region of mesoscale convective systems and bow echoes. *Mon. Wea. Rev.* 135, 3405-3428.
56. Cronce M., R. M. Rauber, K. R. Knupp, B. F. Jewett, J. T. Walters, and D. Phillips 2007: Vertical motions in precipitation bands in three winter cyclones, *J. Appl. Meteor. and Clim.*, 46, 1523-1543.

57. Rauber, R.M., B. Stevens, H. T. Ochs III, C. Knight, B. A. Albrecht, A.M. Blyth, C.W. Fairall, J. B. Jensen, S. G. Lasher-Trapp, O. L. Mayol-Bracero, G. Vali, J. R. Anderson, B. A. Baker, A. R. Bandy, F. Burnet, J-L. Brenguier, W. A. Brewer, P. R. A. Brown, P. Chuang, W. R. Cotton, L. Di Girolamo, B. Geert, H. Gerber, S. Göke, L. Gomes, B. G. Heikes, J. G. Hudson, P. Kollias, R. P. Lawson, P. Jonas, S. K. Krueger, D. H. Lenschow, L. Nuijens, D. W. O'Sullivan, R. A. Rilling, D. C. Rogers, A. P. Siebesma, E. Snodgrass, J. L. Stith, D.C. Thornton, S. Tucker, C. H. Twohy, P. Zuidema, 2007: Rain in (Shallow) Cumulus over the Ocean—The RICO Campaign, *Bull. Amer. Met. Soc.*, 88, 1912–1928.
58. Rauber, R.M., B. Stevens, J. Davison, S. Göke, O.L. Mayol-Bracero, D. Rogers, P. Zuidema, H.T. Ochs, C. Knight, J. Jensen, S. Bereznicki, S. Bordoni, H. Caro-Gautier, M. Colón-Robles, M. Deliz, S. Donaher, V. Ghate, E. Grzeszczak, C. Henry, A. Marie Hertel, I. Jo, M. Kruk, J. Lowenstein, J. Malley, B. Medeiros, Y. Méndez-Lopez, S. Mishra, F. Morales-García, L.A. Nuijens, D. O'Donnell, D.L. Ortiz-Montalvo, K. Rasmussen, E. Riepe, S. Scalia, E. Serpetzoglou, H. Shen, M. Siedsma, J. Small, E. Snodgrass, P. Trivej, and J. Zawislak, 2007: In the Driver's Seat: Rico and Education. *Bull. Amer. Meteor. Soc.*, 88, 1929–1937.
59. Rauber, R.M., B. Stevens, H.T. Ochs, C. Knight, B.A. Albrecht, A.M. Blyth, C.W. Fairall, J.B. Jensen, S.G. Lasher-Trapp, O.L. Mayol-Bracero, G. Vali, J.R. Anderson, B.A. Baker, A.R. Bandy, E. Burnet, J.L. Brenguier, W.A. Brewer, P.R.A. Brown, P. Chuang, W.R. Cotton, L. Di Girolamo, B. Geerts, H. Gerber, S. Göke, L. Gomes, B.G. Heikes, J.G. Hudson, P. Kollias, R.P. Lawson, S.K. Krueger, D.H. Lenschow, L. Nuijens, D.W. O'Sullivan, R.A. Rilling, D.C. Rogers, A.P. Siebesma, E. Snodgrass, J.L. Stith, D.C. Thornton, S. Tucker, C.H. Twohy, and P. Zuidema, 2007: A Supplement to Rain in Shallow Cumulus Over the Ocean: The RICO Campaign. *Bull. Amer. Meteor. Soc.*, 88, S12–S18.
60. Göke, S., H.T. Ochs, and R.M. Rauber, 2007: Radar Analysis of Precipitation Initiation in Maritime versus Continental Clouds near the Florida Coast: Inferences Concerning the Role of CCN and Giant Nuclei. *J. Atmos. Sci.*, 64, 3695–3707
61. Smith, A., R. M. Rauber, G. M. McFarquhar, B.F. Jewett, M. S. Timlin, and J. A. Grim, 2009: Microphysical and Thermodynamic Structure and Evolution of the Trailing Stratiform Regions of Mesoscale Convective Systems during BAMEX: Part I: Observations. *Mon. Wea. Rev.*, 137, 1165–1185
62. Grim, J.A., G. M. McFarquhar, R. M. Rauber, A. Smith, and B.F. Jewett, 2009: Microphysical and Thermodynamic Structure and Evolution of the Trailing Stratiform Regions of Mesoscale Convective Systems during BAMEX: Part II: Column Model Simulations. *Mon. Wea. Rev.*, 137, 1186–1205.
63. Grim, J.A., R. M. Rauber, G. M. McFarquhar, A. Smith, and B.F. Jewett, 2009: Development and Forcing of the Rear Inflow Jet in a Rapidly Developing and Decaying Squall Line During BAMEX. *Mon. Wea. Rev.*, 137, 1206–1229.
64. Snodgrass, E., L. Di Girolamo, and R. M. Rauber, 2009: Precipitation characteristics of Trade Winds Clouds during RICO Derived from Radar, Satellite and Aircraft Measurements. *J. Appl. Meteor. and Climatology*. 48, 464–483.
65. McFarquhar, Greg M., Michael S. Timlin, Robert M. Rauber, Brian F. Jewett, Joseph A. Grim, David P. Jorgensen, 2009: Corrigendum. *Mon. Wea. Rev.*, 137, 1493–1493.
66. Plummer, D.M., S. Goke, R.M. Rauber, and L. Di Girolamo, 2010: Discrimination of mixed- vs. ice-phase clouds using dual polarization radar with application to detection of aircraft icing regions. *J. Appl. Meteor. Climatol.*, 49, 920–936.
67. Minor, Hilary A., Robert M. Rauber, Sabine Göke, Larry Di Girolamo, 2011: Trade Wind Cloud Evolution Observed by Polarization Radar: Relationship to Giant Condensation Nuclei Concentrations and Cloud Organization. *J. Atmos. Sci.*, 68, 1075–1096.

Non-reviewed publications—articles, abstracts, and conference presentations:

1. Rauber, R. M., 1978: Operation manual for the Arecibo Upper Atmosphere Optical Emissions Laboratory, Arecibo Observatory, Arecibo, Puerto Rico, August.
2. Tan, K., V. H. Levenson, R. M. Rauber, and P. A. Walsh, 1979: Temperature, stability, and the vertical distribution of AgI released from the ground. 7th Conf. Weather Modif., AMS, Banff, Alberta, 8–12 October.
3. Rilling, R. A., R. M. Rauber, and K. Tan, 1979: Determination of the residence characteristics of silver iodide in a mountain valley by a graphite filter sampling technique. 7th Conf. Weather Modif., AMS, Banff, Alberta, 8–12 October.
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121. Houston, A. L., M. K. Ramamurthy, and R. M. Rauber, 1999: Quantitative evaluation of the 4 February – 7 February 1998 heavy snowband over the Ohio River Valley. 17th Conf. on Weather Analysis and Forecasting, Denver, CO.
122. Ochs, H. T., III, N. F. Laird, and R. M. Rauber, 2000: Observations and modeling studies of Florida cumulus clouds. Proceedings of the 13th International Conference on Clouds and Precipitation, Reno, Nevada.
123. Rauber, R. M., L. S. Olthoff, M. K. Ramamurthy, and K. E. Kunkel, 2000: The relative importance of warm rain and melting processes in freezing precipitation events. Proceedings of the 13th International Conference on Clouds and Precipitation, Reno, Nevada.
124. Rauber, R. M., 2000: Educational opportunities with Mobile observation platforms. NCAR Workshop on Mobile Observation Systems, Boulder, CO
125. Rauber, R. M., 2000: Use of the ELDORA radar system during SNOWBAND. NCAR Workshop on Airborne Doppler Radar Systems, Boulder, CO
126. Ochs, H. T. III, N. F. Laird, and R. M. Rauber, 2001: Precipitation formation in small Florida Cumulus. 7th Int. Conf. on Precipitation, Rockport, Maine
127. Jewett, B. F., M.K. Ramamurthy and R. M. Rauber, 2001: The role of evaporative processes in gravity wave genesis. Proc. 9th Conf. On Mesoscale Processes, Amer. Met. Soc., Ft. Lauderdale, FL
128. Rauber, R. M., M. K. Ramamurthy, B. F. Jewett and M. Han, 2001: Fine scale structure and dynamics of a heavy snowband. Proc. 9th Conf. On Mesoscale Processes, Amer. Met. Soc., Ft. Lauderdale, FL
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130. Mei H., M. K. Ramamurthy, R. M. Rauber, B. F. Jewett, and J. A. Grim, 2003: Modeling study of the frontal circulations associated with a heavy snowband in an extratropical cyclone. 10th Conference on Mesoscale Processes, American Meteorological Society. Portland, OR
131. Grim J. A., M. Han, M. K. Ramamurthy, R. M. Rauber, B. F. Jewett, 2003: Comparative study of the mesoscale structure and dynamics of heavy snowbands in the trowal region of two extratropical cyclones. 10th Conference on Mesoscale Processes, American Meteorological Society. Portland, OR
132. Davis, C. A., N. Atkins, G. Bryan, W. Cotton, D. Dowell, J. M. Fritsch, B. Jewett, R. Johns, D. Jorgensen, K. Knupp, W.-C. Lee, G. McFarquhar, R. Przybylinski, B. Rauber, B. Smull, J. Trapp, S. Trier, R. Wakimoto, M. Weisman, and C. Ziegler, 2003: Observations from the bow echo and MCV experiment (BAMEX). 31st International Conference on Radar Meteorology, Seattle, WA.
133. Goeke, S., H. T. Ochs, III and R. M. Rauber, 2003: Statistical determination of the characteristic time for precipitation development in cumulus clouds using radar. 31st International Conference on Radar Meteorology, Seattle, WA.
134. Rauber, R. M., 2003: Hazardous winter weather – a radar perspective. 31st International Conference on Radar Meteorology, Seattle, WA.
135. McFarquhar, G.M., R. Rauber, B. Jewett, and D.P. Jorgensen, 2003: Observations of the vertical variability of cloud hydrometeors in stratiform regions during BAMEX. 31st International Conference on Radar Meteorology, American Meteorological Society, Invited poster, August, Seattle, WA.
136. Rauber, R. M., and M. Ralph, 2004: An Implementation Plan For Cool Season Quantitative Precipitation Forecasting, United States Weather Research Program, 55 pp.
137. McFarquhar, G.M., M.S. Timlin, R. Rauber, and B.F. Jewett, 2004: Observations of vertical variability of cloud hydrometeors in stratiform regions behind bow echoes: Implications for downdraft formation. 14th International Conference on Clouds and Precipitation, July, Bologna, Italy, 592-595.

138. Kruk, M.C., R. Rauber, G. McFarquhar, B. Jewett, J. Trapp, and C. Davis, 2004: The 4 July 2003 Indiana/Ohio derecho: assessing transitions in surface wind damage. BAMEX Science Team Meeting, March, Fairview Heights, IL.
139. McFarquhar, G.M., M.S. Timlin, R. Rauber, and B.F. Jewett, 2004: Observations of vertical variability of cloud hydrometeors in stratiform regions behind bow echoes. BAMEX Science Team Meeting, March, Fairview Heights, IL.
140. Smith, A., R. Rauber, G. McFarquhar, and B. Jewett, 2004: Radar observations of bow echo: relationship to microphysics. BAMEX Science Team Meeting, March, Fairview Heights, IL.
141. Kruk, M.C., R. Rauber, G.M. McFarquhar, B.F. Jewett, R. J. Trapp, and C.A. Davis., 2005: Bow Echoes During BAMEX: Assessing Transitions in Surface Wind Damage. BAMEX Working Group Meeting, Fairview Heights, IL.
142. Smith, A., R. Rauber, G.M. McFarquhar, B.F. Jewett, M. Timlin and J. Grim, 2005: Microphysical Profiles in the Context of Evolving Trailing Stratiform Regions of BAMEX MCSs. BAMEX Working Group Meeting, Fairview Heights, IL.
143. McFarquhar, G.M., M. Timlin, R. Rauber, B. Jewett, J. Grim, A. Smith and D. Jorgensen, 2005: An Update on Analysis of Spiral Microphysical Data Collected during BAMEX. BAMEX Working Group Meeting, Fairview Heights, IL.
144. Smith, A. M., R. M. Rauber, G. M. McFarquhar, B. F. Jewett, M. S. Timlin and J. A. Grim, 2005: Microphysical structure of the trailing stratiform region of BAMEX mesoscale convective systems. 32nd AMS conf. Radar Meteorology, Albuquerque, NM.
145. Grim, J. A., and R. M. Rauber, 2005: Dual rear inflow jets within the 26 August 2003 derecho. 32nd AMS conf. Radar Meteorology, Albuquerque, NM.
146. Guarente, B. A., B. F. Jewett, R. M. Rauber, and G. M. McFarquhar, 2005: WRF Simulations of a Severe Squall Line: Comparisons against High Resolution BAMEX Observations. 11th AMS conf Mesoscale Processes, Albuquerque, NM.
147. Grim, J. A., R. M. Rauber, G. M. McFarquhar, D.P. Jorgensen, M. S. Timlin, B. F. Jewett, and A. M. Smith, 2005: Quad-Doppler and Microphysical Observations of the BAMEX 29 June 2003 MCS. 32nd AMS conf. Radar Meteorology, Albuquerque, NM.
148. Estrem M., R. M. Rauber, K. R. Knupp, B. F. Jewett, J. T. Walters, and D. Phillips 2005: Vertical motions in precipitation bands in three winter cyclones. 32nd AMS conf. Radar Meteorology, Albuquerque, NM.
149. Snodgrass, E., R. M. Rauber, L. Di Girolamo, and G. Zhao, 2005: Synergizing high-resolution EOS Terra satellite data and S-POLKA radar reflectivity to assess trade wind cumuli precipitation. 32nd AMS conf. Radar Meteorology, Albuquerque, NM.
150. Kruk, M.C., R. M. Rauber, G. M. McFarquhar, B. F. Jewett, and R. J. Trapp. 2005: Bow echoes during BAMEX: assessing transitions in surface wind damage using WSR-88D data. 32nd AMS conf. Radar Meteorology, Albuquerque, NM.
151. Di Girolamo, L., G. Zhao, E. Snodgrass, and R. Rauber, 2005: Trade wind cumuli statistics from the Rain In Cumulus over Ocean (RICO) experiment. Pan-GCSS Meeting on Clouds, Climate and Models, 16-20 May, Athens, Greece.
152. Genkova, I., G. Zhao, M. Roblers, R. Rauber, and L. Di Girolamo, 2005: Trade wind cumulus cloud properties retrieval and validation. Symposium on Satellite Meteorology: Past, Present, and Future, 11-13 July, Madison, WI.
153. Genkova, I., G. Zhao, G. Seiz, E. Snodgrass, M. Colon, L. Di Girolamo, R. Rauber, 2005: Validation of trade wind cumulus cloud properties produced by meteorological satellites. SPIE International Symp. Remote Sens., 19 – 22 September, Bruges, Belgium.
154. Snodgrass, E., L. Di Girolamo, R. Rauber, and G. Zhao, 2005: Synergizing high-resolution EOS Terra satellite data and S-POLKa radar reflectivity to assess trade wind cumuli precipitation. American Geophysical Union 2005 Fall Meeting, December 5-9, San Francisco, CA.
155. Di Girolamo, L., W. Chapman, L. Liang, R. Rauber, E. Snodgrass, M. Wilson, Y. Yang, G. Zhao, C. Moroney, M. Fromm, and S. Palm, 2005: UIUC Report: cloud mask status, the water and energy

- cycle of trade wind cloud, and polar stratospheric clouds. MISR Science Team Meeting, December, Pasadena, CA.
156. Snodgrass, E., R. Rauber, and L. Di Girolamo, 2006: Assessing trade-wind cloud precipitation through the synergy of high resolution satellite data and S-band radar data. RICO Workshop, 18 – 21 January, Boulder, CO.
 157. Snodgrass, E., L. Di Girolamo, R. Rauber, and G. Zhao, 2006: Precipitation characteristics from trade wind clouds during RICO derived from radar, satellite and aircraft measurements. American Meteor. Soc. 12th Conf. Cloud Phys, 10 – 14 July, 2006, Madison, WI.
 158. Smith, A.M., R. Rauber, G. McFarquhar, B.F. Jewett, M.S. Timlin and J.A. Grim, 2006: Variations in the microphysical structure of stratiform regions of BAMEX MCSs from optical array probe measurements and high-resolution radar observations. 12th Conf. Cloud Physics, Amer. Meteor. Soc., Madison, WI
 159. Guarente, B.A., B.F. Jewett, G.M. McFarquhar and R.M. Rauber, 2006: WRF simulations of a severe squall line: comparison against high-resolution microphysical, thermodynamic and kinematic measurements from BAMEX. 12th Conf. Cloud Physics, Amer. Meteor. Soc., Madison, WI
 160. McFarquhar, G., M.S. Timlin, R.M. Rauber, B.F. Jewett, J. Grim and D.P. Jorgensen, 2006: Vertical profiles of ice cloud microphysical properties observed behind convective lines during the Bow Echo and Mesoscale Convective Vortices Experiment. 12th Conf. Cloud Physics, Amer. Meteor. Soc., Madison, WI
 161. Grim, J.A., G.M. McFarquhar, R.M. Rauber, D.P. Jorgensen, M.S. Timlin, A.M. Smith and B.F. Jewett, 2006: Microphysical and quad-Doppler observations of the BAMEX 29 June 2003 MCS. 12th Conf. Cloud Physics, Amer. Meteor. Soc., Madison, WI
 162. Di Girolamo, L., R. Rauber, E. Snodgrass, G. Zhao, H. Minor, and M. Freer, 2006: Cloud and precipitation properties of trade wind clouds during RICO derived from radar and satellite observations. GEWEX Cloud System Study Workshop, 18 – 21 September, 2006, New York, NY
 163. Di Girolamo, L., R. Rauber, E. Snodgrass, G. Zhao, and O. Mayol-Bracero, 2006: Aerosol, cloud and precipitation characteristics in the trade wind region from satellite, radar and aircraft measurements sampled during RICO. MISR Science Team Meeting, December, Pasadena, CA.
 164. Di Girolamo, L., R. Rauber, E. Snodgrass, and G. Zhao, 2006: Aerosol, cloud and precipitation characteristics in the trade wind region from satellite, radar and aircraft measurements sampled during RICO. American Geophysical Union 2006 Fall Meeting, December 11-15, San Francisco, CA.
 165. Jewett, B.F., R.M. Rauber, and G.M. McFarquhar, 2007: Observations and modeling of mesoscale convective systems: What we have learned from BAMEX. Midwest Bow Echo Workshop, Louisville National Weather Service and University of Louisville, Louisville KY, 28 February 2007.
 166. Rauber, R. M., 2007: RICO from Napkin to Publication. National Science Foundation Facilities Planning Conference, Boulder CO.
 167. Di Girolamo, L. R. Rauber, G. Zhao, E. Snodgrass, M. Freer, and H. Minor, 2007: Aerosol, cloud and precipitation characteristics in the trade wind regime from satellite, radar, and aircraft measurements sampled during RICO. Gordon Res. Conf. on Radiation and Climate, July 29 – August 3, New London, NH.
 168. Grim, J.A., R.M. Rauber, G.M. McFarquhar, B.F. Jewett and D.P. Jorgensen, 2007: High-resolution observations of the rapid development and decay of the 29 June 2003 squall line during BAMEX. 12th Conf. on Mesoscale Processes, American Meteorological Society, Waterville Valley, NH, 6-9 August 2007.
 169. Smith, A.M., R.M. Rauber, G.M. McFarquhar, B.F. Jewett, M.S. Timlin, and J.A. Grim, 2007: Explaining variations in cloud microphysics in BAMEX MCSs using high resolution radar and optical array probe measurements. 12th Conf. on Mesoscale Processes, American Meteorological Society, Waterville Valley, NH, 6-9 August 2007.

170. Di Girolamo, L., R. Rauber, S. Dey, E. Snodgrass, and G. Zhao, 2008: Cloud and precipitation characteristics of trade wind clouds during RICO derived from radar, satellite, and aircraft measurements. Pan-GCSS Meeting on Advances on Modeling and Observing Clouds and Convection, 2-6 June, Toulouse, France.
171. Davison, J., R. Rauber, and L. Di Girolamo, 2008: Boundary layer characteristics of the trade wind boundary layer derived from radar measurements during RICO. Pan-GCSS Meeting on Advances on Modeling and Observing Clouds and Convection, 2-6 June, Toulouse, France.
172. Rauber, R. M., Minor, H.A., S. Göke, Colon-Robles, M., J. Davison and L. Di Girolamo, 2008: Precipitation evolution in trade wind clouds during RICO derived from dual polarization radar and aircraft data. Pan-GCSS Meeting on Advances on Modeling and Observing Clouds and Convection, 2-6 June, Toulouse, France.
173. Davison, J., R. Rauber, and L. Di Girolamo, 2008: A radar characterization of the trade wind boundary layer. 18th Symposium on Boundary Layers and Turbulence, 9-13 June, Stockholm, Sweden.
174. Colon-Robles, M., R.M. Rauber, J.B. Jensen, and L. Di Girolamo, 2008: Aerosol size distribution variability near Caribbean trade wind cumulus clouds. Int. Conf. Clouds Precip., 7 – 11 July, Cancun, Mexico.
175. Minor, H.A., R. M. Rauber, S. Göke, and M. Freer, 2008: Pulsation of Trade Wind Clouds and Effects on Precipitation Development. Int. Conf. Clouds Precip., 7 – 11 July, Cancun, Mexico.
176. Davison, J., R. Rauber, and L. Di Girolamo, 2008: Variability in Trade wind Cloud Layers and Potential Effects on Cloud Structure. Int. Conf. Clouds Precip., 7 – 11 July, Cancun, Mexico.
177. Rauber, R. M., A. M. Smith, G. M. McFarquhar, J. A. Grim, M. S. Timlin, B. F. Jewett and D. P. Jorgensen, 2008: Microphysical and thermodynamic structure and evolution of the trailing stratiform regions of mesoscale convective systems during BAMEX. Int. Conf. Clouds Precip., 7 – 11 July, Cancun, Mexico.
178. Pitcel, M., B. Jewett, R. Rauber and G. McFarquhar, 2009: Idealized modeling of the impact of stability and shear on mesoscale gravity waves. 13th Conference on Mesoscale Processes, American Meteorological Society, Salt Lake City, UT, 17-20 August 2009.
179. Minor Hilary A., R. M. Rauber, S. Goeke, and M. Freer, 2009: Trade Wind Cloud Evolution Observed by Polarization Radar - Relationship to Aerosol Characteristic. 34th Conf. Radar Meteorology, 5-9 October, Williamsburg, VA.
180. Davison, J., R. M. Rauber, and L. Di Girolamo, 2009: Radar based characterization of the tropical boundary layer, 34th Conf. Radar Meteorology, 5-9 October, Williamsburg, VA.
181. Davison, J., R. M. Rauber, and L. Di Girolamo, 2009: Moist and dry layer retrievals using S-Band radar, 34th Conf. Radar Meteorology, 5-9 October, Williamsburg, VA.
182. Plummer, D.M., S. Goeke, R. M. Rauber and L. Di Girolamo, 2009: Discrimination of mixed vs ice-phase clouds using dual polarization radar with application to detection of aircraft icing regions. 34th Conf. Radar Meteorology, 5-9 October, Williamsburg, VA.
183. Di Girolamo, L., J. Tackett, M. Colon-Robles, and R.R. Rauber, 2009: The spatial variability of aerosols properties in the vicinity of trade wind cumuli over the Tropical Western Atlantic observed from RICO aircrafts and CALIOP. CFMIP/GCSS Boundary Layer Working Group Workshop, June 8 – 12, Vancouver, Canada.
184. Colon Robles, M., R.M. Rauber, L. Di Girolamo. J.L. Tackett, J.B. Jensen, 2009: Aerosol size distribution variability as a function of distance to Caribbean trade wind cumulus clouds. IAMAS, IAPSO, and IACS Joint Assembly, July 19 – 24, Montreal, Canada.
185. Colon-Robles, M., R. Rauber, L. Di Girolamo, and J.B. Jensen, 2009: Aerosol size distribution variability as a function of distance to Caribbean trade wind cumulus clouds. American Geophysical Union 2009 Fall Meeting, December 14-18, San Francisco, CA.
186. Rauber, R. M., 2010: Use of radar as a tool to understand mesoscale models. Chinese Meteorological Association, Beijing, China. (May)

187. Colon-Robles, M., R.M. Rauber, L. Di Girolamo, and J.L. Tackett, 2010: Aerosol size distribution and backscatter variability as a function of distance to Caribbean trade wind cumulus clouds. American Meteorological Society 13th Conference on Atmospheric Radiation, July, Portland, OR.
188. Plummer, D.M., G.M. McFarquhar, R.M. Rauber, B.F. Jewett, and Z. Wang, 2010: Microphysical characterization of banded structures observed in cold-season extratropical cyclones, 13th Conf. on Cloud Physics, Amer. Meteor. Soc., Portland, OR
189. Jewett, B.F., R.M. Rauber, G. McFarquhar, J.R. French, and K.R. Knupp, 2010: Profiling of Winter Storms (PLOWS): what we are learning about winter precipitation bands, 13th Conf. on Cloud Physics, Amer. Meteor. Soc., Portland, OR
190. Rauber, R.M., 2010: Remote sensing from research aircraft: current technology and future potential. International conference on airborne research in the geosciences. EUFAR, Toulouse, France (Oct.)
191. Peterson, M.K., R.M. Rauber, B.F. Jewett, and G.M. McFarquhar, 2011: Exploring the mesoscale and thermodynamic structure of banded precipitation within winter cyclones. Amer. Meteor. Soc. Conf. on Mesoscale Meteorology, Los Angeles, CA, 1 to 4 August.
192. Pitcel, M., B. Jewett, R. Rauber and G. McFarquhar, 2011: Idealized modeling of the role of stability and shear on mesoscale gravity wave evolution. Amer. Meteor. Soc. Conference on Mesoscale Meteorology, Los Angeles, CA, 1 to 4 August.
193. Plummer, D.M., G.M. McFarquhar, R.M. Rauber, B.F. Jewett, K.R. Knupp, Z. Wang, and D. Leon, 2011: Observed structure of banded precipitation features in cold-season extratropical cyclones. Amer. Meteor. Soc. Conference on Mesoscale Meteorology, Los Angeles, CA, 1 to 4 August.
194. Rosenow, A., R.M. Rauber, G.M. McFarquhar, B.F. Jewett, K.R. Knupp, D. Phillips, and P.S. Market, 2011: Vertical motions observed in mesoscale winter precipitation bands during PLOWS. Amer. Meteor. Soc. Conf. on Mesoscale Meteorology, Los Angeles, CA, 1 to 4 August.
195. Wegman, J., R.M. Rauber, P. Market, B. Jewett, and G.M. McFarquhar, 2011: Electric charging of mesoscale precipitation bands during the Profiling of Winter Storms (PLOWS) project. Amer. Meteor. Soc. Conf. on Mesoscale Meteorology, Los Angeles, CA, 1 to 4 August.
196. Robert M. Rauber, Greg M. McFarquhar, Brian F. Jewett, Kevin R. Knupp, Patrick Market, David Plummer, Andrew Rosenow, Melissa Peterson, Joseph Grim and Michelle Pitcel, 2011: High resolution measurements of cyclone structure-the Profiling of Winter Storms Project. Amer. Meteor. Soc. Conf. on Mesoscale Meteorology, Los Angeles, CA, 1 to 4 August.
197. Peterson, M.K., R.M. Rauber, B.F. Jewett, and G.M. McFarquhar, 2011: Exploring the structure of banded precipitation within winter cyclones using high resolution radar and sounding data. Amer. Meteor. Soc. Conf. on Radar Meteorology, Pittsburgh, PA, 26 to 30 September.
198. Plummer, D.M., G.M. McFarquhar, R.M. Rauber, B.F. Jewett, K.R. Knupp, and D. Leon, 2011: Cold-season precipitation bands: radar structure and particle growth mechanisms. Amer. Meteor. Soc. Conf. on Radar Meteorology, Pittsburgh, PA, 26 to 30 September.
199. Rosenow, A., R.M. Rauber, G.M. McFarquhar, B.F. Jewett, K.R. Knupp, D. Phillips, W.O. Brown, and P.S. Market, 2011: Vertical Motions Derived from Profiler Measurements of Winter Precipitation Bands during PLOWS, Amer. Meteor. Soc. Conf. on Radar Meteorology, Pittsburgh, PA, 26 to 30 September.
200. Wegman, J.P., R.M. Rauber, P.S. Market, B.F. Jewett, and G.M. McFarquhar, 2011: The relationship between ground charging and precipitation band structure in continental winter cyclones. Amer. Meteor. Soc. Conf. on Radar Meteorology, Pittsburgh, PA, 26 to 30 September.
201. Rauber, R.M., David Leon, David Plummer, Greg M. McFarquhar, Brian Jewett, and Melissa Peterson, 2011: Elevated convection and stratiform flows in continental winter cyclones: high-resolution measurements from the Wyoming Cloud Radar. Amer. Meteor. Soc. Conf. on Radar Meteorology, Pittsburgh, PA, 26 to 30 September.

Research grants and contracts

Title: Hydrometeor Phase, Shape and Size Discrimination Using Radar Differential Polarization
 Sponsor: Campus Research Board, Beckman Award for Research
 Period: January–May 1988
 Amount: \$4,253
 Capacity: Principal Investigator

Title: The Visualization of Meteorological Data
 Sponsor: AT&T Affiliates Program
 Period: April 1, 1988–June 30, 1990
 Amount: \$161,417
 Capacity: Principal Investigator (with H. Ochs)

Title: Investigations of Warm-Cloud Precipitation Physics
 Sponsor: National Science Foundation
 Period: May 1, 1988–April 30, 1989
 Amount: \$166,322
 Capacity: Principal Investigator (with K. V. Beard and H. T. Ochs)

Title: Investigations of the Mesoscale and Microscale Structure of Midwest Winter Cyclonic Storms
 Sponsor: National Center for Atmospheric Research
 Period: December 15, 1988–March 5, 1989
 Amount: Facilities Grant to Use CHILL Radar and 75 Class Rawinsondes
 Capacity: Lead Principal Investigator (with M. K. Ramamurthy)

Title: Investigations of the Mesoscale and Microscale Structure of Midwest Winter Cyclonic Storms
 Sponsor: National Science Foundation
 Period: December 15, 1988–December 14, 1990
 Amount: \$190,104
 Capacity: Lead Principal Investigator (with M. K. Ramamurthy)

Title: Investigations of the Mesoscale and Microscale Structure of Midwest Winter Cyclonic Storms
 Sponsor: National Center for Atmospheric Research
 Period: January 2, 1990–March 7, 1990
 Amount: Facilities Grant to Use CHILL Radar and 125 Class Rawinsondes
 Capacity: Lead Principal Investigator (with M. K. Ramamurthy)

Title: A Proposal for Cooperative Research to Improve Operational Forecasting of Midwestern Severe Weather
 Sponsor: University Corporation for Atmospheric Research (UCAR)
 Period: May 1, 1990–April 30, 1994
 Amount: \$58,245
 Capacity: Principal Investigator (with M. K. Ramamurthy and R. R. Czys)

Title: Hawaiian Rainband Project
 Sponsor: National Center for Atmospheric Research
 Period: June 20, 1990–August 25, 1990

Amount: Facilities grant to use NCAR Electra aircraft, CP3 and CP4 Doppler radars and other equipment

Capacity: Principal Investigator (with scientists from several universities)

Title: Investigations of Warm-Cloud Precipitation Physics

Sponsor: National Science Foundation

Period: July 1, 1990–August 25, 1990

Amount: \$63,400 to participate in Hawaiian Rainband Project

Capacity: Lead Principal Investigator (with K. V. Beard and H. T. Ochs)

Title: Investigation of the Structure of Winter Cyclonic Storms

Sponsor: Campus Research Board

Period: February 25, 1991–February 24, 1992

Amount: \$8,900

Capacity: Principal Investigator

Title: Investigations of Mesoscale Structure of Continental Winter Cyclonic Storms

Sponsor: National Science Foundation

Period: March 1, 1991–February 28, 1994

Amount: \$430,100

Capacity: Lead Principal Investigator (with M. K. Ramamurthy)

Title: Investigations of Warm Cloud Precipitation Physics

Sponsor: National Science Foundation

Period: May 1, 1991–May 1, 1993

Amount: \$343,751

Capacity: Lead Principal Investigator (with K. V. Beard and H. T. Ochs)

Title: Storm Fronts Experiment Systems Test

Sponsor: National Center for Atmospheric Research

Period: February 1, 1992–March 15, 1992

Amount: Facilities Grant to Use CP3, CP4 and CHILL national radar research facilities in Kansas City and Colorado areas

Capacity: Lead Principal Investigator (with M. K. Ramamurthy (U. Illinois) and P. Hobbs (U. Washington))

Title: Laboratory, Field and Modeling Studies of Raindrop Shape

Sponsor: National Science Foundation

Period: July 15, 1992–January 14, 1996

Amount: \$423,300

Capacity: Principal Investigator (with K. V. Beard and H. T. Ochs)

Title: Stable Isotopes in Cloud Tops: An Investigation of the Water Budget of the Upper Troposphere

Sponsor: National Science Foundation

Period: October 1, 1992–September 30, 1996

Amount: \$145,040

Capacity: Lead Principal Investigator, UI (with H. T. Ochs), and R. Smith (lead PI at Yale University)

Title: Investigation of Warm Cloud Precipitation Physics

Sponsor: National Science Foundation

Period: August 15, 1993–January 31, 1998
Amount: \$632,810
Capacity: Lead Principal Investigator (with K. V. Beard and H. T. Ochs)

Title: Stable Isotopes in Cloud Tops: An Investigation of the Water Budget of the Upper Troposphere
Sponsor: National Center for Atmospheric Research
Period: February 1–March 15, 1994
Amount: Facilities grant for 15 flight hours of the NCAR Electra
Capacity: Principal Investigator (with H. T. Ochs and R. Smith)

Title: General Education Board Instructional Development
Sponsor: General Education Board, UIUC
Period: May 21, 1994–August 21, 1994
Amount: \$6424
Capacity: Principal Investigator (with J. E. Walsh)

Title: Gravity Wave and Occlusion Research
Sponsor: Campus Research Board
Period: October 8, 1994–July 31, 1995
Amount: \$17,267
Capacity: Principal Investigator

Title: Gravity Waves and Occlusions During STORM-FEST
Sponsor: National Science Foundation
Period: January 1, 1995–December 31, 1997
Amount: \$440,190
Capacity: Principal Investigator (with M. K. Ramamurthy)

Title: Atmospheric Sciences Computer Laboratory
Sponsor: The University of Illinois at Urbana-Champaign
Period: July 1, 1995
Amount: \$32,000
Capacity: Principal Investigator (with M. K. Ramamurthy)

Title: Small Cumulus Microphysics Experiment
Sponsor: National Science Foundation and National Center for Atmospheric Research
Period: July 1–August 15, 1995
Amount: \$23,124
Capacity: Lead Principal Investigator (with H. T. Ochs)

Title: Small Cumulus Microphysics Experiment
Sponsor: National Science Foundation and National Center for Atmospheric Research
Period: July 1–August 15, 1995
Amount: Facilities grant for use of the CP2 radar, the C-130 NCAR aircraft and the Wyoming King Air
Capacity: Principal Investigator (with H. T. Ochs, and scientists from NCAR and several other universities)

Title: Field and Modeling Studies of Warm Cloud Precipitation Physics
Sponsor: National Science Foundation

Period: June 1, 1997–May 31, 2000
 Amount: \$613,177
 Capacity: Lead Principal Investigator (with H. T. Ochs and K. V. Beard)

Title: Studies of Gravity Waves, Lee Cyclones and Precipitation Bands
 Sponsor: National Science Foundation
 Period: December 1, 1997–November 30, 2000
 Amount: \$396,631
 Capacity: Lead Principal Investigator (with M. K. Ramamurthy and B. F. Jewett)

Title: Snowband Dynamics Project
 Sponsor: National Science Foundation and National Center for Atmospheric Research
 Period: December 1997–January 1998
 Amount: Facilities grant for use of NCAR Electra aircraft, Dropsonde and sounding Facilities, and ELDORA radar facility
 Capacity: Lead Principal Investigator (with M. K. Ramamurthy and B. F. Jewett)

Title: Continuing studies of Mesoscale Gravity Waves and Precipitation Bands
 Sponsor: National Science Foundation
 Period: February 1, 2001 – January 31, 2004
 Amount: \$498,140
 Capacity: Principal Investigator (with M. K. Ramamurthy and B. F. Jewett)

Title: Mesoscale Ensemble Forecasting of Winter Precipitation
 Sponsor: University Corporation for Atmospheric Research (UCAR)
 Period: March 1, 2002–August 31, 2003
 Amount: \$9,965
 Capacity: Principal Investigator (with M. K. Ramamurthy and B. F. Jewett)

Title: Field and Modeling Studies of Warm Cloud Precipitation Physics
 Sponsor: National Science Foundation
 Period: September 13, 2001–September 12, 2004
 Amount: \$599,998
 Capacity: Lead Principal Investigator (with H. T. Ochs , K. V. Beard, N. Laird)

Title: Continuing studies of Mesoscale Gravity Waves and Precipitation Bands – BAMEX supplement
 Sponsor: National Science Foundation
 Period: February 1, 2001 – January 31, 2004
 Amount: \$50,062
 Capacity: Principal Investigator (with M. K. Ramamurthy and B. F. Jewett)

Title: Rain in Cumulus over the Ocean Experiment
 Sponsor: National Science Foundation and National Center for Atmospheric Research
 Period: November 2004–January 2005
 Amount: Facilities grant for use of NCAR C-130, NCAR Spol Radar, NCAR ISS, NCAR SABL lidar, NCAR dropsondes, Wyoming King Air aircraft
 Capacity: Lead Principal Investigator (with H. Ochs)

Title: Research Experience for undergraduates
 Sponsor: National Science Foundation

Period: November 2004-January 2005
Amount: ~\$32,300
Capacity: Lead Principal Investigator

Title: Precipitation Studies in Trade Wind Clouds – The Rain in Cumulus over the Ocean (RICO) Experiment
Sponsor: National Science Foundation
Period: March 2004–February 2009
Amount: ~\$1,430,572
Capacity: Lead Principal Investigator (with H. Ochs)

Title: Bow Echoes and Mesoscale Gravity Waves - The Role of Microphysical Processes
Sponsor: National Science Foundation
Period: March 2004–February 2009
Amount: ~\$746,282
Capacity: Lead Principal Investigator (with G. McFarquhar, B. Jewett, M. Ramamurthy)

Title: Remote sensing of hazardous winter storms
Sponsor: Research Board
Period: January 2004–December 2005
Amount: ~\$18,480
Capacity: Lead Principal Investigator

Title: Studies of orographic precipitation processes
Sponsor: National Science Foundation
Period: May 2005-April 2008
Amount: ~\$326,201
Capacity: Principal Investigator (with S. Goeke)

Title: Investigations of mesoscale and microscale processes in extratropical cyclones and mesoscale convective systems
Sponsor: National Science Foundation
Period: January 2009-January-2013
Amount: ~\$997, 106
Capacity: Lead Principal Investigator

Title: Research Experience for undergraduates
Sponsor: National Science Foundation
Period: January 2009-January-2013
Amount: ~\$12,423
Capacity: Lead Principal Investigator

Title: Investigations of mesoscale and microscale processes in extratropical cyclones and mesoscale convective systems
Sponsor: National Science Foundation
Period: January 2009-March 2009
Amount: Facilities grant for use of NCAR Mobile Integrated Sounding System, Soundings
Capacity: Lead Principal Investigator

Title: Investigations of mesoscale and microscale processes in extratropical cyclones and mesoscale convective systems
 Sponsor: National Science Foundation
 Period: January 2009-March 2009
 Amount: Facilities grant for use of NCAR C-130, Wyoming Cloud radar, Wyoming Cloud Lidar, NCAR MISS, Soundings, Dropsondes
 Capacity: Lead Principal Investigator

Title: RICO – Continuing Research
 Sponsor: National Science Foundation
 Period: November 1, 2009-January 2013
 Amount: ~\$800,163
 Capacity: Lead Principal Investigator

Theses Supervised

M.S. degree

1. Andrews, Block M. “Ultra-Large Drop Growth and Survival in Hawaiian Rainbands” – 1989
2. Shields, Michael T., “Dynamical Forcing and Mesoscale Organization of Precipitation Bands in a Midwest Winter Cyclonic Storm” – 1990
3. Collins, Brian, Investigation of a large amplitude gravity wave in the Midwest United States: A case study of the 5 January 1998 event. – 1991.
4. Li, Meng, “Mesoscale structure of a narrow precipitation zone embedded within flow over an intense winter anticyclone” – 1992
5. Maholtra, Naresh. A comparative study of large amplitude gravity waves. – 1992.
6. Christensen, David L., “Synoptic Scale Environment of a Mesoscale Gravity Wave Event” – 1994
7. Guo, Qizhou: The role of synoptic and mesoscale forcings in the central and southern plains storm of 5-6 March 1989. 1994.
8. Szumowski, Marcin Jan, “Formation and Evolution of Rain in Warm Convective Tropical Clouds” – 1994
9. Chen, Lih-Ho, Numerical simulation of a large amplitude gravity wave. – 1994:
10. Austin, Gary R., “Doppler Radar and High Resolution Satellite Analysis of Trade Wind Clusters and Rainbands” – 1995
11. Dekker, Paul, “The Influence of Inland Rivers on the Structure of the Sea Breeze As Determined from Dual-Doppler Radar Observations” – 1996
12. Grzelak, Thomas: “The structure and evolution of a Rocky Mountain cyclone during STORMFEST – 1996.
13. Steve, Ronald A., III, “Evolution of Convective Elements in Lake-Effect Boundary Layers” – 1996 (with D. Kristovich)
14. Olthoff, L. Scott, “A 25-year Climatology of Ice Storms” – 1998
15. Barnes, James M., “A 25-Year Climatological Study of Heavy Snowfalls in the Chicago Metropolitan Area,” – 1999 (Research report for non-thesis degree)
16. Miller, Dianne S. “Freezing precipitation: a synoptic weather pattern and sounding-based climatology.- 2001 (Research report for non-thesis degree)
17. Malmberg, Julie “Acid Rain Curriculum Development” 2003 (Research report for non-thesis degree)
18. Grim, Joseph: “Observations of the fine-scale structure and mechanisms of formation of banded precipitation within the northwest quadrant of two wintertime extratropical cyclones” 2003
19. Cellitti, Michael: Extreme cold air outbreaks, the polar vortex, and the large scale circulation. 2005
20. Estrem, Marcia: Analysis of vertical motions in fine-scale winter precipitation bands using wind profiler Doppler spectra. 2005

21. Davison, Jennifer: The temperature effect on the coalescence efficiency of small precipitation drops and its implications on interpreting the relative humidity effect. 2005.
22. Kruk, Michael: Bow Echoes during BAMEX: Assessing transitions in surface wind damage using WSR-88D data. 2005.
23. Snodgrass, Eric: "Precipitation characteristics from trade wind clouds during RICO derived from radar, satellite, and aircraft measurements" 2006.
24. Smith, Andrea: Explaining the variability of cloud microphysics in stratiform regions of BAMEX MCSs using high-resolution radar and optical array probe measurements. 2006.
25. Roussy, Katie: "Web based instruction in atmospheric science for elementary school education." 2006
26. Colón-Robles, Marilé: The influence of low level wind speed on droplet spectra near cloud base in trade wind cumulus. (2006)
27. Guarante, Brian: WRF simulations of a severe squall line: Comparison against high resolution dual and quad Doppler radar measurements from BAMEX. (2007)
28. Pounder, Daniel: Relationship isolation and variable elimination of soil and surface layer data through principal component analysis. (2007)
29. Plummer, David: Supercooled liquid water detection using dual-polarization radar in orographic cloud systems (2008).
30. Hampton, Justin: Study of fine scale mesoscale precipitation bands in the TROWAL region of extratropical cyclones. 2009.
31. Minor, Hillary: Trade wind cloud evolution observed by polarization radar: relationship to aerosol characteristics (2010).
32. Pitcel, Michelle: Idealized modeling of the role of stability and shear on mesoscale gravity wave evolution. (2010)
33. Rosenow, Andrew: Banding in the deformation zone in the northwest quadrant of continental cyclones. In Progress.
34. Wegman, Joseph: Charging in winter storms and its relationship to precipitation banding (in progress)
35. Peterson, Melissa: Stability in banded regions of winter cyclones (in progress)

Ph.D. degree

1. Szumowski, Marcin Jan, "Rain Formation in Shallow Tropical Convection" – 1997
2. Yang, MuQun, "Origin, Maintenance and Fine Scale Structure of the 14-15 February 1992 Mesoscale Gravity Wave Observed During STORM-FEST" – 1998
3. Han, Mei "Synoptic and Mesoscale Dynamics of Snowbands in Winter Cyclones.- 2004.
4. Grim, Joseph "The development, evolution and forcing of the rear inflow jet in bow echoes during BAMEX. 2007
5. Davison, Jennifer Moisture variability revealed by S-Band radar in the tropics during RICO as well as in other climatic environments. (in progress)
6. Plummer, David: Dynamics and microphysics of banded precipitation in cyclones (in progress)
7. Rosenow, Andrew: Vertical motions in cyclones (in progress)

Post-Doctoral Research Scientists

1. Szumowski, Marcin J.
2. Jewett, Brian J.
3. Wang, Jian-Jian
4. Goeke, Sabine

Courses Taught and Semester (F=Fall, S=Spring)

ATMS 100 Introduction to Meteorology

F87, F88, F89, S92
ATMS 101 Weather Analysis
 F88, F89
ATMS 120 Severe and Hazardous Weather
 S88, S89, S90, F92, F93, F94, F95, F96, F98, S99, S00, S01, F01, S02, S07
ATMS 303 Synoptic Weather Analysis
 F09
ATMS 410 (formerly 312) Radar Meteorology
 F91, S94, S96, F97, F99, F02, F04, F06, F10
ATMS 490 Research Review
 F90,
ATMS 510 (formerly 421) Precipitation Physics
 S88, S91
ATMS 403 (formerly 303) Weather Analysis and Forecasting
 S93, S95, S97, S98, S03, S04, S05, S06
ATMS 500 Synoptic Dynamics
 S08, F08, F09
ATMS 501 Mesoscale Meteorology
 F03, F05, F07, S09, S11
ATMS 571 Professional Development
 F02, F03, F06, F07, F10
SPECIAL: Technical Writing
 F97

Field Campaigns

- | | |
|--|---------|
| 1. Profiling of Winter Storms (PLOWS) | 2008-10 |
| 2. Rain in Cumulus over the Ocean experiment (RICO) | 2004-5 |
| 3. Profiling of Winter Storms (PLOWS) | 2003-4 |
| 4. Bow Echo and MCV Experiment (BAMEX) | 2003 |
| 5. Lake-Induced Convection Experiment/Snow Band Dynamics project | 1997-8 |
| 6. Small Cumulus Microphysics Experiment(SCMS) | 1995 |
| 7. Cloud Isotope Project/Winter Icing and Storms Project(CIP/WISP) | 1994 |
| 8. Cloud Isotope Project | 1993 |
| 9. STORM Fronts Experiment Systems Test (STORM-FEST) | 1992 |
| 10. Convection and Precipitation/Electrification Experiment (CaPE) | 1991 |
| 11. University of Illinois Winter Precipitation Project (UNIWIPP) | 1990 |
| 12. Hawaiian Rainband Project | 1990 |
| 13. University of Illinois Winter Precipitation Project (UNIWIPP) | 1989 |
| 14. University of Illinois Winter Precipitation Project (UNIWIPP) | 1988 |
| 15. Sierra Cooperative Pilot Project (SCPP) | 1986 |
| 16. Sierra Cooperative Pilot Project (SCPP) | 1985 |
| 17. Joint Hawaiian Warm Rain Project | 1985 |
| 18. Colorado Orographic Seeding Experiment IV | 1984 |
| 19. Utah Federal/State Orographic Seeding program | 1983 |
| 20. Colorado Orographic Seeding Experiment III | 1981-2 |
| 21. Colorado Orographic Seeding Experiment II | 1979 |
| 22. Colorado Orographic Seeding Experiment I | 1978 |

International, national or local professional committees or working group

1. Federal/State Hypothesis Assessment Committee for Weather Modification Research (1984)
2. Weather Modification Association Standards and Ethics Committee (1986-88)
3. American Meteorological Society Committee on Planned and Inadvertent Weather Modification (1988-91)
4. National Storm Program Winter Program Working Group (1989)
5. Hawaiian Rainband Program Steering Committee (1990)

6. National Storm Fronts Experiment Steering Committee (1991)
7. National Center for Atmospheric Research Cloud Physics Working Group (1993-94)
8. Global Energy and Water Cycle Experiment (GEWEX) Cloud Systems Study (GCSS) Extratropical Layer Clouds Working Group (1993-94)
9. American Meteorological Society Cloud Physics Committee (1995-97)
10. Winter Icing and Storms Project Steering Committee (1996-98)
11. American Meteorological Society Cloud Physics Committee (Chairman) (1998-2001)
12. National Science Foundation Observing Facilities Advisory Panel (1999-2002 [vice chairman 2000-01, chairman 2001-2])
13. American Meteorological Society Publications Commission (2003-2011)
14. USWRP Cool Season Planning Committee chair (2003-4)
15. American Meteorological Society Conference Planning committee – Mesoscale Conference 2005
16. American Meteorological Society Conference Planning committee – Radar Conference 2005.
17. American Meteorological Society Radar committee (2007-2011)
18. University Corporation for Atmospheric Research Representative (2006-12)
19. University Corporation for Atmospheric Research Members Committee (2008-09)
20. AMS Heads and Chairs Committee (2006,2008,2010)
21. UCAR Research Applications Program Advisory Committee (2006-11)
22. NSF Facilities Meeting Planning Committee (2007)
23. National Science Foundation Panel-Vortex Campaign (2008)
24. National Science Foundation Site Visit Team – CASA (2009, 2010, 2011)
25. UCAR President’s Advisory Committee on University Relations (2010-11)
26. Chair, University of Utah Department of Atmospheric Sciences Review committee (2010)
27. AMS Fellows selection committee (2010-12)

Chair, Session Chair or Program Committee of scientific conference/symposium

- Session co-chairman: Final summary session, Workshop on Precipitation Enhancement, American Meteorological Society (1984)
- Panelist: Cloud Physics and Radar Committee, 25th Battan Memorial Conference, American Meteorological Society (1987)
- Session Co-chairman: Orographic Cloud Modeling Panel, 2nd International Cloud Modeling Conference, World Meteorological Organization, Toulouse, France (1988)
- Session Chairman: 6th Conference on Mesoscale Processes, American Meteorological Society, Portland, OR (1994)
- Program Committee: Conference on Cloud Physics, American Meteorological Society Dallas, TX (1995)
- Session Chairman: Conference on Cloud Physics, American Meteorological Society, Dallas, TX (1995)
- Program Chairman: Conference on Cloud Physics, American Meteorological Society (1998)
- Session Chairman: Conference on Cloud Physics, American Meteorological Society (1998)
- Session Chairman, 29th International Conference on Radar Meteorology, Montreal, Canada. (1999)
- Session Chairman, 13th International Conference on Clouds and Precipitation, Montreal, Canada. (1999)
- Co-Chairman, USWRP Cool Season Precipitation Forecasting Workshop (2003)
- Session Chairman, 32nd AMS conf. Radar Meteorology, Albuquerque, NM (2005)
- Chairman, RICO Workshop, 18 – 21 January, Boulder, CO (2006)
- Session Chairman, 12th AMS Conf. Cloud Physics (2006)
- Session Chairman, Pan-GCSS Meeting on Advances on Modeling and Observing Clouds and Convection, Toulouse, France (2008)
- Session Chairman: International Conference on Clouds and Precipitation, Cancun, Mexico (2008)
- Organizer, AMS Heads and Chairs committee, Boulder, CO (2010)
- Co-Chairman, AMS radar conference (2011).

Seminars outside University of Illinois

1. National Oceanic and Atmospheric Administration, Environmental Research Laboratory, Seminar on Radiometric Observations, August 1985
2. McGill University, Seminar on Microphysical Processes in Mountain Storms, December 1986
3. National Center for Atmospheric Research, Seminar on Warm Rain Processes, July 1991
4. Northern Illinois University, Seminar on Radar Measurements in Winter Storms, 1994
5. University of Alabama at Huntsville, Seminar on Mesoscale Processes Producing Winter Precipitation Bands, 1997
6. North Carolina State University, Seminar on Mesoscale Gravity Waves, 1997
7. Purdue University, Seminar on Warm Rain Processes in Tropical Clouds, 1998
8. University of Wisconsin, Seminar on Mesoscale Gravity Waves, 1998
9. Desert Research Institute, University of Nevada at Reno, Seminar on Mesoscale Gravity Waves, 1999
10. American Meteorological Society Central Illinois Chapter, Seminar on Freezing Precipitation, 2000
11. Colorado State University, Seminar on Mesoscale Gravity Wave Genesis, 2001
12. University of Wisconsin, Seminar on Heavy snowstorms, 2003
13. University of Puerto Rico, Seminar on Trade wind clouds 2006
14. University of Northern Illinois, Seminar on Trade wind clouds 2006
15. National Science Foundation. The Rain in Cumulus over the Ocean Campaign 2006
16. National Center for Atmospheric Research. RICO: From dinner napkin to publication. 2008
17. Western Illinois University How tornadoes form. 2008
18. Purdue University. Precipitation characteristics of trade wind clouds derived from radar, satellite and aircraft measurements. 2009
19. National Weather Service, Lincoln. The Profiling of Winter Storms experiment. 2010
20. Chinese Meteorological Administration, May 2010, Beijing, China

Reviewer for journals and federal/state agencies

1. Boundary Layer Meteorology
2. Journal of Atmospheric and Oceanic Technology
3. Journal of Atmospheric Research
4. Journal of the Atmospheric Sciences
5. Journal of Applied Meteorology
6. Journal of Geophysical Research - Atmospheres
7. Journal of Weather Modification
8. Journal of the Royal Meteorological Society
9. Antarctic Science
10. National Oceanic and Atmospheric Administration
11. National Science Foundation

University or college level committees

1. University Senate - 1989-91
2. University Senate Admissions Committee - 1990-92
3. University Task Force on the Environment - Graduate Education Subcommittee - 1993
4. University Senate Committee on Student Discipline - 1995-98
5. LAS Committee on Admissions and Academic Standards - 1998-2000
6. LAS Committee on Independent Plan of Study - 2003-2005
7. LAS Committee on Committees - 2008

Membership in professional societies

1. American Geophysical Union (full member)
2. American Meteorological Society (full member)
3. Sigma Xi (full member)
4. Phi Kappa Phi (full member)