

**RESUME**  
**VINEY P. ANEJA**  
U.S. Citizen

(919) 515-7808 OFFICE  
(919) 782-0152 HOME  
(919) 515-7802 FAX  
VINEY\_ANEJA@NCSU.EDU email

<http://www.meas.ncsu.edu/airquality>

**EDUCATION**

Ph.D. 1977	North Carolina State University, Raleigh, NC Major: Chemical Engineering Minor: Polymer Science and Operations Research
M.S. 1975	North Carolina State University, Raleigh, NC Major: Chemical Engineering
B. Tech. 1971	Indian Institute of Technology, Kanpur, India Major: Chemical Engineering
MBA 1986	Union College, Schenectady, NY Major: Planning and Control

**PROFESSIONAL APPOINTMENTS**

2016 -	Co-Director of Graduate Programs, Department of Marine, Earth and Atmospheric Sciences, North Carolina State University, Raleigh, NC
2002 -	Professor, Department of Marine, Earth and Atmospheric Sciences, North Carolina State University, Raleigh, NC
2001 -	Professor, Environmental Technology, College of Natural Resources, North Carolina State University, Raleigh, NC
1995 - 2002	Research Professor, Department of Marine, Earth and Atmospheric Sciences, North Carolina State University, Raleigh, NC
1994 - 1995	Tenured, Research Associate Professor, Department of Marine, Earth and Atmospheric Sciences, North Carolina State University, Raleigh, NC
1990 - 1994	Research Associate Professor, Department of Marine, Earth and Atmospheric Sciences, North Carolina State University, Raleigh, NC
1987 - 1989	Visiting Associate Professor, Department of Marine, Earth and Atmospheric Sciences, North Carolina State University, Raleigh, NC
2015	Rosby Visiting Professor University of Stockholm, Sweden
2015	Visiting Professor Indian Institute of Technology, Kanpur, India
2015	Indira Foundation Distinguished Visiting Professor TERI University, New Delhi, India

1985 Visiting Professor  
The Arrhenius Laboratory, Stockholm, Sweden

1980 - 87 Staff Chemical Engineer  
General Electric Company, Schenectady, NY

1979 Visiting Professor  
University of Uppsala, Uppsala, Sweden

1979 - 80 Project Scientist  
Northrop Services, Inc., Research Triangle Park, NC

1977 - 79 Senior Scientist  
Northrop Services, Inc., Research Triangle Park, NC

1976 - 77 Member Research Staff  
Northrop Services, Inc., Research Triangle Park, NC

1973 - 75 Member Scientific Staff  
Brookhaven National Laboratory, Upton, L.I., NY

## **AWARDS AND HONORS**

Indira Foundation Distinguished Visiting Fellow at TERI University, New Delhi, India, October-November, 2015.

Rosby Visiting Fellow, University of Stockholm, Sweden, May-June, 2015.

Executive Committee Member, US Environmental Protection Agency's Board of Scientific Counselors (BOSC), 2014-2017.

Chairman of the US EPA's Board of Scientific Counselors' Air, Climate, and Energy (ACE) Subcommittee, 2014-2017.

Member, EPA's Science Advisory Board Committee on Estimating Air Emissions from Animal Feeding Operations, 2012-2013.

Distinguished Alumnus Award, Indian Institute Of Technology, Kanpur, India, 2010.

White House Council on Environmental Quality's Conference Calls on BP Gulf Spill May 2010.

Advisor to First Place Ph.D. Platform Paper, Air and Waste Management Association, 2010.

Member, EPA's Science Advisory Board Committee on Hydraulic Fracturing , 2010.

Senior National Research Council Research Associateship, 2009.

Air and Waste Management Association's First Place Master's Thesis Award Advisor, 2009.

Member, EPA's Science Advisory Board Committee on Aging Drinking Water and Waste Water Infrastructure Research Initiative, 2009.

North Carolina Governor's Award in Science, 2007.

Director, Air and Waste Management Association, 2008-2010.

Chair, Air & Waste Management Association Education Council, 2008-2010.

Member, NC Governor's Task Force on Hazardous Materials, 2006-2007.

Member, EPA's Science Advisory Board Committee on Integrated Nitrogen, 2006-2010.

Member Representative, University Corporation for Atmospheric Research, Boulder, CO, 2006-Present.

Member, United States Environmental Protection Agency's Science Advisory Board, Environmental Engineering Committee, 2004-2010.

Member, U.S. Environmental Protection Agency Science Advisory Board Environmental Engineering Committee Advisory on EPA's Sustainability Research Strategy and Multi-Year Plan, 2006-2007.

North Carolina State University Panhellenic Association Outstanding Educator Award, 2004-05.

Vice Chair, Air & Waste Management Association Education Council, 2005-2008.

Certificate of Appreciation, Southern Appalachian Mountain Institute (SAMI), 2002.

Lyman A. Ripperton Award, Air & Waste Management Association, 2001.

Selected by U.S. Secretary of Agriculture to serve on the U.S. Agricultural Air Quality Task Force, 2001-08.

North Carolina Environmental Defense, "Certificate of Appreciation", 2002.

Delegation Leader, U.S. Department of State, Trends in Environmental Improvement Science and Technology Delegation to France, 2001.

Fellow, Air & Waste Management Association, 1999.

Frank A. Chambers Award, Air & Waste Management Association, 1998.

Invited to testify to the General Assembly of North Carolina, 2000.

Inducted in North Carolina State University's Academy of Outstanding Faculty Engaged in Extension, 2000.

Member, North Carolina Delegation, the Netherlands, 2000.

North Carolina State Scholar, the North Carolina Progress Board, 1999.

Invited to testify to the America's Clean Water Foundation, Washington, DC 20013, October 1997.

Program Scientist, US EPA and NSF Project "NOVA", 1995-98.  
State of North Carolina Appointee to the Southern Appalachian Mountain Initiative (SAMI) Technical Oversight Committee, 1993–present.  
Certified Qualified Environmental Professional (#06930006), 1993–present.  
Member, Editorial Board, *Atmospheres*, 2012 to Present  
Member, Editorial Board, *Journal of Atmospheric and Climate Science*, 2011 to Present  
Member, Editorial Board, *Journal of Marine Science: Research & Dev.*, 2010 to Present  
Member, Editorial Board, *International Journal of Atmospheric Pollution Research*, 2009-Present  
Associate Editor, *International Journal Physical Review & Research International*, 2011 to Present  
Associate Editor, *International Journal The Open Environmental & Biological Monitoring*, 2008- Present  
Associate Editor, *Scientific Journals International*, 2008 to Present  
Reader Advisory Panel, *Nature*, 2008-Present.  
Associate Editor, *International Journal of Air Quality, Atmosphere, and Health*, 2007-Present  
Associate Editor, *International Journal of Applied Environmental Sci.*, 2004-Present  
Member, Editorial Board, *Environmental Pollution* (Elsevier-Science), 2000-03.  
Member, Editorial Review Board, *Environmental Manager*, 1995-2001.  
Member, Editorial Review Board, *JA&WMA*, 1993 - 2001.  
Member Editorial Board, *Chemosphere* (Pergamon Press), 1992-2004.  
Outstanding Extension Service Award, North Carolina State University, 1991-92.  
Faculty Research and Professional Development Award, North Carolina State University, 1991.  
Mission Scientist, Southern Oxidants Research Program on Ozone Non-Attainment, 1991.  
Managerial Award in recognition of Distinctive and Outstanding Accomplishments, General Electric Company, 1986.  
Distinguished Service Award, Air Pollution Control Association, Pittsburgh, 1984.  
Noryl Division Proprietary Innovation Award, General Electric Company, 1983.  
Letters of Commendation, Northrop Services, Inc., NC, 1977 and 1979.  
“One Thousand Great Americans”, International Biographical Centre, Cambridge, England, 2001.  
Who's Who in the East.  
Men and Women of Distinction of the Dictionary of International Biography.  
Who's Who in Technology Today.  
American Men and Women of Science.

## **PROFESSIONAL ACTIVITIES**

Member, American Institute of Chemical Engineer  
Member, Air and Waste Management Association  
Member, American Meteorological Society  
Member, American Geophysical Union  
Member, Carolinas Air Pollution Control Association  
Member, North Carolina Water Resources Association  
AIChE Editor Northeast New York Section, 1981 - 83  
Air Pollution Control Association Secretary, Interaction with Total Environment Technical Committee, 1987 – 89.

Manuscript Reviewer: Atmospheric Environment; Tellus; Journal of the Air Pollution Control Association; Environmental Science & Technology; Journal of Water, Air and Soil Pollution; Journal of Geophysical Research; International Journal of Environment and Pollution; Journal of the Air and Waste Management Association; Chemosphere; Global Biogeochemical Cycles; Israel Journal of Chemistry; Transactions: Regional Photochemical Measurement, and Modeling Studies; Journal of Environmental Quality; Environmental Defense Fund; Ecology, Ecological Monographs, and Ecological Applications; Environmental Pollution; US Environmental Protection Agency; Global Change Biology; Phytion; Journal of Applied Meteorology; Atmosphere.

Book Referee: Academic Press, McGraw-Hill, Oxford University Press, and Elsevier.

Guest Editor: Atmospheric Environment Special Section “Atmospheric Nitrogen Compounds: Emissions, Transport, Transformation, Deposition, and Assessment”, 2001.  
Atmospheric Environment Special Issue “Agricultural Air Quality: State of the Science (AAQ-2006)”, 2008.  
Journal of the Air and Waste Management Association “Agricultural Air Quality: State of the Science”, 2008.  
Journal of Environmental Quality “Agricultural Air Quality: State of the Science”, 2008.

Advisory Panel: Nature, 2008-2010.

Research Grant Reviewer: National Science Foundation; American Institute of Biological Sciences; National Aeronautics and Space Administration; US Department of Agriculture; U.S. Department of State; U.S. Department of Energy; National Oceanic and Atmospheric Administration; Natural Environmental Research Council, UK; US Environmental Protection Agency; The Israel Science Foundation; Chesapeake Bay Air Subcommittee; NC Water Resources Research Institute; United Nations Intergovernmental Panel on Climate Change; U.S. Civilian Research and Development Foundation for the Independent States of the Former Soviet Union; U.S. Department of Energy; The Croucher Foundation, Hong Kong; Nevada System of Higher Education; University of Illinois at Chicago; Università degli Studi della Basilicata, Italy; Research Corporation for Science Advancement; Office of Education, Archimedes III, Greece; Research Program Thalys, Greece; NWO Council for Earth and Life Sciences, the Netherlands; Fund for Scientific Research (FNRS), Brussels, Belgium; and Kuwait Foundation for the Advancement of Sciences, Kuwait.

Consultant: U.S. Environmental Protection Agency; U.S. Department of State; DuPont Company; The United Nations Environment Program; Indian Institute of Technology, Kanpur; Engineering Science, Inc.; American Institute of Biological Sciences; ABB Environmental Services, Inc.; Research and Evaluation Associates, Inc.; Patterson, Harkavy, Lawrence, Van Noppen and Okun, Attorneys at Law; Blanchard, Triggs, Abrams, and Strickland P.A.; Johnston, Zabor & Associates, Inc.; Minnesota Pollution Control Agency; North Carolina Department of Environment and Natural Resources; Radian Corporation; EC/R Inc; Duke University; Purdue University; Eastern Research Group, Inc.; Sierra Club; Center on Race, Poverty, and the Environment; Nelson Mullins Riley & Scarborough LLP; Speer Law Firm; Health Canada, and Wallace and Graham.

### **CURRENT FIELDS OF INTEREST**

Environment, Air Quality, and Climate: Emission, transport, transformation, and fate of pollutants; agricultural air quality; climate change; biogeochemical cycling of pollutants; measurement and modeling of biogenic emissions of trace gases; photochemical oxidants and gas-to-particle conversion; biospheric-atmospheric interactions; bioenergy; aqueous waste purification; bioenvironmental engineering; and pollutant monitoring and control.

### **NEWS COVERAGE**

His research has been featured on CNN; ABC; CBS; NBC; National Public Radio; Public Broadcasting Service; Associated Press; The New York Times; The Times of India; Bloomberg News; Environmental Manager; Fortune Magazine; and Field Productions, LLC.

## **COMMITTEES**

Member, UNC GA- India Summit Steering Committee, 2013 - present.

Member, Air and Waste Management Association Publication Committee, 2010-13.

Member, Reader Advisory Panel of the International Journal Nature, 2008-10.

Member, Isle Royale National Park Research Panel, 2008-09.

Chair, Steering Committee, Workshop on Agricultural Air Quality: State of the Science, 2005-07

Member, North Carolina State University India Advisory Group Committee, 2007-2010.

Member, Triangle Tomorrow's Triangle Region Air Quality Coalition, 2005 to present.

Member, US Department of Agriculture Task Force on Agricultural Air Quality Subcommittees on Emission; Confined Animal Feeding Operations; and Research, 2000-2006.

Member, Battelle Technical Council, 2001-2003.

Chair, Oak Ridge National Laboratory – NCSU Environmental Sciences Committee 2001.

Member, Area, Fugitive and Natural Sources Committee, Air & Waste Management Association, 2001-Present.

NASA Tech Brief Reader Advisory Panel, 2000 to present.

Member, US EPA's Accessing the Consequences of Global Change for Air Quality Peer Review Panel, 2002.

Chair, North Carolina State University Standing Committee O. Max Gardner Award, 2000-01.

Member, Technical Committee, American Institute of Hydrology International Conference, 2000.

Member, Advisory Team, International Workshop on Atmospheric Transport and Air-Surface Exchange of Environmental Contaminants in North America, 2000.

Member, Organizing Committee, International Workshop on Future Directions in Air Quality Research, 2000-01.

Member, North Carolina Nutrient Efficiency Rule Advisory Group, 2000.

Member, US EPA's STAR Fellowships Peer Review Panel, 2000.

Member, Water Resources Research Institute of The University of North Carolina Technical Committee, 1998-2002.

Member, North Carolina State University Standing Committee on O. Max Gardner Award, 1998-01.

Member, Board of Directors, State Employees Credit Union, NCSU Advisory Board, 1998-02.

Member, North Carolina State University, Environmental Technology Curriculum, 1999.

Member, US EPA's Exploratory Engineering Peer Review Panel, 1999.

Member, US EPA's Air Pollution Chemistry and Physics Peer Review Panel, 1998.

Chair, Scientific Advisory Committee, North Carolina Workshop on Atmospheric Nitrogen Compounds, 1997.

Member, U.S. EPA's Tropospheric Ozone and Fine Particulates Peer Review Panel, 1997.

Science Team Leader, State of North Carolina Department of Environment and Natural Resources Program "Atmospheric Nitrogen Compounds", 1996-present.

North Carolina State University Merit Awards Program, 1996-present.

Member, Atmospheric Nitrogen Emissions and Depositions Group, NC Department of Environmental, Health, and Natural Resources, 1996-Present.

Member, Ozone Transport Assessment Group (OTAG), Air Quality Analysis, 1996-98.

Program Advisory Committee, International Conference on Atmospheric Ammonia, Oxford, England, 1995.

Science-Team Member, North American Research Strategy on Tropospheric Ozone (NARSTO), 1995 - Present

Steering Committee, "SCI-LINK/GLOBE-NET" Programs, 1995.

Institute of Professional Environmental Practice, Qualified Environmental Professional Exam Advisory Committee, 1994 - present.

Scientific and Technical Advisory Committee, Chesapeake Bay Program, 1994.

NCSU Outreach and Extension Strategic Planning, 1994.

Qualified Environmental Professional, IPEP, Chair, Examination Panels, 1993 - Present.

Technical Program Committee, International Symposium on Measurement of Toxic and Related Air Pollutants, 1993.

Technical Program Committee, International Conference on Regional Photochemical Measurement & Modeling Studies, 1993.

Publications Committee, Air and Waste Management Association, 1992-95.

Member, Technical Advisory Committee, N.C. Environmental Defense Fund, 1992-94.

Urban Airshed Model Technical Committee, State of North Carolina, 1992-94.

International Hydrocarbon Intercomparison (IHIC) Committee, 1991-2000.

Forest Protection, North Carolina Agricultural Research Service, 1991.

NASA panel for the selection of NASA Specialized Center for Research and Training, 1990.

Site Director, Southern Oxidants Study NCSU Site SONIA, 1991-95.

U.S. Environmental Protection Agency Management Assistance Review, 1988.

Southern Oxidant Study Consortium, 1988 - Present.

The Southeastern Regional Oxidant Network Steering Committee, 1988 - Present.

The Southern Oxidants Research Program on Ozone Non-Attainment Executive Committee, 1990-1993.

The Air and Waste Management Association Committee on Global Environmental Management, 1989-1991.

NC Gaston County Quality Natural Resources Committee, 1989-1991.

MEAS Electronics Technician Search Committee, Chairman, 1988

MEAS Technical Services Committee, 1988-1990.

Chairman, MEAS Outreach Committee, 1990 – 1993, 1999-2001.

MEAS Seminar Committee, 1993 - 1994.

MEAS Laboratory Safety Committee, 1993 - Present

MEAS Graduate Course Action Committee, 2000-Present

MEAS Space Committee, 2001-2002

MEAS Air Quality Faculty Search Committee, 2002-2003.

Chair, MEAS Physical Meteorology Faculty Search Committee, 2005-06.

College of Physical and Mathematical Sciences, PAMS, Reappointment, Promotion, and Tenure Advisory Committee, 2006-08.



## **POSTDOCTORAL FELLOWS and VISITING SCIENTISTS SUPERVISED**

1. Dr. Takashi Ibusuki, 1979-1980, National Research Institute for Pollution, Japan.
2. Dr. Chandana Senaratne, 1989-1990, North Carolina State University, USA.
3. Dr. Deug-Soo Kim, 1995 - 1996 Kunsan National University, Korea.
4. Dr. Ilie Fishtik, 1997 (Summer), The Academy of Sciences of Moldova, Moldova.
5. Dr. Mahmoud El-Sharkaway, February-July 1999. Fulbright Senior Scholar, Egypt.
6. Dr. Deng-Soo Kim, 2002-2004, Kunsan National University, Korea.
7. Dr. Jessica Blunden, 2006-2008, North Carolina State University, USA.
8. Mr. Guillaume Grandjean, National Institute of Agronomic Sciences, Grignon, France.

## **GRADUATE STUDENTS SUPERVISED**

### Ph.D. Completed

1. Candis S. Claiborn (Ph.D., Fall 1991)  
"Atmospheric-Biospheric Interactions of Ambient Hydrogen Peroxide: Climatology at Mt. Mitchell, NC, and Transport into Needles of Red Spruce."  
Professor and Dean, Washington State University, Pullman, WA
2. Deug-Soo Kim (Ph.D., Summer 1993)  
"Southern Oxidants Study: Southeast Oxidant and Nitrogen Intensive Analysis (SOS:SONIA)."  
Professor and Head, Department of Environmental Engineering, Kunsan National University, Korea.
3. Mita Das (Ph.D., Fall 1996)  
"Trends, Photochemistry, and Analysis of Volatile Organic Compounds in the Lower Troposphere of the Southeast United States."
4. Yongxian Li (Ph.D., Summer 1999)  
"Transport and Deposition of Nitrogen Oxides and Ozone in the Atmospheric Surface Layer."  
Scientist, NOAA, Baltimore, MD.
5. Paul A. Roelle (Ph.D., Summer 2001)  
"Oxidized and Reduced Biogenic Nitrogen Compound Emissions into the Rural Troposphere: Characterization and Modeling."  
Col, U.S. Air Force, Chief Operational Climatology, Asheville, NC.

6. Daiwen Kang (Ph.D., Fall 2001)  
“Measurement, Modeling, and Analysis of Nonmethane Hydrocarbons and Ozone in the Southeast United States National Parks.”  
NOAA/US EPA, Scientist , RTP, NC.
7. Bok-Haeng Baek (Ph.D., Spring, 2002)  
“Measurement, Analysis, and Modeling of Gas-to-Particle Conversion between Ammonia, Acid Gases, and Fine Particles”.  
Texas A & M University, Assistant Research Scientist, Amarillo, TX.
8. Sharon B. Phillips (Ph. D. Summer 2003)  
“Measurements, Modeling, and Analysis of Fluxes of Nitrogen Compounds.”  
Physical Scientist, US Environmental Protection Agency, Research Triangle Park, NC.
9. Quansong Tong (Ph.D., Summer 2003)  
“Measurement, Modeling and Analysis of Ozone and its Key Precursors in the Southeast United States National Parks.”  
Air Resources Laboratory, NOAA, Silver Spring, MD.
10. Jessica Blunden (Ph. D., Summer 2006)  
“Measurement, Analysis, and modeling of Hydrogen Sulfide emissions from a swine facility in North Carolina.”  
STG Inc., Asheville, NC.
11. Kanwardeep S. Bajwa (Ph. D., Summer 2006)  
“Measurements and Modeling of Emissions, Dispersion and Dry Deposition of Ammonia from swine facilities.”  
Air Quality Specialist, Jacques Whitford AXYS Ltd, Calgary, Canada
12. Ian C. Rumsey (Ph. D., Spring 2010)  
“Characterizing Reduced Sulfur Compounds and Non-Methane Volatile Organic Compounds Emissions from a Swine Concentrated Animal Feeding Operation.”  
Postdoctoral Researcher, U.S. Environmental Protection Agency, RTP, NC.
13. Val Garcia (Ph.D., Fall 2010)  
“Examination of Inter-relationships among Atmospheric Transport Patterns, Ozone Concentrations, and Human Health Endpoints in New York State.”  
Branch Chief, U.S. Environmental Protection Agency, RTP, NC.
14. Anjum Rasheed (Ph.D., Fall 2013)  
“Dynamic Analysis and Assessment of Ambient Air Quality of Four Major Cities of Pakistan.”

## M.S. Completed

1. Anuradha B. Murthy (MS, Fall 1990)  
"Deposition and Interaction of Nitrogen Containing Pollutants to a High Elevation Forest Canopy."
2. Deug-Soo Kim (MS, Fall 1990)  
"Temporal Variability in Cloud Water Chemistry at Mt. Mitchell as Revealed by the Cloud and Rain Acidity/Conductivity (CRAC) Real-Time Automated Sampler."
3. Zheng Li (MS, Fall 1990)  
"Regional and Comparative Analysis of Cloud Chemistry, Chemical and Physical Climatology at High Elevations in the Eastern United States."
4. Andrea A. Adams (MS, Fall 1992)  
"An Observational-based Analysis of Ozone Trends and Production in North Carolina."
5. Gary T. Yoder (MS, Spring 1993)  
"Characterization of Urban and Rural Ozone in the Southeastern United States."
6. Benjamin E. Hartsell (MS, Spring 1993)  
"Characterization of Peroxyacetyl Nitrate (PAN) in the Rural and Urban Southeast United States."
7. Mita Das (MS, Summer 1993)  
"Physico-chemical Processes Regulating the Formation of Gaseous Hydrogen Peroxide in the Southeastern United States."
8. Benny D. Holbrook (MS, Summer 1994)  
"Characterization and Graphical Visualization of Fluxes of Oxides of Nitrogen from Agricultural Soils in North Carolina."
9. James C. Ulman (MS, Summer 1994)  
"Impact of Air Mass History on the Chemical, Microphysical, and Radiative Properties of Clouds at Mount Mitchell, North Carolina."
10. Jay H. Lawrimore (MS, Summer 1994)  
"Measurement and Analysis of the Vertical Distribution and Emissions of Nonmethane Hydrocarbons in Urban North Carolina for Ozone Control."
11. Lee J. Sullivan (MS, Summer 1995)  
"Biogenic Nitric Oxide Emissions: Trends, Seasonal Variations, and Interpretations."
12. Thomas C. Moore (MS, Summer 1995)  
"Vertical Distribution of Oxides of Nitrogen in the Semi-Urban Planetary Boundary Layer: Mixing Ratios, Transport, and Sources."
13. Fred Stratton de Pollok (MS, Spring 1996)  
"Mutagenic and Gas Chromatographic Analysis of Raleigh Volatile Organic Compounds"

- in Air Samples at Three Different Elevations Before, During and After Hurricane Gordon.”
14. Lisa M. Hagerman (MS, Summer 1996)  
“Regional Analysis of Non-Methane Hydrocarbons and Meteorology of the Rural Southeast United States.”
  15. James R. O’Connor (MS, Summer 1996)  
“A Climatology of Regional Ozone: Meteorological Effects on Ozone Exceedences in the Southeast United States.”
  16. Paul A. Roelle (MS, Summer 1996)  
“Chemically Reactive Nitrogen Trace Species in the Planetary Boundary Layer.”
  17. Regi G. Oommen (MS, Summer 1996)  
“Boundary Layer Ozone Variations in Central North Carolina.”
  18. James E. Rickman (MS, Summer 1997)  
"Three-Dimensional Visualization of Ozone Process Data".
  19. Jeffrey S. Brittig (MS, Summer 1997)  
"Ozone and Other Air Quality Related Variables Affecting Visibility in the Southeast United States".
  20. John T. Walker, Jr. (MS, Summer 1998)  
“Atmospheric Transport and Wet Deposition of Ammonium in North Carolina.”
  21. Jatinderpaul S. Chauhan (M.S., Summer 1999)  
“Characterization of Ammonia Emissions from Swine Waste Storage and Treatment Lagoons.”
  22. Bryan J. Bunton (M.S., Summer 1999)  
“Measurements and Analysis of Atmospheric Ammonia Emissions from Anaerobic Lagoons.”
  23. Brahm P. Malik (MS, Fall 1999)  
"Coupled Transport and Chemical Reaction Model for Ammonia Emission at Waste Treatment Lagoon–Atmosphere Interface."
  24. Ronald B. McCulloch (MS, Fall 1999)  
"Estimating Ammonia Emissions from a Swine Production Facility in North Carolina using an Inverted Gaussian Plume Model."
  25. Dena R. Nelson (MS, Summer 2000)  
“Analysis of Ammonia Emissions from Agriculture and Ammonium Concentrations in the Southeast United States.”
  26. Nitin Agrawal (MS, Summer 2000)

- “Estimating Ammonia Emissions and Fine Particulate Matter from Remotely Sensed Data in North Carolina and their Regional Coupling.”
27. Heather Arkinson (MS, Spring 2003)  
“Measurement, Modeling, and Analysis of Ammonia Flux from Hog Waste Treatment Lagoons.”
  28. Jessica Blunden (MS, Fall 2003)  
“Characterization of Non-Methane Volatile Organic compounds at Swine Facilities in Eastern North Carolina.”
  29. Hilawe Semunegus (MS, Fall 2003)  
“Comparative Assessment of Ammonia Emissions from Potential Environmentally Superior Technologies for Swine Facilities.”
  30. Binyu Wang (MS, Fall 2003)  
“Analysis and Modeling of Fine Particulate Matter (PM<sub>fine</sub>) in the Southeast United States.”
  31. Barry Peterson (MS, Spring 2004)  
“An Experimental Study of the Vertical Eddy Diffusivity and Dry Deposition of Ammonia on a Natural Grassy Surface.”
  32. Ian Rumsey (MS, Summer 2004)  
“An Assessment of Ammonia Emissions from Water-holding Structures for Hog Farms: Lagoon and Spray Technology and Potential Environmentally Superior Technologies.”
  33. Stephen Goetz (MS, Fall 2005)  
“Measurement, Analysis, and modeling of fine Particulate Matter in Eastern North Carolina.”
  34. Christopher Occhipinti (MS, Fall 2006)  
“Nitrate Isotopic Composition in Rainfall and Fine Particulate Matter: Back Trajectory, Meteorology, and Source - Receptor Relationship Analysis.”
  35. Stephen Konarik (MS, Fall 2006)  
“Trends in Agricultural Ammonia Emissions and Ammonium Concentrations in Precipitation over the Southeast and Midwest United States.”
  36. Srinath Krishnan (MS, Summer 2007)  
"Modeling study of Dry Deposition of Ammonia in North Carolina."
  37. Kristen James (MS, Summer 2008)  
“The Development of US Ammonia Emission Factors for Use in Process Based Modeling.”

38. Richard Potter (MS, Summer 2014)  
“Characterizing and Modeling of Ammonia Dispersion near Concentrated Animal Feeding Operations (CAFOs)”. (Co-Chair).
39. Leverett Garing (MS, Summer 2014).
40. Joshua Tobias (MS, Spring 2015).
41. Dennis Mikel (MS, Spring 2016)  
“Measurement and Analysis of Polycyclic Aromatic hydrocarbons (PAHs) near a major Roadway”.

In Progress

Priya Pillai	Ph. D.
William Battye	Ph.D.
Casey Bray	Ph.D.
Pornpan Uttamang	Ph.D.

## **TEACHING EXPERIENCE**

Spring 1988	MEA 593N	Atmospheric Chemistry	(shared)
Spring 1988	MEA 556	Air Pollution Meteorology	(shared)
Spring 1989	MEA 593B	Atmospheric Chemistry	(shared)
Spring 1989	MEA 556	Air Pollution Meteorology	(shared)
Spring 1990	MEA 556	Air Pollution Meteorology	(shared)
Spring 1991	MEA 593G	Atmospheric Chemistry	
Spring 1991	MEA 593S	Atmospheric Photochemical Oxidants	
Spring 1992	MEA 593G	Atmospheric Chemistry	
Fall 1992	CE 497Q/MEA 456	Air Quality	
Spring 1993	U.S. EPA APTI Course SI:401	Introduction to the Monitoring of Hazardous Air Pollutants	
Fall 1993	MEA 130	Introduction to Weather and Climate	
Fall 1994	MEA 593U	Advanced Air Quality	
Spring 1996	MEA 593U	Advanced Air Quality	
Spring 1997	MEA 593U	Advanced Air Quality	
Spring 1998	MEA 593U	Advanced Air Quality	
Spring 1998	MEA 493	Special Study—Air Pollution	
Spring 1999	MEA 793B	Advanced Air Quality	
Spring 2000	MEA 793B	Advanced Air Quality	
Spring 2000	CH 499	Undergraduate Research in Chemistry	
Spring 2000	U.S. EPA APTI Course T-020	Nitrogen Compounds and Air Quality in the Troposphere (Air Pollution Distance Learning Network Telecast and Simulcast)	
Fall 2000	MEA 130	Introduction to Weather and Climate	
Spring 2001	MEA 793B	Advanced Air Quality	
Fall 2001	MEA 130	Introduction to Weather and Climate	
Spring 2002	MEA 779	Advanced Air Quality	
Spring 2002	ET/MEA 320	Fundamentals of Air Pollution	
Fall 2002	MEA 130	Introduction to Weather and Climate	
Spring 2003	MEA 779	Advanced Air Quality	
Spring 2003	ET/MEA 320	Fundamentals of Air Pollution	
Fall 2003	MEA 130	Introduction to Weather and Climate	
Spring 2004	ET/MEA 320	Fundamentals of Air Pollution	
Fall 2004	MEA 130	Introduction to Weather and Climate	
Spring 2005	ET/MEA 320	Fundamentals of Air Pollution	
Fall 2005	MEA 130	Introduction to Weather and Climate	
Spring 2006	ET/MEA 320	Fundamentals of Air Pollution	
Spring 2007	ET/MEA 320	Fundamentals of Air Pollution	
Spring 2008	ET/MEA 320	Fundamentals of Air Pollution	
Spring 2009	ET/MEA 320	Fundamentals of Air Pollution	
Spring 2009	MEA 140	Natural Hazards	
Fall 2009	MEA 311	The Global Atmospheres	

Spring 2010	ET/MEA 320	Fundamentals of Air Pollution
Spring 2010	MEA 130	Introduction to Weather and Climate
Fall 2010	MEA 311	The Global Atmospheres
Spring 2011	ET/MEA320	Fundamentals of Air Pollution
Summer 2011	MEA 130	Introduction to Weather and Climate
Fall 2011	MEA 311	The Global Atmospheres
Spring 2012	ET/MEA 320	Fundamentals of Air Pollution
Fall 2012	MEA 498	Internship
Spring 2013	ET/MEA 320	Fundamentals of Air Pollution
Spring 2013	MEA 498	Internship
Spring 2014	ET/MEA 320	Fundamentals of Air Pollution
Fall 2014	MEA 321	Fundamentals of Air Quality and Climate Change
Spring 2015	ET/MEA 320	Fundamentals of Air Pollution
Spring 2016	ET/MEA 320	Fundamentals of Air Pollution
Spring 2016	MEA 495	Junior Science Seminar

### Short Courses

Fall 1997	Short Course	Volatile Hydrocarbons in the Atmosphere
Fall 1998	Short Course	Nitrogen Compounds in the Troposphere
Spring 1999	Short Course	Nitrogen Compounds In the Troposphere
Fall 1999	Short Course	Nitrogen Compounds in the Troposphere
Summer 2000	Short Course	Nitrogen Compounds in the Troposphere (Center for Science and Environment, India)
Fall 2000	Short Course	The Atmospheric Aerosol
Spring 2001	Short Course	Volatile Hydrocarbons in the Atmosphere
Spring 2001	Short Course	Nitrogen Compounds in the Troposphere
Spring 2001	Short Course	The Atmospheric Aerosol
Spring 2002	Short Course	Fundamentals of Meteorology
Fall 2001	Short Course	Fundamentals of Meteorology
Spring 2002	Short Course	Fundamentals of Meteorology
Fall 2002	Short Course	Nitrogen Compounds in the Troposphere
Fall 2002	Short Course	Aerosols in the Atmosphere
Spring 2003	Short Course	Fundamentals of Meteorology
Spring 2003	Short Course	Volatile Hydrocarbon in the Atmosphere
Fall 2003	Short Course	Aerosols in the Atmosphere
Fall 2003	Short Course	Fundamentals of Meteorology
Spring 2004	Short Course	Nitrogen Compounds in the Troposphere
Fall 2004	Short Course	Aerosols in the Atmosphere
Spring 2005	Short Course	Nitrogen Compounds in the Troposphere
Spring 2005	Short Course	Fundamentals of Meteorology
Fall 2005	Short Course	Volatile Hydrocarbons in the Atmosphere
Fall 2005	Short Course	Aerosols in the Atmosphere
Fall 2005	Short Course	Nitrogen Compounds in the Troposphere:
	AWMA	Emissions and Fate associated with Animal
	AIR - 146	Agriculture
Fall 2006	Short Course	Volatile Hydrocarbons in the Atmosphere
Fall 2006	Short Course	Aerosols in the Atmosphere
Spring 2007	Short Course	Fundamentals of Meteorology



Spring 2007	Short Course	Nitrogen Compounds in the troposphere
Fall 2007	Short Course	Volatile Hydrocarbons in the Atmosphere
Spring 2008	Short Course	Aerosols in the Atmosphere
Spring 2008	Short Course	Nitrogen Compounds in the Troposphere
Spring 2008	Short Course	Fundamentals of Meteorology
Summer 2012	Short Course NEIGAE, China	Nitrogen Compounds in the Troposphere
Summer 2012	Short Course WESTAR	Nitrogen Compounds in the Troposphere
Fall 2015	EEM 606 Course IIT/Kanpur, India	Air Pollution and its Control
Fall 2015	NRE 179 Course TERI University, India	Fate, Transport, and Transformation of Atmospheric Pollutants

**RESEARCH GRANTS AND CONTRACTS AWARDED**  
**SINCE AT NORTH CAROLINA STATE UNIVERSITY**

1. Principal Investigator  
U.S. Environmental Protection Agency, MCCP Contract No. ESRL-CA-01  
"Mountain Cloud Chemistry/Forest Exposure Study"  
February 1, 1987 - January 31, 1988 -- \$265,331  
February 1, 1988 - January 31, 1989 -- \$272,998  
February 1, 1989 - January 31, 1990 -- \$270,000  
February 1, 1990 - December 31, 1990 --\$45,000
2. Co-Principal Investigator  
U.S. Environmental Protection Agency, Grant No. CR812444-02-0  
"Acid Deposition Monitoring at Mount Mitchell, North Carolina"  
October 1, 1987 - September 30, 1988 -- \$127,138
3. Principal Investigator  
U.S. Environmental Protection Agency, Grant No. CR-814612-01-0  
"Determination of Flow Fields Associated with Cloud Occurrence on Mt. Mitchell, North Carolina"  
August 1, 1987 - July 31, 1988 -- \$10,000
4. Principal Investigator  
U.S. Environmental Protection Agency, Grant No. CR-815289-01-0  
"Dynamic Chemical Characterization of Montane Clouds"  
August 1, 1988 - July 31, 1991 -- \$70,000
5. Principal Investigator  
Duke Power Company, Trust No. ENV-0101  
"The Southeastern Regional Oxidant Network"  
January 19, 1989 - December 31, 1989 -- \$15,000
6. Principal Investigator  
U.S. Environmental Protection Agency, Grant No. JG/02.129.009.89.  
"Proposal for the Development and Planning of A University Based Southern Oxidant Study - Development of C14 Method for Estimating the Biogenic-To-Anthropogenic VOC Ratio in Urban Plumes"  
May 1, 1989 - April 30, 1990 -- \$72,000
7. Principal Investigator  
Gaston County, Grant No. 90-0483  
"Natural Resource Quality in Gaston County:  
Phase I Characterization of Air"  
November 1989 - June 1990 -- \$30,000
8. Principal Investigator  
USDA Forest Service, Reference No. 29-586  
"Ozone Concentration and Meteorological Measurements at

Mount Mitchell Research Observatory During the 1990 Growing Season"  
May 1990 - May 1991 -- \$15,000

9. Principal Investigator  
Gaston County Quality Natural Resources Committee, Grant No. 90-0483  
"Natural Resources Quality in Gaston County: Phase 2--Air Quality"  
January 1991 - December 1991 -- \$5,000
10. Principal Investigator  
Georgia Institute of Technology, G35-630-55  
"The Pilot-Study Year of the Southern Oxidants  
Research Program (SORP) of the Southern Oxidants  
Study (SOS)"  
June 1990 - April 1991 -- \$29,557
11. Principal Investigator  
Georgia Institute of Technology, Subcontract G 35-630-S7  
"Southeast Oxidant Study -- SERON Pilot Study"  
April 1990 - September 1991 -- \$3,500.00
12. Principal Investigator  
University Corporation for Atmospheric Research, Subcontract UCAR S9153  
"The Southern Oxidants Research Programs on  
Ozone Non-Attainment (SORP-ONA) a Program  
of the Southern Oxidants Study"  
April 1, 1991 - December 31, 1992 --\$73,000  
January 1, 1992 - June 30, 1993 -- \$40,000
13. Principal Investigator  
NOAA, Southeast Regional Climate Center, Grant No. NA89AA-D-CP037  
"Characterization of Ozone Climatology in the Southeastern  
United States and Climate Change"  
July 1, 1991 - September 30, 1993 -- \$30,000
14. Principal Investigator  
University Corporation for Atmospheric Research, Subcontract UCAR S9192  
"SERON: The Southeastern Regional Oxidant Network"  
September 1, 1991 - December 31, 1992 -- \$147,746  
January 1, 1992 - June 30, 1993 -- \$174,525
15. Principal Investigator  
College of Forest Resources, Subcontract NCSU 69-0001  
"Southern Oxidant Study: Southeast Oxidant and Nitrogen Intensive Analysis"  
January 1, 1993 - December 31, 1994 -- \$125,000
16. Principal Investigator  
North Carolina Division of Environmental Management, Contract No. J-3056  
"Meteorological Measurements for Oxidant Modeling in the Piedmont Region"  
June 1, 1993 - May 31, 1994 -- \$43,360  
June 1, 1994 - May 31, 1996 -- \$42,026

17. Principal Investigator  
North Carolina Department of Environment, Health and Natural Resources, Contract No. J-4004  
"Vertical Sampling and Analysis of Speciated Hydrocarbons and Carbonyls in Urban North Carolina for Ozone Control"  
July 1, 1993 - December 31, 1994 -- \$73,413  
January 1, 1995 - December 31, 1995 -- \$25,345
18. Co-Principal Investigator  
U.S. Environmental Protection Agency, Cooperative Agreement No. CR817766-02-1  
"Southern Oxidant Research Program on Emissions and Effects"  
January 1, 1993 - December 31, 1993 -- \$325,015  
January 1, 1994 - December 31, 1994 -- \$1,205,000
19. Principal Investigator  
U.S. Environmental Protection Agency, Cooperative Agreement No. CR822058-01 0  
"Characterization of Emissions of Nitrogen Oxides from Soils of Southeast U.S."  
October 1, 1993 - September 30, 1996 -- \$465,467
20. Principal Investigator  
Georgia Institute of Technology, Subcontract No. G-35-693-S4  
"Southern Oxidant Study: Southeast Oxidant and Nitrogen Intensive Analysis"  
January 1, 1994 - December 31, 1994 -- \$40,000
21. Principal Investigator  
Georgia Institute of Technology, Subcontract No. G-35-693-S4  
"Southern Oxidant Study: Ozone Non-Attainment Atlanta Intensive"  
January 1, 1994 - December 31, 1994 -- \$30,000
22. Principal Investigator  
Georgia Institute of Technology, Subcontract No. G-35-X52-S1.  
"Field Measurements During Southern Oxidant Study: Ozone Non Attainment Nashville, TN Intensive"  
January 1, 1995 - December 31, 1995 -- \$60,000
23. Principal Investigator  
National Science Foundation, Grant No. ATM-9420610.  
"NO<sub>x</sub> Emissions from Agricultural Soils: Intercomparison of Micrometeorological and Dynamic Soil Chamber Techniques"  
July 1, 1995 - June 30, 1998 -- \$40,554  
July 1, 1998 – June 30, 2000 -- \$15,000
24. Principal Investigator and Program Scientist  
U.S. Environmental Protection Agency, Cooperative Agreement No. CR825426-01.  
"Natural emissions of Oxidant precursors: Validation of techniques and Assessment, (Project NOVA)"  
July 1, 1995 - June 30, 1997 -- \$90,000

25. Principal Investigator  
North Carolina Department of Environment, Health and Natural Resources Contract No. J-6021.  
"Trends, Seasonal Variations, and Analysis of Ozone in Raleigh, North Carolina"  
October 1, 1995 - September 30, 1997 -- \$35,813
26. Principal Investigator  
Water Resources Research Institute, Contract No. EA7003.  
"Characterization of Ammonia Emissions from Animal and Poultry Operations in North Carolina"  
July 1, 1996 - June 30, 1999 -- \$361,464
27. Principal Investigator  
North Carolina Department of Environment, Health, and Natural Resources via the North Carolina Agricultural Research Service, Contract No. NC05849.  
"North Carolina Climatology Study: Nitrogen Compounds in the Atmosphere."  
January 1, 1997 - December 31, 1997 -- \$5,000
28. Principal Investigator  
North Carolina Department of Environment, Health, and Natural Resources via the North Carolina Agricultural Research Service, Contract No. NC05849.  
Workshop "Atmospheric Nitrogen Compounds: Emissions, Transport, Transformation, Deposition and Assessment."  
January 1, 1997 - December 31, 1998 -- \$20,000
29. Principal Investigator  
North Carolina Department of Environment, Health and Natural Resources, Contract No. EA8001.  
"The Intergovernmental Personnel Act. Technical Air Quality Services Contract."  
June 1, 1997 - June 30, 2000 -- \$138,750
30. Principal Investigator  
North Carolina Department of Environment and Natural Resources, Contract No. EA 7003.  
International Workshop: Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition, and Assessment."  
March 1, 1999 –June 30, 1999 -- \$30,000
31. Principal Investigator  
Mid-Atlantic Regional Air Management Association, FAS Account No. 5-33110.  
State of Knowledge Workshop: "Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition, and Assessment."  
October 1, 1999 – September 30, 2000 -- \$5,000

32. Principal Investigator  
NC Water Resources Research Institute  
Subcontract No. 63-0145.  
"Characterization of Ammonia Emissions from Animal and Poultry Operations in North Carolina."  
March 1, 1999 - June 30, 1999 -- \$5,000
33. Principal Investigator  
North Carolina Department of Environment and Natural Resources  
Contract No. EA 8001.  
"Annular Denuder System (ADS) Gaseous and Aerosol Data Reduction and Analysis."  
July 1, 1999 – June 30, 2000 -- \$20,000
34. Principal Investigator  
National Park Service, Cooperative Agreement 4000-7-9003.  
"Analysis of Ambient Air Quality in National Parks."  
July 1, 1997 - June 30, 1999 -- \$26,500  
July 1, 1999 – December 31, 2002 -- \$27,500
35. Co-Principal Investigator  
Water Resources Research Institute, Contract No. EA 8020.  
"Measurement and Modeling of Ammonia/Ammonium Flux and Dry Deposition Velocity Above Natural Surfaces in Eastern North Carolina."  
May 1, 1998 – May 30, 2001 -- \$353,428
36. Principal Investigator  
National Science Foundation via Duke University, Contract No. 99-SC-NSF-1019  
"Nitrogen Oxide Flux from Sludge Amended Soil."  
February 1, 1999 – December 31, 2002 -- \$129,425
37. Principal Investigator  
National Park Foundation, Contract No. 92899  
"Non-Methane Hydrocarbons in the Rural Southeast United States National Parks."  
September 15, 1999 - September 14, 2002 -- \$75,000
38. Principal Investigator  
Environmental Consulting and Research, Inc. via PAMS Foundation  
FAS Account No. 684008.  
"Air Quality Research Program"  
January 31, 2000 - unrestricted -- \$11,725
39. Principal Investigator  
North Carolina Department of Environment, and Natural Resources, Contract No. EA 01001.  
"The Intergovernmental Personnel Act"  
July 1, 2000 to June 30, 2003--\$168,744

40. Principal Investigator  
U.S. Department of State, Contract No. GO-1096100532  
“Trends in Environmental Improvement-French and American Regional Approaches.”  
January 1, 2001-December 31, 2001--\$3,888.00.
41. Principal Investigator  
National Center for Manure and Animal Waste Management, Contract No. 2000-1320  
“Gas-to-Particle Conversion between Ammonia, Acid Gases, and Fine Particles: White Paper.”  
January 1, 2003-January 31, 2005--\$10,404.00
42. Principal Investigator and Program Scientist  
Animal and Poultry Waste Management Center/Smithfield Foods, Raleigh, NC.  
“An Integrated Study of the Emissions of Ammonia, Odor and Odorants, and Pathogens and Related Contaminants from Potential Environmentally Superior Technologies for Swine Facilities,” Project OPEN.  
December 1, 2001 – December 2003 -- \$1,400,700.00  
December 1, 2003 – June 2005 -- \$98,994.00  
December 1, 2003 – June 2005 -- \$1,300,000.00
43. Principal Investigator  
National Park Service, Cooperative Agreement CA 4560C0027.  
“Analysis of Ambient Air Quality in National Parks: Modeling and Analysis of Ozone, its Precursors, and Other Trace Gases.”  
September 23, 2002 – December 31, 2005 -- \$34,858.00
44. Principal Investigator  
NCSU Animal & Poultry Waste Management Center, Contract No. (1786) 2006-0827  
“Evaluation of Environmentally superior technology for Ammonia Emissions: Red Hill Farms.”  
May 1, 2004 – June 30, 2006--\$32,000.00
45. Principal Investigator and Project Scientist  
National Research Initiative, US Department of Agriculture, Contract No. 2003-05360.  
“Characterization and Fate of Ammonia and Hydrogen Sulfide from Animal Feeding Operations: Their Emissions, Transport, Transformation, Deposition, and Impact on Fine Particulate Matter.”  
May 1, 2004 – March 31, 2009--\$479,818.00
46. Principal Investigator  
North Carolina Department of Environment, and Natural Resources, Contract No. EA 05001.  
“Collaborative Agreement on Division of Air Quality Issues”  
October 1, 2004 - June 30, 2008--\$172,034.00
47. Principal Investigator and Project Scientist  
National Research Initiative, US Department of Agriculture, Contract No. 2004-05271.  
“National Workshop on Agricultural Air Quality: State of the Science”  
January 15, 2005 - January 14, 2009--\$394,868.00.

48. Principal Investigator and Project Scientist  
National Science Foundation, Contract No. ATM-0528420  
“International Workshop on Agricultural impacts of Air Quality.”  
June 1, 2005 – May 31, 2008--\$30,000.00
  
49. Principal Investigator  
US Department of Agriculture, Agricultural Research Service, Contract No. PA-06-01  
“Workshop on Agricultural Air Quality: State of the Science.”  
January 15, 2005 - January 14, 2008--\$10,000.00
  
50. Principal Investigator  
Potash & Phosphate Institute, Contract No. 2005-1798  
“National Workshop on Agricultural Air Quality: State of the Science”  
January 1, 2005 - December 31, 2011--\$25,000.00
  
51. Principal Investigator  
Kenan Institute for Engineering, Technology, and Science, Contract No. 761291  
“National Workshop on Agricultural Air Quality”  
January 1, 2005 – December 31, 2009--\$60,000
  
52. Principal Investigator  
Environmental Defense, Contract No. 2005-0516  
“National Workshop on Agricultural Air Quality”  
January 1, 2005 – December 31, 2011--\$25,000
  
53. Principal Investigator  
NC Department of Environment & Natural Resources, Contract No. EA06008  
“Workshop on Agricultural Air Quality: State of the Science”  
February 15, 2006 – June 30, 2008--\$25,000
  
54. Principal Investigator  
Ecological Society of America  
“Air Quality”  
August 1, 2006 -- \$85,000
  
55. Principal Investigator  
National Science Foundation, Contract No. OIES-1034759  
“US-India International Workshop: Collaborative Science, Research, and Education in Air  
Quality Measurements, Modeling and Analysis”  
August 1, 2010—July 31, 2012-- \$39,996.
  
56. Principal Investigator  
US Environmental Protection Agency, STAR (Science to Achieve Results) Grant 835411  
"Organic Nitrogen and Brown Carbon in Biogenic SOA: Investigating the Link and Impacts  
of Anthropogenic Emissions"  
June 1, 2013—May 30, 2016-- \$160,000.



57. Principal Investigator  
US GFDL-NOAA, Project NOAA CPO AC4  
" Reactive nitrogen biogeochemical cycling in the GFDL Earth System Models:  
Advancing understanding of atmosphere-land interactions under changing climate and  
land"  
January 1, 2015—December 31, 2017-- \$32,500.
  
58. Principal Investigator  
National Aeronautics and Space Administration, Grant Number NNX15AN15H  
“Use of Satellite Measurements to Validate and Improve Air Quality Predictions of  
Ammonia and Fine Particulate Matter”  
September 1, 2015—July 31, 2018-- \$90,000.

## **PATENTS**

1. Aneja, V. P., February 15, 1983. "Purification of Aqueous Effluent Streams Containing BPA and Phenol", U. S. Patent No. 4,374,283.
2. Aneja, V. P., August 23, 1983. "Recovery of BPA and Phenol from Aqueous Effluent Streams", U. S. Patent No. 4,400,553.
3. Sikdar, S. K., and V. P. Aneja, September 4, 1984. "Azeotropic Recovery of BPA and Phenol from Aqueous Effluent Streams", U. S. Patent No. 4,469,561.
4. Aneja, V. P., January 8, 1985. "Method for Purification of Bisphenol-A", U. S. Patent No. 4,492,807.
5. Aneja, V. P., and J. P. Skilbeck, February 28, 1989. "Method for Devolatilizing Polymer Solutions", U.S. Patent No. 4,808,262.
6. Aneja, V.P. and J. P. Skilbeck, February 1, 1990, "Apparatus for Devolatilizing Polymer Solutions," U.S. Patent Application Serial No. 316,248

## **PATENT DISCLOSURE LETTERS**

1. Aneja, V. P., and S. K. Sikdar, July 5, 1983. "A Simplified Process for Purification of Bisphenol-A", Docket No. RD-15,221, General Electric Company, Schenectady, NY.
2. Aneja, V. P., R. Fields and A. R. Shultz, September 1986. "Method of Producing Polymer-Impregnated Polymer and Artifacts Produced Thereby", General Electric Company, Schenectady, NY.
3. Aneja, V. P., and C. A. Griner, December 1986. "Methodology for Simulation of Devolatilization for Engineering Thermoplastic Polymers", General Electric Company, Schenectady, NY.

## REFEREED JOURNAL PUBLICATIONS

1. Aneja, A. P. and **V. P. Aneja**, 1977, "The Strategy of Process Translation", *The International Journal of Research Management*, Vol. XX, No. 6, pp. 37-40.
2. Hill, F. B., **V. P. Aneja** and R. M. Felder, 1978, "A Technique for Measurement of Biogenic Sulfur Emission Fluxes", *Journal of Environmental Science and Health*, Vol. 13, No. 3, pp. 199-255.
3. **Aneja, V. P.**, E. P. Stahel, H. H. Rogers, A. M. Witherspoon and W. W. Heck, 1978, "Calibration and Performance of a Thermal Converter in Continuous Atmospheric Monitoring of Ammonia," *Analytical Chemistry*, Vol. 50, No. 12, pp. 1705-1708.
4. Aneja, A. P. and **V. P. Aneja**, 1978, "Poly(Ethylene Terephthalate) Feedstock Selection and Process Options," *Journal of Chemical Economy and Engineering Review*, Vol. 10, No. 9, pp. 33-36.
5. Aneja, A. P. and **V. P. Aneja**, 1978, "PET Process Options", *Textile Asia*, Vol. IX, No. 10, pp. 40-43.
6. **Aneja, V. P.**, J. H. Overton and J. L. Durham, 1979, "Sulfur Dioxide Flux to a Falling Raindrop in a Polluted Atmosphere", *American Institute of Chemical Engineers Series*, 188, Vol. 75, pp. 151-157.
7. **Aneja, V. P.**, J. H. Overton, L. T. Cupitt, J. L. Durham and W. E. Wilson, 1979, "Direct Measurements of Emission Rates of Some Atmospheric Biogenic Sulfur Compounds", *Tellus*, Vol. 31, No. 2, pp. 174-178.
8. Overton, J. H., **V. P. Aneja** and J. L. Durham, 1979, "Production of sulfate in Rain and Raindrops in Polluted Atmosphere," *Atmospheric Environment*, Vol. 13, No. 3, pp. 355-369.
9. Aneja, A. P. and **V. P. Aneja**, 1979, "Process Options for Polyester", *Journal of Chemistry and Industry*, Vol. 252, No. 7, pp. 252-254.
10. Aneja, A. P. and **V. P. Aneja**, 1979, "Process Options Feedstock Selection and Polyesters", *Chemtech*, Vol. 9, No. 4, pp. 260-262.
11. **Aneja, V. P.**, J. H. Overton, L. T. Cupitt, J. L. Durham and W. E. Wilson, 1979, "Carbon Disulfide and Carbonyl Sulfide from Biogenic Sources and Their Contribution to the Global Sulfur Cycle", *Nature*, Vol. 282, No. 5738, pp. 493-496.
12. Rogers, H. H. and **V. P. Aneja**, 1980, "Uptake of Atmospheric Ammonia by Selected Plant Species", *Environmental and Experimental Botany*, Vol. 20, pp. 251-257.
13. **Aneja, V. P.**, J. H. Overton, L. T. Cupitt, J. L. Durham and W. E. Wilson, 1980, "Measurements of Emission Rates of Carbon Disulfide from Biogenic Sources and its

Possible Importance to the Stratospheric Aerosol Layer", *Chemical Engineering Communication*, Vol. 4, No. 6, pp. 721-727.

14. **Aneja, V. P.**, J. H. Overton, L. T. Cupitt, J. L. Durham and W. E. Wilson, 1980, "Carbon Disulfide from Biogenic Sources", *American Institute of Chemical Engineers Series*, Vol. 76, No. 201, pp. 60-66.
15. Durham, J. L., J. H. Overton, and **V. P. Aneja**, 1981, "Influence of Gaseous Nitric Acid on Sulfate Production and Acidity in Rain", *Atmospheric Environment*, Vol. 15, No. 6, pp. 1059-1068.
16. **Aneja, V. P.**, J. H. Overton and A. P. Aneja, 1981, "Emission Survey of Biogenic Sulfur Flux from Terrestrial Surfaces", *Journal of the Air Pollution Control Association*, Vol. 31, No. 3, pp. 256-258.
17. **Aneja, V. P.**, A. P. Aneja, and D. F. Adams, 1982, "Biogenic Sulfur Compounds and the Global Sulfur Cycle", *Journal of the Air Pollution Control Association*, Vol. 32, No. 6, pp. 803-807.
18. Aneja, A. P. and **V. P. Aneja**, 1982, "The Effect of Water and Air Contamination on Poly(Ethylene Terephthalate) Formation", *Polymer Engineering Reviews*, Vol. 2, No. 2, pp. 123-133.
19. Ibusuki, T. and **V. P. Aneja**, 1984, "Mass Transfer of Ammonia into water at Environmental Concentrations", *Chemical Engineering Science*, Vol. 39, Nos. 7/8, pp. 1143-1155.
20. **Aneja, V. P.**, D. F. Adams, and C. D. Pratt, 1984, "Environmental Impact of Natural Emissions", *Journal of the Air Pollution Control Association*, Vol. 34, No. 8, pp. 799-803.
21. **Aneja, V. P.**, 1986, "Characterization of Emissions of Biogenic Atmospheric Hydrogen Sulfide", *Tellus*, Vol. 38 B, No. 2, pp. 81-86.
22. **Aneja, V. P.**, H. H. Rogers, and E. P. Stahel, 1986, "Dry Deposition of Ammonia at Environmental Concentrations on Selected Plant Species", *Journal of the Air Pollution Control Association*, Vol. 36, No. 12, pp. 1338-1341.
23. **Aneja, V. P.**, J. H. Overton, J. A. Anderson, and J. L. Durham, 1987, "Sulfate Aerosol Formation Rate in an Oil Fired Power Plant Plume", *Environmental Technology Letters*, Vol. 8, pp. 167-180.
24. **Aneja, V. P.** and W. J. Cooper. 1989. "Biogenic sulfur emissions: review and overview", *Biogenic Sulfur in the Environment*, *American Chemical Society Publisher*, Washington, D.C., pp. 2-13.

25. **Aneja, V. P.**, C. S. Claiborn, R. L. Bradow, R. J. Paur, and R. E. Baumgardner, 1990, "Dynamic chemical characterization of montane clouds", *Atmospheric Environment*, Vol. 24 A, pp. 563-572.
26. **Aneja, V.P.**, C.S. Claiborn, Z. Li and A. Murthy, 1990, "Exceedences of the National Ambient Air Quality Standard for Ozone Occurring at a 'Pristine Area' Site", *Journal of Air and Waste Management Association*, Vol. 40, pp. 217-220.
27. **Aneja, V.P.**, 1990, "Natural Sulfur Emissions into the Atmospheric", *Journal of Air and Waste Management Association*, Vol. 40, pp. 469-476.
28. **Aneja, V.P.** and J. H. Overton, 1990, "The Emission Rate of Dimethyl Sulfide at the Atmospheric-Oceanic Interface", *Chemical Engineering Communications*, Vol. 98, pp. 199-209.
29. **Aneja, V.P.**, S. Businger, Z. Li, C.S. Claiborn and A. Murthy, 1991, "Ozone Climatology at High Elevations in the Southern Appalachians." *Journal of Geophysical Research*, Vol. 96, pp. 1007-1021.
30. Claiborn, C.S. and **V.P. Aneja**, 1991, "Measurements of Atmospheric Hydrogen Peroxide in the Gas-Phase and in Cloudwater at Mt. Mitchell, N.C.", *Journal of Geophysical Research*, Vol. 96, pp. 18,771-18,787.
31. **Aneja, V.P.**, W. Robarge, C.S. Claiborn, A Murthy, D.S. Kim, Z. Li, and E.B. Cowling, 1992, "Chemical Climatology of High Elevation Spruce - Fir Forests in the Southern Appalachian Mountains", *Environmental Pollution*, Vol. 75, pp. 89-96.
32. **Aneja, V.P.**, G.T. Yoder and S.P. Arya, 1992, "Ozone in the Urban Southeastern United States", *Environmental Pollution*, Vol. 75, pp. 39-44.
33. Kim, D.S. and **V.P. Aneja**, 1992, "Chemical Composition of Clouds at Mt. Mitchell, North Carolina, USA", *Tellus*, Vol. 44B, pp. 41-53.
34. Li, Z. and **V.P. Aneja**, 1992, "Regional Analysis of Cloud Chemistry at High Elevations in the Eastern United States," *Atmospheric Environment*, Vol. 26A, pp. 2001-2017.
35. **Aneja, V.P.** and Z. Li, 1992, "Characterization of Ozone at High Elevation in the Eastern United States Trends, Seasonal Variations, and Exposure", *Journal of Geophysical Research*, Vol. 97, pp. 9873-9888.
36. Kim, D.S. and **V.P. Aneja**, 1992, "Microphysical Effects on Cloudwater Acidity: A Case Study in a nonprecipitating Cloud Event Observed at Mt. Mitchell, North Carolina," *Journal of the Air and Waste Management Association*, Vol. 42, pp. 1345-1349.
37. **Aneja, V.P.** and D.S. Kim, 1993, "Chemical Dynamics of Clouds at Mt. Mitchell North Carolina", *Journal of the Air and Waste Management Association*, Vol. 43, pp. 1074-1083.

38. **Aneja, V.P.**, 1993, "Organic compounds in cloud water and their deposition at a remote continental site," *Journal of the Air and Waste Management Association*, Vol. 43, pp. 1239-1244.
39. Claiborn, C.S. and **V.P. Aneja**, 1993, "Transport and fate of reactive trace gases in red spruce needles. 1. Uptake of gaseous hydrogen peroxide as measured in controlled chamber flux experiments," *Environmental Science and Technology*, Vol. 27, pp. 2585-2592.
40. Claiborn, C.S., R.G. Carbonell, and **V.P. Aneja**, 1993, "Transport and fate of reactive trace gases in red spruce needles. 2. Interpretations of flux experiments using gas transport theory," *Environmental Science and Technology*, Vol. 27, pp. 2593-2605.
41. Van Valin, C.C., J.F. Boatman, M. Luria, **V.P. Aneja**, D.R. Blake, M. Rodgers, and J.T. Sigmon, 1994, "The Compatibility Between Aircraft and Ground-Based Air Quality Measurements," *Journal of Geophysical Research*, Vol. 99, pp. 1043-1057.
42. Das, M. and **V.P. Aneja**, 1994, "Analysis of gaseous hydrogen peroxide concentrations in Raleigh, North Carolina," *Journal of the Air and Waste Management Association*, Vol. 44, pp. 176-180.
43. **Aneja, V.P.**, C. Claiborn, Z. Li, and A. Murthy, 1994, "Trends, Seasonal Variations and Analysis of High Elevation Surface Nitric Acid, Ozone, and Hydrogen Peroxide," *Atmospheric Environment*, Vol. 28, pp. 1781-1790.
44. **Aneja, V.P.**, W.P. Robarge, J.D. Joslin, and S.B. McLaughlin, 1994, "Response: Chemical Dynamics of Clouds at Mt. Mitchell, North Carolina," *Journal of the Air and Waste Management Association*, Vol. 44, pp. 285-286.
45. Kim, D.S., **V.P. Aneja**, and W.P. Robarge, 1994, "Characterization of nitrogen oxide fluxes from soil of a fallow field in the Central Piedmont of North Carolina," *Atmospheric Environment*, Vol. 28, pp. 1129-1137.
46. **Aneja, V.P.** and A. B. Murthy, 1994, "Monitoring deposition of nitrogen containing compounds in a high elevation forest canopy," *Journal of the Air and Waste Management Association*, Vol. 44, pp. 1109-1115.
47. Hartsell, B.E., **V.P. Aneja** and W.A. Lonneman, 1994, "Relationship between peroxyacetyl nitrate (PAN), O<sub>3</sub>, and NO<sub>y</sub> at the rural Southern Oxidants Study Site in Central Piedmont North Carolina, Site SONIA," *Journal of Geophysical Research*, Vol. 99, D10, pp. 21033-21041.
48. Das, M. and **V.P. Aneja**, 1994, "Measurement and analysis of concentrations of gaseous hydrogen peroxide and related species in the rural Central Piedmont region of North Carolina," *Atmospheric Environment*, Vol. 28, pp. 2473-2483.

49. **Aneja, V.P.**, 1994, "Workshop on the Intercomparison of Methodologies for Soil NO<sub>x</sub> Emissions: Summary of Discussion and Research Recommendations," *Journal of the Air and Waste Management Association*, Vol. 44, pp. 977-982.
50. **Aneja, V.P.**, Z. Li and M. Das, 1994, "Ozone Case Studies at High Elevation in the Eastern United States", *Chemosphere*, Vol. 29, pp. 1711-1733.
51. **Aneja, V.P.**, M. Das, D.S. Kim, and B.E. Hartsell, 1994, "Measurements and Analysis of Photochemical Oxidants and Trace Gases in the Rural Troposphere of the Southeast United States," *Israel Journal of Chemistry*, Vol. 34, pp. 387-401.
52. Kim, D.S. and **V.P. Aneja**, 1994, "Oxides of Nitrogen Species Measurement and Analysis in the Central Piedmont of North Carolina, U.S.A.", *J. Korea Air Pollution Res. Assoc.*, Vol. 10, pp. 311-324.
53. **Aneja, V.P.** and M. Das, 1995, "Correlation of ozone and meteorology with hydrogen peroxide in urban and rural regions of North Carolina", *Journal of Applied Meteorology*, Vol. 34, pp. 1890-1898.
54. Apel, E., J. Calvert, R. Zika, M. Rodgers, **V.P. Aneja**, J. Meagher and W.A. Lonneman, 1995, "Hydrocarbon Measurements During the 1992 Southern Oxidants Study Atlanta Intensive: Protocol and Quality Assurance," *Journal of the Air and Waste Management Association*, Vol. 45, pp. 521-528.
55. **Aneja, V.P.**, 1995, "Review": Fundamentals of Air Pollution. Third Edition. R.W. Boubel, D.L. Fox, D.B. Turner, and A.C. Stern. 574 pp. Academic Press, Inc." *American Scientist*, Vol. 83, pp 383.
56. Kim, D.S., P.A. Roelle, and **V.P. Aneja**, 1995, "Natural emissions of nitric oxide from agricultural soil of corn-field in eastern North Carolina", *J. of Korea Air Pollution Res. Assoc.*, 10-E, pp. 31-43.
57. **Aneja, V.P.**, W. Robarge, and B. Holbrook, 1995, "Measurements of nitric oxide flux from an Upper Coastal Plain, North Carolina Agricultural Soil," *Atmospheric Environment*, Vol. 29, pp. 3037-3042.
58. Sillman, S., K.I. Al-Wali, F.J. Marsik, P. Nowacki, P.J. Samson, M.O. Rodgers, L.J. Garland, J.E. Martinez, C. Stoneking, R. Imhoff, J.H. Lee, L. Newman, J.B. Weinstein-Lloyd, and **Viney P. Aneja**, 1995, "Photochemistry of ozone formation in Atlanta, GA: Models and Measurements," *Atmospheric Environment*, Vol. 29, pp. 3055-3066.
59. Lawrimore, J.H., M. Das, and **V.P. Aneja**, 1995, "Vertical sampling and analysis of nonmethane hydrocarbons for ozone control in urban North Carolina", *Journal of Geophysical Research*, Vol. 100, pp. 22785-22793.
60. **Aneja, V.P.**, D.S. Kim, M. Das and B.E. Hartsell, 1996, "Measurements and analysis of reactive nitrogen species in the rural troposphere of Southeast United States: Southern Oxidant Study Site SONIA," *Atmospheric Environment*, Vol. 30, pp. 649-659.

61. Sullivan, L.J., T.C. Moore, **V.P. Aneja**, W.P. Robarge, T.E. Pierce, C. Geron and B. Gay, 1996, "Environmental variables controlling nitric oxide emissions from agricultural soils in the southeast United States," *Atmospheric Environment*, Vol. 30, pp. 3573-3582.
62. **Aneja, V. P.**, W. P. Robarge, L. J. Sullivan, T.C. Moore, T. E. Pierce, C. Geron and B. Gay, 1996, "Seasonal variations of nitric oxide flux from agricultural soils in the Southeast United States," *Tellus*, 48B, pp. 626-640.
63. **Aneja, V.P.**, P. Roelle, and W. P. Robarge, 1997, "Contribution of Biogenic Nitric Oxide in Urban Ozone: Raleigh, NC, as a Case Study," *Atmospheric Environment*, Vol. 31, pp. 1531-1537.
64. **Aneja, V.P.**, D.S. Kim, and W. Chameides, 1997, "Trends and analysis of ambient NO, NO<sub>y</sub>, CO and ozone concentrations in Raleigh, North Carolina," *Chemosphere*, Vol. 34, pp. 611-623.
65. **Aneja V. P.**, B. Holbrook, and W.P. Robarge 1997, "Nitrogen Oxide Flux from an Agricultural Soil during winter fallow in the Upper Coastal Plain of North Carolina, USA," *Journal of the Air & Waste Management Association*, Vol. 47, pp. 800-805.
66. Hagerman, L.M., **V.P. Aneja**, and W. Lonneman, 1997, "Characterization of non - methane hydrocarbons in the rural Southeast United States," *Atmospheric Environment*, Vol. 31, pp. 4017-4038.
67. DePollok, F.S., **V.P. Aneja**, T.J. Hughes, and L.D. Claxton, 1997, "Chemical and mutagenic analysis of volatile organic compounds in Raleigh air samples at three different elevations before, during, and after Hurricane Gordon," *Chemosphere*, Vol. 35, pp. 879-893.
68. Lawrimore, Jay H. and **V.P. Aneja**, 1997, "A chemical mass balance analysis of nonmethane hydrocarbon emissions in urban North Carolina," *Chemosphere*, Vol. 35, pp. 2751-2765.
69. **Aneja, V.P.**, A.B. Murthy, W. Battye, R. Battye, and W.G. Benjey, 1998, "Analysis of ammonia and aerosol concentrations near the free troposphere at Mt. Mitchell, NC, U.S.A.," *Atmospheric Environment*, Vol. 32, pp. 353-358.
70. **Aneja, V.P.**, G. Murray, and J. Southerland, 1998, "Atmospheric Nitrogen Compounds: Emissions, Transport, Transformation, Deposition, and Assessment," *EM (Environmental Manager)*, April, pp. 22-25.
71. **Aneja, V.P.**, P.A. Roelle, and W.P. Robarge, 1998, "Characterization of Biogenic Nitric Oxide Source Strength in the Southeast United States," *Environmental Pollution*, Vol. 102, pp. 211-218.
72. McCulloch, R.B., G.S. Few, G.C. Murray, and **V.P. Aneja**, 1998, "Analysis of ammonia, ammonium aerosols, and acid gases in the atmosphere at a commercial hog farm in eastern North Carolina, USA," *Environmental Pollution*, Vol. 102, pp. 263-268.



73. **Aneja, V.P.**, B.E. Hartsell, D.S. Kim and D. Grosjean, 1999, "Peroxyacetyl Nitrate In Atlanta, GA: Comparison and Analysis of Ambient Data for Suburban and Downtown Locations", *Journal of the Air and Waste Management Association*, Vol. 49, pp. 174-185.
74. Roelle, P.A., **V.P. Aneja**, J.R. O'Connor, and W.P. Robarge, D.S. Kim, and J.S. Levine, 1999, "Measurements of Nitric oxide emissions from an Agricultural Soil With a Dynamic Chamber System," *Journal of Geophysical Research-Atmospheres*, Vol. 104, pp. 1609-1619.
75. Li, Yongxian, **V.P. Aneja**, S.P. Arya, J. Rickman, J. Brittig, P. Roelle, and D.S. Kim, 1999, "Nitric Oxide Emissions from Intensively Managed Agricultural Soil in North Carolina", *Journal of Geophysical Research*, Vol. 104, pp. 26,115-26,123.
76. **Aneja, V.P.**, R.G. Oommen, A.J. Riordan, S.P. Arya, R.J. Wayland, and G.C. Murray, 1999, "Ozone patterns for three Metropolitan Statistical Areas in North Carolina, U.S.A.," *Atmospheric Environment*, Vol. 33, pp. 5081-5093.
77. Peirce, J.J. and **V.P. Aneja**, 2000, "Nitric oxide emissions from engineered soil," *Journal of Environmental Engineering*, Vol. 126, pp. 225-232.
78. **Aneja, V.P.**, S.P.S. Arya, Y. Li, G.C. Murray, and T.L. Manuszak, 2000, "Climatology of Diurnal Trends and Vertical Distribution of Ozone in the Atmospheric Boundary Layer in Urban North Carolina," *Journal of the Air and Waste Management Association*, Vol. 50, pp. 54-64.
79. **Aneja, V.P.**, A.A. Adams, and S.P. Arya, 2000, "An observational based analysis of ozone trends and production for urban areas in North Carolina," *Chemosphere*, Vol. 2, pp. 157-163.
80. Walker, J.T., **V.P. Aneja**, and D.A. Dickey, 2000, "Atmospheric transport and wet deposition of ammonium in North Carolina," *Atmospheric Environment*, Vol. 34, pp. 3407-3418.
81. **Aneja, V.P.**, J.P. Chauhan, and J.T. Walker, 2000, "Characterization of Ammonia Emissions from Swine Waste Storage and Treatment Lagoons," *Journal of Geophysical Research-Atmospheres*, Vol. 105, pp. 11535-11545.
82. **Aneja, V.P.**, R. Mathur, S.P. Arya, Y. Li, G.C. Murray, and T.L. Manuszak, 2000, "Coupling the Vertical Distribution of Ozone in the Atmospheric Boundary Layer," *Environmental Science & Technology*, Vol. 34, pp. 2324-2329.
83. Walker, J.T., D. Nelson, and **V.P. Aneja**, 2000, "Trends in ammonium concentration in precipitation and atmospheric ammonia emissions at a coastal plain site in North Carolina, USA," *Environmental Science & Technology*, Vol. 34, pp. 3527-3534.
84. Roelle, P.A., **V.P. Aneja**, B. Gay, C. Geron, and T. Pierce, 2001, "Biogenic Nitric Oxide Emissions from Cropland soils," *Atmospheric Environment*, Vol. 35, pp. 115-124.

85. **Aneja, V.P.**, B.J. Bunton, J.T. Walker, and B.P. Malik, 2001, "Measurements and Analysis of Atmospheric Ammonia Emissions from Anaerobic Lagoons," *Atmospheric Environment*, Vol. 35, pp. 1949-1958.
86. Moore, T.C., L.J. Sullivan, P.A. Roelle and **V.P. Aneja**, 2001, "Vertical Distribution of Oxides of Nitrogen in the Semi-Urban Planetary Boundary Layer: Mixing Ratios, Sources and Transport," *Chemosphere*, Vol. 3, pp. 7-23.
87. **Aneja, V.P.**, P. A. Roelle, G. C. Murray, J. Southerland, J. W. Erisman, D. Fowler, W. A. H. Asman, and N. Patni, 2001, "Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment", *Atmospheric Environment*, Vol. 35, pp. 1903-1911.
88. Kang, D., **V.P. Aneja**, R.G. Zika, C. Farmer, and J.D. Ray, 2001, "Non-methane hydrocarbons in the rural Southeast United States National Parks", *Journal of Geophysical Research-Atmospheres*, Vol. 105, pp. 3133-3155.
89. **Aneja, V.P.**, P. A. Roelle, and Y. Li, 2001, "Effect of Environmental Variables on NO Emissions from Agricultural Soils", *Phyton*, Vol. 41, pp. 27-38.
90. **Aneja, V.P.**, A. Agarwal, P. A. Roelle, S.B. Phillips, Q. Tong, N. Watkins, and R. Yablonsky, 2001, "Measurements and Analysis of Criteria Pollutants in New Delhi, India", *Environment International*, Vol. 27, pp. 35-42.
91. Roelle, P.A., B.H. Baek, S. Aneja, **V.P. Aneja**, 2001, Nitric oxide emissions from biosolid amended soils," *Hydrological Science and Technology Journal*, Vol. 17, pp. 306-316.
92. **Aneja, V.P.**, J.M. Overton, B.P. Malik, Q. Tong, and D. Kang, 2001, "Measurement and modeling of ammonia emissions at waste treatment lagoon-atmospheric interface", *Journal of Water, Air, and Soil Pollution*, Vol.1, pp. 177-188.
93. Roelle, P.A., and **V.P. Aneja**, 2001, "Nitric oxide emissions from soils amended with municipal-waste biosolids," *Atmospheric Environment*, Vol. 36, pp. 137-147.
94. Roelle, P.A., and **V.P. Aneja**, 2001, "Characterization of ammonia emissions from soils in the upper coastal plain, North Carolina," *Atmospheric Environment*, Vol. 36, pp. 1087-1097.
95. Mohamed, M.F., D. Kang, and **V.P. Aneja**, 2002, "Volatile organic compounds in some urban locations in the United States," *Chemosphere*, vol. 47, pp. 863-882.
96. Tabachow, R.M., P.A. Roelle, J.J. Peirce, and **V.P. Aneja**, 2002, "Soil Nitric Oxide Emissions: Lab and Field Measurements and Comparison" *Journal of Environmental Engineering*, vol. 19, pp 205-214.
97. Roelle, P.A., **V.P. Aneja**, R. Mathur, J. Vukovich, and J. Peirce, 2002, "Modeling of nitric oxide emissions from biosolids amended soils", *Atmospheric Environment*, vol. 36, pp 5687-5696.

98. Sutton, M.A., W.A.H. Asman, T. Ellermann, J.A. Van Jaarsveld, K. Acker, **V.P. Aneja**, J. Duyzer, L. Horvath, S. Paramonov, M. Mitisinkova, Y.S. Tang, B. Ackermann, T. Gauger, J. Bartniki, A. Neftel, and J.W. Erisman, 2003, "Establishing the link between ammonia emission control and measurements of reduced nitrogen concentrations and deposition", *Journal of Environmental Monitoring and Assessment*, vol. 82, pp. 149-185.
99. **Aneja, V.P.**, D. Nelson, P.A. Roelle and J. Walker, and W. Battye 2003, "Agricultural ammonia emissions and ammonium concentration associated with aerosols and precipitations in the Southeast United States," *Journal of Geophysical Research-Atmosphere*, vol. 108, pp. ACH 12-1 to 12-11.
100. Das, M., D. Kang, **V.P. Aneja**, W. Lonneman, D. Cook and M. Wesley, 2003 "Measurements of Hydrocarbon Air - Surface Exchange Rates over Maize," *Atmospheric Environment*, vol. 37, pp 2269-2277.
101. Battye, W., **V.P. Aneja**, and P.A. Roelle, 2003, "Evaluation and Improvement of Ammonia Emissions Inventories," *Atmospheric Environment*, vol. 37, pp3873-3883.
102. Kang, D., **V.P. Aneja**, R. Mathur, and J. Ray, 2003, "Non-methane hydrocarbons and ozone in three rural Southeast United States National Parks: A model sensitivity analysis and its comparison to measurements", *Journal of Geophysical Research-Atmospheres*, vol. 108, No. D19,4604, doi:10.1029/2002JD003054, pp ACH 3-1 to ACH 3-17.
103. Das, M. and **V.P. Aneja**, 2003, "Regional analysis of non-methane organic compounds in the lower troposphere of the Southeast United States," *Journal of Environmental Engineering*, vol. 129, No. 12, pp. 1085-1103.
104. Baek, B.H., **V.P. Aneja**, and Quansong Tong, 2004, "Chemical coupling between ammonia, acid gases, and fine particles", *Environmental Pollution*, vol. 129, pp. 89-98.
105. Baek, B.H., and **V.P. Aneja**, 2004, "Measurement and analysis of the relationship between ammonia, acid gases, and fine particles in Eastern North Carolina", *Journal of Air and Waste Management Association*, vol. 54, pp.623-633.
106. **Aneja, V.P.**, J. S. Brittig, D.S. Kim, and A. Hanna, 2004, "Ozone and Other Air Quality - Related Variables Affecting Visibility in the Southeast United States", *Journal of Air & Waste Management Association*, vol. 54, pp. 681-688.
107. Phillips, S.B., S.P. Arya, and **V.P. Aneja**, 2004, "Ammonia flux and dry deposition velocity from near-surface concentration gradient measurements over a grass surface in North Carolina", *Atmospheric Environment*, vol. 38, pp. 3469-3480.
108. Kang, D., **V.P. Aneja**, R. Mathur, and J.D. Ray, 2004, "Observed and Modeled VOC Chemistry under High VOC/NOx conditions in the Southeast United States National Parks," *Atmospheric Environment*, vol. 38, pp. 4969-4974.

109. Kang, D., and **V.P. Aneja**, M. Das, and R. Seila, 2004, "Measurements of Air-Surface Exchange Rates of Volatile Organic Compounds", *International Journal of Environment and Pollution*, vol. 22, No. 5, pp. 547-562.
110. Roelle, P.A., and **V.P. Aneja**, 2005, "Modeling of Ammonia Emissions from Soils", *Journal of Environmental Engineering Science*, vol. 22, pp. 58-72.
111. Tong, Q., D. Kang, **V.P. Aneja**, and J.D. Ray, 2005, "Reactive Nitrogen Oxides in Southeast United States National Parks: Source Identification, Origin, and Process Budget", *Atmospheric Environment*, vol. 39, pp. 315-327.
112. Baek, B.H. and **V.P. Aneja**, 2005, "Observational based analysis for the Determination of Equilibrium Time Constant between Ammonia, Acid Gasses, and Fine Particles," *International Journal of Environment and Pollution*, vol. 23, No. 3, pp. 239-247.
113. O'Connor, J.R., **V.P. Aneja** and P.A. Roelle, 2005, "An Ozone Climatology: Relationships between Meteorology and Ozone in the Southeast United States," *International Journal of Environment and Pollution*, vol. 23, No. 2, pp 123-139.
114. Blunden, J., **V. P. Aneja**, and W. Lonneman, 2005, "Characterization of non-methane volatile organic compounds at swine facilities in North Carolina", *Atmospheric Environment*, vol. 39, No. 36, pp 6707-6718.
115. **Aneja, V. P.**, J. Blunden, C. S. Claiborn, and H. H. Rogers, 2006, "Dynamic Chamber System to measure Gaseous Compounds Emissions and Atmospheric-Biospheric Interactions", *Environmental Simulation Chambers: Application to Atmospheric Chemical Processes*, pp. 97-109.
116. **Aneja, V. P.**, W. H. Schlesinger, D. Niyogi, G. Jennings, W. Gilliam, R. E. Knighton, C. S. Duke, J. Blunden, and S. Krishnan, 2006, "Emerging National Research Needs for Agricultural Air Quality", *Eos*, Transactions, American Geophysical Union, Vol. 87. No. 3, 17 January 2006, pp. 25,29
117. **Aneja, V.P.**, B. Wang, Q. Tong, H. Kimball, and J. Steger, 2006, "Characterization of Major Chemical Components of Fine Particulate Matter in North Carolina", *Journal of the Air & Waste Management Association*, Vol. 56, pp.1099-1107.
118. **Aneja, V.P.**, D. Niyogi, and P. A. Roelle, 2006, "An integrated perspective on assessing agricultural air quality", *International Journal of Global Environmental Issues*, Vol. 6, Nos. 2/3, pp.137-148.
119. Das, M., **V.P. Aneja**, and D. Kang, 2006, "Vertical Distribution of VOCs and ozone observed at Suburban North Carolina", *International Journal of Global Environmental Issues*, Vol. 6, Nos. 2/3, pp. 149-172.
120. Tong, Q.S., **V.P. Aneja**, S.P. Arya, and J.D. Ray, 2006, "Temporal Variability and Case Study of High O<sub>3</sub> Episodes in Two Southeastern US National Parks", *International Journal of Global Environmental Issues*, Vol. 6, Nos. 2/3, pp. 173-188.

121. Baek, B.H., J. Koziel, and **V.P. Aneja**, 2006, "A preliminary review of Gas-to-Particle Conversion, monitoring, and modeling efforts in the USA", *International Journal of Global Environmental Issues*, Vol. 6, Nos. 2/3, pp. 204-230.
122. Niyogi, D., K. Alapaty, S.B. Phillips, and **V.P. Aneja**, 2006, "Considering Ecological Formulations for Estimating Deposition Velocity in Air Quality Models", *International Journal of Global Environmental Issues*, Vol. 6, Nos. 2/3, pp. 270-284.
123. Phillips, S.B., **V.P. Aneja**, D. Kang, and S.P. Arya, 2006, "Modeling and Analysis of the Atmospheric Nitrogen Deposition, North Carolina", *International Journal of Global Environmental Issues*, Vol. 6, Nos.2/3, pp. 231-252.
124. **Aneja, V.P.**, J. Blunden, C. Claiborne, and H.H. Rogers, 2006, "Dynamic atmospheric Chamber system: Application to Trace Gases Emissions from soil and plant uptake", *International Journal of Global Environmental Issues*, Vol. 6, Nos. 2/3, pp. 253-269.
125. Bajwa, K. S., **V.P. Aneja**, and S.P. Arya, 2006, "Measurements and Estimations of Ammonia Emissions from Lagoon-Atmosphere Interface using Coupled Mass Transfer and Chemical Reactions Model, an Equilibrium Model, and US E.P.A.'s WATER9 Model", *Atmospheric Environment*, Vol. 40, pp. S275-S286.
126. **Aneja, V.P.**, J. Blunden, K. James, W.H. Schlesinger, R. Knighton, W. Gilliam, D. Niyogi, and S. Cole, 2007, "Ammonia Assessment from Agriculture: Status and national Needs", *Ammonia Emissions in Agriculture*, ISBN 978-90-8686-029-6, Wageningen Academic Press, The Netherlands, pp. 44-51.
127. Konarik, S., and **V.P. Aneja**, 2008, "Trends in agricultural ammonia emissions and ammonium concentrations in precipitation over the Southeast and Midwest United States", *Atmospheric Environment*, vol. 42, No. 14, pp.3238-3252.
128. Wu, S.-Y, Srinath Krishnan, Jian-Lin Hu, Yang Zhang, and **V. P. Aneja**, 2008, "Modeling Atmospheric Transport and Fate of Ammonia in North Carolina-Part I: Evaluation of Meteorological and Chemical Predictions", *Atmospheric Environment*, vol. 42, No. 14, pp. 3419-3436.
129. Hu, J.-L, Shiang-Yuh Wu, Yang Zhang, and **V. P. Aneja**, 2008, " Modeling Atmospheric Transport and Fate of Ammonia in North Carolina-Part II: Effect of Ammonia Emissions on Fine Particulate Matter Formation", *Atmospheric Environment*, vol. 42, No. 14, pp. 3437-3451.
130. Blunden, J., and **V. P. Aneja**, 2008, "Characterizing ammonia and hydrogen sulfide emissions from a swine waste treatment lagoon in North Carolina", *Atmospheric Environment*, vol. 42, No. 14, pp. 3277-3290.
131. Blunden, J., **V. P. Aneja**, and P. W. Westerman, 2008, "Measurement and analysis of ammonia and hydrogen sulfide emissions from a mechanically ventilated swine confinement building in North Carolina", *Atmospheric Environment*, vol. 42, No. 14, pp. 3315-3331.

132. Zhang, Y., Shiang-Yuh Wu, Jianlin Hu, Srinath Krishnan, Kai Wang, Ashley Queen, **V. P. Aneja**, and Pal Arya, 2008, "Modeling Agricultural Air Quality: Current Status, Major Challenges, and Outlook", *Atmospheric Environment*, vol. 42, No. 14, pp. 3218-3237.
133. **Aneja, V.P.**, S.P. Arya, I.C. Rumsey, D.S. Kim, K. Bajwa, and C.M. Williams, 2008, "Characterizing Ammonia Emissions from Swine Farms in Eastern North Carolina: Reduction of emissions from water-holding structures at two candidate superior technologies for waste treatment", *Atmospheric Environment*, vol. 42, No. 14, pp. 3291-3300.
134. **Aneja, V.P.**, J. Blunden, K. James, W.H. Schlesinger, R. Knighton, W. Gilliam, D. Niyogi, and S. Cole, 2008, "Ammonia Assessment from Agriculture: US Status and Needs", *Journal of Environmental Quality*, vol. 37, pp. 515-520.
135. **Aneja, V.P.**, J. Blunden, P.A. Roelle, W.H. Schlesinger, R. Knighton, W. Gilliam, D. Niyogi, G. Jennings, and Cliff Duke, 2008, "Workshop on Agricultural Air Quality: State of the Science", *Atmospheric Environment*, vol. 42, No. 14, pp. 3195-3208.
136. **Aneja V.P.**, and W.H. Schlesinger, 2008, "Introduction – Agricultural Air Quality: State of the Science", *Journal of the Air and Waste Management Association*, vol. 58, No. 9, pp. 1113-1115.
137. **Aneja, V.P.**, S.P. Arya, D.S. Kim, I.C. Rumsey, H.L. Arkinson, H. Semunegus, K. Bajwa, D. Dickey, L.S. Stefanski, L. Todd, K. Mottus, W.P. Robarge and C.M. Williams, 2008, "Characterizing Ammonia Emissions from Swine Farms in Eastern North Carolina: Part 1- Conventional Lagoon and Spray Technology for Waste Treatment", *Journal of the Air and Waste Management Association*, vol. 58, No. 9, pp. 1130-1144.
138. **Aneja, V.P.**, S.P. Arya, I.C. Rumsey, D.S. Kim, K. Bajwa, H.L. Arkinson, H. Semunegus, D. Dickey, L.S. Stefanski, L. Todd, K. Mottus, W.P. Robarge, and C.M. Williams, 2008, "Characterizing Ammonia Emissions from Swine Farms in Eastern North Carolina: Part 2- Potential Environmentally Superior Technologies for Waste Treatment", *Journal of the Air and Waste Management Association*, vol. 58, No. 9, pp. 1145-1157.
139. Bajwa, K. S., S. P. Arya, and **V. P. Aneja**, 2008, "Modeling studies of Ammonia dispersion and dry deposition at some hog farms in North Carolina", *Journal of the Air & Waste Management Association*, vol. 58, No. 9, pp. 1198-1207.
140. Goetz, S., **V.P. Aneja**, and Y. Zhang, 2008, "Measurements, analysis, and modeling of fine particulate matter in Eastern North Carolina", *Journal of the Air & Waste Management Association*, vol. 58, No. 9, pp. 1208-1214.
141. Occhipinti, C, **V.P. Aneja**, W. Showers, and D. Niyogi, 2008, "Back-Trajectory Analysis and Source-Receptor Relationships: Particulate Matter and Nitrogen Isotopic Composition in Rainwater", *Journal of the Air & Waste Management Association*, vol. 58, No. 9, pp. 1215-1222.

142. Blunden, J., **V. P. Aneja**, and J. H. Overton, 2008, "Modeling hydrogen sulfide emissions across the gas-liquid interface of an anaerobic swine waste treatment storage system", *Atmospheric Environment*, vol 42, No. 22, pp. 5602-5611.
143. **Aneja, V.P.**, W.H. Schlesinger, and J.W. Erisman, 2008, "Farming pollution", *Nature Geoscience*, vol. 1, pp. 409-411.
144. **Aneja, V.P.**, W.H. Schlesinger, and J.W. Erisman, 2009, "Effects of Agriculture upon the Air Quality and Climate: Research, Policy and Regulations", *Environmental Science and Technology*, vol. 43, pp. 4234-4240.
145. Bleeker, A., M.A. Sutton, B. Acherman, A. Alebic-Juretic, **V.P. Aneja**, T. Ellerman, J.W. Erisman, D. Fowler, H. Fagerli, T. Gauger, K.S. Hralen, L.R. Hole, L. Horvath, M. Mitosinkova, R.I. Smith, Y.S. Tang, and A. van Pul, 2009, "Linking Ammonia Emissions Trends to Measured Concentrations and Deposition of Reduced Nitrogen at Different Scales", *Atmospheric Ammonia: Detecting Emission Changes and Environmental Impacts*, ISBN 978-4020-9121-6, Springer, pp. 123-180.
146. Erisman, J.W., A. Bleeker, A. Neftel, **V.P. Aneja**, N. Hutchings, L. Kinsella, Y.S. Tang, J. Webb, M. Sponar, C. Raes, M. Mitosinkova, S. Vidic, H.V. Andersen, Z. Klimont, R. Pinder, S. Baker, B. Reidy, C. Flechard, L. Horvath, A. Lewandowska, C. Gillespie, M. Wallasch, R. Gehrig, and T. Ellerman, 2009, "Detecting changes in atmospheric ammonia following emission changes", *Atmospheric Ammonia: Detecting Emission Changes and Environmental Impacts*, ISBN 978-4020-9121-6, Springer, pp. 383-392.
147. Rudek, J. and **V.P. Aneja**, 2011, "Emissions from Intensive Agriculture", *Air and Waste Management Association EM*, vol. July, pp. 14-18.
148. **Aneja, V.P.**, A. Aiyyer, A. Hanna, U. Shankar, Z. Adelman, S. Arunachalam, S. T. Rao, R. Mathur, J. D. Mobley, V. Ramaswamy, V. Murali Krishna, Valli Manickam, M.P. Singh, J. Biswas and E. Upadhyay. 2012. "U.S. – India Collaboration on Air Quality and Climate Research and Education", *EM, Air and Waste Management Association*, vol. March, pp. 30-36.
149. Rumsey, I.C., **V.P. Aneja**, and W.A. Lonneman, 2012. "Characterizing Non-Methane Volatile Organic Compounds Emissions from a Swine Concentrated Animal Feeding Operation", *Atmospheric Environment*, vol. 47, pp. 348-357.
150. **Aneja, V.P.**, A. Isherwood, and P. Morgan. 2012. "Characterization of Particulate Matter (PM<sub>10</sub>) Related to Surface Coal Mining Operations in Appalachia", *Atmospheric Environment*, vol. 54, pp. 496-501.
151. **Aneja, V.P.**, W. Schlesinger, J.W. Erisman, S. Behera, M. Sharma and W. Battye, 2012. "Reactive Nitrogen Emissions from Crop and Livestock Farming in India", *Atmospheric Environment*, vol. 47, pp. 92-103.
152. James, K. J. Blunden, I.C. Rumsey, and **V.P. Aneja**, 2012, "Characterizing Ammonia Emissions from a Commercial Mechanically Ventilated Swine Finishing Facility and an

- Anaerobic Waste Lagoon in North Carolina”, *Journal of Atmospheric Pollution Research*, vol. 3, pp. 279-288.
153. Rudek, J. and **V.P. Aneja**, 2013, “Climate Vulnerabilities of the Swine Industry”, *Climate Vulnerability: Understanding and Addressing Threats to Essential Resources*. ISBN: 9780123847034 Elsevier Inc., Academic Press, pp. 77–87.
  154. Pillai, Priya, A. Khlystov, J. Walker, and **V.P. Aneja**. 2013. "Observation and Analysis of Particle Nucleation at a Forest Site in Southeastern US." *Atmosphere*, vol. 4, no. 2, pp. 72-93.
  155. Behera, S.N., M. Sharma, **V.P. Aneja**, and R. Balasubramanian, 2013.”Ammonia in the atmosphere: a review on emission sources, atmospheric chemistry and deposition on terrestrial bodies”, *Environmental Science and Pollution Research*, ISSN 0944-1344, DOI 10.1007/s11356-013-2051-9.
  156. Rumsey, I.C., and **V.P. Aneja**, 2014. “Measurement and Modeling of Hydrogen Sulfide Lagoon Emissions from a Swine Concentrated Animal Feeding Operation”, *Environmental Science & Technology*, dx.doi.org/10.1021/es403716w, vol. 48, pp. 1609–1617.
  157. Gore, M.L., E. J. Cooter, R. L. Dennis, J. E. Pleim and **V. P. Aneja**, 2014. “Ammonia Emissions in the US: Assessing the Role of Bi-directional Ammonia Transport Using the Community Multi-scale Air Quality(CMAQ) Model”, *Nitrogen Deposition, Critical Loads and Biodiversity*, DOI 10.1007/978-94-007-7939-6\_4, Springer Science+Business Media Dordrecht, pp. 31-38.
  158. Aas, W., Silvina Carou, Ana Alebic-Juretic, **V. P. Aneja**, Rajasekhar Balasubramanian, Haldis Berge, J. Neil Cape, Claire Delon, O. Tom Denmead, Robin L. Dennis, Frank Dentener, Anthony J. Dore, Enzai Du, Maria Cristina Forti, Corinne Galy-Lacaux, Markus Geupel, Richard Haeuber, Carmen Iacoban, Alexander S. Komarov, Eero Kubin, Umesh C. Kulshrestha, Brian Lamb, Xuejun Liu, D. D. Patra, Jacobus J. Pienaar, Pedro Pinho, P. S. P. Rao, Jianlin Shen, Mark A. Sutton, Mark R. Theobald, Krishna P. Vadrevu and Robert Vet, 2014. “Progress in Nitrogen Deposition Monitoring and Modelling”, *Nitrogen Deposition, Critical Loads and Biodiversity*, DOI 10.1007/978-94-007-7939-6\_4, Springer Science+Business Media Dordrecht, pp. 455-463.
  159. Rumsey, I.C., **V.P. Aneja**, and W.A. Lonneman, 2014. “Characterizing reduced sulfur compounds emissions from a swine concentrated animal feeding operation”, *Atmospheric Environment*, vol. 94, pp. 458-466.
  160. Rasheed, A., **V.P. Aneja**, A. Aiyyer, and U. Rafique, 2014. “Measurements and Analysis of Air Quality in Islamabad, Pakistan”, *Earth’s Future*, vol. 2, pp. 303-314, doi:10.1002/2013EF000174.
  161. Rasheed, A., **V.P. Aneja**, A. Aiyyer, and U. Rafique, 2015. “Measurement and Analysis of Fine Particulate Matter (PM<sub>2.5</sub>) in Urban Areas of Pakistan”, *Aerosol and Air Quality Research*, vol. 15, pp. 426-439, doi: 10.4209/aaqr.2014.100.269.



162. Aneja, S.P., and **V.P. Aneja**, 2015. "Hogs an economic miracle or environmental disaster?" The News & Observer, January 15, 2015, pp. 12A.
163. Aneja, S.P. and W. H. Schlesinger, and V.P. Aneja, 2015."High on the Hog", February 25, 2015, <http://blogs.nicholas.duke.edu/citizenscientist/>
164. Aneja, S.P., **V.P. Aneja**, and W. H. Schlesinger, 2015. "Sustainable pork production possible", OpEd, The Fayetteville Observer, Sunday, March 8, 2015. [http://www.fayobserver.com/opinion/news\\_columns/saurabh-p-aneja-viney-p-aneja-and-william-h-schlesinger/article\\_0886eacf-8712-52de-8aef-ebca132ed599.html](http://www.fayobserver.com/opinion/news_columns/saurabh-p-aneja-viney-p-aneja-and-william-h-schlesinger/article_0886eacf-8712-52de-8aef-ebca132ed599.html)
165. **Aneja, V.P.**, W.H. Schlesinger, and S.P. Aneja, 2015. "Effects of Intensively Managed Agriculture on the Atmospheric Environment", Journal of EM (Air and Waste Management Association), June 2015, pp. 24-30.
166. Pillai, P., **V.P. Aneja**, and J.T. Walker, 2015. "Satellite Based Estimation of Shortwave Aerosol Radiative Forcing by Regional Nucleation Events over a forest site in the Southeast U.S.", *Journal of Geophysical Research*, in press.
167. Yu, S F., G. Luo, S. C. Pryor, P. R. Pillai, S. H. Lee, J. Ortega, J. J. Schwab, A. G. Hallar, W. R. Leaitch, **V. P. Aneja**, J. N. Smith, J. T. Walker, O. Hogrefe, and K. L. Demerjian, 2015. "Spring and summer contrast in new particle formation over nine forest areas in North America", *Atmospheric Chemistry and Physics*, in press.
168. **Aneja, V.P.**, and W. H. Schlesinger, 2015. "Nitrous Oxide Emissions from Use of Ground Water", *Atmospheric Environment*, in review.
169. **Aneja, V.P.**, P. Pillai, A. Isherwood, P. Morgan, and S. P. Aneja, 2015. "Particulate Matter Pollution in the Coal-Producing Regions of the Appalachian Mountains: Integrated Ground Based Measurements and Satellite Retrievals", *Journal of the Air and Waste Management Association*, in review.
170. Battye, W., Casey Bray, **V.P. Aneja**, Daniel Tong, Pius Lee and Youhua Tang. 2016. "Evaluating ammonia (NH<sub>3</sub>) predictions in the NOAA National Air Quality Forecast Capability (NAQFC) using *in situ* aircraft measurements from the DISCOVER-AQ Colorado campaign", *Atmospheric Environment*, in review.
171. Shukla, K., Prashant K Srivastava, **V.P. Aneja**, and Tirthankar Banerjee. 2016. "Variation of ground-level and columnar ozone at middle Indo-Gangetic Plain: Impacts of seasonality and precursor gases", *Environmental Science and Pollution Research*, in review.
172. Mikel, Dennis K. and **V.P. Aneja**, 2016. "Measurement and Analysis of Polycyclic Aromatic Hydrocarbons near a Major Roadway", *Journal of the Air and Waste Management Association*, in preparation.
173. Walker, J., Pillai P., **V. P. Aneja**, 2015. "Soil Nitrous Oxide Emissions from Corn and Switch grass Crops", in preparation.

## **BOOKS**

1. **Aneja, V. P.**, Ed., "Environmental Impact of Natural Emissions", Air Pollution Control Association, Pittsburgh, p. 430, (1984).
2. **Aneja, V.P.**, W.H. Schlesinger, R. Knighton, G. Jennings, D. Niyogi, W. Gilliam, and C.S. Duke, Eds., "Workshop on Agricultural Air Quality: State of the Science", North Carolina State University, Raleigh, NC 27695-7603, ISBN 0-9669770-4-1, p. 1314, (2006).

## **PROCEEDINGS**

1. **Aneja, V. P.** and D. F. Adams, Eds., 1980, "Biogenic Emissions of Sulfur, Hydrocarbons, and Nitrogen Gases into the Atmosphere", Sessions 40 and 69, presented at the 73rd Annual Meeting of the Air Pollution Control Association, Montreal, Canada.
2. **Aneja, V.P.** and W.P. Robarge, Eds., 1994. "Intercomparison of Methodologies for Soil NO<sub>x</sub> Emissions," U.S. Environmental Protection Agency Workshop, Raleigh, NC. p. 150.
3. **Aneja, V.P.**, G. Murray and J. Southerland, Eds. 1997, "Atmospheric Nitrogen Compounds: Emissions, Transport, Transformation, Deposition and Assessment," North Carolina State University, Raleigh, NC 27695, p. 299.
4. **Aneja, V.P.**, G. Murray and J. Southerland, Eds. 1999, "Atmospheric Nitrogen Compounds II: Emissions, Transports, Transformation, Deposition and Assessment," The Friday Center, Chapel Hill, NC 27599, p. 553.

## **BOOK AND PROCEEDING CHAPTERS**

1. **Aneja, V. P.**, 1980, "Direct Measurements of Emission Rates of Some Atmospheric Biogenic Sulfur Compounds and Their Possible Importance to the Stratospheric Aerosol Layer", Chapter 7 in Atmospheric Sulfur Deposition: Environmental Impact and Health Effects. Ed. D. S. Shriner, C. R. Richmond and S. E. Lindberg, Ann Arbor Science Publishers, p. 568.
2. **Aneja, V. P.**, J. H. Overton and A. P. Aneja, 1980, "The Effect of Moisture on the Release of Biogenic Sulfur Compounds", Chapter 80-40.4 in Biogenic Emissions of Sulfur, Hydrocarbons, and Nitrogen Gases into the Atmosphere. Ed. V. P. Aneja and D. F. Adams. 73rd Annual Meeting of the Air Pollution Control Association, Montreal, Canada.
3. **Aneja, V. P.**, 1984, "The Role of Tidal and Diurnal Variations on the Release of Biogenic Sulfur Compounds", Chapter 1 in Environmental Impact of Natural Emissions. Ed. V. P. Aneja, Air Pollution Control Association Publisher, Pittsburgh, pp. 1-20.
4. **Aneja, V. P.**, 1984, "On the Origin of the Stratospheric Sulfate Aerosol Layer", Proceedings of the 37th Annual Meeting of Indian Institute of Chemical Engineers, New Delhi, India.
5. **Aneja, V. P.**, S. H. Lamson, and J. P. Skilbeck, 1986, "Controlled Distribution of Viscous Solutions in Rectangular Manifolds", Proceedings of the Group on Solid-State Applications and Measurements Symposium, Syracuse, NY.
6. **Aneja, V.P.**, R.L. Bradow, and R.K.M. Jayanty, 1988, "Organic Chemical Characterization of Clouds in High Elevation Spruce-Fir Forests at Mt. Mitchell, North Carolina", Proceedings of the 1988 EPA/APCA International Symposium on Measurement of Toxic and Related Air Pollutants, pp. 227-236.
7. Bradow, R. L. and **Aneja, V. P.** 1988. "Aerosol compositional effects on mountain clouds: attributing sources of acid deposition", chapter 8 in Atmospheric Aerosols and Nucleation, Springer-Verlag, Berlin, pp. 40 - 43.
8. **Aneja, V. P.** 1988. "Research Plan for Investigating Influence of Climate Change on Ecological Systems, "Chapter in U.S. Environmental Protection Agency IMSL Plan on Global Climate.
9. **Aneja, V. P.** and J. H. Overton, 1989, "Emission rate of dimethyl sulfide at the atmospheric-oceanic interface and its role in global climate change", in Proceedings of the Sixth Symposium on Coastal and Ocean Management, Magoon, O.T.; Converse, M.; Mines, D.; Tobin, L.T.; and Clark, D., Eds., Coastal Zone 89, Vol. 2, pp. 1311-1332.
10. **Aneja, V.P.**, S. Businger, Z. Li, C. Claiborn and A. Murthy, 1989, "Ozone Climate at Mt. Mitchell, North Carolina, and its Association with Synoptic Episodes," Proceedings of the 82nd Annual Meeting of Air and Waste Management Association, Vol. 89-36.5, pp. 1-28.

11. **Aneja, V.P.**, C.S. Claiborn, Z. Li, and A. Murthy, 1989. "Measurements at High Elevations of Oxidants in the Eastern United States and their Role in Forest Decline", in *Man and his Ecosystem*, L.J. Brassler and W.C. Mulder, Eds., Elsevier Science Publishers B.V., Amsterdam, Vol. 2, pp. 189-194.
12. Murthy, A., **V.P. Aneja**, and R. Bradow, 1990, "Monitoring of Nitrogen Pollutants at Mt. Mitchell, North Carolina", *Proceedings of the 1990 EPA/AWMA International Symposium on Measurement of Toxic and Related Air Pollutants*, pp. 134-139.
13. Claiborn, C.S. and **V.P. Aneja**, 1990, "Measurements of Atmospheric Hydrogen Peroxide in the gas-Phase and in Cloudwater at Mt. Mitchell State Park, N.C.", *Proceedings of the 1990 EPA/AWMA International Symposium on Measurement of Toxic and Related Air Pollutants*, pp. 146-151.
14. **Aneja, V.P.**, 1990, "Flux of Natural Sulfur Compounds in the Atmosphere," in *Proceedings of the International Conference on Global and Regional Environmental Atmospheric Chemistry*, NTIS-PR-360, L. Newman, W. Wang, and C.S. Kiang, Eds., pp. 284-313.
15. **Aneja, V.P.**, D.S. Kim, R.E. Baumgardner and R.J. Paur, 1990, "Temporal Variability in Cloud Water Acidity at Mt. Mitchell by the Cloud and Rain Acidity/Conductivity (CRAC) Real-Time Analyzer", in *Proceedings of the International Conference on Global and Regional Environmental Atmospheric Chemistry*, NTIS-PR-360, L. Newman, W. Wang, and C.K. Kiang, Eds., pp. 497-526.
16. Kim, D.S. and **V.P. Aneja**, 1990, "Chemical Composition of Clouds at Mt. Mitchell, North Carolina", *Proceedings of CHEMECA '90*, pp. 175-182.
17. Aneja, A.P., **V.P. Aneja** and K.I. Jacob, 1990, "Hydrodynamics in a Polycondensation Semi-Batch Reactor", *Proceedings of CHEMECA '90*, pp. 1204-1211.
18. Murthy, A.B. and **V.P. Aneja**, 1990, "Deposition and Interaction of Nitrogen containing Pollutants to a High Elevation Forest Canopy", *Proceedings of the 83rd Annual Meeting of Air and Waste Management Association*, Vol. 90-100. 4, pp. 1-27.
19. **Aneja, V.P.** and Z. Li, 1990, "Characterization of Ozone at High Elevations in the Eastern United States", *Proceedings of the 83rd Annual Meeting of Air and Waste Management Association*, Vol. 90-95 .9, pp. 1-32.
20. Robarge, W.P., **V.P. Aneja** and E.B. Cowling, 1992, "Relationship of atmospheric deposition to throughfall chemistry in a coniferous canopy," in *Response of Southern Commercial Forests to Air Pollution*, *Transactions of the Air and Waste Management Association*, Pittsburgh, PA, R. Flagler, Ed., TR-21, pp. 135-147.
21. Ringler, E.S. and **V.P. Aneja**, 1993, "A ground based inter-comparison of path integrated differential optical absorption spectrometer (DOAS) measurements and conventional

point measurements of ambient trace gas concentrations,” in Optical Methods in Atmospheric Chemistry, H.I. Schiff and U. Platt, Eds., Proc. SPIE 1715, pp. 303-311.

22. Hartsell, B.E., **V.P. Aneja**, D. Grosjean, E.L. Williams, and E. Grosjean, 1993, "Measurements of Ambient PAN Concentrations at Two Sites in Atlanta, Georgia," Proceedings of the EPA-AWMA International Symposium on Measurements of Toxic and Related Air Pollutants, Report No. EPA/600/A93/024, pp. 525-530.
23. Kim, D.S. and **V.P. Aneja**, 1993, "Measurements of Reactive Oxidized Nitrogen Compounds at a Rural and an Urban Site in North Carolina and its Correlation with Ozone," Proceedings of the EPA-AWMA International Symposium on Measurements of Toxic and Related Air Pollutants, Report No. EPA/600/A93/024, pp. 531-536.
24. Das, M. and **V.P. Aneja**, 1993, "Gaseous Hydrogen Peroxide Concentrations in the Central Piedmont Region of North Carolina," Proceedings of the EPA-AWMA International Symposium on Measurements of Toxic and Related Air Pollutants, Report No. EPA/600/A93/024, pp. 537-542.
25. Ringler, E.S. and **V.P. Aneja**, 1993, "Remote Sensing of Criteria Pollutants and Volatile Organic Compounds Using Differential Optical Absorption Spectrometer," Proceedings of the First International Oil, Gas, and Petrochemical Congress, Isfahan, Iran, pp. 1-19.
26. Kim, D.S. and **V.P. Aneja**, 1994, "Trends and Analysis of Ambient NO and NO<sub>y</sub> Concentrations in Raleigh, North Carolina", Proceedings of the American Meteorological Society, 74th Annual Meeting, Paper No. ATCHEM-FA2-8.
27. Holbrook, B.D. and **V.P. Aneja**, 1994, "Nitrogen Oxide Fluxes from Soils for Two Piedmont North Carolina Locations", Proceedings of the American Meteorological Society, 74th Annual Meeting, Paper No. ATCHEM-FA2-1.
28. **Aneja, V.P.**, 1994, "Characterization of Emissions of Nitrogen Oxides from Soils of Southeast U.S. Overview of the Project", Proceedings of the Workshop on Intercomparison of Methodologies for Soil NO<sub>x</sub> Emissions, pp. 26-45.
29. **Aneja, V.P.**, 1994, "Dynamic Chamber Technique for the Measurement of the NO<sub>x</sub> Flux", Proceedings of the Workshop on Intercomparison of Methodologies for Soil NO<sub>x</sub> Emissions, pp. 121-135.
30. **Aneja, V.P.**, M. Das, J. Lawrimore, J.C. Spaeth, and F. Stratton, 1994, "Chemical and Physical Vertical Measurements in Urban North Carolina for Ozone control", Proceedings of the Air and Waste Management Association 87th Annual Meeting, Vol. 94-WA65.03, pp. 1-20.
31. **Aneja, V.P.**, W.P. Robarge and B. Holbrook, 1994, "Temporal Variation of Nitrogen Oxide Fluxes from Agricultural Soils in Coastal Plain of North Carolina", Proceedings of the U.S. EPA/A&WMA International Symposium on Measurement of Toxic and Related Air Pollutants, Report No. EPA/600/R-94/136, pp. 236-241.

32. Lawrimore, J., M. Das, and **V.P. Aneja**, 1994, "Vertical Sampling and Analysis of NMHCS in Raleigh, NC from a 2000 Foot Tower", Proceedings of the U.S. EPA/A&WMA International Symposium on Measurement of Toxic and Related Air Pollutants, Report No. EPA/600/R-94/136.
33. **Aneja, V.P.**, J.H. Lawrimore, M. Das, F. Stratton, T.P. Murray, W.G. Lonneman and G.C. Murray, 1994, "Vertical Distributions of Carbonyls for Ozone Control in Urban North Carolina", International Symposium on Measurements of Toxic and Related Air Pollutants", Report No. EPA/600/R-94/136, pp. 470-474.
34. Moore, T.C., L.J. Sullivan, **V.P. Aneja** and W.P. Robarge, 1995, "Vertical Distribution of Oxides of Nitrogen in the Non-Urban Boundary Layer: Mixing Ratios, Transport and Sources," Proceedings of the U.S. EPA/A&WMA International Symposium on Measurements of Toxic and Related Air Pollutants, A&WMA Report No. VIP-50, pp. 10-15.
35. Sullivan, L.J., T.C. Moore, **V.P. Aneja** and W.P. Robarge, 1995, "Measurements, Characterization and Seasonal Variability of Nitric Oxide Fluxes from Agricultural Soils in the Upper Coastal Plain of North Carolina", Proceedings of the U.S. EPA/A&WMA International Symposium on Measurements of Toxic and Related Air Pollutants, A&WMA Report No. VIP-50, pp. 22-27.
36. **Aneja, V.P.**, M. Das, J. Lawrimore, R. Oommen, and G. Murray, 1995, "Non-Methane Hydrocarbons Over Urban North Carolina", Proceedings of the U.S. EPA/A&WMA International Symposium on Measurements of Toxic and Related Air Pollutants, A&WMA Report No. VIP-50, pp. 16-21.
37. Roelle, P.A., J.R. O'Connor, **V.P. Aneja**, D.S. Kim and W.P. Robarge, 1996, "Measurement of Nitric Oxide Flux from Intensively Managed Agricultural Soil in the Coastal Plain of North Carolina", Proceedings of the U.S. EPA/A&WMA International Symposium on Measurements of Toxic and Related Air Pollutants, A&WMA Report No. VIP-64, pp. 131-137.
38. Li, Y., S.P. Arya and **V.P. Aneja**, 1996, "Micrometeorology and Flux-Gradient Relationships for NO-NO<sub>2</sub>-O<sub>3</sub> in the Atmospheric Surface Layer", Proceedings of the U.S. EPA/A&WMA International Symposium on Measurements of Toxic and Related Air Pollutants, A&WMA Report No. VIP-64, pp. 151-158.
39. Das, M., **V. Aneja**, L. Hagerman, W. Lonneman, D. Cook and M. Wesely, 1996, "Flux Measurements of Volatile Organic Compounds Over a Corn Field", Proceedings of the U.S. EPA/A&WMA International Symposium on Measurements of Toxic and Related Air Pollutants, A&WMA Report No. VIP-64, pp. 159-165.
40. **Aneja, V.P.**, P.A. Roelle, J.R. O'Connor, and W.P. Robarge, 1996, "Biogenic Nitric Oxide Source Strengths", Proceedings of the U.S. EPA/A&WMA International Symposium on Measurements of Toxic and Related Air Pollutants, A&WMA Report No. VIP-64, pp. 166-173.

41. Oommen, R.G., **V.P. Aneja**, A.J. Riordan, R.J. Wayland, G. Murray, B. Timin, and J. Lawrimore, 1996, "Ozone Trends for Three Metropolitan Statistical Areas in North Carolina", Proceedings of the U.S. EPA/A&WMA International Symposium on Measurements of Toxic and Related Air Pollutants, A&WMA Report No. VIP-64, pp. 171-181.
42. Saxena, V.K., **V. Aneja**, T.P. DeFelice, and M.L. Wesley, 1996, "Atmospheric Pollutant Deposition over a South Central North Carolina Cornfield", Proceedings of the U.S. EPA/A&WMA International Symposium on Measurements of Toxic and Related Air Pollutants, A&WMA Report No. VIP-64, pp. 859-862.
43. O'Connor, J.R., **V.P. Aneja**, G.C. Murray, Jr., and W. Cornelius, 1996, "A Climatology of Regional Ozone: Meteorological Effects on Ozone Exceedences in the Southeast United States", Proceedings of the U.S. EPA/A&WMA International Symposium on Measurements of Toxic and Related Air Pollutants, A&WMA Report No. VIP-64, pp. 182-189.
44. Hagerman, L.M., **V.P. Aneja**, and B. Lonneman, 1996, "Regional Characterization of Non-Methane Hydrocarbons in the Rural Southeast United States", Proceedings of the U.S. EPA/A&WMA International Symposium on Measurements of Toxic and Related Air Pollutants, A&WMA Report No. VIP-64, pp. 190-200.
45. Sullivan, L.J., T.C. Moore, **V.P. Aneja** and W.P. Robarge, 1996, Environmental variables controlling nitric oxide emissions from agricultural soils in the southeast United States," Proceedings of the 89th Annual Meeting of Air and Waste Management Association, Vol. 96, WP62B.06, pp. 1-7.
46. **Aneja, V. P.** and W. P. Robarge, 1996, "Biogenic NO<sub>x</sub> Emissions and Air Quality," in Preservation of Our World in the Wake of Change Vol VI A, Y. Steinberger, Ed., ISSN 0792-3112, pp. 50-52.
47. Das, M. and **V.P. Aneja**, 1997, "Season trends in C2-C5 NMHC and Isoprene measured at eight rural sites in the Southeastern United States," Proceedings of the 90th Annual Meeting of Air and Waste Management Association, 97-WP93.03, p. 1-16.
48. **Aneja, V.P.**, P. Roelle and W.P. Robarge, 1997, "Contribution of Biogenic Nitric Oxide in Urban Ozone: Raleigh, NC, as a Case Study," Proceedings of the 90th Annual Meeting of Air and Waste Management Association, 97-WP68B.01, pp. 1-15.
49. **Aneja, V.P.**, 1997, "Sources and Fate of Atmospheric Nitrogen Compounds," Testimony to the America's Clean Water Foundation, National Environmental Dialogue on Pork Production, Washington, DC 20013, p. 6.
50. Li, Yongxian, J. Brittig, J. Rickman, D.S. Kim, W.P. Robarge, S.P.S. Arya and **V.P. Aneja**, 1997, "Measurement of Nitrogen Oxides Emissions from Intensively Managed Agricultural Soil in North Carolina," Proceedings of the U.S. EPA/A&WMA

International Symposium on Measurement of Toxic and Related Air Pollutants, A&WMA Report No. VIP-74, Vol. 1, pp. 246-251.

51. Brittig, J. and **V.P. Aneja**, "Ozone and Other Air Quality Related Variables Affecting Visibility in the Southeast United States," Proceedings of the U.S. EPA/A&WMA International Symposium on Measurement of Toxic and Related Air Pollutants, A&WMA Report No. VIP-74, Vol. 1, pp. 252-257.
52. Rickman, J.E., **V.P. Aneja**, S.S. Fine, and J.C. Jang, 1997, "Three Dimensional Visualization of Ozone Process Data," Proceedings of the U.S. EPA/A&WMA International Symposium on Measurement of Toxic and Related Air Pollutants, A&WMA Report No. VIP-74, Vol. 1, pp. 258-265.
53. **Aneja, V.P.**, 1997, "Workshop on Atmospheric Nitrogen Compounds: Summary of Discussion and Research Recommendations," Proceedings of the Workshop on Atmospheric Nitrogen Compounds: Emissions, Transport, Transformation, Deposition, and Assessment, North Carolina State University, Raleigh, NC, pp. i-ix.
54. **Aneja, V.P.**, Y. Li, J. Walker, and J.P. Chauhan, 1997, "Atmospheric Ammonia/Nitrogen Compounds Emissions and Characterization", Proceedings of the Workshop on Atmospheric Nitrogen Compounds: Emissions, Transport, Transformation, Deposition, and Assessment, North Carolina State University, Raleigh, NC, pp. 232-241.
55. **Aneja, V.P.**, Y. Li, J. Walker, J.P. Chauhan, G. Murray, and R. McCulloch, 1997, "Measurement of Ammonia Emissions from Animal Operation in North Carolina, USA," Proceedings of a Specialty Conference on Emission Inventory: Planning for the Future, Research Triangle Park, NC, pp. 814-825.
56. **Aneja, V.P.**, P.A. Roelle, J.R. O'Connor, and W.P. Robarge, 1998, "Biogenic nitric oxide source strength in the Southeast United States," Proceedings of the 91<sup>st</sup> Annual Meeting of Air and Waste Management Association, 98-MA5.03, pp. 1-9.
57. McCulloch, R.B., G.S. Few, G.C. Murray Jr., and **V. P. Aneja**, 1998, "Analysis of ammonia, ammonium aerosols and acid gases at a commercial hog farm in Eastern North Carolina, U.S.A.", Proceedings of the U.S. EPA/A&WMA International Symposium on Measurement of Toxic and Related Air Pollutants, A&WMA Report No. VIP – 85, Vol. 2, pp. 461-471.
58. Li, Y., P. Roelle, L. Sullivan and **V.P. Aneja**, 1998, "Modeling Nitric Oxide Emissions from Agricultural Soils", Proceedings of the U.S. EPA/A&WMA International Symposium on Measurement of Toxic and Related Air Pollutants, A&WMA Report No. VIP – 85, Vol. 2, pp. 472-477.
59. Kang, D., **V.P. Aneja**, and J.D. Ray, 1998, "Non-methane Hydrocarbons in the Rural Southeast United States National Parks", Proceedings of the U.S. EPA/A&WMA International Symposium on Measurement of Toxic and Related Air Pollutants, A&WMA Report No. VIP – 85, Vol. 2, pp. 532-537.



60. **Aneja, V.P.**, J.P. Chauhan, and J. Walker, 1999, “ Ammonia Emission and deposition” Proceedings of the 1999 Animal Waste Symposium, ISBN 0-966770-0-9, pp. 80-83.
61. **Aneja, V.P.**, P.A. Roelle and W.P. Robarge, 1998, “ Characterization of biogenic nitric oxide source strength in the Southeast United States”, Proceedings of the First International Nitrogen Conference, ISBN 008 04320185, Elsevier Science Ltd., pp. 211-218.
62. McCulloch, R.B., G.S. Few, G.C. Murray and **V.P. Aneja**, 1998, “ Analysis of ammonia, ammonium aerosols and acid gases in the atmosphere at a commercial hog farm in Eastern North Carolina, U.S.A.”, Proceedings of the First International Nitrogen Conference, ISBN 008 04320185, Elsevier Science Ltd., pp. 211-218.
63. Roelle, P., J. O’Connor, W. Robarge, **V.P. Aneja**, and D.S. Kim, 1999, “Characterization of nitric oxide emissions from an intensively managed agricultural soil in North Carolina, U.S.A..” Air Pollution VI, WIT Press, pp. 607-613.
64. Roelle, P.A., **V.P. Aneja**, and W.P. Robarge, 1999, “Seasonal variations of nitric oxide fluxes from diverse physiographic agricultural soils in North Carolina,” Proceedings of the 92<sup>nd</sup> Annual Meeting of Air & Waste Management Association, 99-567, pp. 1-8.
65. **Aneja, V.P.**, P.A. Roelle, and J. Peirce, 1999, “Biogenic air pollution,” Proceedings of the International Conference on Microbiology and Conservation (ICMC ’99), Tribuna di Galileo, Museo della Specola, Florence, Italy, pp. 155-156.
66. **Aneja, V.P.**, P.A. Roelle, , J.W. Erisman, D. Fowler, G. C. Muray. J. Southerland, W.A.H. Asman, and N. Patni 1999, “Workshop Summary and Assessment on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment”, Proceedings of the International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, The Friday Center, Chapel Hill, NC, pp. i-xxiv.
67. **Aneja, V.P.**, 1999, “Introduction and Overview of Atmospheric Nitrogen Compounds”, Proceedings of the International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, The Friday Center, Chapel Hill, NC, pp.1-3.
68. **Aneja, V.P.**, B. Bunton, J.P. Chauhan, B.P. Malik, J. Walker, Y. Li, and G. Murray, 1999, “Ammonia Emissions from Swine Waste Operations in North Carolina”, Proceedings of the International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, The Friday Center, Chapel Hill, NC, pp. 151-164.
69. Few, Stephen G., R. McCulloch, N. Agrawal, **V.P. Aneja**, and P. Roelle, 1999, “Estimating Ammonia Emissions from Remotely sensed data”, Proceedings of the International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, The Friday Center, Chapel Hill, NC, pp. 214-215.

70. Baek, B.H., **V.P. Aneja**, and R. McCulloch, 1999, "A Neural Network Model to Estimate Ammonia in the Atmosphere, Proceedings of the International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, The Friday Center, Chapel Hill, NC, pp. 231-236.
71. Walker, J., D. Nelson, and **V.P. Aneja**, 1999, "Trends in Ammonium Concentration in Precipitation and Atmospheric Ammonia Emissions at a Coastal Plain Site in North Carolina, U.S.A.", Proceedings of the International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, The Friday Center, Chapel Hill, NC, pp. 247-255.
72. Walker, J., **V.P. Aneja**, and D. Dickey, 1999, "Source Receptor Modeling of Wet Ammonium Deposition in North Carolina, U.S.A.", Proceedings of the International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, The Friday Center, Chapel Hill, NC, pp. 262-270.
73. Roelle, P., and **V.P. Aneja**, 1999, "Variations of Nitric Oxide Fluxes from Diverse Physiographic Agricultural Soils in North Carolina", Proceedings of the International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, The Friday Center, Chapel Hill, NC, pp. 283-296.
74. Arya, S.P., **V.P. Aneja**, B.T. Peterson, and N. Agrawal, 1999, "Measurement and Modeling of Ammonia/Ammonium Flux and Dry Deposition Velocity above Natural Surfaces in Eastern North Carolina", Proceedings of the International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, The Friday Center, Chapel Hill, NC, pp. 333-336.
75. Malik, B.P., **V.P. Aneja**, and J. Overton, 1999, "Coupled Transport and Chemical Reaction Model for Ammonia Emission at Waste Treatment Lagoon-Atmospheric Interface", Proceedings of the International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, The Friday Center, Chapel Hill, NC, pp. 419-432.
76. Roelle, P.A., **V.P. Aneja**, and J. Peirce, 2000 "Characterization of Nitric Oxide Emissions from Agricultural soils Amended with Biosolids", Proceedings of the 93<sup>rd</sup>. Annual Meeting of Air & Waste Management Association, 00-138, pp. I-8.
77. Sutton, M.A., W.A.M. Asman, T. Ellermann, J.A. van Jaarsveld, K. Acker, **V.P. Aneja**, J. Duyzer, L. Horvarth, S. Paramonov, M. Mitisinkova, Y.S. Tang, B. Achermann, T. Gauger, J. Bartniki, A. Neftel, and J.W. Erisman, 2001, "Establishing the link between ammonia emission control and measurements of reduced nitrogen concentrations and deposition," Proceedings of the United Nations Economic Commission for Europe (UN/ECE), Environmental Documentation No. 133, pp. 57-89.
78. Baek, B.H., **V.P. Aneja**, and G.C. Murray, 2001, "Chemical Coupling between ammonia, acid gases, and fine particles", Proceedings of the 94<sup>th</sup> Annual Meeting of Air & Waste Management Association, Paper #614, pp. 1-8.

79. Phillips, S.B., S.P. Arya, and **V.P. Aneja**, 2001, "Measurements of ammonia flux and dry deposition velocity from near-surface concentration gradients over natural surfaces in North Carolina", Proceedings of the 94<sup>th</sup> Annual Meeting of Air & Waste Management Association, Paper # 609, pp. 1-9.
80. Roelle, P.A., **V.P. Aneja**, and J. Peirce, 2001, "Nitric oxide emission from soils amended with municipal-waste biosolids," Poster Proceedings of Sixth International Conference on Air-Surface Exchange of Gases and Particles, ISBN: 1870393597, pp.18-21.
81. **Aneja, V.P.**, B.P. Malik, Q. Tong, D. Kang, and J.H. Overton, 2001, "Measurement and Modeling of Ammonia Emissions at Waste Treatment Lagoon – Atmospheric Interface," in Air-Surface Exchange of Gases and Particles (2000), Ed. D. Fowler, C.E.R. Pitcairn, and J.W. Erisman, Kluwer Academic Publishers, ISBN: 0-7923-7136-4, pp. 177-188.
82. Phillips, S.B., S.P. Arya, and **V.P. Aneja**, 2002, "Measurement and modeling of ammonia flux and dry deposition velocity from near-surface concentration gradient measurements over natural surfaces in North Carolina," Proceedings of 12<sup>th</sup> Joint Conference on the Application of Air Pollution Meteorology with the Air & Waste Management Association, Paper # 7.9, pp.1-2.
83. Baek, B.H., and **V.P. Aneja**, 2002, "Chemical coupling between ammonia, acid gases, and fine particles", Landbanforskung Volkenrode 235-FAL Agricultural Research, ISBN 3-933140-58-7, pp. 57-63.
84. Phillips, S.B., S.P. Arya, and **V.P. Aneja**, 2002, "Measurement and modeling of ammonia flux and dry deposition velocity from near-surface concentration gradient measurements over natural surfaces in North Carolina," Proceedings of the 95<sup>th</sup> Annual Conference of Air and Waste Management Association, Paper # 43080, pp.1-6.
85. Tong, Q., **V.P. Aneja**, and J.D. Ray, 2002, "Trace gases in the Great Smoky Mountains National Park: Measurement, Analysis, and Sources Identification," Proceedings of the 95<sup>th</sup> Annual Conference of Air and Waste Management Association, Paper # 43260, pp.1-8.
86. Arkinson, H., and **V.P. Aneja**, 2002, "Validation of a coupled mass transfer and chemical reaction model for ammonia flux across a gas-liquid interface," Proceedings of the 95<sup>th</sup> Annual Conference of Air and Waste Management Association, Paper # 43068, pp.1-8.
87. Baek, B.H. and **V.P. Aneja**, 2002, "Estimation of Equilibrium Time Constant for Gas-to-Particle Conversion Based on Observational Analysis," Proceedings of the 95<sup>th</sup> Annual Conference of Air and Waste Management Association, Paper # 77777, pp.1-6.
88. Kang, D., **V.P. Aneja**, R. Mathur, and J.D. Ray, 2003, "Measurements and Modeling of Regional Air Quality in Three Southeast United States National Parks", Proceedings of 26<sup>th</sup> NATO/CCMS International Technical Meeting on Air Pollution Modeling and its Applications, pp. 37-44.

89. **Aneja, V.P.**, D.S. Kim, S.P. Arya, W. Robarge, P. Westerman, M. Williams, D. Dickey, H. Arkinson, H. Semunegus, J. Blunden, M. Sobsey, L. Todd, G. Ko, W. Verkrusye, K. Mottus, C. Likirdopulos, O. Simmons, S. Schiffman, and B. Graham, 2003, "In Intergrated Study of the Emissions of Ammonia, Odor and Odorants, and Pathogens and Related Contaminants from Potential Environmentally Superior Technologies for Swine Facilities: Program OPEN (Odor, Pathogens, and Emissions of Nitrogen), Proceedings of the International Symposium on Gaseous and Odorous Emissions from Animal Production Facilities", ISBN 87-88976-66-1, pp. 478-484.
90. Phillips, S.B., S. Pal Arya, **V. P. Aneja**, 2004, "Measurement and Modeling of Ammonia Flux and Deposition Velocity over Natural Surfaces in Eastern North Carolina", Proceedings of the 13th Joint Conference on the Application of Air Pollution Meteorology with the Air and Waste Management Association (A&WMA), Paper # 8.2.
91. Blunden, J., **V.P. Aneja**, and W.A. Lonneman, 2004, "Characterization of biogenic non-methane volatile organic compounds from animal feeding operations", Proceedings of the 13<sup>th</sup> World Clean Air and Environmental Protection Congress and Exhibition, Paper # 285, pp. 1-12.
92. Blunden, J., **V. P. Aneja**, and W.A. Lonneman, 2005, "Characterization of non-methane volatile organic compounds at confined animal feeding operations using environmentally superior waste treatment technologies", Proceedings of the 7th World Congress of Chemical Engineering, Glasgow, Scotland, Paper No. C8-001, 10 pages.
93. **Aneja, V.P.**, B. Wang, Q. Tong, H. Kimball, and J. Steger, 2005, "Chemical Characterization and Source Analysis of Fine Particulate Matter (PM<sub>2.5</sub>) in North Carolina, U.S.A.", Proceedings of the 7th World Congress of Chemical Engineering, Glasgow, Scotland, Paper No. C17-001, 10 pages.
94. Wu, S.-Y., S. Krishnan, J.-L. Hu, C. Misenis, Y. Zhang, **V. P. Aneja**, and R. Mathur, 2005, Simulating the Atmospheric Fate of Ammonia in Southeast U.S. using CMAQ with a 4-km Resolution, Proceedings of the 2005 Models-3 Workshop, September 26-28, Chapel Hill, NC, 5 pages.
95. Krishnan, S., S.-Y. Wu, D. Hamilton, Y. Zhang, and **V. P. Aneja**, 2006, Application and Evaluation of MM5 for North Carolina with a 4-km Horizontal Grid Spacing, Proceedings of the 86th Annual AMS Conference/the 14th Joint Conference on the Applications of Air Pollution Meteorology with the A&WMA, 27 Jan.–3 Feb., Atlanta, GA, 8 pages.
96. Baek, B.H., J. Koziel, and **V.P. Aneja**, 2006, "Gas-to-Particle Conversion Process between Ammonia, Acid Gases, and Fine Particles in the Atmosphere", Animal Agriculture and the Environment: National Center for Manure and Animal Waste Management White Papers. J. M. Rice, D. F. Caldwell, F. J. Humenik, eds. 2006. St. Joseph, Michigan: American Society of Agriculture and Biological Engineers, pp. 201-224.
97. Hu, J.-L., S.-Y. Wu, Y. Zhang, **V. P. Aneja**, G. Pouliot, and A. Gilliland, 2006, "Ammonia Emissions and their Implications on Fine Particulate Matter Formation in

North Carolina”, Proceedings of the Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD, ISBN. 0-9669770-4-1, pp. 71-774.

98. Krishnan, S., Y. Zhang, and **V. P. Aneja**, S.-Y. Wu, R. Mathur, 2006, “Modeling Study of Dry Deposition of Ammonia in North Carolina”, Proceedings of the Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD, ISBN. 0-9669770-4-1, pp. 834.
99. Zhang, Y., S.-Y. Wu, J.-L. Hu, S. Krishnan, K. Wang, A. Queen, **V. P. Aneja**, and P. Arya, 2006, Modeling Agricultural Air Quality: Current Status, Major Challenges, and Outlook, Proceedings of the Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD, ISBN. 0-9669770-4-1, pp. 428-432.
100. Occhipinti, C., **V. P. Aneja**, W. Showers, and D. Niyogi, 2006, “Isotopic and Back trajectory analysis on Rainfall chemistry for developing source-receptor relationships in fine particulate matter formation”, Proceedings of the Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD, ISBN. 0-9669770-4-1, pp. 961-964.
101. Blunden, J., **V. P. Aneja**, and P. W. Westermann, 2006, “Measurement and analysis of ammonia and hydrogen sulfide emissions from an Anaerobic swine waste treatment lagoon and confinement building in North Carolina”, Proceedings of the Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD, ISBN. 0-9669770-4-1, pp. 71-79.
102. Niyogi, D., K. Alapaty, **V. P. Aneja**, F. Chen, and R. A. Pielke, 2006, “Considerations for detailed Land Surface/ Vegetation representation in Air Quality models”, Proceedings of the Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD, ISBN. 0-9669770-4-1, pp. 267.
103. Bajwa, K. S., S. P. Arya, and **V. P. Aneja**, 2006, “Ammonia emissions and dry deposition studies at some hog farms in North Carolina”, Proceedings of the Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD, ISBN. 0-9669770-4-1, pp. 472-477.
104. Blunden, J., **V. P. Aneja**, and J. H. Overton, 2006, “Measurement and modeling of hydrogen sulfide emissions across the gas-liquid interface of an anaerobic swine waste treatment lagoon”, Proceedings of the Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD, ISBN. 0-9669770-4-1, pp. 505-509.
105. Blunden, J., **V. P. Aneja**, and W. A. Lonneman, 2006, “Characterization of Non-Methane Volatile Organic compounds at five confined Animal feeding operations in North Carolina”, Proceedings of the Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD, ISBN. 0-9669770-4-1, pp. 510-520.
106. Goetz, S., **V. P. Aneja**, and Y. Zhang, 2006, “Measurement, analysis, and modeling, of inorganic fine particulate matter in rural, ammonia-rich areas in Eastern North Carolina”, Proceedings of the Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD, ISBN. 0-9669770-4-1, pp. 627.

107. Konarik, S., **V. P. Aneja**, and D. Niyogi, 2006, "Trends in agricultural ammonia emissions and ammonium concentrations in precipitation over the Southeast and Midwest United States", Proceedings of the Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD, ISBN. 0-9669770-4-1, pp. 816-822.
108. Paul, S., D. Niyogi, J. G. Alfieri, P. Albert, F. Chen, M. A. Lemone, and **V. P. Aneja**, 2006, "Exploration and application of statistical methods to identify vegetation-surface-atmospheric interactions using field observations", Proceedings of the Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD, ISBN. 0-9669770-4-1, pp. 978.
109. Phillips, S. B, S. P. Arya, and **V. P. Aneja**, 2006, "Ammonia flux and dry deposition velocity estimated from an intensively managed animal agricultural facility in North Carolina", Proceedings of the Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD, ISBN. 0-9669770-4-1, pp. 1001-1005.
110. Rumsey, I.C., **V.P. Aneja**, S.P. Arya, D.S. Kim, W.P. Robarge, D. Dickey, L.S. Stefanski, H. Semunegus, H.L. Arkinson, K. Bajwa, W. W. Stephens, S. B. Goetz, L. Todd, K. Mottus, and C.M. Williams, 2006, "Characterizing Ammonia Emissions from Potential Environmentally Superior Technologies for hog farms in Eastern North Carolina", Proceedings of the Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD, ISBN. 0-9669770-4-1, pp. 1076-1085.
111. Occhipinti, C., C. Scott, and **V. P. Aneja**, 2006, "Coupling gaseous ammonia, fine particulate matter, and the role of precursor transport in North Carolina", Proceedings of the Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD, ISBN. 0-9669770-4-1, pp. 1124.
112. James, K. M. and **V. P. Aneja**, 2007, "Nitrogen Emissions from Agricultural Sources", Proceedings of the 100<sup>th</sup> Annual Conference and Exhibition of the Air and Waste Management Association, Pittsburgh, PA, Paper #355.
113. Blunden, J., and **V.P.Aneja**, 2007, "Measurements and modeling of ammonia and hydrogen sulfide emissions from a commercial swine finishing operation in North Carolina", Proceedings of the 100<sup>th</sup> Annual Conference and Exhibition of the Air and Waste Management Association, Pittsburgh, PA, Paper #59.
114. **Aneja, V.P.**, S. Goetz, and Y. Zhang, 2007, "Measurements, Analysis, and Modeling of Fine Particulate matter in High Ammonia Region of North Carolina, U.S.A.", Proceedings of the Conference Particulate Matter in and from Agriculture, Landbauforschung Volkenrode Special Issue 308, Braunschweig, Germany, ISBN 978-3-86576-032-6, pp. 147-155.
115. **Aneja, V.P.**, S.P. Arya, I. Rumsey, and C. Williams, 2008, "Characterizing Ammonia Emissions from Hog Farm Technologies - Part I: Conventional Lagoon and Spray Technology for Waste Treatment", Proceedings of the Conference Mitigating Air

Emissions from Animal Feeding Operations, Des Moines, Iowa, ISBN 978-0-9817781-0-5, pp. 219-221.

116. **Aneja, V.P.**, S.P. Arya, I. Rumsey, and C. Williams, 2008, "Characterizing Ammonia Emissions from Hog Farm Technologies - Part II: Potential Environmentally Superior Technologies for Waste Treatment", Proceedings of the Conference Mitigating Air Emissions from Animal Feeding Operations, Des Moines, Iowa, ISBN 978-0-9817781-0-5, pp. 222-231.
117. Rumsey, I.C., **V.P. Aneja**, Lonneman, W.A., 2009. Characterizing sulfur and non-methane volatile organic compound emissions from concentrated animal feeding operations in North Carolina. Air Waste and Management 102<sup>nd</sup> Annual Conference and Exhibition, Detroit, MI, June 16-19, 2009.
118. **Aneja, V.P.**, 2010. "Quantifying emissions of ammonia for air quality analysis", Report on the MANE-VU 2009 Science Meeting – Total Reactive Nitrogen: Regional Haze Impacts and Mitigation Options, pp. 7-8.
119. Gore, M.L., **V.P. Aneja**, E.J. Cooter, R.L. Dennis, and J.E. Pleim, 2010. "Ammonia Emissions in the U.S.: Assessing the role of bi-directional ammonia transport using the Community Multi-Scale Air Quality (CMAQ) Model", Proceedings of the Workshop on Nitrogen Deposition, Critical Loads and Biodiversity, Edinburgh, UK.
120. Rumsey, I.C., **V.P. Aneja**, and W.A. Lonneman, 2010. "Measurements and Analysis of Non-Methane Volatile Organic Compounds Emissions from Concentrated Animal Feeding Operations in North Carolina", Air Waste and Management 103<sup>rd</sup> Annual Conference and Exhibition, Calgary, Canada, June 22-25, 2010, paper No. 2010-A-163-AWMA.
121. Pillai P., A. Khlystov, J.T. Walker, and **V. P. Aneja**, 2012. "Relationships between particle nucleation and radiative forcing at a forest site in the Southeast US", 16th International Symposium for the Advancement of Boundary-Layer Remote Sensing, Boulder, Colorado.
122. Pillai P.\*, J.T. Walker, A. Khlystov, and V. P. Aneja, 2013. "Formation and Growth of Atmospheric Particles at a Forest Site in the Southeast US", Nucleation and Atmospheric Aerosols: 19th International Conference. AIP Conference Proceedings, Volume 1527, pp. 401-404 (2013). doi: 10.1063/1.4803288.
123. Bray, C., W. Battye, **V.P. Aneja**, D. Tong, P. Lee, and Y. Tang. 2015. "Ammonia prediction by the NOAA National Air Quality Forecast Capability system using DISCOVER-AQ and CalNex2010 field campaign data", Air, Waste and Management Association Annual Conference and Exhibition-2015, Raleigh, North Carolina, June 22-25, 2015.
124. Pillai P., **V. P. Aneja**, J. Walker, Satellite Based Estimation of Shortwave Aerosol Radiative Forcing on Regional Nucleation Events at a forest site in the Southeast US, NCSU Graduate Student Symposium, North Carolina State University, Raleigh, NC. March 25, 2015.

125. Rumsey, I.C., **V. P. Aneja**, and W. A. Lonneman, 2015, “Measurement and Modeling of Reduced Sulfur Compound Emissions from a Swine Concentrated Animal Feeding Operation”, Air, Waste and Management Association Annual Conference and Exhibition-2015, Raleigh, North Carolina, June 22-25, 2015.
126. Pillai P., **V. P. Aneja**, J. Walker, 2015. “Satellite Based Estimation of Shortwave Aerosol Radiative Forcing on Regional Nucleation Events at a forest site in the Southeast US”, Annual Conference, The Air & Waste Management Association (A&WMA), Raleigh, NC , June 22- 25, 2015.
127. Mikel, D. and **V.P. Aneja**, 2015. “Measurement of Polycyclic Aromatic Hydrocarbons near a Major Roadway”, Annual Conference, The Air & Waste Management Association (A&WMA), Raleigh, NC , June 22- 25, 2015, Paper # 260.



## **SYMPOSIUM CHAIRMAN**

1. "Biogenic Emission of Sulfur, Hydrocarbon, and Nitrogen Gases into the Atmosphere", 73rd Air Pollution Control Association Annual Meeting, Montreal, Canada, June 22-27, 1980.
2. "Natural Emissions of Hydrocarbons, Halocarbons, Sulfur, and Nitrogen Gases into the Atmosphere", 74th Air Pollution Control Association Annual Meeting, Philadelphia, June 21-26, 1981.
3. "Natural Emissions of Hydrocarbons, Halocarbons, Sulfur, and Nitrogen Gases into the Atmosphere", 75th Air Pollution Control Association Annual Meeting, New Orleans, June 20-25, 1982.
4. "Environmental Impact of Natural Emissions", Technical Program Chairman, International Specialty Conference, Air Pollution Control Association, Research Triangle Park, NC, March 7-9, 1984.
5. "Global Climate Change", Chairman, Feature Mini Symposium at American Institute of Chemical Engineers Annual Meeting, Washington, D.C., November 25 - December 2, 1988.
6. "Global Climate Change", Chairman, American Institute of Chemical Engineers Annual Meeting, San Francisco, California, November 5-10, 1989.
7. "Atmospheric Dispersion. Computer Models for Risk Analysis", Chairman, Indo-US Workshop on Environmental Risk Analysis, New Delhi, India, December 12-16, 1989.
8. "Southern Oxidant Study - Photochemical Observations in the Rural Atmosphere" American Chemical Society National Meeting, Atlanta, Ga., April 15-19, 1991.
9. "Tropospheric Oxidant Formation and Chemistry", American Geophysical Union Western Pacific Meeting, Hong Kong, August 17-21, 1992.
10. "Oxidants in the Atmosphere," EPA/AWMA International Symposium on Measurements of Toxic and Related Air Pollutants, Durham, NC, May 3-7, 1993.
11. "Regional Photochemical Measurements and Modeling Studies - Photochemical Reaction Products," Air and Waste Management Association International Specialty Conference, San Diego, CA, November 7-12, 1993.
12. "North Carolina Ozone State Implementation Plan - Measurements and Modeling Studies," EPA/AWMA International Symposium on Measurements of Toxic and Related Air Pollutants, Durham, NC, May 2-6, 1994.

13. "North Carolina Ozone State Implementation Plan - Measurements and Modeling Studies," EPA/AWMA International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 14-19, 1995.
14. "Atmospheric Ammonia: Emission, Deposition and Environmental Impacts", Department of the Environment, U.K., Oxford, England, October 2-4, 1995.
15. "Natural emissions of Oxidant precursors: Validation of techniques and Assessment, (Project NOVA)", EPA/AWMA International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 7-10, 1996.
16. "Ozone", EPA/AWMA International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, April 29 - May 1, 1997.
17. "Project NOVA — Natural emissions of Oxidant precursors: Validation of techniques and Assessment," American Geophysical Union Fall Meeting, San Francisco, CA, December 8-12, 1997.
18. "Air Quality Modeling," 91<sup>st</sup> Air & Waste Management Association Annual Meeting, San Diego, CA, June 14-18, 1998.
19. "Ozone," EPA/AWMA International Symposium on Measurement of Toxic and Related Air Pollutants, Cary, NC, September 1-3, 1998.
20. "Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition, and Assessment", Chapel Hill, NC, June 7-9, 1999.
21. "Workshop on Air Quality Index and Emission Inventory Development for Delhi", New Delhi, India, June 6-8, 2000.
22. "Photochemical Oxidants," The Sixth International Conference on Air-Surface Exchange of Gases and Particles, Edinburgh, UK July 3-7, 2000.
23. "Ammonia Emissions", International Symposium on the Measurement of Toxic and Related Air Pollutants, Research Triangle Park, NC, September 12-14, 2000.
24. "Air-Surface Emissions and Gas Fluxes", 2000 Annual Meeting and International Conference of the American Institute of Hydrology, Research Triangle Park, NC, November 5-8, 2000.
25. "Atmospheric Issues Related to Nitrogen", Future Directions on Air Quality Research, Research Triangle Park, NC, February 12-15, 2001.
26. "Airborne Water Pollutants and Atmospheric Water", Water Resources Institute Annual Meeting, Raleigh, NC, April 9, 2002.
27. "Dust Storms and Their Effects on Human Health", Sino-US Workshop, Raleigh, NC, November 25-26, 2002.

28. “Ozone Precursors, Fugitive, Workplace, and Area Source Monitoring”, Symposium on Air Quality Measurement Methods and Technology, Research Triangle Park, NC, April 19-22, 2004.
29. “Deposition of Air Pollutants”, 13<sup>th</sup> World Clean Air and Environmental Protection Congress and Exhibition, London, U.K., August 22-27, 2004.
30. “Estimates of N and S Deposition”, 2004 National Atmospheric Deposition Program - Scientific Symposium, Halifax, Nova Scotia 22-24 September 2004.
31. “Deposition”, Particulate Matter Supersites Program & Related Studies, An International Specialty Conference Sponsored by the American Association for Aerosol Research, Atlanta, GA, February 7-11, 2005.
32. “International Perspectives in Agricultural Air Quality”, Workshop on Agricultural Air Quality: State of the Science, Potomac, MD, June 5-8, 2006.
33. Workshop Chair, “Workshop on Agricultural Air Quality: State of the Science”, Potomac, MD, June 5-8, 2006.
34. Meeting Co-chair, “Air Quality in the Agricultural Landscape: Measurements, Modeling, BMPs, and Emerging Regulations”, ASA-CSSA-SSSA International Annual Meetings in Indianapolis, November 13-16, 2006.
35. “Particulate Matter in and from Agriculture”, International Conference, Braunschweig, Germany, September 3-4, 2007.
36. “Managing Ammonia Emissions”, U.S. Environmental Protection Agency, Science Advisory Board, Integrated Nitrogen Committee Workshop, Washington DC, October 20 – 21, 2008.
37. "International Congress on Recent Advances in Environmental Science & Technology (RAEST)" Banaras Hindu University, India, November 2-4, 2009.
38. Meeting Co-Chair, “Environmental Health and Technology, EH&T 2010”, International Conference, Kanpur, India, March 15-17, 2010.
39. “Climate Change”, Fourth International Conference on Plants and Environmental Pollution (ICPEP-4), Lucknow, India, December 8-11, 2010.
40. “Plant Response to Environmental Pollution”, Fourth International Conference on Plants and Environmental Pollution (ICPEP-4), Lucknow, India, December 8-11, 2010.
41. Meeting Chair, “US-India International Workshop: Collaborative Science, Research, and Education in Air Quality Measurements, Modeling and Analysis”, Hyderabad, India, March 14-24, 2011.
42. Workshop Chair, “US-India Air Quality and Climate Research Workshop”, Hyderabad, India, September 12-15, 2011.

43. "Agricultural Mapping, Monitoring, and Data Visualization for a Changing Global Environment, 2011 AGU Fall Meeting, San Francisco, CA, December 5, 2011.

## **WORKSHOP AND PANEL MODERATOR**

1. **Aneja, V. P.**, "Panel on Assessment of the Impact of Natural Emissions", U.S. Environmental Protection Agency, Research Triangle Park, NC, 1984.
2. **Aneja, V.P.**, "Blue Ridge Profiles Workshop", National Oceanic and Atmospheric Administration, Boulder, CO, 1989.
3. **Aneja, V.P.**, "Southeastern Consortium: Intermediate Oxidant Network (SCION) Workshop", North Carolina State University, Raleigh, NC, 1990.
4. **Aneja, V.P.**, "Intercomparison of Methodologies for Soil NO<sub>x</sub> Emissions," U.S. Environmental Protection Agency Workshop, North Carolina State University, Raleigh, NC 27695, March 14-15, 1994.
5. **Aneja, V.P.**, "Natural emissions of Oxidant precursors: Validation of techniques and Assessment, (Project NOVA)", U.S. Environmental Protection Agency Planning Workshop, Raleigh, NC, March 2-3, 1995.
6. Zika, R. and **V.P. Aneja**, "Southern Oxidants Study Volatile Organics Data Workshop", University of Miami, Miami, FL, March 23-24, 1995.
7. **Aneja, V.P.**, Annual Workshop "Natural emissions of Oxidant precursors: Validation of techniques and Assessment, (Project NOVA)", sponsored by National Science Foundation and U.S. Environmental Protection Agency, Raleigh, NC, October 16-17, 1995.
8. **Aneja, V.P.**, "Atmospheric Nitrogen Compound: Emissions, Transport, Transformation, Deposition, and Assessment" Workshop sponsored by North Carolina Department of Environmental, Health and Natural Resources and Water Resources Research Institute, Raleigh, NC, March 10-12, 1997.
9. **Aneja, V.P.**, North Carolina Delegates Leader "Atmospheric Nitrogen Programs," Noordwýkerhout, The Netherlands, March 24, 1998.
10. **Aneja, V.P.**, "North Carolina Atmospheric Nitrogen Science Team," Workshop sponsored by NC Division of Air Quality, Mt. Olive, NC, May 28, 1998.
11. **Aneja, V.P.**, "Ammonia Emissions Intercomparison," North Carolina State University, Raleigh, NC, October 1, 1998.
12. **Aneja, V. P.**, "Animal Agriculture and Processing: Managing Environmental Impacts", A&WMA International Specialty Meeting, St. Louis, MO, August 31, 2005.
13. **Aneja, V.P.**, "Environment and Energy Issues", UNC-India Summit, UNC General Administration, Chapel Hill, NC, January 30, 2013.
14. **Aneja, V.P.**, "Fifth International Conference on Plants and Environmental Pollution, ICPEP-5", Member International Advisory Committee, Lucknow, India, December 2014.

15. **Aneja, V.P.**, “1<sup>st</sup> International Electronic Conference on Atmospheric Sciences (<http://sciforum.net/conference/ecas2016>)”, July 16 -31, 2016.

## **PRESENTATIONS AND SEMINARS** (speaker underlined)

1. **Aneja, V. P.**, "Methanol Production by the Low Pressure Process", Department of Chemical Engineering, North Carolina State University, Raleigh, September 1971.
2. Durham, J. L., W. E. Wilson, **V. P. Aneja**, J. H. Overton, D. L. Blumenthal, J. A. Anderson, S. Frisella, W. Dannevik, L. Hull, and R. Woodford, "Sulfate Aerosol Formation Rate in an Oil Fired Power Plant Plume", AIChE 83rd National Meeting, Houston, TX, March 1977.
3. **Aneja, V. P.**, "Some Measurements and Estimates of Fluxes of Biogenic Sulfur Compounds", U.S. Environmental Protection Agency, Research Triangle Park, NC, April 1977.
4. **Aneja, V. P.**, "Sulfate Production in Raindrops", U.S. Environmental Protection Agency, Research Triangle Park, NC, November 1977.
5. **Hill, F. B.**, F. W. Barvenik, **V. P. Aneja**, and R. M. Felder, "On the Development of a Technique to Measure Biogenic Sulfur Emissions", AIChE 70th Annual Meeting, New York, NY, November 1977.
6. **Aneja, V. P.**, **J. H. Overton**, and J. L. Durham, "Sulfur dioxide Flux to a Falling Raindrop in Polluted Atmosphere", AIChE 70th Annual Meeting, New York, NY, November 1977.
7. **Aneja, V. P.**, and A. P. Aneja, "Mixing Characteristics and flow Visualization in a Polymeric Photo Reactor", AIChE 70th Annual Meeting, New York, NY
8. **Aneja, V. P.**, "Air Pollution Instrumentation", Air Polluting Biology, North Carolina State University, Raleigh, NC, May 1978.
9. **Rogers, H. H.**, and **V. P. Aneja**, "Dynamic Uptake of Atmospheric Ammonia by Selected Plant Species", American Society of Plant Physiologists Annual Meeting, Blacksburg, Virginia, June 1978.
10. **Aneja, V. P.**, J. H. Overton, L. T. Cupitt, J. L. Durham, and W. Wilson, "Direct Measurements of Emission Rates of some Atmospheric Biogenic Sulfur Compounds", 176th ACS National Meeting, Miami, FL, September 1978.
11. **Aneja, V. P.**, "Biogenic Sulfur", U.S. Department of Agriculture, Raleigh, NC, October 1978.
12. **Aneja, V. P.**, J. H. Overton, **L. T. Cupitt**, J. L. Durham, and W. Wilson, "Measurements of Emission Rates of Carbon Disulfide from Biogenic Sources and Its Possible Importance to the Stratospheric Aerosol Layer", AIChE 86th National Meeting, Houston, TX, April 1979.

13. **Aneja, V. P.**, "Development of a Technique for Determination Atmospheric Sulfur Dioxide", U.S. Environmental Protection Agency, Research Triangle Park, December 1978.
14. **Aneja, V. P.**, "Gaseous and Aerosol Air Pollution Monitoring and Instrumentation", U.S. Department of Agriculture, Raleigh, NC, January 1979.
15. **Aneja, V. P.**, and A. P. Aneja, "Emission Survey of Biogenic Sulfur Flux from Terrestrial Surfaces", AIChE 72nd Annual Meeting, San Francisco, CA, November 1979.
16. **Aneja, V. P.**, "Air Pollution Short Courses", Universities, Research Organizations, and Industry in India, February through May 1979.
17. **Aneja, V. P.**, "Direct Measurements of Emission Rates of Some Atmospheric Biogenic Sulfur Compounds and Their Possible Importance to the Stratospheric Aerosol Layer", Potential Environmental and Health Consequences of Atmospheric Sulfur Deposition, Gatlinburg, TN, October 1979.
18. **Aneja, V. P.**, J. H. Overton, and A. P. Aneja, "The Effects of Moisture on the Release of Biogenic Sulfur Compounds", 73rd Air Pollution Control Association Annual Meeting, Montreal, Canada, June 1980.
19. **Aneja, V. P.**, "Air Pollution Sources and Effluents", Department of Chemical and Environmental Engineering, Rensselaer Polytechnic Institute, October 1980.
20. **Aneja, V. P.**, and A. P. Aneja, "Measurements of Biogenic Sulfur Compounds and Their Contribution to the Global Sulfur Cycle", European Conference on Environmental Pollution, Frankfurt, West Germany, December 1980.
21. **Aneja, V. P.**, J. H. Overton, J. A. Anderson, and J. L. Durham, "Sulfate Aerosol Formation Rate in an Oil Fired Power Plant Plume", European Conference on Environmental Pollution, Frankfurt, West Germany, December 1980.
22. **Aneja, V. P.**, "BPA Aqueous Purification: Some Process Configurations", Project Review, Corporate Research and Development, General Electric Company, Schenectady, NY, May 1981.
23. **Aneja, V. P.**, "Atmospheric Biogenic Sulfur Compounds and the Global Sulfur Cycle", Department of Chemical and Environmental Engineering, Rensselaer Polytechnic Institute, Troy, NY, September 1981.
24. **Aneja, V. P.**, "Some Mechanisms of Biogenic Sulfur Compounds Release from Coastal Marine Sediments to the Atmosphere", 2nd World Congress of Chemical Engineering and World Chemical Exposition, Montreal, Canada, October 1981.
25. **Aneja, V. P.**, "Development of BPA and Phenol Recovery Process. High Purity BPA/Phenol Adduct", Project Review, Corporate Research and Development, General Electric Company, Schenectady, NY, March 1982.



26. **Aneja, V. P.**, "Solventless Purification Option. Noryl II: Continuous Devolatilization", Project Review, Corporate Research and Development, General Electric Company, Schenectady, NY, March 1983.
27. **Aneja, V. P.**, "Continuous Noryl II Isolation: GE Proprietary Flash Devolatilization Technology", 1983 Noryl Worldwide Technology Meeting, Montreal, Canada, November 1983.
28. **Aneja, V. P.**, "The Role of Tidal and Diurnal Variations on the Release of Biogenic Sulfur Compounds", Environmental Impact of Natural Emissions, Air Pollution Control Association International Conference, Research Triangle Park, NC, March 1984.
29. **Aneja, V. P.**, "Gradientless Reactor to Study Ammonia Transport in Aqueous Solution at Environmental Concentrations Under Dynamic Conditions", U. S. Environmental Protection Agency, Research Triangle Park, NC, March 1984.
30. **Aneja, V. P.**, "GE Proprietary Technology for the Continuous Isolation of Engineering Polymers and Silicones", Project Review, Corporate Research and Development, General Electric Company, Schenectady, NY, May 1984.
31. **Aneja, V. P.**, "On the Origin of the Stratospheric Sulfate Aerosol Layer", Joint Symposia of Indian Institute of Chemical Engineers, New Delhi, India, December 1984.
32. **Aneja, V. P.**, "POSH Technology: A Fundamental Investigation", Project Review, Corporate Research and Development, General Electric Company, Schenectady, NY, May 1985.
33. **Aneja, V. P.**, "NH<sub>3</sub> Mass Transfer Kinetics in Rain Drops", University of Stockholm, Arrhenius Laboratory, Stockholm, Sweden, May 1985.
34. **Aneja, V. P.**, "Factors Controlling the Emissions of Biogenic Sulfur", International Meteorological Institute, Stockholm, Sweden, May 1985.
35. **Aneja, V. P.**, "Dry Deposition of Ammonia at Environmental Concentrations on Selected Plant Species:", Department of Meteorology, University of Stockholm, Sweden, June 1985.
36. **Aneja, V. P.**, "Interactions Between the Atmosphere and the Biosphere", Department of Ecology, Swedish University of Agricultural Sciences, Uppsala, Sweden, June 1985.
37. **Aneja, V. P.**, "Advancements in PPO and Noryl Process Technology", Project Review, Corporate Research and Development, General Electric Company, Schenectady, NY, April 1986.

38. **Aneja, V. P.**, S. C. Lamson, and J. P. Skilbeck, "Controlled Distribution of Viscous Solutions in Rectangular Manifolds", 29th Annual GOSAM Symposium on Technology Transfer, Syracuse, NY, June 1986.
39. **Aneja, V. P.**, "G. E. Proprietary Technology for the Continuous Isolation of Engineering Polymers and Silicones", Silicone Products Business Division, General Electric Company, Waterford, NY, July 1986.
40. **Aneja, V. P.**, R. Fields, and A. Shultz, "Characterization of Solvent Vapor Sorption in Polymers and Polyblends", Eight General Electric Materials Characterization Workshop, Technology Application and Development Laboratories, General Electric Company, Louisville, Kentucky, May 1987.
41. **Aneja, V. P.** and J. H. Overton, "Dimethyl sulfide exchange between the marine-atmosphere interface: modification of emissions by chemical reactions", 194th American Chemical Society National Meeting, New Orleans, LA, August 30 - September 4, 1987.
42. **Aneja, V. P.**, R. Bradow, H. Brown, W. Robarge, and E. Cowling, "Cloud chemistry, deposition and interaction with the forest ecosystem", 4th Annual Gatlinburg Acid Rain Conference, Gatlinburg, TN, October 26-27, 1987.
43. **Aneja, V. P.**, R. L. Bradow, and R. K. M. Jayanty, "Organic chemical characterization of clouds in high elevation Spruce-Fir forests at Mt. Mitchell, North Carolina", 1988 EPA and APCA Symposium on Measurements of Toxic and Related Air Pollutants, Raleigh, NC, May 1-4, 1988.
44. **Aneja, V. P.**, C. S. Claiborn, S. R. Chiswell, R. L. Bradow, R. J. Paur, and R. E. Baumgardner, "Dynamic chemical characterization of montane clouds", Air Pollution Control Association 81st Annual Meeting, Dallas, TX, June 20-24, 1988.
45. Bradow, R. L. and **V. P. Aneja**, "Aerosol compositional effects on mountain clouds: attributing sources of acid deposition", 12th International Conference on Atmospheric Aerosols, Condensation, and Ice Nuclei, Vienna, Austria, August 22-27, 1988.
46. **Robarge, W. P.**, **V. P. Aneja** and E.B. Cowling, "Comparison of indirect measurements and model estimates of cloud deposition at Mt. Mitchell, N.C.", "Rocky Mountain Conference, Denver, CO, August 3, 1988.
47. **Aneja, V. P.**, "Natural Sulfur Compounds and the Global Sulfur Cycle", The 2nd International Conference on Atmospheric Sciences and Applications to Air Quality, Tokyo, Japan, October 3 - 7, 1988.
48. **Aneja, V. P.**, E. B. Cowling and W. P. Robarge, "Quantifying Acidic Deposition and other Atmospheric pollutants at Mt. Mitchell, N.C.: An Integrated research program", Fifth Annual Gatlinburg Acid Rain Conference, Gatlinburg, TN, October 31 - November 1, 1988.

49. **Aneja, V.P.**, "Global Climate Change: The Oceanic Biogenic Sulfur Factor," E.I. duPont de Nemours & Company, Kinston, NC, November 14, 1988.
50. **Aneja, V. P.**, J. H. Overton and J. Durham, "The Emission of Dimethyl sulfide and its role in global climate change", American Institute of Chemical Engineers Annual Meeting, Washington, D.C., November 27 - December 2, 1988.
51. **Aneja, V.P.**, "Aircraft Real-time trace gas measurements over Mt. Mitchell, N.C.," Blue Ridge Profiles Workshop, National Oceanic and Atmospheric Administration, Boulder, CO, February 6-7, 1989.
52. **Aneja, A.**, K. Jacob, **V.P. Aneja** and A. Aneja, "Market Efficiency of New Products via State Transition," ORSA/TIMS Marketing Science Conference, Durham, N.C., March 18, 1989.
53. **Aneja, V.P.**, "Air Toxics: A Southern Perspective," Carolinas Air Pollution Control Association Meeting,
54. **Aneja, V.P.**, S.D. Kim, R. Baumgardner, and R. Paur, "Temporal Variability in Cloudwater Acidity as Revealed by Cloud and Rain Acidity/Conductivity (CRAC) Real Time Analyzer," International Conference on Global and Regional Environmental Atmospheric Chemistry, Beijing, China, May 3-10, 1989.
55. **Aneja, V.P.**, "Flux of Natural Sulfur Compounds In the Atmosphere," International Conference on Global and Regional Environmental Atmospheric Chemistry, Beijing, China, May 3-10, 1989.
56. **Aneja, V.P.**, "Forest Decline at Mt. Mitchell: The Air Pollution Factor," North Carolina Outward Bound School, Linville Gorge, June 5, 1989.
57. **Aneja, V.P.**, "Characterization of the Chemical and Physical Climatology at Mt. Mitchell, N.C.," Southern Forest Environment Research Council, Little Switzerland,, N.C., June 19-21, 1989.
58. Bradow, R., and **V. P. Aneja**, "The Role of Pre-existing aerosols in orographic cloud acidity", Air Pollution Control Association 82nd Annual Meeting, Anaheim, CA, June 25 - 30, 1989.
59. **Aneja, V. P.**, J. H. Overton, J. Durham, "Emission Rate of Dimethyl Sulfide at the Atmosphere - Ocean Interface and its role in global climate change", Sixth Symposium on Coastal and Ocean Management, Charleston, S.C., July 1989.
60. **Aneja, V.P.**, C.S. Claiborn, and A. Murthy, "Measurements at high elevation of oxidants in the eastern United States and their role in forest decline", 8th World Clean Air Congress and Exhibition, The Hague, Holland, September 11-15, 1989.
61. **Aneja, V. P.**, D. Kim, A. Murthy, C. S. Claiborn, R. Paur, R. Baumgardner, and K. Kronmiller, "Development and evaluation of a dynamic cloud monitor for chemical

analysis", 8th World Clean Air Congress and Exhibition, The Hague, Holland, September 11-15, 1989.

62. Claiborn, C.S., **V.P. Aneja** and R.G. Carbonell, "Modelling the transport of Ambient Gas-Phase Hydrogen Peroxide to Needles of Red Spruce Seedlings," American Institute of Chemical Engineers Annual Meeting, San Francisco, November 5-10, 1989.
63. **Aneja, V.P.** and J. Overton, "Simulating the Oceanic Flux of Dimethyl Sulfide into the Atmosphere and its Linkages with Global Climate," American Institute of Chemical Engineers Annual Meeting, San Francisco, November 5-10, 1989.
64. **Aneja, V.P.**, C.S. Claiborn, A. Murthy, D.S. Kim, G. Yoder and Z. Li, "Mountain Cloud Chemistry Research at Mt. Mitchell, N.C." First Annual Exposition Environmental Research in the Sunbelt-1989, Raleigh, N.C., November 14-15, 1989.
65. **Aneja, V.P.**, "Characterizing the Ozone Climatology at High Elevation in the Southern Appalachians" National Physical Laboratory, New Delhi, India, December 1989.
66. Claiborn, C.S. and **V.P. Aneja**, "Measurements of Atmospheric Hydrogen Peroxide in the Gas-Phase and in Cloudwater at Mt. Mitchell State Park, N.C." EPA-AWMA Symposium on Measurement of Toxic and Related Air Pollutants, Raleigh, N.C., May 1-4, 1990.
67. Murthy A., **V.P. Aneja**, and R. Bradow, "Monitoring of Nitrogen Pollutants at Mt Mitchell, North Carolina", EPA-AWMA Symposium on Measurement of Toxic and Related Air Pollutants, Raleigh, N.C., May 1-4, 1990.
68. **Aneja, V.P.** and Z. Li, "Characterization of Ozone at High Elevation in the Eastern United States," Air and Waste Management Association 83rd Annual Meeting, Pittsburgh, PA, June 24-29, 1990.
69. Murthy, A. and **V.P. Aneja**, "Deposition and Interaction of Nitrogen Containing Pollutants to a High Elevation Forest Canopy", Air and Waste Management Association 83rd Annual meeting, Pittsburgh, PA, June 24-29, 1990.
70. **Aneja, V.P.**, "Assessing and Interpreting County-wide Environmental Information: Gaston County Effort," North Carolina Association of County Commissioners Annual Conference, Asheville, N.C., August 10, 1990.
71. Aneja, A.P., **V.P. Aneja**, and K.I. Jacob, "Hydrodynamics in a Polycondensation Semi-Batch Reactor", 18th Australasian Chemical Engineering Conference - CHEMECA 1990, Auckland, New Zealand, August 27-30, 1990.
72. Kim, D.S. and **V.P. Aneja**, "Chemical Composition of Clouds at Mt. Mitchell, North Carolina," 18th Australasian Chemical Engineering Conference - CHEMECA 1990, Auckland, New Zealand, August 27-30, 1990

73. **Aneja, V.P.**, W. P. Robarge, C.S. Claiborn, A. Murthy, D.S. Kim, Z. Li, and E.B. Cowling, "Chemical Climatology of High Elevation Spruce-Fir Forests in the Southern Appalachian Mountains", International Conference on Acidic Deposition Its Nature and Impacts, Glasgow, U.K. September 16-21, 1990.
74. **Aneja, V.P.**, S. Pal Arya and G. Yoder, "Ozone in the Urban Southeastern United States," International Conference in Acidic Deposition: Its Nature and Impacts, Glasgow, U.K. September 16-21, 1990.
75. **Aneja, V.P.**, "Surface Ozone, hydrogen peroxide, and nitric acid: Trends, seasonal variations and analysis", Department of Chemistry, Appalachian State University, Boone, NC, 28608, October 19, 1990.
76. **Aneja, V.P.**, "Forest Decline and Air Pollution: Comprehensive Research Activity at Mount Mitchell, NC", Carolina Air Pollution Control Association Annual Meeting, Myrtle Beach, SC, October 24-26, 1990.
77. **Aneja, V.P.**, C. Claiborn, Z. Li and A. Murthy, "Surface Ozone, Hydrogen Peroxide and Nitric Acid", First Annual Southern Appalachian Man and Biosphere Conference, Gatlinburg, TN, November 4-5, 1990.
78. **Claiborn, C.S., V.P. Aneja,** and R.G. Carbonell, "Atmospheric-Biospheric Interactions: Transport and Chemistry of Atmospheric Hydrogen Peroxide in Plant leaves", American Institute of Chemical Engineers Annual Meeting, Chicago, IL, November 14-16, 1990.
79. **Aneja, V.P.**, "Southern Oxidants Study", SCION Workshop, North Carolina State University, Raleigh, NC, November 26, 1990.
80. **Aneja, V.P.**, "Southeastern Consortium Intermediate Oxidant Network", SCION Workshop, North Carolina State University, Raleigh, NC, November 26, 1990.
81. **Rodgers, M.O., J.F. Meagher, R.T. McNider, and V.P. Aneja,** "Oxidant formation, and distribution on regional scales", 71st Annual Meeting, The American Meteorological Society, New Orleans, LA, January 13-18, 1991.
82. **Claiborn, C.S. and V.P. Aneja,** "Factors Affecting the hydrogen peroxide content of the atmosphere at high elevation in the Southern Appalachians", 201st. American Chemical Society National Meeting, Atlanta, GA, April 15-19, 1991.
83. **Aneja, V.P., Z. Li, and A. Murthy,** "Surface Ozone and Nitric Acid at Mt. Mitchell, NC," 201 St. American Chemical Society National Meeting, Atlanta, GA, April 15-19, 1991.
84. **Rodgers, M.O., V. P. Aneja, L. Newman, J. Roberts, D. Parrish, F. Fehsenfeld, and M. Trainer,** "1990 SERON Pilot Program,: 201 St. American Chemical Society National Meeting, Atlanta, GA, April 15-19, 1991.

85. Claiborn, C.S. and **V.P. Aneja**, "Analysis of Measurements of Atmospheric Hydrogen Peroxide in the Gas-Phase and in Cloudwater at Mt. Mitchell State Park, NC", EPA-AWMA International Symposium on Measurements of Toxic and Related Air Pollutants, Durham, NC, May 7-10, 1991.
86. Claiborn, C.S. and **V.P. Aneja** and R. G. Carbonell, "Determination and Analysis of Uptake of gaseous Hydrogen Peroxide by Red Spruce Seedlings, Determined by CSTR-Type Chamber Experiments", EPA-AWMA International Symposium on Measurements of Toxic and Related Air Pollutants, Durham, NC, May 7-10, 1991.
87. Li, Z. and **V.P. Aneja**, "Regional and Comparative Analysis of Cloud Chemistry at High Elevations in the Eastern United States", EPA-AWMA International Symposium on Measurements of Toxic and Related Air Pollutants, Durham, NC, May 7-9, 1991.
88. Kim, D.S., and **V.P. Aneja**, "Temporal Variation in Cloud Water Chemistry at Mt. Mitchell, NC, and its relationship to cloud Microphysics", EPA-AWMA International Symposium on Measurements of Toxic and Related Air Pollutants, Durham, NC, May 7-9, 1991.
89. **Aneja, V.P.**, C. Claiborn, Z. Li and A. Murthy, "Trends and Seasonal Variations of High Elevation Surface Ozone, Hydrogen Peroxide and Nitric Acid", 84th Annual AWMA Meeting, Vancouver, BC, June 16-21, 1991.
90. **Aneja, V.P.**, "Environmental Compliance: Answers for the 90's", ABB Flakt Guardsman Workshop, High Point, NC, September 11, 1991.
91. **Aneja, V.P.**, "Southeast Oxidant and Nitrogen Intensive Analysis," Southern Oxidants Study Annual Workshop, Atlanta, GA, November 12-14, 1991.
92. **Aneja, V.P.**, D.S. Kim, Z. Li, C.S. Claiborn, M. Das and M. Rodgers, "Rural Atmospheric Photochemical Oxidants: Trends and Interpretation," American Geophysical Union 1991 Fall Meeting, San Francisco, CA, December 9-13, 1991.
93. **Aneja, V.P.**, "CH<sub>4</sub> and N<sub>2</sub>O Trace Gas Exchange and Interactions in the Tropics," International Global Atmospheric Chemistry Workshop, Research Station of Lamto, Ivory Coast, February 9-14, 1992.
94. Ringler, E., **V.P. Aneja**, C. Kamme, H. Tarnhuvud, and S. Viswanathan, "A ground-based intercomparison of path integrated, differential absorption measurements and conventional point measurements of ambient trace gas concentration," Air and Waste Management Association International Specialty Conference on Optical Remote Sensing and Applications to Environmental and Industrial Safety Problems, Houston, TX, April 5-8, 1992.
95. Adams, A.A. and **V.P. Aneja**, "An observation based analysis of ozone production for urban areas in North Carolina," EPA-AWMA International Symposium on Measurement of Toxic and Related Air Pollutants, Durham, NC, May 3-8, 1992.

96. Das, M. and **V.P. Aneja**, "Trends and Analysis of Hydrogen Peroxide Concentrations in Raleigh", EPA-AWMA International Symposium on Measurement of Toxic and Related Air Pollutants, Durham, NC, May 3-8, 1992.
97. Ringler, E.R. and **V.P. Aneja**, "A ground based intercomparison of path integrated DOAS measurements and conventional point measurements of ambient trace gas concentrations", International Symposium on Environmental Sensing, Berlin, Germany, June 22-26, 1992.
98. **Aneja, V.P.**, "Organic compounds in cloud water collected at a remote continental site," American Geophysical Union Western Pacific Meeting, Hong Kong, August 17-21, 1992.
99. Kim, D.S. and **V.P. Aneja**, "Measurements of odd nitrogen compounds at a rural and an urban site in North Carolina and its correlation with ozone," American Geophysical Union Western Pacific Meeting, Hong Kong, August 17-21, 1992.
100. **Aneja, V.P.**, "Atmospheric-Biospheric Interactions," Air Resources Research Consortium, Raleigh, NC, September 10, 1992.
101. Claiborn, C.S., R.G. Carbonell and **V.P. Aneja**, "Modelling the transport of air pollutants in conifer needles", American Institute of Chemical Engineers Annual Meeting, Miami Beach, Florida, November 1-6, 1992.
102. **Aneja, V.P.**, "Air Toxics Exposures in Mountain Ecosystems," U.S. Environmental Protection Agency, Research Triangle Park, NC, November 16, 1992.
103. **Aneja, V.P.**, "Tropospheric Ozone - Causes and Effects," Sci-Link Workshop, Raleigh, NC, November 20, 1992.
104. Aneja, V.P., "Air Quality in Southern Appalachia," University of North Carolina, Asheville, NC, November 23, 1992.
105. Hartsell, B.E., **V.P. Aneja**, D. Grosjean, E.L. Williams, and E. Grosjean. "Measurements of Ambient PAN Concentrations at Two Sites in Atlanta, Georgia," EPA-AWMA International Symposium on Measurements of Toxic and Related Air Pollutants, Durham, NC, May 1993.
106. Kim, D.S. and **V.P. Aneja**, "Measurements of Reactive Oxidized Nitrogen Compounds at a Rural and an Urban Site in North Carolina and its Correlation with Ozone," EPA-AWMA International Symposium on Measurements of Toxic and Related Air Pollutants, Durham, NC, May 1993.
107. Das, M. and **V.P. Aneja**, "Gaseous Hydrogen Peroxide Concentrations in the Central Piedmont Region of North Carolina," EPA-AWMA International Symposium on Measurements of Toxic and Related Air Pollutants, Durham, NC, May 1993.
108. **Aneja, V.P.**, "Partitioning of NO<sub>y</sub> in the Central Piedmont, NC, Site SONIA," SOS Data Analysis Workshop, Denver, CO, May 1993.

109. **Aneja, V.P.** and **D. Grosjean**, "Peroxyacetyl Nitrate Intercomparison and Trends in Atlanta, GA," SOS Data Analysis Workshop, Denver, CO, May 1993.
110. **Aneja, V.P.**, "Southeast Oxidant and Nitrogen Intensive Analysis," SOS Data Analysis Workshop, Denver, CO, May 1993.
111. Hartsell, B.E. and **V.P. Aneja**, "Characterization of Peroxyacetyl Nitrate (PAN) at the Rural Southern Oxidants Study Site in Central Piedmont North Carolina, Site SONIA," Air and Waste Management Association 86th Annual Meeting, Denver, CO, June 1993.
112. **Aneja, A.P.** and **V.P. Aneja**, "Prevaporation Through Composite Membranes," 11th International Congress of Chemical Engineering, Prague, Czechoslovakia, August 1993.
113. Ringler, E.S. and **V.P. Aneja**, "Remote Sensing of Criteria Pollutants and Volatile Organic Compounds Using Differential Optical Absorption Spectrometer," The First International Oil, Gas, and Petrochemical Congress, Isfahan, Iran, September 1993.
114. **Kim, D.S.** and **V.P. Aneja**, "Characterization of Nitrogen Oxide Fluxes from Soils in the Central Piedmont of North Carolina", International Symposium for Climate Change, Korea Meteorological Conference, Seoul, Korea, October 1993.
115. **Aneja, V.P.** and D.S. Kim, "Trends and Analysis of Ambient NO, NO<sub>y</sub>, CO and Ozone Concentrations in Raleigh, North Carolina," International Conference on Regional Photochemical Measurement & Modeling Studies, San Diego, CA, November 7-12, 1993.
116. Hartsell, B., **V.P. Aneja** and D. Grosjean, "Ambient Peroxyacetyl Nitrate Concentrations and Their Relationship to Ozone in Downtown and Suburban Atlanta," International Conference on Regional Photochemical Measurement & Modeling Studies, San Diego, CA, November 7-12, 1993.
117. **Das, M.** and **V.P. Aneja**, "Correlation of Ozone and Meteorology with Hydrogen Peroxide in Photochemically Non-aged and Aged Air," International Conference on Regional Photochemical Measurement & Modeling Studies, San Diego, CA, November 7-12, 1993.
118. **Edgerton, E.**, **V.P. Aneja**, T. Lee, R. Muldin, J. Riordan, T. Rhyne, and M. Rodgers," Overview of the Southern Oxidants Study - Southeastern Consortium Intermediate Oxidant Network (SOS-SCION)," International Conference on Regional Photochemical Measurement & Modeling Studies, San Diego, CA, November 7-12, 1993.
119. **Apel, E.**, J. Calvert, R. Zika, M. Rodgers, **V.P. Aneja**, and J. Meagher, "Hydrocarbon Measurements During 1992 Southern Oxidants Study Atlanta Intensive: Protocol and Quality Assurance," International Conference on Regional



Photochemical Measurement & Modeling Studies, San Diego, CA, November 7-12, 1993.

120. Lawrimore, J., M. Das, and **V.P. Aneja**, "Vertical Sampling and Analysis of Speciated Non-methane Hydrocarbons for Ozone Control in Urban North Carolina", International Conference on Regional Photochemical Measurement & Modeling Studies, San Diego, CA, November 7-12, 1993.
121. **Aneja, V.P.**, A. Riordan, J. Spaeth, J. Lawrimore, F. Stratton, M. Das and B. Timin, "Determination of the Vertical Structure of the Planetary Boundary Layer and its Relationship to the Distribution of Ozone in the Lower Troposphere", International Conference on Regional Photochemical Measurement & Modeling Studies, San Diego, CA, November 7-12, 1993.
122. **Aneja, V.P.**, W. Robarge, B. Holbrook, and D.S. Kim, "Soil Emissions of NO<sub>x</sub> from the Rural Central Piedmont of North Carolina in U.S.", International Conference on Regional Photochemical Measurement & Modeling Studies, San Diego, CA, November 7-12, 1993.
123. **Zika, R.**, D. Riemer, P. Milne, C. Farmer, A. Bricker, C. Stoneking, J. Pearson, M. Rodgers, R. Imhoff, Z. Li, and **V. Aneja**, "Assessing Horizontal and Vertical Homogeneity of Non-Methane Hydrocarbon Distribution During the Southern Oxidant Study Atlanta 1992 Intensive", International Conference on Regional Photochemical Measurement & Modeling Studies, San Diego, CA, November 7-12, 1993.
124. **Saxena, V.K.**, P.A. Durkee, **V.P. Aneja**, W.P. Robarge, J.D. Grovenstein, K.L. Burns, J.C. Ulman, C.E. Deininger, T.P. DeFelice, and S.P.R. Pasumarti, "Cloud-climate Feedback Mechanisms: A preliminary project report from Mount Mitchell, North Carolina", Conference on Atmospheric Chemistry, American Meteorological Society, Nashville, TN, 23-28 January 1994.
125. **Holbrook, B.D.**, **V.P. Aneja** and W.P. Robarge, "Nitrogen Oxide Fluxes from Soils of Two Piedmont North Carolina Locations", Conference on Atmospheric Chemistry, American Meteorological Society, Nashville, TN, 23-28 January 1994.
126. Kim, D.S. and **V.P. Aneja**, "Trends and Analysis of Ambient NO and NO<sub>y</sub> Concentrations in Raleigh, North Carolina", Conference on Atmospheric Chemistry, American Meteorological Society, Nashville, TN, 23-28 January 1994.
127. **Aneja, V.P.**, "Trace Gas-Aerosol Interactions", Southern Hemisphere Marine Aerosol Characterization Experiment (ACE-1) Workshop, Hobart, Tasmania, Australia, February 7-9, 1994.
128. **Aneja, V.P.**, "Characterization of Emissions of Nitrogen Oxides from Soils of Southeast U.S. Overview of the Project", Intercomparison of Methodologies for Soil NO<sub>x</sub> Emissions Workshop, Raleigh, NC, March 14-15, 1994.

129. **Aneja, V.P.**, "Chamber Technique for the Measurement of NO<sub>x</sub> Flux", Intercomparison of Methodologies for Soil NO<sub>x</sub> Emissions Workshop, Raleigh, NC, March 14-15, 1994.
130. **Robarge, W.P.**, **V.P. Aneja**, V.K. Saxena, B. Holbrook, L. Sullivan, T. Moore, T. Pierce, and C. Geron, "Nitrogen Oxide Fluxes from Agricultural Soils on the Coastal Plain of North Carolina, U.S.A", Global Change and Terrestrial Ecosystems Science Conference, Woods Hole, MA, May 1994.
131. **Holbrook, B.**, **V.P. Aneja**, and W.P. Robarge, "Temporal Variation of Nitrogen Oxide Fluxes from Agricultural Soils in Coastal Plain of North Carolina", International Symposium on Measurement of Toxic and Related Air Pollutants, Durham, NC, May 2-6, 1994.
132. **Lawrimore, J.**, M. Das, and **V.P. Aneja**, "Vertical Sampling and Analysis of NMHCS in Raleigh, NC from a 2000 Foot Tower", International Symposium on Measurement of Toxic and Related Air Pollutants", Durham, NC, May 2-6, 1994.
133. **Aneja, V.P.**, J.H. Lawrimore, M. Das, F. Stratton, T.P. Murray, W.G. Lonneman, and **G.C. Murray**, "Vertical Distributions of Carbonyls for Ozone Control in Urban North Carolina", International Symposium on Measurement of Toxic and Related Air Pollutants, Durham, NC, May 2-6, 1994.
134. **Aneja, V.P.**, M. Das, J. Lawrimore, J.C. Spaeth, and F. Stratton, "Chemical and Physical Vertical Measurements in Urban North Carolina for Ozone Control", Air and Waste Management Association 87th Annual Meeting, Cincinnati, Ohio, June 19-24, 1994.
135. **Aneja, V.P.**, "Deposition of Organic Compounds Via Clouds", Air and Waste Management Association 87th Annual Meeting, Cincinnati, Ohio, June 19-24, 1994.
136. **Aneja, V.P.**, "Measurement and Analysis of the Vertical Distribution and Emissions of Nonmethane Hydrocarbons in Urban North Carolina for Ozone Control", National Institute for Resources and Environment, Tsukuba, Japan, September 1, 1994.
137. **Kim, D.S.** and **V.P. Aneja**, "Measurement and Analysis of Reactive Nitrogen Species in the Rural Troposphere of Southeast United States", International Symposium on Global Atmospheric Chemistry, Fuji-Yoshida, Japan, September 5-9, 1994.
138. **Aneja, V.P.**, W.P. Robarge, V.K. Saxena, B.D. Holbrook, L. Sullivan, T.C. Moore, T. Pierce, and C. Geron, "Characterization of Nitrogen Oxide Fluxes from Agricultural Soils in North Carolina, U.S.A.", International Symposium on Global Atmospheric Chemistry, Fuji-Yoshida, Japan, September 5-9, 1994.
139. **Aneja, V.P.**, "Reactive Nitrogen Species, Fertilization, and Regional Ozone", Kunsan National University, Kunsan, Korea, September 12, 1994.

140. **Aneja, V.P.**, "Nitrogen Compounds in the Atmosphere", Kunsan National University, Kunsan, Korea, September 13, 1994.
141. **Aneja, V.P.**, "Reactive Nitrogen Species in the Southeast U.S. and Regional Ozone", Korea Advanced Institute of Science and Technology, Taejeon, Korea, September 14, 1994.
142. **Aneja, V.P.**, "Raleigh/Durham Summer Ozone and Its Precursor Study", Korea Institute of Science and Technology, Seoul, Korea, September 15, 1994.
143. **Aneja, V.P.**, "The Southern Appalachian Mountains Initiative: SAMI", Air Resources Research Consortium Meeting, Raleigh, NC, September 27, 1994.
144. **Aneja, V.P.**, "Chemical Meteorology Research Program", Air Resources Research Consortium Meeting, Raleigh, NC, September 27, 1994.
145. **Aneja, V.P.**, "Biogenic Nitrogen Oxides Emissions, Fertilization and Regional Ozone", U.S. Environmental Protection Agency, Research Triangle Park, NC, October 5, 1994.
146. **Kim, D.S.** ad **V.P. Aneja**, "Oxides of Nitrogen Species Measurements and Analysis in North Carolina, U.S.A.", Korea Air Pollution Research Association, Pusan, Korea, October, 1994.
147. **Sullivan, L.J.**, T.C. Moore, B.D. Holbrook, **V.P. Aneja**, and W.P. Robarge, "Biogenic Oxides of Nitrogen, Soil Fertilization, and Air Quality", The Fifth Annual Southern Appalachian Man and the Biosphere Conference, Hendersonville, NC, November 14-17, 1994.
148. **Aneja, V.P.**, "Organic Chemical Exposure Via Clouds to Sensitive Ecosystems: A Missing Link to Forest Decline", The Fifth Annual Southern Appalachian Man and the Biosphere Conference, Hendersonville, NC, November 14-17, 1994.
149. **Aneja, V.P.**, "Overview of Project NOVA", Natural emissions of Oxidant precursors: Validation of techniques and Assessment Planning Workshop, Raleigh, NC, March 2-3, 1995.
150. **Aneja, V.P.**, "NCSU Chamber Measurements for Flux of Trace Gases", Natural emissions of Oxidant precursors: Validation of techniques and Assessment Planning Workshop, Raleigh, NC, March 2-3, 1995.
151. **Aneja, V.P.**, "Urban, Regional, and Global Ozone and Air Quality", Sci-Link Teacher Day, Raleigh, NC, March 17, 1995.
152. **Oommen, R.**, **V.P. Aneja**, and A. Riordan, "A relationship between meteorological parameters and high ozone days for the summer of 1994 for the Raleigh Metropolitan Statistical Area (MSA)", The Fourth Annual North Carolina State University Undergraduate Research Symposium, Raleigh, NC, April 18, 1995.

153. Sullivan, L., **V.P. Aneja**, W.P. Robarge, V.K. Saxena, T.C. Moore, J. O'Connor, P. Roelle, T. Price, and C. Geron, "Measurements, Characterization and Effect of Ambient Concentration on Nitric Oxide Fluxes from Agriculturally Managed Soil in the Upper Coastal Plain of North Carolina," Environmental Science Research Fair, U.S. Environmental Protection Agency, Research Triangle Park, NC, April 21, 1995.
154. **Aneja, V.P.**, M. Das, J.H. Lawrimore, and C. Hagerman, "Non-methane hydrocarbons over urban North Carolina," Environmental Science Research Fair, U.S. Environmental Protection Agency, Research Triangle Park, NC, April 21, 1995.
155. Moore, T.C., L.J. Sullivan, **V.P. Aneja**, and W.P. Robarge, "Mixing ratios, Transport and Sources of Oxides of Nitrogen in the Non-Urban Planetary Boundary Layer", International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 16-19, 1995.
156. Sullivan, L.J., T.C. Moore, **V.P. Aneja**, and W.P. Robarge, "Measurements, Characterization and Seasonal Variability of Nitric Oxide Fluxes from Agricultural Soils in the Upper Coastal Plain of North Carolina", International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 16-19, 1995.
157. **Aneja, V.P.**, M. Das, J. Lawrimore, R. Oommen and G. Murray, "Non-Methane Hydrocarbons Over Urban North Carolina", International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 16-19, 1995.
158. **Aneja, V.P.**, A.B. Murthy, W. Battye, R. Battye, and W.G. Benjey, "Trends, Seasonal Variations, and Analysis of Ammonia and Aerosol Concentrations Near the Free Troposphere at Mt. Mitchell, NC, U.S.A.," International Symposium on Atmospheric Ammonia: Emission, Deposition and Environmental Impacts, Department of the Environment, U.K., Oxford, England, October 2-4, 1995.
159. **Aneja, V.P.**, "Overview of Natural emissions of Oxidant precursors: Validation of techniques and Assessment," Project NOVA Annual Workshop, Raleigh, NC, October 16-17, 1995.
160. Roelle, P., J. O'Connor, D.S. Kim, W. Robarge and **V.P. Aneja**, "NO<sub>x</sub> Dynamic Chamber Measurements," Project NOVA Annual Workshop, Raleigh, NC, October 16-17, 1995.
161. Das, M., L. Hagerman, **V.P. Aneja**, and W. Lonneman, "Hydrocarbon gradient measurements," Project NOVA Annual Workshop, Raleigh, NC, October 16-17, 1995.
162. Stratton, F., L. Claxton, **V.P. Aneja**, R.C. Smart, and T. Hughes, "Mutagenic activity of Raleigh air samples at three different elevations before, during and after Tropical Storm Beryl," 13th Annual Fall Meeting, Genotoxicity and Environmental Mutagen Society, Research Triangle Park, NC, October 20, 1995.

163. **Aneja, V.P.**, "Natural oxides of nitrogen: A Review," North American Research Strategy on Tropospheric Ozone, NARSTO, Workshop and Meeting, San Antonio, TX, November 14-16, 1995.
164. **Oommen, R.G., V.P. Aneja, A.J. Riordan and G. Murray**, "Influence of meteorology on ozone behavior in urban North Carolina," American Geophysical Union 1995 Fall Meeting, San Francisco, CA, December 11-15, 1995.
165. **Das, M., V.P. Aneja, J.H. Lawrimore, and R.G. Oommen**, "Vertical Distribution of Non-methane Hydrocarbons over North Carolina," American Geophysical Union 1995 Fall Meeting, San Francisco, CA, December 11-15, 1995.
166. **Aneja, V.P.**, P.A. Roelle, J.R. O'Connor, W.P. Robarge, D.S. Kim, C. Geron, T. Pierce, and B. Gay, "Measurements of nitric oxide flux from intensively managed agricultural soil in the Coastal Plain of North Carolina," American Geophysical Union 1995 Fall Meeting, San Francisco, CA, December 11-15, 1995.
167. **Roelle, P.A., D.S. Kim, J.R. O'Connor, W.P. Robarge, and V.P. Aneja**, "Nitric Oxide Fluxes from Agricultural Soils in the Southeast United States," International Workshop on NO<sub>x</sub> Emissions from Soils and Its Influence on Atmospheric Chemistry, Tsukuba, Japan, March 4 - 6, 1996.
168. **Aneja, V.P.**, W.P. Robarge, S. Arya, V. Saxena, C. Geron, T. Pierce, B. Gay, B. Hicks, W. Luke, T. Meyers, M. Wesley, A. Delany, J. Levine, T. Ellestad, J. Clark, P. Finklestein, B. Doddridge, and J. Pierce, "Project NOVA (Natural Emissions of Oxidant Precursors: Validation of Techniques and Assessment) Overview," International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 7-9, 1996.
169. **Robarge, W.P., V.P. Aneja and Zhongju Li**, "Natural Emissions of Oxidant Precursors: Validation of Techniques and Assessment (Project NOVA 1995) - Site Characterization," International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 7-9, 1996.
170. **Levine, J.S., D.R. Cahoon, Jr., W.R. Cofer III, E.L. Winstead, W.P. Robarge and V.P. Aneja**, "Biogenic Soil Emissions of Nitric Oxide and Nitrous Oxide Using a Closed Static Chamber During the NOVA-95 Experiment," International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 7-9, 1996.
171. **Roelle, P.A., J.R. O'Connor, D.S. Kim, W.P. Robarge, and V.P. Aneja**, "Measurements of Nitric Oxide Flux from Intensively Managed Agricultural Soil in the Coastal Plain of North Carolina," International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 7-9, 1996.
172. **Li, Y., S.P. Arya, and V.P. Aneja**, "Nitric Oxide Fluxes Observed Over a Fertilized Corn Field Micrometeorology and Flux-Gradient Relation of NO-NO<sub>2</sub>-O<sub>3</sub> System Near the Surface," International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 7-9, 1996.

173. Das, Mita, V.P. Aneja, L. Hagerman, W. Lonneman, D. Cook and M. Wesley, "Flux Measurements of Volatile Organic Compounds Over a Corn Field," International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 7-9, 1996.
174. Li, Zhongju, W.P. Robarge, and V.P. Aneja, "Measurement of Soil Nitrous Oxide Flux From an Intensively Managed Agricultural Row Crop in the Lower Coastal Plain Region of North Carolina," International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 7-9, 1996.
175. Aneja, V.P., P.A. Roelle, J.R. O'Connor, and W.P. Robarge, "Biogenic Nitric Oxide Source Strengths," International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 7-9, 1996.
176. Saxena, V.K., V.P. Aneja, T.P. DeFelice, and M. Wesley, "Atmospheric Pollutant Deposition Over a South Central North Carolina Cornfield," International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 7-9, 1996.
177. Oommen, R.G., V.P. Aneja, A.J. Riordan, G.C. Murray, Jr., and T. Manuszak, "Contributions of Meteorology on Ozone Behavior in Urban North Carolina," International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 7-9, 1996.
178. O'Connor, J.R., V.P. Aneja, W. Cornelius, and G. Murray, "A Climatology of Regional Ozone: Meteorological Effects on Ozone Exceedences in the Southeast U.S.," International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 7-9, 1996.
179. Hagerman, L.M. and V.P. Aneja, "Regional Analysis of Non-Methane Hydrocarbons in the Southeastern United States," International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 7-9, 1996.
180. dePollok, F.S., V.P. Aneja, and R.C. Smart, "Mutagenic Activity of Raleigh Air Samples at Three Different Elevations Before, During and After Hurricane Gordon," International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, May 7-9, 1996.
181. Aneja, V.P., "Biogenic nitrogen oxide emissions, reactive nitrogen species, and regional ozone," University of Sydney, Sydney, Australia, May 16, 1996.
182. Aneja, V.P., "Tropospheric ozone: Formation, distribution, effects, and control," University of Sydney, Sydney, Australia, May 16, 1996.
183. Sullivan, L., T.C. Moore, V.P. Aneja, W.P. Robarge, T. Pierce, C. Geron, and B. Gay, "Environmental variables controlling nitric oxide emissions from agricultural soils in the southeast United States," 89th Annual Meeting of Air and Waste Management Association, Nashville, TN, June 23-28, 1996.

184. **Aneja, V.P.** and W.P. Robarge, "Soil-Biogenic NO<sub>x</sub> Emissions and Air Quality," The Sixth International Conference of the Israel Society for Ecology and Environmental Quality Sciences, Jerusalem, Israel, June 30 - July 4, 1996.
185. **Aneja, V.P.**, "Atmospheric Nitrogen Compounds: Emissions, Transport, Transformation, Deposition and Assessment An Overview," Workshop on Atmospheric Nitrogen Compounds, Raleigh, NC, March 10-12, 1997.
186. **Aneja, V.P.**, Y. Li, J. Walker, and J.P. Chauhan, "Atmospheric Ammonia/Nitrogen Compound Emissions and Characterization," Workshop on Atmospheric Nitrogen Compounds, Raleigh, NC, March 10-12, 1997.
187. **Brittig, J.** and **V.P. Aneja**, "Air Quality Related Variables Effecting Ozone Exceedences in the Southeast United States," International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, April 29 to May 1, 1997.
188. **Rickman, J.** and **V.P. Aneja**, "3-Dimensional Video Interpretation of Ozone Process Data," International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, April 29 to May 1, 1997.
189. **Li, Y.**, J. Brittig, J. Rickman, D.S. Kim, W.P. Robarge, and **V.P. Aneja**, "Measurement of nitrogen oxides emission from intensively managed agricultural soil in North Carolina," International Symposium on Measurements of Toxic and Related Air Pollutants, Research Triangle Park, NC, April 29-May 1, 1997.
190. **Aneja, V.P.**, P. Roelle, and W. Robarge, "Contribution of Biogenic Nitric Oxide in Urban Ozone: Raleigh, NC as a Case Study," 90th Annual Meeting of Air and Waste Management Association, Toronto, Canada, June 8-13, 1997.
191. **Das, M.** and **V.P. Aneja**, "Seasonal trends in C<sub>2</sub>-C<sub>5</sub> Non Methane Hydrocarbons and Isoprene Measured at Eight Rural Sites in the Southeastern United States," 90th Annual Meeting of Air and Waste Management Association, Toronto, Canada, June 8-13, 1997.
192. **Aneja, V.P.**, "Atmospheric Nitrogen Compounds: Emissions, Transport, Transformation, Deposition, and Assessment," Animal and Poultry Waste Management Center, North Carolina State University, Raleigh, NC, August 18, 1997.
193. **Li, Y.** and **V.P. Aneja**, "Dynamic chamber measurements of emissions of NO<sub>x</sub> from soybean agricultural soil," NOVA Workshop, U.S. Environmental Protection Agency, Research Triangle Park, NC, August 28, 1997.
194. **Kang, D.** and **V.P. Aneja**, "Flux measurements of volatile organic compounds over a soybean field," NOVA Workshop, U.S. Environmental Protection Agency, Research Triangle Park, NC, August 28, 1997.

195. **Aneja, V.P.**, "Fertilization and Air Quality", 214th American Chemical Society National Meeting, Las Vegas, NV, September 7-11, 1997.
196. Roelle, P., J. O'Connor, W. Robarge, **V.P. Aneja**, and D.S. Kim, "Characterization of Nitric Oxide Emissions from an Intensively Managed Agricultural Soil in North Carolina, U.S.A.," Fifth International Conference Air Pollution 97, Bologna, Italy, September 16-18, 1997.
197. **Aneja, V.P.**, "Sources and Fate of Atmospheric Nitrogen Compounds," America's Clean Water Foundation, Washington, DC 20013, October 15, 1997.
198. **Aneja, V.P.**, Y. Li, J. Walker, **J.P. Chauhan**, G. Murray, and R. McCulloch, "Measurement of ammonia emissions from animal operation in North Carolina, U.S.A." Air and Waste Management Association International Symposium, The Emission Inventory: Planning for the Future, Research Triangle Park, NC, October 28-30, 1997.
199. **Aneja, V.P.**, "Atmospheric emissions, transport, transformation, and deposition of nitrogen compounds in the Neuse River Watershed," Water Resources Research Institute, Raleigh, NC, November 17, 1997.
200. **Aneja, V.P.** and G. Murray, "Sources and fate of atmospheric nitrogen compounds," Nutrients in the Neuse River: Working Towards Solutions, New Bern, NC, December 8-9, 1997.
201. **Aneja, V.P.**, S.P. Arya, W.P. Robarge, B. Gay, C. Geron, T. Pierce, P. Finkelstein, T. Ellested, J. Clarke, D. Delany, M. Wesely, W. Gao, T. Meyers, W. Luke, B. Hicks, J.S. Levine, E. Winstead, and B. Doddridge, "An Overview of Project NOVA 'Natural Emissions of Oxidant Precursors: Validation of Techniques and Assessment'", Fall American Geophysical Union Meeting, San Francisco, CA, December 8-12, 1997.
202. **Gao, W.**, M.L. Wesely, D.R. Cook, R.L. Hart, T.J. Martin, B.G. Doddridge, W. Ball, T.P. Meyers, M.E. Hall, W.T. Luke, A.C. Delany, T. Pierce and **V.P. Aneja**, "Potential Effects of Air Chemistry and Canopy Uptake on Surface NO<sub>x</sub> Fluxes Associated with Soil NO Emission," Fall American Geophysical Union Meeting, San Francisco, CA, December 8-12, 1997.
203. **Li, Y.**, J. Brittig, J. Rickman, D.S. Kim, W.P. Robarge, S.P.S. Arya and **V.P. Aneja**, "Measurement of Nitrogen Oxides Emissions From Soybean Fields Using Dynamic Chamber Technique," Fall American Geophysical Union Meeting, San Francisco, CA, December 8-12, 1997.
204. **Levine, J.S.**, E.L. Winstead, W.P. Robarge and **V.P. Aneja**, "Simultaneous Measurements of Biogenic Soil Emissions of Nitric Oxide and Nitrous Oxide From Fertilized Fields During NOVA-95 and 96," Fall American Geophysical Union Meeting, San Francisco, CA, December 8-12, 1997.



205. Kang, D., **V.P. Aneja**, L. Simon, R. Seila and T. Meyers, "Measurements of Hydrocarbon Air-Surface Exchange Rates Over Soybean," Fall American Geophysical Union Meeting, San Francisco, CA, December 8-12, 1997.
206. Delany, A.C., **V.P. Aneja**, S.P. Arya, W.P. Robarge, Y. Li, W. Gao, M.L. Wesely, D.R. Cook, R.L. Hart, T.J. Martin, B.G. Doddridge, W. Ball, J.S. Levine, E. Winstead, W.T. Luke, K.L. Civerolo, T.P. Meyers, M.E. Hall, J.F. Clarke, T.G. Ellestad, P.L. Finkelstein, B.W. Gay, C. Geron and T. Pierce, "On the Compliance of the Fluxes of Oxides of Nitrogen Determined by Enclosure and by Micrometeorological Methodologies," Fall American Geophysical Union Meeting, San Francisco, CA, December 8-12, 1997.
207. **Aneja, V.P.**, "Sources and Fate of Atmospheric Nitrogen Compounds," College of Agriculture and Life Sciences, Waste Management Seminar Series, North Carolina State University, March 13, 1998.
208. **Aneja, V.P.** and G. Murray, "An Overview of program GNATS (Geoponic Nutrient and Trace Gas Study)," International Nitrogen Conference, the Confer-N-s, Noordwijkerhout, The Netherlands, March 23-27, 1998.
209. **Aneja, V.P.**, L. Harper, R. McCulloch, M. Paerl, W. Robarge, W. Showers, and L. Todd, "Emission, Transport, Transformation, and Deposition of Atmospheric Nitrogen Compounds in North Carolina," International Nitrogen Conference, the Confer-N-s, Noordwijkerhout, The Netherlands, March 23-27, 1998.
210. McCulloch, R.B., G.S. Few, G.C. Murray and **V.P. Aneja**, "Analysis of Ammonia, Ammonium Aerosols and Acid Gases in the Atmosphere at a Commercial Hog Farm in Eastern North Carolina, USA," International Nitrogen Conference, the Confer-N-s, Noordwijkerhout, The Netherlands, March 23-27, 1998.
211. **Aneja, V.P.**, P. Roelle and W.P. Robarge, "Characterization of Biogenic Nitric Oxide Source Strengths in the Southeast United States," International Nitrogen Conference, the Confer-N-s, Noordwijkerhout, The Netherlands, March 23-27, 1998.
212. **Aneja, V.P.**, "Atmospheric Ammonia Emissions and Fate in Eastern North Carolina," Annual North Carolina Water Resources Research Conference, North Carolina State University, Raleigh, NC, April 1, 1998.
213. Nelson, B.W., D. Kang and **V.P. Aneja**, "Measurements and Analysis of Non-Methane Hydrocarbons in the Rural Southeast United States," The Seventh Annual NC State University Undergraduate Research Symposium, The McKimmon Center, Raleigh, NC, April 23, 1998.
214. **Aneja, V.P.**, "Mt. Mitchell, NC, Chemical and Physical Research, 30<sup>th</sup> Annual Air Pollution Workshop, Appalachian State University, Boone, NC, April 20-23, 1998.
215. **Aneja, V.P.**, "Biogenic nitrogen oxides emissions in the Southeastern U.S. and regional ozone," Wadsworth Center, Albany, NY, May 7, 1998.

216. **Aneja, V.P.**, “Ammonia Chemistry in the Atmosphere, Deposition Velocity and Life Times,” North Carolina Atmospheric Nitrogen Science Team Meeting, Mt. Olive, NC, May 28, 1998.
217. **Walker, J.** and **V.P. Aneja**, “Ammonia Wet Deposition and Transport Model,” North Carolina Atmospheric Nitrogen Science Team Meeting, Mt. Olive, NC, May 28, 1998.
218. **Aneja, V.P.**, “Atmospheric nitrogen compounds in North Carolina,” Save our State Forum on Hog Waste and Environmental Quality in North Carolina, Raleigh, NC, June 11, 1998.
219. **Aneja, V.P.**, P.A. Roelle, J.R. O’Connor, and W.P. Robarge “Biogenic nitric oxide source strength in the Southeast United States,” 91<sup>st</sup> Annual Meeting of Air and Waste Management Association, San Diego, CA, June 14-18, 1998.
220. **Aneja, V.P.**, S.P. Arya, W. Robarge, B. Gay, C. Geron, T. Pierce, P. Finkelstein, T. Ellestad, J. Clarke, T. Delaney, M. Wesely, W. Gao, T. Meyers, W. Luke, B. Hicks, J.S. Levine, E. Winstead, and B. Doddridge, “Natural emissions of Oxidant precursors: Validation of techniques and Assessment (NOVA) Project Results and Analysis,” International Symposium on Global Atmospheric Chemistry, Seattle, WA, August 19-25, 1998.
221. **Li, Y.** and **V.P. Aneja**, “Modeling Nitric Oxide Emissions from Agricultural Soils,” EPA-AWMA International Symposium on the Measurement of Toxic and Related Air Pollutants, Cary, NC, September 1-3, 1998.
222. **Kang, D.**, B.W. Nelson, **V.P. Aneja** and J.D. Ray, “Non-Methane Hydrocarbons in the Rural Southeast United States,” EPA-AWMA International Symposium on the Measurement of Toxic and Related Air Pollutants, Cary, NC, September 1-3, 1998.
223. **Aneja, V.P.**, J.P. Chauhan, B. Bunton, B.P. Malik, J. Walker, Y. Li, G. Murray and R. McCulloch, “Ammonia Emissions from Swine Waste Operations in North Carolina,” EPA-AWMA International Symposium on the Measurement of Toxic and Related Air Pollutants, Cary, NC, September 1-3, 1998.
224. **Aneja, V.P.**, “Human Alterations of the Nitrogen Cycle in North Carolina: Causes and Consequences,” Pamlico-Tar River Foundation Annual Meeting, Washington, NC, September 15, 1998.
225. **Aneja, V.P.**, “Looking Back, Looking Forward,” Research Triangle Park Chapter, Air & Waste Management Association, Research Triangle Park, NC, September 16, 1998.
226. **Aneja, V.P.**, “Measurements of ammonia emissions from swine lagoons using dynamic chamber system,” Ammonia Emissions Intercomparison Meeting, North Carolina State University, Raleigh, NC, October 1, 1998.
227. **Aneja, V.P.**, “Intensive Livestock Operations and Air Quality in North Carolina,” Presentation to Sec David Bruton, Raleigh, NC, October 8, 1998.

228. **Aneja, V.P.**, “Characterization of biogenic oxides of nitrogen emissions in Continental North America during the winter/spring transition,” Workshop on Tropospheric Ozone Production about the Spring Equinox, National Center for Atmospheric Research, Boulder, CO, October 19-22, 1998.
229. **Walker, J.T.** and **V.P. Aneja**, “Atmospheric transport and wet deposition of ammonium in North Carolina,” 20<sup>th</sup> Annual Technical Meeting, The National Atmospheric Deposition Program (NADP), St. Petersburg, FL, October 26-29, 1998.
230. **Aneja, V.P.**, “Emissions of Atmospheric Nitrogen Compounds and its Fate in North Carolina”, Tar-Pam River Basin Atmospheric Emissions Stockholders Public Meeting, Rocky Mount, NC, November 24, 1998
231. **Aneja V.P.**, “ Emerging Environmental Health Issues”, Annual State Director’s Conference “The Changing Face of Public Health”, NC Department of Health and Human Service, Raleigh, N.C., January 21-22, 1999
232. **Aneja, V.P.**, J.P. Chauhan, J. Walker and D. Nelson, “Ammonia emission and deposition,” Animal Waste Management Symposium, North Carolina State University, Raleigh, NC, January 27-28, 1999.
233. **Aneja V.P.**, “ Nitrogen Research Program at NC State University”, A Resources Research Consortium Symposium, Centennial Campus, North Carolina State University, Raleigh NC, February 10, 1999.
234. **Aneja V.P.**, “ Atmospheric monitoring of emission and deposition of nitrogen”, US EPA Multi-Media Modeling Workshop, Research Triangle Park, NC, March 23-24, 1999.
235. **Aneja V.P.**, J.P. Chauhan and J. Walker, “ Characterizations of ammonia emissions in North Carolina from swine Lagoons”, Annual North Carolina Resources Research Conference, Raleigh, NC, March 25, 1999.
236. **V.P. Aneja**, “Overview of Atmospheric Nitrogen Compounds,” International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, Chapel Hill, NC, June 7-9, 1999.
237. **V.P. Aneja**, B. Bunton, J.P. Chauhan, B.P. Malik, J. Walker, Y. Li, and George C. Murray, Jr., “Ammonia emissions from swine waste operations in North Carolina,” International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, Chapel Hill, NC, June 7-9, 1999.
238. **Stephen G. Few**, Nitin Agrawal, Ronald B. McCulloch, **Viney P. Aneja** and P. Roelle, “Estimating ammonia emissions from remotely sensed data,” International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, Chapel Hill, NC, June 7-9, 1999.

239. **Viney P. Aneja**, Bok Haeng Baek, and Ronald B. McCulloch, “A neural network model to estimate ammonia in the atmosphere,” International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, Chapel Hill, NC, June 7-9, 1999.
240. Dena Nelson, John Walker and **Viney P. Aneja**, “Trends in ammonium concentration in precipitation and local ammonia emissions at a Coastal Plain site in North Carolina, USA,” International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, Chapel Hill, NC, June 7-9, 1999.
241. John Walker, **V.P. Aneja** and D. Dickey, “Source-receptor modeling of wet ammonium deposition in North Carolina, USA,” International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, Chapel Hill, NC, June 7-9, 1999.
242. Paul A. Roelle, **Viney P. Aneja**, Bruce Gay, Tom Pierce, and Chris Geron, “Seasonal variations of nitric oxide fluxes from diverse physiographic agricultural soils in North Carolina,” International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, Chapel Hill, NC, June 7-9, 1999.
243. S. Pal Arya, **Viney P. Aneja**, Barry T. Peterson, and Nitin Agrawal, “Measurement of ammonia/ammonia flux and dry deposition velocity above natural surfaces in Eastern North Carolina,” International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, Chapel Hill, NC, June 7-9, 1999.
244. B.P. Malik, **V.P. Aneja**, and J.H. Overton, “Coupled transport and chemical reaction model for ammonia emission at waste treatment lagoon-atmospheric interface,” International Workshop on Atmospheric Nitrogen Compounds II: Emissions, Transport, Transformation, Deposition and Assessment, Chapel Hill, NC, June 7-9, 1999.
245. **Aneja, V.P.**, “Biogenic Nitrogen Oxide Emissions, Fertilization and Regional Ozone,” Istituto Sperimentale Per La Nutrizione Delle Piante, Rome, Italy, June 15, 1999.
246. **Aneja V.P.**, P. Roelle, and J. Pierce, “Biogenic air pollution”, International Conference on Microbiology and Conservation, Firenze, Italy, June 16-20, 1999.
247. Roelle, P.A., **V.P. Aneja**, and W.P. Robarge, “Seasonal variations of nitric oxide fluxes from diverse physiographic agricultural soils in North Carolina,” 92<sup>nd</sup> Annual Meeting of Air and Waste Management Association, St. Louis, MO, June 20-24, 1999.
248. **Aneja, V.P.**, “Atmospheric Nitrogen Compounds in North Carolina and its Fate,” U.S. Environmental Protection Agency, Research Triangle Park, NC, July 13, 1999.

249. **Aneja, V.P.**, "Air Pollution Impact of Intensive Livestock Operations," 1<sup>st</sup> Annual Public Health Policy Symposium on Public Health Impact of Intensive Livestock Operations, Raleigh, NC, July 15-16, 1999.
250. **Roelle, P.A., V.P. Aneja,** W.P. Robarge, B. Gay, T. Pierce, and C. Geron, "Seasonal variations of nitric oxide fluxes from diverse physiographic agricultural soils in North Carolina," Sixth Scientific Conference on the International Global Atmospheric Chemistry Project (IGAC), Bologna, Italy, September 13-17, 1999.
251. **Aneja, V.P.**, "Summary of Recent Findings on Ammonia Emissions, Deposition and Transformations from Pork Operations in North Carolina," Annual Conference of the South Atlantic States Section Air & Waste Management Association, Virginia Beach, VA, September 28-29, 1999.
252. **Aneja, V.P.**, "Intensive Livestock Operations and Air Quality in North Carolina," presentation to the U.S. Environmental Protection Agency's Assistant Administrator, Office of Water Quality, Washington, D.C., October 22, 1999.
253. **Walker, J., V.P. Aneja,** and D. Nelson, "Trends in ammonium concentrations in precipitation and atmospheric ammonia emissions at a Coastal Plain site in North Carolina, USA," 22<sup>nd</sup> Annual National Atmospheric Deposition Program (NADP) Meeting, Sacramento, CA, October 25-28, 1999.
254. **Aneja, V.P.**, "Changing Air Quality in North Carolina Associated with Intensively Managed Animal Agriculture," USDA-Agricultural Air Quality Task Force, Research Triangle Park, NC, November 10, 1999.
255. **Kang, D., V.P. Aneja,** R. Seila, W. Lonneman, and T. Meyers, "Air-Surface Exchange Rates of Hydrocarbons over Soybean," 1999 AGU Fall Meeting, San Francisco, CA, December 13-17, 1999.
256. **Arya, S.P., V.P. Aneja,** B.T. Peterson, N. Agrawal, and D. Nelson, "An Experimental Study of the Emission and Dry Deposition of Ammonia over Natural Surfaces in Eastern North Carolina," 80<sup>th</sup> American Meteorological Society Annual Meeting and 11<sup>th</sup> Joint Conference on Applications of Air Pollution Meteorology, Long Beach, CA, January 9-14, 2000.
257. **Aneja, V.P.**, "Air Quality Changes Associated with Hurricane Floyd", NC Department of Health and Human Services Annual NC State Health Director's Conference, Raleigh, NC, January 20-21, 2000.
258. **Aneja, V.P.**, "Update on research on the Atmospheric Deposition of Nitrogen", Testimony to the Environmental Review Commission, General Assembly of North Carolina, Raleigh, NC, February 17, 2000.
259. **Yablonsky, R.M. and V.P. Aneja,** "Danger in New Delhi: Understanding when and why Ambient Carbon Monoxide in New Delhi, India Exceeds the National Ambient Air Quality Standard", 2000 North Carolina State University Undergraduate Research Symposium, Raleigh, NC, April 27, 2000.

260. Kang, D., **V.P. Aneja**, R.G. Zika and J.D. Ray, "Non-methane Hydrocarbons in Big Meadows, Shenandoah National Park, VA, AGU 2000 Spring Meeting, Washington, D.C., May 30-June 2, 2000.
261. Aneja, V.P., P.A. Roelle, S. Baker, Q. Tong, N. Watkins, and R. Yablonsky, "Measurements and Analysis of Criteria Pollutants in New Delhi, India, and the National Ambient Air Quality Standard," Workshop on Air Quality Index and Pollution Inventory for the City of Delhi, New Delhi, India, June 6-8, 2000.
262. Roelle, P.A., **V.P. Aneja**, and J. Peirce, "Characterization of Nitric Oxide Emissions from Agricultural Soils Amended with Biosolids", 93<sup>rd</sup> Annual Meeting of Air and Waste Management Association, Salt Lake City, UT June 18-23, 2000.
263. Aneja, V.P., "Environment, Ecology, and Health: One North Carolina – Our Common Future", Ecology and Health Conference 2000, Raleigh, NC, June 28-29, 2000.
264. Aneja, V.P., "B.P. Malik, Q. Tong, D. Kang, and J.H. Overton, "Measurement and Modeling of Ammonia Emissions at Waste Treatment Lagoon – Atmospheric Interface", The Sixth International Conference on Air-Surface Exchange of Gases and Particles, Edinburgh, UK, July 3-7, 2000.
265. Roelle, P.A., **V.P. Aneja**, and J. Peirce, "Nitric Oxide Emissions form Soils Amended with Municipal Waste Biosolids", The Sixth International Conference on Air-Surface Exchange of Gases and Particles, Edinburgh, UK, July 3-7, 2000.
266. Aneja, V.P., "Measurement and Modeling of Nitrogen Compound Emissions During Biogeochemical cycling", Royal Meteorological Society, 150<sup>th</sup> Anniversary Conference, Cambridge, UK, July 10-14, 2000.
267. Roelle, P.A., and **V.P. Aneja**, "Measurement and Modeling of Biogeochemical Cycling of Nitrogen Compounds", Royal Meteorological Society, 150<sup>th</sup> Anniversary Conference, Cambridge, UK, July 10-14, 2000.
268. Aneja, V.P., "Environmental Impacts of an Intensive Livestock Operation: Air Quality Impacts," Intensive Livestock Operations (ILOs) Workshop, Wilmington, NC, August 2-4, 2000.
269. Baek, B., **V.P. Aneja**, R.B. McCulloch, G. C. Murray, "Measurement and Analysis of Ammonia, Acid Gases, and Fine Particles in the Atmosphere at North Carolina Commercial Hog Farm", International Symposium on the Measurement of Toxic and Related Air Pollutants, Research Triangle Park, NC, September 12-14, 2000.
270. Nelson, D.R., **V.P. Aneja**, and J.H. Walker, "Trends in Agricultural Ammonia Emissions and Ammonium Deposition in the Southeastern United States", International Symposium on the Measurement of Toxic and Related Air Pollutants, Research Triangle Park, NC, September 12-14, 2000.

271. Roelle, P.A., S. Aneja, and **V.P. Aneja**, “Measurement and Modeling of Nitric Oxide Emissions from Biosolids Amended Soils”, International Symposium on the Measurement of Toxic and Related Air Pollutants, Research Triangle Park, NC, September 12-14, 2000.
272. Sutton, M.A., W.A.H. Asman, J.A. van Jaarsveld, K. Acker, **V.P. Aneja**, J. Duyzer, L. Horvath, S. Paramonov, M. Mitosinkova, Y.S. Tang, B. Achermann, T. Gauger, J. Bartniki, A. Neftel, J.W. Erisman, “Establishing the Link Between Ammonia Emission Control and Measurements of Reduced Nitrogen Concentrations and Deposition”, UNECE Ammonia Expert Group Meeting, Berne, Switzerland, September 18-20, 2000.
273. **Aneja, V.P.**, P.A. Roelle, and Y. Li, “Effect of Environmental Variables on NO Emissions from Agricultural Soils”, International on-line-conference on Nitrogen Emissions from soils, Austrian Federal Government of Science, Vienna, Austria, October 2000.
274. Roelle, P.A., and **V.P. Aneja**, “Characterization of Sources of Biogenic Atmospheric Ammonia”, International Conference on Atmospheric Sciences and Applications to Air Quality (ASAAQ) and Exhibition, Taipei, Taiwan, October 31-November 2, 2000.
275. Roelle, P.A., S., Aneja, and **V.P. Aneja**, “Nitric Oxide Emissions from Biosolid Amended Soils”, 2000 Annual Meeting and International Conference of the American Institute of Hydrology, Research Triangle Park, NC, November 5-8, 2000.
276. **Aneja, V.P.**, B.P. Malik, Q. Tong, D. Kang, and J.H. Overton, “Characterizing Ammonia Emissions at Waste Treatment Lagoon – Atmospheric Interface”, 2000 Annual Meeting and International Conference of the American Institute of Hydrology, Research Triangle Park, NC, November 5-8, 2000.
277. **Aneja, V.P.**, “Characterization of Atmospheric Ammonia Emissions in North Carolina,” Duke University, School of the Environment, Durham, NC, November 17, 2000.
278. **Aneja, V.P.**, “Environmental Sciences at North Carolina State University,” Oak Ridge National Laboratory, Oak Ridge, TN, March 15-16, 2001.
279. **Aneja, V.P.**, “Intensively Managed Swine Agriculture in North Carolina: Current Technology and Environmental Consequences.” Conference on Trends in Environmental Improvement: French and American Regional Approaches, Rennes, France, May 16, 2001.
280. **Aneja, V.P.**, “Intensive Swine Operations and the Environment in North Carolina, U.S.A.,” Conference on Trends in Environmental Improvement: French and American Regional Approaches, Rennes, France, May 14, 2001.
281. **Aneja, V.P.**, “Assessment of Environmental and Ecological Changes in Eastern North Carolina,” Conference on Environmental Management in the Swine Industry, Paris, France, May 16, 2001.

282. **Aneja, V.P.**, “Environmental Assessment Associated with Intensively Managed Swine Agriculture in North Carolina,” Conference on Amélioration de la qualité de l’eau, Lille, France, May 18, 2001.
283. **Phillips, S.B.**, S.P. Arya, and **V.P. Aneja**, “Estimates of Ammonia Flux and Dry Deposition Velocity from Near-Surface Concentration Gradient Measurements over Natural Surfaces in North Carolina,” 94<sup>th</sup> Annual Conference of Air and Waste Management Association, Orlando, Florida, June 24-28, 2001.
284. **Baek, B.**, **V.P. Aneja**, and G.C. Murray, “Measurement, Analysis, and Modeling of the relationship between Ammonia, Acid Gases, and Fine Particles,” 94<sup>th</sup> Annual Conference of Air and Waste Management Association, Orlando, Florida, June 24-28, 2001
285. **Aneja, V.P.**, “Swine Waste Management in North Carolina: Current Technology and Environmental Consequences”, U.S. Agricultural Air Quality Task Force, Denver, CO, July 18, 2001.
286. **Roelle, P.A.**, and **V.P. Aneja**, “Modeling of ammonia emissions from soils”, Second International Nitrogen Conference (N 2001), Potomac, Maryland, October 14-18, 2001.
287. **Baek, B.H.**, and **V.P. Aneja**, “Measurement, Analysis, and Modeling of the relationship between ammonia, acid gases, and fine particles”, Second International Nitrogen Conference (N 2001), Potomac, Maryland, October 14-18, 2001.
288. **Kang, D.**, **V.P. Aneja**, R. Mathur, and J. Ray, “Non-methane hydrocarbons and ozone in the rural Southeast United States national parks: A model sensitivity analysis and its comparison with measurements”, American Geophysical Union Fall Meeting, San Francisco, CA, December 10-14, 2001.
289. **Roelle, P.A.**, and **V.P. Aneja**, “Measurement and modeling NO emissions from biosolid-amended soils,” The 82<sup>nd</sup> Annual American Meteorological Society Annual Meeting, Orlando, FL, January 14-17, 2002.
290. **Aneja, V.P.**, “Measurement and Modeling of ammonia emissions from confined animal feeding operations”, Seminar, Duke University, Durham, NC, February 4, 2002.
291. **Aneja, V.P.**, “Program OPEN (Odor, Pathogens, and Emissions of Nitrogen),” North Carolina State University, Raleigh, NC, March 1, 2002.
292. **Aneja, V.P.**, “Ammonia, odor, and pathogen emissions from swine operations”, Animal and Poultry Waste Management Center, Raleigh, NC, March 14, 2002.
293. **Tong, Q.**, D. Kang, **V.P. Aneja**, and J.D. Ray, “Measurement, modeling, and analysis of ozone, hydrocarbons and other trace gases in the Southeast United States National



Parks,” 4<sup>th</sup> International Research Exposition, North Carolina State University, Raleigh, N.C., March 19, 2002.

294. Phillips, S.B., **V.P. Aneja**, and S.P. Arya, “Ammonia emission and dry deposition fluxes from an animal agricultural facility in Eastern North Carolina,” Water Resources Research Institute Animal Meeting: Airborne Water Pollutants, Raleigh, N.C., April 9, 2002.
295. Aneja, S., P.W. Westerman, **V.P. Aneja**, and H. Arkinson, “An integrated study for measuring and evaluating atmospheric concentrations of ammonia from a potential environmentally superior technology for swine waste management,” 11<sup>th</sup> Annual Undergraduate Research Symposium, The McKimmon Center, North Carolina State University, Raleigh, N.C., April 18, 2002.
296. Phillips, S.B., S.P. Arya, and **V.P. Aneja**, “The emission and dry deposition fluxes of ammonia downwind of an intensively managed animal agricultural facility,” 12th Joint Conference on the Application of Air Pollution Meteorology with the Air & Waste Management Association, Norfolk, VA, May 20-24, 2002.
297. Phillips, S.B., S.P. Arya, **V.P. Aneja**, “Measurement and modeling of ammonia flux and dry deposition velocity from near-surface concentration gradient measurements over natural surfaces in North Carolina,” 95th Annual Conference of Air and Waste Management Association, Baltimore, MD, June 24-28, 2002.
298. Tong, Q., **V.P. Aneja**, and J.D. Ray, “Trace gases in the Great Smoky Mountains National Parks: Measurement, Analysis, and Sources Identification,” 95th Annual Conference of Air and Waste Management Association, Baltimore, MD, June 24-28, 2002.
299. Arkinson, H., and **V.P. Aneja**, “Validation of a coupled mass transfer and chemical reaction model for ammonia flux across a gas-liquid interface,” 95th Annual Conference of Air and Waste Management Association, Baltimore, MD, June 24-28, 2002.
300. Baek, B.H., and **V.P. Aneja**, “Estimation of Equilibrium Time Constant for Gas-to-Particle Conversion Based on Observational Analysis,” 95th Annual Conference of Air and Waste Management Association, Baltimore, MD, June 24-28, 2002.
301. Aneja, V.P., “Atmospheric Nitrogen Emissions and Impacts from Livestock Production,” USDA-Natural Resources Conservation Service, Washington, D.C., July 24, 2002.
302. Tong, Q., **V.P. Aneja**, and J.D. Ray, “Non-methane hydrocarbons and ozone in the rural Southeast United States National Parks: A model sensitivity analysis and its comparison with measurements,” 7<sup>th</sup> Scientific Conference of the International Global Atmospheric Chemistry (IGAC), Hersonissos, Crete, Greece, September 18-25, 2002.

303. Roelle, P. and **V.P. Aneja**, "Characterization of biogenic ammonia emissions," 7<sup>th</sup> Scientific Conference of the International Global Atmospheric Chemistry (IGAC), Hersonissos, Crete, Greece, September 18-25, 2002.
304. Aneja, V.P., "Ammonia emissions from confined animal feeding operations (CAFO's) and its coupling to fine particulate matter (PM fine)," Air Quality Opportunities in the 2002 Farm Bill, USDA-NRCS Air Quality Workshop, St. Louis, MO, November 5-7, 2002.
305. Tong, Q., D. Kang, **V.P. Aneja**, and J.D. Ray, "Measurement and Modeling of Ozone, its Key Precursors, and Other Trace Gases in the Southeast United States National Parks," A&WMA Annual South Atlantic States Section Meeting, NC, December 4, 2002.
306. Wang, B., Tong, Q., and **V.P. Aneja**, "Characterizations of fine particulate matter in the Southeast United States," A&WMA Annual South Atlantic States Section Meeting, NC, December 4, 2002.
307. Semunegus, H., S.P. Arya, **V.P. Aneja**, D-S Kim, W. Robarge, and H. Arkinson. "Characterization of Ammonia Emissions from Environmentally Superior Technologies from Swine Facilities". NOAA's Fourth Annual Expanding Opportunities Conference. Florida A&M University, Florida. March 30-April 2, 2003.
308. Aneja, V.P., "Chemical Coupling between Atmospheric Ammonia, Acid Gases, and Particular Matter (PM<sub>fine</sub>)," The University of Calgary, Calgary, Canada, April 4, 2003.
309. Aneja, V.P., "Airborne Water Pollutants," North Carolina Water Resources Association, Raleigh, NC, April 7, 2003.
310. Aneja, V.P., "VOCs in the Atmosphere," Carolina Air Pollution Control Association 34<sup>th</sup> Annual Meeting, Asheville, NC, April 23-25, 2003.
311. Aneja, V.P., "Chemical Coupling between Atmospheric Ammonia, Acid Gases, and Particular Matter (PM<sub>fine</sub>)," Indian Institute of Technology, Kanpur, India, May 16, 2003.
312. Kang, D., **V.P. Aneja**, R. Mathur, and J.D. Ray, 2003, "Measurements and Modeling of Regional Air Quality in Three Southeast United States National Parks", 26<sup>th</sup> NATO/CCMS International Technical Meeting on Air Pollution Modeling and its Applications", Istanbul, Turkey, May 26-30, 2003.
313. Aneja, V.P., D.S. Kim, S.P. Arya, W. Robarge, P. Westerman, M. Williams, D. Dickey, H. Arkinson, H. Semunegus, J. Blunden, M. Sobsey, L. Todd, G. Ko, W. Verkruyse, K. Mottus, C. Likirdopulos, O. Simmons, S. Schiffman, and B. Graham, 2003, "In Intergrated Study of the Emissions of Ammonia, Odor and Odorants, and Pathogens and Related Contaminants from Potential Environmentally Superior Technologies for Swine Facilities: Program OPEN (Odor, Pathogens, and Emissions of Nitrogen), International Symposium on Gaseous and Odorous Emissions from Animal Production Facilities", Proceedings of the International Symposium on Gaseous and

Odour Emissions from Animal Production Facilities, Horsens, Denmark, June 1-4, 2003.

314. **Aneja, V.P.**, “Chemical coupling between atmospheric ammonia, acid gases, and particulate matter (PM<sub>fine</sub>)”, Catawba College, NC, March 16, 2004.
315. **Blunden, J., V.P. Aneja**, and W. Lonneman, “Characterization of non methane volatile organic compounds at swine facilities in Eastern North Carolina”, Symposium on Air Quality Measurement Methods and Technology, Research Triangle Park, NC, April 19-22, 2004.
316. **Aneja, V.P.**, “Chemical coupling between atmospheric ammonia, acid gases, and particulate matter (PM<sub>fine</sub>)”, Colorado State University, April 29, 2004.
317. Phillips, S.B., **S. Pal Arya, V. P. Aneja**, "Measurement and Modeling of Ammonia Flux and Deposition Velocity over Natural Surfaces in Eastern North Carolina" 13th Joint Conference on the Application of Air Pollution Meteorology with the Air and Waste Management Association (A&WMA), Vancouver, British Columbia, Canada, 23-27 August 2004.
318. **Semunegus, H., S.P. Arya, V.P. Aneja, D.S. Kim, L.A. Todd, K. Williams, W. Verkrujisse, D.A. Dickey, L.A. Stefanski, H. Arkinson, D. Sandor**, “Comparative Assessment of Ammonia Emissions from Environmentally Superior Technologies for Swine Facilities”, 97<sup>th</sup> Annual Air and Waste Management Association Conference, Indianapolis, IN, June 21-25, 2004.
319. Allen, C. and **Viney P. Aneja**, “Adaptation of existing partition and transport models to predict VOC release from agricultural applications of pesticides”, USDA Agricultural Air Quality Task Force Meeting, Phoenix, AZ, June 29, 2004.
320. Blunden, J., **V. P. Aneja**, and W.A. Lonneman, “Characterization of biogenic non methane volatile organic compounds from confined animal feeding operations”, 13<sup>th</sup> World Clean Air and Environmental Protection Congress and Exhibition, London, U.K., August 22-27, 2004.
321. **Aneja, V.P.**, D. Nelson, P. Roelle, J. Walker and W. Battye, "Agricultural ammonia emissions and ammonium concentrations associated with precipitation in the southeast United States", 2004 Annual NADP Meeting, Halifax, Nova Scotia, Canada, September 21-24, 2004.
322. **Aneja, V.P.**, J. Blunden, C.S. Claiborn, and H. H. Rogers, “Dynamic chamber system to measure gaseous compounds emissions and atmospheric-biospheric interactions”, NATO Advanced Research Workshop, Environmental Simulation Chambers: Application to Atmospheric Chemical Processes, Zakopane, Poland, October 1-4, 2004.
323. **Tong, Q., D. Kang, V.P. Aneja**, and J.D. Ray, “Modeling and analysis of ozone and nitrogen oxides in the Southeast United States National Parks”, 27<sup>th</sup> NATO

International Technical Meeting on Air Pollution Modeling and its Applications, Banff Centre, Alberta, Canada, October 25-29, 2004.

324. Robarge, W., **V.P. Aneja**, P. Arya, M. Sobsey, O. Simmons, L. Todd, K. Mottus, S. Schiffman, "Evaluating Emissions of Ammonia, Odor, and Pathogens from Proposed Environmentally Superior Technologies for Swine Waste", Soil Science Society of America 68<sup>th</sup> Annual Meeting, Seattle, Washington, October 31-November 4, 2004.
325. **Aneja, V.P.**, "The environmental consequences of altered nitrogen cycling resulting from animal agricultural production", Duke University, NC, November 19, 2004.
326. **Aneja, V.P.**, "Air Quality and Intensively Managed Agriculture", College of Agriculture and Life Sciences Waste Management Programs, North Carolina State University, Raleigh, NC 27695, January 31, 2005.
327. Bajwa, K., **V.P. Aneja**, S.Pal Arya, C. Allen, "Estimating ammonia emissions from lagoon-atmosphere interface by coupled mass transfer and chemical reaction model and WATER9 model", 2005 Particulate Matter Supersites Program and Related Studies, American Association for Aerosol Research International Specialty Conference, Atlanta, GA, February 7-11, 2005.
328. Niyogi, D., K. Alapaty, S.B. Phillips and **V.P. Aneja**, "An ecological scheme for deposition velocity estimates for regional air quality modeling", 2005 Particulate Matter Supersites Program and Related Studies, American Association for Aerosol Research International Specialty Conference, Atlanta, GA, February 7-11, 2005.
329. Goetz, S., **V.P. Aneja**, H. Kimball, and J. Steger, "Measurement and analysis of fine particulate matter (PM<sub>fine</sub>) in North Carolina", 2005 Particulate Matter Supersites Program and Related Studies, American Association for Aerosol Research International Specialty Conference, Atlanta, GA, February 7-11, 2005.
330. Phillips, S. B., S.P. Arya, and **V.P. Aneja**, "Estimating ammonia flux and dry deposition velocity over natural surfaces from an intensively managed animal agricultural facility in North Carolina", 2005 Particulate Matter Supersites Program and Related Studies, American Association for Aerosol Research International Specialty Conference, Atlanta, GA, February 7-11, 2005.
331. Rumsey, I.C., **V.P. Aneja**, and S.P. Arya, "Ammonia emissions from North Carolina hog farms: Lagoon and spray technology and potential environmentally superior technologies", 2005 Particulate Matter Supersites Program and Related Studies, American Association for Aerosol Research International Specialty Conference, Atlanta, GA, February 7-11, 2005.
332. **Aneja, V.P.**, D. Nelson, P. Roelle, J. Walker and W. Battye, "Agricultural ammonia emissions and ammonium deposition associated with precipitation in the southeast United States", 2005 Particulate Matter Supersites Program and Related Studies, American Association for Aerosol Research International Specialty Conference, Atlanta, GA, February 7-11, 2005.

333. **Aneja, V.P.**, “Nitrogen Emissions and Intensively Managed Agriculture”, 2005 North Carolina Environmental Conference, Greenville, NC, March 7, 2005.
334. **Arya, S. Pal, V.P. Aneja**, D.S. Kim, H. Semunegus, and D.A. Dickey, “Characterizing ammonia emissions from swine waste treatment lagoons in Eastern North Carolina”, ASAAQ 2005, American Meteorological Society, San Francisco, CA, April 27-29, 2005.
335. **Aneja, V. P.**, “Characterization and Fate of Ammonia and Hydrogen Sulfide from Animal Feeding Operations: Their Emissions, Transport, Transformation, Deposition, and Impact on Fine Particulate Matter (PM<sub>fine</sub>)”, US Department of Agriculture, NRI-Air Quality, All Investigator Meeting – May 12, 2005.
336. Blunden, J., **V. P. Aneja**, and W.A. Lonneman, “Characterization of non-methane volatile organic compounds at confined animal feeding operations using environmentally superior waste treatment technologies”, 7th World Congress of Chemical Engineering, Glasgow, Scotland, July 10-14, 2005.
337. **Aneja, V.P.**, B. Wang, Q. Tong, H. Kimball, and J. Steger, “Chemical Characterization and Source Analysis of Fine Particulate Matter (PM<sub>2.5</sub>) in North Carolina, U.S.A.”, 7th World Congress of Chemical Engineering, Glasgow, Scotland, July 10-14, 2005.
338. Occhipinti, C., **V.P. Aneja**, W. Showers, D. Niyogi, “Isotopic and Back Trajectory Analysis on Rainfall Chemistry for Developing Source-Receptor Relationships in Fine Particulate Matter Formation”, NADP 2005 Annual Meeting: Science Supporting Resource Management, Jackson, Wyoming, September 27-30, 2005.
339. Konarik, S., **V.P. Aneja**, and D. Niyogi, “Trends in Agricultural Ammonia Emissions and Ammonium Concentrations in Precipitation over Southeast and Midwest United States”, NADP 2005 Annual Meeting: Science Supporting Resource Management, Jackson, Wyoming, September 27-30, 2005.
340. **Rumsey, I.C., K.S. Bajwa, V.P. Aneja**, and S.P. Arya, “Measurements and modeling of ammonia emissions from North Carolina hog farms”, 2005 Animal Waste Management Symposium, Research Triangle Park, NC, October 5-7, 2005.
341. **Aneja, V.P.**, S.P. Arya, D.S. Kim, I.C. Rumsey, W.P. Robarge, D. Dickey, L.S. Stefanski, H. Semunegus, H.L. Arkinson, K.S. Bajwa, W.W. Stephens, S.B. Goetz, L. Todd, and K. Mottus, “Characterizing ammonia emissions from Conventional Lagoon and Spray Technology and Potential Environmentally Superior Technologies for Hog Farms”, 2005 Animal Waste Management Symposium, Research Triangle Park, NC, October 5-7, 2005.
342. **Wu, S.-Y.**, S. Krishnan, J.-L. Hu, C. Misenis, Y. Zhang, **V. P. Aneja**, and R. Mathur, 2005, Simulating Atmospheric Fate of Ammonia in Southeast U.S. using CMAQ with a 4-km Resolution, presented as a poster at the 2005 Models-3 Workshop, September 26-28, Chapel Hill, NC

343. Krishnan, Srinath , Shiang-Yuh Wu, Danny Hamilton, Yang Zhang, **Viney P. Aneja**, Mike Abraczinskas, and George Bridgers, “Application and Evaluation of MM5 for North Carolina with a 4-km Horizontal Grid Spacing” 14<sup>th</sup> Joint Conference on the Application of Air Pollution Meteorology with the AWMA, Atlanta, GA, January 2006.
344. Arya, S.P., **V.P. Aneja**, I. Rumsey, and H. Semunegus, “A comparative assessment of ammonia emissions from water-holding structures at swine facilities with different technologies for animal waste treatment”, 14<sup>th</sup> Joint Conference on the Application of Air Pollution Meteorology with the AWMA, Atlanta, GA, January 2006.
345. Konarik, S., **V. P. Aneja**, and D. Niyogi, “Precipitation Chemistry and Agricultural Air Quality”, International Conference on Mesoscale Processes in Atmosphere, Ocean and Environmental Systems (IMPA2006)”, New Delhi, India, February 14-17, 2006.
346. Hu, J.-L., S.-Y. Wu, Y. Zhang, **V. P. Aneja** , G. Pouliot, and A. Gilliland, “Ammonia Emissions and their Implications on Fine Particulate Matter Formation in North Carolina”, Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD.
347. Krishnan, S., Y. Zhang, and **V. P. Aneja**, S.-Y. Wu, R. Mathur, “Modeling Study of Dry Deposition of Ammonia in North Carolina”, Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD.
348. Zhang, Y., S.-Y. Wu, J.-L. Hu, S. Krishnan, K. Wang, A., Queen, **V. P. Aneja**, and P. Arya, Modeling Agricultural Air Quality: Current Status, Major Challenges, and Outlook, Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD.
349. Occhipinti, C., **V. P. Aneja**, W. Showers, and D. Niyogi, “Isotopic and Back trajectory analysis on Rainfall chemistry for developing source-receptor relationships in fine particulate matter formation”, Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD.
350. Blunden, J., **V. P. Aneja**, and P. W. Westermann, “Measurement and analysis of ammonia and hydrogen sulfide emissions from an Anaerobic swine waste treatment lagoon and confinement building in North Carolina”, Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD.
351. Niyogi, D., K. Alapaty, **V. P. Aneja**, F. Chen, and R. A. Pielke, “Considerations for detailed Land Surface/ Vegetation representation in Air Quality models”, Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD.
352. Bajwa, K. S., S. P. Arya, and **V. P. Aneja**, “Ammonia emissions and dry deposition studies at some hog farms in North Carolina”, Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD.
353. Blunden, J., **V. P. Aneja**, and J. H. Overton, “Measurement and modeling of hydrogen sulfide emissions across the gas-liquid interface of an anaerobic swine waste treatment

lagoon”, Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD.

354. Blunden, J., **V. P. Aneja**, and W. A. Lonneman, “Characterization of Non-Methane Volatile Organic compounds at five confined Animal feeding operations in North Carolina”, Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD.
355. Goetz, S., **V. P. Aneja**, and Y. Zhang, “Measurement, analysis, and modeling, of inorganic fine particulate matter in rural, ammonia-rich areas in Eastern North Carolina”, Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD.
356. Konarik, S., **V. P. Aneja**, and D. Niyogi, “Trends in agricultural ammonia emissions and ammonium concentrations in precipitation over the Southeast and Midwest United States”, Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD.
357. Paul, S., D. Niyogi, J. G. Alfieri, P. Albert, F. Chen, M. A. Lemone, and **V. P. Aneja**, “Exploration and application of statistical methods to identify vegetation-surface-atmospheric interactions using field observations”, Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD.
358. Phillips, S. B., S. P. Arya, and **V. P. Aneja**, “Ammonia flux and dry deposition velocity estimated from an intensively managed animal agricultural facility in North Carolina”, Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD.
359. I.C. Rumsey, **Aneja, V.P.**, S.P. Arya, D.S. Kim, W.P. Robarge, D. Dickey, L.S. Stefanski, H. Semunegus, H.L. Arkinson, K. Bajwa, W. W. Stephens, S. B. Goetz, L. Todd, K. Mottus, and C.M. Williams, “Characterizing Ammonia Emissions from Potential Environmentally Superior Technologies for hog farms in Eastern North Carolina”, Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD.
360. Occhipinti, C., C. Scott, and **V. P. Aneja**, “Coupling gaseous ammonia, fine particulate matter, and the role of precursor transport in North Carolina”, Workshop on Agricultural Air Quality: State of the Science, June 5-8, 2006, Potomac, MD.
361. **Aneja, V.P.**, “Emerging Issues in Agricultural Air Quality: Challenges for the Agricultural Research Community”, Presented at: 232nd American Chemical Society (ACS) National Meeting, September 10-14, 2006. San Francisco, CA.
362. Blunden, J., **V. P. Aneja** and P. W. Westerman. Characterization of ammonia and hydrogen sulfide emissions from a swine farm in North Carolina. Presented at: 232nd American Chemical Society (ACS) National Meeting, September 10-14, 2006. San Francisco, CA.

363. **Aneja, V.P.**, “Air Quality Measurement and Analysis”, 2006 Environmental Partnership Summit, Improving our Air-Protecting our Health, September 26-27, 2006, RTP, NC.
364. **Aneja, V.P.**, and S. P. Arya, “Clearing the Air: Emerging Issues in Agricultural Air Quality”, North Carolina State University, Raleigh, NC – 27695, October 13, 2006.
365. **Aneja, V.P.**, J. Blunden, and S. Konarik. “Trends in agricultural ammonia emissions and ammonium concentrations in precipitation over the Southeast and Midwest United States. Presented at: Workshop on Reduced Nitrogen in Ecology and the Environment”, Oetz Valley, Austria, October 14-18, 2006.
366. **Aneja, V.P.** and J. Blunden. “Agricultural Air Quality: Characterization of ammonia and hydrogen sulfide emissions”. Presented at: University of Alabama in Huntsville, October 25, 2006.
367. **Aneja, V. P.**, W. Gilliam, W.H. Schlesinger, R. Knighton, G. Jennings, D. Niyogi, and C. Duke, “Summary of Assessment Regarding Agricultural Air Quality Status and National Needs”, ASA-CSSA-SSSA International Annual Meetings in Indianapolis, November 13-16, 2006.
368. **Aneja, V.P.**, J. Blunden, S. Konarik and Chris Occhipinti, “Trends in agricultural ammonia emissions and ammonium concentrations in precipitation over the Southeast and Midwest United States: Challenges for the Research Community”. UNECE Ammonia Workshop, December 4-6, 2006, Edinburgh, Scotland.
369. **Aneja, V. P.**, “Ammonia Emissions from Animal Production Agriculture and Associated Impacts to the NC Environment”, North Carolina General Assembly, Sen. Albertson Informational Forum on Ammonia Emissions from Confined Animal Feeding Operations, Raleigh, NC 27695, January 17, 2007.
370. Blunden, J., and **Aneja, V. P.**, “Characterization of ammonia and hydrogen sulfide emissions from a swine farm in North Carolina”, North Carolina Division of Air Quality, February, 5, 2007.
371. **Blunden, J., V. P. Aneja,** and W.A. Lonneman. “Characterization of Non-Methane Volatile Organic Compounds at Five Swine Facilities in North Carolina” . 4th Gordon Research Conference on Biogenic Hydrocarbons and the Atmosphere, Ventura, CA, Feb 25-Mar 2, 2007.
372. **Aneja, V.P.**, J. Blunden, K. James, W.H. Schlesinger, R. Knighton, W. Gilliam, D. Niyogi, and S. Cole, “Ammonia Assessment from Agriculture: Status and National Needs”, International Conference on Ammonia in Agriculture: Policy, Science, Control and Implementation, Ede, The Netherlands, March 19 – 21, 2007.
373. **Aneja, V. P.**, “Introduction to weather and climate”, Seminar, Kenyon College, Gambier, Ohio, April 18, 2007.



374. **Aneja, V. P.**, J. Blunden, and K. James “Ammonia Assessment from Agriculture: Status and National Needs”, Seminar, Kenyon College, Gambier, Ohio, April 18, 2007.
375. **Aneja, V.P.**, M. Blaser, R. Isom, T. Marsh-Johnson, C. Peterson, and B. Shaw, “Whitepaper: PM<sub>2.5</sub> – The Science of Gas to particle Conversion and the Regulatory Impact to Agriculture”, U.S. Department of Agriculture – Agricultural Air Quality Task Force, San Diego, CA, May 8 – 10, 2007.
376. **James, K. M.** and **V. P. Aneja**, “Nitrogen Emissions from Agricultural Sources”, Air and Waste Management Association 100th Annual Conference, Pittsburgh, PA, June 26-29, 2007.
377. **Blunden, J.**, and **Aneja, V. P.**, “Measurements and modeling of ammonia and hydrogen sulfide emissions from a commercial swine finishing operation in North Carolina”, Air and Waste Management Association 100th Annual Conference, Pittsburgh, PA, June 26-29, 2007.
378. **Aneja, V.P.**, “Characterization and Fate of Ammonia and Hydrogen Sulfide from Animal Feeding Operations: Their Emissions, Transport, and Transformations”, USDA – NRI Air Quality Annual Program Directors Meeting, Washington D.C., July 17, 2007.
379. **Aneja, V.P.**, “National Workshop on Agricultural Air Quality”, USDA – NRI Air Quality Annual Program Directors Meeting, Washington D.C., July 17, 2007.
380. **Aneja, V.P.**, and J. Blunden, “The Global Sulphur Cycle”, The Topsøe Catalysis Forum 2007 - Sulphur Management Conference, Havreholm, Denmark, August 22 – 24, 2007.
381. **Aneja, V.P.**, S. Goetz, and Y. Zhang, “Measurements, Analysis, and Modeling of Fine Particulate Matter in High Ammonia Region of North Carolina, U.S.A.”, International Conference Particulate Matter in and from Agriculture, Braunschweig, Germany, September 3-4, 2007.
382. **Aneja, V.P.**, and S.P. Arya, “Agricultural Air Quality”, North Carolina American Meteorological Society, Raleigh, NC, March 20, 2008.
383. **Aneja, V.P.**, “Climate Change: Importance to North Carolina”, Take Action Tour on Climate Change, Wilmington, NC, May 3, 2008.
384. **Aneja, V.P.**, “Integrated Nitrogen Committee”, USDA Agricultural Air Quality Task Force, Salt Lake City, Utah, May 13-16, 2008.
385. **Aneja, V.P.**, S.P. Arya, I. Rumsey, and C. Williams, “Characterizing Ammonia Emissions from Hog Farm Technologies, Part 1”, Mitigating Air Emissions from Animal Feeding Operations, Des Moines, Iowa, May 19-21, 2008.

386. **Aneja, V.P.**, S.P. Arya, I. Rumsey, and C. Williams, "Characterizing Ammonia Emissions from Hog Farm Technologies, Part 2", Mitigating Air Emissions from Animal Feeding Operations, Des Moines, Iowa, May 19-21, 2008.
387. Blunden, J., I. C. Rumsey, **V.P. Aneja**, and **K.M. James**, "Measurement and modeling of ammonia and sulfur compound emissions from a commercial swine finishing operation in North Carolina", USDA/EPA Agricultural Air Quality Workshop, USEPA RTP Campus, July 23–24, 2008.
388. **Aneja, V.P.**, J. Blunden P. Roelle, W.H. Schlesinger, R. Knighton, D. Niyogi, W. Gilliam, G. Jennings, and C. Duke, "Workshop on Agricultural Air Quality: State of the Science", USDA/EPA Agricultural Air Quality Workshop, USEPA RTP Campus, July 23–24, 2008.
389. **Aneja, V.P.**, G. Jennings, J.C. Fountain, Y. Zhang, S.P. Arya, W. Gilliam, D. Niyogi, and P. Westerman, "Characterization and Fate of Ammonia and Hydrogen Sulfide from Animal Feeding Operations: Their Emissions, Transport, Transformation, Deposition, and Impact on Fine Particulate Matter (PM<sub>fine</sub>)", United States Department of Agriculture (USDA) National Research Initiative (NRI) Project Directors Workshop, Durham, North Carolina, July 23-24, 2008.
390. **Gore, M.**, D.Q. Tong, **V.P. Aneja**, and M. Houyoux, "Modeling and Measurement of Ammonia and PM<sub>2.5</sub> Concentrations Associated with Emissions from Agriculture", 7th Annual CMAS Conference, Chapel Hill, North Carolina, October 6-8, 2008.
391. **Rumsey, I.C.**, **V.P. Aneja**, and W.A. Lonneman, "Characterizing Sulfur Compound Emissions from a Hog Farm in Eastern North Carolina", Air Waste and Management Association (AWMA) Symposium on Air Quality Measurement and Technology, Chapel Hill, North Carolina, November 3-6, 2008.
392. **Gore, M.**, **V.P. Aneja**, S. Konarik, and J. Blunden, "An Apparent Paradox: Agricultural Ammonia Emissions and the National Atmospheric Deposition Network", Symposium on Air Quality Measurement Methods and Technology, Chapel Hill, North Carolina, November 3-6, 2008.
393. **Aneja, V.P.**, W. H. Schlesinger, and J.W. Erisman, "Agricultural Air Quality: Research, Policy and Regulations", the International Conference on "Challenges and Opportunities in Agrometeorology" INTROMET2009, New Delhi-110012, India, February 23-25, 2009.
394. **Aneja, V.P.**, "Climate Change: Importance to North Carolina", Daniels Science Symposium, Raleigh, NC, March 18, 2009.
395. **Aneja, V.P.**, 2009, "Characterization of Particulate Matter (PM<sub>10</sub>) in Roda, Virginia", Virginia State Air Pollution Control Board, Richmond, VA, April 24, 2009.
396. **Aneja, V.P.**, 2009. National Workshop on Agricultural Air Quality. USDA-CREES National Research Initiative Air Quality Program Project Directors Meeting, Kansas City, MO, June 3, 2009.

397. Rumsey, I.C., Aneja, V.P., Lonneman, W.A., 2009. Characterizing sulfur and non methane volatile organic compound emissions from concentrated animal feeding operations in North Carolina. Air Waste and Management 102<sup>nd</sup> Annual Conference and Exhibition, Detroit, MI, June 16-19, 2009.
398. Aneja, V.P., 2009. Quantifying Emissions of Ammonia for Air Quality Analysis. MARAMA MANE-VU 2009 Science Meeting Total Reactive Nitrogen: Regional Haze Impacts and Mitigation Options, Baltimore, MD, July 28-29, 2009.
399. Aneja, V.P., 2009. The Ozone Air Pollution Problem in North Carolina. Catawba College, Salisbury, NC, September 17, 2009.
400. Aneja, V.P., 2009. The Global Sulfur Cycle: Global Climate and Farming Pollution. Cary Institute of Ecosystems Studies, Millbrook, NY, September 25, 2009.
401. Aneja, V.P., 2009. Farming Pollution: Research, Policy, and Regulations. International Conference on "ICPSBC'09", Monterrey, Mexico, September 29, 2009.
402. Aneja, V.P. and M.L. Gore, "Trends in Agricultural Ammonia Emissions and Ammonium Concentrations in Precipitation over the Southeast and Midwest United States: Challenges for the Research Community", NADP Annual Meeting and Scientific Symposium, Saratoga Springs, NY, October 7-8, 2009.
403. Rumsey, I.C., Aneja, V.P., Lonneman, W.A., 2009. Measurement and modeling of emissions of reduced sulfur compounds from concentrated animal feeding operations. 8<sup>th</sup> Annual CMAS Conference, Chapel Hill, NC, October 19-21, 2009.
404. Gore, M.L., V.P. Aneja, E.J. Cooter, R.L. Dennis, and J.E. Pleim, "Assessing bi-directional ammonia transport using the Community Multi-Scale Air Quality (CMAQ) Model", 8th Annual CMAS Conference, Chapel Hill, North Carolina, October 19-21, 2009.
405. Gore, M.L., V.P. Aneja, E.J. Cooter, R.L. Dennis, and J.E. Pleim, "Ammonia Emissions in the U.S.: Assessing the role of bi-directional ammonia transport using the Community Multi-Scale Air Quality (CMAQ) Model", Workshop on Nitrogen Deposition, Critical Loads and Biodiversity, Edinburgh, UK, November 16-18, 2009.
406. Aneja, V.P., 2009. Analysis of Current Efforts to Study and Remediate Particulate Matter (PM<sub>10</sub>) in Roda, Virginia. State Air Pollution Control Board, Richmond, VA, November 20, 2009.
407. Aneja, V.P., 2009. Farming Pollution: Research, Policy, and Challenges. U.S. Environmental Protection Agency, Research Triangle Park, NC, December 16, 2009.
408. Gore, M.L., V.P. Aneja, E.J. Cooter, R.L. Dennis, and J.E. Pleim, "Ammonia Emissions in the U.S.: Assessing the role of bi-directional ammonia transport using the Community Multi-Scale Air Quality (CMAQ) Model", International Conference on Environmental Health and Technology, Kanpur, India, March 15-17, 2010.

409. **Aneja, V.P.**, 2010. "Coal Dust Atmospheric Impact on Appalachian Communities", Chancellor's Energy Task Force, UNC Chapel Hill, NC, April 14, 2010.
410. **Aneja, V.P.**, 2010. "Ozone and PM<sub>fine</sub> in Urban and Rural Areas: Measurements and Modeling". Center of Excellence in Environmental Studies, Jeddah, Saudi Arabia, April 26, 2010.
411. **Aneja, V.P.**, 2010. "Ozone Air Pollution and Health Effects". Mobilizing NC: Where Air Quality, Energy and Transportation Meet McKimmon Center, Raleigh, NC, May 26, 2010.
412. Rumsey, I.C., **V.P. Aneja**, W.A. Lonneman, 2010. "Measurement and Analysis of Non-Methane Volatile Organic Compounds Emissions from Concentrated Animal Feeding Operations in North Carolina". Air Waste and Management 103<sup>rd</sup> Annual Conference and Exhibition, Calgary, Canada, June 22-25, 2010.
413. Gore, M.L., E.J. Cooter, R.L. Dennis, J.E. Pleim, J.O. Bash, and **V.P. Aneja**, 2010. "Assessing the Impact of Bi-directional Ammonia Transport on Nitrogen Fertilizer Emissions and Fate in the Eastern U.S.", 9th Annual CMAS Conference, Chapel Hill, NC, October 11-13, 2010.
414. **Aneja, V.P.**, I. C. Rumsey, and W. A. Lonneman, 2010. "Characterizing Particulate Matter and Non-Methane Volatile Organic Compounds from Concentrated Animal Feeding Operations", Evaluating the Health Effects to Local Communities of Confined Animal Feeding Operations (CAFOs), Raleigh, NC, November 11, 2010
415. **Aneja, V.P.**, 2010. "VOCs Exchange at the Air-Sea Interface". Twenty-Fourth Annual D/UNCOC Symposium, Beaufort, N.C., November 19-20, 2010.
416. Pillai P., H.N. Yoo, J.T. Walker, A. Khlystov, and **V. P. Aneja**, 2010. "New Particle Formation Events at Duke Forest, North Carolina: Relation to Meteorological and Chemical Conditions," 2010 AGU Fall Meeting, San Francisco, CA, December 13-17, 2010.
417. **Aneja, V.P.**, 2010. "Agricultural Ammonia Atmospheric Pollution: Research, Policy, and Challenges", 5<sup>th</sup> International Nitrogen Conference, New Delhi, India, December 3-7, 2010.
418. **Aneja, V.P.**, 2010. "Ozone Air Pollution and Impacts", Lucknow, India, December 9, 2010.
419. **Aneja, V.P.**, 2010. "Agricultural Air Quality: Research, Policy and Regulations", Fourth International Conference on Plants & Environmental Pollution, ICPEP-4, Lucknow, India, December 8-11, 2010.

420. Sharma, M., and **V. P. Aneja**, 2011. "GIS-based Atmospheric emission inventory of reactive nitrogen in India", US-India Conference-cum-Workshop on Air Quality and Climate Research, Hyderabad, India, March 14-16, 2011.
421. Aneja, V.P., 2011. "Agricultural Air Quality", US-India Conference-cum-Workshop on Air Quality and Climate Research, Hyderabad, India, March 14-16, 2011.
422. Gore, M. L., E. J. Cooter, R. L. Dennis, J. E. Pleim, J. O. Bash, and **V. P. Aneja**, 2011. "Assessing the Impact of Bi-directional Ammonia Transport on Nitrogen Fertilizer Emissions and Fate in the Eastern U.S.", NCSU Graduate Symposium, Raleigh, North Carolina, March 21, 2011.
423. Aneja, V.P., 2011. "Fundamentals of Air Quality and Atmospheric Chemistry Modeling", US-India Conference-cum-Workshop on Air Quality and Climate Research, Hyderabad, India, March 17-24, 2011.
424. Aneja, V.P., 2011. "Biogeochemistry of Agricultural Airborne Particulate Matter (PM): Sources, Transformation, Transport, and Fate", Bouyoucos Conference on Synchrotrons for Soils, Estes Park, Colorado, August 1- 3, 2011.
425. Aneja, V.P., 2011. "US-India Collaboration on Air Quality and Climate Research and Education", US-India Air Quality and Climate Research Workshop, Hyderabad, India, September 12-15, 2011.
426. Aneja, V.P., 2011. "Measurement, Modeling, and Analysis of Air Quality and Climate Change: Sources, Transformation, Transport, and Fate", US-India Air Quality and Climate Research Workshop, Hyderabad, India, September 12-15, 2011.
427. Aneja, V.P., I.C. Rumsey, and W. A. Lonneman, 2011. "Characterization of Non-Methane Volatile Organic Compounds Emissions from a Swine Concentrated Animal Feeding Operation", 2011 AGU Fall Meeting, San Francisco, California, December 5-9, 2011.
428. Aneja, V.P., 2011. "US-India Collaborative Science, Research, and Education: Air Quality and Climate Change" North Carolina State University, Raleigh, NC 27695, December 16, 2011.
429. Pillai, P., **V.P.Aneja**, J.T.Walker, and A.Khlystov, 2012. "Anthropogenic and Natural Influences on Particle Nucleation Event Days at a Forest Site in the Southeast U.S.", Joint US EPA & NCSU Symposium, North Carolina State University, Raleigh, NC, May 15, 2012.
430. Pillai, P., A.Khlystov, J.T.Walker, and **V.P.Aneja**, 2012. "Relationships between particle nucleation and radiative forcing at a forest site in the Southeast US", 16<sup>th</sup> International Symposium for the Advancement of Boundary-Layer Remote Sensing, Boulder, Colorado, June 5-8, 2012.
431. Aneja, V.P., 2012. "Agricultural Air Quality: Research, Policy, and Regulations", Tsinghua University, Beijing, China, July 16, 2012.

432. **Aneja, V.P.**, 2012. "Agricultural Air Quality", Northeast Institute of Geography and Agroecology (NEIGAE), Chinese Academy of Sciences (CAS), Changchun, China, July 18, 2012.
433. **Pillai P., V. P. Aneja,** J.T. Walker, and A. Khlystov, 2012. "Satellite derived Aerosol Direct Radiative Forcing on Nucleation Days at the Duke Forest Site in North Carolina, USA", Marine, Earth, and Atmospheric Sciences (MEAS) and the Forestry and Environmental Resources (FER) Graduate Student Symposium, North Carolina State University, Raleigh, NC, August 13, 2012.
434. **Pillai, P., V.P.Aneja,** J.Walker, and A.Njegovan, 2012. "Nitrous Oxide Emissions from Biofuel Crops and its Parameterization in the EPIC Biogeochemical Model", 244 American Chemical Society National Meeting, Philadelphia, PA, August 19-23, 2012.
435. **Pillai P., V. P. Aneja,** A. Njegovan, J.T. Walker, E. Cooter, and D. Kirchgessner, "Nitrous Oxide Emissions from Biofuel Crops", Sci-Mix at 244 American Chemical Society National Meeting, Philadelphia, PA, August 20, 2012.
436. **Pillai P., V. P. Aneja,** A. Njegovan, J.T. Walker, E. Cooter, and D. Kirchgessner, "Nitrous Oxide Emissions from Biofuel Crops and its Parameterization in the EPIC Biogeochemical Model", College of Physical and Mathematical Sciences Access Day, Raleigh, NC, September 6, 2012.
437. **Rasheed, A., V.P. Aneja,** and A. Aiyyer, 2012. "Characterization of Fine Particulate Matter (PM<sub>fine</sub>) in Urban Areas of Pakistan", PAMS Access Day, College of Physical and Mathematical Sciences, North Carolina State University, Raleigh, NC, September 6, 2012.
438. **Pillai, P., V.P.Aneja,** and J.Walker, 2012. "Parameterizations of Nitrous Oxide and Nitrogen Oxide Emissions from Biofuel Crops for use in Air Quality and Climate Change Modeling", 6th Graduate Climate Conference, University of Washington, Pack Forest, WA, October 26-28, 2012.
439. **Pillai P., V. P. Aneja,** J.T. Walker, and A. Khlystov, 2012. "Understanding the Aerosol Particle Nucleation and the Aerosol Direct Radiative Forcing at A Forest Site in the South East United States", American Chemical Society Southeastern Regional Meeting, Raleigh, North Carolina, Nov 14 - 17, 2012.
440. **Rasheed, A., V.P. Aneja,** and A. Aiyyer, 2012. "Characterization of Fine Particulate Matter (PM<sub>fine</sub>) in Urban Areas of Pakistan-An Observational Based Analysis", Southeastern Regional Meeting of the American Chemical Society, Raleigh, NC, November 16, 2012.
441. **Aneja, V.P.,** 2012. "Agricultural Air Quality: Emissions, Consequences, and Management", Southeastern Regional ACS Meeting, Raleigh, NC, November 16, 2012.

442. **Aneja, V.P.**, 2013. "UNC-India Summit: Environment & Energy Issues", UNC General Administration, Chapel Hill, NC, 30 January 2013.
443. **Pillai P., V. P. Aneja,** and J.T. Walker, 2013. "Nitrous Oxide Emissions from Biofuel Crops and its parameterization in the EPIC biogeochemical model", Graduate Research Symposium, North Carolina State University, Raleigh, North Carolina, March 19, 2013.
444. **Aneja, V.P.**, "Coupling of Air Quality and Climate Change in India", Conference on Environment Across the Disciplines: Perspectives from India and Beyond, April 18-19, 2013, Raleigh, NC.
445. **Aneja, V.P.**, "Agricultural Air Quality: Research and Challenges", Seminar, Wadsworth Center, Albany, New York, April 25, 2013.
446. **Rasheed, A., V.P. Aneja,** A. Aiyyer, and U. Rafique, 2013, "Ambient Air Quality of Islamabad: A Monitoring Based Analysis", Workshop on Changing Chemistry in Changing Climate: Monsoon (C4), April 30 –May 3, 2013, IITM Pune, India.
447. **Rasheed, A., V.P. Aneja,** A. Aiyyer, and U. Rafique, 2013, "Ambient Air Quality of Islamabad: A Monitoring Based Analysis", Atmospheric Composition and the Asian Summer Monsoon" at Kathmandu, Nepal, June 9-12, 2013.
448. **Pillai P., J.T. Walker, A. Khlystov,** and **V. P. Aneja,** "Formation and Growth of Atmospheric Particles at a Forest Site in the Southeast US", 19th international conference on nucleation and atmospheric aerosols, Fort Collins, Colorado, June 24-28, 2013.
449. **Aneja, V.P.**, and Battye, W. "Ammonia Emissions: Current State of Inventories", MARAMA Workshop, Looking Ahead: Forces Shaping Future Emissions & Air Quality, Charlottesville, VA, July 23-24, 2013.
450. **Aneja, V.P.**, "Agricultural Air Quality: Measurements, Monitoring, and Modeling", National Environmental Monitoring Conference, San Antonio, TX, August 5-9, 2013.
451. **Aneja, V.P.**, "Agricultural Air Quality Measurements and Modeling: Research and Challenges", Traversing New Terrain in Meteorological Modeling, Air Quality, and Dispersion, UC Davis, September 10 -12, 2013.
452. **Aneja, V.P.**, and Battye, W. "Ammonia Emissions State of the Science", Scientific Symposium and Nitrogen Flux Workshop, Park City, Utah, October 8-11, 2013.
453. **Aneja, V.P.**, "Nitrogen in the Environment", International Research Programme in Agricultural Nitrogen (IRPAN), Rothamsted Research, Harpenden, UK, November 4-8, 2013.
454. **Rasheed, A., V.P. Aneja,** A. Aiyyer, and U. Rafique, "Measurements and Analysis of Air Quality in Islamabad, Pakistan", International Conference on Environmental Issues of Sindh and Remedies (ICEISR 2014), Khairpur, Sindh, Pakistan, April 9-10, 2014.

455. Bray, C., W. Battye, and **V.P. Aneja**. “Particle Nucleation for Varying Air Masses and Meteorological Conditions at a Forest Site in the Piedmont Region of North Carolina”, NC State University Undergraduate Research Symposium, Raleigh, NC, April 2014.
456. **Aneja, V.P.**, and Battye, W. “Agricultural Air Quality: Nitrogen Emissions and Management”, Air Pollution Workshop (APW 46) & Symposium, Guadalajara, Mexico April 6-10, 2014.
457. Rasheed, A., **V.P. Aneja**, A. Aiyyer, and U. Rafique, 2014, “Ambient Air Quality Analysis in Urban Areas of Pakistan”, ICIMOD’s Second Annual Regional Atmospheric Science (SARAS) Workshop, Pokhara, Nepal. June 7-9, 2014.
458. **Aneja, V.P.**, 2014, “Focus on India: North Carolina State University”, UNC-India Summit II, UNC General Administration, Chapel Hill, NC, June 25, 2014.
459. **Aneja, V.P.**, 2014, “An Overview of Horizontal Hydrofracturing - Fracking”, Cumberland County Public Library & Information Center, Fayetteville, NC, October 11, 2014.
460. Rasheed, A., **V. P. Aneja** and U. Rafique, 2014, “Measurements and Analysis of Ambient Air Quality in Islamabad, Pakistan”, Better Air Quality (BAQ) Conference, Colombo, Sri Lanka, November 19 – 21, 2014.
461. Bray, C., W. Battye, **V.P. Aneja**, D. Tong, P. Lee, and Y. Tang. 2015. “Ammonia prediction by the NOAA National Air Quality Forecast Capability system using DISCOVER-AQ and CalNex2010 field campaign data”, NC State University Graduate Research Symposium, Raleigh, NC, March 2015.
462. Perlmutter, G.B., G.B. Blanh, **V.P. Aneja**, T.R. Wentworth, H.S. Neufeld, and M.D. Lowman, 2015. “Are Roadside Forests Affected by Traffic Emissions? A study examining lichen biodiversity along I-40”, NC State University Graduate Research Symposium, Raleigh, NC, March 2015.
463. **Aneja, V.P.**, 2015. “Agricultural Reactive Nitrogen and Sulfur Emissions: Challenges in a Changing Atmosphere”, Bolin Center for Climate Research, Stockholm University, Sweden, May 5, 2015.
464. William Battye, Casey Bray, **Viney Aneja**, Daniel Tong, Pius Lee, Youhua Tang, 2015. “Evaluating ammonia (NH<sub>3</sub>) predictions in the NOAA National Air Quality Forecast Capability (NAQFC) using aircraft *in situ* measurements”, Joint FRAPPE – DISCOVER-AQ Science Team Meeting, Boulder, CO, May 4-8, 2014.
465. Bray, C., W. Battye, **V.P. Aneja**, D. Tong, P. Lee, and Y. Tang. 2015. “Ammonia prediction by the NOAA National Air Quality Forecast Capability system using DISCOVER-AQ and CalNex2010 field campaign data”, Air, Waste and Management Association Annual Conference and Exhibition-2015, Raleigh, North Carolina, June 22-25, 2015.



466. Pillai P., V. P. Aneja, J. Walker, “Satellite Based Estimation of Shortwave Aerosol Radiative Forcing on Regional Nucleation Events at a forest site in the Southeast US”, NCSU Graduate Student Symposium, North Carolina State University, Raleigh, NC. March 25, 2015.
467. Bray, C., W. Battye, **V.P. Aneja**, D. Tong, P. Lee, and Y. Tang. “Ammonia prediction by the NOAA National Air Quality Forecast Capability system using DISCOVER-AQ and CalNex2010 field campaign data”, NCSU Graduate Student Symposium, North Carolina State University, Raleigh, NC, March 25, 2015.
468. Bray, C., W. Battye, **V.P. Aneja**, D. Tong, P. Lee, and Y. Tang. “Ammonia prediction by the NOAA National Air Quality Forecast Capability system using DISCOVER-AQ and CalNex2010 field campaign data”, NC State University State of the Sciences Poster Session, Raleigh, NC, April 2015.
469. Rasheed, A., **V. P. Aneja** and U. Rafique, 2015, “Measurements and analysis of air quality in Islamabad, Pakistan”, The Second Workshop on Atmospheric Composition and the Asian Summer Monsoon (ACAM), Bangkok, Thailand, June 8-10, 2015.
470. Rumsey, I.C., **V. P. Aneja**, and W. A. Lonneman, 2015, “Measurement and Modeling of Reduced Sulfur Compound Emissions from a Swine Concentrated Animal Feeding Operation”, Air, Waste and Management Association Annual Conference and Exhibition-2015, Raleigh, North Carolina, June 22-25, 2015.
471. Pillai P., **V. P. Aneja**, J. Walker, 2015. “Satellite Based Estimation of Shortwave Aerosol Radiative Forcing on Regional Nucleation Events at a forest site in the Southeast US”, Annual Conference, The Air & Waste Management Association (A&WMA), Raleigh, NC , June 22- 25, 2015.
472. Bray, C., W. Battye, **V.P. Aneja**, D. Tong, P. Lee, and Y. Tang, 2015. “Ammonia prediction by the NOAA National Air Quality Forecast Capability system using DISCOVER-AQ and CalNex2010 field campaign data”, Annual Conference, The Air & Waste Management Association (A&WMA), Raleigh, NC , June 22- 25, 2015.
473. Mikel, D. and **V.P. Aneja**, 2015. “Measurement of Polycyclic Aromatic Hydrocarbons near a Major Roadway”, Annual Conference, The Air & Waste Management Association (A&WMA), Raleigh, NC, June 22- 25, 2015.
474. Aneja, V.P., 2015. “Air Quality in North Carolina: A Changing Atmosphere”, Annual Conference, The Air & Waste Management Association (A&WMA), Raleigh, NC, June 22- 25, 2015.
475. Aneja, V.P., 2016. “Agricultural Reactive Nitrogen and Sulfur Emissions: Challenges in a Changing Atmosphere”, Indian Institute of Technology, Kanpur, UP, India, September 3, 2015.
476. Aneja, V.P., 2016. “The Impact of Agriculture on Air Quality and Climate: Is Nitrogen The Next Carbon?”, TERI University, New Delhi, India, November 16, 2015.

477. Bray, C., W. Battye, **V.P. Aneja**, D. Tong, P. Lee, and Y. Tang. “Ammonia prediction by the NOAA National Air Quality Forecast Capability system using DISCOVER-AQ and CalNex2010 field campaign data”, NASA Air Quality Applied Sciences Team (AQASt) 10th Semiannual Meeting, EPA, Research Triangle Park, January 5-7, 2016.
478. Battye, W., C. Bray **V.P. Aneja**, D. Tong, P. Lee, and Y. Tang. “Evaluating ammonia (NH<sub>3</sub>) predictions in the NOAA National Air Quality Forecast Capability (NAQFC) using ground-based and satellite-based measurements on a national scale”, NASA Air Quality Applied Sciences Team (AQASt) 10th Semiannual Meeting, EPA, Research Triangle Park, January 5-7, 2016.
479. Aneja, V.P., 2016. "The Impact of Agriculture on Air Quality and Climate: Is Nitrogen The Next Carbon?", the University of Tennessee, Knoxville, TN, College of Engineering's Distinguished Lecture Series, March 23, 2016.
480. Aneja, V.P., 2016. “Is Nitrogen The Next Carbon? The Role of Agriculture on Air Quality and Climate”, Columbia University, NY, NY, April 22, 2016.
481. Bray, C., Battye, W., **V.P. Aneja**, D. Tong, P. Lee, and Y. Tang, 2016. “Impact of wildfires on atmospheric ammonia concentrations in the US: Coupling satellite and ground based measurements”, Air and Waste Management Association Annual Meeting (ACE 109), New Orleans, LA, June 20 – 23, 2016.

## **REPORTS**

1. **Aneja, V. P.**, 1975, "Characterization of Sources of Biogenic Atmospheric Sulfur Compounds", Master of Science Thesis, North Carolina State University, Raleigh, NC 27650, p. 144.
2. Barvenik, F. W., F. B. Hill, **V. P. Aneja** and R. M. Felder, 1975, "Hydrogen Sulfide in Bottom Water Near a Sewage Sludge Dumping Site", U. S. Energy Research and Development Administration Report BNL 20078.
3. Witherspoon, A. M., **V. P. Aneja** and H. H. Rogers, 1976, "Selective and Comparative Absorption and/or Degradation of Gaseous Nitrogenous Air Pollutants by Plant Species", Annual Report, ARS-NCAES Coop. Prog., Raleigh, NC, p. 153.
4. **Aneja, V. P.**, 1977, "Dynamic Studies of Ammonia Uptake by Selected Plant Species Under Flow Reactor Conditions", Doctor of Philosophy Dissertation, North Carolina State University, Raleigh, NC 27650, p. 271.
5. **Aneja, V. P.**, E. W. Coarse, L. T. Cupitt, J. C. King, J. H. Overton, R. E. Rader, M. H. Richards, H. J. Sher and R. J. Whitkus, 1979, "Biogenic Sulfur Sources Strength Field Study", Northrop Services, Inc., Report No. ESC-TR-79-22, under U.S. EPA Contract No. 68-02-2566, p. 189.
6. **Aneja, V. P.**, P. Ascher, E. W. Coarse, M. Pleasant, M.H. Richards and H. Sher, 1979, "Determination of Deposition/Emission Rates of Gaseous and Aerosol Pollutants at Prairie View College, Texas", Northrop Services, Inc., Report No. ESC-TN-79-06, under U.S. EPA Contract No. 618-021-2566, p. 24.
7. **Aneja, V. P.**, J. H. Overton, Jr., J. A. Anderson, and J. L. Durham, 1980, "Sulfate Aerosol Formation Rate in an Oil Fired Power Plant Plume", General Electric Company, Report No. 80CRD294, Class 1, Corporate Research and Development, Schenectady, NY 12309, p. 8.
8. **Aneja, V. P.**, A. P. Aneja, and D. F. Adams, 1980, "The Contribution of Biogenic Sulfur Compounds to the Global Sulfur Cycle", General Electric Company, Report No. 80CRD295, Class 1, Corporate Research and Development, Schenectady, NY 12301, p. 7.
9. Ninenger, R. C., J. H. Overton, Jr., M. J. Kaiserman, **V. P. Aneja**, E. W. Coarse, and D. Kirkton, 1980, "Visibility Study in Ohio River Basin - February 1980", EPA Contract No. 68-02-2566, Research Triangle Park, NC 27711.
10. **Aneja, V. P.**, J. H. Overton, M. H. Richards, P. Acher, S. Joshi, and R. Adjor, 1981, "Data Report. Velocity of Deposition Experiment - Field Sampling Study in Ohio", Northrop Technical Report No. ES-TR-81-02, Research Triangle Park, NC 27709, p. 25.
11. **Aneja, V. P.**, and T. A. Sitnik, 1981, "Simultaneous BPA and Phenol Extraction by Methyl Isobutyl Ketone and Their Subsequent Recovery from Aqueous Effluent Streams", General Electric Company, Memo Report No. MOR-81-029, Schenectady, NY 12301.

12. **Aneja, V. P.** and T. A. Sitnik, 1981, "Simultaneous BPA and Phenol Extraction by Toluene and Its Azeotropic Recovery from Aqueous Effluent Streams", General Electric Company, Memo Report No. MOR-81-030, Schenectady, NY 12301.
13. **Aneja, V. P.**, 1981, "Bisphenol-A Purification via Aqueous Extraction", General Electric Company, Report No. 81CRD300, Class 3, Corporate Research and Development, Schenectady, NY 12301
14. **Aneja, V. P.** and T. A. Sitnik, 1982, "BPA and Phenol Recovery from Aqueous Effluents by Solvent Extraction", General Electric Company, Memo Report No. MOR 82-059, Schenectady, NY 12301.
15. **Aneja, V. P.**, 1982, "Extraction of Phenolics from Industrial Wastewaters by Solvents", General Electric Company, Report No. 83CRD170, Class 3, Corporate Research and Development, Schenectady, NY 12301.
16. **Aneja, V. P.** and T. A. Sitnik, 1983, "BPA-Phenol Adduct Crystallization", General Electric Company, Report No. 83CRD193, Class 3, Corporate Research and Development, Schenectady, NY 12301.
17. **Aneja, V. P.** and J. P. Skilbeck, 1985, "Continuous Devolatilization of Viscous Polymers in a Polymer Stack Heater", General Electric Company, Memo Report No. MOR-85-039, Schenectady, NY 12301.
18. **Aneja, V. P.**, 1986, "PPO-Toluene Solution Rheology", General Electric Company, Memo Report No. MOR-86-062, Schenectady, NY 12301.
19. **Aneja, V. P.**, R. Fields, and J. C. Carnahan, 1986, "PPO Black-Specks: Identification of the Problem and the Source", General Electric Company, Schenectady, NY 12301.
20. **Aneja, V. P.**, R. Fields, and A. R. Shultz, 1987, "Toluene Vapor Sorption and Liquid Interactions with Non-Glassy Polymers and Polyblends", General Electric Company, Schenectady, NY 12301.
21. **Aneja, V. P.**, Ed., 1988, "Mountain Cloud Chemistry and Forest Biology Research at Mount Mitchell, North Carolina", prepared for a field trip for the National Research Council, Board on Environmental Studies and Toxicology.
22. Saxena, V.K., N. H. Lin, **V.P. Aneja**, A. Murthy, and W.P. Robarge. 1989. "Acid Deposition Monitoring at Mount Mitchell, North Carolina," Final Report, North Carolina State University, under US EPA project No. CR-812444-0-0, p. 76.
23. Mohnen, V., **V.P. Aneja**, B. Bailey, E. Cowling, S.M. Goltz, J. Healey, J.H. Kadlec, J. Meagher, S.F. Mueller, and J.T. Sigmon. 1990. "An Assessment of Atmospheric Exposure and Deposition to High Elevation Forest in the Eastern United States," Mountain Cloud Chemistry Project under US EPA Cooperative Agreement CR 813934-03-0, Report No. EPA/600/3-90/058.

24. Levi, M., D. Adams, **V.P. Aneja**, L. Danielson, H. Devine, T. Hoban, M. Smolen. 1990. "Natural Resource Quality In Gaston County - Phase I Characterization of Air, Surface Water, and Ground Water Quality", Final Report, North Carolina State University, under Gaston County Grant No. 90-0483, p. 168.
25. **Aneja, V.P.** and D.S. Kim. 1990. "Dynamic Chemical Characterization of Montane Clouds", Final Report, North Carolina State University, under U.S. EPA Project No. CR-815289-02, p. 165.
26. **Aneja, V.P.** 1991. "Ozone Concentration at Mount Mitchell Research Observatory during the 1990 Growing Season," Final Report, North Carolina State University, under U.S. Forest Service Reference No. 29-586, p. 8.
27. **Aneja, V.P.** and G. Yoder. 1992. "Characterization of ozone climatology in the Southeastern United States and Climate Change," Southeast Regional Climate Center Report No. RP010192, p. 78.
28. Saxena, V.K., **V.P. Aneja**, W.P. Robarge, P.A. Durkee, T.P. DeFelice J.D. Grovenstein, K.L. Burns, C.E. Deininger, S.P.R. Pasumarti, and J.C. Ulman. 1993. "Cloud-Climate Feedback Mechanisms: A first-year project report from Mount Mitchell, North Carolina," National Institute for Global Environmental Change, Southeast Regional Center, Tuscaloosa, Alabama, p. 10.
29. **Aneja, V.P.** and A. Adams. 1993. "Characterization of ozone climatology in the Southeastern United States and Climate Change", NOAA Southeast Regional Climate Center, Final Report Grant No. NA26CPO179-01, p. 23.
30. Desimone, J., R. Oommen, J. Lawrimore, and **V.P. Aneja**. 1998. "Climatology of Synoptic-Scale Weather Systems for Eastern North Carolina," NC Agricultural Research Service, Final Report Contract No. NC 05849, p. 14.
31. Peterson, B.T., S. Pal Arya and **V.P. Aneja**, 1998. "A review of atmospheric measurement methods and results of field experiments and observations of ammonia and ammonium concentrations and dry deposition on natural surfaces", NC Division of Air Quality, Final Report Contract No. 98-0603-01, p. 27.
32. **Aneja, V.P.**, J.P. Chauhan, J.T. Walker, 1999. "Characterization of Atmospheric Ammonia Emissions from Swine Waste Storage and Treatment Lagoons," NC Division of Air Quality, Final Report, Contract No. EA 7003, p. 32.
33. **Aneja, V.P.**, J.P. Chauhan, J.T. Walker, 2000, "Characterization of Atmospheric Ammonia Emissions from Swine Waste Storage and Treatment Lagoons", Water Resources Research Institute of the University of North Carolina Report NO. 329, p. 23.
34. Battye, W., and **V. P. Aneja**, 2001, "Evaluation and Improvement of Ammonia Emissions Inventories." Coordinating Research Council, Alpharetta, GA, CRC Contract No. A-32, p. 62.

35. **Aneja, V.P.**, S. Schiffman, M. Sobsey, D.S. Kim, S.P. Arya, D. Dickey, L. Stefanski, H.T. Nagle, W. Robarge, P. Westerman, M. Williams, O.D. Simmons, L. Todd, R.L. Seila, R. Mathur, R. Gannon, H. Kimball, and P. Roelle, 2003, “An Intergraded Study of the Emissions of Ammonia, Odor and Odorants, and Pathogens and Related Contaminants from Potential Environmentally Superior Technologies (ESTs) for Swine Facilities: Program OPEN (Odor, Pathogens, and Emissions of Nitrogen)”, Evaluation Findings for Four ESTs at Barham, Corbett #2, and Howard Farms, and Grinnell Laboratory) for Ammonia, Odor and Odorants, and Pathogens; Animal and Poultry Waste Management Center, North Carolina State University, Raleigh, NC, p. 192.
36. Koziel, J. A, **V. P. Aneja**, B. H. Baek, 2004, “Gas-to-Particle Conversion process between Ammonia, Acid Gases and Fine Particles in the atmosphere”, Final Report, The State-of-the-Art Knowledge White Paper, National Center for Manure and Animal Waste Management (NCMAWM), North Carolina State University, Raleigh, NC, p. 34
37. **Aneja, V.P.**, Schiffman, S.S., Sobsey, M., Kim, D.S., Rumsey, I.C., Arya, S.P., Dickey, D.A., Stefanski, L.A., Robarge, W.P., Westerman, P., Williams, C.M., Todd, L. Mathur, R., Gannon, R., Kimball H., 2004. Program OPEN (Odor, Pathogens, and Emissions of Nitrogen) Evaluation Findings for the ESTs at BOC # 93 (EKOKAN), Corbett # 1,3 & 4 (BEST), Goshen Ridge (Super Soils), Hickory Grove (ORBIT) and Lake Wheeler (Belt) for Ammonia, Odor and Odorants, and Pathogens; In Development of Environmentally Superior Technologies: Phase 1 Report for Technology Determination per Agreements Between the Attorney General of North Carolina and Smithfield Foods, Premium Standard Farms, and Frontline Farmers, Edited by C.M. Williams. Published by NCSU College of Agriculture and Life Sciences, Raleigh, NC, p. 155.
38. **Aneja, V.P.**, Schiffman, S.S., Sobsey, M., Arya, S.P. Rumsey, I.C., Kim, D.S., Robarge, W.P. Dickey, D.A., Stefanski, L.A., Westerman P., Williams, C.M., Simmons, O., Todd, L., Mathur, R., Gannon, R., Kimball H., 2005. Program OPEN (Odor, Pathogens, and Emissions of Nitrogen) Evaluation Findings for the ESTs at AHA Hunt (SBR), Carroll’s (Issues-ABS), Harrells (Issues-PCS, Hickory Grove, (Super Soils Composting), Howard Farm (Constructed Wetlands), and Vestal (Issues-RENEW); Lake Wheeler Road Laboratory (Gasifer); and Lake Wheeler Road Laboratory (Black Soldier Fly) for Ammonia, Odor and Odorants, and Pathogens; In Development of Environmentally Superior Technologies: Phase 2 Report for Technology Determination per Agreements Between the Attorney General of North Carolina and Smithfield Foods, Premium Standard Farms, and Frontline Farmers, Edited by C.M. Williams. Published by NCSU College of Agriculture and Life Sciences, Raleigh, NC, p. 191.
39. **Aneja, V. P.**, S. Pal Arya, I. Rumsey, Deug-Soo Kim, Wayne Robarge, David Dickey, Len Stefanski, Lori Todd, K. Mottus, K. Bajwa, H. Semunegus, S. Goetz, W. Stephens, Chiping Nieh, 2005, “Evaluation of Environmentally Superior Technologies for Ammonia – Project OPEN”, Final Report, Animal and Poultry Waste Management Center, North Carolina State University, Raleigh, NC, p. 69.
40. **Aneja, V.P.**, Arya, S.P, Schiffman, S.S., Sobsey, M., Rumsey, I.C., Kim, D.S., Robarge, W.P., Dickey, D.A., Stefanski, L.A., Todd, L. Mottus, K., 2006, Program OPEN (Odor, Pathogens, and Emissions of Nitrogen) Evaluation Findings for the ESTs at B.R. Harris (AgriClean), and Red Hill (Environmental Technologies); and Lake Wheeler Road Laboratory (Black Soldier Fly): for Ammonia, Odor and Odorants, and Pathogens; In

Development of Environmentally Superior Technologies: Phase 3 Report for Technology Determination per Agreements Between the Attorney General of North Carolina and Smithfield Foods, Premium Standard Farms, and Frontline Farmers, Edited by C.M. Williams. Published by NCSU College of Agriculture and Life Sciences, 2006, Raleigh, NC, p. 69.

41. **Aneja, V. P.**, Arya, S. P, Rumsey, I.C., Kim, D.S., Robarge, W.P, Dickey, D.A., Stefanski, L.A., Todd, L., Mottus, K. Bajwa, K.S., Semunegus, H., Goetz, S., Stephens, W., Nieh, C., 2006, Evaluation of Environmentally Superior Technologies for Ammonia – Project OPEN(Odor, Pathogens, and Emissions of Nitrogen), In Development of Environmentally Superior Technologies: Final Report for Technology Determination per Agreements Between the Attorney General of North Carolina and Smithfield Foods, Premium Standard Farms, and Frontline Farmers, Edited by C.M. Williams. Published by NCSU College of Agriculture and Life Sciences, 2006, Raleigh, NC, p. 69.
42. **Aneja, V.P.**, M. Blaser, R. Isom, T. Marsh-Johnson, C. Peterson, and B. Shaw, 2007, “Whitepaper: PM<sub>2.5</sub> – The Science of Gas to particle Conversion and the Regulatory Impact to Agriculture”, U.S. Department of Agriculture – Agricultural Air Quality Task Force, Washington D.C., p. 5.
43. Schlesinger, W.H., **V.P. Aneja**, F.S. Chapin, N. Comerford, J.P. Gibbs, T. Hrabik, P. Megonigal, M.G. Turner, and J. Whitaker, 2009, “Strategic Plan for Scientific Research in Isle Royale National Park”, Michigan Technology University, Houghton, MI, p. 34.
44. **Aneja, V.P.**, 2009, “Characterization of Particulate Matter (PM<sub>10</sub>) in Roda, Virginia” North Carolina State University, Raleigh, NC, p. 100.
45. **Aneja, V.P.**, W.H. Schlesinger, J.W. Erisman, M. Sharma, S.N. Behera, and W. Battye, 2010. “Reactive Nitrogen Emissions from Crop and Livestock Farming in India”, In ING Bulletins on Regional Assessment of Reactive Nitrogen, Bulletin No. 3, (Ed. Himanshu Pathak), SCON-ING, New Delhi, pp i-iv & 1-18, ISBN 81-85992-16-9.
46. O.C. Doering, J.N. Galloway, T.L. Theis, **V. P. Aneja**, E. Boyer, K.G. Cassman, E.B. Cowling, R.R. Dickerson, W. Herz, D.L. Hey, R. Kohn, J.S. Lightly, W. Mitsch, W. Moomaw, A. Mosier, H. Paerl, B. Shaw, and P. Stacy, 2011, “Reactive Nitrogen in the United States: An Analysis of Inputs, Flows, Consequences, and Managing Options”, A Report of the EPA Science Advisory Board, EPA-SAB-11-013, p. 140.
47. Allen, D.T., **V.P. Aneja**, B. Auvermann, P. Bloomfield, A. Carriquiry, N. Embertson, W. B. Faulkner, R. Hagevoort, R. Kohn, A. Leytem, R. Maghirang, D. Meyer, W. Powers-Schilling, C. A. Rotz, P. D. Sampson, E. P. Smith, J. Smith, E. F. Wheeler, and L. Zhao, 2013, "SAB Review of Emissions-Estimating Methodologies for Broiler Animal Feeding Operations and for Lagoons and Basins at Swine and Dairy Animal Feeding Operations", A Report of the EPA Science Advisory Board, EPA-SAB-13, p. 60.  
[http://yosemite.epa.gov/sab/sabproduct.nsf/0/08A7FD5F8BD5D2FE85257B52004234FE/\\$File/EPA-SAB-13-003-unsigned+.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/0/08A7FD5F8BD5D2FE85257B52004234FE/$File/EPA-SAB-13-003-unsigned+.pdf)