

**RICHARD J. TROPP**

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**EDUCATION:**

The University of Texas at Austin	Ph.D.	1979	Physics
City College of New York	B.S.	1965	Physics

**PROFESSIONAL EXPERIENCE:**

1998 to Present	Associate Research Professor, Division of Atmospheric Sciences, Desert Research Institute, Reno, NV.
1989 to 1998	Principal Scientist, TRC Environmental Corporation, Chapel Hill, NC.
1987 to 1989	Senior Research Associate, Research and Evaluation Associates, Inc., Chapel Hill, NC.
1984 to 1987	Chief, Atmospheric Sciences Section, Texas Air Control Board, Austin, TX.
1981 to 1984	Chief, Emissions Standards and Engineering Section, Texas Air Control Board, Austin, TX..
1979 to 1980	Postdoctoral Research Associate, Department of Chemical Engineering, University of Texas at Austin, Austin, TX.
1972 to 1979	Research Assistant, Department of Chemical Engineering, University of Texas at Austin, Austin, TX.
1966 to 1972	Research Assistant, Department of Physics, University of Texas at Austin, Austin, TX.
1965 to 1972	Teaching and Graduate Assistant, Department of Physics, University of Texas at Austin, Austin, TX.

**RESEARCH EXPERIENCE:**

Dr. Richard J. Tropp is an Associate Research Professor in the Division of Atmospheric Sciences (DAS). He has more than 27 years of management and research experience in the areas of ambient air quality monitoring, aerosol and particulate measurements, visibility, acid deposition, data analysis, quality assurance, regulation development, and air pollution control. His experience includes university research, management of state agency regulation development and research, and management and participation in over three dozen ambient air monitoring projects. He currently is Principal investigator for PM2.5 FRM and chemical speciation laboratory support contracts with the TCEQ and for TexAQSI through the University of Texas at Austin. Dr. Tropp developed VOC control regulations for the 1981 Harris County SIP revision and also reviewed its emission inventory to assess potential reductions in air toxics as a result of proposed VOC control measures. While with TRC Environmental, he developed QA/QC procedures for Title V emission inventories and developed reconciliation and assessment procedures for using CEM data to provide more reliable short-term emission inventory estimates. He also developed and provided QC oversight of a SIP emission inventory assessment program for use by EPA and state and local agencies. The program assessed potential problems in both point and area source emissions based on AP-42 emission estimates and comparison with other inventories. He also provided a QA/QC review of PM10 emission inventory estimates for both point and area sources for the 2001 Clark County (Las Vegas) PM10 SIP. Dr. Tropp managed atmospheric sciences research for the Texas Air Control Board (TACB), including support for and assessments of new instruments (e.g., improved PM sampling methods), data assessment (e.g., a synoptic scale ozone classification scheme for assessing ozone trends and spectral analysis of VOC data), and new monitoring programs (e.g., urban visibility and trends within Texas). While with TRC Environmental, he conducted audits of aircraft operations and measurements for the Regional Acid Deposition Model field study. Dr Tropp also provided assessments of the bi-national Integrated Atmospheric Deposition Network and recommendations to the Canadian Atmospheric Environment Service on how to improve its air toxics deposition network. He also provided technical support and review of EPA's 1997 PM2.5 regulations and support documents. Dr. Tropp has also written EPA's guidance document on estimating ambient air monitoring costs. He also managed data analysis of the Dallas Brown Cloud and Year-Long Visibility Study. While with TRC Environmental, he was Project Manager for EPA's Eastern Fine Particle and Visibility Network.

**PUBLICATIONS:**

- Tropp, R.J., J.R. Brock, and P.J. Kuhn (1981). Spectral Analysis of Tropospheric Aerosol Measurements Obtained with a New Method of Measuring the Particle Size Distribution of Aerosols. *Science*, 213, 651-653.
- Heisler, S.L., J.J. Shah, G.H. hay, and R.J. Tropp (1983). Evaluation of Size-Specific Particulate Matter Emissions in Houston and El Paso, Texas. Paper 83-21.5, 76th Annual Meeting of APCA, Atlanta, GA, 19-24 June, 1983.
- Zimmermann, K.A., R.J. Tropp, and J. Barta (1987). The Relationship of Weather Patterns to Ozone in the Houston, Texas Area. Paper 87-113.4, 80th Annual Meeting of APCA, Dallas, TX, 21-26 June, 1987.
- Price, J.H., R.J. Tropp, J Wiersema, et al. (1987). Research Objectives, 1988. Texas Air Control Board, October 1987.
- Ringler, E.S. and R.J. Tropp (1991). Comparison of Nephelometer and Photographic Determinations of Light Extinction. In Proceedings of the 1991 EPA/AWMA Symposium on Measurement of Toxic and Related Air Pollutants, Durham, NC, 6-10 May 1991.
- Ringler, E.S. and R.J. Tropp (1991). Particulate Organic Sampling Artifacts. In Proceedings of the 1991 EPA/AWMA Symposium on Measurement of Toxic and Related Air Pollutants, Durham, NC, 6-10 May 1991.
- Ringler, E.S., C.J. Harris, S.F. Sleva, and R.J. Tropp (1993). Guidance for Estimating Ambient Air Monitoring Costs for Criteria Pollutants and Selected Air Toxics. TRC Environmental Report No. CH93-104. Prepared for the U.S. EPA, Research Triangle Park, NC.
- Tropp, R.J. (1997). Manhattan Community Based Particulate Study. Final Report, TRC Environmental Report No. CH97-02. Prepared for U.S. EPA Region II, New York, NY.
- Tropp, R.J., K. Jones, G. Kuhn, and N.J. Berg, Jr. (1998). Comparison of PM<sub>2.5</sub> Saturation Samplers with Prototype Federal Reference Method Samplers. In PM<sub>2.5</sub>: A Fine Particle Standard, J. Chow and P. Koutrakis, eds. Air & Waste Management Association, Pittsburgh, PA, pp. 215-225.
- Price, J., S. Dattner, B. Lambeth, J. Kamrath, M. Aguirre Jr., G. McMullen, R. Tropp, and J. Chow (1998). Preliminary Results of Early PM<sub>2.5</sub> Monitoring in Texas: Separating the Impacts of Transport and Local Contributions. . In PM<sub>2.5</sub>: A Fine Particle Standard, J. Chow and P. Koutrakis, eds. Air & Waste Management Association, Pittsburgh, PA, pp. 191-202.
- Tropp, R.J.; S.D. Kohl, and J.C. Chow (2001). Final Report for the Texas PM<sub>2.5</sub> Sampling and Analysis Study with Supplemental Analyses of Archived Filters (March 11, 1997, through March 12, 1998). DRI Document No. 6570-667-0580.1D2. Prepared for Bureau of Air Quality Control, City of Houston, TX, by Desert Research Institute, Reno, NV. June 15, 2001
- Tropp, R.J., J.C. Chow, S.D. Kohl, and J.H. Price (2001). PM<sub>2.5</sub> Mass and Composition Results in Texas. 94th Annual Meeting, Orlando, FL, 24-28 June 2001. Air & Waste Management Association, Pittsburgh, PA.
- Fraser, M.P., Z.W. Yue, R.J. Tropp, S.D. Kohl, and J.C. Chow (2002). Molecular composition of organic fine particulate matter in Houston, TX. *Atmospheric Environment*, 36, 5751-5758.
- Tropp, R.J.; S.D. Kohl; A. Dickerson, B.C. Cristani, J.C. Chow, R.J. Countess, S.J. Countess, J.B. Flanagan, and E.L. Michel (2004). Quality Assessment of EPA PM<sub>2.5</sub> Chemical Speciation Results for Texas. Paper 40 in Proceedings of the Symposium on Air Quality Measurement Methods and Technology - 2004, A&WMA, Research Triangle Park, NC, 20-22 April 2004.
- Engelbrecht, J., H. Kuhns, M. Green, R. Tropp, and J. Watson (2005). MANE-VU, Source Apportionment Analysis of Air Quality Monitoring Data: Phase II. Final Report, 71 pp, plus Appendices, March, 2005.
- Tropp, R.J. (2005): Guidance for Estimating Ambient Air Monitoring Costs for Criteria Pollutants and Selected Air Toxic Pollutants. Final Report (draft). January 2005.
- Chow, J.C., J.G. Watson, D.H. Lowenthal, L.-W.A. Chen, R.J. Tropp, K. Park, and K.A. Magliano (2006): PM<sub>2.5</sub> and PM<sub>10</sub> mass measurements in California's San Joaquin Valley. *Aerosol Sci. Technol.*, 40, 796-810.

**PROFESSIONAL MEMBERSHIPS:**

Air and Waste Management Association – Vice-Chair, Technical Council  
American Association for Aerosol Research  
American Physical Society  
American Association for the Advancement of Science  
American Society for Quality  
New York Academy of Sciences

**COLLABORATORS:**

L.W.A. Chen, J.C. Chow, D.W. DuBois, J.P. Engelbrecht, E.M. Fujita, A.W. Gertler, M.C. Green, H.D. Kuhns, .  
J.G. Watson, and J.G. Watson (DRI); S.D. Dattner, J.H. Price, and E.L. Michel (TCEQ); J.R. Brock, E.L. Michel,  
and D.W. Sullivan (UT Austin); M.P. Fraser (Rice); J.B. Flanagan and R.K.M. Jayanty (RTI); and R.J. Countess  
and S.J. Countess (CE).