

DAVID T. ALLEN
Biographical Sketch

Dr. David Allen is the Gertz Regents Professor of Chemical Engineering, the Director of the Center for Energy and Environmental Resources, and the Director of the Energy Institute at the University of Texas at Austin. He is the author of six books and over 170 papers in areas ranging from coal liquefaction and heavy oil chemistry to the chemistry of urban atmospheres. For the past decade, his work has focused primarily on urban air quality and the development of materials for environmental education. Dr. Allen was a lead investigator for the first and second Texas Air Quality Studies, which involved hundreds of researchers drawn from around the world, and which have had a substantial impact on the direction of air quality policies in Texas. He has also developed environmental educational materials for engineering curricula and for the University's core curriculum. The quality of his work has been recognized by the National Science Foundation (through the Presidential Young Investigator Award), the AT&T Foundation (through an Industrial Ecology Fellowship), the American Institute of Chemical Engineers (through the Cecil Award for contributions to environmental engineering), and the State of Texas (through the Governor's Environmental Excellence Award).

Dr. Allen received his B.S. degree in Chemical Engineering, with distinction, from Cornell University in 1979. His M.S. and Ph.D. degrees in Chemical Engineering were awarded by the California Institute of Technology in 1981 and 1983. He has held visiting faculty appointments at the California Institute of Technology, the University of California, Santa Barbara, and the Department of Energy.

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Academic Positions

2006-present Director, The Energy Institute, University of Texas
2001 – 2005 Chairman, Texas Council on Environmental Technology
1999 – present Director, Center for Energy and Environmental Resources, University of Texas
1995 - present Professor of Chemical Engineering, The University of Texas at Austin
1993 - 1995 Professor and Chair of Chemical Engineering, UCLA
1992 - 1995 Chair, Chemical Engineering, UCLA
1991 - 1992 Vice Chair, Chemical Engineering, UCLA
1988 - 1993 Associate Professor of Chemical Engineering, UCLA
1989 - 1990 Visiting Associate Professor of Chemical Engineering, California Institute of Technology
1983 - 1988 Assistant Professor of Chemical Engineering, UCLA

Education

1979 B.S., with distinction, Chemical Engineering, Cornell University
1981 M.S., Chemical Engineering, California Institute of Technology
1983 Ph.D., Chemical Engineering, minor concentration in Applied Math, California Institute of Technology

Research Activities

- Environmental reaction engineering
- Air quality
- Pollution prevention

Teaching Experience

Dr. Allen has taught courses in unit operations, fluid mechanics, heat transfer, mass transfer, process design, pollution control technology, pollution prevention, the fundamentals of air pollution, chemical kinetics, engineering applications of molecular spectroscopy, introductory chemical engineering, and technology and the environment.

Industrial Experience

Department of Energy, Pittsburgh Energy Technology Center, Summer 1985; Gulf Research and Development Company, Summers 1981, 1982; Chevron Research Company, Fall 1977, Summers 1978, 1979.

Consulting Activities

Dr. Allen has served as a consultant to dozens of companies and multiple government agencies.

Advisory Committees

U. S. Environmental Protection Agency, Science Advisory Board, 2002-2008
Texas Council on Environmental Technology (Chair, appointed by Governor Perry, 2001-2005)
Texas Energy Coordination Council (appointed by Governor Bush), 1999- 2001
National Research Council Board on Environmental Studies and Toxicology, 1998-2004
State of Texas Waste Reduction Advisory Committee, 1997-2000
Life Cycle Assessment Advisory Group, Society of Environmental Toxicology and Chemistry, 1992-1998
Advisory Council, South Coast Air Quality Management District, 1991-1995
American Institute of Pollution Prevention (USEPA), 1989-1994
Advisory Committee, National Pollution Prevention Center, University of Michigan, 1994-1998
National Advisory Committee on Environmental Policy and Technology (USEPA), 1990-1993

Editorial Service

Co-Editor, *Journal of Industrial Ecology* (published by MIT Press), 1996-2001
Associate Editor, *Industrial and Engineering Chemistry Research* (published by the American Chemical Society), 1998-present

Honors and Awards

- Yale University/Journal of Industrial Ecology: Award for contributions to Industrial Ecology and service to the Journal of Industrial Ecology (2006)
- National Associate of the U.S. National Academies of Science and Engineering (in recognition of service to the National Research Council, lifetime appointment awarded in 2004)
- 2002 Governor's Environmental Excellence Award
- 2000 Lawrence Cecil Award, American Institute of Chemical Engineers (presented annually for contributions to environmental engineering)
- 1999 Joe King Faculty Leadership Award in Chemical Engineering (awarded annually by the chemical engineering students at the University of Texas)
- AT&T Faculty Fellow in Industrial Ecology (1993)
- Presidential Young Investigator Award (1987)
- 1986 TRW Teaching Award (presented annually to a faculty member in the School of Engineering at UCLA for excellence and innovation in teaching)
- DOE Faculty Research Participation Fellowship (1985)
- UCLA Faculty Career Development Award (1983)

Professional and Honorary Societies

American Institute of Chemical Engineers (Dr. Allen served as a Director of the Environmental Division and was President of the Division in 2003), American Chemical Society, American Association for Aerosol Research, American Society for Engineering Education, American Geophysical Union, Sigma Xi, Tau Beta Pi, Registered Professional Engineer in the States of Texas and California

Personal Data

Born in 1958, U.S. citizen, excellent health, married, two children

Invited Seminars

Air Products and Chemicals
American Air Liquide
Amoco Research
Arizona State University
AT&T Bell Laboratories
British Petroleum
California Institute of Technology
Carnegie Mellon University
Chevron Research Company
Cornell University
Department of Energy Pittsburgh
Energy Technology Center
Dow Chemical Company
Eidgenossische Technische
Hochschule (ETH) Zurich
Exxon Research and Engineering
Company
Hanwha Chemical Corporation
Harvard University
Johns Hopkins University
Korean Advanced Institute of
Science and Technology
Mobil Research and Development
Company
Northwestern University
PPG Industries
Ohio State University
Oklahoma State University
Pennsylvania State University
Princeton University
Rice University

Seoul National University
Sun Oil Company
Texas A&M University
Texas Tech University
Tec de Monterrey
UOP/Allied Signal
Universidad Autonoma de Nuevo
Leon
University of Alberta
University of Arizona
University of California, Berkeley
University of California, Davis
University of California, San Diego
University of California, Santa
Barbara
University of Cincinnati
University of Delaware
University of Houston
University of Iowa
University of Kansas
University of New Mexico
University of Oklahoma
University of Pittsburgh
University of Southern California
University of Texas at Austin
University of Toledo
University of Tulsa
Washington University
Washington State University
W. R. Grace and Company

PUBLICATIONS

Books

1. “NMR for Liquid Fossil Fuels” with L. Petrakis, *Elsevier*, 242 pp. (1986).
2. “Pollution Prevention: Homework and Design Problems for Engineering Curricula,” with N. Bakshani and K. S. Rosselot, *American Institute of Chemical Engineers*, 155 pp. (1992).
3. “Guidelines for Life Cycle Assessment: A Code of Practice,” F. Consoli, D. T. Allen, I. Boustead, J. Fava, W. Franklin, A. A. Jensen, N. deOude, R. Parrish, R. Perriman, D. Postlethwaite, B. Quay, J. Seguin and B. Vigon, SETAC, Pensacola, FL, 81 pp. (1993).
4. “Pollution Prevention for Chemical Processes,” with K. S. Rosselot, Wiley, New York, 434 pp. (1997).
5. “Public Policy Applications of Life Cycle Assessment,” D. T. Allen, F.J. Consoli, G. A. Davis, J.A. Fava, and J.L. Warren, eds., SETAC, Pensacola, FL, 127 pp. (1997).
6. “Green Engineering: Environmentally Conscious Design of Chemical Processes,” D. T. Allen and D. Shonnard, Prentice Hall, Englewood Cliffs, 539 pp. (2001).

Edited Books

1. “Intermedia Pollutant Transport: Modeling and Field Measurements,” D. T. Allen, Y. Cohen and I. R. Kaplan, eds., Plenum, (1989).

National Research Council Reports

1. National Research Council, "Evaluating Vehicle Inspection and Maintenance Programs" (Report of committee chaired by R. J. Cicerone and D. T. Allen) National Academy Press (2001)
2. National Research Council, “Materials Count: The Case for Material Flows Analysis” (Report of committee of which D. T. Allen was a member) National Academy Press (2004)
3. National Research Council, “State and Federal Standards for Mobile Source Emissions” (Report of committee chaired by D. T. Allen), National Academy Press (2006)

Journal Publications and Book Chapters

1. Allen, D. T. and G. R. Gavalas, "Kinetics of Dialin Thermolysis," *International Journal of Chemical Kinetics*, 15, 219-233 (1983).
2. Petrakis, L., D. T. Allen, G. R. Gavalas and B. C. Gates, "Analysis of Synthetic Fuels for Functional Group Determination," *Analytical Chemistry*, 55, 1557-1564 (1983).
3. Allen, D. T., L. Petrakis, D. W. Grandy and G. R. Gavalas, "Functional Group Analysis" in "Magnetic Resonance: Introduction, Advanced Topics and Applications to Fossil Energy," L. Petrakis and J. P. Fraissard, eds., Reidel, pp. 699-708 (1984).
4. Allen, D. T. and G. R. Gavalas, "Reactions of Methylene and Ether Bridges," *Fuel*, 63, 586-592 (1984).
5. Allen, D. T., L. Petrakis, G. R. Gavalas and D. W. Grandy, "Determination of Functional Groups of Coal Derived Liquids by NMR and Elemental Analysis," *Fuel*, 63, 803-809 (1984).
6. Allen, D. T., M. R. Gray and T. T. Le. "Structural Characterization and Thermodynamic Property Estimation for Wood Tars: A Functional Group Approach," *Liquid Fuels Technology*, 2, 327-353 (1984).
7. Allen, D. T., L. Petrakis, D. W. Grandy and K. M. Jeong, "Heavier Fractions of Shale Oils, Heavy Crudes, Tar Sands and Coal Liquids: Comparison of Structural Profiles," *I&EC Process Design and Development*, 24, 737-742 (1985).
8. Le, T. T. and D. T. Allen, "Property Estimation Using Structural Characterizations: Heat Capacities of Coal Liquids," *Fuel*, 64, 1754-1759 (1985).
9. Rashtian, M. Y., D. T. Allen, A. P. Yoganathan, E. C. Harrison, W. A. Edmiston and S. H. Rahimtoola, "Flow Characteristics of Prosthetic Heart Valves: A Review of Four Commonly Used Mechanical Heart Valves," *American Journal of Cardiology*, 5S, 743-752 (1986).
10. Allen, D. T., "Structural Characterization and Property Estimation for Complex Mixtures," *Fluid Phase Equilibria*, 30, 353-366 (1986).
11. Allen, D. T. and L. Petrakis, "Estimating Thermophysical Properties of Coal Liquids Using NMR Spectra," in *Magnetic Resonance in Coal Science*, Y. Yurum, ed., Reidel, (1987).
12. Dangler, M., S. Burke, S. V. Hering and D. T. Allen, "A Direct FTIR Method for Identifying Functional Groups in Size Segregated Atmospheric Aerosols," *Atmospheric Environment*, 21, 1001-1004 (1987).

13. Allen, D. T. and D. R. Pettit, "Unit Operations in Microgravity," *Chemical Engineering Education*, 21(4), 190-193 (1987).
14. White, C. M., M. B. Perry, C. E. Schmidt, Nasrin Behmanesh and David T. Allen "Narrow Boiling Distillates of Coal Liquefaction Products: Part I: Functional Group Distributions," *Fuel*, 67, 119-126 (1988).
15. Allen, D. T., Nasrin Behmanesh, D. J. Eatough and C. M. White, "Narrow Boiling Distillates of Coal Liquefaction Products: Part II: Heat Capacities," *Fuel*, 67, 127-133 (1988).
16. Parnas, R. S., and D. T. Allen, "Compound Class Modeling of Hydropyrolysis," *Chemical Engineering Science*, 43, 2845-2857 (1988).
17. Harrison, E. C., M. Y. Rashtian, D. T. Allen, A. P. Yoganathan and S. H. Rahimtoola, "An Emergency Department Physician's Guide to Prosthetic Valves: Part I. Identification and Hemodynamic Function," *Annals of Emergency Medicine*, 17:194-200 (1988).
18. Harrison, E. C., M. Y. Rashtian, D. T. Allen, G. M. Mitani, G. P. Whelan, W. N. Parnassus, and S. H. Rahimtoola, "An Emergency Department Physician's Guide to Prosthetic Heart Valves: Part II. Valve Related Complications," *Annals of Emergency Medicine*, 17, 704-710 (1988).
19. Vajdi, L. E. and D. T. Allen, "Narrow Boiling Distillates of Coal Liquefaction Products: Part III: Critical Properties," *Fuel*, 67, 1489-1494 (1988).
20. Hartounian, H. and D. T. Allen, "Group Contribution Methods for Coal Derived Liquids: Hydrogen Solubilities Using a UNIFAC Approach," *Fuel*, 67, 1609-1614 (1988).
21. Hartounian, H. and D. T. Allen, "Group Contribution Methods for Coal Derived Liquids: Vapor Pressures," *Fuel*, 68, 480-485 (1989).
22. Behmanesh, N. and D. T. Allen, "Group Contribution Methods for Coal Liquids," *Fluid Phase Equilibria*, 53, 423-428 (1989).
23. Hanle, D. D., E. C. Harrison, A. P. Yoganathan, D. T. Allen and W. H. Corcoran, "In Vitro Flow Dynamics of Four Prosthetic Aortic Valves: A Comparative Analysis," *Journal of Biomechanics*, 22, 597-607 (1989).
24. Allen, D. T. and E. Palen, "Recent Advances in Aerosol Analysis by Infrared Spectroscopy," *Journal of Aerosol Science*, 20, 441-455 (1989).
25. Liguras, D. K. and D. T. Allen, "Structural Models for Catalytic Cracking. Part I. Model Compound Reactions," *Industrial and Engineering Chemistry Research*, 28, 665-673 (1989).

26. Liguras, D. K. and D. T. Allen, "Structural Models for Catalytic Cracking. Part II. Reactions of a Simulated Oil Mixture," *Industrial and Engineering Chemistry Research*, 28, 674-683 (1989).
27. Vajdi, L. E. and D. T. Allen, "Vapor Pressures of Coal Liquids Estimated Using a Group Contribution Equation of State," *Fuel*, 68, 1388-1393 (1989).
28. Hagh, B. and D. T. Allen, "Catalytic Hydrodechlorination," in *Innovative Hazardous Waste Treatment Technology, Volume 2, Physical / Chemical Processes*, H. M. Freeman, ed., Technomic, Lancaster, PA, pp. 45-54 (1990).
29. Brown, S., M. C. Dangler, S. R. Burke, S. V. Hering, and D. T. Allen, "Direct FTIR Analysis of Size Segregated Aerosols: Results from the Carbonaceous Species Intercomparison Study," *Journal of Aerosol Science and Technology*, 12(1), 172-181 (1990).
30. Hagh, B. F., and D. T. Allen, "Catalytic Hydroprocessing of Chlorobenzene and 1,2-Dichlorobenzene," *AIChE Journal*, 36, 773-778 (1990).
31. Rashtian, M. Y., D. T. Allen, A. P. Yoganathan, E. C. Harrison, W. A. Edmiston and S. H. Rahimtoola, "Flow Characteristics of Bioprosthetic Heart Valves," *Chest*, 98(2), 365-375 (1990).
32. Pickle, T., D. T. Allen and S. Pratsinis, "The Sources and Size Distributions of Aliphatic and Carbonyl Carbon in Los Angeles Aerosol," *Atmospheric Environment*, 24A(8), 2221-2228 (1990).
33. Hagh, B. F. and D. T. Allen, "Catalytic Hydroprocessing of Chlorinated Benzenes," *Chemical Engineering Science*, 45, 2695-2702 (1990).
34. Liguras, D. K. and D. T. Allen, "Sensitivity of Octane Number to Catalytic Cracking Rates and Feedstock Structure," *AIChE Journal*, 36, 1617-1621 (1990).
35. Behmanesh, N., V. Manousiouthakis and D. T. Allen, "Optimizing the Throughput of Hazardous Waste Incinerators," *AIChE Journal*, 36, 1707-1714 (1990).
36. Paulson, S. E., S. N. Pandis, U. Baltensperger, J. H. Seinfeld, R. C. Flagan, E. J. Palen, D. T. Allen, C. Schaffner, W. Giger and A. Portmann, "Characterization of Photochemical Aerosols from Biogenic Hydrocarbons," *Journal of Aerosol Science*, 21, Suppl. 1, S245-S248 (1990).
37. Allen, D. T., "Structural Models of Catalytic Cracking Chemistry in Kinetic and Thermodynamic Lumping of Multicomponent Mixtures," S. Sandler and G. Astarita, eds., *Elsevier*, pp. 163-180 (1991).
38. Allen, D. T. and D. K. Liguras, "Structural Models of Catalytic Cracking Chemistry. A Case Study of a Group Contribution Approach to Lumped Kinetic Modeling," in *Chemical*

Reactions in Complex Systems, A. V. Sapre and F. J. Krambeck, eds., Van Nostrand Reinhold, New York, pp. 101-125 (1991).

39. Mylonas, D., D. T. Allen, S. Ehrman and S. E. Pratsinis, "The Sources and Size Distributions of Organonitrates in Los Angeles Aerosol," *Atmospheric Environment*, 25A(12), 2855-2861 (1991).
40. Chon, S. and D. T. Allen, "Catalytic Hydroprocessing of Chlorophenols," *AIChE Journal*, 37, 1730-1732 (1991).
41. Allen, D. T. and S. Senkan, "Chemical Engineering at UCLA," *Chemical Engineering Education*, 25(2), 64-67 (1991).
42. Liguras, D. K. and D. T. Allen, "A Comparison of Lumped and Molecular Modeling of Hydroxyrolysis Reactions," *Industrial and Engineering Chemistry Research*, 31, 45-53 (1992).
43. Cohen, Y. and D. T. Allen, "An Integrated Approach to Waste Minimization Research," *Journal of Hazardous Materials*, 29, 237-253 (1992).
44. Palen, E. J., D. T. Allen, S. N. Pandis, S. E. Paulson, J. H. Seinfeld and R. C. Flagan, "FTIR Analysis of Aerosol Formed in the Photooxidation of Isoprene and α -Pinene," *Atmospheric Environment*, 26A, 1239-1251 (1992).
45. Behmanesh, N., D. T. Allen and J. L. Warren, "Flow Rates and Compositions of Incinerated Waste Streams in the United States," *Journal of the Air and Waste Management Association*, 42, 437-442 (1992).
46. Allen, D. T., and N. Bakshani, "Environmental Impacts of Paper and Plastic Grocery Sacks. A Mass Balance Problem with Multiple Recycle Loops," *Chemical Engineering Education*, 26(2), 82-86 (1992).
47. Allen, D. T., "An Overview of Industrial Waste Generation and Management Practices," *MRS Bulletin*, 17(3), 30-33 (1992).
48. Baker, R. D., J. L. Warren, N. Behmanesh and D. T. Allen, "Management of Hazardous Waste in the United States," *Hazardous Waste and Hazardous Materials*, 9, 37-60 (1992).
49. Allen, D. T. and N. Behmanesh, "Non Hazardous Waste Generation," *Hazardous Waste and Hazardous Materials*, 9, 91-96 (1992).
50. Allen, D. T., Prepared Discussion of "Industrial Pollution Prevention: A Critical Review," *Journal of the Air and Waste Management Association*, 42(9), 1159-1162 (1992).
51. Allen, D. T., "The Role of Catalysts in Hazardous Waste Reduction" in *Industrial Environment Chemistry: Waste Minimization in Industrial Processes and Remediation of*

- Hazardous Wastes, A. E. Martell and D. Sawyer, eds., Plenum, New York, pp. 89-98 (1992).
52. Pandis, S. N., S. E. Paulson, U. Baltensperger, J. H. Seinfeld, R. C. Flagan, E. J. Palen and D. T. Allen, "Biogenic Hydrocarbons as Aerosol Precursors in Aerosols: Science, Industry, Health and Environment," 974-977, Pergamon Press (1990).
 53. Allen, D. T., P. Marathe and R. Harding, "Catalyst Based Descriptions of Catalytic Cracking Chemistry" in "Computer Aided Design of Catalysts," E. R. Becker and C. J. Pereira, eds., Marcel Dekker, pp. 31-55 (1993).
 54. Palen, E. J., D. T. Allen, S. N. Pandis, S. Paulson, J. H. Seinfeld and R. C. Flagan, "Fourier Transform Infrared Analysis of Aerosol Formed in the Photooxidation of 1 Octene," *Atmospheric Environment*, 27A, 1471-1477 (1993).
 55. Bakshani, N. and D. T. Allen, "Pollution Prevention Education at Universities in the United States," *Pollution Prevention Review*, 3(1), 97-105 (1993).
 56. Behmanesh, N., J. Roque and D. T. Allen, "An Analysis of Normalized Measures of Pollution Prevention," *Pollution Prevention Review*, 3(2), 161-166 (1993).
 57. Allen, D. T., "Using Wastes as Raw Materials: Opportunities to Create an Industrial Ecology," *Hazardous Waste and Hazardous Materials*, 10(3), 273-277 (1993).
 58. Allen, D. T. and N. Behmanesh, "Wastes as Raw Materials," in *The Greening of Industrial Ecosystems*, B. R. Allenby and D. J. Richards, Eds., National Academy Press, pp. 69-89 (1994).
 59. Allen, D. T. and K. S. Rosselot, "Pollution Prevention at the Macro-Scale: Flows of Wastes, Industrial Ecology and Life Cycle Analyses," *Waste Management*, 14, 317-328 (1994).
 60. Palen, E. J., D. T. Allen, S. V. Hering and J. R. Young, "Fourier Transform Infrared Spectroscopy of Size Segregated Aerosol: Method Development and Field Calibration," *Aerosol Science and Technology*, 21(4), 325-342 (1994).
 61. Allen, D. T. and N. Steele, "P2 Tools for Materials Selection," *Pollution Prevention Review*, 4, 345-354 (1994).
 62. Hopkins, L., D. T. Allen and M. Brown, "Quantifying and Reducing Environmental Impacts Resulting from Transportation of a Manufactured Garment," *Pollution Prevention Review*, 4, 491-500 (1994).
 63. Allen, D. T., "Pollution Prevention: Engineering Design at Macro-, Meso- and Micro Scales," in *Advances in Chemical Engineering*, J. Wei, Ed., 19, 251-323 (1994).
 64. Kim, D. I. and D. T. Allen, "Catalytic Hydroprocessing of Chloropyridinols," *Industrial and Engineering Chemistry Research*, 33, 2942-2945 (1994).

65. Hopkins, L. and D. T. Allen, "Voluntary Pollution Prevention Initiatives: Industry Responds to EPA's 33/50 Program," *Pollution Prevention*, 5(1), 91-98 (1995).
66. Allen, D. T., "Using Life Cycle Concepts in Strategic Environmental Planning," *Pollution Prevention Review*, 5(2), 91-97 (1995).
67. Allen, D. T., "Loadings, Size Distributions and Sources of Compound Classes in Los Angeles Aerosol," *Inhalation Toxicology*, 7:723-734 (1995).
68. Allen, D. T., "The Chemical Industry: Process Changes and the Search for Cleaner Technologies," in *Reducing Toxics*, R. Gottlieb, Ed., Island Press, pp. 233-273 (1995).
69. Manousiouthakis, V. and D. T. Allen, "Process Synthesis for Waste Minimization," in *Foundations in Computer Aided Process Design*, L. T. Biegler and M. F. Doherty, eds., AIChE Symposium Series, 91, 72-86 (1995).
70. Rosselot, K. S. and D. T. Allen, "Reducing Emissions of Nitrogen Oxides from Process Heaters," *Pollution Prevention Review*, 5(3), 85-89 (1995).
71. Allen, D. T., Letter responding to "Environmental Implications of Electric Cars," *Science*, 269, 741 (1995).
72. Kimbrough, D. E., P.W. Wong and D. T. Allen, "Policy Options for Encouraging Silver Recovery," *Pollution Prevention Review*, 5(4), 97-101 (1995).
73. Allen, D. T., "Applications of Life Cycle Assessment", in *Life Cycle Assessment*, M. A. Curran, Ed., McGraw-Hill, pp 5.1-5.18 (1996).
74. Rosselot, K. S. and D. T. Allen, "Upgrading Process Water to Prevent Pollution in Petroleum Refining," *Pollution Prevention Review*, 6(1), 95-99 (1996).
75. Allen, D. T., "Waste Exchanges and Materials Recovery," *Pollution Prevention Review*, 6(2), 105-112 (1996).
76. Chang, D. and D.T. Allen, "Minimizing Chlorine Use in Chemical Manufacturing," *Pollution Prevention Review*, 6 (3), 107-113, (1996).
77. Allen, D. T., "Pollution Prevention: Engineering Design at Macro-, Meso- and Micro-Scale," *Clean Technology (Korean Society of Clean Technology)*, 2 (2), 81-96 (1996).
78. Allen, D. T. and G. Kasper, "Preface to Special Issue of Chemical Engineering Communications dedicated to Professor Sheldon K. Friedlander," *Chemical Engineering Communications*, 151, 1-3 (1996).

79. Holes, A., A. Eusebi, D. Grosjean and D. T. Allen, "FTIR Analysis of Aerosol Formed in the Photooxidation of 1,3,5-trimethylbenzene," *Aerosol Science and Technology*, 26, 516-526 (1997).
80. Kim, D. I. and D. T. Allen, "Catalytic Hydroprocessing of Chlorinated Olefins," *Industrial and Engineering Chemistry Research*, 36, 3019-3026 (1997).
81. Chang, D. and D. T. Allen, "Minimizing Chlorine Use: Assessing Tradeoffs between Cost and Chlorine Reduction in Chemical Manufacturing," *Journal of Industrial Ecology*, 1(2), 111-134 (1997).
82. Allen, D. T., "Systematic Design of Substitute Materials: A Solvent Case Study," *Pollution Prevention Review*, 7(1) 113-118 (1997).
83. Rosselot, K. S. and D. T. Allen, "Ranking Pollutants," *Pollution Prevention Review*, 7(2) 89-98 (1997).
84. Allen, D. T., "Wastes and Emissions in the United States," in *Environmentally Significant Consumption: Research Directions*, P. Stern, T. Dietz, V.W. Ruttan, R.H. Socolow and J.L. Sweeney, eds., National Academy Press, Washington, D.C., pp. 40-49 (1997).
85. Allen, D. T., "Measuring Corporate Environmental Performance: The Imperial Chemical Industries Group Environmental Burden System," *Pollution Prevention Review*, 7(3) 109-114 (1997).
86. Ramon, R., H. Liljestrand, and D. T. Allen, "Oxidants in Suburban and Rural Texas," *Air Pollution V*, 5th International Conference on Air Pollution, pp. 873-879 (1997).
87. Steele, N. and D. T. Allen, "An Abridged Life Cycle Assessment of Electric Vehicle Batteries," *Environmental Science and Technology*, 3(1), 40A-46A (1998).
88. Dekermenjian, M., D. T. Allen, R. Atkinson and J. Arey, "FTIR Analysis of Aerosol Formed in the Ozone Oxidation of Sesquiterpenes," *Aerosol Science and Technology*, 30, 349-363 (1999).
89. Wright, M., D. T. Allen, R. Clift and H. Sas, "Measuring Corporate Environmental Performance: The ICI Environmental Burden System," *Journal of Industrial Ecology*, 1(4) 117-127 (1998).
90. Dekermenjian, M., D. T. Allen, R. Atkinson and J. Arey, "FTIR Analysis of Aerosol Formed in the Photooxidation of Naphthalene," *Aerosol Science and Technology*, 30(3), 273-279 (1999).
91. Keckler, S. E. and D. T. Allen, "Material Reuse Modeling: A Network Flow Programming Approach," *Journal of Industrial Ecology*, 2(4) 79-92 (1998).

92. Meyer, R. J., D. I. Kim, D. T. Allen and J.H. Jo, "Catalytic Hydrodechlorination of 1,3-Dichloropropene," *Chemical Engineering Science*, 54, 3627-3634 (1999).
93. Allen, D. T., "Industrial Ecology," Invited Guest Editorial, *Environmental Progress*, 18 (2) S3 (1999).
94. Wiedinmyer, C., I. W. Strange, M. Estes, G. Yarwood and D. T. Allen, "Biogenic Hydrocarbon Emission Estimates for North Central Texas," *Atmospheric Environment*, 34, 3419-3435 (2000).
95. Wiedinmyer, C., S. Friedfeld, A. Guenther, M. Fraser, and D. T. Allen, "Measurement and Analysis of Atmospheric Concentrations of Isoprene and its Reaction Products in Central Texas," *Atmospheric Environment*, 35, 1001-1013 (2001).
96. Nobel, C. E. and D. T. Allen, "Using Geographic Information Systems (GIS) in Industrial Water Reuse Modeling," *Transactions of the Institution of Chemical Engineers/Trans IChemE, Part B: Safety and Environmental Protection*, 78(B) 295-303 (2000).
97. Tanaka, P. L., S. Oldfield, J. D. Neece, C. B. Mullins and D. T. Allen, "Anthropogenic Sources of Chlorine and Ozone Formation in Urban Atmospheres," *Environmental Science and Technology*, 34, 4470-4473 (2000).
98. Allen, D. T., "Air Quality," *McGraw Hill Yearbook of Science and Technology 2001*, pp 115-17, McGraw Hill, New York (2001).
99. Meyer, R. J., D. J. Safarik, C. T. Reeves, D. T. Allen, and C. B. Mullins, "Phosgene Formation from Adsorption of Carbon Tetrachloride on Oxygen Modified Ir(111)," *Journal of Molecular Catalysis A: Chemical*, 167, 59-66 (2001).
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12. Dangler, M. C., S. R. Burke, S. V. Hering and D. T. Allen, "Direct FTIR Analysis of Size Segregated Atmospheric Aerosols," American Association for Aerosol Research, Seattle, September (1987).

13. Dangler, M. C., S. R. Burke, S. V. Hering, and D. T. Allen, "Direct FTIR Analysis of Size Segregated Aerosols: Results from the Carbonaceous Species Intercomparison Study," Third International Conference on Carbonaceous Particles in the Atmosphere, Berkeley, California, October (1987).
14. Parnas, R. S. and D. T. Allen, "Compound Class Modeling of Hydropyrolysis," presented at the AIChE Annual Meeting, New York, November (1987).
15. Hartounian, H. and D. T. Allen, "NMR Characterization and Prediction of Coal Liquid Properties," Midwest Thermodynamics Symposium, Lake Geneva, WI, May (1988).
16. Liguras, D. K. and D. T. Allen, "A Lumped Kinetic Model for Catalytic Cracking Based on Pure Compound Reactions," CONFAB '88, Silver Creek, CO, August (1988).
17. Hagh, B. and D. T. Allen, "Catalytic Hydroprocessing of Chlorinated Organics," AIChE National Meeting, Denver, CO, August (1988).
18. Liguras, D. K. and D. T. Allen, "A Semicontinuous Kinetic Model of Hydropyrolysis," AIChE Annual Meeting, Washington, D.C., November (1988).
19. Hagh, B. and D. T. Allen, "Catalytic Hydroprocessing of Chlorinated Organics for Source Reduction in Agricultural Chemical Manufacturing," AIChE Annual Meeting, Washington, D.C., November (1988).
20. Hering, S. V., D. T. Allen and E. C. Ellis, "A Direct FTIR Analysis of Size-Segregated Atmospheric Aerosols," at the International Conference on Global and Regional Environmental Atmospheric Chemistry, Beijing, China, May 3-10 (1989).
21. Allen, D. T. and S. V. Hering, "Size Distributions of Aerosol Sulfate, Nitrate, Carbonyl and Aliphatic Carbon During the SCAQS Period," Air Pollution Control Association Meeting, Anaheim, CA, June (1989).
22. Pettit, D. R. and D. T. Allen, "Unit Operations for Gas-Liquid Mass Transfer in Reduced Gravity Environments," Lunar Bases Proceedings, Lunar and Planetary Institute, (1989).
23. Palen, E., T. Pickle and D. T. Allen, "Size Distributions of Organic and Inorganic Functional Groups in Los Angeles Aerosol," American Association for Aerosol Research, Reno, Nevada, October (1989).
24. Hagh, B. F. and D. T. Allen, "Catalytic Hydroprocessing of Multiply Chlorinated Benzenes," AIChE Annual Meeting, San Francisco, CA, November (1989).
25. Cohen, Y. and D. T. Allen, "An Integrated Approach to Pollution Prevention Research," AIChE Conference on Pollution Prevention, Washington, D.C. (1989).
26. Allen, D. T., "Structural Models of Catalytic Cracking Chemistry," Mobil Workshop on Chemical Reactions in Complex Systems, Paulsboro, NJ, March (1990).

27. Allen, D. T., D. T. Mylonas, E. J. Palen and S. E. Pratsinis, "Principal Component Analysis of Organic Functional Groups in Ambient Los Angeles Aerosol," American Association for Aerosol Research Annual Meeting, Philadelphia, PA, June (1990).
28. Palen, E. J., D. T. Allen, R. C. Flagen and J. H. Seinfeld, "Smog Chamber Studies of Biogenic Hydrocarbons: Characterization of Aerosol Products," American Association for Aerosol Research Annual Meeting, Philadelphia, PA, June (1990).
29. Hagh, B. F., S. Chon and D. T. Allen, "Catalytic Hydroprocessing of Chlorinated Benzenes," International Symposium on Chemical Reaction Engineering (ISCRE 11), Toronto, Canada, July (1990).
30. Hagh, B. F., S. Chon and D. T. Allen, "Design of a Commercial Reactor for Catalytic Hydroprocessing of Chlorinated Benzenes," American Institute of Chemical Engineers, Summer National Meeting, San Diego, CA (1990).
31. Behmanesh, N., V. Manousiouthakis and D. T. Allen, "Modeling and Optimizing the Performance of Hazardous Waste Incinerators," Poster, American Institute of Chemical Engineers Annual Meeting, Chicago, November (1990).
32. Allen, D. T., P. E. Rosen, E. C. Harrison and E. Rambod, "In Vitro Backflow Studies of the St. Jude Aortic Valve," American Institute of Chemical Engineers Annual Meeting, Chicago, November (1990).
33. Allen, D. T., "Structural Models of Catalytic Cracking Chemistry," American Chemical Society, Atlanta, GA, April (1991).
34. Allen, D. T., "Waste Reduction," Invited presentation, Materials Research Society, Anaheim, CA, April (1991).
35. Allen, D. T., Panel discussion on Source Reduction, Society for the Advancement of Materials and Process Engineering, San Diego, CA, May (1991).
36. Cohen, Y., and D. T. Allen, "An Integrated Approach to Process Waste Minimization Research," Air and Waste Management Association Meeting Paper 91-43.5, Vancouver, BC, June (1991).
37. Cohen, Y., D. T. Allen, R. E. Clay, K. Rosselot and W. Tsai, "Multimedia Assessment of Emissions from the Amoco Corporation Yorktown Refinery," Air and Waste Management Association Meeting Paper 91-84.6, Vancouver, BC, June (1991).
38. Allen, D. T., "Synthesizing the Databases: Developing a Model of the Waste Processing Industry," American Institute of Chemical Engineers, Summer National Meeting, Pittsburgh, PA, August (1991).
39. Behmanesh, N. and D. T. Allen, "Metals and Halogens in Incinerated Waste Streams: Identifying Targets for Reduction," American Institute of Chemical Engineers, Summer National Meeting, Pittsburgh, PA, August (1991).

40. Rosselot, K., Y. Cohen and D. T. Allen, "Targeting Wastes Based on Exposure: A Multimedia Exposure Assessment of Emissions Reported Through the Toxic Release Inventory," American Institute of Chemical Engineers, Summer National Meeting, Pittsburgh, PA, August (1991).
41. Palen, E. J. and D. T. Allen, "Infrared Spectroscopy of Size Resolved Fine Aerosol: Method Development and Field Calibration," American Association for Aerosol Research, Traverse City, MI, October (1991).
42. Allen, D. T., E. J. Palen, S. Pandis, S. E. Paulson and M. A. Shaw, "Chemical Composition of Aerosol Formed in the Photooxidation of Isoprene and β -Pinene," American Institute of Chemical Engineers, Annual Meeting, Los Angeles, CA, November (1991).
43. Chon, S. and D. T. Allen, "Catalytic Hydroprocessing of Chlorophenols," American Institute of Chemical Engineers, Annual Meeting, Los Angeles, CA, November (1991).
44. Allen, D. T., E. J. Palen, M. I. Haimov, S. V. Hering and J. R. Young, "Fourier Transform Infrared Spectroscopy of Aerosol Collected in a Low Pressure Impactor (LPI/FTIR): Method Development and Field Calibration," American Association for Aerosol Research Annual Meeting, San Francisco, CA, October (1992).
45. Eusebi, A., D. T. Allen and D. Grosjean, "LPI-FTIR Signatures of Secondary Aerosol: Smog Chamber and Field Data," American Association for Aerosol Research Annual Meeting, San Francisco, CA, October (1992).
46. Nuzzolo, J., D. T. Allen, E. J. Palen and R. F. Pueschel, "Infrared Spectroscopy of Stratospheric Aerosol," American Association for Aerosol Research Annual Meeting, San Francisco, CA, October (1992).
47. Allen, D. T., V. Jalapathy and W. Whiting, "An Equation of State for Atmospheric Organic Aerosol," American Institute of Chemical Engineers Annual Meeting, Miami, FL, November (1992).
48. Eusebi, A. and D. T. Allen, "Formation Pathways for Secondary Atmospheric Aerosol: Smog Chamber and Field Data," American Institute of Chemical Engineers Annual Meeting, Miami, FL, November (1992).
49. Allen, D. T. and D. Kim, "Catalytic Hydroprocessing of Chlorinated Benzenes, Chlorinated Phenols and Chlorinated Pyridines," American Institute of Chemical Engineers Annual Meeting, Miami, FL, November (1992).
50. Allen, D. T., "Pollution Prevention in Engineering Education," Keynote address at Canadian Chemical Engineering Conference, Ottawa, Ontario, October (1993).
51. Allen, D. T., "Loadings, Size Distributions and Sources of Organic Compound Classes in Los Angeles Aerosol," Colloquium on Particulate Air Pollution and Human Mortality and Morbidity; Beckman Center of the National Academy of Sciences, Irvine, CA, January (1994).

52. Allen, D. T., "Pollution Prevention at the Macro Scale: Life Cycle Analyses and Industrial Ecology," Invited Plenary Talk at the Annual Gulf Coast Environmental Conference, Lamar University, Beaumont, TX, March (1994).
53. Allen, D. T., "Pollution Prevention: Homework and Design Problems for Engineering Curricula," AIChE National Meeting Denver, CO, August (1994).
54. Eusebi, A. A. and D. T. Allen, "Aerosol Phase Products from the Atmospheric Reactions of 1-Octene," Fifth International Conference on Carbonaceous Particles in the Atmosphere, Berkeley, CA, August (1994).
55. Eusebi, A. A., D. T. Allen and K. A. Prouty, "Aerosol Phase Products from the Atmospheric Reactions of Anthropogenic and Biogenic Hydrocarbons," Fourth International Aerosol Conference, UCLA, September (1994).
56. Dekermenjian, M., D. T. Allen, R. Atkinson and J. Arey, "FTIR Analysis of Aerosol Formed in the Photooxidation of Naphthalene," Fourth International Aerosol Conference, UCLA, September (1994).
57. Eusebi, A., D. T. Allen, A.J. Holes, "Composition of Aerosol Generated in the Photooxidation of 1,3,5-Trimethylbenzene," American Association for Aerosol Research, Pittsburgh, Pa., October (1995).
58. Dekermenjian, M., D.T. Allen, R. Atkinson and J. Arey, "FTIR Analysis of Aerosol Formed in the Photo oxidation of a series of Sesquiterpenes," American Association for Aerosol Research, Pittsburgh, PA., October (1995).
59. Allen, D. T., "Wastes as Raw Materials," American Institute of Chemical Engineers Annual Meeting, Miami, November (1995).
60. Kim, D. I. and D. T. Allen, "Thermal and Catalytic Depolymerization of PVC," American Institute of Chemical Engineers Annual Meeting, Miami, November (1995).
61. Allen, D. T., "Catalytic Hydroprocessing of Chlorinated Aromatics, Aliphatics, and Polymeric Materials," World Congress of Chemical Engineering, San Diego, July (1996).
62. Allen, D. T., "Pollution Prevention at the Macro-Scale: Flows of Wastes, Industrial Ecology and Life Cycle Assessment," World Congress of Chemical Engineering, San Diego, July (1996).
63. Allen, D. T., "Pollution Prevention: Engineering Design at Macro-, Meso- and Micro-Scales," Invited Presentation, Korean Society for Clean Technology, Seoul, Korea, September (1996).
64. Allen, D. T., "Pollution Prevention for Chemical Processes," American Institute of Chemical Engineers Annual Meeting, Chicago, November, (1996).
65. Allen, D. T., "Assessing the Life Cycle Environmental Impacts of Materials: A Case Study Comparing Alternative Electric Vehicle Batteries," American Chemical Society Green Chemistry and Engineering Conference, Washington, D.C., June (1997).

66. Allen, D. T., "Case Studies in Industrial Ecology," Lucent Foundation Symposium on Industrial Ecology, Bell Labs, Murray Hill, NJ, June (1997).
67. Allen, D. T., "Industrial Environmental Performance Metrics," National Academy of Engineering Workgroup on Industrial Environmental Performance Metrics, January (1998).
68. Allen, D. T. and S. E. Keckler, "Design Tools for Industrial Symbiosis," American Institute of Chemical Engineers, Spring National Meeting, New Orleans, March (1998).
69. Nobel, C. E., S. E. Keckler and D. T. Allen, "Using Linear Programming and Geographical Information Systems (GIS) to Model Material Reuse," Annual Meeting of Air and Waste Management Association, San Diego, June (1998).
70. Nobel, C. E. and D. T. Allen, "A Model for Industrial Water Reuse: A Geographic Information System Approach to Industrial Ecology," Gordon Conference on Industrial Ecology, Colby Sawyer College, New Hampshire, June (1998).
71. Meyer, R. J., D. I. Kim D. T. Allen and J.H. Jo, Catalytic Hydrodechlorination of 1,3-Dichloropropene, Poster presented at 15th International Symposium on Chemical Reaction Engineering, Newport Beach, CA, September (1998).
72. Wittig, A. E. and D. T. Allen, "Uncertainties in Hydrocarbon Source Allocations Determined using the Chemical Mass Balance Tool: A Case Study Using Houston Data," Air and Waste Management Association Symposium on Measurement of Toxic and Related Air Pollutants, Cary NC, September (1998).
73. Allen, D. T., "Fourier Transform Infrared Microscopy of Size Segregated Aerosol," American Institute of Chemical Engineers, Annual Meeting, Miami, November (1998).
74. Allen, D. T. and R. J. Meyer, "Catalytic Hydroprocessing of Chlorinated Organics," American Institute of Chemical Engineers, Annual Meeting, Miami, November (1998).
75. Russell, M. W. and D. T. Allen, "The Significance of Averaging Period on the Effectiveness of NO_x Control Strategies for Ground Level Ozone in Central Texas," Air and Waste Management Association, Paper 99-604, St. Louis, June (1999).
76. Wiedinmyer, C. and D. T. Allen, "Isoprene Emissions and Concentrations in Central Texas," Air and Waste Management Association, Paper 99-236, St. Louis, June (1999).
77. Wiedinmyer, C. and D. T. Allen, "Development of a Land Cover Database for a Biogenic Emissions Inventory in Central Texas," Air and Waste Management Association, Paper 99-233, St. Louis, June (1999).
78. Tanaka, P. L., S. Oldfield, and D.T. Allen, "Ozone formation in coastal urban atmospheres: The role of anthropogenic sources of chlorine," U.S./German Ozone/Fine Particulate Science and Environmental Chamber Workshop, Riverside, CA, October (1999).

79. Nobel, C. and D. T. Allen, "Optimization of NO_x Emission Trading to Minimize Ozone Production," American Institute of Chemical Engineers, Spring Meeting, Atlanta, March (2000).
80. Allen, D. T, Cecil Award Lecture, "Case Studies in Industrial Ecology: Analysis of Material and Energy Flows," American Institute of Chemical Engineers, Spring Meeting, Atlanta, March (2000).
81. Nobel, C. and D. T. Allen, "Design of NO_x Cap and Trade Programs Incorporating Spatial and Temporal Variability in Ozone Productivity," Air and Waste Management Association Annual Meeting, Session EI-2d, Salt Lake City, Utah, June (2000).
82. Tanaka, P. L., S. Oldfield, J. D. Neece, C. B. Mullins and D. T. Allen, "The Role of Anthropogenic Sources of Chlorine in Promoting Urban Ozone Formation," Air and Waste Management Association Annual Meeting, Session AB-2d, Salt Lake City, Utah, June (2000).
83. McDonald-Buller, E. C. and D. T. Allen, "Ambient Air Quality Studies at the University Level," Society of Women Engineers National Conference, Washington, D.C., June (2000).
84. Russell, M. M., E. C. McDonald-Buller and D. T. Allen, "The Significance of Averaging Period for Ozone Concentrations on the Effectiveness of Ozone Control Strategies," American Institute of Chemical Engineers, Spring National Meeting, Houston, April (2001).
85. McDonald-Buller, E. C., D. T. Allen, Y. Kimura, A. A. Eusebi and M. M. Russell, "The Impact of Regional Transport on Ozone Concentrations in Texas Cities," American Institute of Chemical Engineers, Spring National Meeting, Houston, April (2001).
86. Nobel, C., E. C. McDonald-Buller, Y. Kimura and D. T. Allen, "Accounting for Spatial Variation of Ozone Productivity in NO_x Emission Trading," American Institute of Chemical Engineers, Spring National Meeting, Houston, April (2001).
87. Nowlin, A. C., G. T. Rochelle, D. T. Allen and E. C. McDonald-Buller, "Temporal Control Strategies for Stationary NO_x Sources in Eastern Texas," American Institute of Chemical Engineers, Spring National Meeting, Houston, April (2001).
88. Fraser, M. P. and D. T. Allen, "Characterization of Particulate Matter Emissions from Motor Vehicles," American Institute of Chemical Engineers, Spring National Meeting, Houston, April (2001).
89. Fraser, M. P. and D. T. Allen, "The Gulf Coast Aerosol Research and Characterization Study: An Overview," American Institute of Chemical Engineers, Spring National Meeting, Houston, April (2001).
90. Wiedinmyer, C., S. Friedfeld, M. P. Fraser and D. T. Allen, "Biogenic Emissions in Texas: Comparison of Emission Inventories and Field Measurements," American Institute of Chemical Engineers, Spring National Meeting, Houston, April (2001).

91. Dechapanya, W. and D. T. Allen, "Chemical Mechanisms for Organic Gas to Particle Conversion Processes," American Institute of Chemical Engineers, Spring National Meeting, Houston, April (2001).
92. Tanaka, P. L., D. D. Riemer, C. B. Mullins and D. T. Allen, "The Role of Anthropogenic Chlorine Emissions on Ozone Formation in Southeast Texas," American Institute of Chemical Engineers, Spring National Meeting, Houston, April (2001).
93. Allen, D. T., "The Texas Air Quality Study: State of the Science of Air Quality in Texas and Implications for Air Quality Policy," American Institute of Chemical Engineers, Spring National Meeting, Houston, April (2001).
94. Sarwar, M., R. L. Corsi, Y. Kimura and D. T. Allen, "Hydroxyl Radicals in Indoor Environments," Air and Waste Management Association (AWMA), Annual Meeting, Orlando, Florida June (2001).
95. Allen, D. T., D. S. Shonnard and S. Austin, "Teaching Green Engineering: Curricular Materials and Software," IUPAC CHEMRAWN XIV, Boulder, CO, June (2001).
96. Allen, D. T., "Regional Transport of Ozone in Texas," MIT Symposium on "Exporting and Importing Air Pollution," Endicott, MA, July (2001).
97. Allen, D. T., "Teaching Green Engineering, Keynote address at 2001 Green Engineering Conference, Roanoke, VA, July (2001).
98. Allen, D. T., M. P. Fraser and M. M. Russell, "Fine Particulate Matter Measurements at the Houston PM - Supersite," American Chemical Society National Meeting, Chicago, IL, August (2001).
99. Reimer, D. D., E. C. Apel, J. Orlando, P. L. Tanaka, D. T. Allen, and J. Neece, "Chlorine is an Oxidant in Houston Texas," The 82nd Annual Meeting of the American Meteorological Society (AMS) - Fourth Conference on Atmospheric Chemistry," Orlando, Florida, January (2002).
100. Allen, D. T. and E. McDonald-Buller, "Accounting for Variability in Ozone Productivity in NOx Emission Trading, 5th Electric Utilities Environmental Conference, Tucson, Arizona, January (2002).
101. Allen, D. T., "Green Engineering: Environmentally Conscious Design of Chemical Processes," invited plenary presentation, International Chemical Engineering Congress, Monterrey, Mexico, February (2002).
102. Allen, D. T. and M. P. Fraser, "The Houston Fine Particulate Matter Supersite," Coordinating Research Council Air Toxics Modeling Workshop, Houston, February (2002).
103. Allen, D. T., "Urban Fine Particulate Matter in Texas: Modeling Physical and Chemical Processes and Resolving Sources," University of Texas, School of Public Health, March (2002).

104. Allen, D. T., "The Texas Air Quality Study: Implications for Air Quality Policy, NARSTO Executive Committee Meeting, White House Conference Center, Washington, D.C., April (2002).
105. Allen, D. T., "The Texas Air Quality Study: State of the Science of Ozone and Particulate Matter Formation in Texas and Implications for Air Quality Policy," invited presentation, American Geophysical Union, 2002 Spring National Meeting, Washington, D.C., May (2002).
106. Allen, D. T. and M. M. Russell, "Fine Particulate Matter Measurements during the Houston Fine Particulate Matter Supersite Program," American Geophysical Union, 2002 Spring National Meeting, Washington, D.C., May (2002).
107. Tanaka, P. L., E. McDonald-Buller, S. Chang, C. B. Mullens, and D. T. Allen, "Enhanced aging of urban air exhibited when chlorine is present," American Geophysical Union, 2002 Spring National Meeting, Washington, D.C., May (2002).
108. Sarwar, M., R. Corsi, D. Allen, and C. Weschler, "Production and Levels of Selected Indoor Radicals: A Modeling Assessment," 9th International Conference on Indoor Air Quality and Climate, Monterey, July (2002).
109. Sarwar, M., R. Corsi, D. Allen, and C. Weschler, "The Significance of Secondary Organic Aerosol Formation and Growth in Buildings: Experimental and Computational Evidence," 9th International Conference on Indoor Air Quality and Climate, Monterey, July (2002).
110. Russell, M. M., G. R. McGaughey, and D. T. Allen, "Fine Particulate Matter Measurements in Texas," American Association for Aerosol Research Annual Meeting, Charlotte, NC, October (2002).
111. Klouda, G. A., C. W. Lewis, D. T. Allen, K. Lemire, and D. C. Stiles, "TexAQS-2000 14C Source Attribution of Ambient PM_{2.5}," American Association for Aerosol Research Annual Meeting, Charlotte, NC, October (2002).
112. Laurent, J-P. and D. T. Allen, "Infrared Spectroscopy of Size Resolved Aerosol Collected During the Houston Supersite Field Program," American Association for Aerosol Research Annual Meeting, Charlotte, NC, October (2002).
113. Vizuete, W., V. Junquera, and D. T. Allen, "Biogenic Secondary Organic Aerosol Formation in Southeast Texas," American Association for Aerosol Research Annual Meeting, Charlotte, NC, October (2002).
114. Tanaka, P. L., D. T. Allen, and C. B. Mullins, "Chlorine-Enhanced Ozone Formation in Houston, TX," American Institute of Chemical Engineers Annual Meeting, Indianapolis, IN, November (2002).
115. Shonnard, D. R., D. T. Allen, and R. P. Hesketh, "Sustainability and Green Engineering in the Chemical Engineering Curriculum," American Institute of Chemical Engineers Annual Meeting, Indianapolis, IN, November (2002).

116. Allen, D. T. and T. A. Al-Bahri, "Micro-Kinetic Modeling of Paraffin Cracking on Zeolite Catalysts," American Institute of Chemical Engineers Annual Meeting, Indianapolis, IN, November (2002).
117. McGaughey, G. R., N. R. Desai, D. T. Allen, R. L. Seila, W. A. Lonneman, M. P. Fraser, R. A. Harley, J. M. Ivy, and J. H. Price, "Analysis of Motor Vehicle Emissions in a Houston Tunnel during the Texas Air Quality Study 2000," American Geophysical Union, Fall Meeting, San Francisco, December (2002).
118. Allen, D. T., "Fine Particulate Matter Composition and Sources during the Texas Air Quality Study," American Geophysical Union, Fall Meeting, San Francisco, December (2002).
119. Allen, D. T., "Air Quality in Texas," Pre-Session Legislative Conference (for Freshman legislators), LBJ School of Public Affairs, University of Texas, December (2002).
120. Allen, D. T., "Emission Inventory Performance Evaluations in Texas: Results from Field Measurements," Workshop on Mexico Emissions Inventory, Mexico City, February, 2003.
121. Allen, D. T., "Air Quality Challenges in Texas," Texas Technology Showcase, Houston, March (2003).
122. Allen, D. T., "Update on the Texas Air Quality Study," NARSTO Executive Assembly, White House Conference Center, March (2003).
123. Fraser, M. P., Z. W. Yue, B. Buzcu, G. McGaughey, D. T. Allen, and R. A. Harley, "Validation of chemical mass balancing using organic markers for emissions of fine particles from mobile sources," European Aerosol Conference, September (2003).
124. Fraser, M. P., B. Buzcu, Z. W. Yue, G. McGaughey, D. T. Allen, R. Seila, W. Lonneman, and R. A. Harley, "Separating the Contribution of Gasoline and Diesel Emissions to Ambient PM: Verification of Receptor Model Calculations," 22nd Annual American Association for Aerosol Research Meeting, October (2003).
125. Allen, D. T., "Policy Outcomes from the Texas Air Quality Study," invited talk at the Symposium on Environmental Monitoring, Evaluation and Protection in New York: Linking Science and Policy," Albany, October (2003).
126. McGaughey, G. R., N. R. Desai, D. T. Allen, R. L. Seila, W. A. Lonneman, M. P. Fraser, R. A. Harley, A. K. Pollack, J. M. Ivy, and J. H. Price, "Analysis of Motor Vehicle Emissions in a Houston Tunnel during the Texas Air Quality Study 2000," NARSTO Emission Inventory Workshop: Innovative Methods for Emission Inventory Development and Evaluation, Austin, Texas, October (2003).
127. Fraser, M. P., B. Buzcu, Z. W. Yue, G. R. McGaughey, N. R. Desai, D. T. Allen R. L. Seila, W. A. Lonneman, and R. A. Harley, "Separating the Contribution of Gasoline and Diesel Vehicles to Ambient Fine Particle Levels: Verification of Results from Receptor Models," NARSTO Emission Inventory Workshop: Innovative Methods for Emission Inventory Development and Evaluation, Austin, Texas, October (2003).

128. Dechapanya, W., M. M. Russell, and D. T. Allen, "Estimates of Anthropogenic Secondary Organic Aerosol Formation in Houston, Texas," NARSTO Emission Inventory Workshop: Innovative Methods for Emission Inventory Development and Evaluation, Austin, Texas, October (2003).
129. Chang, S., E. McDonald-Buller, Y. Kimura, G. Yarwood, J. Neece, M. M. Russell, P. Tanaka, and D. T. Allen, "Sensitivity of Urban Ozone Formation to Chlorine Emission Estimates," NARSTO Emission Inventory Workshop: Innovative Methods for Emission Inventory Development and Evaluation, Austin, Texas, October (2003).
130. Kimura, Y., J. Nam, and D. T. Allen, "Stochastic Modeling of Ambient Ozone Formation with Emission Variability," NARSTO Emission Inventory Workshop: Innovative Methods for Emission Inventory Development and Evaluation, Austin, Texas, October (2003).
131. Vizuete, W., V. Junquera, and D. T. Allen, "Sesquiterpene Emissions and Secondary Organic Aerosol Formation Potentials for Southeast Texas," NARSTO Emission Inventory Workshop: Innovative Methods for Emission Inventory Development and Evaluation, Austin, Texas, October (2003).
132. Katamreddy, A., V. Junquera, and D. T. Allen, "Emissions Associated with Forest, Grassland, and Agricultural Burning during the Texas Air Quality Study," NARSTO Emission Inventory Workshop: Innovative Methods for Emission Inventory Development and Evaluation, Austin, Texas, October (2003).
133. Durrenberger, C., D. T. Allen, and J. Price, "Evaluating the Performance of a Comprehensive Regional Emissions Inventory Using Field Data," NARSTO Emission Inventory Workshop: Innovative Methods for Emission Inventory Development and Evaluation, Austin, Texas, October (2003).
134. Song, J., W. Vizuete, and D. T. Allen, "Comparison of Biogenic Isoprene Emission Estimates with Aircraft Measurements during the Texas Air Quality Study," NARSTO Emission Inventory Workshop: Innovative Methods for Emission Inventory Development and Evaluation, Austin, Texas, October (2003).
135. Allen, D.T. "New challenges in electronics and the environment (keynote presentation)," International Symposium on Electronics and the Environment, Phoenix, AZ, May 2004.
136. Allen, D.T., Yosuke Kimura, William Vizuete, Harvey Jeffries, Mort Webster, and Mike Symons "The Development of a Stochastic Emissions Inventory for Industrial Emissions in Houston/Galveston Texas and Its Use in Photochemical Modeling," International Emission Inventory Conference, Clearwater, Florida, June 2004.
137. Allen, D.T., David R. Shonnard, Nhan Nguyen, Sharon Weil Austin and Robert Hesketh, "Green Engineering Education in the United States," International Conference on Sustainability Engineering and Science, Auckland New Zealand, July, 2004.

138. Allen, D.T., "An Industrial Ecology: Material flows and engineering design (keynote presentation)," International Conference on Sustainability Engineering and Science, Auckland New Zealand, July, 2004.
139. Allen, D. T., "Point Source Emission Variability and its Impact on Ozone Precursor and HAP Concentrations in the Houston-Galveston Area," MIT Symposium on Air Toxics, Boston, MA, August, 2004.
140. Allen, D.T., "Chemical Engineering Applications of Life Cycle Assessment," American Institute of Chemical Engineers, Annual meeting, November, 2004.
141. Allen, D.T., "Engineering Sustainable Technologies: A course on chemical engineering principles for the general university population," American Institute of Chemical Engineers, Annual meeting, November, 2004.
142. Russell, M.M. and D.T. Allen, "Predicting Secondary Organic Aerosol Formation Rates in Southeast Texas," American Institute of Chemical Engineers, Annual meeting, November, 2004.
143. McGaughey, G. R., M. Russell, D. Allen, D. Collins, M. Fraser, "Conceptual Model of Fine Particulate Matter Formation and Accumulation in Southeast Texas," *American Association for Aerosol Research*, Atlanta, February 2005
144. Russell, M. M. and D. T. Allen, "Predicting Secondary Aerosol Formation Rates in Southeast Texas," *American Association for Aerosol Research*, Atlanta, February 2005.
145. Junquera, V., Y. Kimura, W. Vizuete, D. Allen, "Wildfires in Eastern Texas in August and September 2000: Emissions, aircraft measurements and impact on chemical and physical processes," *American Association for Aerosol Research*, Atlanta, February 2005.
146. Allen, D.T., "Application of a Detailed Process Analysis Method to Air Quality Models for the San Francisco Bay Area and southeast Texas," American Institute of Chemical Engineers, Annual meeting, November, 2004.
147. McDonald-Buller, E., C. F. Murphy, Y. Kimura, L. Wang, and D. Allen, "Interpollutant Emission Trading in Ozone Non-attainment Areas," Air and Waste Management Association Annual Meeting, Minneapolis, MN, June, 2005.
148. Allen, D., C. Murphy, Y. Kimura, W. Vizuete, H. Jeffries, B. Kim, M. Webster, and M. Symens, "The Development of a Stochastic Emissions Inventory for Industrial Emissions in Houston/Galveston Texas and Its Use in Photochemical Modeling," Air and Waste Management Association Annual Meeting, Minneapolis, MN, June, 2005.
149. Vizuete, W., J. Song, S. Chang, E. McDonald-Buller, Y. Kimura, and D. Allen, "Application of Process Analysis for Evaluating Biogenic Emission Inventories in Southeast Texas," Air and Waste Management Association Annual Meeting, Minneapolis, MN, June, 2005.

150. Wittig, A., H. Simon, D. Allen “Synthesis of Supersite Program Findings: Uncertainties in Emission Inventories,” American Association for Aerosol Research Annual Meeting, Austin, Texas, October 2005.
151. Chang, S., D.T. Allen “Chlorene Chemistry in Urban Atmospheres: Aerosol Formation Associated With Anthropogenic Chlorine Emissions in Southeast Texas,” American Association for Aerosol Research Annual Meeting, Austin, Texas, October 2005.
152. Wittig, A., D. Allen “Accounting For Reactivity Using The Chemical Mass Balance Tool: Method Development And Application to Source Resolution of Volatile Organic Compounds in Houston Texas,” American Association for Aerosol Research Annual Meeting, Austin, Texas, October 2005.
153. Pavlovic, T., D. Allen, Y. Kimura, U. Nopmongcol “The Impact of Ammonia Emissions on Atmospheric Particular Matter Formation in Texas,” American Association for Aerosol Research Annual Meeting, Austin, Texas, October 2005.
154. Buzcu, B., Z. Yue, M.P. Fraser, U. Nopmongcol, D.T. Allen “Influence of Wood Smoke Emissions on Secondary Particle Formation in Houston, Texas,” American Association for Aerosol Research Annual Meeting, Austin, Texas, October 2005.
155. Nopmongcol, U., D.T. Allen, B. Buzcu, Z. Yue, M. Fraser “Modeling of Surface Reactions on Carbonaceous Atmospheric Particles During a Wood Smoke Episode in Houston, Texas,” American Association for Aerosol Research Annual Meeting, Austin, Texas, October 2005.
156. Wittig, A., J. Turner, D. Allen “Synthesis of Supersite Program Findings: Regional Transport of Fine PM,” American Association for Aerosol Research Annual Meeting, Austin, Texas, October 2005.
157. Heo, G., and D.T. Allen “Effects of Changes in Isoprene Emissions on Particulate Sulfate Formation in eastern Texas,” American Association for Aerosol Research Annual Meeting, Austin, Texas, October 2005.
158. Allen, D., “Green Engineering: Environmentally Conscious Design of Chemical Processes,” Keynote Lecture, Congreso de Ingenieria Quimica, Universidad Autonoma de Nuevo Leon, October, 2005.
159. Allen, D., “Green Engineering: Environmentally Conscious Design of Chemical Processes,” Invited presentation, Green Chemistry and Engineering Education Workshop, Chemical Sciences Roundtable, National Research Council, Washington, D.C., November 2005.
160. Song, J., L. Gulden, Z.L. Yang, D. T. Allen, “The Response of Biogenic Emissions to Land-Cover Change and Climate Change”, EPA Science Forum, Washington, D.C., May 2006.

161. Heo, G. and D.T. Allen, "Effects of uncertainties in the biogenic emission inventory on gas phase oxidant and particle formation in Texas" Air and Waste Management Association Annual Meeting, New Orleans, June, 2006.
162. Song, J., D.T. Allen, and E.C. McDonald-Buller, "Impacts of Urbanization on Biogenic Emissions and Air Pollutant Deposition" Air and Waste Management Association Annual Meeting, New Orleans, June, 2006.
163. M. Feldman, T. Howard, G. Mullins, A. Webb, Y. Kimura, D. Allen, and E. McDonald-Buller "Applications of Satellite Remote Sensing Data for Estimating Dry Deposition in Eastern Texas" Air and Waste Management Association Annual Meeting, New Orleans, June, 2006.
164. Simon, H.A. and D.T. Allen, "Modeled Effects of Heterogeneous N_2O_5 Hydrolysis on Atmospheric Chemistry in the Houston Area" Air and Waste Management Association Annual Meeting, New Orleans, June, 2006.
165. Durrenberger, C, A. Webb, D. Allen, and E. McDonald-Buller, "Barging of Shipping Containers as a Novel Approach to Reducing Emissions Associated with Heavy-Duty Diesel Truck Traffic: A Case Study between the Port of Victoria and the Port of Houston" Air and Waste Management Association Annual Meeting, New Orleans, June, 2006.
166. Wang, L., E.C. McDonald-Buller, and D.T. Allen, "Inter-Pollutant Trading of NO_x and VOC Emissions: A Case Study for Houston, Texas and Intercomparison with Results for Austin", Air and Waste Management Association Annual Meeting, New Orleans, June, 2006.
167. Thompson, T.M., L. Wang, A. Web, E. McDonald-Buller and D.T. Allen, "Photochemical Modeling of the Air Quality Impacts of an Emissions Trading Program for Highly Reactive Volatile Organic Compounds (HRVOCs) in Texas" Air and Waste Management Association Annual Meeting, New Orleans, June, 2006.
168. Faraji, M., Y. Kimura, E. McDonald-Buller and D.T. Allen, "Comparison of the Carbon Bond and SAPRC photochemical mechanisms under conditions relevant to southeast Texas", Air and Waste Management Association Annual Meeting, New Orleans, June, 2006.
169. Mullet, I.S., Y. Kimura, D.T. Allen, and S.R. Smith "Development of an Inventory of Air Pollutant Emissions from Fires in Texas Based on Satellite Data" Air and Waste Management Association Annual Meeting, New Orleans, June, 2006.
170. Mullet, I.S., Y. Kimura, D.T. Allen, and S.R. Smith "Use of Satellite Based Measurements of Aerosol Optical Depth to Characterize Aerosol Transport in Texas" Air and Waste Management Association Annual Meeting, New Orleans, June, 2006.

171. Durrenberger, C., A. Webb, D. Allen, and E. McDonald-Buller, "Developing and Applying Surveys to Improve Emissions Estimates for Minor Sources in Victoria, Texas" Air and Waste Management Association Annual Meeting, New Orleans, June, 2006.
172. Durrenberger, C., G. McGaughey, D. Allen, and E. McDonald-Buller, "Airborne Monitoring in Central Texas: Assessment of Regional Transport and Concentration Profiles of Ozone and its Precursors" Air and Waste Management Association Annual Meeting, New Orleans, June, 2006.
173. Allen, D.T., "Point Source Emission Variability and its Impact on Ozone Formation: a Case Study of the Houston-Galveston Area," MIT Symposium on Air Quality, Boston, MA, August 2006.
174. Faraji, M., Y. Kimura, E.C. McDonald-Buller and D. Allen, "The Role of Key Reaction Pathways in Accounting for the Differences in Ozone Predictions by the Carbon Bond and SAPRC Photochemical Mechanisms Under Conditions Relevant to Southeast Texas" International Conference on Atmospheric Chemical Mechanisms, Davis, CA, December 2006.
175. Kimura, Y., and D. Allen, "Development and Application of a Lagrangian Process Analysis Tool for Tracking Plumes Within a 3-D Eulerian Photochemical Model" International Conference on Atmospheric Chemical Mechanisms, Davis, CA, December 2006.
176. Kimura, Y., M. Faraji, E. C. McDonald-Buller, and D. Allen, "Policy Implications of the Difference in Ozone Predictions by the Carbon Bond and SAPRC Photochemical Mechanisms Under Conditions Relevant to southeast Texas" International Conference on Atmospheric Chemical Mechanisms, Davis, CA, December 2006.
177. Allen, D. T., "Observational Evidence and Modeling of Heterogeneous Formation of Secondary Organic Aerosol in southeast Texas" invited presentation, American Geophysical Union, Annual meeting, San Francisco, CA, December 2006.