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Professor of Atmospheric Sciences  
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**EDUCATION:**

- Postdoctoral National Research Council Resident Research Associate, NOAA/CMDL 1987-89
- Ph.D., 1987 Atmospheric Science, University of Michigan
- M.S., 1983 Atmospheric Science, University of Michigan
- B.A., 1981 Psychology, University of Michigan

**EMPLOYMENT HISTORY:**

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| 1/90 - present               | Professor of Atmospheric Science, Department of Mathematical Sciences, University of Wisconsin-Milwaukee (Full Professor 2000-present, Associate Professor 1994-2000, Assistant Professor 1990-94) |
| 10/89 - 1/90, Summers, 90-92 | Research Associate, Cooperative Institute for Research in Environmental Science (CIRES), University of Colorado, Boulder, Colorado.  |
| 10/87 - 10/89                | National Research Council Research Associate, Geophysical Monitoring for Climatic Change Laboratory, National Oceanic and Atmospheric Administration, Boulder, Colorado.                           |
| 4/87 - 9/87                  | Research Fellow, Space Physics Research Laboratory, Department of Atmospheric and Oceanic Science, University of Michigan, Ann Arbor, Michigan.  |
| 1/83 - 3/87                  | Research and Teaching Assistant, Department of Atmospheric and Oceanic Science, University of Michigan, Ann Arbor, Michigan.   |
| 9/85 - 8/86                  | Visiting Student, National Center for Atmospheric Research, Acid Deposition Modeling Project, Boulder, Colorado.   |

**HONORS AND AWARDS:**

- UW-Milwaukee Distinguished Undergraduate Teaching Award, 2020.
- International courses taught: *Meteorological Aspects of Air Pollution*, 50-hr course taught at several universities in Mexico, 2006-present: University of Carmen, Ciudad del Carmen; University of Campeche; University of Nuevo León, Monterrey; University of Mexico (UNAM), Mexico City.
- International Keynote speaker:
  - Empowerment of Leaders in Sustainability and Climate Action, sponsored by the State of Nuevo Leon (Mexico), Secretary of Sustainable Development. Monterrey, Mexico, 2021
  - International Clean Air Day, webinar sponsored by the State of Nuevo Leon, Mexico, 2020.
  - Jornadas Ambientales 2020, webinar sponsored by the University of Veracruz-Orizaba.
  - Atmospheric Sciences Panorama, Atmospheric Science Center, National Autonomous University of Mexico (UNAM), Mexico City, Mexico, 2018.
  - International Seminar on Health and Sustainability: Air pollution and sustainable mobility in urban areas, University of Nuevo León, Monterrey, Mexico, 2016
  - 1<sup>st</sup> International Conference on Chemical Engineering, University of Carmen, Ciudad del Carmen, Mexico, 2010
  - Third International Meeting on Environmental Biotechnology and Engineering, Palma de Mallorca, Spain, 2008
  - 8<sup>th</sup> Regional Conferences of Biological and Pharmaceutical Chemistry, University of Nuevo León, Monterrey, Mexico, 2007.
  - 6<sup>th</sup> Regional Conferences of Biological and Pharmaceutical Chemistry, University of Nuevo León, Monterrey, Mexico, 2004.
  - Chemical Engineering Conference, University of Nuevo León, Monterrey, 2003
- Editor, *International Journal of Environmental Research in Public Health*, 2019-2022
- Visiting Teaching and Research Fellow, Corrosion Research Center, University of Campeche, Mexico, 2009.
- Teaching Excellence Award, given by the University of Wisconsin-Milwaukee Alumni Association, 2006.
- Affiliated Professor, Department of Chemical Sciences, National Autonomous University of Nuevo Leon, Monterrey, Mexico, 2006.
- Center Scholar, UW-Milwaukee Center for Instructional and Professional Development, 2005.
- Fulbright Scholar, 2003.
- Best Children's Book of the Year award for *Hazy Skies: Weather and the Environment*, Bank Street College of Education, 1999.
- Best Book for Children Award for *Hazy Skies: Weather and the Environment*, Science Books and Films (published by the American Association for the Advancement of Science), 1999.
- Quick Picks for Reluctant Readers Book Award for *The National Audubon Society First Field Guide to Weather*, American Library Association, 1999.

- Juvenile Non-fiction Book Award for *Hazy Skies: Weather and the Environment*, Council for Wisconsin Writers, 1998.
- Book Award for *Weather Watch: Forecasting the Weather*, Society of School Librarians International, 1997.
- Outstanding Science Trade Book for Children award for *Weather Watch: Forecasting the Weather*, National Science Teachers Association, 1997.

#### VISITING ACADEMIC APPOINTMENTS:

- Visiting researcher, University of Mexico (UNAM), Mexico City, Mexico, 2003
- Visiting Teaching and Research Fellow, Corrosion Research Center, University of Campeche, Mexico, 2009

#### RESEARCH AREAS:

- Air pollution meteorology
- Long-range atmospheric transport
- Air trajectory modeling
- Enhancing science education using technology
- Boundary-layer meteorology
- Polar meteorology
- Construction of historical Arctic upper-air meteorological data sets

#### PUBLICATIONS - Books:

**Kahl, J.D.W.**, 2012: *Instructor's Resource Manual/Test Bank for Meteorology Today, 10<sup>th</sup> Edition*. Cengage Brooks/Cole Publishing Co., Davis, CA, 322 pp.

**Kahl, J.D.W.**, 2011: *Instructor's Resource Manual/Test Bank for Essentials of Meteorology, 6<sup>th</sup> Edition*. Thomson Publishing Co., Davis, CA, 288 pp.

**Kahl, J.D.W.**, 2010: *Instructor's Resource Manual/Test Bank for Extreme Weather*. Cengage Brooks/Cole Publishing Co., Davis, CA.

**Kahl, J.D.W.**, 2008: *Instructor's Resource Manual/Test Bank for Meteorology Today, 9<sup>th</sup> Edition*. Cengage Brooks/Cole Publishing Co., Davis, CA, 441 pp.

**Kahl, J.D.W.**, 2007: *Instructor's Resource Manual/Test Bank for Essentials of Meteorology, 5<sup>th</sup> Edition*. Thomson Publishing Co., Davis, CA, 356 pp.

**Kahl, J.D.W.**, 2006: *Instructor's Resource Manual/Test Bank for Meteorology Today, 8<sup>th</sup> Edition*. Brooks/Cole Publishing Co., Davis, CA, 417 pp.

**Kahl, J.D.W.**, 2004: *Instructor's Resource Manual for Ahrens' Essentials of Meteorology, An Invitation to the Atmosphere, 4th Edition*. Thomson Brooks/Cole Publishing Co., Belmont, CA, 303 pp.

- Kahl, J.D.W.**, 2002: *Instructor's Resource Manual/Test Bank for Meteorology Today, 7<sup>th</sup> Edition*. Brooks/Cole Publishing Co., Davis, CA, 345 pp.
- Kahl, J.D.W.**, 2001: *Instructor's Manual with Test Item File to accompany Meteorology, Second Edition*. McGraw-Hill, Boston.
- Wiedner, C. and **J.D.W. Kahl**, 2000: *Instructor's Manual for Meteorology Today, 6<sup>th</sup> Edition*. Brooks/Cole Publishing Co., Davis, CA, 362 pp.
- Alden, P., B. Cassie, P. Friederici, **J.D.W. Kahl**, P. Leary, A. Leventer, and W. Zomlefer, 1999: *National Audubon Society Field Guide to the Southwestern States*. Alfred A. Knopf, New York, NY, 448 pp.
- Alden, P., B. Cassie, **J.D.W. Kahl**, G. Nelson, E. Oches, H. Zirlin and W. Zomlefer, 1999: *National Audubon Society Field Guide to the Southeastern States*. Alfred A. Knopf, New York, NY, 448 pp.
- Alden, P., B. Cassie, **J.D.W. Kahl**, E. Oches, H. Zirlin and W. Zomlefer, 1999: *National Audubon Society Field Guide to the Mid-Atlantic States*. Alfred A. Knopf, New York, NY, 448 pp.
- Alden, P., B. Cassie, J. Grassy, **J.D.W. Kahl**, A. Leventer, D. Mathews and W. Zomlefer, 1999: *National Audubon Society Field Guide to the Rocky Mountain States*. Alfred A. Knopf, New York, NY, 448 pp.
- Kahl, J.D.W.**, 1998: *National Audubon Society First Field Guide to Weather*. Scholastic, New York, NY, 160 pp.
- Kahl, J.D.W.**, 1998: *Balloons that rise, clouds that fall, and air that crushes: Forces in the atmosphere* (videorecording). Blue Sky Associates, Grafton, WI, 53 minutes.
- Kahl, J.D.**, 1998: *Instructor's Manual with Test Item File to accompany Meteorology, First Edition*. McGraw-Hill, Boston, 86 pp.
- Kahl, J.D.W.**, 1998: *Hazy Skies: Weather and the Environment*. Lerner, Minneapolis, MN, 64 pp.
- Kahl, J.D.W.**, 1996: *Weather Watch: Forecasting the Weather*. Lerner, Minneapolis, MN, 72 pp.
- Kahl, J.D.**, 1993: *Thunderbolt: Learning about Lightning*. Lerner, Minneapolis, MN, 56 pp.
- Kahl, J.D.**, 1993: *Storm Warning: Tornadoes and Hurricanes*. Lerner, Minneapolis, MN, 64 pp.
- Kahl, J.D.**, 1992: *Weatherwise: Learning about the Weather*. Lerner, Minneapolis, MN, 64 pp.
- Kahl, J.D.**, 1992: *Wet Weather: Rain Showers and Snowfall*. Lerner, Minneapolis, MN, 64 pp.

**PUBLICATIONS - Book chapters:**

- Kahl, J.**, R. Soto Ayala, A. Herrera García, and F. Arroyo Valenquela, 2021: Meteorological Aspects and Atmospheric Thermodynamics. In *Thermodynamics for Earth Sciences: Fundamentals and Applications*. University of Mexico, in press.
- Cerón, R. M., Cerón-Bretón, J. G., **J. Kahl**, Ramírez Lara, E., Córdova Quiroz, A. V., Espinosa Guzman, A. A., Muriel, M., Arenas Hernández, G. G., Canul, J., and Rodríguez-Guzmán, A., 2018: Atmospheric N and S Deposition Fluxes in the Metropolitan Area of Monterrey, Mexico and Its Relation with Criteria Air Pollutants and Meteorological Conditions. In *Air Pollution: monitoring, quantification and removal of gases and particles*, InTech Open, DOI: 10.5772/intechopen.79484
- Kahl, J.D.W.** and R. Olivas Saunders, 2012: Meteorological Analysis of Acid Deposition, in *Avances y Perspectivas de la Deposición Ácida en México (Advances and Perspectives in Acid Deposition in Mexico)*, Universidad Autonoma del Carmen, R. Cerón, J. Griselda, J. Guerra, eds., Ciudad del Carmen, Mexico. <https://bit.ly/2ZZJ1o6>.
- Kahl, J.D.W.**, 2012: Earth's Atmosphere. In *Earth & Space Science*, McGraw Hill Education, Columbus, Ohio, p. 406-447
- Kahl, J.D.W.**, 2012: Weather. In *Earth & Space Science*, McGraw Hill Education, Columbus, Ohio, p. 448-483
- Kahl, J.D.W.**, 2012: Climate. In *Earth & Space Science*, McGraw Hill Education, Columbus, Ohio, p. 484-519

**PUBLICATIONS - refereed journal articles (Google Scholar: 3709 citations; h index = 30):**

- Kahl, J. D. W.**, B. R. Selbig, A. R. Harris, 2021: Meteorologically stratified gust factors for forecasting peak wind gusts across the United States. *Bulletin of the American Meteorological Society*, 102 (8), doi.org/10.1175/BAMS-D-21-0013.1.
- Fuentes G., J. M. Baldasano Recio, R. Sosa E., E. Granados H., E. Z. Vargas, R. A. Duran, **J. D. W. Kahl**, 2021: Estimation of atmospheric emissions from maritime activity in the Veracruz port, Mexico. *J. Air Poll. Control Assoc.*, <https://doi.org/10.1007/s11869-021-00976-1>.
- Cerón Bretón, J. G., R. M. Cerón Bretón, **J. D. W. Kahl**, G. Sanchez-Rico, S.E. Carranco-Lozada, M. L. Espinosa Fuentes, M. P. Uc Chi, 2021: Concentrations, sources and health risk associated with exposure to BTEX at ten sites located in an urban-industrial area in the Bajío region, Mexico. *Air Quality, Atmosphere and Health*, in press.

- Cerón Bretón, R. M., J. G. Cerón Bretón, **J. D. W. Kahl**, M. de la L. Espinosa Fuentes, M. R. Marron, R. C. Lara Severino, E. Ramírez Lara, M. P. Uc Chi, 2020: Short-term effects of atmospheric pollution on daily mortality and their modification by increased temperatures associated with a climatic change scenario in Northern Mexico. *International Journal of Environmental Research in Public Health*, 17, DOI doi:10.3390/ijerph17249219.
- Kahl, J. D. W.**, 2020: Forecasting peak wind gusts using meteorologically-stratified gust factors and MOS guidance. *Weather and Forecasting*, 35(3), 1129-1143. DOI 10.1175/WAF-D-20-0045.1.
- Cerón Bretón, J. G., R. M. Cerón Bretón, S. Martínez Morales, **J. D.W. Kahl**, C. Guarnaccia, R. C. Lara Severino, M. R. Marron, A. A. Espinosa Guzman, M. Rangel Marrón, E. Ramírez Lara, M. de la L. Espinosa Fuentes, M. P. Uc Chi, G. Licona Sanchez, 2020: Health Risk Assessment of the Levels of BTEX in Ambient Air of One Urban Site Located in Leon, Guanajuato, Mexico During two Climatic Seasons. *Atmosphere*, 11, 165; doi:10.3390/atmos11020165.
- Cerón Bretón, J. G., R. M. Cerón Bretón, A. A. Espinosa Guzman, C. Guarnaccia, S. Martínez Morales, R. C. Lara Severino, M. Rangel Marrón, G. Hernández López, S. E. Carranco Lozada, **J. D.W. Kahl**, I. E. Pech Pech, E. Ramírez Lara, and M. de la L. Espinosa Fuentes, 2019: Trace Metals Content, Morphological Characterization and Risk Assessment of PM10 in Ambient Air in an Urban-Industrial Site in Leon, Guanajuato, Mexico during Three Climatic Seasons Of 2018. *Atmosphere*, 10(10), 573; <https://doi.org/10.3390/atmos10100573>.
- Cerón Bretón, R.M., **J. Kahl**, J.G. Cerón Bretón, and J.A. Solís Canul, 2019: The Influence of Meteorology and Atmospheric Transport Patterns on the Sulfate Levels in Rainwater in Orizaba Valley, Veracruz, Mexico. *Journal of Environmental Protection*, 10, 821-837. <https://doi.org/10.4236/jep.2019.106049>
- Kahl, J.D.W.**, and H. L. Chapman, 2018: Atmospheric stability characterization using the Pasquill method: A critical evaluation. *Atmospheric Environment*, 187, 196-209. <https://doi.org/10.1016/j.atmosenv.2018.05.058>
- Guerra-Santos, J.J. and **J.D.W. Kahl**, 2018: Redefining the Seasons in the Términos Lagoon Region of Southeastern México: May is a Transition Month, Not a Dry Month. *Journal of Coastal Research*, 34(1), 193-201.
- Cerón-Bretón, R.M., J. G. Cerón-Bretón, **J.D.W. Kahl**, R. C. Severino, M. Rangel Marrón, and E. Rustríán-Portilla, 2018: Potential influence of emissions and transport of N and S on Orizaba Valley, Veracruz, Mexico. *Agrociencia*, 52, 653-670.
- Cerón-Bretón, J.G., R. M. Cerón-Bretón, **J.D.W. Kahl**, E. Ramirez-Lara, M. Espinosa Fuentes, R. C. Severino, M. Rangel Marrón, and M.P. Uc Chi, 2017: Atmospheric levels of benzene and C1-C2 carbonyls in San Nicolas De Los Garza, Nuevo Leon, Mexico: Source implications and health risk. *Atmosphere*, 8, 196; doi:10.3390/atmos8100196.

- Harris, A.R. and **J.D.W. Kahl**, 2017: Gust factors: Meteorologically-stratified climatology, data artifacts, and utility in forecasting peak gusts. *Journal of Applied Meteorology and Climate*, 56, 3151-3166. DOI: 10.1175/JAMC-D-17-0133.1
- Kahl, J.D.W.**, 2016: Automatic, Multiple Assessment Options in Undergraduate Meteorology Education. *Assessment and Evaluation in Higher Education*, 42:8, 1319-1325. <http://dx.doi.org/10.1080/02602938.2016.1249337>.
- Cerón-Bretón, J.G., R. M. Cerón-Bretón, **J.D.W. Kahl**, E. Ramirez-Lara, C.A. Aguilar-Ucán, C. Montalvo-Romero, A. Mendoza-Dominguez, M. Muriel-García, J.A. Ortíz-Alvarez, 2016: Carbonyls in the urban atmosphere of Monterrey, Mexico: sources, exposure, and health risk. *Air Quality, Atmosphere and Health*, <http://dx.doi.org/10.1007/s11869-016-0408-1>.
- Ramirez-Lara, E., R. Cerón-Bretón, J.G. Cerón-Bretón, U. López-Chuken, **J.D.W. Kahl**, 2016: Study of Trace Ions in Wet Deposition of an Industrial Site in Monterrey's Metropolitan Area, Mexico. *Open Journal of Ecology*. DOI: 10.4236/oje.2016.61001. <http://dx.doi.org/10.4236/oje.2016.61001>
- Cerón-Bretón, J.G., R. Cerón-Bretón, **J.D.W. Kahl**, E. Ramirez-Lara, C. Guarnaccia, F. Anguebes-Franceschi, U. López-Chuken, 2014: Diurnal and seasonal variation of BTEX in the air of Monterrey, Mexico: preliminary study of sources and photochemical ozone pollution. *Air Quality, Atmosphere and Health*, DOI 10.1007/s11869-014-0296-1.
- Saunders, R.O., **Kahl, J.D.W.**, Ghorai, J.K, 2014: Improved estimation of PM<sub>2.5</sub> using Lagrangian satellite-measured aerosol optical depth. *Atmospheric Environment*, 91, 146-153.
- Kahl, J.D.W.**, and J.G. Cerón, 2014: Faculty-Led Study Abroad in Atmospheric Science Education. *Bulletin of the American Meteorological Society*, 95(2), 283-292.
- Saunders, R.O., E. Scotty, **J.D.W. Kahl**, 2013: The sensitivity of single air parcel trajectory calculations to starting elevation. *Science of the Total Environment*, 229-236.
- González-Santiago, O., C. T. Badillo-Castañeda, E. Ramírez Lara, I. Balderas-Rentería, **J.D.W. Kahl**, 2011: Temporal analysis of PM<sub>10</sub> in Metropolitan Monterrey, México, *J. Air and Waste Management Association*, 61, 573-579.
- Ramírez Lara E., Miranda Guardiola R., Gracia Vásquez Y., Balderas Rentería I., Bravo Álvarez H., Sosa Echeverría R., Sánchez Álvarez P., Alarcón Jiménez A., Torres M.C., **Kahl J.D.W.**, 2010: Chemical composition of rainwater in northeastern México. *Atmosfera*, 23(3), 213-224.
- Thishan Dharshana, K. G., S. Kravtsov, and **J. D. W. Kahl**, 2010: Relationship between synoptic weather disturbances and particulate matter air pollution over the United States, *JGR-Atmospheres*, 115, D24219, doi:10.1029/2010JD014852.

- Kahl, J.D.W.**, 2008: Reflections on a large-lecture, introductory meteorology course: Goals, assessment and opportunities for improvement. *Bulletin of the American Meteorological Society*, 89(7), 1029-1034.
- McConnell, J.R., P. Ross-Edwards, G.L. Kok, M.G. Flanner, C.S. Zender, E.S. Saltzman, J.R. Banta, D.R. Pasteris, M.M. Carter and **J.D.W. Kahl**, 2007: 20<sup>th</sup> century industrial black carbon emissions altered Arctic climate forcing. *Science*, **317**, 1381-1384.
- Sosa-Echeverría, R., Bravo-Alvarez, H., Sánchez-Alvarez, P., Soto-Ayala, R., Alarcón-Jiménez, A. and **Kahl, J.D.W.**, 2007: Determinación de partículas suspendidas totales durante cinco cruceros de investigación en la plataforma continental del Golfo de México. [Determination of total suspended particulates during five research cruises in the continental shelf of the Gulf of Mexico]. *Ingeniería Investigación y Tecnología* [Engineering Research and Technology], **8**(2), 71-83.
- Anrubio Vega, E.J., Bravo Alvarez, H., Brezonik, P.L., Chan, R.M., Fitz, D., Grosjean, D., Hernández Téllez, **J.**, **Kahl, J.**, Keener, T.C., López Portillo, M., Lu, M., Paredes Maury, S., Nakamura, S., Ortega Morales, B.O., Pescador, L., Reyes Trujeque, J., Sánchez Alvarez, P., Scheff, P., Sosa Echeverría, R., Soto Ayala, R., and Vazquez Botello, A.: A Summary of the International Workshop on the Influences of Air Quality on the Mayan Heritage Sites in Mesoamerica. *Environmental Management*, February, pp 24-30, 2007.
- Kahl, J.D.W.**, H. Bravo A., R. Soto A., R. Sosa E., P. Sánchez A., Ana Luisa Alarcón J., 2007: Characterization of atmospheric transport to the El Tajín Archaeological Zone in Veracruz, Mexico. *Atmosfera*, 20(4), 359-371.
- Kahl, J.D.W.** and C. A. Berg, 2006: Acid Thunder: Acid rain and ancient Mesoamerica. *The Social Studies*, **97**, 134-136.
- Bravo, H., Soto, R., Sosa, R., Sanchez, P., Alarcon, J., **Kahl, J.** and Ruiz, B., 2006: Effects of acid rain on building material of the El Tajin archaeological zone. *Environmental Pollution*, **144**(2), 655-660.
- Kahl, J.D.W.**, C. Berg, M. Gruhl and T. Tennessen, 2005: Acid thunder and world wide weather. *The Earth Scientist*, **21**, 4-9.
- Kahl, J.D.W.**, K.A. Horwitz, Craig A. Berg and Mary C. Gruhl, 2004: The quest for the perfect weather forecaster. *Science Scope*, **27**, 24-27.
- Kahl, J.D.W.** and K.A. Horwitz, 2003: Reply to "Not High on the Low". *Bulletin of the American Meteorological Society*, **84**, 1330.
- Kahl, J.D.W.** and K. A. Horwitz, 2003: Daily low or overnight low? Confusion in icon-based forecasts. *Bulletin of the American Meteorological Society*, **84**, 155-156.
- Daoud, W.Z., **J.D.W. Kahl** and J.K. Ghorai, 2003: On the synoptic-scale Lagrangian autocorrelation function. *Journal of Applied Meteorology*, **42**, 318-324.



- Kahl, J.D.W.**, 2002: Weather forecasting and the Internet. *International School Services NewsLinks*, 18, no. 2, p. 25.
- Kahl, J.D.W.**, 2002: Weather forecasting using the Internet. *MSTA Journal*, 47, p. 57-60.
- Kahl, J.D.W.**, 2002: Weather resources on the Internet. *Crucible*, 33, p. 13.
- Miller, J.E., **J.D.W. Kahl**, F. Heller and J.M. Harris, 2002: A three-dimensional residence time analysis of potential summertime atmospheric transport to Summit, Greenland. *Annals of Glaciology*, **35**, 403-408.
- Nagurnyi, A.P., N.A. Zaitseva, G.V. Alekseev, E. Yu. Medvedchenko, A. Shumbera, **J.D.W. Kahl** and R. Schnell, 2001: Archive of radiosonde data obtained at the ice drifting stations North Pole. *Meteorology and Hydrology*, no. 6, 55-61.
- Kahl, J.D.W.**, 2001: Meteorology online: Weather forecasting using the Internet. *The Science Teacher*, **68**, 22-25.
- Kahl, J.D.W.**, M. Jansen and M.A. Pulrang, 2001: Fifty year-record of North Polar temperatures shows warming. *EOS Transactions, American Geophysical Union*, **82**, 1.
- Slater, J.F., J.E. Dibb, B.D. Keim and **J.D.W. Kahl**, 2001: Relationships between synoptic-scale transport and interannual variability of inorganic cations in surface snow at Summit, Greenland: 1992-96. *Journal of Geophysical Research*, 106, D18, 20,897-20,912.
- Harris, J.M., E.J. Dlugokencky, S.J. Oltmans, P.P. Tans, T.J. Conway, P.C. Novelli, K.W. Thoning and **J.D.W. Kahl**, 2000: An interpretation of trace gas correlations during Barrow, Alaska, winter dark periods, 1986-1997. *Journal of Geophysical Research*, **105**, 17,267-17,278.
- Kahl, J.D.W.**, N.A. Zaitseva, V. Khattatov, R.C. Schnell, D.M. Bacon, J. Bacon, V. Radionov and M.C. Serreze, 1999: Radiosonde observations from the former-Soviet "North Pole" series of drifting ice stations. *Bulletin of the American Meteorological Society*, **80**, 2019-2026 [cover article].
- Kahl, J.D.W.**, J.A. Galbraith and D.A. Martinez, 1999: Decadal-scale variability in long-range atmospheric transport to the Summit of the Greenland Ice Sheet. *Geophysical Research Letters*, **26**, 481-484.
- Subhash, S., R.E. Honrath and **J.D.W. Kahl**, 1999: Back-trajectory analysis of atmospheric PCB concentrations over Lake Superior. *Environmental Science and Technology*, **33**, 1509-1515.
- Jaffrezo, J.-L., C.I. Davidson, H.D. Kuhns, M.H. Bergin, R. Hillamo, W. Maenhaut, **J.D.W. Kahl** and J.M. Harris, 1998: Biomass burning signatures in the atmosphere of central Greenland. *Journal of Geophysical Research*, **103**, 31,067-31,079.

- Kahl, J.D.W.**, D. Liu, W.H. White, E.S. Macias and L. Vasconcelos, 1997: The relationship between atmospheric transport and the particle scattering coefficient at the Grand Canyon. *Journal of the Air and Waste Management Association*, **47**, 301-307.
- Kahl, J.D.W.**, D.A. Martinez, H. Kuhns, C. Davidson, J.-L. Jaffrezo and J.M. Harris, 1997: Air mass trajectories to Summit, Greenland: A 44-year climatology and some episodic events. *Journal of Geophysical Research*, **102**, 26,861-26,875.
- Kahl, J.D.W.**, 1996: On the prediction of trajectory model error. *Atmospheric Environment*, **30**, 2945-2957.
- Kahl, J.D.W.**, D.A. Martinez and N.A. Zaitseva, 1996: Long-term variability in the low-level inversion layer over the Arctic Ocean. *International Journal of Climatology*, **16**, 1297-1313.
- Zaitseva, N.A., Skony, S.M. and **J.D. Kahl**, 1996: Temperature inversions in the Western Arctic from radiosonde data. *Meteorology and Hydrology*, no. 6, 11-24.
- Vasconcelos, L. A. de P., **J.D.W. Kahl**, D. Liu, E.S. Macias and W.H. White, 1996: Patterns of dust transport to the Grand Canyon. *Geophysical Research Letters*, **23**, 3187-3190.
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- Kahl, J.D.W.**, 1995: Review of *Antarctic Meteorology and Climatology: Studies Based on Automatic Weather Stations* by D. Bromwich and C. Stearns. *Bulletin of the American Meteorological Society*, **76**, 58-60.
- Bales, R.C., J. McConnell, Mark Losleben, M. Conklin, K. Fuhrer, A. Neftel, J. Dibb, **J. Kahl** and C. Stearns, 1995: The Diel variations of H<sub>2</sub>O<sub>2</sub> in Greenland: A discussion of the Cause and Effect Relationship. *Journal of Geophysical Research*, **100**, 18661-18668.
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- Kahl, J.D.**, 1991: A temperature inversion climatology for Barrow, Alaska: 1976-1985. In *Geophysical Monitoring for Climatic Change No. 18, Summary Report 1989*, W.D. Komhyr and R.M. Rossen, eds. National Oceanic and Atmospheric Administration, Air Resources Laboratory, Boulder, Colorado.
- Kahl, J.D.** and S.M. Skony, 1990: Processing of historical meteorological data in the Arctic. Final report to NOAA, 125 pp.
- Kahl, J.D.** and R.C. Schnell, 1989: Air trajectory support for MISERS GOLD. Final report to the Defense Nuclear Agency, Washington, DC, Project No. DNA IACRO 89-855.
- Kahl, J.D.**, 1989: Estimates of uncertainty in trajectory ensembles. In *Geophysical Monitoring for Climatic Change No. 17, Summary Report 1988*, J.W. Elkins, ed. National Oceanic and Atmospheric Administration, Air Resources Laboratory, Boulder, Colorado.
- Kahl, J.D.** and A.D.A. Hansen, 1989: Determining Regional emissions of aerosol black carbon in the Arctic. In *Geophysical Monitoring for Climatic Change No. 17, Summary Report 1988*, J.W. Elkins, ed. National Oceanic and Atmospheric Administration, Air Resources Laboratory, Boulder, Colorado.
- Kahl, J.D.**, 1987: Interpolation of synoptic-scale winds: Implications for boundary-layer trajectory accuracy. Ph.D. dissertation, University of Michigan, Ann Arbor, 199 pp.
- Samson, P.J., M.E. Fernau, M.S. Halpert, **J.D. Kahl** and G.J. Keeler, 1984: Estimation of the potential and probable source regions for acid precipitation. Final Report to the Department of Energy, Project no. DOE-AC02-82ER60058.

**Kahl, J.D.**, 1983: Sensitivity of sulfate source-receptor relationships to meteorological variability. Master's thesis, University of Michigan, Ann Arbor, 43 pp.

**GRANTS:**

2020: UW-Milwaukee SURF (Support for Undergraduate Research Fellows) awards:  
summer, \$2000 (one student)  
2020-2021 academic year, \$9000 (three students).

2019: UW-Milwaukee SURF (Support for Undergraduate Research Fellows) Award, \$3000.

2015: UW-Milwaukee Center for Latin American and Caribbean Studies, Faculty Travel Grant, \$250.

2014: UW-Milwaukee Center for Latin American and Caribbean Studies, Faculty Liason Grant, \$1000.

2013: UW-Milwaukee Center for Latin American and Caribbean Studies, Faculty Travel Grant, \$500.

2013: UW-Milwaukee Center for International Education, Faculty Travel Grant, \$300.

2013: UW-Milwaukee WiscAMP (Wisconsin Louis Stokes Alliance for Minority Participation mentor award \$3,500.

2012: UW-Milwaukee SURF (Support for Undergraduate Research Fellows) Award, \$2000.

2011: UW-Milwaukee Sabbatical Enhancement Award, \$6,000.

2011: UW-Milwaukee SURF (Support for Undergraduate Research Fellows) Award, \$2000.

2011: UW-Milwaukee Center for Latin American and Caribbean Studies, Course Development Grant, \$2000.

2010: UW-Milwaukee SURF (Support for Undergraduate Research Fellows) Award, \$3000.

2010: UW-Milwaukee Center for Latin American and Caribbean Studies, Course Development Grant, \$2000.

2008: UW-Milwaukee Center for Latin American and Caribbean Studies, Course Development Grant, \$2000.

2008: UW-Milwaukee Center for Latin American and Caribbean Studies, Faculty Travel Award, \$500.

2006: UW-Milwaukee Center for Latin American and Caribbean Studies, Faculty Travel Award, \$500.

2006: UW-Milwaukee Center For International Education, Faculty Travel Grant, \$500.

2005: UW-Milwaukee Center for Latin American and Caribbean Studies, Faculty Travel Award: \$500.

2005: UW- Milwaukee Center for International Education, Faculty Travel Award: \$300.

2004: UW-Milwaukee Center for Latin American and Caribbean Studies, Faculty Travel Award to support a visit and presentation of a seminar at the Atmospheric Sciences Center, National Autonomous University of Mexico, Mexico City, Mexico, \$500.

2003: Wisconsin Space Grant Research Consortium, "Student-Friendly Tools for Visualizing Arctic Climate Change", \$23K.

2003: NASA, "Spatial and Temporal Variability in Fluxes, Source Regions, and Atmospheric Transport of Impurities on the Southern Greenland Ice Sheet: Implications for Ice-Sheet Elevation and Mass Balance", co-investigator with J. McConnell (Desert Research Institute), \$100K.

2002: Center for Water Security, Great Lakes Wisconsin Aquatic Technology and Environmental Research (WATER) Institute, "Realtime Assessment of the Fate of Hazardous Atmospheric Material in the Great Lakes Basin", \$20K.

2002: Fulbright Scholar Program, Council for International Exchange of Scholars, U.S. Department of State, Bureau of Educational and Cultural Affairs, "Investigation of the sources and atmospheric transport pathways of air pollution contributing to the deterioration of ancient monuments in Mexico", \$18,000.

2001: UW-Milwaukee Center for Latin American and Caribbean Studies, "Research on Air Pollution in Mexico", \$500.

2000-02: Environmental Protection Agency. "Assessment of Atmospheric Transport Pathways". \$50K.

1999-02: National Science Foundation, Office of Polar Programs: "Seasonal differences in air-snow chemical relationships at Summit, Greenland". \$90K.

1999: University of Wisconsin System PK-16 Initiative, "Continuing and Enhancing the CoVis (Collaborative Visualization) Project with the Inclusion of a Mathematics Visualization Module - Year 2", \$33,215. Co-PI with R. O'Malley.

1998: University of Wisconsin System PK-16 Initiative, "Continuing and Enhancing the CoVis (Collaborative Visualization) Project with the Inclusion of a Mathematics Visualization Module", \$45,224. Co-PI with R. O'Malley.

- 1998: University of Wisconsin-Extension: "The UWM/MCW Center for Science Education CoVis Project", \$39,000. P.I.
- 1998: University of Wisconsin-Extension: "Implementation of a Merger between CoVis and the Mathematics Visualization Projects", \$10,000. Co-PI with R. O'Malley.
- 1997: Wisconsin Educational Communications Board: "A Pilot Project for Collaborative Science Education at Nicolet High School Using CoVis", \$20,000. Co-PI with M. Goodman.
- 1997-98: National Oceanic and Atmospheric Administration, Climate and Atmospheric Research Program: "Archaeology and Analysis of Historical Atmospheric Sounding Data in Arctic Regions". \$150,000.
- 1997-98: UW-Milwaukee Graduate School Research Committee Award, "Developing a Standard Atmosphere for the Polar Regions", \$12,000.
- 1996-97: National Science Foundation, "Air/Snow Transfer to the Greenland Ice Sheet During Winter", \$19,000.
- 1995-96: National Oceanic and Atmospheric Administration, Climate and Atmospheric Research Program: "Archival and Analysis of Historical Meteorological Sounding Data in the Arctic". \$70,000.
- 1993-95: National Science Foundation, "Long-Range Atmospheric Transport and its Relationship to Air/Snow/Ice Chemistry at Summit, Greenland". \$167,000.
- 1992-94: National Science Foundation, "Atmospheric Water Vapor over the Arctic and its Relationships with Synoptic Variability and Surface Conditions". Co-P.I. with M.C. Serreze and R.G. Barry, \$162,000.
- 1992-93: Electric Power Research Institute: "Atmospheric Transport Processes Influencing Visibility Degradation in the Grand Canyon". \$44,000.
- 1991: National Oceanic and Atmospheric Administration, Climate Monitoring and Diagnostics Laboratory: "Numerical Modeling of Turbulent Diffusion in the Arctic". \$6,200.
- 1990-92: National Oceanic and Atmospheric Administration, Climate and Global Change Program, "Development and Trend Analysis of an Arctic TOVS Temperature Sounding Record". Co.I. with S.J.S. Khalsa (P.I.), R.C. Schnell (Co.I.) and M.C. Serreze (Co.I.), \$274,000
- 1990: National Oceanic and Atmospheric Administration, Climate Monitoring and Diagnostics Laboratory, "Processing of Historical Meteorological Data in the Arctic". \$5,000.
- 1989-91: National Science Foundation, "Climatology of the Arctic Planetary Boundary Layer and Temperature Inversion". P.I. with R.C. Schnell, \$66,000.



1989-91: National Oceanic and Atmospheric Administration, Climate and Global Change Program, "Acquisition, Assimilation and Trend Analysis of Historical Temperature Sounding Data in the Arctic". Co-P.I. with R.C. Schnell, \$243,000.

1989-91: Electric Power Research Institute: "Arctic Climate Trends Analysis". Co-P.I. with R.C. Schnell and M.C. Serreze, \$91,000.

1989-90: Defense Nuclear Agency, "MISERS GOLD Trajectory Support". Co-P.I. with R.C. Schnell, \$56,000.

1985-87: Electric Power Research Institute, "Uncertainty in Estimating Atmospheric Transport over Regional Scales". Student Investigator, P.J. Samson, P.I. \$60,000.

### **PARTICIPATION IN FIELD EXPERIMENTS:**

US-Russia Arctic Research Support Planning Mission, Cherskiy (Kolyma Region), Siberia, Russia, April 1993. <http://youtu.be/GGKNzYN3BtE>

MISERS GOLD Air Trajectory Forecasting Support, Silver Spring, MD, May-June 1989.

PRECP VI, Champaign, Illinois, June 1988.

### **CONFERENCE ORGANIZATION:**

Third International Meeting on Environmental Biotechnology and Engineering, Palma de Mallorca, Spain, 21-25 September 2008:

- keynote speaker
- member of the International Scientific Committee

Session chair for Session 2, Large Scale Atmospheric Characteristics, Fourth AMS Conference on Polar Meteorology and Oceanography, Dallas, Texas, 15-20 January 1995.

Session leader for Session FM6, Regional Meteorological Patterns, Regional Photochemical Measurement and Modeling Studies Symposium, San Diego, California, 7-12 November 1993.

Session co-chair for Session 5, Transport and Radiation, Symposium on the Tropospheric Chemistry of the Antarctic Region, Boulder, Colorado, 3-6 June 1991.

### **REVIEWER FOR:**

#### **Technical journals:**

*Aerosol and Air Quality Research*

*Assessment and Evaluation in Higher Education*

*Atmosfera*

*Atmosphere*

*Atmosphere-Ocean*  
*Atmospheric Chemistry and Physics*  
*Atmospheric Environment*  
*Atmospheric Pollution Research*  
*Atmospheric Research*  
*Boundary-Layer Meteorology*  
*Bulletin of the American Meteorological Society*  
*Chemosphere*  
*Climate Dynamics*  
*Environmental Pollution*  
*Environmental Science and Technology*  
*Geology, Ecology and Landscapes*  
*Geophysical Research Letters*  
*Global Biogeochemical Cycles*  
*Hydrological Processes*  
*International Journal of Biometeorology*  
*International Journal of Environmental Research  
and Public Health*  
*International Journal of Climatology*  
*Journal of Agricultural, Biological and  
Environmental Statistics*  
*Journal of the Air and Waste Management  
Association*

*Journal of Applied Meteorology*  
*Journal of Atmospheric and Oceanic Technology*  
*Journal of Climate*  
*Journal of Cultural Heritage*  
*Journal of Environmental Engineering and Science*  
*Journal of Environmental Protection*  
*Journal of Geophysical Research – Atmospheres*  
*Journal of Geophysical Research – Oceans*  
*Journal of Glaciology*  
*Meteorological Applications*  
*Nature*  
*Open Journal of Air Pollution*  
*PLOS One*  
*Polar Record*  
*Quarterly Journal of the Royal Meteorological  
Society*  
*Science of the Total Environment*  
*Sustainability*  
*Tellus*  
*Theoretical and Applied Climatology*  
*Toxics*

#### **Funding agencies:**

*National Science Foundation (NSF)*  
*National Aeronautics and Space  
Administration (NASA)*  
*National Oceanic and Atmospheric  
Administration (NOAA), Climate and  
Global Change Program*  
*Canadian Foundation for Climate and  
Atmospheric Sciences (CFCAS)*  
*U.S. Civilian Research and Development  
Foundation (CRDF)*  
*Environmental Protection Agency (EPA)*  
*International Science Foundation (ISF)*

*Cornell Theory Center (Center for Theory  
and Simulation in Science and  
Engineering)*  
*Hong Kong Research Grants Council*  
*New Zealand Foundation for Research,  
Science and Technology*  
*Swiss National Science Foundation*  
*U.K. Natural Environment Research  
Council*  
*Icelandic Centre for Research*  
*University of Texas-San Antonio*  
*Mexico National Council of Science and  
Technology (CONACyT)*

#### **Book publishers, popular magazines:**

Intergovernmental Panel on Climate Change  
 (IPCC): Second Scientific Assessment of  
 Climate Change

American Geophysical Union monograph  
 series  
 National Geographic magazine

Cambridge University Press  
Elsevier

West Educational Publishing  
University of Wisconsin Press  
Brooks/Cole Publishing  
Gareth Stevens Publishing  
Scholastic, Inc.  
Springer-Verlag  
Carolrhoda Books

### **PROFESSIONAL MEMBERSHIPS:**

American Meteorological Society, American Geophysical Union, Greater Milwaukee Chapter of the American Meteorological Society (offices held: President, Vice-President, Treasurer).

### **PARTICIPATION ON ADVISORY AND REVIEW PANELS:**

Council for International Exchange of Scholars (CIES) 2007-08 Fulbright Mexico/Andean Peer Review Committee, Washington, DC, 18-19 October 2007.

National Science Foundation, Collaborations in Mathematical Geosciences review panel, Arlington, VA, 4-6 June 2007.

Council for International Exchange of Scholars (CIES) 2007-08 Fulbright Mexico/Andean Peer Review Committee, Washington, DC, 5-6 October 2006.

Council for International Exchange of Scholars (CIES) 2006-07 Fulbright Mexico/Andean Peer Review Committee, Washington, DC, 12-13 February 2006.

NSF/CONACyT International Workshop on the Influence of Air Quality on Mayan Monuments in Mesoamerica, Cancun, Mexico, 17-21 October 2005.

Environmental Protection Agency (EPA) Small Business Innovative Research (SBIR) Proposal Review panel, Washington, DC, 12-13 September 2004.

Environmental Protection Agency (EPA) proposal review panel, "Assessing the consequences of global change for air quality", Washington, DC, 11-12 December 2002.

National Science Foundation Arctic Workshop, West Lafayette, IN, 10-12 November 2002.

Environmental Protection Agency (EPA) Small Business Innovative Research (SBIR) Proposal Review panel, Washington, DC, 21-22 August 2002.

Environmental Protection Agency (EPA) Small Business Innovative Research (SBIR) Proposal Review panel, Washington, DC, 12-13 September 2001.

Environmental Protection Agency (EPA) Small Business Innovative Research (SBIR) Proposal Review panel, Washington, DC, 13-14 September 2000.

Environmental Protection Agency (EPA) Environmental Monitoring for Public Access and Community Tracking (EMPACT) Proposal Review panel, Washington, DC, 18 August 2000.

Environmental Protection Agency (EPA) Environmental Monitoring for Public Access and Community Tracking (EMPACT) Metro Grants Proposal Review panel, Washington, DC, 13-14 July 2000.

Environmental Protection Agency (EPA) Exploratory Research Proposal Review panel, Washington, DC, 27-28 October 1999.

Environmental Protection Agency (EPA) Environmental Monitoring for Public Access and Community Tracking (EMPACT) Metro Grants Proposal Review panel, Washington, DC, 13-14 July 1999

Environmental Protection Agency (EPA) Project MOHAVE Review Panel, 1998-1999

Environmental Protection Agency (EPA) Exploratory Research Proposal Review panel, Durham, NC, 29-31 March 1993

Workshop on Ozone Research Monitoring and Tracking Progress, Environmental Protection Agency (EPA), Research Triangle Park, North Carolina, 22 September 1992.

Workshop on Snow/Atmospheric Chemical Exchange, sponsored by the National Science Foundation under the auspices of the International Commission on Snow and Ice, Durham, New Hampshire, 6-7 March 1992.

Environmental Protection Agency (EPA) Project MOHAVE Planning Workshop, Denver, Colorado, 30 April - 1 May 1991.

#### **UNIVERSITY COURSES TAUGHT (at University of Wisconsin-Milwaukee):**

Required courses      *Air Pollution Meteorology*, graduate/undergraduate  
for Atm Sci majors:    *Introduction to Meteorology*, undergraduate  
                                 *Atmospheric Thermodynamics*, graduate/undergraduate

Elective courses      *Micrometeorology*, graduate/undergraduate  
for Atm Sci majors:    *Air Pollution Modeling*, graduate  
                                 *Mexico: Air Pollution and Ancient Cultures*  
                                 (faculty-led study abroad course), graduate/undergraduate  
                                 *Scientific Programming using FORTRAN*, graduate/undergraduate

Service courses:      *Survey of Meteorology*, undergraduate  
                                 *Earth, Air, Fire and Water*, undergraduate  
                                 *Principles of Forecasting the Weather*, undergraduate  
                                 *Thunderstorms, Tornadoes and Hurricanes*, undergraduate  
                                 *The Origin, Composition, and Structure of the Planetary Atmospheres*,  
                                 undergraduate  
                                 *Trigonometry*, undergraduate  
                                 *Essentials of Algebra*, undergraduate  
                                 *Algebraic Literacy I*, undergraduate

Freshman Seminar:    *There's No Zone Like the Ozone: Environmental Aspects of Weather*

**GRADUATE STUDENT ADVISEES (UW-Milwaukee unless otherwise indicated):**

|   |   |
|---|---|
| Victoria Lang<br>(M.S. expected 2022)   | Thesis: Effects of recurring, non-Independence Day fireworks displays on air quality  |
| Shayna Fever (M.S. 2021)  | Thesis: "Investigating the potential of a combined air quality-heat index in predicting mortality"  |
| Teresa Turner<br>(M.S. 2020)  | Thesis: "Predicting Peak Wind Gusts During Specific Weather Types with the Meteorologically Stratified Gust Factor Model"   |
| Chelsea Picha (M.S., 2018)  | non-thesis option   |
| Lily Chapman (M.S., 2017)   | Thesis: "Performance test of the Pasquill Stability Classification Scheme"  |
| Austin Harris (M.S., 2016)  | Thesis: "On establishing a climatology of gust factors and assessing their ability to forecast wind gusts in Milwaukee, Wisconsin"  |
| Rolando Olivas Saunders<br>(Ph.D, 2013)   | Dissertation: "Improved estimation of PM <sub>2.5</sub> using Lagrangian satellite-derived aerosol optical depth".<br><a href="http://dc.uwm.edu/cgi/viewcontent.cgi?article=1147&amp;context=etd">http://dc.uwm.edu/cgi/viewcontent.cgi?article=1147&amp;context=etd</a> |
| Diana Maribel Facundo Torres<br>(Ph.D, 2011)<br>Monterrey, Mexico                 | Dissertation: " Atmospheric deposition in an industrial zone in northeast Mexico ". (J. Kahl was an external reviewer.)   |
| Evangelina Ramírez (Ph.D, 2010)<br>University of Nuevo Leon,<br>Monterrey, Mexico | Dissertation: "Development of a model for the evaluation of emissions for acid deposition". (J. Kahl was an external advisor.)  |
| Thishan Dharshana (M.S., 2009)  | Thesis: "Relationship between daily weather conditions and particulate matter air pollution over the United States" (J. Kahl and Prof. S. Kravtsov, co-advisors)  |
| Laura Carnahan (M.S., 2009)   | Thesis: "Statistical significance testing for trajectory grouping techniques"   |
| Megan Carter (M.S., 2006)   | Thesis: "Atmospheric transport climatology of snow days in Greenland"   |
| N. Manju (Ph.D, 2005)   | Dissertation: "Assimilative capacity and atmospheric  |

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|---------------------------------|--|
| University of Madras, India     | dispersion modeling studies for an industrial zone of ".<br>Chennai (J. Kahl was an external<br>reviewer.)   |
| Kazumi Nakada (M.S., 2005)      | non-thesis option  |
| Jessica Miller (M.S., 2002)     | Thesis: "A three-dimensional residence time analysis of<br>potential transport to two locations"   |
| Jennifer Galbraith (M.S., 1997) | Thesis: "Long-range Atmospheric Transport to the Summit<br>of the Greenland Ice Sheet"   |
| Desong Liu (M.S., 1994)         | Thesis: "The Meteorological Feasibility of Controlling<br>Emissions along Clean-Air Corridors to the Grand Canyon"                                 |
| Suzanne Skony (M.S., 1992)      | Thesis: "Thermal Structure of the Lower Troposphere Over<br>the Western Arctic Ocean"  |
| John Roth (M.S., 1991)          | Thesis: "A Study of the Relationship Between Atmospheric<br>Transport and Summer Weather Types in Northeastern<br>Colorado Using Cluster Analysis" |