

ROBERT ALAN HOKE

Work: DuPont
Haskell Global Centers for Health and Environmental Sciences
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Education:

Ph.D., Fisheries and Wildlife; Environmental Toxicology, Michigan State University, 1992

M.S., Biology, Bowling Green State University, 1981

B.S., Biology, Bowling Green State University, 1976

Dr. Hoke has over 25 years experience in environmental toxicology, aquatic ecology, and the assessment of the fate and effects of contaminants in the environment. His experience includes working in industry, academic, consulting and government laboratory environments. His specific areas of expertise are sediment toxicology; environmental risk assessment, including the environmental fate of contaminants and their effects on biotic communities; and the development of environmental assessment and toxicity testing methods.

Professional Experience:

2004 - Principal Ecotoxicologist and Manager, Environmental Toxicology
DuPont, Haskell Global Centers for Health and Environmental Sciences

2001 - 2004 Senior Research Ecotoxicologist and Manager, Aquatic Toxicology
DuPont, Haskell Laboratory for Health and Environmental Sciences

Dr. Hoke directs the Environmental Toxicology group within Haskell Global Centers for Health and Environmental Sciences and ensures that the group's consulting, research, and testing activities meet the environmental and human health protection requirements of DuPont and various external clients. His responsibilities include establishing strategic and tactical goals for the technical competency and managing and allocating resources to optimize costs and efficiency while ensuring the scientific and regulatory quality of studies conducted by the group. Additional responsibilities include ensuring a respectful workplace and developing and maintaining working relationships with other groups within the laboratory and other DuPont business units. His technical responsibilities continue to include design and conduct of aquatic

studies for the registration or re-registration of agricultural and industrial compounds, participation in the development of product risk assessments, and serving as a corporate resource on issues involving aquatic toxicology, water and sediment quality, site assessment and remediation, and product stewardship.

1996 - 2001 Senior Research Ecotoxicologist
DuPont, Haskell Laboratory for Health and Environmental Sciences

Dr. Hoke provided corporate expertise in the environmental assessment of sediments and was instrumental in the development of corporate methods for evaluating the sediment toxicity of agricultural and industrial compounds. He also participates in the development of product risk assessments and is responsible for the design and conduct of aquatic studies for the registration or re-registration of agricultural and industrial compounds. Additional responsibilities included providing freshwater aquatic toxicology, environmental assessment and product stewardship expertise within the company.

1992 - 1996 Senior Scientist, Science Applications International Corporation,
Hackensack, New Jersey

Dr. Hoke was responsible for the completion and analysis of a freshwater sediment quality database and study design, data analysis and review of environmental fate and effects data for a variety of environmental projects. He participated in the development of standardized sediment toxicity test methods and preparation of technical documents in support of the U.S. EPA effort to develop sediment quality criteria. As part of this effort, Dr. Hoke served as a consultant to the Office of Water's sediment quality criteria technical workgroup. His activities also included participation in U.S. EPA's National Sediment Inventory workshops, participation in a U.S. Army Corps of Engineers workshop on the environmental fate and effects of white phosphorus, review of U.S. Army data on the environmental fate and effects of taggant compounds for explosives, and participation in the design and completion of environmental assessments at several Superfund sites. Additional responsibilities included providing freshwater aquatic toxicology and environmental assessment expertise to other groups within the company.

1990 - 1992 Research Scientist, AScI Corporation, Duluth, Minnesota

While with AScI, Dr. Hoke designed and conducted laboratory and field experiments supporting the sediment quality criteria development effort at the U.S. EPA's Environmental Research Laboratory in Duluth, MN. He was the lead aquatic toxicologist on the support contract research team which participated in the development of new freshwater sediment toxicity test methods and conducted sediment spiking "check" experiments. He also was the support contract technical lead for a field study to evaluate equilibrium partitioning theory as a method for developing sediment quality criteria and predicting the effects of non-polar organic compounds on stream benthic communities.

1984 - 1987 Principal Biologist, Aqua Tech Environmental Consultants, Inc.,
Melmore, Ohio

Major responsibilities included supervising technical and clerical employees; preparing proposals, budgets and project reports; and serving as the primary source of technical information on biological, ecological or toxicological issues within the company and for clients.

1982 - 1984 Fisheries Volunteer, U.S. Peace Corps, Cebu, City, Philippines

Major accomplishments and responsibilities included completion of ten weeks of intensive cross-cultural and language (Cebuano) training and serving as a nearshore fisheries, mangrove reforestation and technical writing advisor with the National Economic Development Authority and Bureau of Fisheries and Aquatic Resources. As a technical advisor, I interacted with agency personnel and foreign consultants to develop and implement project plans, edited project reports before submission to the World Bank and assisted in the development of a mangrove cultivation and reforestation techno-guide.

1980 - 1982 Biological Branch Manager, Aqua Tech Environmental Consultants, Inc.,
Melmore, Ohio

Major responsibilities included direction of secretarial and laboratory staff, ordering and purchase of laboratory equipment and supplies, preparation of contract bids, invoicing and control of branch expenditures, consultation with government agencies and industrial clients, preparation of grant proposals, set-up and management of bioassay projects, preparation of technical reports.

1979-1980 Aquatic Ecologist, Aqua Tech Environmental Consultants, Inc.,
Melmore, Ohio

Major responsibilities included conducting aquatic toxicity tests, set-up and maintenance of aquatic test organism cultures, treatment and management of small ponds and lakes, planning and implementation of agricultural waste management programs, preparation of graphic materials and technical reports, and field sampling necessary for the completion of a variety of projects.

1976-1979 Research Associate, Heidelberg College, Water Quality Laboratory,
Tiffin, Ohio

Major responsibilities included chemical analyses of water and tissue samples, collection of water samples from, and maintenance of, stream gauging stations, flow monitoring studies in the Sandusky River Basin, culturing of toxicity test species, collection and analysis of sediment and biological samples during Lake Erie and Lake Michigan cruises of the R/V Roger R. Simons, statistical data analyses, and acting as chief scientist on board R/V Roger R. Simons during Lake Superior cruise for the University of Minnesota.

1976 Biochemical/Physical Science Technician, U.S. EPA, Region V,
Chicago, Illinois

Major responsibilities included completion of algal productivity study on Lake Michigan utilizing C-14 liquid scintillation techniques, collection of sediment and biological samples from Lake

Ontario and the St. Lawrence Seaway, collection of limnological data and biological samples on Lake Michigan cruises of R/V Roger R. Simons.

1976 Survey Clerk, Ohio Department of Natural Resources,
Bowling Green, Ohio

Major responsibility was the collection of creel census data on the Maumee River, Ohio.

Professional Organizations:

Society of Environmental Toxicology and Chemistry
SETAC North America Board of Directors – 2008 – current
SETAC Hudson-Delaware Chapter Board of Directors – 2007 – current
SETAC Technical Committee - 2003-2006
SETAC Short Course Committee - 2001-2003
SETAC Annual Meeting Committee - 2001
SETAC Fellowship Committee - 1993-1996
Ecological Society of America

Manuscripts Reviewed:

Archives of Environmental Contamination and Toxicology
Biomedical and Environmental Sciences
Birth Defects Research Part B: Developmental and Reproductive Toxicology
Canadian Journal of Fisheries and Aquatic Sciences
Chemosphere
Ecotoxicology and Environmental Sciences
(Editorial Board -1996-current)
Environmental Health Perspectives
Environmental Toxicology and Chemistry
(Editorial Board - 1992-95)
Environmental Science and Technology
Integrated Environmental Assessment and Management
Journal of Great Lakes Research
Journal of Photochemistry and Photobiology B
Marine Environmental Research
Ohio Journal of Science
Toxicology In Vitro
Toxicology Letters
Toxicological Sciences
Water Science and Technology

Book Chapters Reviewed:

American Society of Testing and Materials - Chemical and Biological Characterization of Municipal Sludges, Sediments, Dredge Spoils and Drilling Muds.

John Wiley & Sons - Toxic Substances and Aquatic Ecosystem Health.

Grant/Fellowship Proposals Reviewed:

National Science Foundation - Population Biology and Physiological Ecology Program.

Department of the Air Force - Office of Scientific Research

Society of Environmental Toxicology and Chemistry

Wisconsin Sea Grant

Delaware Sea Grant

U.S. EPA Star Award

DoD, Strategic Environmental Research and Development Program

Honors and Awards:

EPA Scientific and Technological Achievement Awards – Honorable Mention – 2006

EPA Scientific and Technological Achievement Awards – Honorable Mention – 1996

Quintessence Manuscript Award – Excellence in Environmental Contamination and Toxicology - 1994

Who's Who of Emerging Leaders in America - 2nd, 3rd, 4th Editions

Who's Who in the Midwest - 21st, 22nd and 23rd Editions

Michigan State University Graduate Recruiting Fellowship - 1987, 1988

University Scholarship, Bowling Green State University - 1972

Workshops:

A Vision and Strategy for Predictive Ecotoxicology in the 21st Century: Defining Adverse Outcome Pathways Associated with Ecological Risk, Society of Environmental Toxicology and Chemistry, April 19-23, 2009, Forest Grove, Oregon.

Molecular Biology and Risk Assessment: Evaluation of the Potential Role of Genomics in Regulatory Ecotoxicology, Society of Environmental Toxicology and Chemistry, September 18-21, 2005, Pellston, Michigan

NOAA, CCMA, Mussel Watch Program Review, Flintstone, MD – February 8-9 2005

OECD/IPCS Workshop on Toxicogenomics, Kyoto, Japan – October 13-15, 2004

Use of Anuran Models in Endocrine Disruption and Reproductive Toxicology Research, U.S. EPA, NHEERL, MED, Duluth, MN, USA – June 24-25, 2003

OECD, Meeting of the Ad Hoc Expert Group on Amphibian Testing, Duluth, MN, USA – June 26-27, 2003

Emerging Contaminant Workshop, U.S. EPA, Chesapeake Bay Program, October 18, 2002, Solomons, MD

An Ecological Perspective of Genomics: Assessing Ecological Risk Through Partnerships, Society of Environmental Toxicology and Chemistry, September 23-25, 2002, Pensacola, Florida.

OECD, Expert Panel Member, Consultation on Endocrine Disruptors Testing in Amphibians, April 26-27, 2001, Paris, France

ICCVAM, NTP – Expert Panel Member, Evaluation of the Frog Embryo Teratogenesis Assay – *Xenopus* (FETAX), May 16-18, 2000, Research Triangle Park, North Carolina

Porewater Toxicity Testing: Biological, Chemical, and Ecological Considerations - Methods, Applications and Recommendations for Future Areas of Research, Society of Environmental Toxicology and Chemistry, March 18-22, 2000, Pensacola Beach, Florida

Other:

Partnership for the Delaware Estuary, Science and Technical Advisory Committee, 2007-current

WERF Project Subcommittee, Navigating the TMDL Process: Sediment Toxicity – 02-WSM-2

WERF Project Subcommittee, Navigating the TMDL Process: Narrative Criteria – 01-WSM-1

Professional Publications:

Han, X., R.T. Mingoia, D.L. Nabb, C-H. Yang, S.I. Snajdr and R.A. Hoke. 2008. Xenobiotic intrinsic clearance in freshly isolated hepatocytes from rainbow trout (*Oncorhynchus mykiss*): determination of trout hepatocellularity, optimization of cell concentrations and comparison of serum and serum-free incubations. *Aquat. Toxicol.* 89:11-17.

Conder, J.M., R.A. Hoke, W. de Wolf, M.H. Russell and R.C. Buck. 2008. Are PFCAs bioaccumulative? A critical review and comparison with regulatory criteria and persistent lipophilic compounds. *Environ. Sci. Technol.* 42(4):995-1003.

Parkerton, T.F., J.A. Arnot, A.V. Weisbrod, C. Russom, R.A. Hoke, K. Woodburn, T. Traas, M. Bonnell, L.P. Burkhard and M.A. Lampi. 2008. Guidance for evaluating in vivo fish bioaccumulation data. *Integr. Environ. Assess. Manag.* 4(2):139-155.

Degitz, S.J., R.A. Hoke, S. Bradbury, R. Brennan, L. Ferguson, R. Klapper, L. Orban, D. Spurgeon, and S. Tilton. 2008. Application of genomics to regulatory ecological risk assessments for pesticides. Ankley, G.T., A.L. Miracle, E.J. Perkins, and G.P. Daston, eds., *Genomics in Regulatory Ecotoxicology*, CRC Press, Boca Raton, FL., pp. 63-85.

- Powley, C.R., S.W. George, M.H. Russell, R.A. Hoke and R.C. Buck. 2008. Polyfluorinated chemicals in a spatially and temporally integrated food web in the western Arctic. *Chemosphere* 70:664-672.
- Colombo, I., W. de Wolf, R. S. Thompson, D. G. Farrar, R. A. Hoke, and J. L'Haridon. 2008. Acute and chronic aquatic toxicity of ammonium perfluorooctanoate (APFO). *Ecotox. Environ. Safety* 71:749-756.
- Warheit, D.B., R.A. Hoke, C. Finlay, E.M. Donner, K.L. Reed and C. M. Sayes. 2007. Development of a base set of toxicity tests using ultrafine TiO₂ particles as a component of nanoparticle risk management. *Toxicol. Letters*. 171:99-110.
- Ankley, G.T., G.P. Daston, S.J. Degitz, N. D. Denslow, R.A. Hoke, S.W. Kennedy, A.L. Miracle, E.J. Perkins, J. Snape, D.E. Tillitt, C.R. Tyler and D. Versteeg. 2006. Toxicogenomics in Regulatory Ecotoxicology. *Environ. Sci. Technol.* 40:4055-4065.
- Hoke, R.A. and G.T. Ankley. 2005. Application of frog embryo teratogenesis assay-*Xenopus* to ecological risk assessment. *Environ. Toxicol. Chem.* 24:2677-2690.
- Apitz, S.E., J.W. Davis, K. Finkelstein, D.W. Hohreiter, R. Hoke, R.H. Jensen, J. Jersak, V.J. Kirtay, E.E. Mack, V. Magar, D.W. Moore, D. Reible and R.G. Stahl, Jr. 2005. Assessing and managing contaminated sediments: Part I: Developing an effective investigation and risk evaluation strategy. *Integr. Environ. Assess. Manag.* 1:2-8.
- Apitz, S.E., J.W. Davis, K. Finkelstein, D.W. Hohreiter, R. Hoke, R.H. Jensen, J. Jersak, V.J. Kirtay, E.E. Mack, V. Magar, D.W. Moore, D. Reible and R.G. Stahl, Jr. 2005. Assessing and managing contaminated sediments: Part II: Evaluating risk and monitoring sediment remedy effectiveness. *Integr. Environ. Assess. Manag.* 1(online-only):e1-e14.
- Scroggins, R., W. Berry, R. Hoke, K. Milligan, D. Morrissey and L. Porebski. 2003. Regulatory applications of porewater toxicity testing, Chapter 12 *in*, *Porewater Toxicity Testing: Biological, Chemical, and Ecological Considerations - Methods, Applications and Recommendations for Future Areas of Research*, SETAC Press, Pensacola, FL.
- Stahl, R.G. Jr., J. Orme-Zavaletta, K. Austin, W. Berry, J.R. Clark, S. Cormier, W. Fisher, J. Garber, R. Hoke, L. Jackson, G-L. Kreamer, C. Muska and M. Sierszen. 2000. Use of ecological indicators in ecological risk assessment of aquatic systems: proceedings of a workshop. *Human and Ecological Risk Assessment* 6(4):671-677.
- Sibley, P.K., D.A. Benoit, M.D. Balcer, G.L. Phipps, C.W. West, R.A. Hoke and G.T. Ankley. 1999. Design and testing of a bioassay chamber for the *in situ* assessment of sediment toxicity and bioaccumulation. *Environ. Toxicol. Chem.* 18:2325-2336.
- Hoke, R.A. G.T. Ankley, P.A. Kosian, G.L. Phipps, A.M. Cotter, F.M. VanderMeiden and J.S. Cox. 1997. Equilibrium partitioning as the basis for an integrated laboratory and field assessment of the impacts of DDT, DDE and DDD in sediments. *Ecotoxicology* 6:101-125.

- Leonard, E.N., G.T. Ankley and R.A. Hoke. 1996. Evaluation of metals in marine and freshwater surficial sediments from the Environmental Monitoring and Assessment Program relative to proposed sediment quality criteria for metals. *Environ. Toxicol. Chem.* 15:2221-2232.
- Cotter, A.M., P.A. Kosian, R.A. Hoke and G.T. Ankley. 1996. Extraction and analysis of low concentrations of DDT, DDE and DDD in small volumes of sediment pore water. *Chemosphere* 33:1341-1354.
- Ankley, G.T., W.J. Berry, D.M. Di Toro, D.J. Hansen, R.A. Hoke, D.R. Mount, M.C. Reiley, R.C. Swartz and C.S. Zarba. 1996. Use of equilibrium partitioning to establish sediment quality criteria for nonionic chemicals: a reply to Iannuzzi et al. *Environ. Toxicol. Chem.* 15:1019-1024.
- Ingersoll, C.G., G.T. Ankley, D.A. Benoit, Brunson, E.L., G.A. Burton, F.J. Dwyer, R.A. Hoke, P.F. Landrum, T.J. Norberg-King, and P.V. Winger. 1995. Toxicity and bioaccumulation of sediment-associated contaminants using freshwater invertebrates: a review of methods and applications. *Environ. Toxicol. Chem.* 14:1885-1894.
- Hoke, R.A., G.T. Ankley and J.F. Peters. 1995. Use of a freshwater sediment quality database in an evaluation of sediment quality criteria based on equilibrium partitioning and screening-level concentrations. *Environ. Toxicol. Chem.* 14:451-460.
- Hoke, R.A., P.A. Kosian, G.T. Ankley, A.M. Cotter, F.M. VanderMeiden and G.L. Phipps. 1995. Check studies with *Hyalella azteca* and *Chironomus tentans* in support of the development of a sediment quality criterion for dieldrin. *Environ. Toxicol. Chem.* 14:435-444.
- Kosian, P.A., R.A. Hoke, G.T. Ankley and F.M. VanderMeiden. 1995. Determination of dieldrin binding to dissolved organic material in sediment pore water using a reverse-phase separation technique. *Environ. Toxicol. Chem.* 14:445-450.
- West, C.W., Phipps, G.L., Hoke, R.A., Goldenstein, T.A., VanderMeiden, F.M., Kosian, P.A. and Ankley, G.T. 1994. Sediment cores vs grab samples: evaluation of contamination and toxicity at a DDT contaminated site. *Ecotox. Environ. Safety* 28:208-220.
- Ankley, G.T., D.J. Call, J.A. Swenson, M.D. Kahl, R.A. Hoke and P.A. Kosian. 1994. Organic carbon partitioning as a basis for predicting the toxicity of chlorpyrifos in sediments. *Environ. Toxicol. Chem.* 13:621-626.
- Ankley, G.T., D.A. Benoit, J.C. Balogh, T.B. Reynoldson, K.E. Day and R.A. Hoke. 1994. Evaluation of potential confounding factors in sediment toxicity tests with three freshwater benthic invertebrates. *Environ. Toxicol. Chem.* 13:627-635.
- Collyard, S.A., Ankley, G.T., R.A. Hoke and T. Goldenstein. 1994. Influence of age on the relative sensitivity of *Hyalella azteca* to diazinon, alkylphenol ethoxylates, copper, cadmium and zinc. *Arch. Environ. Contam. Toxicol.* 26:110-113.

- Hoke, R.A., P.D. Jones, A.E. Maccubbin, M.J. Zabik and J.P. Giesy. 1994. Use of *in vitro* microbial assays of sediment extracts to detect and quantify contaminants with similar modes of action. *Chemosphere* 28:169-181.
- Hoke, R.A., G.T. Ankley, A.M. Cotter, P.A. Kosian and G.L. Phipps. 1994. Evaluation of equilibrium partitioning theory for predicting acute toxicity of field-collected, DDT-contaminated sediments to the amphipod, *Hyalella azteca*. *Environ. Toxicol. Chem.* 13:157-166.
- Ankley, G.T., D.M. Di Toro, D.J. Hansen, J.D. Mahony, R.C. Swartz, R.A. Hoke, N.A. Thomas, A.W. Garrison, H.E. Allen and C.S. Zarba. 1994. Assessing the potential bioavailability of metals in sediments: a proposed approach. *Environmental Management* 18:331-337.
- Hoke, R.A., J.P. Giesy, M.J. Zabik and M. Unger. 1993. Toxicity of sediments and sediment pore waters from the Grand Calumet River-Indiana Harbor Indiana Area of Concern. *Ecotox. Environ. Safety* 26:86-112.
- Leonard, E.N., V.R. Mattson, D.A. Benoit, R.A. Hoke and G.T. Ankley. 1993. Seasonal variation of acid volatile sulfide concentration in sediment cores from three northeastern Minnesota lakes. *Hydrobiologia* 271:87-95.
- Ankley, G.T., R.A. Hoke, D.A. Benoit, E.N. Leonard, C.W. West, G.L. Phipps, V.R. Mattson and L.A. Anderson. 1993. Development and evaluation of test methods for benthic invertebrates and sediments: effects of flow rate and feeding on water quality and exposure conditions. *Archiv. Environ. Contam. Toxicol.* 25:12-19.
- Ankley, G.T., P.M. Cook, A.R. Carlson, D.J. Call, J.A. Swenson, H.F. Corcoran and R. A. Hoke. 1992. Bioaccumulation of PCBs from sediments by oligochaetes and fishes: comparison of laboratory and field studies. *Can. J. Fish. Aquat. Sci.* 49:2080-2085.
- Hoke, R.A., J.P. Giesy and Russel G. Kreis, Jr. 1992. Sediment toxicity identification in the lower Fox River and Green Bay, Wisconsin, USA using the Microtox[®] assay. *Ecotox. Environ. Safety* 23:343-354
- Hoke, R.A., W.R. Gala, J.B. Drake, J. P. Giesy and S. Flegler. 1992. Bicarbonate as a confounding factor in cladoceran toxicity assessments of pore water from contaminated sediments. *Can. J. Fish. Aquat. Sci.* 49:1633-1640
- Ankley, G.T., M.K. Schubauer-Berigan and R.A. Hoke. 1992. Use of toxicity identification evaluation techniques to identify dredged material disposal options: a proposed approach. *Environmental Management* 16:1-6
- Ankley, G.T., K. Lodge, D.J. Call, M.D. Balcer, L.T. Brooke, R.D. Johnson, P.M. Cook, R.G. Kreis, Jr., A. R. Carlson, G.J. Niemi, R.A. Hoke, C.W. West, J.P. Giesy, P.D. Jones and Z.C. Fuying. 1991. Integrated assessment of contaminated sediments in the lower Fox River and Green Bay, Wisconsin. *Ecotox. Environ. Safety* 22:1-18.

- Othoudt, R.A., J.P. Giesy, K.R. Grzyb, D.A. Verbrugge, R.A. Hoke, J.B. Drake and D. Anderson. 1991. Evaluation of the effects of storage time on the toxicity of sediments. *Chemosphere* 22:801-807.
- Verbrugge, D.A., R.A. Othoudt, K.R. Grzyb, R.A. Hoke, J.B. Drake, J.P. Giesy and D. Anderson. 1991. Concentrations of inorganic and organic contaminants in sediments of six harbors of the North American Great Lakes. *Chemosphere* 22:809-820.
- Giesy, J.P. and R.A. Hoke. 1991. Bioassessment of the toxicity of freshwater sediment. *Verh. Internat. Verein. Limnol.* 24:2313-2321.
- Hoke, R.A., J.P. Giesy, G.T. Ankley, J.L. Newsted and J.R. Adams. 1990. Toxicity of sediments from Western Lake Erie and the Maumee River at Toledo, Ohio, 1987: implications for current dredged material disposal practices. *J. Great Lakes Res.* 16:457-470.
- Giesy, J.P., R.A. Hoke and G.T. Ankley. 1990. Freshwater sediment quality criteria: toxicity bioassessment. In: R. Baudo, J. Giesy and H. Muntau (eds.) Sediments: The Chemistry and Toxicology of In-Place Pollutants. Lewis Publishers, Chelsea, Michigan. pp. 265-348.
- Hoke, R.A., J.P. Giesy and J.R. Adams. 1990. The use of linear orthogonal contrasts in the analysis of environmental data. *Environ. Toxicol. Chem.* 9:815-819.
- Giesy, J.P. and R.A. Hoke. 1989. Freshwater sediment toxicity bioassessment: Rationale for species selection and test design. *J. Great Lakes Res.* 15:539-569.
- Ankley, G. T., R.A. Hoke, J.P. Giesy and P.V. Winger. 1989. Evaluation of the toxicity of marine sediments and dredge spoils with the Microtox[®] assay. *Chemosphere* 18:2069-2075.
- Laskowski-Hoke, R.A. and B.L. Prater. 1984. Multivariate statistical analyses of 96-hour sediment bioassay and chemistry data. *Bull. Environ. Contam. Toxicol.* 33:400-409.
- Laskowski-Hoke, R.A., M.J. Norrocky and B.L. Prater. 1982. Fishes of the upper Portage River, Ohio, 1973-1975. *Ohio J. Sci.* 82:306-310.
- Laskowski-Hoke, R.A. and B.L. Prater. 1981. Dredged material evaluations: correlations between chemical and biological evaluation procedures. *J. Water Poll. Contr. Fed.* 53:1260-1262.
- Laskowski-Hoke, R.A. and B.L. Prater. 1981. Relationship of per cent mortality of aquatic biota from 96-hour sediment bioassays and the change in chemical composition of test water. *Bull. Environ. Contam. Toxicol.* 26:323-327.
- Hoke, R.A. and B.L. Prater. 1980. The relationship of per cent mortality of four species of aquatic biota from 96-hour sediment bioassays of five Lake Michigan harbors and elutriate chemistry of the sediments. *Bull. Environ. Contam. Toxicol.* 25:394-399.

Prater, B.L. and R. Hoke. 1980. A method of biological and chemical evaluation of sediment toxicology. Chapter 24 in, Contaminants and Sediments, Volume 1, R.A. Baker, Ed. Ann Arbor Science Publishers Inc., Ann Arbor, MI, pp. 482-499.

Hoke, R., B.L. Prater and M.J. Norrocky. 1979. Fish survey in the lower Portage River, Ohio, 1975. Ohio J. Sci. 79:95-96.

Technical Report Publications - over 30 technical reports prepared while employed by Aqua Tech. Environmental Consultants, Inc.

Presentations:

Buck, R. J. Stadler, S. Korzenniowski and R. Hoke. "The Toxicology of Fluorotelomer-based Substances". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry – Europe, May 2006.

Baummer, J.C., R.A. Hoke, W.L. McCulloch and R.S. Hartzell. "Acute and chronic toxicity of two phosphonic acids to freshwater and marine organisms". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Portland, OR., November 2004.

Hoke, R.A., J.T. Turner, Sr., B. Szostek, L.D. Bouchelle, B.D. Ferrell, K.B. Prickett and R.C. Buck. "Comparative early-life stage toxicity of two fluorotelomer-based surfactants using rainbow trout". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Portland, OR., November 2004.

Slovan, T., R.A. Hoke, B. Szostek, B.D. Ferrell, K.B. Prickett and R.C. Buck. "Comparative toxicity of two fluorotelomer-based surfactants to the green alga, *Pseudokirchneriella subcapitata*". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Portland, OR., November 2004.

Hoke, R.A., L.D. Bouchelle, B.D. Ferrell, and R.C. Buck. "Comparative acute toxicity of three fluorotelomer acids to *Pseudokirchneriella subcapitata*, *Daphnia magna*, and *Oncorhynchus mykiss*". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Portland, OR., November 2004.

Samel, A., R.A. Hoke, L.D. Bouchelle, J.W. Green, D. Dobrzynski and J. Wetzel. Evaluation of factors affecting measurement of *Daphnia magna* dry weights. Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Portland, OR., November 2004.

Koch, H., W.R. Berti, R.C. Buck, J. Gannon, R.A. Hoke, H. Iwai, M.A. Kaiser, S. Shinya, and N. Wang. "Ecotoxicity profile of 1H, 1H, 2H, 2H-perfluorodecanol (C8-2 telomer B alcohol)". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry – Europe, Prague, Czech Republic, April 2004

- Colombo, I., W. de Wolf, D.G. Farrar, R.A. Hoke, J.L. Haridon and R.S. Thompson. "Acute and chronic, aquatic toxicity of ammonium perfluorooctanoate (APFO)". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry – Europe, Prague, Czech Republic, April 2004
- Hoke, R., J.T. Turner, Sr., J.W. Green, W.R. Gibson, R.M. Good and R.C. Buck. "Bioconcentration screening of perfluorinated compounds using fathead minnows." Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Austin, TX., November 2003.
- Hoke, R.A., B. Szostek, J.T. Turner, Sr., L.D. Bouchelle, B.D. Ferrell, K.B. Prickett, and R.C. Buck. "Early-life stage toxicity testing of fluorotelomer-based surfactants using rainbow trout, *Oncorhynchus mykiss*". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Austin, TX., November 2003.
- Baummer, J.C., W.L. McCulloch, J.B. Ruiter and R. A. Hoke. "Development of a pH-dependent toxicity curve for ammonia using *Pimephales promelas* and *Ceriodaphnia dubia*". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Salt Lake City, UT., November 2002.
- Hoke, R.A. and Ankley, G.T. "Application of FETAX in ecological risk assessments: a critical assessment". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Baltimore, MD., November 2001.
- Grube, P.W., R.A. Hoke, J.B. Rhodes and R.G. Stahl, Jr. "Influence of age on the relative sensitivity of *Chironomus tentans* to copper, zinc, cadmium, potassium, and diazinon". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Washington DC., November 1996.
- Hoke, R.A., E. Leonard, and G.T. Ankley. "Evaluation of proposed sediment quality criteria for metals in marine and freshwater surficial sediments". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Vancouver, Canada, November, 1995
- Scott, K.J. and R. A. Hoke. "Benthic community response to excess metals: an example from the EMAP-VP". EPA Science Advisory Board Briefing, Metals Sediment Criteria, Washington, DC., January 1995.
- Hoke, R.A. and G.T. Ankley. "Identification of compounds of concern in freshwater sediments". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Denver, CO., October 30-November 3, 1994.
- Dwyer, F.J., G.T. Ankley, D.A. Benoit, E.L. Brunson, G.A. Burton, I.E. Greer, R.A. Hoke, C.G. Ingersoll, T.J. Norberg-King and P.V. Winger. "U.S. EPA methods for measuring the toxicity and bioaccumulation of sediment-associated contaminants with freshwater invertebrates". Presented at the American Society for Testing and Materials Fourth Symposium on Environmental Toxicology and Risk Assessment: Transboundary Issues in Pollution - Air, Surface, and Groundwater, Montreal, Quebec, Canada, April 11-13, 1994.

- Hoke, R.A., G.T. Ankley and J.F. Peters. "Comparison of sediment quality criteria based on laboratory and field effects on benthic macroinvertebrates". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Houston, TX., November 14-18, 1993.
- Berry, W.J., D.J. Hansen, R.C. Swartz, G.T. Ankley and R.A. Hoke. "Forgotten value of equilibrium partitioning (EqP) in predicting chemical-specific sediment toxicity from aquatic toxicity test data". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Houston, TX., November 14-18, 1993.
- Ankley, G.T., P.M. Cook, D.J. Call, and R.A. Hoke. "Bioaccumulation of organochlorines by oligochaetes and fishes: comparison of laboratory and field studies". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Houston, TX., November 14-18, 1993.
- Phipps, G.L., V.R. Mattson, G.T. Ankley, C.W. West, D.A. Benoit, E.N. Leonard, R.A. Hoke and P.A. Kosian. "The representativeness of *Chironomus tentans*, *Hyalella azteca* and *Lumbriculus variegatus* as indicators of sediment toxicity to freshwater species". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Houston, TX., November 14-18, 1993.
- Norberg-King, T.J., G.T. Ankley, C.G. Ingersoll, G.A. Burton, R.A. Hoke, J. Kubitz, and P.F. Landrum. "Choosing species and methods for standardized tests with freshwater sediments". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Houston, TX., November 14-18, 1993.
- Cox, J.S., D.J. Call, M.D. Kahl, P.A. Kosian, G.T. Ankley and R.A. Hoke. "Organic carbon partitioning as a basis for predicting the toxicity of chlorpyrifos in sediments". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Houston, TX., November 14-18, 1993.
- Winger, P.V., P.J. Lasier, G.T. Ankley, S.A. Collyard, R.A. Hoke, M. Tomasovic and E. McNulty. "Age and size of *Hyalella azteca* for sediment toxicity testing". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Houston, TX., November 14-18, 1993.
- Ankley, G.T., D.A. Benoit, J.C. Balogh, T.B. Reynoldson, K.E. Day and R.A. Hoke. "Influence of natural physico-chemical properties of sediments on toxicity test results with three freshwater benthic invertebrates". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Houston, TX., November 14-18, 1993.
- Norberg-King, T.J., G.T. Ankley, C. Ingersoll, G.A. Burton, R.A. Hoke, J. Kubitz and P.F. Landrum. "Choosing species and methods for standardized tests with freshwater sediments". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Houston, TX., November 14-18, 1993.

- Hoke, R.A., G.T. Ankley, D.A. Benoit, E.N. Leonard, C.W. West, G.L. Phipps and V.R. Mattson. "Sediment toxicity test method development: effect of flow rate and feeding on water quality exposure conditions". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Houston, TX., November 14-18, 1993.
- VanderMeiden, F.M., P.A. Kosian, G.T. Ankley, G.L. Phipps and R.A. Hoke. "Use of a shell-coating technique to introduce non-polar organic compound into uncontaminated sediment". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Houston, TX., November 14-18, 1993.
- Hoke, R.A. "Sediment toxicity: overview and methods". Presented at the Workshop on Whole Effluent Toxicity, U.S. EPA, Region VIII, Denver, CO., August 4, 1993.
- West, C.W., G.L. Phipps, G.T. Ankley, T. Goldenstein, F.M. VanderMeiden, R. Hoke, M. Balcer and T. Askegaard. "Toxicity assessment of contaminated sediment using core samples and how it relates to other means of assessment". Presented at the First International Specialized Conference on Contaminated Aquatic Sediments: Historical Records, Environmental Impact, and Remediation, Milwaukee, Wisconsin, June 14-16, 1993.
- Hoke, R.A., J.F. Peters and G.T. Ankley. "Development of and potential applications for a freshwater sediment quality database". Presented at the Annual Meeting of the International Assoc. for Great Lakes Research, St. Norbert College, De Pere, Wisconsin, June 4-10, 1993.
- Hoke, R.A., J.F. Peters and G.T. Ankley. "Development of a sediment quality database for the Great Lakes". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Cincinnati, Ohio, November 8-12, 1992.
- Hoke, R.A., J.P. Giesy and M.J. Zabik. "Toxicity of sediments and sediment pore waters from the Grand Calumet River-Indiana Harbor, Indiana Area of Concern". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Cincinnati, Ohio, November 8-12, 1992.
- Hoke, R.A., M.J. Zabik and J.P. Giesy. "Partitioning behavior of non-polar organic compounds in sediments from a Great Lakes Area of Concern". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Cincinnati, Ohio, November 8-12, 1992.
- Kosian, P.A., R.A. Hoke, F.M. VanderMeiden and G.T. Ankley. "Determination of dieldrin sorption to colloidal and dissolved organic material in sediment pore water using a reverse-phase separation technique". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Cincinnati, Ohio, November 8-12, 1992.
- Call, D.J., J.A. Swenson, H.F. Corcoran, G.T. Ankley, P.M. Cook, A.R. Carlson and R.A. Hoke. "Laboratory and field comparative study of PCB bioaccumulation from freshwater sediments by oligochaetes and fishes". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Cincinnati, Ohio, November 8-12, 1992.

- Collyard, S.A., T.A. Goldenstein, R.A. Hoke and G.T. Ankley. "Age sensitivity of *Hyalella azteca* to selected chemicals". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Cincinnati, Ohio, November 8-12, 1992.
- Hoke, R.A., A.M. Cotter, P.A. Kosian, G.T. Ankley and G.L. Phipps. "Evaluation of equilibrium partitioning theory for predicting acute toxicity of field-collected, DDT-contaminated sediments to the amphipod, *Hyalella azteca*". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Seattle, Washington. November 3-7, 1991.
- West, C.W., G.T. Ankley, G.L. Phipps, R.A. Hoke and M. Balcer. "Toxicity testing with sediment core samples contaminated with DDT". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Seattle, Washington. November 3-7, 1991.
- Phipps, G.L., G.T. Ankley, R.A. Hoke, P.A. Kosian, A.M. Cotter and J.R. Dierkes. "Does equilibrium partitioning theory predict the toxicity of dieldrin to *Hyalella azteca* in laboratory spiked-sediment toxicity tests?". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Seattle, Washington. November 3-7, 1991.
- Collyard, S.A., R.A. Hoke and J.S. Denny. "Optimizing reproduction in cultures of *Hyalella azteca* for use in sediment toxicity assessments". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Seattle, Washington. November 3-7, 1991.
- Hoke, R.A. "Metal and non-polar organic chemical bioavailability in sediments-application of toxicity identification evaluation techniques". Presented at the U.S. EPA Superfund Risk Assessors' Conference, Breckenridge, CO. June 26, 1991.
- Hoke, R.A. "Field verification studies". Presented at the U.S. EPA Contaminated Sediment Assessment Methods Workshop, Narragansett, RI. May 7, 1991.
- Hoke, R.A. "Integration of toxicity identification evaluation procedures in sediment quality assessments". Presented at the Chevron Research and Technology Company, Richmond, California. April 19, 1991.
- Schubauer-Berigan, M.K., G.T. Ankley, J.R. Dierkes and R.A. Hoke. "Identification of acutely toxic sediment contaminants through the use of toxicity identification evaluation procedures". Presented at the American Society for Testing and Materials First Symposium on Environmental Toxicology and Risk Assessment, Atlantic City, New Jersey. April 14-16, 1991.
- Hoke, R.A. "Toxicity assessment of freshwater sediments". Presented at the Department of Fisheries and Wildlife, University of Minnesota, St. Paul, Minnesota. January 31, 1991.
- Hoke, R.A., W.R. Gala, J.B. Drake and J.P. Giesy. "Potential confounding factors in the assessment of sediment pore water and effluent toxicity using cladocerans". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, 11th Annual Meeting, Arlington, Virginia. November 11-15, 1990.

- Othoudt, R.A., D.A. Verbrugge, J.P. Giesy, R.A. Hoke, J.B. Drake, K.R. Gryzb and D.J. Anderson. "Comparison of site-specific, bioassay-based, sediment quality criteria (SQC) to global, numerical, chemistry-based SQC for selected Great Lakes sediments". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, 11th Annual Meeting, Arlington, Virginia. November 11-15, 1990.
- Hoke, R.A. "Bicarbonate concentrations as a factor confounding the toxicity of aqueous samples to cladocerans". Presented at the U.S. EPA Environmental Research Laboratory, Duluth, Minnesota. October 18, 1990.
- Hoke, R.A. and J.P. Giesy. "Sediment toxicity assessments: whole sediments versus pore waters". Presented at the 5th International Symposium of the International Association for Sediment Water Science, Uppsala, Sweden. August 6-9, 1990.
- Giesy, J.P. and R.A. Hoke. "An overview of methods for assessing the effects of pollutants on benthic invertebrates". Presented at the 94th Annual Meeting of the Michigan Academy of Science, Alma, Michigan. March 9-10, 1990.
- Gala, W.R., R.A. Hoke and J.P. Giesy. "Comparison of the toxicity of sediment pore water to the alga, *Selenastrum capricornutum*, as assessed in acute and chronic toxicity tests". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Toronto, Ontario, Canada. October 29-November 2, 1989.
- Giesy, J.P., R.A. Hoke, W.R. Gala, K.R. Grzyb and C.J. Rosiu. "Relative sensitivities of four bioassays of toxicity of sediments in the Grand Calumet River, Indiana". Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Toronto, Ontario, Canada. October 29-November 2, 1989.
- Hoke, R.A. and J.P. Giesy. "Strategies for remedial actions in contaminated aquatic systems". Presented at Ecology 89 International Conference, Gothenberg, Sweden. August 28-31, 1989.
- Giesy, J.P., R.A. Hoke, C.J. Rosiu, K.R. Grzyb and G.T. Ankley. "Assessment of contaminated sediments". 24th Congress, International Society of Theoretical and Applied Limnology, Munich, Germany. August, 1989.
- Hoke, R.A. and J.P. Giesy. "Microtox^R and *Daphnia magna* as indicators of sediment toxicity in the lower Fox River and Green Bay". Presented at the Annual Conference of the International Association of Great Lakes Research, Madison, Wisconsin. May 30-June 2, 1989.
- Hoke, R.A. and J.P. Giesy. "Bioassessment of freshwater dredged sediments: current practices and future possibilities". Presented at the Annual Conference of the International Association of Great Lakes Research, Madison, Wisconsin. May 30-June 2, 1989.
- Hoke, R.A. and J.P. Giesy. "The utility of chironomids as test species for sediment contaminant evaluations". Presented at the Annual Meeting of the North American Benthological Society, Guelph, Ontario, Canada. May 16-19, 1989.

- Gala, W., R. Hoke and J. Giesy. "Adaptation of a unicellular algal population to zooplankton grazing". Presented at the Annual Meeting of the Michigan Academy of Science, Grand Rapids, Michigan. March 16-17, 1989.
- Giesy, J.P., C.J. Rosiu, R.A. Hoke, R.L. Graney and M.G. Henry. "Dose-Response relationships for benthic invertebrate bioassays with toxic sediment and pore water". Presented at Annual Meeting of the Society of Environmental Toxicology and Chemistry, Arlington, Virginia. November 13-17, 1988.
- Hoke, R.A., J.P. Giesy, G. Ankley and C.J. Rosiu. "The future of sediment toxicity assessments: relevant answers require the appropriate questions". Presented at Annual Meeting of the Society of Environmental Toxicology and Chemistry, Arlington, Virginia. November 13-17, 1988.
- Hoke, R.A., J.P. Giesy and J. Adams. "Use of linear orthogonal contrasts in the analysis of sediment toxicity data". Poster session presented at Annual Meeting of the Society of Environmental Toxicology and Chemistry, Arlington, Virginia. November 13-17, 1988.
- Ankley, G.T., J.P. Giesy, R.A. Hoke and P.V. Winger. "Influence of salinity on contaminant toxicity in the Microtox[®] bioassay". Poster session presented at Annual Meeting of the Society of Environmental Toxicology and Chemistry, Arlington, Virginia. November 13-17, 1988.
- Hoke, R.A., G.T. Ankley, J.L. Newsted, J.P. Giesy and J. Adams. "Sediment toxicity evaluation using Microtox[®] and seven-day *Pimephales promelas* larval survival and growth assays". Poster session presented at the Annual Meeting of the American Fisheries Society. Toronto, Ontario. September 12-14, 1988.
- Giesy, J.P. and R.A. Hoke. "Sediment toxicity bioassessments: rationale for species selection and test design". Plenary Presentation at Annual Meeting of the International Association of Great Lakes Research. Hamilton, Ontario. May 17-20, 1988.
- Hoke, R.A. and J.P. Giesy. "Use of linear orthogonal contrasts in the analysis of sediment toxicity data". Poster Session at Michigan State University, Pesticide Research Center Annual Conference. E. Lansing, MI. April 5, 1988.
- Hoke, R.A. "Implementation and ramifications of toxicity testing in Ohio discharge permits". Presented at Annual Meeting of the Ohio Water Pollution Control Conference. Akron, Ohio. June 17-19, 1986.
- Hoke, R.A. and B.L. Prater. "The evolution of dredged spoils evaluation". Presented at U.S. EPA Symposium on Chemical and Biological Characterization of Municipal Sludges, Sediments, Dredge Spoils and Drilling Muds. Cincinnati, Ohio. May 20-22, 1986.
- Hoke, R.A. "Biological toxicity assessments". Presented at Annual Ohio Water Pollution Control Conference Laboratory Analysts' Joint Sectional Meeting. Melmore, Ohio. March 17, 1986.

- Hoke, R.A. "The statistical evaluation of a 96-hour sediment bioassay of Dunkirk Harbor, New York, relevant to disposal options". Presented at the Annual Meeting of the Ohio Academy of Science, Wooster, Ohio. April 1981.
- Hoke, R.A., M.J. Norrocky and B.L. Prater. "Fish survey in the upper Portage River, Ohio, 1973-1975". Presented at the Annual Meeting of the Ohio Academy of Science, Wooster, Ohio. April 1981.
- Hoke, R.A. and B.L. Prater. "Multivariate statistical analyses of data from 96-hour acute toxicity tests and chemical analyses of freshwater sediments". Presented at the Annual Meeting of the North American Benthological Society, Provo, Utah. April, 1981.
- Hoke, R.A. and B.L. Prater. "The relationship of per cent mortality of the burrowing mayfly, *Hexagenia limbata*, from 96-hour sediment bioassays of five Lake Michigan harbors and bulk chemistry of the sediments". Presented at the Fifth ASTM Symposium on Aquatic Toxicology, Philadelphia, Pennsylvania. October 7-8, 1980.
- Hoke, R.A. and B.L. Prater. "The relationship of per cent mortality of four species of aquatic biota from 96-hour sediment bioassay of five Lake Michigan harbors and elutriate chemistry of the sediments". Presented at the Annual Meeting of the Ohio Academy of Science, Toledo, Ohio. April 18-20, 1980.
- Hoke, R.A. and B.L. Prater. "Dredged material evaluations: the relationship of evaluation procedures to the ecological roles of four species of aquatic biota". Presented at the Annual Meeting of the North American Benthological Society, Savannah, Georgia. March 26-28, 1980.
- Hoke, R.A., B.L. Prater and M.J. Norrocky. "The fishes of the lower Portage River (Ohio)". Presented at the Annual Meeting of the Ohio Academy of Science, Columbus, Ohio. April 22-23, 1977.
- Prater, B.L. "A 96-hour sediment bioassay of Otter Creek (Ohio)". Presented for B.L. Prater at the Annual Meeting of the North American Benthological Society, Roanoke, Virginia. April 6-8, 1977.