

RODNEY D. JOHNSON

Research Biologist

218-529-5117

johnson.rodney@epa.gov

Education:

B.A., Biology, St. Olaf College, Northfield, MN, 1975

Ph.D., Zoology, University of Wyoming, Laramie, WY, 1983

Employment:

2003-Present Research Toxicologist

1985-Present Research Biologist, U.S. EPA, Duluth, MN

1983-1985 Postdoctoral Research Fellow, University of Alabama, Birmingham

1977-1982 Research Assistant, University of Wyoming, Laramie

Research Interests and Skills:

Develop long- and short-term test methods with small fish models for use in assessing toxic effects of chemicals. Emphasis is placed on population-level effects associated with EDC-related reproductive endpoints, such as fecundity, fertility reproductive development. However, methods for incorporating assessment of mutation and cancer endpoints, and for assessing complex mixtures are also being developed. Applications of small fish models include tier 1 and tier 2 test protocols for assessing EDCs, support for the development of QSAR screening and prioritization tools, evaluation of the "value added" of long-term testing protocols, assessments of drinking water disinfection byproducts (DBPs) and chemicals on the U.S. EPA chemical contaminant list (CCL). Research on chronic mechanisms of toxicity in aquatic organisms is also being pursued, primarily by analyzing biological structure using histological methods and confocal microscopy.

Professional Societies:

Society of Toxicologic Pathology

American Association for the Advancement of Science

Selected Appointments/Honors/Major Awards:

Adjunct Faculty Appointment; Integrated Biosciences Graduate Program - University of Minnesota, Duluth

U.S. EPA Bronze Medal; Support US EPA position in OECD EDC testing program; 2005

U.S. EPA Scientific and Technological Achievement Awards; 2000

U.S. EPA Dioxin Reassessment Research Planning Group; 1992-1995

Alabama Nephrology Research and Training Center, National Research Service Award, 1983-1985

Selected Publications:

Ankley, G. K. M. Jensen, M. D. Kahl, E. Makynen, L. Blake, K. Greene, R.D. Johnson D. Villeneuve.

Ketoconazole in the Fathead Minnow (*Pimephales promelas*): Reproductive Toxicity and Biological Compensation. Environ. Toxicol. Chem. In Press.

Grim, K.C., M.J. Wolfe, W. Hawkins, R.D. Johnson, J. Wolf. Intersex in Japanese medaka (*Orizias latipes*) used as negative controls in toxicological bioassays: a review of 54 cases from 41 studies. Environ. Toxicol. Chem. In Press.

Oda, S., N. Tatarazako, M. Dorgerloh, R.D. Johnson, K. Kusk, D. Leverette, S. Marchini, T. Nakari, T. Willaims, T. Iguchi. Strain difference in sensitivity to 3,4-dichloroaniline and insect growth regulator, fenoxycarb, in *Daphnia magna*. Ecotox. Environ. Safety. In press.

Winn, R., M. Norris, D.B. Lothenbach, K.M Flynn, D.E. Hammermeister, F.W. Whiteman, B.R. Sheedy, And R.D. Johnson. 2006. Sub-Chronic exposures to 1,1-dichloropropene induces frameshift mutations in λ transgenic medaka. Mutation Research: Fundamental and Molecular Mechanisms of Mutagenesis 595:52-59.

Fournie, J.W., M.J. Wolfe, J.C. Wolf, L.A. Courtney, R.D. Johnson, and W.E. Hawkins. 2005. Diagnostic Criteria for Proliferative Thyroid Lesions in Bony Fish. Toxicol. Path. 33:540-551.

Ankley, G.T. and R.D. Johnson. 2004. Small fish models for identifying and assessing the effects of endocrine-disrupting chemicals. Inst. Lab. Anim. Res. J., 45(4): 469-483.

- Hornung, M., K. Flynn, R. Johnson, P. Cook, J. Nichols. 2004. Use of multiphoton laser scanning microscopy to image benzo[a]pyrene and metabolites in fish eggs. In: Multiphoton Microscopy in the Biomedical Sciences, Ammasi Periasamy, Peter T. C. So, (Eds). Proceedings of SPIE , 5323: 400-407.
- Hornung, M., P. Cook, K. Flynn, D. Lothenbach, R. Johnson, J. Nichols. 2004. Use of laser-scanning multi-photon microscopy to describe the distribution of xenobiotic chemicals during fish early life stages. Aquatic Tox., 67: 1-11.
- Schmieder, P.K. M. Tapper, A. Linnum, J. Denny, R. Kolanczyk and R. Johnson. 2000. Optimization of a precision-cut trout liver tissue slice assay as a screen for vitellogenin induction: comparison of slice incubation techniques. Aquatic Toxicology 49(4):251-268.
- Johnson, R.D., J.E. Tietge, K.M. Jensen, J.D. Fernandez, D.L. Lothenbach, G.W. Holcombe, P. M. Cook, R. Drummond, S. Christ, D. Lattier, and D. Gordon. 1998. Toxicity of 2,3,7,8-TCDD to F1 generation brook trout (*Salvelinus fontinalis*) exposed via the parental generation. Environ. Toxicol. Chem. 17(12):2408-2421.
- Ankley, G.T., R.D. Johnson, E.I. Toth, and N. Detenbeck. 1997. Development of a research strategy for assessing the ecological risk of endocrine disruptors. Rev. Toxicol. 1:231-267.
- Gray, L.E., Jr., W.R. Kelce, T. Wiese, R. Tyl, K. Gaido, J. Cook, G. Klinefelter, D. Desaulniers, E. Wilson, T. Zacharewski, C. Waller, P. Foster, J. Laskey, J. Reel, J. Giesy, S. Laws, J. McLachlan, W. Breslin, R. Cooper, R. Di Giulio, R. Johnson, R. Purdy, E. Mihaich, S. Safe, C. Sonnenschein, W. Welshons, R. Miller, S. McMaster, T. Colborn. 1997. Endocrine screening methods workshop report: Detection of estrogenic and androgenic hormonal and antihormonal activity for chemicals that act via receptor or steroidogenic enzyme mechanisms. Reprod Toxicol. 11(5):719-50.