

JOSEPH E. TIETGE

Supervisory Biologist
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Education:

B.S., Zoology and Physiology, University of Wyoming, Laramie, 1982
M.S., Zoology and Physiology, University of Wyoming, Laramie, 1986

Employment:

2004-Present Supervisory Biologist, U.S. EPA, Duluth, MN
1995-2004 Research Aquatic Biologist, U.S. EPA, Duluth, MN
1993-1995 Aquatic Toxicologist, ENSR Consulting and Engineering, Fort Collins, CO
1992-1993 Research Biologist, U.S. EPA, Duluth, MN
1986-1992 Research Biologist, ASCI Corporation, Duluth, MN
1985-1986 Research Associate, Medical University of South Carolina, Charleston
1984-1985 Research Associate, University of Wyoming, Laramie

Research Interests and Skills:

Effects of chemical exposure on early development of aquatic species; current research is focused on the development of a method to screen chemicals for thyroid disruption using metamorphosis of *Xenopus laevis*

Selected Appointments/Honors/Major Awards:

2004 STAA award for research on the effects of retinoic acid and methoprene on amphibian development
2003 STAA award for research on endocrine disrupting chemicals
2003 STAA award for research on the effects of UV radiation on amphibians
2003 Bronze medal for work on international harmonization of EDC test methods
2003 Bronze medal for promoting strong science in Agency decisions
2003 Bronze medal for exceptional technical assistance for re-registration of atrazine
2000 STAA award for research on the effects of water quality on amphibian malformations
1999 STAA award for research on the effects of 2,3,7,8-TCDD on brook trout reproduction and development

Selected Publications:

Zhang F, Degitz SJ, Holcombe GW, Kosian PA, Tietge JE, Veldhoen N, Helbing CC. 2006. Evaluation of gene expression endpoints in the context of a *Xenopus laevis* metamorphosis-based bioassay to detect thyroid hormone disruptors. *Aquat Toxicol.* 76:24-36.
Degitz SJ, Holcombe GW, Flynn KM, Kosian PA, Korte JJ, Tietge JE. 2005. Progress towards development of an amphibian-based thyroid screening assay using *Xenopus laevis*. Organismal and thyroidal responses to the model compounds 6-propylthiouracil, methimazole, and thyroxine. *Toxicol Sci.* 87:353-364.
Tietge JE, Holcombe GW, Flynn KM, Kosian PA, Korte JJ, Anderson LE, Wolf DC, Degitz SJ. 2005. Metamorphic inhibition of *Xenopus laevis* by sodium perchlorate: effects on development and thyroid histology. *Environ Toxicol Chem.* 24:926-933.
Ankley GT, Degitz SJ, Diamond SA, Tietge JE. 2004. Assessment of environmental stressors potentially responsible for malformations in North American anuran amphibians. *Ecotoxicol Environ Saf.* 58:7-16.
Degitz SJ, Kosian PA, Holcombe GW, Tietge JE, Durhan EJ, Ankley GT. 2003. Comparing the effects of retinoic acid on amphibian limb development and lethality: chronic exposure results in lethality not limb malformations. *Toxicol Sci.* 74:139-146
Degitz SJ, Durhan EJ, Kosian PA, Ankley GT, Tietge JE. 2003. Development toxicity of methoprene and its degradation products in *Xenopus laevis*. *Aquat Toxicol.* 64:97-105.
Ankley GT, Diamond SA, Tietge JE, Holcombe GW, Jensen KM, Defoe DL, Peterson R. 2002. Assessment of the risk of solar ultraviolet radiation to amphibians. I. Dose-dependent induction of hindlimb malformations in the northern leopard frog (*Rana pipiens*). *Environ Sci Technol.* 36:2853-2858.
Diamond SA, Peterson GS, Tietge JE, Ankley GT. 2002. Assessment of the risk of solar ultraviolet radiation to amphibians. III. Prediction of impacts in selected northern midwestern wetlands. *Environ Sci Technol.* 36:2866-2874.

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- Tietge JE, Diamond SA, Ankley GT, DeFoe DL, Holcombe GW, Jensen KM, Degitz SJ, Elonen GE, Hammer E. 2001. Ambient solar UV radiation causes mortality in larvae of three species of *Rana* under controlled exposure conditions. *Photochem Photobiol.* 74:261-268.
- Degitz SJ, Kosian PA, Makynen EA, Jensen KM, Ankley GT. 2000. Stage- and Species-specific Developmental Toxicity of All- Trans Retinoic Acid in Four Native North American Ranids and *Xenopus laevis*. *Toxicol Sci.* 57:264-274.
- Ankley GT, Tietge JE, Holcombe GW, DeFoe DL, Diamond SA, Jensen KM, Degitz SJ. 2000. Effects of laboratory ultraviolet radiation and natural sunlight on survival and development of *Rana pipiens*. *Can Jour Zool.* 78:1092-1100.
- Holcombe GW, Pasha MS, Jensen KM, Tietge JE, Ankley GT. 2000. Effects of photoperiod manipulation on brook trout reproductive development, fecundity, and circulating sex steroid concentrations. *N Amer. Journ. Aquacul.* 61:1-11.
- Tietge JE, Ankley GT, Holcombe GW, DeFoe DL, Jensen KM. 2000. Effects of water quality on development of *Xenopus laevis*: A frog embryo teratogenesis assay--*Xenopus* assessment of surface water associated with malformations in native anurans. *Environ Toxicol Chem.* 19:2114-2121.
- Makynen EA, Kahl MD, Jensen KM, Tietge JE, Wells KL, Van Der Kraak G, Ankley GT. 2000. Effects of the mammalian antiandrogen vinclozolin on development and reproduction of the fathead minnow (*Pimephales promelas*). *Aquat Toxicol.* 48:461-475.
- Pillard DA, DuFresne DL, Caudle DD, Tietge JE, Evans JM. 2000. Predicting the toxicity of major ions in seawater to mysid shrimp (*Mysidopsis bahia*), sheepshead minnow (*Cyprinodon variegatus*), and inland silverside minnow (*Menidia beryllina*). *Environ Toxicol Chem.* 19:183-191.
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- Ankley GT, Tietge JE, DeFoe DL, Jensen KM, Holcombe GW, Durhan EJ, Diamond SA. 1998. Effects of ultraviolet light and methoprene on survival and development of *Rana pipiens*. *Environ Toxicol Chem.* 17:2530-2542.
- Tietge JE, Johnson RD, Jensen KM, Cook PM, Elonen GE, Fernandez JD, Holcombe GW, Lothenbach DL. 1998. Reproductive toxicity and disposition of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) in adult brook trout (*Salvelinus fontinalis*) following a dietary exposure. *Environ Toxicol Chem.* 17:2395-2407.
- Johnson RD, Tietge JE, Jensen KM, Fernandez JD, Lothenbach DL, Holcombe GW, Cook PM, Drummond R, Christ S, Lattier D, Gordon D. 1998. Toxicity of 2,3,7,8-TCDD to F₁ generation brook trout (*Salvelinus fontinalis*) exposed via the parental generation. *Environ Toxicol Chem.* 17:2408-2421.
- Nichols JW, Jensen KM, Tietge JE, Johnson RD. 1998. Physiologically based toxicokinetic model for maternal transfer of 2,3,7,8-tetrachlorodibenzo-p-dioxin in brook trout (*Salvelinus fontinalis*). *Environ Toxicol Chem.* 17:2422-2434
- Elonen GE, Spehar RL, Holcombe GW, Johnson RD, Fernandez JD, Erickson, RJ. 1998. Comparative toxicity of 2,3,7,8-tetrachlorodibenzo-p-dioxin to seven freshwater fish species during early life-stage development. *Environ Toxicol Chem.* 17:472-483.
- Tietge JE, Hockett JR, Evans JM. 1997. Major ion toxicity of six produced waters to three freshwater species: Application of ion toxicity models and TIE procedures. *Environ. Toxicol Chem.* 16:2002-2008.