

**Patricia A. Kosian**

Chemist

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Education:

B.A., Biology, University of Minnesota, Duluth, MN 1976

B.A., Chemistry, University of Minnesota, Duluth, MN 1990

Employment:

1995 - Present Chemist, U.S. EPA, Duluth, MN  
1993 - 1995 Research Chemist, Integrated Laboratory Systems, Duluth, MN  
1992 - 1993 Associate Researcher, University of Wisconsin, Superior, WI  
1986 - 1992 Research Chemist, ASci Corporation Inc., Duluth, MN  
1983 - 1986 Research Associate, University of Maine, Orono, ME  
1978 - 1983 Junior Scientist, University of Wisconsin, Superior, WI  
1977 - 1978 Research Specialist, University of Minnesota, Duluth, MN

Research Interests and Skills:

Develop analytical chemistry methodologies and provide chemistry support for amphibian assays designed to assess reproductive effects of endocrine-disrupting chemicals. Analysis of trace levels of EDCs (e.g., steroids, pharmaceuticals) in water by high performance liquid chromatography (HPLC), gas chromatography (GC) or radioimmunoassay (RIA) techniques.

Professional Societies:

Society of Environmental Toxicology and Chemistry 1990 - present

American Chemical Society 1991 - present

Selected Appointments/Honors/Major Awards:

STAA for journal articles on developmental effects of retinoids on amphibians, 2004

STAA for journal article on application of fractionation techniques and SAR models to identify phototoxic PAHs in sediments, 1998

STAA for journal articles on the effects of phototoxic PAHs to macroinvertebrates, 1997

University of Minnesota, Duluth, MN, summa cum laude, B.A., Chemistry, 1990

Selected Publications:

Helbing, CC, Ji L, Bailey CM, Veldhoen N, Zhang F, Holcombe GW, Kosian PA, Tietge JE, and SJ Degitz. (2007) Identification of gene expression indicators for thyroid axis disruption in a *Xenopus laevis* metamorphosis screening assay. Part 2: Effects on the tail and hindlimb (In press Aquatic Toxicology)

Helbing CC, Bailey CM, Ji L, Gunderson MP, Zhang F, Veldhoen N, Skirrow RC, Mu R, Lesperance M, Holcombe GW, Kosian PA, Tietge JE, and SJ Degitz. (2007) Identification of gene expression indicators for thyroid axis disruption in a *Xenopus laevis* metamorphosis screening assay. Part 1: Effects on the brain (In press Aquatic Toxicology)

Zhang F, Degitz SJ, Holcombe GW, Kosian PA, Tietge J, 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. *Aquatic Toxicology*. 76(1):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. *Toxicological Sciences*. 87(2):353-64.

Tietge, JE, GW, Holcombe, KM, Flynn, PA, Kosian, JJ, Korte, LE, Anderson, DC, Wolf, and SJ, Degitz. (2005). Metamorphic inhibition of *Xenopus laevis* by sodium perchlorate: effects on development and thyroid histology. *Environmental Toxicology and Chemistry*, 24:926-933.

Kosian PA, EA Makynen, GT Ankley, and SJ Degitz. (2003) Bioconcentration and Metabolism of All-Trans Retinoic Acid by Three Native North American Ranids. *Toxicological Sciences* 74, 147-156.

Degitz SJ, PA Kosian, GW Holcombe, JE Tietge, EJ Durhan, and GT Ankley. (2003) Comparing the effects of

- Retinoic Acid on amphibian limb development and lethality: chronic exposure results in lethality not limb malformations. *Toxicological Sciences* 74, 139-146
- Degitz, SJ, EJ Durhan, PA Kosian, GT Ankley, and JE Tietge. (2003) Development toxicity of methoprene and its degradation products in *Xenopus laevis*. *Aquatic Toxicology* 64, 97-105.
- Degitz SJ, PA Kosian, EA Makynen, KM Jensen and GT Ankley (2000) Stage- and Species-specific Developmental Toxicity of All- Trans Retinoic Acid in Four Native North American Ranids and *Xenopus laevis*. *Toxicological Sciences* 57, 264-274.