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), liquid chromatography-mass spectrometry (LCMS), 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:

Serrano, JA, L Higgins, BA Witthuhn, LB Anderson, GW Holcombe, PA Kosian, JJ Korte, JE Tietge, and SJ Degitz. *In vivo* assessment and potential diagnosis of xenobiotics that perturb the thyroid pathway: Proteomic analysis of *Xenopus laevis* brain tissue following exposure to model T4 inhibitors. Comparative Biochemistry and Physiology Part D: Genomics and Proteomics (in press).

Hornung, MW, SJ Degitz, JJ Korte, LM Korte, JM Olson, PA Kosian, AL Linnum, and JE Tietge. Inhibition of thyroid hormone release from cultured amphibian thyroid glands by methimazole, 6-propylthiouracil, and perchlorate. Toxicological Sciences (submitted).

Tietge, JE, BC Butterworth, JT Haselman, GW Holcombe, MW Hornung, JJ Korte, PA Kosian, M Wolfe, and SJ Degitz. 2010. Early temporal effects of three thyroid hormone synthesis inhibitors in *Xenopus laevis*. Toxicological Sciences 98:44-50.

Olmstead, AW, PA Kosian, JJ Korte, GW Holcombe, K Woodis, and SJ Degitz. 2009. Sex reversal of the amphibian, *Xenopus tropicalis*, following larval exposure to an aromatase inhibitor. Aquatic Toxicology 91:143-150.

Helbing CC, CM Bailey, L Ji, MP Gunderson, F Zhang, N Veldhoen, RC Skirrow, R Mu, M Lesperance, GW Holcombe, PA Kosian, JE Tietge, 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. Aquatic Toxicology 82:227-241.

Helbing, CC, L Ji, CM Bailey, N Veldhoen, F Zhang, GW Holcombe, PA Kosian, JE Tietge, 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. Aquatic Toxicology 82:215-226.

Zhang F, SJ Degitz, GW Holcombe, PA Kosian, J Tietge, N Veldhoen, and CC Helbing. 2006. Evaluation of gene expression endpoints in the context of a *Xenopus laevis* metamorphosis-based bioassay to detect thyroid hormone disruptors. Aquatic Toxicology 76:24-36.

Degitz SJ, GW Holcombe, KM Flynn, PA Kosian, JJ Korte, and JE Tietge. 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 87:353-64.

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.

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. Developmental toxicity of methoprene and its degradation products in *Xenopus laevis*. Aquatic Toxicology 64:97-105.

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, 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.