

# Toxicology Training Program (Ph.D.)

## [View PDF of Toxicology Admissions Checklist](#)

Prospective students should use this checklist to obtain specific admissions requirements on how to apply to Graduate School.

## [View PDF version of the Toxicology catalog description](#)

Degree Offered:	Ph.D.
Director:	Dr. Coral Lamartiniere
Phone:	(205) 934-7139
E-mail:	<a href="mailto:Coral@uab.edu">Coral@uab.edu</a>
Web site:	<a href="http://www.uab.edu/pharmtox">www.uab.edu/pharmtox</a>

## Faculty

**Robert Angus**, Ph.D., Professor (Biology); Endocrine disrupters in aquatic models.

**Shannon Bailey**, Ph.D. Assistant Professor (Department of Environmental Health Sciences); Chronic ethanol consumption and hepatic energy metabolism,

**Stephen Barnes**, Ph.D., Professor (Pharmacology and Toxicology); Nutritional chemoprevention; drug metabolism and disposition; amino acid conjugation

**Graeme B. Bolger**, M.D., Associate Professor, (Medicine - Hematology/Oncology); Molecular pharmacology of cAMP signaling pathways; molecular genetics of prostate cancer.

**Donald Buchsbaum**, Ph.D., Professor (Radiation Oncology and Pharmacology and Toxicology); Experimental therapeutics with radiolabeled monoclonal antibodies and immunotoxins; radiation biology.

**Robert B. Diasio**, M.D., Professor and Chairman, (Pharmacology and Toxicology); Biochemical and clinical pharmacology and toxicology of antineoplastic agents; pharmacogenomics

**Joanne Douglas**, Ph.D. Assistant Professor (Pathology); Breast cancer metastasis.

**Ada Elgavish**, Ph.D., Associate Professor (Genomics and Pathobiology); Prostate cancer and diseases of the bladder.

**Charles N. Falany**, Ph.D., Professor (Pharmacology and Toxicology); Biochemical and molecular toxicology; sulfotransferases; chemical carcinogenesis.

**Clinton J. Grubbs**, Ph.D., Professor (Nutrition Sciences); Carcinogenicity of environmental pollutants and food additives; metabolism and binding of chemical carcinogens.

**Santosh Katiyar**, Ph.D., Assistant Professor (Dermatology); Cancer causation and chemoprevention.

**Helen Kim**, Ph.D., Research Associate Professor (Pharmacology and Toxicology); Proteomics approaches to identification of drug and toxin targets.

**Jeffrey Kudlow**, M.D., Director (Endocrinology), Professor (Pharmacology and Toxicology); Molecular Endocrinology; regulation of gene expression by glucose and the role of regulation in cell differentiation and function.

**Coral A. Lamartiniere**, Ph.D., Professor (Pharmacology and Toxicology); Molecular endocrinology; environmental and biochemical toxicology; cause and chemoprevention of mammary and prostate cancer; endocrine disruptors.

**Erica Liebelt**, M.D. Associate Professor (Emergency Medicine); Pediatric and clinical toxicology.

**Rui-Ming Liu**, Ph.D., Assistant Professor (Environmental Health Sciences); Regulation of g-glutamyltranspeptidase gene expression during tumor genesis caused by liver carcinogens

**Richard D. May**, Ph.D., Adjunct Assistant Professor (Pharmacology and Toxicology); Vaccine and drug development; in vitro immune function assays; immunotoxicology.

**James B. McClintock**, Ph.D., Professor (Biology); Chemical ecology, reproduction, nutrition, and physiology of marine invertebrates.

**Donald Muccio**, Ph.D., Professor (Chemistry); Use of conformationally constrained retinoids for cancer prevention and therapy.

**Joanne E. Murphy-Ullrich**, Ph.D., Professor (Pathology); Complex extracellular milieu that regulates cell differentiation, adhesion, and motility; matrix proteins and growth factors

**Edward Postlethwait**, Ph.D. Professor and Chairman (Environmental Health Services); Mechanisms of environmental oxidant-induced lung injury.

**J. Michael Ruppert**, M.D., Assistant Professor (Medicine); Genetic alterations on tumors; mechanisms of transformation by oncogenes.

**Rosa Serra**, Ph.D. Assistant Professor (Cell Biology); Cell and developmental biology, tumor biology, focus on the role and mechanism of action of members of the TGF- $\beta$  superfamily.

**Jeffrey Smith**, Ph.D., Professor (Pharmacology and Toxicology); Molecular pharmacology and toxicology of heavy metals; orphan receptors.

**Laura Timares**, Ph.D., Assistant Professor (Dermatology); Engineering dendritic cells for immunotherapy.

**Stephen A. Watts**, Ph.D., Professor (Biology); Physiology and biochemistry of growth and stress in aquatic organisms.

**Dan Welch**, Ph.D. Professor (Pathology); Cancer metastasis, oncogenes, suppressor genes.

**Kurt Zinn**, Ph.D., Professor (Medicine); Molecular Imaging in Animal Models

**Ruiwen Zhang**, M.D., Ph.D., Assistant Professor (Pharmacology and Toxicology); Carcinogenesis; anticancer agents; antisense oligonucleotides.

## Training Program Information

The Graduate Training Program in Toxicology is designed to educate students and provide research experience leading to the Ph.D. in the interdisciplinary field of toxicology. The core courses include biological chemistry and cellular physiology, pathophysiology and pharmacology of disease, molecular medicine and functional genomics, pharmacology, and toxicology. A student in good standing after completing the core curriculum will identify a mentor and complete electives and dissertation research in a participating degree-granting program. Students are expected to conduct original research addressing specific toxicology problems or projects in pharmacology and toxicology, molecular and cellular pathology, nutrition sciences, epidemiology, environmental health sciences, and biology.

UAB has the vision of providing students with diverse and expert toxicological training. Our faculty provide outstanding research opportunities in molecular and cellular toxicology, biochemical and endocrine toxicology, cancer causation and prevention, clinical toxicology, developmental toxicology, environmental toxicology, epidemiology and risk assessment, forensic toxicology, molecular and cellular toxicology, neurotoxicology, and nutritional chemoprevention and toxicology.

Education and research training in UAB's Graduate Training Program in Toxicology is designed to prepare individuals for careers in academia, industry, and government.

Applications for predoctoral studies are considered from students who have received or expect to receive a B.S. or M.S. degree in biology, chemistry, or a related discipline. A minimum GPA of 3.0 on a 4.0 scale and a combined score of 1100 on the verbal and quantitative portions of the GRE are preferred. Interviews and visits are encouraged. Accepted students usually receive stipend and tuition assistance.

## Additional Information

Deadline for Entry Term(s):	Fall
Deadline for All Application Materials to be in the Graduate School Office:	Six weeks before term begins
Number of Evaluation Forms Required:	Three
Entrance Tests	GRE (TOEFL and TWE also required for international applicants whose native language is not English.)
Graduate Catalog Description	<a href="http://main.uab.edu/show.asp?durki=24932">http://main.uab.edu/show.asp?durki=24932</a>

For detailed information, contact Dr. Coral A. Lamartiniere, UAB Department of Pharmacology and Toxicology, VH 124, 1530 3rd Avenue South, Birmingham, Alabama 35294-0019.

Telephone 205-934-7139

Fax 205-934-8240

E-mail: [Coral@uab.edu](mailto:Coral@uab.edu)

## Course Descriptions

Unless otherwise noted, all courses are for 3 semester hours of credit. Courses numbers preceded with an asterisk indicate courses that can be repeated for credit, with stated stipulations.

### Toxicology (TOX)

711. **Principles of Toxicology.** Target organ toxicology. Developmental endocrine, reproductive, regulatory toxicology. Fall.

713. **Advanced Topics in Toxicology.** Spring

720. **Toxicology Laboratory Rotation.** 1-9 hours.

795. **Advanced Toxicology Seminar.** Critical review of recent referred publications in the field of toxicology. 1 hour.

798. **Doctoral Nondissertation Research.** 1-12 hours.

799. **Doctoral Dissertation Research.** Prerequisite: Admission to candidacy. 1-12 hours.

IBS 700. **Biological Chemistry and Cellular Physiology.** (8 credits). Fall.

IBS 701. **Pathophysiology and Pharmacology of Disease.** (8 credits). Spring.

IBS 702. **Molecular Medicine and Functional Genomics.** (8 credits). Summer.

\*Cellular and Molecular Biology I-IV can substitute for the IBS series

Last modified 09/04/07