

## **ABBY D. BENNINGHOFF**

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Animal, Dairy and Veterinary Sciences  
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### **EDUCATION**

- 2004 Ph.D. University of Texas at Austin  
Marine Science (*Area of specialization: Comparative Endocrinology*)
- 1997 B.S. University of Tennessee, Knoxville  
Biochemistry and Biology, *Magna cum laude*

### **RESEARCH AND TEACHING EXPERIENCE**

- 01/10-present **Assistant Professor**  
Animal, Dairy and Veterinary Sciences Department and the Graduate Program in Toxicology,  
Utah State University
- 05/08-12/09 **Faculty Research Associate (Postdoc)**  
Dept. of Environmental and Molecular toxicology, Oregon State University
- 01/07-01/09 **Science Communication Fellow**  
Environmental Health Sciences, *Advisor: Dr. J. Peterson Myers*
- 11/06-05/08 **Ruth L. Kirschstein National Research Service Award (NRSA) Postdoctoral Fellow**  
Dept. of Environmental and Molecular Toxicology, Oregon State University  
*Advisor: Dr. David E. Williams*
- 01/05-11/06 **NIEHS Postdoctoral Fellow** (Institutional NRSA training grant T32-ES07060)  
Environmental Health Sciences Center and the Dept. of Environmental and Molecular  
Toxicology, Oregon State University. *Advisor: Dr. David E. Williams*
- 08/04-01/05 **Postdoctoral Fellow**  
Dept. of Marine Science, University of Texas at Austin.  
*Advisors: Drs. G. Joan Holt and Izhar A. Khan*
- 08/97-07/04 **Doctoral Candidate and Graduate Research Assistant**  
Dept. of Marine Science, University of Texas at Austin. *Advisor: Dr. Peter Thomas*  
*Dissertation: Signal Transduction Pathways Regulating Steroidogenesis in the Ovary of  
Atlantic Croaker (*Micropogonias undulatus*)*
- 06/00-08/00 **Teaching Assistant** (Reproductive Fish Physiology)  
Dept. of Marine Science, University of Texas at Austin
- 01/98-05/98 **Teaching Assistant** (Introduction to Oceanography)  
Dept. of Marine Science, University of Texas at Austin
- 08/95-08/97 **Undergraduate Research Fellow**  
Dept. of Biochemistry, Cellular and Molecular Biology, University of Tennessee, Knoxville.  
*Advisor: Dr. John Koontz*  
*Thesis: The effect of diazoxide on hepatocyte nuclear factor-1 $\alpha$  in obese Zucker rats.*

## GRANT SUPPORT

### Current (listed by order of expiration)

- 01/10-12/14      **Influence of environmental factors on the epigenome in early life**  
 Role: Primary Investigator  
 Utah Agricultural Experiment Station: Project No. UTA00172. \$65,000 operating budget awarded.  
 The goal of this research program is to determine how the fetal epigenome is impacted by environmental exposures, include anthropogenic toxins and natural dietary anti-cancer agents.
- 04/010-03/12      **Impact of transplacental PAH exposure on the epigenome**  
 Role: Primary Investigator  
 NIEHS: R03ES018919-01. \$140,000 in total costs awarded.  
 The primary objective of this project is to determine the impact of gestational exposure to polycyclic aromatic hydrocarbons (PAHs) on the fetal and adult offspring epigenome in the mouse lung.
- 05/10-04/12      **Role of the regulatory protein p53 in somatic cell nuclear transfer**  
 Role: Primary Investigator  
 Utah Agricultural Experiment Station. \$20,000 awarded.  
 In this project, our research group will determine how stress responses in embryos generated by somatic cell nuclear transfer cloning technology differ from *in vitro* fertilized embryos. Our experiments will focus on the key stress response protein p53 and its regulated molecular targets involved in cell stress pathways leading to apoptosis and cell arrest.
- 04/09-03/11      **Cancer prevention by indole-3-carbinol via modulation of the epigenome**  
 Role: Primary Investigator  
 NCI: R21CA13523-01A2. \$353,804 in total costs awarded.  
 The goal of this proposal is to determine how dietary indole-3-carbinol modifies the epigenome to decrease the overall risk of lymphoma with primary focus on the epigenetic modification of CYP1B1.
- 01/10-12/10      **Combination of DIM and EGCG in transplacental chemoprevention of lung cancer**  
 Role: Primary Investigator  
 Utah State University, Vice President for Research Office. \$20,000 awarded.  
 The main purpose of this project to determine whether combinations of specific bioactive food components, EGCG and DIM, are more effective in preventing cancer than are the chemicals individually.

### Pending

- 04/11-03/14      **Impact of Western diet on colon cancer risk and prevention by EGCG via epigenome**  
 Role: Primary Investigator (Multiple PIs)  
 The goals of this project is to determine the impact of a nutritionally poor diet reflective of current Western nutritional status on colon cancer susceptibility and the efficacy of cancer prevention by the green tea bioactive food component epigallocatechin gallate (EGCG). This project will focus on epigenetic mechanisms of carcinogenesis and cancer prevention.
- 05/10-12/11      **Nutrient density, hidden hunger and cancer susceptibility**  
 Role: Co-PI (Project Leaders, Robert Ward and Korry Hintze)  
 Utah Agricultural Experiment Station. \$20,000 requested.  
 We will test the hypothesis that consumption of an energy-dense, micronutrient-poor diet will affect consumption, weight gain and cancer susceptibility in rodents. The test diet will be modeled on the least nutritious diet pattern consumed in the U.S. and will be valuable to prioritize specific dietary interventions to improve health.

- LOI      **A molecular mechanism of environmentally-induced cleft palate**  
 Role: Co-I (PI, Ben Green)  
 The objectives of this project are to determine the molecular mechanism of environmentally-induced cleft palate using an established goat cleft palate model and to determine if nicotine or its metabolites inhibit fetal movement and induce cleft palates in this goat model.
- Completed**
- 11/06-05/08      **Role of estrogen receptor  $\beta$  in cancer chemoprevention by indole-3-carbinol**  
**Role: Primary Investigator**  
 NIEHS: 1F32ES01477-01A1. \$71,169 awarded.  
 The primary objective of this grant was to evaluate the role of ER $\beta$  in modulating the chemopreventive properties of dietary I3C against transplacentally induced thymic lymphoma and lung adenocarcinoma.
- 09/06-12/07      **Perfluorinated chemicals (PFCs) as modulators of tumorigenesis in rainbow trout**  
**Role: Primary Investigator**  
 NIEHS Marine and Freshwater Biomedical Sciences Center Pilot Project. \$20,000 awarded.  
 The primary objective of this study was to examine the influence of several model perfluorinated chemicals, including perfluorooctanoic acid, on hepatic tumorigenesis in rainbow trout, a well-established animal model of human hepatocellular carcinoma.
- 01/06-12/06      **Toxicogenomics in chemical profiling: an evaluation of the utility of *in vitro* hepatic gene expression profiles for predicting chemical classification.**  
**Role: Primary Investigator**  
 Society of Toxicology & Colgate-Palmolive Grants for Alternative Research. \$40,000 awarded.  
 The goal of this study was to examine the utility of hepatic gene expression profiles for predicting chemical classification by apparent mechanism of action.

## PROFESSIONAL AND ACADEMIC HONORS

### Research Fellowships

- 2006-2008      **Ruth L. Kirschstein National Research Service Award Individual Postdoctoral Fellowship**  
 National Institute of Environmental Health Sciences
- 2005-2006      **Ruth L. Kirschstein National Research Service Award Institutional Postdoctoral Fellowship**  
 Environmental Health Sciences Training Grant, Oregon State University
- 2003      **David Bruton, Jr. Graduate School Fellowship**  
 University of Texas at Austin Graduate School
- 2000-2003      **U.S. EPA STAR Fellowship for Graduate Environmental Study**  
 National Center for Environmental Research, U.S. EPA
- 2000-2003      **E.J. Lund Graduate Fellowship in Marine Science**  
 Department of Marine Science, University of Texas at Austin
- 1999-2000      **Graduate Research Fellowship**  
 Houston Livestock and Rodeo Show
- 1995-1997      **Howard Hughes Medical Institute Undergraduate Research Fellowship**  
 Threshold Scholars Program in Biological Research, University of Tennessee

### Other Honors

- 2008      **Postdoctoral Research Award Finalist**, International Society for the Study of Xenobiotics
- 2007      **Postdoctoral Travel Award**, NIEHS/EPA Future Research on Endocrine Disruption Meeting
- 2006      **Postdoctoral Research Award Finalist**, International Society for the Study of Xenobiotics
- 2006      **Colgate/Palmolive Grants for Alternative Research Award**, Society of Toxicology and the Colgate/Palmolive Company
- 2003      **Travel Scholarship**, Office of Graduate Studies, University of Texas at Austin

1998	<b>Summer Tuition Scholarship</b> , Department of Marine Science, University of Texas at Austin
1996-1997	<b>Phi Beta Kappa</b> , University of Tennessee, Knoxville
1997	<b>Tri-Beta Biological Honor Society</b> , Charter Member, University of Tennessee, Knoxville

## PUBLICATIONS

### Manuscripts Submitted/In Preparation

- Benninghoff, A.D.**, Orner, G.A., Buchner, C., Hendricks, J.D., Williams, D.E. (In preparation) Promotion of hepatocarcinogenesis by perfluoroalkyl acids in rainbow trout. *Environmental Health Perspectives*.
- Shorey, L.E., **Benninghoff, A.D.**, and Williams, D.E. (In preparation) 3,3'-Diindolylmethane induces G<sub>1</sub> arrest and apoptosis in human acute T-cell lymphoblastic leukemia cells. *Cancer Prevention Research*
- Benninghoff, A.D.**, Bisson, W., Koch, D., Koluri, S.K., and Williams, D.E. (Submitted) Estrogen-like activity of polyfluorinated chemicals *in vivo* and interaction with human and trout estrogen receptors *in vitro*. *Toxicological Sciences*
- Salinas, K., Serrano, J., Higgins, L., **Benninghoff, A.**, Williams, D., Walker, C., and Hemmer, M. (Submitted) Identification of two isoforms of vitelline envelope protein in the plasma of rainbow trout exposed to 17 $\beta$ -estradiol. *Comparative Biochemistry and Physiology Part D: Genomics and Proteomics*.

### Published Articles

- Krueger, S.K., Henderson, M.C., Siddens, L.K., VanDyke, J.E., **Benninghoff, A.D.**, Andrew, A.P., Furnes, B., Schlenk, D. and Williams, D.E. (In press) Characterization of Sulfoxylation and Structural Implications of Human Flavin-Containing Monooxygenase Isoform 2 (FMO2.1) Variants S195L and N413K. *Drug Metabolism and Disposition*.
- Williams, D.E., Willard, K.D., Orner, G.A., Hendricks, J.D., Pereira, C., **Benninghoff, A.D.** and Bailey, G.S. 2009 Rainbow trout (*Oncorhynchus mykiss*) and ultra-low dose cancer studies. *Comparative Biochemistry and Physiology Part C: Toxicology & Pharmacology*. 149(2): 175-81.
- Tilton, S.C., Orner, G.A., **Benninghoff, A.D.**, Hendricks, J.D. and Williams, D.E. (2008) Genomic profiling reveals an alternate mechanism for hepatic tumor promotion by perfluorooctanoic acid in rainbow trout. *Environmental Health Perspectives* 116(8):1047-55. Selected as highlight article for this issue: <http://www.ehponline.org/docs/2008/116-8/ss.html#alte>
- Benninghoff, A.D.** and Williams, D.E. (2008) Identification of a transcriptional fingerprint of estrogen exposure in rainbow trout liver. *Toxicological Sciences* 101(1): 65-80.
- Benninghoff, A.D.** (2007) Toxicoproteomics – the next step in the evolution of environmental biomarkers? *Toxicological Sciences* 95(1): 1-4.
- Mohamed, J.S., **Benninghoff, A.D.**, Holt, G.J., and Khan, I.A. (2007) Cloning of three GnRH genes and their mRNA expressions during larval development and prior to active gametogenesis in the cobia, *Rachycentron canadum*. *Journal of Molecular Endocrinology*. 38(2):235-44
- Faulk, C.K., **Benninghoff, A.D.** and Holt, G.J. (2007) Ontogeny of the gastrointestinal tract and selected digestive enzymes in cobia (*Rachycentron canadum*) larval development. *Journal of Fish Biology*. 70: 567–583.
- Benninghoff, A.D.** and P. Thomas (2006) Gonadotropin regulation of testosterone synthesis by theca and granulosa cells of Atlantic croaker (*Micropogonias undulatus*): II. Involvement of a mitogen-activated protein kinase pathway. *General and Comparative Endocrinology* 147(3): 288-296.
- Benninghoff, A.D.** and P. Thomas (2006) Gonadotropin regulation of testosterone synthesis by theca and granulosa cells of Atlantic croaker (*Micropogonias undulatus*): I. Role of CaMK in calcium-mediated steroidogenesis and interactions between calcium and adenylyl cyclase pathways. *General and Comparative Endocrinology* 147(3): 276-287.

Thomas, P., Dressing, G., Pang, Y., Berg, H., Tubbs, C., **Benninghoff, A.**, and Doughty, K. (2006) Progesterone, estrogen and androgen G-protein coupled receptors in fish gonads. *Steroids* 71(4): 310-316.

**Benninghoff, A.D.** and P. Thomas (2005) Involvement of calcium and calmodulin in the regulation of ovarian steroidogenesis in Atlantic croaker (*Micropogonias undulatus*) and modulation by Aroclor 1254. *General and Comparative Endocrinology* 144(3): 211-23.

**Benninghoff, A.** and P. Thomas (2003) Interactions of calcium and cyclic AMP signaling pathways regulating steroidogenesis in primary cultured theca and granulosa cells of Atlantic croaker. *Fish Physiology and Biochemistry* 28 (1-4): 327-328.

### **Book Chapters**

Walter, R.B., Tilton, S.C., Orner, G.O., **Benninghoff, A.D.**, Bailey, G.S. and Williams, D.E. (2008). Carcinogenesis models: focus on xiphophorus and rainbow trout. In: *Oceans and Human Health. Risks and Remedies from the Seas.* (Eds. Walsh, P.J., Smith, S.L., Fleming, L.E., Solo-Gabriele, H.M. and Gerwick, W.M. Elsevier, New York, pp 585-611.

### **Published Abstracts & Presentations**

**Benninghoff, A.D.** (2010) Emerging role of epigenetics in food choices and disease prevention. Utah Dietetics Association Annual Meeting. Ogden, Utah, April 8-9. *Invited speaker.*

**Benninghoff, A.D.**, Bisson, W., Koch, D., Kolluri, S. and Williams, D.E. (2010) Interaction of perfluoroalkyl acids with human estrogen receptor alpha. Society of Toxicology 49<sup>th</sup> Annual Meeting. Salt Lake City, Utah, March 7-11.

Shorey, L.E., **Benninghoff, A.D.**, and Williams, D.E. (2010) Diindolylmethane (DIM) targets multiple pathways in human acute T-cell lymphoblastic leukemia cells *in vitro* to reduce cell survival. Society of Toxicology 49<sup>th</sup> Annual Meeting. Salt Lake City, Utah, March 7-11.

Hemmer, M.J., **Benninghoff, A.D.**, Salinas, K.A., and Williams, D.E. (2010) Proteomic Screening of Perfluoroalkyl Acids for Estrogenic Activity Using Mass Spectrometry. Society of Toxicology 49<sup>th</sup> Annual Meeting. Salt Lake City, Utah, March 7-11.

Shorey, L.E., **Benninghoff, A.D.**, and Williams, D.E. (2009) Diindolylmethane inhibits proliferation of human derived acute T-cell lymphoblastic leukemia alone and in dietary phytochemical mixtures *in vitro*. Diet and Optimum Health Conference 2009. Portland, Oregon, May 13-16.

**Benninghoff, A.D.**, Buchner, C., Hendricks, J.D., and Williams, D.E. (2008) Multiple perfluoroalkyl acids promote liver cancer in rainbow trout. Society of Environmental Toxicology and Chemistry (SETAC) North America 29th Annual Meeting. Tampa, Florida, November 16-20.

Salinas, K., Serrano, J., Higgins, L., **Benninghoff, A.**, Williams, D., Walker, C., Hemmer, M. Identification of two isoforms of vitelline envelope protein in the plasma of rainbow trout exposed to 17 $\beta$ -estradiol. Society of Environmental Toxicology and Chemistry (SETAC) North America 29th Annual Meeting. Tampa, Florida, November 16-20.

**Benninghoff, A.D.**, Buckner, C., Hendricks, J.D., Williams, D.E. (2008) Multiple perfluoroalkyl acids enhance aflatoxin B1-initiated hepatocarcinogenesis in rainbow trout via possible estrogen-like mechanism of action. Society of Environmental Toxicology and Chemistry (SETAC) 4<sup>th</sup> World Congress. Sydney, Australia, August 3-7. (*Platform presentation*)

Perry, K.M., Orner, G.A., McQuistan, T., **Benninghoff, A.D.**, Percifield, T., Tilton, S.C., Pereira, C.B., Fisher, K.A., Löhr, C.V., Egner, P., Kensler, T., Hendricks, J.D., Bailey, G.S., and Williams, D.E. (2008) Analysis of ultra-low dose aflatoxin B1 exposure in rainbow trout. 25<sup>th</sup> Annual Meeting of the Pacific Northwest Regional Chapter of the Society of toxicology. Corvallis, Oregon, September 19.

**Benninghoff, A.D.**, Buchner, C.H., Orner, G.A., Hendricks, J.D. and Williams, D.E. (2008) Promotion of hepatocarcinogenesis by perfluoroalkyl acids by an estrogenic mechanism. 10<sup>th</sup> European Regional International Society for the Study of Xenobiotics Meeting. Vienna, Austria, May 18-21.

**Benninghoff, A.D.** and Williams, D.E. (2008) Gene expression profiles of perfluorooctanoic, -nonanoic and -decanoic acids and 8:2 fluorotelomer alcohol in rainbow trout, a model for human hepatocarcinogenesis. Society of Toxicology 47<sup>th</sup> Annual Meeting. Seattle, Washington, March 16-20<sup>th</sup>.

- Duong, L., **Benninghoff, A.D.**, Tanguay, R. (2008) Assessment of perfluorinated chemicals (PFCs) developmental toxicity using embryonic zebrafish. Society of Toxicology 47<sup>th</sup> Annual Meeting. Seattle, Washington, March 16-20<sup>th</sup>.
- Benninghoff, A.D.** (2008) Importance in Communicating About Estrogen-like Pollutants. Presentation for the Academy of Lifelong Learning. Corvallis, Oregon, February 28.
- Benninghoff, A.D.** and Williams, D.E. (2007) Estrogen receptor (ER) interaction as an alternative mechanism of toxicity of perfluoroalkyl acids (PFAAs). Society of Environmental Toxicology and Chemistry (SETAC) North America 28th Annual Meeting. Milwaukee, Wisconsin, November 11-15. (*Platform presentation*)
- Benninghoff, A.D.**, Orner, G.A., Tilton, S.C., Field, J.A., and Williams, D.E. (2007) Perfluorooctanoic acid (PFOA) and structurally related perfluoroalkyl acids (PFAAs) are xenoestrogens in rainbow trout, a model organism for endocrine disruption and human carcinogenesis. NIEHS and EPA sponsored meeting on Future Research on Endocrine Disruption: Translation of Basic and Animal Research to Understand Human Disease. Durham, North Carolina, August 27-29.
- Perry, K.M., Orner, G.A., **Benninghoff, A.D.**, Hendricks, J.D., Pereira, C.B., Bailey, G.S., Fisher, K.A., Lohr, C.V., and Williams, D.E. (2007) Identifying potential biomarkers for ultra-low dose aflatoxin B1 (AFB1) exposure in the rainbow trout model of hepatocellular carcinogenesis. 3<sup>rd</sup> Diet and Optimum Health Conference. Portland, Oregon, May 18-21.
- Benninghoff, A.D.**, Field, J.A. and Williams, D.E. (2007) Assessment of the estrogen activity of perfluorooctanoic acid (PFOA), perfluorooctane sulfonate (PFOS) and other structurally diverse perfluorinated chemicals in rainbow trout. 46th Annual Meeting of the Society of Toxicology. Charlotte, North Carolina, March 25-29.
- Walker, C.C., Salinas, K.A., Harris, P.S., **Benninghoff, A.D.**, Springman, K.R. and Hemmer, M.J. Estrogen responsive plasma protein biomarkers in four fish species. 46th Annual Meeting of the Society of Toxicology. Charlotte, North Carolina, March 25-29.
- Khan, I.K., Mohamed, J.S., **Benninghoff, A.D.**, Holt, J.G. (2007) Developmental expression of the G protein-coupled receptor 54 and three GnRH mRNAs in cobia. Aquaculture 2007, meeting of the World Aquaculture Society. San Antonio, Texas, February 26-March 2.
- Benninghoff, A.D.**, Huset, C.A., Field, J.A. and Williams, D.E. (2006) Estrogenicity of perfluoroalkyl carboxylic acids in rainbow trout: results from a screen of 36 structurally diverse perfluorinated chemicals. Society of Environmental Toxicology and Chemistry (SETAC) North America 27th Annual Meeting, Montréal, Québec, Canada, November 5-9. (*Platform presentation*)
- Benninghoff, A.D.** and Williams, D.E. (2006) Identification of an estrogen receptor-mediated transcriptional fingerprint in rainbow trout liver. 14th North America International Society for the Study of Xenobiotics (ISSX) Meeting, Rio Grande, Puerto Rico, October 22-26. (*Platform presentation*)
- Benninghoff, A.D.** and Williams, D.E. (2006) A toxicogenomics approach to the discovery of mechanism of action-based biomarkers: a case study for the estrogen receptor. Gordon Research Conference: Mechanisms of Toxicity. Colby College, Waterville, Maine, July 23-28.
- Benninghoff, A.D.** and P. Thomas (2006) Signal transduction pathways regulating steroidogenesis in the ovary of Atlantic croaker. Western Regional Conference on Comparative Endocrinology. Newport, Oregon, March 24-25. (*Platform presentation*)
- Benninghoff, A.D.** and Williams, D.E. (2006) Tamoxifen-induced changes in hepatic gene expression: agonist and antagonist activities of this selective estrogen receptor modulator (SERM). 45th Annual Meeting of the Society of Toxicology. San Diego, California, March 5-9.
- Mohamed, J.S., **Benninghoff, A.D.**, Holt, J.G., and Khan, I.A. (2006) Cloning and differential expression of three GnRH mRNAs during larval and gonadal development in the cobia *Rachycentron canadum*. Aquaculture America. Las Vegas, Nevada, February 13-16
- Tilton, S.C., Orner, G.A., **Benninghoff, A.D.**, Hendricks, J.D. and Williams, D.E. (2005) Possible mechanism for hepatic tumor promotion by perfluorooctanoic acid in rainbow trout: a toxicogenomic approach. Society of Environmental Toxicology and Chemistry (SETAC) North America 26<sup>th</sup> Annual Meeting, Baltimore, Maryland, November 13-17.
- Benninghoff, A.D.** and P. Thomas (2003) Interactions of calcium and cyclic AMP signaling pathways regulating steroidogenesis in primary cultured theca and granulosa cells of Atlantic croaker. 5th International Symposium on Fish Endocrinology. Mie, Japan, May 18-22.

**Benninghoff, A.D.** and P. Thomas (2002) Signal transduction pathways involved in the regulation of steroid production by Atlantic croaker theca and granulosa cells in primary culture. 35<sup>th</sup> Annual Meeting of the Society for the Study of Reproduction. Baltimore, Maryland, July 28-31. (*Platform presentation*)

(older abstracts available upon request)

## SCIENCE OUTREACH WITH ENVIRONMENTAL HEALTH NEWS

As a Science Communication Fellow with the **Environmental Health News** organization for 2007 and 2008, the following representative citations are for short synopses or full review articles written for the media and the public to highlight recent, important research in the field of environmental health. For more information about this group, please visit [www.environmentalhealthnews.org/2007scicommfellows.html](http://www.environmentalhealthnews.org/2007scicommfellows.html).

### Example Full Reviews (out of 11)

Benninghoff, A.D. PFOA slows breast development in mice exposed via mom. Available online January 29, 2009. [www.environmentalhealthnews.org/ehs/newscience/pfoa-impairs-breast-development-in-mice](http://www.environmentalhealthnews.org/ehs/newscience/pfoa-impairs-breast-development-in-mice).

Benninghoff, A.D. and Hessler, W. Nanoparticles damage brain cells. Available online November 17, 2008. [www.environmentalhealthnews.org/ehs/newscience/nanoparticles-damage-brain-cells](http://www.environmentalhealthnews.org/ehs/newscience/nanoparticles-damage-brain-cells)

Laiosa, M.D. and Benninghoff, A.D. Exposure to a PAH before birth or via breast milk can lead to cancer. Available online October 23, 2008. [environmentalhealthnews.org/ehs/newscience/exposure-to-carcinogens-in-the-womb-or-through-breast-milk-can-have-long-term-deadly-consequences/](http://environmentalhealthnews.org/ehs/newscience/exposure-to-carcinogens-in-the-womb-or-through-breast-milk-can-have-long-term-deadly-consequences/)

Benninghoff, A.D. Herbicide impairs how rats care for newborns. Available online October 3, 2008. [www.environmentalhealthnews.org/ehs/newscience/2-4-d-pesticide-impairs-maternal-caregiving-in-rats/](http://www.environmentalhealthnews.org/ehs/newscience/2-4-d-pesticide-impairs-maternal-caregiving-in-rats/)

Benninghoff, AD and Hessler, W. Maternal arsenic exposure reprograms genes in fetus. Available online April 19, 2007. [www.environmentalhealthnews.org/newscience/2007/2007-0417liuetal.html](http://www.environmentalhealthnews.org/newscience/2007/2007-0417liuetal.html)

### Example Short Synopses (out of 48)

Benninghoff, A.D. Nonylphenol kills special reproductive cells in male rats by changing the cell's outside membrane. [www.environmentalhealthnews.org/ehs/newscience/nonylphenol-disrupting-the-cellular-boarder/](http://www.environmentalhealthnews.org/ehs/newscience/nonylphenol-disrupting-the-cellular-boarder/)

Benninghoff, A.D. Insights from the fruit fly on human susceptibility to arsenic poisoning. Available online September 23, 2008. [www.environmentalhealthnews.org/ehs/newscience/insights-from-the-fruit-fly-on-human-susceptibility-to-arsenic-toxicity/](http://www.environmentalhealthnews.org/ehs/newscience/insights-from-the-fruit-fly-on-human-susceptibility-to-arsenic-toxicity/)

Benninghoff, A.D. Local children perform better on tests after coal-burning power plant closes. Available online September 4, 2008. [www.environmentalhealthnews.org/ehs/newscience/closure-of-coal-burning-plant-leads-to-improvement-in-local-childrens-brain-development/](http://www.environmentalhealthnews.org/ehs/newscience/closure-of-coal-burning-plant-leads-to-improvement-in-local-childrens-brain-development/)

## RESEARCH IN THE PUBLIC MEDIA

Renner, K. (2008) "A tale of two fish." *Environmental Science and Technology*. 42(18): 6784 – 6785. [pubs.acs.org/cgi-bin/sample.cgi/esthag/2008/42/i18/pdf/es801813m.pdf](http://pubs.acs.org/cgi-bin/sample.cgi/esthag/2008/42/i18/pdf/es801813m.pdf)

Associated Press. (2008) "OSU Scientists continue long tradition of using trout to research cancer." *The Oregonian – Online Edition*. June 23, 2008. [blog.oregonlive.com/breakingnews/2008/06/osu\\_scientists\\_continue\\_long\\_t.html](http://blog.oregonlive.com/breakingnews/2008/06/osu_scientists_continue_long_t.html)

Odegard, K. (2008) "Trout used as 'lab rats' in cancer study." *Corvallis Gazette-Times*. June 13, 2008. [www.gazettetimes.com/articles/2008/06/13/news/community/3aaa03\\_labfish.txt](http://www.gazettetimes.com/articles/2008/06/13/news/community/3aaa03_labfish.txt)

Raloff, J. (2008) "Nonstick Toxicity." *ScienceNews – Web Edition*. Available online May 30, 2008. [www.sciencenews.org/view/generic/id/32405/description/Nonstick\\_toxicity](http://www.sciencenews.org/view/generic/id/32405/description/Nonstick_toxicity)

Hood, E. (2008) "Alternative mechanism for PFOA?" *Environmental Health Perspectives* 116 (8): A351. [www.ehponline.org/docs/2008/116-8/EHP116pa350PDF.PDF](http://www.ehponline.org/docs/2008/116-8/EHP116pa350PDF.PDF)

- Albright, M.A. (2007) "Abby Benninghoff: Mixing chemistry and communication." *Corvallis Gazette-Times*. March 17, 2007. [www.gazettetimes.com/articles/2007/03/17/news/focus/cfocus02\\_benninghoff.txt](http://www.gazettetimes.com/articles/2007/03/17/news/focus/cfocus02_benninghoff.txt)
- Raloff, J. (2006). "No-stick chemicals can mimic estrogen." *ScienceNews* 170(23): 366. [www.sciencenews.org/view/generic/id/8009/title/No-stick\\_chemicals\\_can\\_mimic\\_estrogen](http://www.sciencenews.org/view/generic/id/8009/title/No-stick_chemicals_can_mimic_estrogen)

## PROFESSIONAL SOCIETIES

American Association for Cancer Research	Society of Environmental Toxicology and Chemistry
International Society for the Study of Xenobiotics	Society of Toxicology

## SERVICE

2010	Production Committee, Animal, Dairy and Veterinary Sciences Dept., Utah State University
2010	Judge, Intermountain Graduate Research Symposium
2007 – present	SETAC North America Mentoring Committee (Chairperson, 2007-2009; Executive Steering Committee, 2010)
2008 – 2009	Oregon State University President's Taskforce on the Postdoctoral Experience Postdoctoral Representative

### Expert Scientific Peer Review

- *Ad hoc* manuscript review
  - Toxicological Sciences
  - Toxicology and Applied Pharmacology
  - Toxicology
  - Environmental Science & Technology
  - General and Comparative Endocrinology
  - Journal of Biomedicine and Biotechnology
- Agency for Toxic Substance and Disease Research (ATSDR) Toxicological Profiles: Perfluoroalkyl Acids (PFAAs) (2008)
- GENANIMAL program for the French National Research Agency (2007)