

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.
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NAME Robertson, Larry W.	POSITION TITLE		
eRA COMMONS USER NAME (credential, e.g., agency login) lwrobertson	Professor		
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Stetson University, Deland, Florida	B.A.	1969	Chemistry
The University of Florida, Gainesville	M.S.	1971	Microbiology
The University of Michigan, Ann Arbor	M.P.H.	1972	Public Health
The University of Michigan, Ann Arbor	Ph.D.	1981	Environmental Health Sciences
Texas A & M University	Postdoc	1981-2	Toxicology Prof. S. Safe
Alexander von Humboldt-Research Fellow and Project Leader (in SFB 302 "Early Stages in Carcinogenesis") at the University of Mainz.	Postdoc and Project Leader	1983-86	Toxicology Prof. Franz Oesch (Germany)

A. Personal Statement

Dr. Robertson is the Director of the Interdisciplinary Graduate Program in Human Toxicology. He is also the Program Director of the Iowa Superfund Research Program at the University of Iowa, which has just been renewed for 5 additional years under his leadership. Dr. Robertson therefore has considerable expertise and experience matters of research and training.

B. Positions and Honors

1/07 - Present Director, Interdisciplinary Graduate Program in Human Toxicology, University of Iowa
 5/06 – Present Director, Iowa Superfund (Basic) Research Program, University of Iowa
 5/03 – Present Director, Pilot Grant Program, and (Co-) Director of the Oxidative Stress and Metabolism Research Cluster of the Environmental Health Sciences Research Center, University of Iowa
 4/03 - Present Professor, Department of Occupational & Environmental Health, University of Iowa
 9/86 - 3/03 Associate Professor and Professor in the Graduate Center for Toxicology, University of Kentucky, promoted to tenure July 1, 1989, promoted to Full Professor July 1, 1996

Member of more than 10 Professional and Honorary Societies. Past President of the Ohio Valley regional chapter of the Society of Toxicology. 2007 John Doull awardee of the Central States regional chapter of the Society of Toxicology, Past President of the UK Chapter of Sigma Xi, The Scientific Research Society, Fellow of the Academy of Toxicological Sciences.

C. Selected Peer-reviewed Publications (Selected from more than 240 peer-reviewed publications)

Hua Shen, Larry W. Robertson and Gabriele Ludewig. Regulation of paraoxonase 1 (PON1) in PCB 126-exposed male Sprague Dawley rats. Toxicology Letters 209, 291– 298, 2012. PMID: 22266287.

Senthilkumar, P.K., Larry W. Robertson and Gabriele Ludewig. PCB153 reduces telomerase activity and telomere length in immortalized human skin keratinocytes (HaCaT) but not in human foreskin keratinocytes (NFK). Toxicol Appl Pharmacol. 259, 115-123, 2012. PMID: 22210444.

- Rodica Petruta Bunaciu, Job C. Tharappel, Hans-Joachim Lehmler, Eun Y. Lee, Larry W. Robertson, Geza G. Bruckner, Brett T. Spear, and Howard P. Glauert. Role of oil vehicle on hepatic cell proliferation in PCB-treated rats. *J Environ Pathol Toxicol Oncol.* 30(4), 273-82, 2011. PMID: 22181977.
- Edugie Ekuase, Yungang Liu, Hans-Joachim Lehmler, Larry W. Robertson, Michael Duffel. Structure-activity Relationships for Hydroxylated Polychlorinated Biphenyls as Inhibitors of the Sulfation of Dehydroepiandrosterone Catalyzed by Human Hydroxysteroid Sulfotransferase SULT2A1. *Chem Res Toxicol.* 24(10), 1720-1728, 2011. PMID: 21913674. PMCID: PMC3196794.
- Ian K. Lai, Yingtao Chai, Donald Simmons, Walter H. Watson, Rommel Tan, Wanda M. Haschek, Kai Wang, Bingxuan Wang, Gabriele Ludewig, and Larry W. Robertson. Dietary selenium as a modulator of PCB 126-induced hepatotoxicity in male Sprague Dawley rats. *Toxicological Sciences* 124, 202–214, 2011. doi:10.1093/toxsci/kfr215. PMID: 21865291.
- Bingxuan Wang, Larry W. Robertson, Kai Wang and Gabriele Ludewig. Species difference in the regulation of cytochrome P450 2S1: lack of induction in rats by the aryl hydrocarbon receptor agonist PCB126. *Xenobiotica* 41(12), 1031-43, 2011. PMID:21970748.
- Yang Song, Jyothirmai Ambati, Sean Parkin, Stephen E. Rankin, Larry W. Robertson, Hans-Joachim Lehmler. Crystal structure and density functional theory studies of toxic quinone metabolites of polychlorinated biphenyls. *Chemosphere* 85(3), 386-92, 2011. PMID:21824639. PMCID: PMC3206982.
- P.K. Senthilkumar, A.J. Klingelhutz, J.A. Jacobus, H. Lehmler, L.W. Robertson and G. Ludewig. Airborne polychlorinated biphenyls (PCBs) reduce telomerase activity and shorten telomere length in immortal human skin keratinocytes (HaCat). *Toxicology Letters* 204, 64–70, 2011. PMID:21530622. PMCID: PMC3109099.
- L. W. Robertson and G. Ludewig. Polychlorinated Biphenyl (PCB) carcinogenicity with special emphasis on airborne PCBs. *Gefahrstoffe - Reinhaltung der Luft* 71, 25-32, 2011. PMID: 21686028. PMCID: PMC3113507.
- Yungang Liu, Hans-Joachim Lehmler, Larry W. Robertson, and Michael W. Duffel. Physicochemical properties of hydroxylated polychlorinated biphenyls aid in predicting their interactions with rat sulfotransferase 1A1 (rSULT1A1). *Chemico-Biological Interactions* 189, 153–160, 2011. doi:10.1016/j.cbi.2010.11.009. PMID: 21130751. PMCID: PMC3032042.
- Gabriele Ludewig and Larry W. Robertson. Preface to the Special Issue, PCBs: New Knowledge Gained from Old Pollutants. *Environment International* 36(8), 813, 2010. PMID: 20688397.
- W. Xie, K. Wang, L.W. Robertson, G. Ludewig. Investigation of mechanism(s) of DNA damage induced by 4-monochlorobiphenyl (PCB3) metabolites. *Environment International* 36(8), 950-961, 2010. PMID: 20129669. PMCID: PMC2888624.
- J.A. Jacobus, B. Wang, C. Maddox, H. Esch, L. Lehmann, L.W. Robertson, K. Wang, P. Kirby, G. Ludewig. 3-Methylcholanthrene (3-MC) and 4-chlorobiphenyl (PCB3) genotoxicity is gender-related in Fischer 344 transgenic rats. *Environment International* 36(8), 970-979, 2010. PMID: 20739065. PMCID: PMC2949545.
- Orarat Wangpradit, Edelmiro Moman, Kevin B. Nolan, Garry R. Buettner, Larry W. Robertson and Gregor Luthe. Observation of an unusual electronically distorted semiquinone radical of PCB metabolites in the active site of prostaglandin H synthase-2. *Chemosphere* 81(11), 1501-1508, 2010. PMID:20843536.

A Collaboration Project between International Agency for Research on Cancer (IARC) and National Occupational Research Agenda (NORA), IARC Technical Publication No. 42, Identification of research needs to resolve the carcinogenicity of high priority IARC carcinogens: Views and Expert opinions of an IARC/NORA expert group meeting, Lyon, France: 30 June – 2 July, 2009. <http://monographs.iarc.fr/ENG/Publications/techrep42/index.php>

Elizabeth M. Ward, Paul A. Schulte, Kurt Straif, Nancy B. Hopf, Jane C. Caldwell, Tania Carreón, David M. DeMarini, Bruce A. Fowler, Bernard D. Goldstein, Kari Hemminki, Kirsti Husgafvel Pursiainen, Eileen Kuempel, Joellen Lewtas, Ruth M. Lunn, Elsebeth Lyng, Damien M. McElvenny, Hartwig Muhle, Tamie Nakajima, Larry W. Robertson, IARC Working Group 2010. Research Recommendations for Selected IARC-Classified Agents. *Environ Health Perspect* 118(10), 1355-62, 2010. PMID: 20562050. PMCID: PMC2957912.

Xueshu Li, Sean Parkin, Michael W. Duffel, Larry W. Robertson and Hans-Joachim Lehmler. 3',4'-Dichlorobiphenyl-4-yl 2,2,2-trichloroethyl sulfate. *Acta Cryst.* E66, o1615–o1616, 2010.

van 't Erve TJ, Rautiainen RH, Robertson LW, Luthe G. Trimethylsilyldiazomethane: A safe non-explosive, cost effective and less-toxic reagent for phenol derivatization in GC applications. *Environment International* 36(8), 835-842, 2010. PMID: 20385409.

Ian Lai, Yingtao Chai, Don Simmons, Gregor Luthe, Mitchell C. Coleman, Douglas Spitz, Wanda M. Haschek, Gabriele Ludewig and Larry W. Robertson. Acute Toxicity of 3,3',4,4',5-Pentachlorobiphenyl (PCB 126) in Male Sprague-Dawley Rats: Effects on Hepatic Oxidative Stress, Glutathione and Metals Status. *Environment International* 36(8), 918-923, 2010. PMID: 19969354. PMCID: PMC2891598.

D. Research Support

ACTIVE

P42 ES013661 (Robertson) 5/12/06 – 3/31/15 5.22 calendar

NIEHS

Semi-volatile PCBs: Sources, Exposures, Toxicities

This Superfund basic research program, entitled “Semi-volatile PCBs: Sources, Exposures, Toxicities”, is composed of basic, mechanistic and more applied projects in both the biomedical and non-biomedical research areas. The overall theme of the proposed research is atmospheric sources of semivolatile PCBs and consequences of exposure and deals with volatilization, transport and exposure of lower halogenated PCBs, especially those PCBs that are associated with urban air and are global pollutants, and the consequences of exposure to them. Studies will include an assessment of exposures to those who live or work in the vicinity of such materials. Dr. Robertson’s role in this grant is as Program Director and as (Co-) Leader in several projects/cores.

P42 ES 013661-06 S1 (Robertson) 4/15/10 – 3/31/15 Not Permitted

NIEHS

Semi-volatile PCBs: Sources, Exposures, Toxicities

This funded supplemental request is to support a D.C. Donnelly award for a Postdoctoral Scholar of the Iowa Superfund Research Program to initiate and carry out collaborative research with faculty of the Davis Superfund Research Program, involving research stays at both institutions.

P30 ES005605-22 (Thorne) 04/01/12-03/31/17 1.08 calendar

NIEHS

Environmental Health Sciences Research Center (EHSRC)

This is the University of Iowa Environmental Health Sciences Research Center (EHSRC) for years 22 through 26. LWR's role in this effort is as Director of the Pilot Grant Program (0.60 effort), and Director of the Oxidative Stress and Metabolism Research Cluster (0.48 effort).

COMPLETED RESEARCH SUPPORT

RC1 ES 018097 (Henry) 9/25/09 – 9/24/11 0.60 calendar

NIEHS

Effects of pesticides on prostate cancer progression in PTEN mutant mice

The objective of this grant is to test the hypothesis that exposure to organophosphorothioates accelerates prostate cancer progression in a mouse model genetically predisposed to develop premalignant prostate lesions (B6:PTEN/luc) in order to establish an experimental platform for exploring these links. Dr. Robertson's role (Co-Investigator, 5% time commitment, 0.6 months) advises on all toxicological aspects of the studies.

P42 ES 013661-02 S1 Robertson (PI) 5/12/06 – 3/31/10 Not Permitted

NIEHS

Semi-volatile PCBs: Sources, Exposures, Toxicities

Request for Conference support, entitled "Environmental Health Issues in the Midwest: A two-day workshop". Selected State Legislators from up to ten Midwestern states were invited to participate in a workshop translating research on four environmental health topics into knowledge that can be used in policy making. The highly successful Legislators' Conference was held October 21-23, 2007 in Iowa City.

P42 ES 013661-05 S1 (Robertson) 4/15/10 – 3/31/11 Not Permitted

NIEHS

Semi-volatile PCBs: Sources, Exposures, Toxicities

This supplemental request, entitled ""The Sixth International PCB Workshop, Persistent Pollutants Require Persistent Solutions", to support the planning, organization and management of the Sixth International PCB Workshop, to be held in Visby, Sweden May 30 – June 2, 2010. Students, postdocs, researchers, and other experts from around the globe are anticipated to participate.

P42 ES 013661-02 S2 Robertson (PI) 5/12/06 – 3/31/10 Not Permitted

NIEHS

Semi-volatile PCBs: Sources, Exposures, Toxicities

This was a supplemental request, entitled "Fifth PCB Workshop: New knowledge gained from old pollutants" to support the planning, organization and management of the Fifth PCB Workshop, held in Iowa City, Iowa, May 18 – 22, 2008. Students, postdocs, researchers, and other experts from around the globe participated.

P42 ES 013661-03 S1 (Robertson) 5/12/06 – 3/31/10 Not Permitted

NIEHS

Semi-volatile PCBs: Sources, Exposures, Toxicities

This supplemental request, entitled "Environmental Health Training for State Legislators", supported the planning, organization and management of a second legislators' workshop in 2009 in Chicago to which we attracted state representatives and senators from the states surrounding the Great Lakes as well as the state of Iowa. The goal of the workshop was the translating of research on four environmental health topics into knowledge that can be used in policy making. The highly successful Second Legislators' Conference was held January 30-31, 2009 at the Blackstone Hotel in Chicago.