

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
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NAME Kevin Gaido, Ph.D.		POSITION TITLE Senior Investigator, Director, Center for Integrated Genomics	
eRA COMMONS USER NAME			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
University of Notre Dame, IN	B.S.	1982	Biochemistry
West Virginia University Medical Center, WV	Ph.D.	1986	Pharmacol & Toxicol
Chemical Industry Institute of Toxicology, NC	Post- doctoral	1986-1989	Cell & Mol Tox

A. Positions and Experience**Positions and Employment:**

1986-1989 Postdoctoral Fellow, Chemical Industry Institute of Toxicology, Research Triangle Park, NC
 1989-1992 Senior Research Fellow, Chemical Industry Institute of Toxicology, RTP, NC
 1993-1998 Scientist I, Chemical Industry Institute of Toxicology, RTP, NC.
 1998-2004 Scientist II, CIIT Centers for Health Research, RTP, NC
 2003-Present Director, Center for Integrated Genomics, The Hamner Institutes for Health Sciences, NC
 2004-Present Senior Investigator, The Hamner Institutes for Health Sciences, RTP, NC

Honors:

1985 Eastern Student Research Forum Finalist. University of Miami Medical Center, Miami, FL.
 1985 Hazleton Research Fellowship Award. Society of Toxicology
 1986 Mechanism Specialty Section Graduate Student Award, second place. Society of Toxicology
 1986 Sigma Xi, Multidisciplinary Student Research Colloquium, third place. West Virginia University
 1986 Van Liere Memorial Research Convocation, first place. West Virginia University, Morgantown, WV.
 2001 Reproductive and Developmental Toxicology Specialty Section of the Society of Toxicology.
 Best paper published in the field of reproductive and developmental toxicology in *Tox. Sci.*
 2005 Reproductive and Developmental Toxicology Specialty Section of the Society of Toxicology.
 Best paper published in the field of reproductive and developmental toxicology in *Tox Sci.*

Other Experience and Professional Memberships:

2007 Steering Committee, Evidence Based Toxicology
 2006 NCI Cancer Genome Characterization Centers Review Committee
 2006 NIEHS Centers for Environmental Health Sciences Review Committee
 2006 NIEHS Special Emphasis panel Outstanding New Environmental Scientist Awards
 2005 Expert consultant for the Center for the Evaluation of Risks to Human Reproduction
 2005 - 2006 NIH Clinical Endocrinology and Reproduction (ICER) study section
 2004 - 2005 NIEHS Superfund Grant review
 2003 NIH grant committee for review of Breast Cancer Research Center grants
 2002 – present Editorial Board, Toxicological Sciences
 2002 Presentation to the EPA Scientific Advisory Panel on future of genomics
 2002 ICCVAM Endocrine Disruptor Panel review member
 1999 – 2000 EPA's In vitro standardization and validation workgroup
 1998 – 2002 D.O.D. U.S. Army Medical Research and Material Command, Breast Cancer Research Program
 Grant Review Committee

1998 – 2001 Chemical Manufacturer Association (CMA) – Endocrine Disruptor Test Validation and Standardization Subteam

2001 – 2002 President, North Carolina Society of Toxicology

2000 – 2001 Vice President/President elect, North Carolina Society of Toxicology

1996 – 1998 Secretary/treasurer, North Carolina Society of Toxicology

B. Selected peer-reviewed publications (Selected from 70 peer-reviewed publications)

1. Casanova, M., You, L., Gaido, K.W., Archibeque-Engle, A., Janszen, D.B., Heck, H. (1999). Developmental effects of dietary phytoestrogens in Sprague-Dawley rats and interactions of genistein and daidzein with rat estrogen receptors α and β in vitro. *Toxicol. Sci.* 51: 236-244.
2. Gaido, K.W., Leonard, L.S., Maness, S.C., Hall, J.M., McDonnell, D.P., Saville, B., Safe, S. (1999) Differential interaction of the methoxychlor metabolite HPTe with estrogen receptors alpha and beta. *Endocrinology* 140: 5746-5753.
3. Gaido, K.W., Maness, S.C., McDonnell, D.P., Dehal, S.S., Kupfer, D., and Safe, S. (2000). Interaction of Methoxychlor and Related Compounds with Estrogen Receptor Alpha and Beta, and Androgen Receptor: Structure-Activity Studies. *Molecular Pharmacology* 58, 852-858.
4. Foster, P.M.D., E. Mylchreest, K.W. Gaido, and M. Sar. (2001) Effects of Phthalate Esters on the Developing Reproductive Tract of Male Rats. *Human Reproductive Update* 7: 231-235.
5. Tamura, H., Maness, S.C., Reischmann, K., Dorman, D.C., Gray, L.E., and Gaido, K.W. (2001). Androgen receptor antagonism by the organophosphate insecticide fenitrothion. *Tox. Sci.* 60:56-62.
6. Shultz, V.D., Phillips, S., Sar, M., Foster, P.M.D., Gaido, K.W. (2001) Altered gene profiles in fetal rat testes exposed in utero to di (n-butyl) phthalate *Tox. Sci.* 64:233-242..
7. You, L., Casanova, M., Bartolucci, E.J., Fryczynski, M.W., Dorman, D.C., Everitt, J.I., Gaido, K.W., Ross, S.M., d'A. Heck, H. (2002) Combined effects of the dietary phytoestrogen and synthetic endocrine-active compound on reproductive development in Sprague-Dawley rats: genistein and methoxychlor. *Tox. Sci.* 66:91-104.
8. Turner, K.J., Barlow, N.J., Struve, M.F., Wallace, D.G., Gaido, K.W., Dorman, D.C. and Foster, P.M.D. (2002) Effects of In Utero Exposure to the Organophosphate Insecticide Fenitrothion on Androgen Dependent Reproductive Development in the Crl:CD(SD)BR Rat. *Toxicol. Sci.* 68, 174-183.
9. Tamura, H., Yoshikawa, H., Gaido, K.W., Ross, S.M., DeLisle, R.K., Welsh, W.J., and Richard, A.M. (2002) Interaction of Organophosphate Pesticides and Related Compounds with the Androgen Receptor. *Environmental Health Perspectives* 111, 545-552.
10. Safe, S.H., Pallaroni, L., Yoon, K., Gaido, K., Ross, S., and McDonnell, D. (2002) Problems for risk assessment of endocrine-active estrogenic compounds. *Environmental Health Perspectives* 110, 925-929.
11. Barlow, N.J., Phillips, S.L., Wallace, D.G., Sar, M., Gaido, K.W., and Foster, P.M.D. (2003). Quantitative Changes in Gene Expression in Fetal Rat Testes Following Exposure to Di(n-butyl) Phthalate. *Toxicol. Sci.* 73, 431-441.
12. Tamura, H., Yoshikawa, H., Gaido, K. W., Ross, S. M., DeLisle, R. K., Welsh, W. J., and Richard, A. M. (2003). Interaction of organophosphate pesticides and related compounds with the androgen receptor. *Environ Health Perspect* 111, 545-52.
13. Thompson, C. J., Ross, S. M., and Gaido, K. W. (2004). Di(n-butyl) phthalate impairs cholesterol transport and steroidogenesis in the fetal rat testis through a rapid and reversible mechanism. *Endocrinology* 145, 1227-1237.

14. Lehmann, K. P., Phillips, S., Sar, M., Foster, P. M., and Gaido, K. W. (2004). Dose-Dependent Alterations in Gene Expression and Testosterone Synthesis in the Fetal Testes of Male Rats Exposed to Di (n-Butyl) Phthalate. *Toxicological Sciences* 81, 60-68.
15. Andersen, M.E., Thomas, R.S., Gaido, K.W., Conolly, R.B. (2005) Dose-response modeling in reproductive toxicology in the systems biology era. *Reprod Toxicol* 19:327-37
16. Liu K, Lehmann KP, Sar M, Young SS, Gaido KW. (2005) Gene Expression Profiling Following In Utero Exposure to Phthalate Esters Reveals New Gene Targets in the Etiology of Testicular Dysgenesis. *Biol Reprod* 73:1, 180-192.
17. Wyde ME, Kirwan SE, Zhang F, Laughter A, Hoffman HB, Bartolucci-Page E, Gaido KW, Yan B, You L. (2005) Di-n-Butyl Phthalate Activates Constitutive Androstane Receptor and Pregnane X Receptor and Enhances the Expression of Steroid-Metabolizing Enzymes in the Liver of Rat Fetuses. *Toxicol Sci* 86:281-90
18. Kleymenova, E., Swanson, C., Boekelheide, K., and Gaido, K.W. (2005). Exposure in utero to di(n-butyl)phthalate Alters the Vimentin Cytoskeleton of Fetal Rat Sertoli Cells and Disrupts Sertoli Cell-gonocyte Contact. *Biol Reprod* 73: 482 - 490.
19. Bowman, C.J., Turner, K.J., Sar, M., Barlow, N.J., Gaido, K.W., and Paul M. D. Foster, P.M.D. (2005). Altered gene expression during rat Wolffian duct development following di(nbutyl) phthalate exposure. *Toxicol Sci* 86, 161-174.
20. Thompson, C. J., Ross, S. M., Hensley, J., Liu K, Heinze, S.C., and Gaido, K. W. (2005). Gene expression profiling reveals a rapid and dynamic response of the fetal testis to di(n-butyl)phthalate. *Biol Reprod* 73: 908 - 917.
21. D. Liu, K W. Gaido, and R. Wolfinger (2005) Analysis of variation of amplitudes in cell cycle gene expression (2005). *Theoretical Biology and Medical Modelling* 2:46.
22. Mu, X. Liu, K, Kleymenova, E., Sar, M., Young, S.S., and Gaido, K.W. (2006). Gene expression profiling of androgen receptor antagonists in the rat fetal testis reveals few common gene targets. *J Biochem and Mol Tox* 20: 7 - 17.
23. National Toxicology Program (2006) NTP-CERHR Expert panel update on the Reproductive and Developmental Toxicity of Di(2-ethylhexyl) Phthalate. *Reprod Toxicol* 22:3, 291-399.
24. Lahousse, S., Wallace, D., Liu, D., Gaido, K.W., Johnson, K. (2006). Testicular Gene Expression Profiling Following Pubertal Rat Mono-(2-ethylhexyl) Phthalate Exposure Suggests a Conserved Initial Genetic Response at Fetal and Pubertal Ages, *Toxicol Sci* 93:369-381
25. Gaido KW, Hensley JB, Liu D, Wallace DG, Borghoff S, Johnson KJ, Hall SJ, Boekelheide K. (2007). Fetal Mouse Phthalate Exposure Shows That Gonocyte Multinucleation is not Associated with Decreased Testicular Testosterone. *Toxicol Sci* 97:2 491-503.
26. Kuhl, A. J., Ross, S. M., and Gaido, K. W. (2007) Using a comparative in vivo DNase I footprinting technique to analyze changes in protein-DNA interactions following phthalate exposure *J Mol Biochem Toxicol* (In press).
27. Johnson, K.J., Hensley, J.B., Kelso, M.D., Wallace, D.G., Gaido, K.W. (2007). Mapping Gene Expression Changes in the Fetal Rat Testis Following Acute Dibutyl Phthalate Exposure Defines a Complex Temporal Cascade of Responding Cell Types. *Toxicol Sci* (In press).
28. Liu, D. and Gaido, K.W. (2007) Modeling non-specific binding of oligonucleotide probes on Affymetrix GeneChips. *Theoretical Biology and Medical Modelling* (in Press).
29. Kuhl, A.J., Ross, S.M., Gaido, K.W. (2007) C/ebp β , but not SF-1, modulates the phthalate-induced dysregulation of rat fetal testicular steroidogenesis. *Endocrinology* (In Press).

C. Research Support

ACTIVE

No number (Gaido) 01/01/2003 - 12/31/2008 15%
CIIT Centers for Health Research \$511,173
Assessing the Impact of Chemical Exposure on Reproductive Development

The overall objective of this multi-investigator program is to apply a multi-disciplinary approach to assess the impact of chemical exposure on reproductive development. This program primarily focuses on issues of dosimetry, dose-response, and timing and as well as alternative mechanisms and other endocrine active chemicals.

RO1 ES011803-02 (Gaido) 09/30/2003 - 06/30/2008 25%
NIH/NIEHS \$166,250
Mechanism of Phthalate Induced Testicular Toxicity

The objective of this proposal is to determine the mechanism by which phthalate esters down regulate testosterone production in the developing fetal rat testes.

1U01DK070230-01 (Gaido) 02/03/2005 - 01/31/2010 20%
NIH/NIDDK/NICHD \$330,145
Spatial Gene Dynamics in the Fetal Male Urogenital Tract

The objective of this proposal is to establish a genome-wide, cell type-specific, computer-based searchable map of gene expression associated with critical periods of development of the normal fetal testis.

R21 (Boekelheide) 04/01/2005 - 03/31/2008 5%
NIH/NIEHS \$41,789 (sub only)
Phthalate-Induced Murine Testicular dysgenesis and P53

The objective of this proposal is to develop a mouse model of DBP-induced testicular carcinogenesis unmasked in p53-deficient mice.

"Development of a Risk Assessment for Dibutylphthalate"
Principal Investigators: Harvey Clewell, Mel Andersen
Agency: CIIT Core funding
Type: program project period 01/06 – 12/08.

"Toxicogenomics in Risk Assessment"
Principal Investigator: Susan Euling
Agency: EPA, period 04/01/2005 - 03/31/2008

COMPLETED

NIH RGA ES-01-006 (Gaido) 03/04/2003 - 02/28/2005
NIEHS R21
Genomic Approach to Phthalate Action on Fetal Tissue

RD 83076601 (Gaido) 01/01/2003 - 12/31/2005
EPA STAR Grant
Determinants of Fetal Male Rat Germ Cell Vulnerability to Phthalate Esters