

Chris Vulpe

EDUCATION

Institution	Degree	Year	Field of Study
Massachusetts Institute of Technology (MIT)	S.B.	1986	Biology
University of California, San Francisco (UCSF)	Ph.D.	1994	Biochemistry, Genetics
University of California, San Francisco	M.D.	1996	Medicine

PROFESSIONAL EXPERIENCE

Position	Institution	Year(s)
Researcher	MIT - Laboratory of Dr. David Raulet	1983 - 1987
Teaching Assistant	MIT - Microbiology Laboratory Course	1985 - 1986
Instructor	MIT - Undergraduate Microbiology Laboratory Course	1986 - 1987
Researcher	UCSF - Dr. Richard Myers	1987 - 1989
Graduate Student	UCSF - Dr. Seymour Packman & Dr. Jane Gitschier	1989 - 1994
Post-doctoral fellow	UCSF - Dr. Jane Gitschier	1996 - 1998
Assistant Professor	UC Berkeley, Nutritional Sciences & Toxicology	1998 - 2004
Associate Professor	UC Berkeley, Nutritional Sciences & Toxicology	2004 - 2012
Professor	UC Berkeley, Nutritional Sciences & Toxicology	2012-2014
Professor	UFL Gainesville, Physiological Sciences	2015-

SOCIETY MEMBERSHIPS

American Chemical Society
American Society for Cellular and Computational Toxicology
Environmental Mutagenesis and Genomics Society
Genetics Society of America
International Biolron society
Society for Biological Engineering
Society of Environmental Toxicology and Chemistry
Society of Toxicology
SouthEastern Chapter of SOT, SESOT, President, 2021

COMMITTEE SERVICE

NST Undergraduate Affairs Committee, 1999-2000, 2004-2010, UC Berkeley
Search Committee for Faculty Position, 2000-2001, 2003-2004, UC Berkeley
NST Long Range Planning and Space Committee, 1999-2004, UC Berkeley
NST Safety & Animal Experimentation Oversight Committee, 2002-08, UC Berkeley
NST Toxicology Program Ad Hoc Committee, 1999-2003, UC Berkeley
NST Molecular Toxicology Undergraduate Program Ad Hoc Committee, 2003-2011, UC Berkeley
NST Affirmative Action Committee, 2006-07, UC Berkeley
CNR Awards Committee, 2009, UC Berkeley
CNR Genomics Facility Committee, 2000-2003, UC Berkeley
DANR Genomics Workgroup Co-chair, 2000-2003, UC Berkeley
College Committee on Courses and Curriculum (CNR) 2005-06, UC Berkeley
Committee on Teaching, UCB Senate, 2006-2008, UC Berkeley
CNR ExCom 2008-2010, UC Berkeley
Committee on Student Affairs, UCB Senate, 2010-2014

IMSD (Initiative for Maximizing Student Development) /MARC (Minority Access to Research Careers), Advisory Committee - 2009- 2014, UC Berkeley
Committee on Demonstrations and Student Actions – 2012-2014, UC Berkeley
KL2 Advisory Committee, 2015-2017, UFL Gainesville
Research IT Governance Committee, 2015-present, UFL Gainesville
K Advisory Committee, 2015-2017, UFL Gainesville
CVM Tenure & Promotion Committee, 2016-2021, Chair 2018-19, 19-00, UFL Gainesville
CVM Faculty Council, 2016-2020, Chair, 19-00, UFL Gainesville
Aquatic Veterinary Pathologist Search Committee, 2016, UFL Gainesville
IDP chair Search Committee, 2016, UFL Gainesville
UF Faculty Senate, 2017-2019
Physiological Sciences Departmental Betterment Committee, 2017
AHC Research IT Steering Committee, 2018-2020
UFL Research IT Governance Committee, 2018-2021
Promotion and Tenure Revision, Committee, 2019-2021, Co-Chair
CVM Curriculum Review Committee, 2019-2021, Co-Chair
Student Welfare Committee, 2022-current
CEHT Director Search Committee, 2022-current, Chair

COLLEGE/DEPARTMENTAL SERVICE

- Director, CNR Genomics Facility, 2000-2003, UC Berkeley
- Faculty Sponsor for Toxicology Student Association - 2009-2014, UC Berkeley
- Development of a new MARC (Minority Access to Research Careers) course for under-represented undergraduate students entitled "Introduction to Research Methods in Biology" IB87
- Biology Scholars Program (BSP) and the CNR-BSP mentor - 2006-2014
- Environment Leadership Program mentor - 2009- 2013
- COINS summer internship mentor - 2009 -2013
- One of the founders of the new Berkeley Center for Green Chemistry (BCGC) within the Berkeley Institute of the Environment (<http://bcgc.berkeley.edu/>) which links public policy, toxicology and chemistry. I am currently the Associate Director of Toxicology for the BCGC. 2010-2014
- PI of NSF IGERT training grant – Systems Approach to Green Energy (IGERT) – 2011-2015
- Director of ICBR and UFL Cancer Center CRISPR facility, 2017-present
- CPET summer program, UFL Gainesville, 2015-present

REVIEWER FOR JOURNALS

ALTEX

American Journal of Clinical Nutrition

American Journal of Physiology - Cell Physiology

American Journal of Physiology - Regulatory, Integrative and Comparative Physiology, Biometals

Applied In Vitro Toxicology

Aquatic Toxicology

BBA- General Subject

Biometals

Blood

BMC Bioinformatics
BMC Genomics
BMC physiology
British Journal of Nutrition
Cell Biology and Toxicology
Cell Reports
Chemosphere
Clinical Gastroenterology and Hepatology
Clinical Genetics
Comparative Biochemistry and Physiology
CRC Press
DNA repair
Environmental Pollution
Environmental Science & Technology
Environmental Science and Pollution Research
Environmental Science and Technology
Environmental Toxicology and Chemistry
FEMS Yeast Research
Free Radical Research
Frontiers in Environmental Science, Toxicology and Health
Frontiers in Microbiology
Frontiers in Toxicogenomics (Member of Editorial Board 2012-present)
Gastroenterology
GENETICS
Genome Biology
Genome Research
Green Chemistry
Gut (Member of the Editorial Board 2002-2005)
Haematologica
Human Molecular Genetics
International Aquatic Research
International Journal of Molecular Sciences, Guest Editor for Focus Issue on Toxicogenomics
Journal of Biological Chemistry
Journal of Cellular Biochemistry
Journal of Molecular Ecology
Journal of Nutrition
Journal of Trace Elements in Medicine and Biology
Mammalian Genome
Medical Hypotheses
Metallomics

Metalloproteomics
Molecular Biology of the Cell
Molecular Ecology
Nanotoxicology
Nature Genetics
New Biotechnology
Open Biology
Pediatric Hematology and Oncology
Peer J (Editor, 2017-present)
Plant Cell
PLoS Genetics
PLOS Genetics
Proceedings of National Academy of Sciences
Redox Biology
Royal Society Open Science
Science of the Total Environment.
Scientific Reports (Editor, 2015-present)
Toxicological & Environmental Chemistry
Toxicological Sciences, (Associate Editor, 2019-present)
Toxicology and Applied Pharmacology
Toxicology Research

PUBLIC SERVICE

- Invited participant NIH workshop on Hallervorden-Spatz Syndrome, 2000-2001
- Member of the External Advisory Board for the University of Miami, NIEHS Marine and Freshwater Biomedical Sciences Center, 2004-2007
- Norcal SETAC Board Member, Membership Chair 2007-2010
- Technical qualifications board for advancement of an EPA senior scientist, 2008
- Invited Participant in Manufactured Nanoparticle Environmental Impacts and Behavior, Rice University, Mar 9-10, 2009
- Invited Participant - SETAC Pellston A Vision and Strategy for Predictive Ecotoxicology in the 21st Century: Defining Adverse Outcome Pathways Associated with Ecological Risk. Held in Forest Grove, Oregon, 19-23 April 2009.
- Wayne State Superfund Advisory Board - 2010-present
- Presented in SOT Continuing Education Course entitled Evaluating Toxicity of Engineered Nanomaterials: Issues with Conventional Toxicology Approaches at the SOT 2010 meeting at the request of the Course Organizer on the topic of "In vitro cellular approaches for assessment of nanotoxicity."
- Organized an international collaborative group of researchers working in the area of Daphnia Magna genomics to enable the effective sharing of genomic resources and utilization of common platforms for studies.
- Reviewer of high school educational materials for California school districts
- Volunteer in elementary school science education in Pacifica, Ca.

- Volunteer in Elementary and Middle School Education in Gainesville, FL.
- Taught science in K-7 for 18 years, including the developing lesson plans, teaching in class, and experimental laboratory programs

REVIEWER FOR GRANTING AGENCIES

Austrian Science Fund
 Children's Research Center of Michigan
 Division of Research Administration, National University of Singapore
 Environmental Protection Agency
 Georgian National Science Foundation
 Genome Canada
 Genome Quebec
 Human Frontiers Science Program
 France Berkeley Fund
 Medical Research Council, UK
 National Health and Medical Research Council, Australia
 National Institutes of Health - (adHoc member of Integrative Nutrition and Metabolic Processes Study Section (INMH), Metallobiochemistry (BMT), Endocrinology, Metabolism, Nutrition and Reproductive Sciences Integrated Review Group (*EMNRIRG*), Challenge Grants in Health and Science Research Recovery Act Limited Competition: Director's Opportunity for Research in Five Thematic Areas and Superfund P42 Review)
 Natural Sciences and Engineering Research Council of Canada
 Natural Environment Research Council of the UK
 National Science Foundation, SBIR/STTR, Environmental Engineering,
 The Netherlands Organisation for Scientific Research
 USDA National Research Initiative Competitive Program
 UC Systemwide Toxic Substances Research and Teaching Program
 UC Discovery Grant Program (an Industry-University Cooperative Research Program)
 Sultan Qaboos University Research Program, Oman
 Swiss National Science Foundation
 Thalys Research Program, Greek Science Program

COURSES TAUGHT

UC Berkeley
 Chem 234 – Interdisciplinary Course in Green Chemistry – 2013
 Chem 298 -Toxicology Basics for Green Molecular Design -2012
 ENV SCI 196L - Senior Research Laboratory Environmental Science - 2007-2008
 IB87 Introduction to Research Methods in Biology -2011-
 IB199 - Supervised Independent Study -2010- 2011
 IB 298 Special Study - 2006
 NS170 - Experimental Nutrition Laboratory – 2001,2013
 NST10 – Introduction to Human Nutrition -2013,2014
 NST 11 - Introduction to Toxicology - 2011
 NST 120 / NST220 - Molecular Toxicology- 2002-2011
 NST 171 - Experimental Toxicology - 2000, 2005
 NST 197 - Field Study - 2003 - 2004, 2009
 NST 198 / PH 290 Developmental Toxicology - 2000
 NST 199 - Supervised Independent Study - 2000, 2001, 2003 - 2011
 NST 290 - Seminar in Nutrition and Toxicology -2001, 2003, 2005, 2006, 2010-2011

NST 292 - Graduate Research Colloquium –2001
 NST 293 - Research Seminar -1999, 2001
 NST 296L - Research Review 2006 -2010
 NST 299 - NST Research, 2000-2011
 NST H196 - Honors Research - 2002, 2003, 2008-2010,2011-2013
 UGIS 192C - Research Biology Sciences - 2006-2013

UFL Gainesville

Animal Systems I, II, III, CVM, Coordinator 2016-present

PhD STUDENTS

98 – 04 Angela Armendariz - Genomic Analysis of Copper Overload in Mammalian Cells
 99 – 04 Jeung Hyoun Kim - Genomic studies of Copper and Iron metabolism in yeast
 01 - 06 Helen Poynton - Development and Validation of Daphnia DNA MicroArray
 02 – 06 Seung-Min Lee – Regulation of hephaestin localization
 04 –07 William Jo – Arsenic functional profiling
 10-12 Sean O'Connor - Benzopyrene mode of action
 09-12 Brie Fuqua - Hephaestin tissue specific knockouts
 07-12 Leona Scanlan - *Daphnia Magna* Molecular Toxicity Identification
 08-13 Brandon Gaytan - Mode of action of Pesticides
 09-14 Vanessa De La Rosa - TCE mode of Action
 13- 18 Marianna Augustine – Fish comparative genomics
 13- 18 Amin Sobh – Functional approaches to understand cellular iron metabolism
 13- 18 David Faulkner – Integrated approaches to chemical hazard assessment
 15- 20 Rola Zeidan – Mitochondrial toxicity in yeast
 15- 20 Faith Lambert –Ecotox effects of sunscreens
 16-21 Dani Ivey – Cadmium/Zinc interactions in daphnia toxicity
 16- 20 Jie Zhou – Mechanisms of Hairloss in iron deficient mice
 21-present Christian Maugee – Mechanisms of FRDA cellular toxicity

POST DOCTORAL FELLOWS

98 - 00 Said Talbi - Microarray analysis of iron metabolism
 99 - 01 Zouhair Attieh - Ferroxidase activity of Hephaestin
 99 - 02 ,06 Jeane DeFreitas - Microarray analysis of copper / iron metabolism in yeast
 Yeast as a model system for amyotrophic lateral sclerosis
 00 - 03 Jiri Petrak - Intestinal enterocytes proteomics in mouse model of hemochromatosis
 05-06 Basharut Syed – Zyklopen multi-copper ferroxidase
 07-10 Stela Masle – Genetics of iron metabolism
 07-11 Matt North – Mechanism of action of benzene metabolites
 07-08 Seonock Woo – Ecotoxicogenomics
 08 –09 William Jo – Mechanism of action of arsenicals
 11-13 Kathryn Page – Genetics of iron metabolism
 14-17 Brie Fuqua – Genetics of iron metabolism
 16-20 Devrah Arndt – Silver Nanowire toxicity

SCIENTISTS

99 - 07 Henri Wintz - Genomic approaches to metal metabolism in Arabidopsis

2001 Tama Fox – Arabidopsis metal metabolism
00-present Alex Loguniov – Computational methods for expression analysis
99 - 08 Huijun Chen - Regulation of hephaestin by copper and iron
09-present Mani Tagmount – Nanotoxicology, High Content Screening, Functional toxicology, CRISPR

INVITED PRESENTATIONS

"Molecular Genetics Of Menkes Disease." Plenary session at the Annual Meeting of the Society for Metabolic Disorders, Asilomar, Ca. March 14-17, 1993

"Isolation of the Gene for Menkes Disease." UCSF Genetics program, Human Genetics Seminar series, October 5, 1993.

"Mutational Analysis in Menkes disease and the Mottled Mouse." Copper Connection: Parent and Professional Menkes Conference, Philadelphia, Penn. May 19-21, 1994

"Site-directed mutagenesis of *CCC2*, a copper-transporting ATPase in *S. cerevisiae*." 1997 ASBMB Fall Symposia, Copper and Zinc Receptors in Signaling, Trafficking and Disease, Lake Tahoe, Ca. October 24-27, 1997.

"A transmembrane-bound ceruloplasmin homologue is mutant in the *sla* mouse." 1998 FASEB Summer Symposia - Micronutrients: Trace Elements. Wilsonville, OR.

"Identification of a Novel Gene Implicated in Intestinal Iron Uptake and Its Defect in the *sla* Mouse." Plenary Session, Bioiron 99, World Congress on Iron Metabolism, May 26, 1999, Sorrento, Italy

"Peri-Nuclear Localization of Hephaestin Suggest Exocytic Intestinal Iron Export." 2nd International Meeting on Copper Homeostasis and its Disorders: Molecular and Cellular Aspects, Plenary session, Ravello - Italy, September 17-21, 1999.

"Perinuclear localization of hephaestin suggest exocytic intestinal iron export." UCLA Genetics Seminar Series, 6/7/00

"Biomarkers of Risk Associated with Copper Deficiency and Excess." Invited Speaker, 2nd International Meeting of Copper Metabolism, Santa Fe, NM, 4/16/01

"Hephaestin: a multicopper oxidase involved in intestinal iron uptake." Invited Lecture, Oregon Health Science University, 5/2/01

"Robust and resistant regression analysis to identify differentially expressed genes as applied to copper metabolism in yeast." Buck Institute, Marin, CA, 6/01/01

"Peri-nuclear location of hephaestin suggests exocytic iron transport." The FASEB Summer Conference on Micronutrients: Trace Elements, Montana, Invited Speaker, 6/3/01

"Hephaestin Protein Levels but not mRNA Levels are regulated by iron status." Symposium on Chemical Biology of Metal Sensors with Switching Functions, Kyoto University, Japan, plenary speaker, 6/8/01

"Analysis of gene expression in MAC1 D highlights interrelationship of copper and iron metabolism in yeast The Second International Workshop On Iron And Copper Homeostasis Pucón, Chile, 10-13 November, 2001.

"Expression Profiles in Cu, Zn and Fe Deficiency. Tools to Improve Nutritional Value of Plants." Torrey Mesa Research Institute, La Jolla, CA, 4/16/02

"Two Arabidopsis COX17 Homologues Are Oppositely Regulated In Response To Copper." Oral Communication at Biometals 2002, focused meeting of the Biochemical Society, London UK. April 11-14, 2002

"Comparative Analysis Of Arabidopsis Gene Expression Profiles In Response To Copper, Zinc And Iron Deficiencies." Oral Communication at Biometals 2002, focused meeting of the Biochemical Society, London UK, April 11-14, 2002.

"Hephaestin and Ireg1 mRNA and protein are regulated by iron status in mouse duodenal enterocytes." Podium presentation at the 11th meeting of the international organization *Trace Elements in Man and Animals (TEMA)*, Berkeley, California, June 2-6, 2002.

"Distinct Mechanisms Of Regulation Of Apical And Basolateral Intestinal Iron Transport Revealed In Studies Of Genetic And Nutritional Iron Deficiency. " Podium Presentation At Isterh Conference September 7-12, 2002 In Quebec City. International Society For Trace Element Research In Humans.

"Analysis Of Gene Expression In *mac1* Highlights Interrelationship Of Copper And Iron Metabolism In Yeast." Plenary Presentation, 3rd International Meeting on Copper Homeostasis and Its Disorders: Molecular and Cellular Aspects, Ischia, Italy, October 4-8, 2002

"Hephaestin Forges the Link between Mammalian Copper and Iron Metabolism". UC Davis Nutrition Department, March 2004

"Expression and Functional Profiling to Identify Essential Components of Iron Metabolism in Yeast" April 20, 2004, UCSC Environmental Toxicology Department

"In Vivo Copper Deficiency Decreases Hephaestin Protein Levels And Activity." 5th International Meeting Of Copper And Interacting Metals In Biology, Alghero, Sardinia, Italy Oct 14-18, 2006.

"Ecotoxicogenomics: Mechanistic Insight To Develop Predictive Biomarkers Of Effect. "Society Of Environmental Toxicology And Chemistry North America Annual Meeting, Montreal, Quebec, Nov. 2006

" Identifying Human Susceptibility Loci To Superfund Toxicants Using *S. Cerevisiae* And Inbred Mice" SBRP "Superfund" Annual Conference Dec 11, 2006, San Diego, Ca.

"Between The Hammer And The Anvil: Genetic Variation In Iron Metabolism" March 9, 2007, UCSF Human Genetics Seminar, San Francisco, Ca.

"Hephaestin Forges The Link Between Mammalian Copper And Iron Metabolism" Feb 21,

2007– Children's Nutrition Research Center, Baylor University, Houston, TX.

“Zyklopen, A New Member Of The Multi-Copper Ferroxidase Family, Is Expressed In Multiple Tissues.” The Second Congress Of The International Bioiron Society. Kyoto, Japan. April 1-6, 2007.

“Hephaestin Forges The Link Between Mammalian Copper And Iron”. Metabolism ”Digestive Disease Center Seminar On May 14, 2007 At Stanford University, Palo Alto, Ca.

“OMICS ? Essential risk assessment tool or Rube Goldberg contraption?” At The Society Of Environmental Toxicology And Chemistry, Milwaukee, WI, November 2007.

“Between the Hammer and the Anvil: Genetic Variation in Iron Metabolism” Nutrition Seminar Series. UC Davis March 10th 2008.

“Functional profiling of toxicant susceptibility genes in yeast.” Beijing, China May 26, 2008 Tsinghua University.

“Recent advances in mammalian iron metabolism” July 25-28, Masai Mara, Kenya, 4th CPB Meeting In *Africa: Mara 2008*. Molecules to Migration: The Pressures of Life.

“OMICS - Essential risk assessment tool or Rube Goldberg contraption?”, 36th Aquatic Toxicity Workshop, September 27 - 30, 2009. La Malbaie, Cahrlevieux (Quebec).

“Functional profiling to identify metal toxicity pathways in yeast” Society of Toxicology 49th Annual Meeting, Mar 8-11th 2010 in “Minerals and Metals: Pros and Cons of Deliberate Exposure Workshop.

“Emerging 'Omic and Other Screens for Ecotoxicity Assessment.” California Green Chemistry Workshop - Indicators of Ecotoxicity Hazard and Exposure Potential. May 10 and 11, 2010, Berkeley, Ca

“Ecotoxicogenomics Approaches to Environmental Monitoring” June 4, 2010 Southern Coastal Water Research Project, Costa Mesa California,

“Functional profiling of copper and iron metabolism pathways in yeast”, 2010 FASEB Summer Research Conference entitled, “Trace Element Metabolism in Biology and Medicine” June 13-18, 2010 in Snowmass Village, Colorado.

“Molecular toxicity identification evaluation in *D.magna*, 37th Aquatic Toxicity Workshop, Oct 3-6, 2010, Toronto, Canada

“*Daphnia Magna* Ecotoxicogenomics Provides Insight Into Mode Of Action Of Chemical Contaminants”, North American Society of Environmental Toxicology and Chemistry Conference. Portland, OR. Nov. 7-11, 2010

“Molecular toxicity identification evaluation in *D.magna*,” North American Society of Environmental Toxicology and Chemistry Conference. Portland, OR. Nov. 7-11, 2010

“Integrated nanoparticle characterization and toxicity assessment of Nanowires.” NanoGo Consortium Meeting, NIEHS, March 4-5, 2011, Bethesda, Md.

"Yeast functional genomics reveal role for arsenicals in histone acetylation" Symposium for 2011 SOT Meeting entitled: "Epigenetics, Metals and Cancer" 50th Society of Toxicology Annual Meeting, Mar 7-10th 2011, Washington, D.C.

"Emergence of High Content Screening for Assessment of Nanotoxicity", Continuing Education symposium on Nanotoxicology at 2011 Society of Toxicology Meeting, Mar 7-10th 2011, Washington, D.C.

"Joining efforts to gain insights into IRON metabolism." Enhancing Graduate Research in the Biomedical Sciences in Lebanon: Role of National and International Collaborations, Beirut, Lebanon, May 30, 2011

"Evaluation of the potential environmental impact of nanowires" Cambrios Corporation, July 19, 2011

"Molecular approaches to toxicity identification with *Eohaustarius Estuarius*." San Francisco Estuary Institute, Oct 18, 2011

"Integrated nanoparticle characterization and toxicity assessment of Nanowires." NanoGO consortium meeting, December 8-9, 2011, in Duke University, Durham, NC

"Chemicals and Breast Cancer: Building on National Initiatives for Chemical Safety Screening." California Breast Cancer Research Program Symposium, Dec 11, 2011, Oakland, Ca.

"Functional Toxicogenomics: From yeast to people." University of Birmingham, Birmingham, UK., Mar 29, 2012

"Molecular toxicity identification evaluation in *D.magna*." Aquatic Toxicology Workshop, Sun Peaks, B.C. Oct 2, 2012

"From stream to sea: letting creatures speak for themselves about pollution." University of Southern California, Department of Biological Sciences, Seminar Series, Aug 3, 2013

"Identifying candidate susceptibility loci for reproductive toxicants using functional profiling in yeast." Superfund Annual Meeting, Oct 17, 2013

"A Functional Genomics and Network Approach to Identify Metal Toxicity Pathways." Toxicology and Risk Assessment Conference (TRAC) 2014, Cincinnati, OH, Apr 8, 2014

"Functional Profiling to Adverse Outcome Pathways." UCLA Molecular Toxicology Program Seminar Series, May 21, 2014

"Tangled up in Silver: Ag Nanowires in Human and Ecosystem Health" California Department of Public Health, May 28th, 2014, Richmond, Ca.

"Functional profiling to identify adverse outcome pathways in Eukaryotes", 2015 Gordon Research Conference (GRC) on Cellular and Molecular Mechanisms of Toxicity, Aug. 9 - 14, 2015

“Tangled up in Silver: Ag Nanowires in Human and Ecosystem Health”, 9/15/15
National Center for Nanoscience and Technology of China, Beijing, China

“Redundant Links in the Iron Chain Forged by Multiple Mammalian Ferroxidases”, 9/17/15,
Dept. of Food & Nutrition, Yonsei University, Seoul, Korea

“Functional profiling in yeast reveals genotoxicity mechanisms of Trichloroethylene”,
SFTC/NERC workshop, Developing Integrated Multi-level models of the Environment, Liverpool,
England, 3/7/16

“Genome wide CRISPR applications in Toxicology”, Invited Speaker, Environmental
Mutagenesis and Genomics Society, 48th Annual Meeting, Raleigh, North Carolina, September
10, 2017

“**The Skinny on Gene Editing: Where Genomic Technologies Meet Environmental Health**”
April 24, 2017 – Continuing education webinar, Collaborative on Health and the Environment &
BU Superfund Research Program, Boston University School of Public Health

“Genome wide CRISPR applications in Toxicology”, Invited Speaker, Environmental
Mutagenesis and Genomics Society, 48th Annual Meeting, Raleigh, North Carolina, September
10, 2017

“Genome wide CRISPR approaches to identify functional components involved in cellular
toxicant response”, Invited Seminar Speaker, National Institute of Environmental Health
Sciences, Raleigh, NC, April 9, 2018,

“Genome Wide and Targeted CRISPR Functional Approaches in Toxicology”. Invited speaker
in session entitled “Novel Genetic-based Tools for Toxicity Screening, Precision Medicine, and
Mode of Action Analysis.” ASPET Annual Meeting at Experimental Biology 2018, San Diego,
CA, April 24, 2018

“Genome wide and druggable genome CRISPR to identify synthetic interactions in cancer”. I
Invited talk. UFHCC Topics in Cancer Seminar Series, UF Cancer Center, Gainesville, FL, June
8, 2018

“Genome Wide CRISPR approaches to identify cellular toxicity mechanisms.” The University of
Georgia Toxicology Annual Spring Retreat, Invited Keynote Speaker, March 2-3, 2019.
Athens, Ga.

“Genome-wide CRISPR screening to identify modulators of formaldehyde toxicity in erythroid
cells.” Invited platform speaker, ACS 2019 National Meeting & Exposition in San Diego, CA
August 25 – 29, 2019

“Genome-wide CRISPR screening to identify modulators of formaldehyde toxicity in erythroid
cells”. Invited platform speaker, EMGS 2019 National Meeting, Washington, D.C., Sept 19-23,
2019.

“Use of CRISPR/Cas9-Based Genome-Wide Screens in Toxicology from a User’s Perspective”, SOT
2020, Virtual, March 15-19

“Identification of Sars-CoV-2 host factors using genome wide CRISPR screens”. Oregon State University, July 8, 2021.

“Genome Wide CRISPR approaches to identify cellular toxicity mechanisms.” University of Minnesota, April 22, 2022

GRANTS FUNDED

Title of Project	Agency	Direct Costs & Duration
Study of an Inherited Cause of Iron Deficiency Anemia in the Mouse	March of Dimes Birth Defect Foundation, Basil O'Connor Grant	ADC\$90,910 2/1/99-1/31/01
Iron and Copper in Health and Disease	NIH, K08 DK02823	ADC\$221,340 5/15/99-2/28/02
Hephaestin: A Copper Protein Involved in Iron Metabolism	NIH, R01 DK56376	TDC\$520,418 7/1/99-6/30/02
Metabolic Genomics: A Novel Technology to Assess Nutrient Status	USDA 00450-35200-2778	ADC\$153,000 7/1/99-6/30/01
Metabolic Genomics: A Novel Technology to Assess Nutrient Status	Charles E. Culpepper Biomedical Pilot Initiative	TDC\$25,000 7/1/99-6/30/00
Biomarkers of Risk Associated with Copper Deficiency and Excess	International Copper Association 012653-003	TDC\$155,467 6/15/00-6/14/01
Biomarkers of Risk Associated with Copper Deficiency and Excess	UC Life Science Informatics Program L98-33	ADC\$141,333 6/15/00-6/14/01
Pharmacogenetics of Membrane Transporters	NIH/UCSF U01 GM61390 (Giacomini)	ADC\$151,183 04/01/00-03/31/03
Molecular Approaches to Basolateral GI Iron Transport (co-PIs Anderson and McKie)	NIH R01 DK57800	TDC\$750,000 05/01/00-05/31/03 (split three ways)
Monitoring the Metabolic Responses of Plants to Metals using cDNA Microarrays	UC Hellman Family Fund	TDC\$30,000 6/2000-6/2001
Monitoring the Metabolic Responses of Plants to Metals using cDNA Microarrays	UC COR Faculty Research Grant	TDC\$6,000 6/2000-6/2001
Genomics Approaches in Yeast to Understanding the Cellular Pathophysiology of Familial ALS	ALS Association 013509	TDC\$96,000 2/01/01-1/31/04
Molecular Control of Intestinal Iron Transport: Identification and Characterization of New Molecules	Human Frontier Science Program 20010272	ADC\$250,000 04/01/01-03/31/04
Copper's Relation to Epilepsy	Mary Elizabeth Rennie Endowment Epilepsy Fund	TDC\$5,000 7/1/01-6/30/03
Development of Robust and Resistant Regression Analysis for Identification of Differentially Expressed Genes in Ceriodaphnia (Water Flea) Exposed to Environmental Toxins	UC BioSTAR/ Life Sciences Informatics Program / Terragenomics Biostar01-10093 / Isit01-100983	TDC\$180,000 05/17/02-05/16/04
Hephaestin: A Copper Protein Involved in Iron Metabolism (Renewal)	NIH, R01 DK56376	TDC \$820,035 5/1/03-4/30/07

Microarray analysis to identify genetic biomarkers of susceptibility to toxics in the model green alga <i>Chlamydomonas reinhardtii</i>	UC Toxics Program Co-PI (PI: S Merchant)	ADC \$50,000 9/1/03-8/31/05
Development of Biosensors for Ordnance Related Compounds Based on Signature Gene Expression in <i>Daphnia Magna</i>	US Army Corps of Engineers	TDC \$120,507 2/22/05-2/22/06
Genetic Modifiers of Hemochromatosis Phenotype	NIH (U. Melbourne subaward, co-PI w/Gertig)	TDC \$300,000 3/1/04-2/28/07
“Characterization of a Family of Putative Mammalian Heme Chaperones”	RoFAR	TDC \$200,000 1/1/05-12/31/06
“Development of the <i>Daphnia</i> DNA Microarray: A Genomic Approach to Water Quality Assessment”	NSF-CBET 0504603	TDC \$640,310 6/1/05-5/31/09
Ecotoxicogenomics of Ordnance Related Compounds	Army Corp of Engineers W912HZ-05-C-0019	TDC \$197,368 8/31/07-3/31/09
Iron Status: A pathway analysis in multiple ethnicities	NIH (sub-contract) 1RO1 HL083328 (McLaren)	TDC \$650,000 4/01/06-8/13/11
Toxic substances in the Environment: Project 2	NIEHS Superfund 2 P42 ES004705 (Smith)	TDC \$625,000 6/19/06-6/18/11
Integrated Nanoparticle Characterization and Toxicity Assessment	NIH-NIEHS RC2ES18812	TDC \$521,968, 10/01/09 – 9/31/11
<i>Eohaustorius estuarius</i> transcriptome sequencing and microarray development for molecular TIE	Southern California Coastal Research Water Program	TDC \$27,674, 0/01/09 – 9/30/10
Demonstration of the Effectiveness of a Gene Microarray as a Rapid Water Quality Indicator in Wetlands	Southern California Coastal Research Water Program	TDC \$16, 240 09/01/09-6/30/10
Supplement to NSEC: Center Of Integrated Nano-mechanical Systems (COINS)	NSF 0425914(Zetl)	TDC \$280,056 10/01/09 –9/30/10
Supplement to NSEC: Center Of Integrated Nano-mechanical Systems (COINS)	NSF 0425914(Zetl)	TDC \$187,689 10/01/11 - 09/30/13
Gonadal Gene expression to characterize response of longjaw mudsucker to Contaminated environments	California Sea Grant 006735	TDC \$34,800 9/1/10 - 8/31/11
Development of sediment molecular TIE tool for <i>Eohaustorius Estuarius</i>	California Sea Grant NA08OAR4170669	TDC \$6500 8/10/09-12/31/09
Molecular tools for toxicity identification and evaluation in environmental water samples	NSF - CBET 1066358	TDC \$229,464 03/01/11-2/28/15
ToxCast & Tox21 to screen for carcinogens in mammary systems	California Breast Cancer Research Program	TDC \$898, 614 8/1/11-7/31/2014
Toxic substances in the Environment: Project 2	NIEHS Superfund 2 P42 ES004705 (Smith)	TDC \$425,000 6/19/11-6/20/16

An integrated molecular approach to understand variation in iron metabolism.	NIGMS/ODS	ADC \$437,000 06/01/12-05/31/16
IGERT -Systems Approach to Green Energy	NSF-1144885	ADC \$532,287 07/01/12-06/31/17
3D Human Breast Cell Co-culture Model for carcinogen screening	Avon Foundation 009451	ADC \$150,000 10/1/13-9/31/15
Investigating biogeochemical controls on metal mixture toxicity using stable isotopes, passive samplers, and genomic bioassays	NIEHS -R01ES024358 (Ranville)	ADC \$38,000 9/1/14-8/31/18
Functional Profiling to Identify Mitochondria-cell Signaling Networks	NIEHS-R21	TDC\$275,000 04/1/15-3/31/18
Human mammary organotypic cultures for chemical screening	California Breast Cancer Research Program (Yaswen)	TDC\$200,000 03/1/15 -3/1/18
NanoWIR2ES: NanoWire intelligent re-design and recycling for environmental safety	Consumer Protection Safety Commission (CPSC)	TDC,335,454 9/13/16-8/15/20
Functional screening to identify mediators of dopaminergic neuronal toxicity by pesticides.	UF foundation	TDC \$90,000 06/01/16-05/31/18,
Environmental and Genetic Determinants of Transitional Cell Carcinoma of the Urinary Tract in Scottish Terriers.	UF Foundation – Olives Way (Lejeune)	TDC \$45,000
Improved in vitro metabolism in HepG2 cells using CRISPRa Technology.	Center for Alternatives to Animal Testing: Johns Hopkins University	TDC 25,000 02/1/2017 – 1/31/2019
ToxCrispr: functional identification of toxicity mechanisms in EPA relevant chemicals.	EPA	TDC \$ 125,000 07/01/2017- 3/31/2018
Heat and Pesticide Stress in the kidney.	NIOSH (Morris, PI of Center; Vulpe, PI of project)	TDC \$460,000 9/30/18-9/29/20
Druggable targets required for in vivo TNBC proliferation.	UF Cancer Center	TDC \$50,000 09/01/2017- 08/31/2018
Development of HITI CRISPR gene therapy for dilated cardiomyopathy in a canine model	Sarepta Pharmaceuticals	TDC \$508,000 9/1/2020- 8/31/2022
Development of urinary biomarkers of occupational stress in agricultural workers	NIOSH (Morris, PI of Center; Vulpe, PI of project)	TDC \$1,791,000 09/30/2022 – 09/29/2027
CRISPR screens of population relevant genes governing toxicant resilience	NIEHS	TDC \$2,539,000 2/20222-11/2026
A CRISPR/Cas9 homology-independent targeted insertion (HITI) strategy to advance gene therapy in canine iPSC-derived cardiomyocytes	Morris Animal Foundation (Martyniuk, PI)	TDC \$80,316 1/1/21-12/31/23

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