*CURRICULUM VITAE*

**Name:** Lori A. White

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**EDUCATION:**

1988, B.A. Biology, University of Maine, Orono, ME
1990, M.S. Zoology, University of Maine, Orono, ME
1996, Ph.D. Biochemistry, Dartmouth Medical School, Hanover, NH

**ACADEMIC APPOINTMENTS:**

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|---|---|
| 1996-2000 | Postdoctoral Fellow, Department of Pathology, University of WI |
| 4/00-9/00 | Assistant Scientist, Department of Pharmacology, University of WI |
| 9/00-4/08 | Assistant Professor, Department of Biochemistry and Microbiology, Rutgers, The State University of NJ |
| 4/08-present | Associate Professor, Department of Biochemistry and Microbiology, Rutgers, The State University of NJ |

**TEACHING EXPERIENCE:**

1. Environmental Toxicology, 1996, 1997, University of Wisconsin, Department of Pharmacology. Lecturer for 3 classes.
2. Biochemical Communications, 2001-present, Rutgers University, Department of Biochemistry and Microbiology.
3. Perspectives in Agriculture and the Environment, 2001-2003, 2005 Rutgers University
4. Biochemical Mechanisms of Toxicology, 2001- present Rutgers University, Department of Biochemistry and Microbiology
5. General Toxicology (Graduate Level Toxicology Course), 2001-2012
6. Molecular Toxicology Laboratory, 2002- present, Rutgers University, Department of Biochemistry and Microbiology. Developed course and course materials.
7. Molecular Techniques in Toxicology, 2002-2015, Rutgers University and Graduate Level Toxicology Course. Participated in course development.
8. Biochemistry of Cancer, 2005-present, Rutgers, University, Department of Biochemistry and Microbiology. Developed course and course materials.
9. Introduction to Biochemistry, 2007-2010, Rutgers University, Department of Biochemistry and Microbiology

10. General Biochemistry, 2013-2014, Rutgers University, Department of Biochemistry and Microbiology

Student Training:

Member of the Graduate Faculty in Molecular Biosciences, Rutgers University 2001-present.

Member of the Graduate Faculty in the Joint Graduate Program in Toxicology, Rutgers University, 2000- present.

*Graduate Students*:

Ph.D.

Jedd Hillegass, JGPT (2002-8/07)
Caren Villano, JGPT (2003-8/07)
Kyle Murphy, Molecular Biosciences (2002-10/07)
Jessica McCormick, Molecular Biosciences (2006-2012)
Tiffany Kung, JGPT (2007-2015)
Britany Faye, JGPT (current)

M.S.

Ana Cardoso, Environmental Sciences, (2001-2003) (M.S.)

*Member of Thesis Committee:*

Ana Cardoso, Environmental Sciences (M.S. 2003)
Usha Sivaprasad, Nutritional Sciences (Ph.D. 2003)
Shaoming Huang, Entomology (Ph.D. 2006)
HeyRheon An, Environmental Sciences (2009)
Craig Harvey, Joint Graduate Program in Toxicology (2010)
Jason Magby, Joint Graduate Program in Toxicology (2013)
Sean Bugel, Environmental Science (2013)
Josie Bonventre, Joint Graduate Program in Biochemistry (2014)
Carrie Greenfield, Environmental Science (2016)
Allison Isola, Joint Graduate Program in Toxicology (current)
Brian Estrella, Joint Graduate Program in Toxicology (current)

*Member of Qualifying Examination Committees:*

Ana Cardoso, Environmental Sciences (2001)
Kelly Hogan, JGPT (2001)
Shaoming Huang, Entomology (2001)
Lisa Domico, JGPT (2003)
Kyle Murphy (2004)
Marianne Baricevic, Molecular Biosciences (2004)
Marisol Gutierrez, JGPT (2004)
Jedd Hillegass, JGPT (2004)
Caren Villano, JGPT (2005)
Joel Cooper, JGPT (2005)
HeyRheon An, Environmental Sciences (2005)

Ming-Wei Chao, JGPT (2007)
Jessica McCormack (2012)
Sean Bugel (2012)
Josie Bonventre (2013)
Tiffany Kung (2015)
Alison Issola (2015)
Brian Estrella (2015)

*Undergraduate Research Training:*

G.H. Cook Scholars Program, Rutgers, Project Advisor for Elizabeth Myers 2003-2004.
G.H. Cook Scholars Program, Rutgers, Project Advisor for Sharon Seelman, 2004-2005.
G.H. Cook Scholars Program, Rutgers, Project Advisor for Victoria Prince, 2004-2005.
G.H. Cook Scholars Program, Rutgers, Co-Advisor for Nishit Shah, 2004-2005.
G.H. Cook Scholars Program, Rutgers, Co-Advisor for Brandy Houser, 2004-2005.
Mabel Smith Douglass Honors Program, Rutgers, Advisor, Adenrele Akintobi, 2003-2005.
G.H. Cook Scholars Program, Rutgers, Project Advisor for Daniel Kagan, 2005-2006.
G.H. Cook Scholars Program, Rutgers, Project Advisor for Brett Elo, 2005-2006.
G.H. Cook Scholars Program, Rutgers, Co-Advisor for Melissa Weidner, 2005-2006.
Mabel Smith Douglass Honors Program, Rutgers, Advisor, Victoria LaPrete 2005-2006.
G.H. Cook Scholars Program, Rutgers, Project Advisor for Amy DeMicco 2008-2009.
G.H. Cook Scholars Program, Rutgers, Project Advisor for Laura Romano 2013-2015.

*Over 30 undergraduates supported 2000- present.*

Faculty sponsor for Rutgers University Cooperative Education students.

Advisor for the Comic Book Club (2003-2004)
Advisor for the Biochemistry Club (2004-present)

**PROFESSIONAL ACTIVITIES:**

Member, Society of Toxicology
Member, The American Society for Biochemistry and Molecular Biology
Gordon Conference attendee, Mechanisms of Toxicology (2000, 2006)
Member, Harbor consortium (2003-present)
Gordon Conference attendee, Matrix Metalloproteinases (2005)

Invited Speaker to the international meeting on the Ah-Receptor (Sept. 2005)
Gordon Conference chairperson, Mechanisms of Toxicology (2008)
Invited Speaker to the 1st Congress of Dermatoxicology (Oct. 2008)

National Institutes of Health Review Panels:
NIAMS Center of Research Translation (CORT) March 13-14, 2006
NIAMS Center of Research Translation (CORT) May 23-24, 2007

NIGMS Minority Biomedical Research (MBRS) program October 5-6, 2006
NIGMS Minority Biomedical Research (MBRS) program July 12-13, 2007

NIH, Deepwater Horizon (DWH) Disaster Research Consortia (U19) April 6-8, 2011

National Institute of Health, R15 Proposal Review 2015, 2016

Veterans Administration Panel on Agent Orange
The Committee to Review the Health Effects of Vietnam Veterans from Exposure to Herbicides (Ninth Biennial Update) July, 2013 to present.

**GRANTS RECEIVED:**

Previously Held Grants

1993 Predoctoral Fellow of the American Heart Association, NH Chapter.

12/94-11/95 Trainee on the NIAID Institutional Training Grant, "Immunology of Myeloid and Lymphoid Cells," Dartmouth Medical School (T32 AIO7363).

1996 Postdoctoral Fellow on the NRSA Training Grant, "Environmental Toxicology", University of WI.

1997-1999 National Research Service Award (NRSA) 1 F32 ES 05799-01 ZRG

1/01-12/01 Martin Schneider Memorial Melanoma Research Award, Effect of Environmental Factors on Melanoma Invasion and Metastasis, Melanoma Research Foundation, $20,000 (P.I.)

5/99-4/03 National Institute of Environmental Health Sciences (NIEHS)1 K22 ES 00334-01 ZES1, Role of The AhR/Arnt Signaling Pathway in Matrix Remodeling, $300,000 (P.I.)

6/01 – 5/01 Exploratory Research Grant, Center for Environmental Health Sciences, Environmental and Occupational Health Sciences Institute, Effect of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin on EMMPIRN Expression in Skin, $15,000 (P.I.)

7/01-6/02 Busch Biomedical Research Grant, Effect of TCDD on EMMPRIN Expression and Function in Stratified Squamous Epithelia $20,000 (P.I.)

6/04-5/05 Exploratory Research Grant, Center for Environmental Health Sciences, Environmental and Occupational Health Sciences Institute, Matrix Metalloproteinases as Biomarkers for Environmental Exposure in Japanese Medaka $20,000 (P.I.)

4/04-3/08 National Institute of Environmental Health Sciences (NIEHS) Role of AhR/Arnt Signaling Pathway in Carcinogenesis $905, 863 (P.I.) (30%)

6/05-5/07 Development of Zebrafish (*Danio rerio*) as a model system to screen for botanical compounds that alter glucose metabolism. The NIH Botanical Research Center, 9/1/05-8/30/10, $100,000 direct costs. (P.I.) (10%)

8/06-7/08 Design and Evaluation of Advanced Electrostatic Sampler for Total Bioaerosols, National Institute of Occupational Safety and Health (NIOSH), $376,111 direct costs,. Co-PI with G. Mainelis (P.I.), and P. Lioy. (10%)

4/07-3/08 Effect of development pesticide exposure on the dopamine transporter expression and behavior in the zebrafish (*Danio rerio*). NIEHS Environmental Health Sciences Center Exploratory Research Grant Program, $30,000 direct costs (P.I.) (10%)

6/07-5/09 Interactive effects of hypoxia and endocrine disrupting chemicals. Dissolved Oxygen Benefit Fund. 191, 000 direct costs (Co-PI) with A. McElroy (P.I. -Stony Brook) and K. Cooper (Co-PI).

Pending:

National Institute of Environmental Health Sciences (NIEHS) Role of AhR/Arnt Signaling Pathway in Carcinogenesis $905, 863 (P.I.) (30%) (renewal)

National Institute of Environmental Health Sciences (NIEHS) Modeling Developmental Neurotoxicity of Pesticides in Zebrafish $1,250,000 (P.I.) (30%)

**INVITED SEMINARS AND SYMPOSIA**

Invited Speaker, Temple University, Biology Department, December, 2009.
Invited Speaker, 49th Annual Teratology Meeting in Puerto Rico, July 2009.
Invited Speaker, Mt. Desert Isle Experiment Station, April, 2009

Invited Speaker, 1st Congress of Dermatoxicolgy, The Vaals, Netherlands, October 28, 2008.
Invited Speaker, Department of Biochemistry, Seton Hall University, November, 7 2006.
Invited Speaker, Biochemistry and function of the Aryl hydrocarbon receptor and related PAS-bHLH proteins, September 29-30, 2005 Dusseldorf, Germany.
Invited Speaker, BioRad Cell Biology Exhibitor Showcase, American Society for Cell and Molecular Biology Meeting, December 7, 2004, Washington, DC.
Invited Speaker, BioRad Real-Time PCR Symposium, October 11, 2004, New York, NY.
Invited Platform Speaker, Society of Toxicology Annual Meeting, March 24, 2004, Baltimore, MD.
Invited Platform Speaker, Society of Toxicology Annual Meeting, March 12, 2003, Salt Lake City, UT.
Invited Speaker, Melanoma Research Foundation Workshop, November 16, 2002, Williamsburg, VA.
Invited Speaker, Department of Nutritional Sciences, Rutgers, The State University of NJ, October 11, 2002, New Brunswick, NJ.
Invited Speaker, Environmental and Occupational Health Sciences Center, Core I, Piscataway, NJ.
Invited Speaker, Department of Biochemistry, University of New Hampshire, (November 2001) Durham, NH.

**PUBLICATIONS**:

Reviewed Papers

Murphy, K. A. , Kung, T., and **White, L.A.** The Aryl Hydrocarbon Receptor (AhR) and the Ras/Raf signaling pathways are required for AhR-induced expression of matrix metalloproteinase-1 in melanoma cells. (Submitted)

Kung, T, Cooper, K.R., Richardson, J.R. and **White L.A**. (2015) Developmental Deltamethrin Exposure Causes Persistent Changes in Dopaminergic Gene Expression, Neurochemistry, and Locomotor Activity in Zebrafish. Tox. Sci 146(2): 235-243.

Murphy, K. A. , Kung, T., and **White, L.A.** The Aryl Hydrocarbon Receptor (AhR) and the Ras/Raf signaling pathways are required for AhR-induced expression of matrix metalloproteinase-1 in melanoma cells. (Submitted)

Bonventre JA, Kung TS, **White LA**, Cooper KR. (2013) Manipulation of the HIF-Vegf pathway rescues methyl tert-butyl ether (MTBE)-induced vascular lesions. Toxicol Appl Pharmacol. 273(3):623-3

Bugel SM, **White LA**, Cooper KR.(2013) Inhibition of vitellogenin gene induction by 2,3,7,8-tetrachlorodibenzo-p-dioxin is mediated by aryl hydrocarbon receptor 2 (AHR2) in zebrafish (*Danio rerio*). Aquatic Tox 126:1-8

Bonventre JA, **White LA**, Cooper KR (2012) Craniofacial abnormalities and altered wnt and mmp mRNA expression in zebrafish embryos exposed to gasoline oxygenates ETBE and TAME.. Aquatic Tox 120-121: 45-53.

McElroy, A., Clarke, C., Cheng, B., Gondek, J, Fast, M., Cooper, K., and **White, L.** (2011) Interactions between hypoxia and sewage-derived contaminants on gene expression in fish embryos. Aquat. Toxicol. 108:60-9

Bonventre, J.A., **White, L.A.,** and Cooper, K. R. (2011) Methyl tert butyl ether targets developing vasculature in zebrafish (*Danio rerio*) embryos. Aquat. Toxicol. 105: 29-40.

Bugel, S.M., **White, L.A.** and Cooper, K. R. (2011) Decreased vitellogenin inducibility and 17β-estradiol levels correlated with reduced egg production in killifish. Aquat. Toxicol. 105: 1-12.

McCormick, J.M., Van Es, T, Cooper, K.R. **White, L.A.** and Häggblom, M.M. (2011) Microbially mediated O-methylation of bishphenol A results in metabolites with increased toxicity to the developing zebrafish (Danio rerio) embryo. Environ. Sci. Technol. 145:6567-74.

Bugel, S.M., **White, L.A.** and Cooper, K. R. (2010) Impaired and reproductive health of killifish (*Fundulus heteroclitus*) inhabiting Newark Bay, NJ, a chronically contaminated estuary Aquat. Toxicol. 96:182-93.

McCormick, J.M., Paiva, M., Häggblom, M.M., Cooper, K.R., and **White, L.A**. Embryonic Exposure to Tetrabromobisphenol A and its metabolites, Bisphenol A and Tetrabromobisphenol A dimethyl ether disrupts normal zebrafish (*Danio rerio*) development and matrix metalloproteinase expression. Aquat. Toxicol. 100:255-62.

DeMicco A, Cooper KR, Richardson JR, **White LA.** (2010) Developmental neurotoxicity of pyrethroid insecticides in zebrafish embryos. Toxicol Sci. 113(1):177-86

Hillegass, J., Villano, C.V. Cooper, K.R., and **White, L.A**. (2008 )Glucocorticoids alter craniofacial development and increase expression and activity of matrix metalloproteinases in developing zebrafish (*Danio rerio*) *Toxicological Sciences*, 102:413-24.

Han, J-F, He, X-Y, Herrington, J.S., **White, L.A.**, Zhang, J. and Hong, J-Y. (2008) Metabolism of 2-amino-1-methyl-6-phenylimidazo[4,5-*b*]pyridine (PhIP) by Human CYP1B1 Genetic Variants. (Accepted-*Drug Metabolism and Disposition)*

Hillegass, J., Villano, C.V.Cooper, K.R., and **White, L.A**. (2007). Matrix metalloproteinase-13 (MMP-13) is required for zebrafish (*Danio rerio*) development and is a target for glucocorticoids. *Toxicological Sciences* 100, 168-179

Elo, B., Villano, C. M., Govorko, D. and **White, L.A**. (2007) Larval zebrafish as a model for glucose metabolism: expression of phosphoenolpyruvate carboxykinase (PEPCK) as a marker for exposure to anti-diabetic compounds. *Journal of Molecular Endocrinology* 38:433-40.

Elo, B., Villano, C. M., Govorko, D. and **White, L.A**. (2007) Larval zebrafish as a model for glucose metabolism: expression of phosphoenolpyruvate carboxykinase (PEPCK) as a marker for exposure to anti-diabetic compounds. *Journal of Molecular Endocrinology* 38:433-40.

Akintobi, A.M., Villano, C.M., and **White, L.A.** (2007) 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) exposure of Normal Human Dermal Fibroblasts results in AhR-dependent and –independent changes in gene expression. *Toxicology and Applied Pharmacology* 220:9-17.

An, H.R., Mainelis, G., and **White, L.A.** (2006) Development and Calibration of Real-Time PCR for Quantification of Airborne Microorganisms in Air Samples, *Atmospheric Environment*, 40: 7924-7939.

Villano, C.M. and **White, L.A.** (2006) Expression of the helix-loop-helix protein inhibitor of DNA binding-1 (Id-1) is activated by all-trans retinoic acid in normal human keratinocytes. *Toxicology and Applied Pharmacology* 214:219-229.

Villano, C. M., Murphy, K.A., Akintobi, A. M. and **White, L.A.** (2006) 2,3,7,8-tetrachlorodibenzo-p-dioxin activates MMP expression and invasion in melanoma cells. *Toxicology and Applied Pharmacology* 210:212-224.

Murphy, K. A., Villano, C. M., Dorn, R., and **White, L.A**. (2004) Interaction between the Aryl Hydrocarbon Receptor and Retinoic Acid Pathways Increases Matrix Metalloproteinase-1 Expression in Keratinocytes. *J. Biol. Chem.* 279: 25284-93.

**White, L.A.**, Mitchell, T. I., and Brinckerhoff, C.E. (2000) Transforming Growth Factor ß Inhibitory Element (TIE) in the Rabbit Collagenase-1 (MMP-1) Gene Functions as a Repressor of Constitutive Transcription. *Biochim. BioPhys. Acta* 1490: 259 -268.

**White, L.A.**, Maute, C., and Brinckerhoff, C.E. (1998) Ets sites in the promoters of matrix metalloproteinases (MMPs) collagenase (MMP-1) and stromelysin (MMP-3) have an essential role as an auxiliary element in regulating basal and phorbol-induced transcription. *Connective Tissue Research*, 36:321-335.

Vincenti, M.P., Coon, C.I., **White, L.A.**, Barchowsky, A., and Brinckerhoff C.E. (1996) Transcriptional activation of the interstitial collagenase gene (MMP-1) in IL-1-stimulated fibroblasts is regulated by src-related tyrosine kinases. *Arthritis and Rheumatism,* 39: 574-582.

Dowse, H.B., Ringo, J., Power, J., Johnson, E. Kinney, K., and **White, L.** (1995). A congenital heart defect in *Drosophila* caused by an action potential mutation. *J of Neurogenetics* 10:153-168.

**White, L.A.** and Brinckerhoff, C. E. (1995) Two AP-1 elements in the collagenase promoter have differential effects on basal and phorbol-induced transcription and bind JunD, c-Fos and Fra-2. *Matrix Biology* 14: 715-725.

James, T.W., Wagner, R., **White, L.A**., Zwolak, R.M., and Brinckerhoff, C.E. (1993) Induction of collagenase and stromelysin gene expression by mechanical injury in a vascular smooth muscle cell-derived cell line. *J. of Cell Phys.* 157: 42-437.

**White, L.A.**, Ringo, J.M., and Dowse, H.B. (1992) A circadian clock of *Drosophila*: effects of deuterium oxide and mutations at the *period* locus. *Chronobiology International* 9: 250-283.

**White, L.A.**, Ringer, J.M., and Dowse, H.B. (1992) Effects of deuterium oxide and temperature on heart rate in *Drosophila melanogaster*. *J of Comp. Phys.* 162: 278-283.

Newby, L.M., **White, L.A.**, DiBartolomeis, S.M., Walker, B.J., Dowse, H.B., Ringo, J.M., Khuda, N., and Jackson, F.R. (1991) Mutational analysis of the *Drosophila miniature-dusky* (*m-dy*) locus: effects on cell size and circadian rhythms. *Genetics* 28: 571-582.

Reviews

Kung, T, Murphy, K.A., and **White, L.A.** (2008) The aryl hydrocarbon receptor (AhR) pathway as a regulatory pathway for cell adhesion and matrix metabolism. *Biochem. Pharm*.

Murphy, K.A., Quadro, L., and **White, L. A.** (2007) The intersection between the aryl hydrocarbon receptor (AhR) and retinoic acid signaling pathways. In: *Vitamins and Hormones*, volume 75. Litwack, G. ed.

Hillegass, J.M., Murphy, K.A., Villano, C.M. and **White, L.A**. (2006) The impact of aryl hydrocarbon receptor signaling on matrix metabolism: implications for development and disease. *Biological Chemistry* 387:1159-73.

Villano, C.V. and **White, L.A.** (2006) The Aryl hydrocarbon receptor (AhR) signaling pathway and tissue remodeling: insights from the zebrafish (*Danio rerio*) model system. *Toxicological Sciences* 92(1): 1-4.

Vincenti, M.P., **White, L.A**., Schroen, D.J., Benbow, U., and Brinckerhoff, C.E. (1996) Regulating expression of the gene for matrix metalloproteinase-1 (collagenase): mechanisms that control enzyme activity, transcription, and mRNA stability. Critical Reviews in Eukaryotic Gene Expression 6: 391-411.