

# Matthew W. Gorr, Ph.D.

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## Education and Research

### **University of California San Diego | La Jolla, California**

Postdoctoral Fellow, February 2016 – Current  
Laboratory of Paul Insel, M.D.

### **The Ohio State University | Columbus, Ohio**

Postdoctoral Fellow, May 2015 – January 2016  
Graduate Student, March 2011 – May 2015  
Laboratory of Loren E. Wold, Ph.D.  
Ph.D. Molecular, Cellular and Developmental Biology

### **The Research Institute at Nationwide Children's Hospital | Columbus, Ohio**

Research Assistant, February 2010 – March 2011  
Laboratory of Loren E. Wold, Ph.D.

### **University of Toledo | Toledo, Ohio**

Graduate Student, June 2008 – March 2011  
Laboratory of Daryl F. Dwyer, Ph.D.  
M.S. Biology

### **The Ohio State University | Columbus, Ohio**

Undergraduate Student, September 2005 – June 2008  
B.S. Biology

## Awards and Grants

### **Training Grant | National Institutes of Health, 2016- Current**

5T32HL007444-33  
Department of Cardiology, UC San Diego

### **Division for Molecular Pharmacology Postdoctoral Scientist Award | 2017**

American Society for Pharmacology and Experimental Therapeutics (ASPET)

### **Predoctoral Fellowship | American Heart Association, 2013-2015**

13PRE16700011  
Two-year award funding tuition, stipend and research

### **Travel Award | Ohio Physiological Society, 2013**

Awarded accommodations to give a talk at annual meeting

## Professional Society Memberships

American Society for Pharmacology and Experimental Therapeutics (2016-Current)

American Physiological Society (2011-Current)

Society of Toxicology (2013-2014)

American Heart Association (2010-2013)

## Publications

**Gorr, M.W.**, Falvo, M., Wold, L.E. Air Pollution and other environmental modulators of cardiac function. *Accepted to Comprehensive Physiology*

Tanwar, V.\*, **Gorr, M.W.\***, Velten, M., Eichenseer, C.M., Long III, V.P., Bonilla, I.M, Shettigar, V., Ziolo, M.T., Davis, J.P., Baine, S.H., Carnes, C.A., Wold, L.E. In Utero Particulate Matter Exposure Produces Heart Failure, Electrical Remodeling, and Epigenetic Changes at Adulthood. *Journal of the American Heart Association*. 2017; 6(4):e005796 \*Co-first authors

**Gorr, M.W.**, Youtz, D.Y., Nelin, T.D., Cormet-Boyaka, E., Wold, L.E. In vitro particulate matter exposure causes direct and lung-mediated indirect effects on cardiomyocyte function. *American Journal of Physiology: Heart and Circulatory Physiology*. 2015; 309(1):H53-62.

**Gorr, M.W.\***, Velten, M.\*, Nelin, T.D., Youtz, D.J., Wold, L.E. Early life exposure to air pollution induces adult cardiac dysfunction. *American Journal of Physiology: Heart and Circulatory Physiology*. 2014; 307(9):H1353-60. \*Co-first authors

**Gorr, M.W.**, Wold, L.E. Mitofilin: Key Factor in Diabetic Cardiomyopathy? *Journal of Molecular and Cellular Cardiology*. 2015; 85:292-3.

Bhatt, D.P., Puig, K.L., **Gorr, M.W.**, Wold, L.E., Combs, C.K. A Pilot Study to Assess Effects of Long-Term Inhalation of Airborne Particulate Matter on Early Alzheimer-Like Changes in the Mouse Brain. *PLoS One*. 2015; 10(5):e0127102.

Velten, M., **Gorr, M.W.**, Youtz, D.J., Velten, C., Rogers, L.K., Wold, L.E. Adverse Perinatal Environment Contributes to Altered Cardiac Development and Function. *American Journal of Physiology: Heart and Circulatory Physiology*. 2014; 306(9):H1334-40.

Backes, C.H., Nelin, T., **Gorr, M.W.**, Wold, L.E. Early Life Exposure to Air Pollution: How Bad is it? *Toxicology Letters*. 2013; 216(1):47-53.

Nelin, T.D., Joseph, A.M., **Gorr, M.W.**, Wold, L.E. Direct and Indirect Effects of Particulate Matter on the Cardiovascular System. *Toxicology Letters*. 2012; 208(3): 293-299.

Wold, L.E., Ying, Z., Hutchinson, K.R., Velten, M., **Gorr, M.W.**, Velten, C., Youtz, D.J., Wang, A., Lucchesi, P.A., Sun, Q., Rajagopalan, S. Cardiovascular Remodeling in Response to Long-Term Exposure to Fine Particulate Matter Air Pollution. *Circulation: Heart Failure*. 2012; 5(4):452-61.

**Gorr, M.W.**, Stevens, S.C.W., Wold, L.E. Ataxia telangiectasia mutated kinase in the heart: currency for myocyte apoptosis. *Experimental Physiology*. 2012; 97(4):476.

Velten, M., Hutchinson, K.R., **Gorr, M.W.**, Wold, L.E., Lucchesi, P.A., Rogers, L.K. Systemic Maternal Inflammation and Neonatal Hyperoxia Induces Remodeling and Left Ventricular Dysfunction in Mice. *PLoS One*. 2011; 6(9):e24544.

Monreal, G., Youtz, D.J., Phillips, A.B., Eyman, M.E., **Gorr, M.W.**, Velten C., Lucchesi P.A., Wold, L.E., Gerhardt M.A. Right ventricular remodeling in restrictive ventricular septal defect. *Journal of Molecular and Cellular Cardiology*. 2010; 49(4):699-706.

## Presentations

**Gorr, M.W.**, Sriram, K., Insel, P.A. GPCRs in Pulmonary Artery Smooth Muscle Cells as Novel Targets in Pulmonary Arterial Hypertension. Experimental Biology 2017, Chicago, IL. Oral Presentation, Postdoctoral Scientist Award, Second Place

**Gorr, M.W.**, Sriram, K., Insel, P.A. Transcriptomic Study of the Right Ventricle in a Rat Model of Pulmonary Arterial Hypertension. Experimental Biology 2017, Chicago, IL. Oral Presentation

Tanwar, V., **Gorr, M.W.**, Eichenseer, C., Wold, L. Exposure to PM2.5 during the First Trimester Contributes to Adult Cardiac Dysfunction. Oral Presentation (gave in place of first author). Experimental Biology 2016, San Diego, CA.

**Gorr, M.W.**, Eichenseer C.M., Youtz, D.J., Wold, L.E., Long-Term Exposure of Particulate Matter Leads to Cardiac Dysfunction and Alterations in Beta-Adrenergic Signaling. OSU Physiology and Cell Biology Research Day, 2015. Columbus, OH. Awarded Best Poster

Wold, L.E., **Gorr, M.W.**, Eichenseer C.M., Youtz, D.J., Velten, M., Exposure to Air Pollution In Utero Causes Persistent Cardiovascular Dysfunction. American Heart Association BCVS. Las Vegas, NV, July 2014

Velten, M., **Gorr, M.W.**, Nelin, T.D., Wold, L.E. Early life exposure to air pollution induces adult cardiovascular dysfunction in mice. Experimental Biology. San Diego, CA. April 2014

**Gorr, M.W.**, Velten, M., Youtz, D.J., Wold, L.E. Early Life Exposure to Air Pollution Induces Adult Cardiovascular Dysfunction in Mice. Ohio Physiological Society. Northeast Ohio Medical University, Rootstown, Ohio. Sept. 2013.

**Gorr, M.W.**, Youtz, D.J., Cormet-Boyaka, E., Wold, L.E. Direct and Indirect Effects of Particulate Exposure on the Heart. Experimental Biology Boston, MA. April 2013

Velten, M., **Gorr, M.W.**, Youtz, D.J., Velten, C., Rogers, L.K., Wold, L.E. Perinatal Inflammation and Oxidative Stress Induce Fetal Cardiac Dysfunction. Experimental Biology Boston, MA. April 2013.

**Gorr, M.W.**, Rodeman, J.D., Cormet-Boyaka, E., Wold, L.E. Diesel Exhaust Particulate Matter has both Direct and Indirect Effects on Cardiomyocyte Function. Experimental Biology San Diego, CA. April 2012.

Martins, R.F., **Gorr, M.W.**, Youtz, D.J., Teich, S., Wold, L.E. Progression of Obesity-Related Heart Dysfunction in Two Rat Models. Experimental Biology San Diego, CA. April 2012.

**Gorr, M.W.**, Youtz, D.Y., Cormet-Boyaka, E., Wold, L.E. Direct and indirect effects of diesel exhaust particulate matter on cardiomyocyte function is mediated by reactive oxygen species and cytokines. Annual Meeting of the Ohio Valley Society of Toxicology Columbus, OH. September 2012.

**Gorr, M.W.**, Velten, C., Wold, L.E. Diesel particulate matter exposure exacerbates ROS formation and contractile dysfunction in diabetic cardiomyocytes. Experimental Biology. Washington, DC. April 2011.

Youtz, D.J., Hutchinson, K.R., Velten, M., Xu H., **Gorr, M.W.**, Lucchesi, P.A., McCarthy, D.O., Wold, L.E. Myocardial dysfunction in an animal model of cancer cachexia. Experimental Biology. Washington, DC. April 2011.

MacMillan, A.C., **Gorr, M.W.**, Rodeman, J.D., Davidoff, A.J., Wold, L.E. Continuous Electrical Stimulation of Cardiomyocytes Prevents Glucose-Induced Contractile Dysfunction. Experimental Biology. Washington, DC. April 2011.

Velten, M., Hutchinson, K.R., **Gorr, M.W.**, Velten, C., Wold, L.E., Lucchesi, P.A., Rogers, L.K. Perinatal inflammation Causes Adult Cardiac Diseases A Novel Model for Fetal Origins of Adult Diseases. Experimental Biology. Washington, DC. April 2011.

Velten, M., Hutchinson, K.R., **Gorr, M.W.**, Wold, L.E., Lucchesi, P.A., Rogers, L.K. Systemic Maternal Inflammation and Neonatal Hyperoxia Induce Remodeling and Left Ventricular Dysfunction in Mice. 2011 American Heart Association Scientific Sessions. Orlando, FL. November 2011.

**Gorr, M.W.**, Dwyer, D.F. Modeling and design of wetland microcosms to use in design of arsenic remediation. The 25th International Conference on Soils, Sediments, Water and Energy, Amherst, MA. October 2009.

**Gorr, M.W.**, Dwyer, D.F. Modeling arsenic remediation in wetlands. Sigma Xi Graduate Research Symposium at the University of Toledo, Toledo, OH. October 2009.

Duncan, A.M., **Gorr, M.W.**, Rofkar, J.R., Barnswell, K.D., Gottgens, J.F., Dwyer, D.F. Plant mediated reductions of arsenic levels in flow-through wetlands. International Association of Great Lakes Research, Toledo, OH. May 2009.

## Teaching and Mentoring

### **Facilitator | Cardiovascular Pharmacology Conference, Dept. of Pharmacology, UC San Diego, Fall 2016-Current**

- Moderated case-study discussions with medical students and pharmacy students as part of their curriculum

### **Mentor | American Society for Experimental Therapeutics (ASPET) Partnering for Success Program, 2017-Current**

- Guided a graduate mentee at Experimental Biology (EB) conference by providing career advice and encouragement
- Continue to follow-up with mentee and help network towards a successful career in academics

### **Lab Mentor | UC San Diego 2016-Current**

- Mentoring 2 undergraduate and 1 graduate student towards independent projects
- Progress has led to one student presenting her research at a local conference

### **Adjunct Faculty (Part-Time) | Central Ohio Technical College, Newark, OH, Fall 2015**

- Taught Human Nutrition to a small class in a rural community college
- Designed, prepared and gave lectures including participation from students
- Wrote and administered quizzes and exams

### **Lab Mentor | The Ohio State University 2010-2016**

- Mentored a total of 10 lab members including undergraduate, medical and fellow graduate students
- Trained members in skills involved in cellular, molecular and physiological techniques
- Guided lab members on project development from hypothesis to publication
- Develop research fellowships and publications from collaborative trainee work

### **Lecturer: Evidence-Based Practice | College of Nursing, OSU, Sept. 2014**

- Gave a guest lecture to Nursing N7780 class on etiology of air pollution-induced cardiovascular disease

### **High School Science Career Outreach | Mt. Vernon High School, Gahanna High School, 2012-2016**

- Developed and lead a lecture and discussion for local high school science class students about careers in science and working in a laboratory

### **Graduate Teaching Associate: Biodiversity | University of Toledo, Fall 2008**

- Planned and lead a recitation review section in a basic undergraduate biology course
- Assisted in planning and presentation of lectures and test administration
- Tutored students during independent office hours