

Justin A. Ways, Ph.D.

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EDUCATION:

Doctor of Philosophy (Cardiovascular & Metabolic Diseases) **2002-2007**
University of Toledo College of Medicine, Toledo, Ohio
Advisor: George T. Cicila, Ph.D.

Master of Science in Biomedical Sciences (Physiology & Mol. Medicine) **1999-2002**
Medical College of Ohio, Toledo, Ohio
Advisor: Lauren Gerard Koch, Ph.D.

Bachelor of Science (Biology/Pre-Med) **1994-1998**
The University of Toledo, Toledo, Ohio
magna cum laude

EXPERIENCE:

Instructor **Aug. 2010-Present**
Department of Biology
The University of Findlay, Findlay, OH

Postdoctoral Fellow **Jan. 2010-July 2010**
Department of Surgery/Biology
The University of Toledo Health Science Campus, Toledo, Ohio

- Investigating the role of aneuploidy in tumorigenesis

Postdoctoral Research Associate **Oct. 2008-Dec. 2009**
Department of Pharmacology
Southern Illinois University School of Medicine, Springfield, Illinois

- Investigating the properties of excitatory synaptic transmission and long-term potentiation
- Investigating the cyto-architecture of the anterior cortical nucleus of the amygdala

Adjunct Instructor **Jan. 2003-Present**
Science Division
Mercy College of Northwest Ohio, Toledo, Ohio

Department of Biology and Health Sciences **May 2008-July 2008**
Lourdes College, Toledo, Ohio

Science Department **Aug. 2007-Dec. 2007**
Owens Community College, Toledo, Ohio

Floor Teacher

Sep. 2007-May 2008

The Learning Club of Toledo, Toledo, Ohio

- Monitoring and assessing students ranging from grades 2-12 through the progression of reading and math achievement booklets.
- Providing homework help and basic counseling to students performing below grade level.

Biomedical Research Assistant

Jun. 2002-Dec. 2005

Department of Physiology and Cardiovascular Genomics

Medical University of Ohio, Toledo, Ohio

- Acting as chemical hygiene officer for the laboratory.
- Performing general laboratory duties including placing lab orders, performing radiation wipe surveys, maintaining rat colony, training new technicians and students, and monitoring summer undergraduate research fellowship students.
- Performing general laboratory experiments (genotyping, sequencing, mRNA expression analyses, and running rats on treadmill) to obtain data for principal investigator.

AWARDS/HONORS:

Golden Key International Honor Society	1997-2009
Phi Kappa Phi Honor Society	1998-2005
Graduate Dean's Award, Medical College of Ohio	2002
Liberato J.A. DiDio Award for Excellence in Graduate Research (Master's Program), Medical College of Ohio	2002

PUBLICATION(S):

Peer-Reviewed Journals:

Morgan EE, **Ways JA**, Bowman TA, Ramdath RS, Lee SJ, Najjar SM, and Cicila GT. **In Preparation**. In vivo assessment of cardiac function during resting and simulated exercise conditions in rat genetic models of low and high aerobic running capacity.

Ways JA, Smith BM, Barbato JC, Ramdath RS, Pettee KM, DeRaedt SJ, Allison DC, Koch LG, Lee SJ, Cicila GT. (2007). Congenic strains confirm aerobic running capacity quantitative trait loci on rat chromosome 16 and identify possible intermediate phenotypes. **Physiological Genomics**, 29: 91-97. <http://physiolgenomics.physiology.org/cgi/reprint/29/1/91>

Lee SJ, **Ways JA**, Barbato JC, Essig D, Pettee K, DeRaedt SJ, Yang S, Weaver DA, Koch LG, Cicila GT. (2005). Gene Expression Profiling of the Left Ventricles in a Rat Model of Intrinsic Aerobic Running Capacity. **Physiological Genomics**, 23: 62-71.
<http://physiolgenomics.physiology.org/cgi/reprint/23/1/62>

Ways JA, Cicila GT, Garrett MR, Koch LG. (2002). A Genome Scan for Loci Associated with Aerobic Running Capacity in Rats. **Genomics (cover article)**, 80: 13-20.
<http://www.ncbi.nlm.nih.gov/pubmed/12079278>

Abstracts:

Lee SJ, Ramdath R, **Ways JA**, Chiaia NL, Pettee K, DeRaedt S, Cicila GT. Strain Differences in beta-Endorphins in a Rat Genetic Model of Aerobic Running Capacity. ACSM Conference on Integrative Physiology of Exercise, Indianapolis, Indiana. September 27-30, 2006.

Morgan EE, Khouri SJ, Anderson A, Ramdath R, **Ways JA**, Cicila GT. *In Vivo* Assessment of Resting Myocardial Function in High and Low Performing Genetic Models of Aerobic Running Capacity. ACSM Conference on Integrative Physiology of Exercise, Indianapolis, Indiana. September 27-30, 2006.

Lee SJ, **Ways J**, Essig D, DeRaedt S, Barbato JC, Koch LG, Cicila GT. Identifying Candidate Genes for Aerobic Running Capacity Quantitative Trait Loci Using Expression Profiling in Conjunction with Biological Network Analysis. XVth International Workshop on Genetic Systems in the Rat, Copenhagen, Denmark. September 9-12, 2004.

Lee SJ, **Ways JA**, Essig D, DeRaedt S, Barbato JC, Koch LG, Cicila GT. Global Expression Study in the Left Ventricles of DA and Copenhagen Rats to Identify Candidate Genes for Aerobic Running Capacity. Rat Genomics and Models, Cold Spring Harbor, NY. December, 2003.

Lee SJ, Barbato JC, **Ways J**, Koch LG, Cicila GT. Differential Expression and Phosphorylation of Regulatory Myosin Light Chain 2a in the Left Ventricles of Two Rat Strains Showing Big Differences in Intrinsic Aerobic Running Capacity. The 3rd Annual Target Validation Conference, Boston, MA. October 9-10, 2003.

Lee SJ, **Ways J**, Barbato JC, Koch LG, Cicila GT. Identification of Candidate Genes for Aerobic Running Capacity (ARC) Quantitative Trait Loci (QTLs) Using Gene Expression Profiling in the Left Ventricles of DA and Copenhagen (COP) Rats. The 7th Annual Functional Genomics Conference, Boston, MA. October 7-8, 2003.

Lee SJ, Barbato J, **Ways J**, Koch LG, Cicila GT. Differential Expression of Myosin Light Chain 2a mRNA in the Left Ventricles of Rats with Heritable Differences in Intrinsic Aerobic Running Capacity. Affymetrix User Group Meeting, Chicago, IL. May 12-14, 2003.

Koch LG, **Ways JA**, Cicila GT, Garrett MR, Britton SL. (2002). A Genome Scan For Quantitative Trait Loci (QTLs) Associated With Aerobic Running Capacity In Rats. **FASEB Journal**, 16(5): A880.

Koch LG, **Ways JA**, Cicila GT, Garrett MR, Britton SL. A Genome Scan for Quantitative Trait Loci (QTLs) Associated with Aerobic Running Capacity in Rats. First Annual International Complex Trait Consortium, Memphis, TN. May, 2002.

Koch LG, **Ways J**, Garrett MR, Cicila GT. Identification of Aerobic Running Capacity Quantitative Trait Loci (QTLs) in a Segregating Population Bred from DA and Copenhagen Rats. Physiological Genomics and Rat Models, Cold Spring Harbor, NY. December 6-9, 2001.

PRESENTATIONS:

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| 2006 | ACSM Conference on Integrative Physiology of Exercise, poster presentation: Indianapolis, Indiana. "Congenic Strains Confirm The Linkage of Chromosome 16 to Aerobic Running Capacity in the Rat." |
| 2006 | Thirty-Third Annual Pharmacology Research Colloquium: Michigan State University, East Lansing, Michigan. Quantitative Trait Loci on Rat Chromosome 16 Regulate Strain Variation in Exercise Performance." |
| 2006 | Guest speaker for Women's Health Day: Mercy College of Northwest Ohio, Toledo, Ohio. "Gender and Physiology." |
| 2005 | Rat Genomics and Models Meeting: Cold Spring Harbor Laboratories, Cold Spring Harbor, NY. "Congenic Strains Confirm Aerobic Running Capacity Quantitative Trait Loci on Rat Chromosome 16 and Identify Possible Intermediate Phenotypes." |
| 2005 | Michigan Hypertension Workshop: Michigan State University, Kellogg Biological Station. "Construction and Characterization of Congenic Strains for Aerobic Running Capacity in Rats." |
| 2005 | Graduate School Research Forum poster presentation: Medical University of Ohio. "Defining a Genetic Model for Aerobic Running Capacity in Rats." |
| 2005 | Molecular Basis of Disease Symposium: Medical University of Ohio. "Defining the Genetic Determinants for Aerobic Running Capacity (ARC) in Rats." |

- 2004 Spring Michigan Hypertension Workshop: Michigan State University, Kellogg Biological Station. "A Search for Candidate Genes within Aerobic Running Capacity QTL Regions Using Differential Gene Expression in Left Ventricular Tissue of Inbred Rats."
- 2003 6th Annual Affymetrix User Group Meeting poster presentation: Chicago, Illinois. "Differential Expression of Myosin Light Chain 2a in the Left Ventricles of Rats with Heritable Differences in Intrinsic Aerobic Running Capacity."
- 2002 Graduate School Research Forum poster presentation: Medical College of Ohio. "A Genome Scan for Loci Associated with Aerobic Running Capacity in Rats." First place in Master's division.
- 2002 Spring Michigan Hypertension Workshop: Michigan State University, Kellogg Biological Station. "A Genome Scan For Quantitative Trait Loci (QTLs) Associated with Aerobic Running Capacity In Rats."
- 2001 Graduate School Research Forum poster presentation: Medical College of Ohio. "Identification of Aerobic Endurance Running Capacity QTLs in Rats."
- 2001 Spring Michigan Hypertension Workshop: Michigan State University, Kellogg Biological Station. "Identification of Aerobic Endurance Running Capacity QTLs in Rats."

TEACHING EXPERIENCE:

Anatomy and Physiology

- lecture and laboratory

Pathophysiology

Basic Chemistry

- lecture and laboratory