



Curriculum Vitae for Academic Promotion
The Johns Hopkins University School of Medicine

1/14/2014

Michael J. Wolfgang, Ph.D

Date

DEMOGRAPHIC AND PERSONAL INFORMATION

Current Appointments

2008-present Assistant Professor, Department of Biological Chemistry, Center for Metabolism and Obesity Research, Johns Hopkins University School of Medicine

Personal Data

Department of Biological Chemistry
Center for Metabolism and Obesity Research
Rangos 475
855 N. Wolfe Street
Baltimore, MD 21205
(443) 287-7680
mwolfga1@jhmi.edu

Education and Training

Undergraduate

1998 B.S., Animal Science, University of Illinois-Urbana/Champaign

Doctoral

2002 Ph.D, Endocrinology/Reproductive Physiology, University of Wisconsin-Madison

Postdoctoral

2002-2004 Biochemistry, Yale University School of Medicine

2004-2008 Biochemistry, Johns Hopkins University School of Medicine

Professional Experience

2008-present Assistant Professor, Department of Biological Chemistry, Center for Metabolism and Obesity Research, Johns Hopkins University School of Medicine

RESEARCH ACTIVITIES

Peer Reviewed Original Science Publications

1. **Wolfgang MJ**, Eisele SG, Knowles L, Browne MA, Schotzko ML & Golos TG. Pregnancy and Live Birth from Nonsurgical Transfer of *in vivo* and *in vitro* Produced Blastocysts in the Rhesus Monkey. *J Med Primatol.* 2001; **30**(3): 148-155.
2. **Wolfgang MJ**, Eisele SG, Browne MA, Schotzko ML, Garthwaite MA, Durning M, Ramezani A, Hawley RG, Thomson JA & Golos TG. Rhesus Monkey Placental Transgene Expression After Lentiviral Gene Transfer into Preimplantation Embryos. *Proc Natl Acad Sci USA* 2001; **98**(19): 10728-10732.

3. **Wolfgang MJ**, Grendell RL & Golos TG. Molecular cloning of three nonhuman primate follicle stimulating hormone b-subunit cDNAs. *J Med Primatol*. 2001; **30**: 299-303.
4. **Wolfgang MJ**, Marshall VS, Eisele SG, Knowles L, Browne MA, Schotzko ML, Thomson JA & Golos TG. An Efficient Method To Express Transgenes In Nonhuman Primate Embryos Using A Stable Episomal Vector. *Mol Reprod Devel*. 2002; **62**(1): 69-73.
5. **Wolfgang MJ** & Golos TG. Nonhuman primate transgenesis: progress and prospects. *Trends Biotech* 2002; **20**(11): 479-484. (*Journal Cover Figure*).
6. Kano A*, **Wolfgang MJ***, Gao Q*, Jacoby J, Chai GX, Hansen W, Iwamoto Y, Pober JS, Flavell RA, & Fu XY. Endothelial cells require STAT3 for protection against endotoxin-induced inflammation. *J Exp Med*. 2003; **198**(10): 1517-1525. (*equal contribution)
7. Gao Q*, **Wolfgang MJ***, Neschen S, Morino K, Horvath, TL, Shulman GI, & Fu XY. Disruption of neural signal transducer and activator of transcription 3 causes obesity, diabetes, infertility and thermal dysregulation. *Proc. Natl. Acad. Sci. USA* 2004; **101**(13): 4661-4666. (*equal contribution)
8. Lane MD, Hu Z, Cha SH, Dai Y, **Wolfgang M** & Sidhaye A. Role of Malonyl-CoA in the hypothalamic control of food intake and energy expenditure. *Biochem Soc Trans*. 2005; **33**(Pt 5): 1063-1067.
9. **Wolfgang MJ**, Kurama T, Dai Y, Suwa A, Asaumi M, Matsumoto S, Cha SH, Shimokawa T & Lane MD. The brain-specific carnitine palmitoyltransferase-1c regulates energy homeostasis. *Proc. Natl. Acad. Sci. USA* 2006; **103**(19): 7282-7287.
10. **Wolfgang MJ** & Lane MD. Control of Energy Homeostasis: role of enzymes and intermediates of fatty acid metabolism in the central nervous system. *Annu Rev Nutr*. 2006; **26**: 23-44.
11. **Wolfgang MJ** & Lane MD. The role of hypothalamic malonyl-CoA in energy homeostasis. *J Biol Chem*. 2006; **281**(49): 37265-37269.
12. Dai Y, **Wolfgang MJ**, Cha SH, & Lane MD. Localization and Effect of Ectopic Expression of Carnitine Palmitoyltransferase-1c in CNS Feeding Centers. *Biochem Biophys Res Commun*. 2007; **359**(3): 469-74.
13. Chakravarthy MV, Zhu Y, López M, Yin L, Wozniak DF, Coleman T, Hu Z, **Wolfgang M**, Vidal-Puig A, Lane MD & Semenkovich CF. Brain fatty acid synthase activates PPARα to maintain energy homeostasis. *J Clin Invest*. 2007; **117**: 2539-2552.
14. **Wolfgang MJ**, Cha SH, Sidhaye A, Chohnan S, Cline G, Shulman GI & Lane MD. Regulation of hypothalamic malonyl-CoA by central glucose and leptin. *Proc Natl Acad Sci USA*. 2007; **104**(49): 19285-19290.
15. **Wolfgang MJ**, Cha SH, Millington DS, Cline G, Shulman GI, Suwa A, Asaumi M, Kurama T, Shimokawa, T & Lane MD. Brain-specific carnitine palmitoyltransferase-1c: Role in CNS fatty acid metabolism, food intake and body weight. *J Neurochem* 2008; **105**(4): 1550-1559.
16. Lane MD, **Wolfgang M**, Cha, SH & Dai Y. Regulation of food intake and energy expenditure by hypothalamic malonyl-CoA. *Int J Obes*. 2008; **32**: 549-554.
17. **Wolfgang MJ** & Lane MD. Hypothalamic Malonyl-Coenzyme A and the control of energy balance. *Mol Endo*. 2008; **22**(9): 2012-2020.
18. Cha SH, **Wolfgang M**, Tokutake Y, Chohnan S & Lane MD. Differential effects of central fructose and glucose on hypothalamic malonyl-CoA and food intake. *Proc Natl Acad Sci USA*. 2008; **105**(44): 16871-5.
19. **Wolfgang MJ** & Lane MD. Hypothalamic malonyl-CoA and CPT1c in the treatment of obesity. *FEBS J*. 2011; **278**(4): 552-8.
20. Reamy AA & **Wolfgang MJ**. Carnitine Palmitoyltransferase-1C gain-of-function in the brain results in postnatal microencephaly. *J Neurochem*. 2011; **118**(3): 388-98.
21. Rodriguez S & **Wolfgang MJ**. Targeted chemical-genetic regulation of protein stability *in vivo*. *Chem Biol* 2012; **19**(3): 391-398.
22. Wei Z, Peterson J, Cebotaru L, **Wolfgang MJ**, Baldeviano CG & Wong GW. C1q/TNF-Related Protein-12 (CTRP12), a Novel Adipokine that Improves Insulin Sensitivity and Glycemic Control in Mouse Models of Obesity and Diabetes. *J Biol Chem*. 2012; **287**(13): 10301-15.
23. Miyamoto T, DeRose R, Suarez A, Ueno T, Chen M, Sun T, **Wolfgang MJ**, Mukherjee C, Meyers DJ & Inoue T. Rapid and orthogonal logic gating with a gibberellin-induced dimerization system. *Nat Chem Biol* 2012; **8**(5): 465-470.

24. Ellis JM & **Wolfgang MJ**. A genetically encoded metabolite sensor for malonyl-CoA. *Chem Biol* 2012; **19**(10): 1333-1339.
25. Lee J & **Wolfgang MJ**. Metabolomic profiling reveals a role for CPT1c in neuronal oxidative metabolism. *BMC Biochem* 2012; **13**(1): 23.
26. Ellis JM, Wong GW & **Wolfgang MJ**. Acyl Coenzyme A Thioesterase 7 regulates neuronal fatty acid metabolism to prevent neurotoxicity. *Mol Cell Biol* 2013; **33**(9) 1869-1882.

Inventions, Patents, Copyrights

1. October, 2010 JHU invention entitled: "Genetically Encoded Cell-based Sensor for Fatty Acid Metabolites" (JHU Ref.: C11259)
2. May, 2013 JHU invention entitled: "Rabbit Polyclonal Antibody Directed Against a Peptide Corresponding to Mouse and Human Acyl Coenzyme A Thioesterase 7 (ACOT7)" (JHU Ref.: C12523)

Extramural Funding

- Current:**
- R01NS072241**, M.J. Wolfgang (PI) 7/1/11-3/31/16
 Agency: NIH, NINDS
 "Regulation of neuronal lipid homeostasis by thioesterases"
 Role: PI 50% Effort Total Direct: \$1,093,750
- R01DK099134**, R.C. Riddle (PI) 7/24/13-5/31/18
 Agency: NIH, NIDDK
 "Regulation of osteoblast metabolism by Lrp5"
 Role: Co-PI 8% Effort Total Direct: \$1,087,500
- Pending:**
- R01DK102463**, M.J. Wolfgang (P.I.) 7/1/14-6/30/19
 Agency: NIH, NIDDK
 "Role and Regulation of Oxidative Metabolism"
 Role: PI 25% Effort Total Direct: \$1,250,000
- K99**, Ellis, J.M. (P.I.) 7/1/14-6/30/19
 Agency: NIH, NINDS
 "Role and Regulation Acyl-CoA Metabolism in the Central Nervous System"
 Role: Mentor 0% Effort Total Direct: \$1,250,000
- Completed:**
- 09SDG2310008**, M.J. Wolfgang (PI) 7/1/09-6/30/13
 Agency: American Heart Association
 "The role of the brain-specific carnitine palmitoyltransferase-1c in energy homeostasis"
 Role: PI 27% Effort Total Direct: \$280,000
- P60DK079637** M.J. Wolfgang (PI) 7/1/11-6/30/13
 Baltimore DRTC Pilot and Feasibility Award
 Agency: Intramural award from the NIH Funded Baltimore DRTC
 "The role of adipocyte ACOT7 in Diabetic Dyslipidemia"
 Role: PI 10% Effort Total Direct: \$100,000

EDUCATIONAL ACTIVITIES

Invited Review Articles:

1. **Wolfgang MJ** & Golos TG. Nonhuman primate transgenesis: progress and prospects. *Trends Biotech* 2002; **20**(11): 479-484. (*Journal Cover Figure*).
2. Lane MD, Hu Z, Cha SH, Dai Y, **Wolfgang M** & Sidhaye A. Role of Malonyl-CoA in the hypothalamic control of food intake and energy expenditure. *Biochem Soc Trans.* 2005; **33**(Pt 5): 1063-1067.
3. **Wolfgang MJ** & Lane MD. Control of Energy Homeostasis: role of enzymes and intermediates of fatty acid metabolism in the central nervous system. *Annu Rev Nutr.* 2006; **26**: 23-44.
4. **Wolfgang MJ** & Lane MD. The role of hypothalamic malonyl-CoA in energy homeostasis. *J Biol Chem.* 2006; **281**(49): 37265-37269.
5. Lane MD, **Wolfgang M**, Cha, SH & Dai Y. Regulation of food intake and energy expenditure by hypothalamic malonyl-CoA. *Int J Obes.* 2008; **32**: 549-554.
6. **Wolfgang MJ** & Lane MD. Hypothalamic Malonyl-Coenzyme A and the control of energy balance. *Mol Endo.* 2008; **22**(9): 2012-2020.
7. **Wolfgang MJ** & Lane MD. Hypothalamic malonyl-CoA and CPT1c in the treatment of obesity. *FEBS J.* 2011; **278**(4): 552-8.

Book Chapter

1. Rodriguez S & **Wolfgang MJ**. Regulation of body weight by malonyl-CoA in the CNS. *Encyclopedia of Biological Chemistry*. 2012.

Commentary

Ellis JM & **Wolfgang MJ**. Reimagining neurometabolism: Unraveling the unique biochemistry of brain metabolism. *ASBMB Today* 2012 May; 26-7.

Teaching

2006-present	Conference leader , Johns Hopkins University Medical School Scientific Foundations of Medicine, Metabolism Section,
2007-2008	Lecturer Johns Hopkins School of Public Health, Molecular Endocrinology,.
2008-present	Lecturer Johns Hopkins University, Pathways and Regulation.
2008-present	Instructor Johns Hopkins University, Topics in Biological Chemistry.
2010-present	Conference leader Johns Hopkins University Medical School Scientific Foundations of Medicine, Genetics of Obesity, 3 rd yr. intersession
2011-2012	Instructor , Johns Hopkins University, Method and Logic.
2013-present	Instructor , Johns Hopkins University, BCMB Ethics and Career Development.

Mentoring

Advisees

2008-present	Susana Rodriguez, B.S., Pre-doctoral Fellow, BCMB program, graduation expected 2013.
2011-present	Jessica Ellis, Ph.D, Post-doctoral Fellow.
2011-2012	Courtney Akitake, Ph.D, Post-doctoral Fellow, Currently works for Carl Zeiss Microscopy.
2011-present	Jieun Lee, B.S., Pre-doctoral Fellow, BCMB program.
2012-present	Caitlyn Bowman, B.S., Pre-doctoral Fellow, BCMB program.
2010	Violeta Capric, undergraduate, Wagner College, Basic Science Institute Summer Internship program
2011	Jacqueline Meadows, undergraduate, North Carolina A&T State University, Minority Access to Research Careers Program
2012	Tesaen Chavis, B.S. The New School, Post-baccalaureate Research Education Program

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| 2012 | Rebecca Yee, undergraduate, University of Pennsylvania, Basic Science Institute Summer Internship program |
| 2013 | Karen Rico, undergraduate, University of Arizona, Minority Access to Research Careers Program |
| 2013 | Justin B. Kaye, B.S., University of New Mexico Post-baccalaureate Research Education Program |

Thesis Committees

- | | |
|--------------|---|
| 2009-2012 | John Bullen, Biochemistry, Cellular and Molecular Biology Program, Dissertation committee member |
| 2011-present | Judy Van Nguyen, Biochemistry, Cellular and Molecular Biology Program, Dissertation committee member |
| 2011-2013 | Arvin Gouw, Graduate Program in Pathology, Dissertation committee member |
| 2011-present | YaWen Lu, Biochemistry, Cellular and Molecular Biology Program, Dissertation committee member |
| 2011-2013 | Hwajin Lee, Cellular and Molecular Medicine Program, Dissertation committee member. |
| 2011-present | Hana Goldschmidt, Biochemistry, Cellular and Molecular Biology Program, Dissertation committee member |
| 2011-present | Basil Hussain, Biochemistry, Cellular and Molecular Biology Program, Dissertation committee member |
| 2012-present | Kate Laws, JHSPH Biochemistry and Molecular Biology Graduate Program, Dissertation committee member |

Training Grant Participation

- | | |
|--------------|---|
| 2008-present | Biochemistry, Cellular and Molecular Biology Program |
| 2011-present | T32 DK007751, Interdepartmental Training Program in Cellular and Molecular Endocrinology. |
| 2012-present | T32 HD044355, Institutional Training for Pediatricians Fellowship Program. |

CLINICAL ACTIVITIES

N/A

SYSTEM INNOVATION AND QUALITY IMPROVEMENT ACTIVITIES

N/A

ORGANIZATIONAL ACTIVITIES

Institutional Administrative Appointments

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| 2008-2010 | BCMB Diversity Committee |
| 2009 | Biological Chemistry Faculty Search Committee |
| 2011-present | M. Daniel & Patricia Sonquist Lane Lecture Committee |
| 2011 | Biological Chemistry Faculty Search Committee |
| 2012-present | Biological Chemistry Graduate Program Admissions Committee |
| 2012 | Biological Chemistry Faculty Search Committee |
| 2012 | BCMB Curriculum Committee |
| 2012-present | Leslie Hellerman Lecture Committee |

Associate Editor

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| 2010-2013 | Glycomics and Lipidomics |
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Editorial Board

2013-present Journal of Bioenergetics and Biomembranes
2013-present OA Biochemistry

Ad Hoc Reviewer

Proceedings of the National Academy of Sciences (USA), Journal of Biological Chemistry, American Journal of Physiology, Molecular and Cellular Endocrinology, Molecular Biology of the Cell, Molecular and Cellular Proteomics, Journal of Lipid Research, Physiological Genomics, FASEB J, BioTechniques, Obesity, Journal of Bioenergetics and Biomembranes, Cellular and Molecular Life Sciences, Diabetology & Metabolic Syndrome, Brain Research.

Grant Review

2011 South Carolina Experimental Program to Stimulate Competitive Research and Institutional Development Awards (EPSCoR/IDeA)
2011 Samsung Biomedical Research Institute Research Grant for Molecular Medicine
2011 Diabetes UK
2012 Samsung Biomedical Research Institute Research Grant for Molecular Medicine
2012 American Diabetes Association
2012 The Netherlands Organization for Health Research and Development
2012 Johns Hopkins Musculoskeletal Pilot & Feasibility Program
2013 Johns Hopkins Musculoskeletal Pilot & Feasibility Program

Professional Societies

2013-present American Society for Microbiology
2013-present The Obesity Society
2013-present American Society of Biochemistry and Molecular Biology

Consultantships

2013 LEK Consulting

RECOGNITION

Awards, Honors

1994-1995 M.E. Ensminger Scholarship.
1997 & 1998 J.G. Willard Scholarship.
1996-1997 R.O. & M.F. Hunter Scholarship.
1997-1998 Jonathan Baldwin Turner Undergraduate Research Award/Scholarship.
2001 Keystone Symposium Travel Award: Gene Therapy.
2002-2003 Molecular & Oncologic Virology Postdoctoral Training Fellowship.
Department of Genetics, Yale University Medical School.
2003-2004 Experimental and Human Pathobiology Postdoctoral Training Fellowship
Department of Pathology, Yale University Medical School.
2006 Kern Lipid Conference Young Investigator Travel Award.
2008 Daniel Nathans Young Investigator Research Award.
2009-2013 American Heart Association National Scientist Development Award.

Invited Talks

2000 Gene transfer in primates

- Perinatal Seminar
University of Wisconsin-Madison
- 2001 Gene therapy
Biotechnology Seminar
University of Wisconsin-Platteville
- 2002 Progress in Primate Transgenesis
Endocrinology-Reproductive Physiology Program
University of Wisconsin-Madison
- 2003 Cellular and molecular approaches for the study of maternal-fetal immune tolerance in nonhuman primates
Endocrinology-Reproductive Physiology Program
University of Wisconsin-Madison
- 2003 Cellular and molecular approaches for the study of maternal-fetal immune tolerance in nonhuman primates
Department of Pathology
Yale University School of Medicine
- 2004 Neural STAT signaling in development and homeostasis
Institute of Molecular Biology and Biotechnology
University of Crete, Greece
- 2004 Neural STAT signaling in development and homeostasis
Department of Pathology
Yale University School of Medicine
- 2004 Neural STAT signaling in development and homeostasis
Institute of Cell Engineering
Johns Hopkins University School of Medicine
- 2008 CNS control of energy homeostasis by nutrient and endocrine signals
Technical Committee on Dietary Lipids
The International Life Sciences Institute, North America
- 2008 CNS control of energy homeostasis by nutrient and endocrine signals
Department of Biological Chemistry
Johns Hopkins University School of Medicine
- 2008 CNS control of energy homeostasis by nutrient and endocrine signals
Department Biochemistry & Molecular Biology
Upstate University School of Medicine
- 2008 CNS control of energy homeostasis by nutrient and endocrine signals
Section of Comparative Medicine
Yale University School of Medicine
- 2008 CNS control of energy homeostasis by nutrient and endocrine signals
Department of Nutrition and Toxicology
University of California-Berkeley
- 2008 CNS control of energy homeostasis by nutrient and endocrine signals
Departments of Biochemistry & Molecular Pharmacology
Albert Einstein School of Medicine
- 2008 CNS control of energy homeostasis by nutrient and endocrine signals
Department of Biochemistry
University of Wisconsin-Madison
- 2008 CNS control of energy homeostasis by nutrient and endocrine signals
Institute of Diabetes, Obesity and Metabolism
University of Pennsylvania
- 2008 CNS control of energy homeostasis by nutrient and endocrine signals
Department of Nutrition
Pennsylvania State University
- 2008 CNS control of energy homeostasis by nutrient and endocrine signals
Division of Nutritional Sciences

- Cornell University**
2008 CNS control of energy homeostasis by nutrient and endocrine signals
Department of Cellular and Molecular Physiology
- Pennsylvania State School of Medicine**
2009 *(declined due to birth of 2nd child)*
Molecular and Cellular Biology of Lipids
- Gordon Conference**
2009 Brain CPT1 Enzymes in Obesity and Diabetes
Graduate School of Metabolism
- University of South Denmark**
2009 Novel Enzymes in Neural Fatty Acid Metabolism, CPT1c & ACOT7
Department of Cell Biology
- Johns Hopkins University School of Medicine**
2009 CNS control of energy homeostasis by nutrient and endocrine signals
Endocrine Grand Rounds
- Johns Hopkins University School of Medicine**
2010 Regulation of Body Weight by Carnitine Palmitoyltransferase-1c
FASEB-Phospholipid Meeting
- Steamboat Springs, CO**
2010 Malonyl-CoA and CPT1c Regulation of Body Weight
International Congress of Endocrinology Meeting
- Kyoto, Japan**
2011 From a Global to a Cellular Resolution in Metabolic Biochemistry
Division of Endocrinology, Diabetes and Nutrition
- University of Maryland School of Medicine**
2011 From a Global to a Cellular Resolution in Metabolic Biochemistry
Biological Chemistry
- Johns Hopkins University School of Medicine**
2011 Central Nutrient Sensing in Obesity and Diabetes
Endocrine Grand Rounds
- Johns Hopkins University School of Medicine**
2012 Neurometabolic Control of Behavior and Physiology
- GlaxoSmithKline, Boston MA**
2012 Unraveling novel enzyme function in situ using metabolomics
Metabolomics Conference
- Bethesda, MD**
2012 Unraveling novel enzyme function in situ using metabolomics
Metabolomics Conference
- Huntsville, NJ**
2012 Neurometabolic Control of Behavior
Department of Embryology
- Carnegie Institute**
2013 Acyl Coenzyme A Thioesterases
Joint DRTC/NORC Conference
- University of Maryland**
2013 Unraveling novel enzyme function in situ using metabolomics
Metabolomics Conference
- University of Pennsylvania**
2013 Neurometabolism
Breast Cancer Prevention Group
- Johns Hopkins University School of Medicine**
2014 **Theme Organizer: Emerging Roles of Mammalian Lipid Metabolism.**
Regulation of neuron function and metabolism by acyl-CoA hydrolysis.
American Society of Biochemistry and Molecular Biology Annual Meeting.

San Diego, CA