

3/9/2018

Curriculum Vitae**Randy Scott Rector, Ph.D.**

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EDUCATION/TRAINING

<u>Date</u>	<u>Institution</u>	<u>Degree</u>	<u>Discipline</u>
July 2010	University of Missouri, Columbia, MO Mentor: Dr. Jamal A. Ibdah	Post-Doc	Hepatology
May 2007	University of Missouri, Columbia, MO Mentor: Dr. Tom R. Thomas	PhD	Exercise Physiology
Aug 1999	Arkansas State University, Jonesboro, AR Mentor: Dr. Mike Greenwood	MS	Exercise Science
Aug 1998	Arkansas State University, Jonesboro, AR Mentors: Dr. Jake Darby and Dr. Jack Sugg	BS	Exercise Science

PROFESSIONAL EXPERIENCE AND ACADEMIC APPOINTMENTS

July 2016-	Associate Professor with Tenure, Nutrition & Exercise Physiology and Medicine-Gastroenterology and Hepatology, University of Missouri
July 2011-	Research Health Scientist, Harry S Truman Memorial Veterans Medical Center, Research Service
2010-2016	Assistant Professor, Medicine-Division of Gastroenterology and Hepatology, and Nutrition and Exercise Physiology, University of Missouri
2004-2011	Harry S Truman Memorial Veterans Medical Center, Research Service, Biological Research Technician-WOC
2007-2010	Post-Doctoral Research Fellow, Internal Medicine, Division of Gastroenterology and Hepatology, University of Missouri-Columbia
2001-2007	Graduate Research Assistant, University of Missouri-Columbia
1999-2001	Adjunct Faculty, Arkansas State University
1998-1999	Graduate Teaching Assistant, Arkansas State University
1998	Internship in Cardiac Rehab at St. Bernards Medical Center, Jonesboro, AR

PROFESSIONAL MEMBERSHIPS

2003-Present: American Physiological Society (APS)
 2010, 2013-Present: American Diabetes Association (ADA)
 2010-Present: American Association for the Study of Liver Diseases (AASLD)
 2016-Present: Fellow (FTOS), The Obesity Society (Member 2011-Present)
 2017-Present: Fellow (FACSM), American College of Sports Medicine (Member 1998-Present)
 2018-Present: American Society for Nutrition

HONORS AND AWARDS

2017: Bio-Serv Award in Experimental Animal Nutrition: American Society for Nutrition (ASN): EB 2017
 2016: Maxine Seabaugh Schade Faculty Scholar

2012: MU School of Medicine: Dorsett L. Spurgeon M.D. Distinguished Medical Research Award
 2011: American Association of Study of Liver Diseases—Presidential Plenary Session Seminar
 2008: Digestive Disease Week--Poster of Distinction Award
 2005, 2006: *The Chancellor's List*
 2005, 2006: Graduate Student Poster Award- Central States Chapter, ACSM
 2002: Outstanding Graduate Student Award- Exercise Physiology. University of Missouri
 1999: Outstanding Graduate Student- Department of HPER. Arkansas State University
 1998: Who's Who in American Colleges and Universities

FELLOWSHIPS/SCHOLARSHIPS

2006-07: HEALTH ACTIVITY CENTER-M. *HAROLD LAUGHLIN SCHOLARSHIP* AWARD WINNER
 2005-2006: James L. McGregor Scholarship in Health and Exercise Sciences, University of Missouri

INVITED SEMINARS/LECTURES/ORAL PRESENTATIONS

1. Saturday Morning Science, MU Life Sciences Center, Columbia, MO. March 2018 **RS Rector**. Lifestyle Modification and Healthy Plant-Based Diets to Improve Metabolic Health.
2. FoodFluence 2018, International Meeting, Lisbon, Portugal, Jan 2018. **RS Rector**. Current Evidence and Emerging Research with Soy Based Protein on Metabolic Health.
3. The Obesity Society, National Meeting, Nov 2017. **RS Rector**. Liver + Exercise = Metabolic Health. Slides presented by Dr. John Thyfault due to death in family.
4. University of Kansas Medical Center, Department of Molecular and Integrative Physiology, Oct 2, 2017. **RS Rector**. Hepatocellular eNOS and NAFLD Susceptibility
5. Experimental Biology, National Meeting, April 2017. **RS Rector**. Exercise Training versus metformin on NAFLD-Related Outcomes and Hepatic Lipid Metabolism
6. Experimental Biology, National Meeting, April 2017. **RS Rector**. Managing Nonalcoholic Fatty Liver Disease: Are All Lifestyle Interventions Created Equal?
7. University of Kentucky, Oct 2016. **RS Rector**. Managing Nonalcoholic Fatty Liver Disease: Are All Lifestyle Interventions Created Equal?
8. University of Guelph, May 18th, 2016. **RS Rector**. Managing NASH in a Westernized World.
9. Arkansas Children's Nutrition Center and Arkansas Children's Hospital, Oct 2nd, 2015. **RS Rector**. Managing NASH in a Westernized World.
10. Nutrition and Exercise Physiology Departmental Seminar, University of Missouri, September 17, 2015. **RS Rector**. Managing NASH in a Westernized World: Lifestyle, Drugs, or Gut Bugs?
11. Eli Lilly and Company, August 8, 2015. **RS Rector**. Managing NASH in a Westernized World: Lifestyle, Drugs, or Gut Bugs?
12. VA Career Development Awardee Meeting, July 27, 2015. **RS Rector**. Mitochondrial Dysfunction in NAFLD, hepatic insulin resistance, and type 2 diabetes
13. American College of Sports Medicine, National Meeting, May 29, 2015. **RS Rector**. Intrahepatic Lipids: Systemic Implications and Management with Lifestyle Modification
14. VA Mitochondrial Medicine Symposium, Invited Meeting June 2014. **RS Rector**. Mitochondrial dysfunction in NAFLD, hepatic insulin resistance, and type 2 diabetes
15. American College of Sports Medicine, National Meeting, May 30, 2014. **RS Rector**. Ossabaw Swine: Modeling Childhood Obesity and Fatty Liver Disease
16. MU-iCATS Translational Science Seminar Series, University of Missouri, December 11, 2012. **RS Rector**. Treating NAFLD with Lifestyle Therapies.
17. Dorsett L. Spurgeon M.D. Distinguished Medical Research Award Seminar, University of Missouri, November 15, 2012. **RS Rector**. Treating NAFLD in Children and Adults: Tools for Translation
18. American College of Sports Medicine, Central States Chapter, October 19, 2012. **RS Rector**. Treating Nonalcoholic Fatty Liver Disease: Does Exercise Modality Matter?
19. American College of Sports Medicine, National Meeting, May 31, 2012. **RS Rector**. Inactivity and Non-Alcoholic Fatty Liver Disease.
20. Medical Pharmacology and Physiology, University of Missouri, March 13, 2012. **RS Rector**. Integrative Approach to Combat Nonalcoholic Fatty Liver Disease.
21. College of Osteopathic Medicine and Dept of Biological Sciences, William Carey University, February 13, 2012. **RS Rector**. A Translational Approach to Battle the Nonalcoholic Fatty Liver Disease Epidemic.

22. Interdepartmental Nutrition Program, Purdue University, November 2011. **RS Rector**. Nonalcoholic Fatty Liver Disease: A Balancing Act.
23. Biomedical Sciences Departmental Seminar, University of Missouri, February 24, 2011. **RS Rector**. Nonalcoholic Fatty Liver Disease: Changing the Course with Lifestyle Intervention.
24. American Association for the Study of Liver Diseases (AASLD), November 1, 2010. **RS Rector**. Exercise and outcomes of fatty liver disease.
25. American College of Sports Medicine, Central States Chapter, November 6, 2009. **RS Rector**. Negative consequences of physical inactivity on liver health and disease development.
26. American College of Sports Medicine, National Meeting, Seattle WA, May, 2009. **RS Rector**. Potential mechanisms mediating exercise-associated attenuation of fatty liver disease.
27. Nutrition and Exercise Physiology Departmental Seminar, University of Missouri, April 24, 2008. **RS Rector**. Potential mechanisms mediating exercise-associated attenuation of fatty liver disease.
28. Internal Medicine-Cardiology Grand Rounds-University of Missouri, Sept 20, 2007. **RS Rector**. Antioxidative role of exercise and weight loss.
29. MU-Nutritional Sciences Departmental Seminar and Dissertation Defense, January 26, 2007. **RS Rector**. Exercise and diet induced weight loss improves measures of oxidative stress and insulin sensitivity.
30. University of Arizona- Diabetes and Endocrinology Group, November 16, 2006. **RS Rector**. The antioxidative effects of exercise training- and diet-induced weight loss.
31. MU-Nutritional Sciences Departmental Seminar, April 28, 2005. **RS Rector**. The effects of short-term weight loss and weight maintenance on systemic inflammatory markers.

SYMPOSIUM CHAIR/CO-CHAIR

Experimental Biology, National Meeting, April 2017, Chicago, IL

Session: Finding the Fat: Lifestyle Approaches to Protect Against Adipose Tissue and Liver Dysfunction. DC Wright and **RS Rector**, Co-Chairs

Obesity Society, National Meeting, October 2015, Los Angeles, CA

Session: Mitochondrial Energetics and Obesity. **RS Rector**, Co-Chair

Session: Yugo or Ferrari - Revving up or Stalling out: Mitochondrial Energetics in Obesity. **RS Rector**, Co-Chair

American College of Sports Medicine, National Meeting, May 2014. Orlando, FL

Session: Exercise and Blood Flow Restriction. **RS Rector**, moderator

American Diabetes Association, National Meeting, June 2013, Chicago, IL

Session: Exercise in Humans—Efficacy and Possible Mechanisms. **RS Rector**, moderator

Obesity Society, National Meeting, October 2011. Orlando, FL

Session: Fatty acid metabolism and muscle. **RS Rector** and Jill Kanaley, co-chairs

American College of Sports Medicine, National Meeting, May 2009. Seattle, WA

Session Title: Prevention of Fatty Liver Disease through Lifestyle Modification: From Cellular Mechanisms to Clinical Applications. JP Thyfault and **RS Rector**, co-chairs.

TEACHING

University of Missouri

Fall 2017 MU School of Medicine-Patient Based Learning, Block 2; Facilitator

Spring 2017 NS8030-Etiology of Obesity: Department of Nutrition and Exercise Physiology
Lead Instructor and Course Organizer: **RS Rector**

Fall 2016 NS 8850-*Advanced Exercise Physiology*. Department of Nutrition and Exercise Physiology
Co-Instructors: J Kanaley and **RS Rector**

Spring 2016 MU School of Medicine-Patient Based Learning, Block 7; Lecture on NAFLD
MU School of Medicine-Patient Based Learning, Block 4; Lecture on Physical Activity and Glycemic Control

Fall 2015 MU School of Medicine-Patient Based Learning, Block 2; Facilitator

- Spring 2015 MU School of Medicine-Patient Based Learning, Block 7; Lecture on NAFLD
- Fall 2014 NS 8850-*Advanced Exercise Physiology*: Department of Nutrition and Exercise Physiology
Co-Instructors: J Kanaley and **RS Rector**
- Fall 2014 MU School of Medicine-Patient Based Learning, Block 2; Facilitator
- Spring 2014 MU School of Medicine-Patient Based Learning, Block 7; Lecture on NAFLD
- Fall 2013 MU School of Medicine-Patient Based Learning, Block 2; Co-Facilitator with Alan Parrish, solo last 5 weeks
- Fall 2012 NS 8850-*Advanced Exercise Physiology*: Department of Nutrition and Exercise Physiology
Co-Instructors: J Kanaley and **RS Rector**
- Spring 2012 NS4001/7001: *Etiology of Obesity*: Department of Nutrition and Exercise Physiology
Co-Instructors: **RS Rector** and JW Perfield
- Fall 2011 NS 8850-*Advanced Exercise Physiology*: Department of Nutrition and Exercise Physiology
Co-Instructors: J Kanaley and **RS Rector**
- Fall 2010- Present Ongoing contributions to the GI Fellowship Program, including numerous educational lectures
- 2001-2003 Graduate Research Assistant: Department of Nutritional Sciences
Teaching assistant: Independently taught Exercise Physiology Lab sections
Exercise Physiology courses
Exercise Physiology Lab sections

Guest Lectures at University of Missouri

- 03/18/14- NS2222 Landscape of Obesity-NEAT: What is it good for?
- 03/13/13- NS2222 Landscape of Obesity-Non-Exercise Physical Activity: Vital for Obesity Prevention
- 03/13/12- NS2222 Landscape of Obesity-Non-Exercise Physical Activity: Vital for Obesity Prevention
- 03/15/11- NS2222 Landscape of Obesity-Non-Exercise Physical Activity: Role in Obesity Prevention
- 03/11/10- NS2001 Landscape of Obesity-Non-Exercise Activities and Their Impact on Obesity
- 10/27/09- NS8850 Advanced Exercise Physiology-Use of Molecular Biology in Exercise Physiology
- 10/25/07- NS8850 Advanced Exercise Physiology-Gene Expression-Tools and Techniques
- 11/04/05- NS8850 Advanced Exercise Physiology- Overview of Gene Expression
- 10/12/05- NS1340 Nutrition and Fitness- Substrate Utilization during Exercise
- 11/09/04- NS8850 Advanced Exercise Physiology- Exercise and Gene Expression
- 10/11/04- NS1340 Nutrition and Fitness- Protein and Fat Utilization during Exercise

Arkansas State University

- 1998-1999 Graduate Teaching Assistant: Department of Health, Physical Education and Sports Sciences
Exercise Physiology
Kinesiology
Strength and Conditioning
Research Methods and Statistics
- 1999-2001 Adjunct Faculty: Department of Health, Physical Education and Sports Sciences
Taught following courses:
Nutrition and Fitness (4 sections per semester)
Kinesiology (1 section)

American College of Sports Medicine

- May 2007- ACSM Health/Fitness Instructor Workshop—Basic Exercise Physiology Lecture
- May 2008- ACSM Health/Fitness Instructor Workshop—Basic Exercise Physiology Lecture

ADVISING

Graduate (PhD) student advisees

- | | <u>Start</u> | <u>Finish</u> |
|---|--------------|-------------------|
| Justin A. Fletcher – Exercise Physiology Doctoral Student
(Co-Mentor with Dr. John Thyfault) | 08/10-12/14 | Graduated 12/2014 |
| Melissa Linden- Exercise Physiology Doctoral Student
(Mentor) | 01/12-7/15 | Graduated 12/2015 |
| Ryan Sheldon-Exercise Physiology Doctoral Student | 08/12-3/2016 | |

(Mentor)	Graduated 5/2016
Kevin Eck- Exercise Physiology Doctoral Student	08/15-1/16
(Mentor)	
Rory Cunningham- Exercise Physiology Doctoral Student	08/16-
(Mentor)	
Mary Moore-Exercise Physiology Doctoral Student	08/17-
(Mentor)	
Justine Mucinski-Exercise Physiology Doctoral Student	08/17-
(Co-Mentor with Dr. Elizabeth Parks)	

Research Fellows

Abhishek Choudhary-- Gastroenterology	08/10-12/12
(Co-Mentor with Dr. Jamal Ibdah)	
Kristi Lopez-Gastroenterology	09/12-7/15
(Mentor)	
Sameer Siddique-Gastroenterology	09/12-12/12
(Mentor)	

PhD dissertation committees

Tim Heden- Exercise Physiology	01/12-07/14
(Mentor-Dr. Jill Kanaley)	Graduated
Laura Ortinou-Nutritional Sciences	07/14-12/16
(Mentor-Pam Hinton)	Graduated
Rebecca Dirkes-Nutritional Sciences	06/16-
(Mentor-Pam Hinton)	
Zach Grunewald-Exercise Physiology	3/17-
(Mentor-Jaume Padilla)	
Mew Krisanabud-Nursing	7/17-
(Mentor-Deidre D. Wipke-Tevis)	
Danielle Karasko-Nursing	9/17-
(Mentor-Deidre D. Wipke-Tevis)	
Ryan Petite-Mee- Exercise Physiology	8/17-
(Mentor-Dr. Jill Kanaley)	
Victoria Gremminger-Biochemistry	7/17-
(Mentor-Charlotte Phillips)	
Nathan Winn-Exercise Physiology	08/14-
(Mentor-Dr. Jill Kanaley)	

MS Thesis committees

DJ Oberlin– Exercise Physiology	01/11-12/11
(Mentor-Dr. John Thyfault)	Graduated
Andrew Dawson-Exercise Physiology	08/10-7/11
(Mentor-Dr. Pam Hinton)	Graduated
Tim Sinak-Exercise Physiology	09/11-12/12
(Mentor-Dr. Pam Hinton)	Graduated
Nan Lin-Nutritional Sciences	11/13-1/17
(Mentor- Dr. Pam Hinton)	
Matthew W. Richard-Nutritional Sciences	04/14-07/16
(Mentor- Dr. Pam Hinton)	
Stephanie Clookey-Nutritional Sciences	3/17-
(Mentor-Vicki Vieira-Potter)	

Post-Doctoral Research Fellows

Matthew Panasevich—Nutrition and Exercise Physiology	08/15-08/17
(Mentor)	

Summer Research Interns

Nicholas Shea-Truman State University (Mentor)	Summer 2013
Colin Schuster-MU-SOM Medical Student -First year (Mentor)	Summer 2015

Undergraduate Mentees (since 2010)

Craig Meers
 Mahir Khan
 Timothy Tan
 Kelly Stromsdorfer
 Raisa Buenaventura
 Laura Taylor
 Ryan Toedebusch
 Radheya Naik
 Tasnim Haq
 Katie Phillips
 Austin Morrison
 Luigi Boccardi
 Vivien Jepkemoi

University of Guelph

Member: Special Graduate Faculty; Will Peppler, PhD Candidate Department of Human Health and Nutritional Sciences	October 2014-Present
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SERVICE**University of Missouri Committees**

Judge-Life Sciences Week-Organismal Biology Section	04/2015; 04/2016
Judge- MU SOM-Health Sciences Research Day	2011; 2012; 2013; 2014; 2015; 2016; 2017
Co-Organizer for Nutrition and Exercise Research Week, NEP	Spring 2011
Faculty search committee member-GI	2010, 2011, 2012, 2014
Dept of Medicine Research Council-Committee member	07/11-7/2017
Organizer for Nutrition and Exercise Physiology Seminar Series	Fall 2011, Spring 2012
Exercise Physiology Graduate Curriculum Committee	Fall 2012- Present
MU CTSA Stakeholder Council-Junior Faculty Representative	Fall 2012- Present
MU-School of Medicine Faculty Research Council Committee Member	July 2013- June 2016 <u>Chair</u> , 7/2015- 6/2016
MU-Division of GI, Hepatology Fellow Selection Committee	2013, 2014, 2015, 2016, 2017
MU- GI, Gastroenterology Fellowship Program Selection Committee	2013, 2014, 2015, 2016, 2017
Nutrition & Exercise Physiology, Faculty Search Committee-Teaching Track	Fall 2013
Nutrition & Exercise Physiology, Faculty Search Committee-Tenure Track	Fall 2013
Nutrition & Exercise Physiology, Faculty Search Committee-Tenure Track	Spring 2016, <u>Chair</u>
MU Scientific Peer Review Committee Member	Feb 2014-
MU Institutional Animal Care and Use Committee (IACUC)-Voting Member	07/2015-Present <u>Chair</u> : 7/2017-
Nutrition & Exercise Physiology, Promotion and Tenure Committee	01/2017-Present
Mission Based Management Education Committee-MU SOM	9/2017-Present

Harry S Truman Memorial VA Hospital

Voting Member of the Subcommittee for Animal Safety (VA-IACUC)	07/10-Present <u>Vice Chairperson</u> : 07/12-07/14 <u>Chairperson</u> : 07/14-Present
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AD HOC REVIEWER

Diabetes; Hepatology; PLoS Genetics; American Journal of Physiology-Endocrinology and Metabolism; American Journal of Physiology-Gastrointestinal and Liver Physiology; American Journal of Physiology-Renal Physiology; American Journal of Physiology-Regulatory, Integrative and Comparative Physiology; Journal of Physiology; Journal of Applied Physiology; Journal of the Cardiometabolic Syndrome, Antioxidants and Redox Signaling; Advances in Physiology Education; Metabolism; Liver International; Journal of Hepatology; Journal of Nutrition and Metabolism; Preventing Chronic Disease; European Journal of Applied Physiology; PLoS ONE; Medicine Science in Sports and Exercise; Obesity; Nutrients; FEBS Journal

EDITORIAL BOARDS

Journal of CardioRenal Medicine	August 2011-present
Frontiers in Physiology	May 2012-present
Physiological Genomics	July 2015-present
Experimental Physiology	Jan 2017-present

ASSOCIATE EDITOR

Applied Physiology Nutrition and Metabolism	August 2015-
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GRANT REVIEWER

Longer Life Foundation—Washington University, July 2012
 University of Missouri Research Board, Nov 2012
 NIH-National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) –Subcommittee C Study Section, June 2013
 French National Research Agency, June 2014
 NIH-Integrative Nutrition and Metabolic Processes (INMP)-Study Section, October 2014
 Swiss National Science Foundation, October 2016
 AHA Strategic Focus Obesity Research Network, January 2017
 Michigan Nutrition Obesity Research Center (MNORC), June 2017
 NIH-ZRG1-DKUS-H (54) Study Section, Special Emphasis Panel, Nov 2017
 NIH-ZRG1-DKUS-H (54) Study Section, Special Emphasis Panel, March 2018

THE OBESITY SOCIETY

Annual Program Committee Member-Co-Chair Physiology Track 1	2017-2020
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GRANTS/SUPPORT**Current Research Support**

VA Merit Grant 1 I01 BX003271-01	RS Rector, PI	4/1/2017-3/31/2021
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“Hepatic eNOS and Mitochondrial Function in NASH”

Role: Principle Investigator

The goal of this project is to examine the role of hepatocellular endothelial nitric oxide synthase in the regulation of NRF2 and BNIP2 in the progression of NASH.

\$965K Direct Costs

NIH R01 DK113701-01	RS Rector, EJ Parks, JA Ibdah (MPI)	7/1/2017-6/30/2022
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“Nutrient overload, insulin resistance, and hepatic mitochondrial dysfunction”

Role: Principle Investigator in MPI

The goal of this project is to examine the role of hepatic mitochondrial dysfunction in the development and progression of NASH and to determine whether hepatic mitochondria function is modifiable with lifestyle intervention therapies.

\$2.25M Direct Costs

Missouri Foundation for Medical Research	RS Rector, PI	6/1/2016-4/1/2018
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“Hepatocellular eNOS and Fatty Liver Disease”

The goal of this project is to examine the role of hepatic endothelial nitric oxide synthase in the progression of NASH.

\$10K

Completed Research Support (Funded)

1 IK2 BX001299-01

Career Development Award-2 (RS Rector, PI, 75%)

7/1/2011-6/30/2016

Veterans Health Administration

Hepatic mitochondria and insulin resistance in fatty liver and type 2 diabetes

The goal of this project is to test the hypothesis that hepatic insulin resistance associated with NAFLD develops secondary to mitochondrial dysfunction and is a significant contributing factor in the development of type 2 diabetes, and to determine the effectiveness of daily exercise vs. caloric restriction (with and without metformin) in the treatment of NAFLD and type 2 diabetes.

\$865K

Missouri Foundation for Medical Research

(RS Rector, PI)

6/1/2016-5/31/2017

Hepatocellular eNOS and Fatty Liver Disease

The goal of this project is to examine the role of hepatic endothelial nitric oxide synthase in the progression of NASH.

\$10K

Sola/DuPont

(RS Rector, Co-PI, 5%; JP Thyfault, Co-PI)

1/01/15-4/01/2016

Soy protein in the prevention of hepatic steatosis and skeletal muscle lipid peroxidation

The goal of this project is to test the hypothesis that soy protein isolate can be used in the prevention of hepatic and skeletal muscle lipid accumulation through enhancement in mitochondrial metabolism.

\$113K

Mizzou Alumni Association-RWF Incentive Grant (RS Rector, PI)

1/1/2015-12/31/2015

Role of hepatic endothelial nitric oxide synthase in nonalcoholic fatty liver disease progression

The goal of this project is to examine the role of hepatic endothelial nitric oxide synthase in normal hepatocyte mitochondrial function and prevention of hepatocellular inflammation.

\$3K

University of Missouri-Research Board Grant (RS Rector, Co-PI: CA Emter, Co-PI)

4/1/2015-3/31/2016

Translational swine model for the study of HFpEF

The goal of this project is to develop, characterize, and examine mechanisms impacting the progression of heart failure with preserved ejection fraction (HFpEF) in a female Ossabaw swine model of obesity and the metabolic syndrome.

\$45K

University of Missouri-Research Council (RS Rector, PI)

4/1/2015-3/31/2016

Aerobic exercise training as a mitigator of nonalcoholic fatty liver disease related fibrosis

The goal of this project is to determine whether exercise can effectively treat more advanced stages of liver disease, particularly hepatic fibrosis through the upregulation in fibrosis resolution pathways.

\$10K

University of Missouri School of Medicine-Department of Medicine (RS Rector, PI)

4/1/2015-3/31/2016

Hepatocellular eNOS and Mitochondrial Quality Control

The goal of this project is to determine the role of hepatocellular eNOS in the regulation of hepatic mitochondrial function.

\$25K

VA-Shared Equipment Evaluation Program (ShEEP Project) (RS Rector, PI)

Awarded June 2014

Grant awarded for the purchase of Core Research Equipment. Oroboros Respiratory System

\$55K

VA-Shared Equipment Evaluation Program (ShEEP Project) (**RS Rector**, PI) Awarded June 2013
 Grant awarded for the purchase of Core Research Equipment. Echo MRI System, (4-in-1/1100 magnetic resonance analyzer).
 \$154K

JR Albert Foundation (**RS Rector**, PI) 4/1/2012-8/30/2013
 The goal of this project is to characterize the inflammatory phenotype of regionally distinct adipose tissue depots (subcutaneous and intra-abdominal) in obese children and correlate these findings based on the presence and severity of nonalcoholic fatty liver from liver biopsies.
 \$110K

Allen Foundation, Inc (**RS Rector**, PI; 10%) 7/1/2011-12/30/2012
Characterization of a Biomedical Model for Childhood Obesity
 The goal of this project is to development an appropriate animal model of childhood obesity.
 \$82K

1F32 DK083182-01 (**RS Rector**, PI; 100%) 9/01/2008 - 6/30/2010
 NIH:NIDDK
 Ruth L. Kirschstein National Research Service Award (NRSA)- Post-Doctoral Training Grant
 Exercise, mitochondrial function, and fatty acid oxidation in fatty liver disease
 The goal of this project is to examine the impact of exercise on mitochondrial function, insulin resistance, and non-alcoholic fatty liver disease in knockout mice heterozygous for mitochondrial trifunctional protein.
 \$90K

NIH T32 AR48523 (R. Terjung, PI; **RS Rector**, Trainee; 100%) 8/1/2003 – 1/31/2007
 NIH-Institutional Training Grant; Pre-Doctoral Training Grant
 Exercise and Health: Integration from Molecule to Patient.
 \$85K

PEER REVIEWED PUBLICATIONS (MOST RECENT LISTED FIRST)

1. RK Dirkes, MW Richard, GM Meers, DN Butteiger, ES Krul, JP Thyfault, **RS Rector**, PS Hinton. Soy Protein Isolate Suppresses Bone Resorption and Improves Trabecular Microarchitecture in Spontaneously Hyperphagic, Rapidly Growing Male OLETF Rats. *Cur Develop in Nutr. January 17 2018 In Press*
2. JA Fletcher, MA Linden, RD Sheldon, GM Meers, EM Morris, A Butterfield, JW Perfield II, **RS Rector**, and JP Thyfault. Fibroblast Growth Factor 21 increases hepatic oxidative capacity but not physical activity or energy expenditure in hepatic PGC-1 α deficient mice. *Exp Physiol In Press 2017*. PMID: 29215172
3. TD Olver, ZI Grunewald, TJ Jurrissen, RE MacPherson, PJ LeBlanc, TR Schnurbusch, AM Czajkowski, MH Laughlin, **RS Rector**, SB Bender, EM Walters, CA Emter, J Padilla. Microvascular insulin resistance in skeletal muscle and brain occurs early in the development of juvenile obesity in pigs. *Am J Physiol Regul Integr Comp Physiol Nov 15 2017 In Press*. PMID 29141919.
4. LC Ortinau, MA Linden, R Dirkes, **RS Rector**, PS Hinton. Obesity and type 2 diabetes, not a diet high in fat, sucrose, and cholesterol, negatively impacts bone outcomes in the hyperphagic Otsuka Long Evans Tokushima Fatty rat. *Bone 105:200-211, 2017*. PMID 28893629
5. MR Panasevich, GM Meers, MA Linden, FW Booth, JW Perfield II, KL Fritsche, UD Wankhade, SV Chintapalli, K Shankar, JA Ibdah, **RS Rector**. High Fat, High Fructose, High Cholesterol Feeding Causes Severe NASH and Cecal Microbiota Dysbiosis in Juvenile Ossabaw Swine. *Am J Physiol Endo and Metab*. 314(1):E78-E92, 2017. PMID: 28899857
6. NC Winn, Y Liu, **RS Rector**, EJ Parks, JA Ibdah, JA Kanaley. Energy-matched moderate and high intensity exercise training improves nonalcoholic fatty liver disease risk independent of changes in body mass or abdominal adiposity - a randomized trial. *Metabolism 8:128-140, 2018*. PMID: 28941598
7. MA Romero, CB Mobley, MA Linden, GM Meers, JS Martin, KC Young, **RS Rector**, MD Roberts. Endurance training lowers ribosome density despite increasing ribosome biogenesis markers in rodent skeletal muscle. *BMC Res Notes 10(1):399, 2017*. PMID 28800772

8. JW Porter, JL Rowles, JA Fletcher, TM Zidon, NW Winn, LT McCabe, YM Park, JW Perfield, JP Thyfault, **RS Rector**, J Padilla, V Vieira-Potter. Anti-inflammatory effects of exercise training in adipose tissue do not require FGF-21. *J Endocrinol* 235(2):97-109, 2017 PMID: 28765264
9. LC Ortinau, MA Linden, RK Dirkes, **RS Rector**, PS Hinton. Exercise initiated after the onset of insulin resistance improves trabecular microarchitecture and cortical bone biomechanics of the tibia in hyperphagic Otsuka Long Evans Tokushima Fatty rats. *Bone* 103:188-199, 2017. PMID: 28711659
10. MR Panasevich, WT Pepler, DB Oerther, DC Wright, **RS Rector**. Microbiome and NAFLD: Potential Influence of Aerobic Fitness and Lifestyle Modification. *Physiol Genomics* 49(8):385-399, 2017 PMID: 28600319
11. MR Panasevich, CM Schuster, KE Phillips, GM Meers, SV Chintapalli, UD Wankhade, K Shankar, DN Butteiger, ES Krul, JP Thyfault, **RS Rector**. Soy compared with milk protein in a Western diet changes fecal microbiota and decreases hepatic steatosis in obese OLETF rats. *J Nutr Biochem* 46:125-136, 2017. PMID: 28605664.
12. Y Jeong, SA Daghlis, AS Kahveci, D Salamango, BA Gentry, M Brown, **RS Rector**, RS Pearsall, CL Phillips. Soluble activin receptor type IIB decoy receptor differentially impacts murine osteogenesis imperfecta muscle function. *Muscle Nerve May 26 2017 In Press* PMID: 28555931
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