

Andrew R. Judge, Ph.D.

Address: Department of Physical Therapy
101 S. Newell Drive
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College of Public Health & Health Professions
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Gainesville, FL 32610
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EDUCATION

2004 – 2006 Boston University, Boston, MA
Postdoctoral Fellow, Muscle Biology
Advisor: Susan Kandarian, Ph.D.

1999 – 2003 University of Florida, Gainesville, FL
Ph.D. Exercise Physiology
Advisor: Stephen Dodd, Ph.D.

1997 – 1999 McNeese State University, Lake Charles, LA
M.Ed. Exercise Physiology
Advisor: Robert Voight, Ph.D.

1993 – 1996 Loughborough University, Leicestershire, England
B.S.

PROFESSIONAL EXPERIENCE

2009 – Present University of Florida, Gainesville, FL
Assistant Professor, Department of Physical Therapy

2007 – 2009 University of Florida, Gainesville, FL
Research Assistant Professor, Department of Applied Physiology and Kinesiology

2006 – 2007 University of Florida, Gainesville, FL
Research Associate Scientist, Department of Applied Physiology and Kinesiology

2006 North Shore Community College, Lynn, MA
Adjunct Lecturer, Department of Natural Sciences

2004 - 2006 Boston University, Boston, MA
Postdoctoral Fellow, Muscle Biology Lab, Department of Health Sciences

2003 - 2004 University of Florida, Gainesville, FL
Visiting Assistant Professor, Department of Applied Physiology and Kinesiology

- 2002 - 2003 University of Florida, Gainesville, FL
Graduate Research Assistant, Muscle Physiology Lab, Department of Applied Physiology and Kinesiology
- 2001 –2003 University of Florida, Gainesville, FL
Graduate Teaching Assistant, Department of Applied Physiology and Kinesiology
- 1998 – 1999 McNeese State University, Lake Charles, LA
Graduate Teaching Assistant, Department of Health and Human Performance

AWARDS & PROFESSIONAL ACTIVITY

- 2009 Ad Hoc Reviewer: NASA/NSBRI skeletal muscle/cardiovascular physiology study section
- 2009 Ad Hoc Reviewer: U.S. Army Research, Division of Life Sciences
- 2005 Young Investigator Award, FASEB Summer Research Conference, Skeletal Muscle Satellite and Stem Cells, Tucson, AZ.
- 2004 - 2006 National Space Biomedical Research Institute (NSBRI), Postdoctoral Fellowship.
- 2000-2003 Achievement of Outstanding Academic Excellence, International Center, University of Florida

JOURNAL PEER REVIEWER

Acta Physiologica
Age and Ageing
American Journal of Physiology: Cell Physiology
American Journal of Physiology: Regulatory, Integrative and Comparative Physiology
European Journal of Applied Physiology
European Journal of Cancer
The FASEB J
Journal of Anatomy
Journal of Applied Physiology
Journal of Experimental Zoology Part A: Comparative Experimental Biology
Medicine & Science in Sport & Exercise
Pflügers Archiv European Journal of Physiology
Sports Medicine

RESEARCH

Areas of Interest: NF- κ B and FOXO signaling in skeletal muscle atrophy.
The role of heat shock proteins in the regulation of muscle mass
The role of oxidants in skeletal muscle atrophy.
Skeletal muscle atrophy and dysfunction associated with Peripheral Arterial Disease and exercise claudication.

Grant Support:

1R03AR056418-01A1 (A.R. Judge) 3/1/2009-2/28-2012

NIH, NIAMS

“The role of heat shock proteins in skeletal muscle disuse atrophy”

Total costs: \$219,750

Total direct costs: \$150,000

09BN-09 (A.R. Judge) 7/1/2009-6/30/2012

Bankhead-Coley Cancer Research Program

“Role of NF kappa B and Foxo in the regulation of muscle atrophy genes and muscle atrophy during experimental cancer cachexia”

Type: New Investigator Research grant

Total costs: \$375,000

Total direct costs: \$347,222

08-KN-07 (A.R. Judge) 7/1/2008-6/30/2011

James and Esther King Biomedical Research Program

“Cytokine-induced muscle atrophy following exercise claudication”

Type: New Investigator Research grant

Total costs: \$373,122

Total direct costs: \$345,483

UF Pepper Institute (A.R. Judge) 4/1/2009-3/31/2011

"The role of heat shock protein 70 overexpression on the recovery of muscle mass and function following cast immobilization in old rats"

Total direct costs: \$46,616

Past Grant Support:

“The use of aspirin and other NSAIDS to ameliorate muscle atrophy due to simulated weightlessness”

Principle Investigator: Andrew R. Judge, Ph.D.

Agency: National Space & Biomedical Research Institute (NSBRI)

Type: Post-doctoral Fellowship (PF00501), Period: December, 2004 – September 2006.

INVITED PRESENTATIONS

Heat shock proteins and skeletal muscle atrophy, Department of Physiology, University of Kentucky, Fall 2009

Exercise & Peripheral Arterial Disease, Department of Physical Therapy, University of Florida, Fall 2009

OutFOXing muscle atrophy: The role of Hsp70, Department of Applied Physiology & Kinesiology, University of Florida, Fall 2009

Transcriptional regulation of muscle mass, Department of Physiology & Functional Genomics, University of Florida, Fall 2009

Heat shock proteins: Regulators of cell signaling and skeletal muscle atrophy. Beth Israel Deaconess Medical Center, Boston. Spring 2009.

Heat shock proteins as signaling molecules. Department of Neuroscience, University of Florida, Spring 2009

Heat shock proteins and muscle atrophy. Advances in Skeletal Muscle Biology in Health and Disease Biennial Conference, University of Florida, Spring 2009.

Heat shock proteins as signaling molecules in skeletal muscle during disuse and aging. The Interdisciplinary Research Seminar Series, College of Medicine, University of Florida, Fall 2008.

Oxidative damage in the skeletal muscle of peripheral arterial disease patients. Advances in Skeletal Muscle Biology in Health and Disease Biennial Conference, University of Florida, Spring 2007.

NF- κ B signaling in disuse muscle atrophy. Department of Applied Physiology and Kinesiology, University of Florida, Spring 2007.

NF- κ B signaling in disuse muscle atrophy. Department of Exercise Science Seminar, University of Massachusetts, Fall 2006.

Oxidative damage to skeletal muscle following exercise-induced claudication. Department of Exercise Science Seminar, University of Massachusetts, Fall 2003.

Exercise and ischemia-reperfusion injury in skeletal muscle. Center for Exercise Science Seminar, University of Florida, Fall 2002.

SYMPOSIA

The role of heat shock proteins in the regulation of skeletal muscle mass during, and following, cast immobilization. S.L. Dodd, B.A. Hain, S.M. Senf, S.A. Reed and **A.R. Judge**. Southeast Chapter of the American College of Sports Medicine, Greenville, SC, 2010

PEER REVIEWED PUBLICATIONS

Buford TW, Anton SD, **Judge AR**, Marzetti E, Wohlgemuth SE, Carter CS, Leeuwenburgh C, Pahor M, Manini TM. Models of accelerated sarcopenia: Critical pieces for solving the puzzle of age-related muscle atrophy. *Ageing Res Rev.* Apr 30, 2010

J.M. McClung, **A.R. Judge**, S.K. Powers and Z. Yan. p38 MAPK links oxidative stress to autophagy-related gene expression in cachectic muscle wasting. *Am J. Physiol. Cell Physiol.* Dec, 2009

S.M. Senf, S.L. Dodd and **A.R. Judge**. FOXO Signaling is Required for Disuse Muscle Atrophy and is Directly Regulated by Hsp70. *Am J. Physiol. Cell Physiol.* Oct, 2009

S.L. Dodd, B. Gagnon, S.M. Senf, B.A. Hain, and **A.R. Judge**. ROS-mediated activation of NF- κ B and Foxo during muscle disuse. *Muscle & Nerve.* Jul, 2009

Dodd, SL, Hain, BA, Senf, SM and **Judge, AR**. Hsp27 inhibits IKK β -induced NF- κ B activity and skeletal muscle atrophy. *FASEB J.* Jun 15, 2009.

McClung, JM, **Judge, AR**, Talbert, EE, Powers, SK. Calpain-1 is required for hydrogen Peroxide induced myotube atrophy. *Am J. Physiol. Cell Physiol.* Dec 24, 2008.

Dodd, S, Hain, B, **Judge, AR**. Hsp70 prevents disuse muscle atrophy in senescent rats. *Biogerontology.* Dec 13, 2008

Senf, SM, Dodd, SL, McClung JM, **Judge AR**. Hsp70 overexpression inhibits NF- κ B and Foxo3a transcriptional activities and prevents skeletal muscle atrophy. *FASEB J.* Jul 21, 2008

Pickett A, O'Keeffe R, **Judge AR**, Dodd SL. The in vivo rat muscle force model is a reliable and clinically relevant test of consistency among botulinum toxin preparations. *Toxicon.* Jun 29, 2008.

Pipinos, II, **Judge AR**, Selsby, JT, Zhen, Z, Swanson, SA, Nella, AA, Dodd, SL. Basic science review: the myopathy of peripheral arterial occlusive disease: Part 2. Oxidative stress, neuropathy, and shift in muscle fiber type. *Vasc Endovascular Surg.* 42(2):101-12, 2008.

Judge AR, Selsby, JT, Dodd, SL. Antioxidants attenuate oxidative damage in skeletal muscle during mild ischemia. *Exp Physiol.* 93(4):479-85, 2008.

Pipinos, II, **Judge AR**, Selsby, JT, Zhu, Z, Swanson, SA, Nella, AA, Dodd, SL. The myopathy of peripheral arterial occlusive disease. Part 1: Functional and Histomorphological Changes and Evidence for Mitochondrial Dysfunction. *Vasc Endovascular Surg.* 41(6): 481-489, 2008.

Makris, KJ, Nella, AA, Zhu, Z, Swanson, SA, Casale, GP, Gutti, TL, **Judge AR**, Pipinos, II. Mitochondriopathy of peripheral arterial disease. *Vascular.* 15(6):336-43, 2007.

Judge AR., Koncarevic, A., Hunter, R.B., Liou, H.C., Jackman, R., and Kandarian, S.C. A role for I κ B α , but not c-Rel, in skeletal muscle atrophy. *Am J. Physiol. Cell Physiol.* Aug 23, 2006.

Iraklis I. Pipinos, **Andrew R. Judge**, Zhen Zhu, Joshua T. Selsby, Stanley A. Swanson, Jason M. Johanning, Bernard T. Baxter, Thomas G. Lynch and Stephen L. Dodd. Mitochondrial Defects and Oxidative Damage in Patients with Peripheral Arterial Disease. *Free Radic Biol Med.* Jul 15;41(2):262-9, 2006.

S. L. Dodd, J. Selsby, T. Payne, **A. Judge**, and C. Dott. The effects of botulinum neurotoxin type A on skeletal muscle myosin heavy chain composition. *Toxicon.* 46(2):196-203, 2005.

J. Selsby, **A. Judge**, T. Yimlamai, C. Leeuwenburgh, S. Dodd. Life long calorie restriction increases heat shock proteins and proteasome activity in soleus muscles of Fisher 344 rats. *Experimental Gerontology.* 40: 37-42, 2005.

S. Judge, **A. Judge**, T. Grune, and C. Leeuwenburgh. Short-term caloric restriction decreases cardiac mitochondrial oxidant production and antioxidant enzyme activities but increases protein carbonyl content. *American Journal of Physiology: Regulatory Physiology.* 286(2): R254-R259, 2004.

A.R. Judge and S.L. Dodd. Xanthine oxidase and activated neutrophils cause oxidative damage to skeletal muscle following contractile-induced claudication. *American Journal of Physiology: Heart and Circulatory Physiology.* 286(1): H252-256, 2003.

A.R. Judge and S.L. Dodd. Oxidative damage to skeletal muscle following an acute bout of contractile claudication. *Atherosclerosis*. 171(2): 219-224, 2003.

PROFESSIONAL PRESENTATIONS AND PUBLISHED ABSTRACTS

Foxo signaling is required for muscle atrophy associated with sepsis. S.A. Reed, P.B. Sandesara and **A.R. Judge**. Integrative Physiology of Exercise, Miami Beach, FL 2010

Foxo activity is required for the normal atrophy program during cancer induced cachexia. S.A. Reed, P.B. Sandesara and **A.R. Judge**. Integrative Physiology of Exercise, Miami Beach, FL 2010

Pervanadate induces the expression of specific atrophy-related genes in C2C12 myotubes. P.B. Sandesara, S.M. Senf and **A.R. Judge**. Integrative Physiology of Exercise, Miami Beach, FL 2010

p300 acetyltransferase activity is necessary and sufficient to repress FOXO in skeletal muscle. S.M. Senf, P.B. Sandesara and **A.R. Judge**. New directions in Biology and Disease of skeletal muscle, Ottawa, ON, Canada, 2010

The role of p300 in the regulation of FOXO signaling as it relates to skeletal muscle disuse atrophy. S.M. Senf, P.B. Sandesara, S.L. Dodd and **A.R. Judge**. Neuromuscular T32 Symposium, Gainesville, FL, 2010

Role of Foxo signaling in muscle wasting due to sepsis. S.A. Reed, P.B. Sandesara and **A.R. Judge**. Neuromuscular T32 Symposium, Gainesville, FL, 2010

Foxo activation is required for muscle fiber atrophy during cancer. P.B. Sandesara, S.A. Reed and **A.R. Judge**. Neuromuscular T32 Symposium, Gainesville, FL, 2010

Hsp70 enhances skeletal muscle regrowth in old rats. B.A. Hain, P.B. Sandesara, S.L. Dodd and **A.R. Judge**. Neuromuscular T32 Symposium, Gainesville, FL, 2010

Exercise claudication-induced NF- κ B activation is required for the associated skeletal muscle atrophy in a rodent model. B.A. Hain, S.L. Dodd and **A.R. Judge**. Southeastern American College of Sports Medicine, Greenville, SC, 2010

Acetylation of Hsp70 and regulation of FOXO transactivation. S.M. Senf and **A.R. Judge**. 5th Cachexia Conference, Barcelona, Spain, 2009

Hsp70 Represses Disuse-Induced Acetylation and Modulates FOXO3a Protein-Protein Interactions in the Nucleus. S.M. Senf, S.L. Dodd and **A.R. Judge**. Frontiers in Myogenesis and Skeletal Muscle Satellite and Stem Cells, New York, NY, 2009

Common transcriptional changes in NF- κ B signaling in skeletal muscle from Peripheral Arterial Disease patients and following repeated bouts of exercise claudication in a rat model. **Andrew R. Judge**, Brian A. Hain, Stephen L. Dodd and Iraklis I. Pipinos. Frontiers in Myogenesis and Skeletal Muscle Satellite and Stem Cells, New York, NY, 2009

Repression of Foxo3a-induced transcription by Hsp70 does not require Foxo3a nuclear export. S.M. Senf, S.L. Dodd and **A.R. Judge**. Understanding Muscle: From Development to Disease, Columbus, OH, 2009

Transcriptional regulation of skeletal muscle atrophy genes in a rat exercise claudication model: Role of NF- κ B. B.A. Hain, S.L. Dodd and **A.R. Judge**. Understanding Muscle: From Development to Disease, Columbus, OH, 2009

Overexpression of Hsp27 attenuates disuse skeletal muscle atrophy. B.A. Hain. S.L. Dodd and **A.R. Judge**. Neuromuscular T32 Symposium, Gainesville, FL, 2008.

Hsp70 inhibits atrogin-1 transcription through specific modulation of Foxo3a signaling. S.M. Senf, S.L. Dodd, B.J. Gagnon and **A.R. Judge**. Neuromuscular T32 Symposium, Gainesville, FL, 2008.

Catalase Overexpression is Sufficient to Inhibit Disuse-Induced NF- κ B and Foxo Activity. B.J. Gagnon, S.L. Dodd, S.M. Senf and **A.R. Judge**. Neuromuscular T32 Symposium, Gainesville, FL, 2008.

Hsp70 associates with Foxo3a and inhibits Foxo3a-dependent transcription of atrogin-1 in skeletal muscle, in vivo. S.M. Senf, S. Dodd, B. Gagnon and **A.R. Judge**. Integrative Biology of Exercise Conference, Hilton Head, SC. 2008

Hsp27 Overexpression is Sufficient to Inhibit NF- κ B Activation During Skeletal Muscle Disuse. B.A. Hain, S.L. Dodd and **A.R. Judge**. Integrative Biology of Exercise Conference, Hilton Head, SC. 2008

Overexpression of Hsp70 inhibits NF- κ B activation and skeletal muscle atrophy. S.M. Senf, S.L. Dodd, J.M. McClung, and **A.R. Judge**. 4th Cachexia Conference, Tampa, FL. 2007

The role of IKK β and IKK α in the activation of NF- κ B during skeletal muscle atrophy. Darin Van Gammeren, **Andrew Judge**, Susan C. Kandarian. Frontiers in Myogenesis, Pine Mountain, GA. 2006

NF- κ B regulation of skeletal muscle disuse atrophy. **A. Judge**, A. Koncarevic, R. Jackman and S. Kandarian. NSBRI retreat, Houston, TX. 2006

Inhibition of I κ B α degradation prevents NF- κ B activation and attenuates fiber atrophy and gene expression associated with unloading atrophy. **A. Judge**, A. Koncarevic, and S.C. Kandarian. FASEB Summer Conference, Tucson, AZ, 2005.

Vitamins C and E attenuate oxidative damage and neutrophil infiltration into skeletal muscle following contractile-induced claudication. J.T. Selsby, **A.R. Judge** and S.L. Dodd. FASEB, San Diego. April 2-6, 2005.

IL-1, IL-6, and TNF- α are not elevated in skeletal muscle following contractile claudication. **A. Judge**, J. Selsby and S. L. Dodd. FASEB, Washington D.C. April 17-21, 2004.

Caloric restriction increases heat shock proteins in aging skeletal muscle. Joshua T. Selsby, **Andrew R. Judge**, Tossaporn Yimlamai, and Stephen L. Dodd. FASEB, Washington D.C. April 17-21, 2004.

Effect of calcium on indices of damage and proteolysis in rat skeletal muscle. Ira J. Smith, Tossaporn Yimlamai, **Andrew Judge**, Suma Kendaiah, and Stephen Dodd. FASEB, Washington D.C. April 17-21, 2004.

Xanthine oxidase and activated neutrophils are elevated following a short bout of contractile-induced skeletal muscle ischemia. **Andrew Judge**, Sharon Phaneuf and Stephen Dodd. ACSM, San Francisco, CA. May 28-31, 2003.

Xanthine oxidase and activated neutrophils cause oxidative damage to skeletal muscle following contractile claudication. **Andrew Judge** and Stephen Dodd. Diet & Optimum Health Conference. Linus Pauling Institute, Portland, OR. May 21-24, 2003.

Myosin heavy chain distribution in Botulinum Neurotoxin-A-treated animals. J.T. Selsby, **A.R. Judge**, A.M. Payne, and S.L. Dodd. SEACSM, Atlanta, GA. Jan 30-Feb 1, 2003.

Oxidative stress is associated with contractile-induced skeletal muscle ischemia. **Andrew Judge** and Stephen Dodd. ACSM, St Louis, MO. May 29-June 1, 2002.

Validation of an *in vivo* rat model for determination of muscle function. **Andrew Judge**, Tony Payne, Stephen Dodd. SEACSM, Atlanta, GA. Jan 31-Feb 2, 2002.

Contractile properties of Botulinum Neurotoxin A-treated skeletal muscle. Payne AM, **Judge AR**, Selsby JT, Smith IJ, and Dodd SL. SEACSM, Atlanta, Jan 31-Feb 2, 2002.

TEACHING EXPERIENCE

Courses (graduate & undergraduate levels):

Advanced Laboratory Techniques (Graduate), University of Florida
 Human Physiology (Undergraduate), University of Florida
 Anatomy & Physiology (Undergraduate), North Shore Community College
 Exercise Physiology (Undergraduate), University of Florida
 Exercise Physiology (Graduate), University of Florida
 Neuromuscular Physiology (Undergraduate), University of Florida
 Neuromuscular Physiology (Graduate), University of Florida

STUDENT SUPERVISION:

Ph.D. Mentor

Sarah Senf (current student), Exercise Physiology, University of Florida

Ph.D. Committee Member

Brian Hain (current student), Exercise Physiology, University of Florida
 Luther Gill (current student), Rehabilitation Sciences, University of Florida

Masters Committee Member:

Anoop Balchandran, M.S. Human Performance, Fall, 2007, University of Florida
 Om Pracash, M.S. Human Performance, Spring, 2007, University of Florida
 Rupa Nair, M.S. Human Performance, Spring, 2007, University of Florida