

CURRICULUM VITAE

Esther Elisabeth Franciscus Dupont-Versteegden

(September 14, 2009)

Personal data:

Name: Esther E. Dupont-Versteegden
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College of Health Sciences
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Education:

Postdoctoral Training: Postdoctoral Fellow, Dept. Geriatrics
University of Arkansas for Medical Sciences, Little Rock, AR (1995-1998)
Advisor: Charlotte Peterson, Ph.D.
Title: Molecular Mechanisms of Muscle Responses to Exercise

Graduate Education: University of Texas Health Science Center
San Antonio, Texas (1989-1995)
Ph.D., Physiology (1995)
Advisor: Roger J.M. McCarter, Ph.D.
Dissertation: Exercise and clenbuterol as modulators of muscular dystrophy in *mdx* mice.

Undergraduate Education: State University of Limburg
Maastricht, The Netherlands (1984-1988)
Doctorandus, Movement Sciences (1988)
(Master's equivalent)
Co-advisors: Eline Lindeman, M.D., Ph.D.
Jos Adam, Ph.D.
Thesis: Relationships between Impairment and Disability in Patients with Neuromuscular Disease

Professional Experience

2008-present Faculty Associate UK Spinal Cord & Brain Injury Research Center
2007-present Associate Professor, Dept. Physiology (secondary appointment)
College of Medicine, University of Kentucky, KY
2006-present Associate Professor, Division of Physical Therapy, Dept. Rehabilitation
Sciences, College of Health Sciences, University of Kentucky, KY
2006-2006 Associate Professor, Dept. Geriatrics
University of Arkansas for Medical Sciences, Little Rock, AR
2006-2006 Associate Professor, Dept. Physiology and Biophysics (Secondary
Appointment)

2002-2006	University of Arkansas for Medical Sciences, Little Rock, AR Assistant Professor, Dept. Geriatrics
2002-2006	University of Arkansas for Medical Sciences, Little Rock, AR Assistant Professor, Dept. Physiology and Biophysics (Secondary Appointment)
1999- 2002	University of Arkansas for Medical Sciences, Little Rock, AR Research Assistant Professor, Dept. Geriatrics
1998-1999	University of Arkansas for Medical Sciences, Little Rock, AR Instructor, Dept. Geriatrics
1995-1998	University of Arkansas for Medical Sciences, Little Rock, AR Postdoctoral Fellow, Dept. Geriatrics
1989-1995	University of Arkansas for Medical Sciences, Little Rock, AR Supervisor: Charlotte Peterson, Ph.D. Teaching Assistant, Dept. Physiology
1988-1989	University of Texas Health Science Center at San Antonio, TX Research Associate, Department of Physical Medicine and Rehabilitation Academic Hospital Maastricht Maastricht, The Netherlands

Professional Affiliations:

1991- 1995	American Physiological Society, student member
1995-present	American Physiological Society, member
1995-present	American Association for the Advancement of Science
1996-present	American Association of University Women
2001-present	Researchers against Inactivity-Related Diseases
2003-present	Gerontological Society of America
2006-present	Society for Muscle Biology
2006-present	American Physical Therapy Association, Faculty Partners member

National Society Committee Assignments:

2003-2006	Biological Sciences Section Membership Committee, Gerontological Society of America
2006-2009	Humanities and Arts Committee, Gerontological Society of America
2007	Biological Sciences Section Executive Committee, member
2009-2012	Perkins Memorial Award for International Physiologists Committee

Honors and Awards:

Caroline Tum Suden Professional Opportunity Award
American Physiological Society (1991)

Ambassador Scholarship Award
The Graduate School of Biomedical Sciences, University Texas Health Science Center San Antonio
(1994)

Women's Faculty Association Leadership Award
Women's Faculty Association University Texas Health Science Center San Antonio (1995)

Award for Excellence in Studies in the Department of Physiology
Department of Physiology, University Texas Health Science Center San Antonio (1995)

National Research Service Award
National Institutes of Health (1996-1999)

First Prize Winner Poster Contest (1997)
Research Day at University Arkansas Medical Sciences

Research Grant Award (2000-2001)
American Federation for Aging Research

2004 EBM Best Paper Award (published in Experimental Biology and Medicine)
Society for Experimental Biology and Medicine
Note: Paper received an Editorial Comment in Experimental Biology and Medicine, May 2005

Wethington Award, College of Health Sciences, University Kentucky, 2007, 2008

Award and Honors for Supervised Students

Gaines Fellowship Award in the Arts and Humanities, University of Kentucky
Awarded to Ben Barnes, 2009
American Physiological Society Summer Fellowship, Awarded to Ben Barnes, 2009

Professional Activities:

Editorial Board: APOPTOSIS: Journal for the International Cell Death Society and the European Cell Death Organization (2005-present)
American Journal of Physiology: Regulatory, Integrative and Comparative Physiology (2008-present)

Journal Review:- Aging. Clinical and Experimental Research.

- American Journal of Physiology Cell Physiology
- American Journal of Physiology Endocrinology and Metabolism
- American Journal of Physiology Regulatory, Integrative and Comparative Physiology
- Apoptosis
- Applied Physiology, Nutrition, and Metabolism
- Brain Research
- Biochemistry and Cell Biology
- Canadian Journal of Physiology and Pharmacology
- European Journal of Applied Physiology
- European Journal of Physiology/Pflügers Archiv
- Exercise and Sport Sciences Reviews
- Experimental Gerontology
- Experimental Physiology
- FASEB Journal
- Free Radical Biology & Medicine
- Journal of Applied Physiology
- Journals of Gerontology: Biological Sciences
- Mechanisms of Aging and Development
- Muscle & Nerve
- Neuromuscular Disorders
- Neuroscience Letters
- Physical Therapy Journal
- Physiological Research
- PPAR Research
- Proceedings of the Indian National Science Academy
- Spinal Cord
- Trends in Pharmacological Sciences

Grant review: - Aging Research and Education Center, San Antonio, Texas (2002)
- Barshop Center for Longevity and Aging Studies, San Antonio, Texas (2003, 2004)

- The Wellcome Trust, UK (2003, 2007)
- Canadian Space Agency, Canada (2003)
- USDA National Research Initiative Competitive Grants Program, Ad Hoc reviewer (2004)
- National Scientific Advisory Council for the American Federation for Aging Research, (2006)
- Strategic Promotion of Ageing Research Capacity, UK (2006)
- National Science Foundation, Ad hoc reviewer (2006, 2007)
- Dutch Duchenne Parent Project (DPP/NL) (2007)
- Nathan Shock Pilot Program San Antonio (2007)
- Clinical Research Feasibility Funds, University Kentucky (2007)
- Canada Foundation for Innovation (2008)
- U.S. Civilian Research and Development Foundation (2008)
- Association Francaise contre les Myopathies (French counterpart of the Muscular Dystrophy Association) (2008)

Study Sections: - American Federation for Aging Research (AFAR) Research Committee (2007, 2008)
- American Heart Association (AHA) Basic Cell and Molecular Biology Section (2008)
- Veterans Health Administration, Rehabilitation Research and Development, Neurodegenerative Diseases and Aging (2009)

Committee Assignments:

1990-1991	Graduate Student Association
1991-1992	UTHSC Bookstore Committee
1992-1995	UTHSC Student Health Advisory Committee
1992-1993	Committee on Graduate Studies of the Department of Physiology UT Health Science Center San Antonio
1993-1994	Founder and First President, UTHSCSA Texas Students for Biomedical Research
1994-1995	Member, UTHSCSA Texas Students for Biomedical Research
1993-1994	Student member, Institutional Animal Care and Use Committee, UTHSCSA
1993-1994	Student member, Miniquiz Committee for Medical Student Curriculum Revision, Dept. Physiology, UTHSCSA
1994-1995	Member, Science Education Outreach Committee, UTHSCSA
2002-2004	Professional and Personal Growth and Development Committee, Dept. Geriatrics, UAMS
2003-2006	Member, Institutional Animal Care and Use Committee, UAMS
2003-2006	Member, Women's Faculty Development Caucus
2004-2006	Professional and Personal Growth and Development Committee, Faculty Subcommittee, Dept Geriatrics, UAMS.
2005-2006	Interdisciplinary Biomedical Sciences Advisory Committee, UAMS
2006	Admissions Committee Interdisciplinary Biomedical Sciences Program, UAMS
2006-2007	Research Workgroup, Curriculum Committee, PhD program in Rehabilitation Sciences, College of Health Sciences, University Kentucky
2006-2007	Tracks workgroup, Curriculum Committee, PhD program in Rehabilitation Sciences, College of Health Sciences, University of Kentucky.
2007-2007	Safety Committee, College of Health Sciences, University of Kentucky
2007-2009	Faculty Council, College of Health Sciences, University Kentucky
2007-2008	Research Advisory Committee, alternate member, College of Health Sciences, University Kentucky
2007-2008	Faculty Retreat 2008 Subcommittee, Faculty Council, College of Health Sciences, University Kentucky

2008-2009	Faculty Retreat 2008 Subcommittee, Faculty Council, College of Health Sciences, University Kentucky
2008-2010	2- & 4-year review committee, Department of Rehabilitation Sciences, College of Health Sciences, University of Kentucky
2009-2010	Chair 2- &4-year review committee, Department of Rehabilitation Sciences, University of Kentucky
2009-2011	Research Advisory Committee, College of Health Sciences
2009-current	PI-committee, Provost Office, University of Kentucky

Research

Areas of Interest: Age-associated changes in skeletal muscle (in particular: atrophy)
Influence of disease, disuse, and/or exercise on muscle properties.
The role of apoptosis in skeletal muscle atrophy.

Current Grant Support

“Integrated Study of Musculoskeletal Loss and Restoration”
Principal Investigator: Esther E. Dupont-Versteegden, Ph.D.
Agency: NIH, NIAMS/NIA
Type: Research Grant RO1 (AG028925) Period: July 2006-June 2011
Total direct costs: \$1,025,000

Past Grant Support

“Use of Exercise and Clenbuterol as Strategies to Understand and Alleviate Muscular Dystrophy”
Principal Investigator: Roger J.M. McCarter, Ph.D.
Role on Project: Co-Investigator
Agency: Industry University Cooperative Research Center, The University of Texas Health Science Center at San Antonio.
Type: Research Grant, Period: October 1993-September 1994

“Molecular Mechanisms of Muscle Responses to Exercise”
Principal Investigator: Esther E. Dupont-Versteegden, Ph.D.
Agency: NIH, NIAMS
Type: National Research Service Award (AR08432), Period: July 1996-June 1999
Total direct cost for 3 years: \$82,200

“The Role of Calcineurin in Age-Associated Muscle Atrophy”
Principal Investigator: Esther E. Dupont-Versteegden, Ph.D.
Agency: American Federation for Aging Research
Type: Research Grant (A00117), Period: July 2000-June 2001
Total direct costs: \$50,000

“Impaired Regulation of Muscle Size with Aging”
Principal Investigator: Esther E. Dupont-Versteegden, Ph.D.
Agency: NIH, NIA
Type: Research Grant RO3 (AG20407) Period: February 2002-January 2003
Total direct costs: \$50,000

“Time-Dependent Changes in Cellular Environment Determine the Functional Outcome of Cellular Cardiomyoplasty”
Principal Investigator: Esther E. Dupont-Versteegden, Ph.D.

Agency: American Heart Association

Type: Research Grant (Beginning-Grant-in-Aid: 0265193Z), Period: July 2002-June 2004

Total direct costs: \$110,000

“Investigating Mechanisms of Skeletal Muscle Wasting”

Principal Investigator: Esther E. Dupont-Versteegden, Ph.D.

Agency: College of Medicine, University of Arkansas for Medical Sciences

Type of Grant: Research Pilot Grant, Period: June 2003-May 2004

Total direct costs: \$13,000

“Altering Myoblasts to Enhance Cardiac Implantation”

Principal Investigator: Richard H. Kennedy, Ph.D.

Role on Project: Co-Investigator

Agency: NIH, NHLBI

Type: Research Grant R21 (HL72136), Period: October 2002-September 2005

Total direct costs: \$450,000

“Muscle and Bone Maintenance in Hind Limb Suspended Rats”

Principal Investigator: Charlotte A. Peterson, Ph.D.

Role on Project: Co-Investigator

Agency: NIH, NIAMS

Type: Research Grant RO1 (AR47577), Period: February 2002-January 2007

Total direct costs: \$1,210,000

Invited Lectures and Symposia:

1. Post-natal Myogenesis: Satellite Cells in action! Boston, MA, August, 1998. Title: Analysis of the function and fate of satellite cells in spinal cord transected and exercised rats.
2. Nutrition and Aging XIV: Nutritional Syndromes in the Elderly. Little Rock, AR, September, 1999. Title: Mechanisms of muscle atrophy and hypertrophy.
3. Integrative Biology of Exercise. Portland, ME, September, 2000. Title: Molecular responses controlling muscle mass.
4. Dept. Pharmaceutical Sciences, University of Arkansas for Medical Sciences, Little Rock, AR. March, 2001. Title: Cellular and molecular mechanisms involved in muscle plasticity.
5. Dept. Anatomy and Neurobiology, University of Arkansas for Medical Sciences, Little Rock, AR December 2002. Title: Investigating mechanisms involved in the control of skeletal muscle size.
6. NIA: Apoptosis and Aging Tissues Meeting, Bethesda, MD, March 24-25, 2003 Title: Age-related differences in apoptotic nuclear death during atrophy of skeletal muscle.
7. 3rd Annual Dr. S. Mouchly Small Muscle Symposium. Buffalo, NY, June 19-20, 2003. Title: Exploring the role of satellite cells in adult muscle size regulation.
8. FASEB Summer Research Conference: Skeletal Muscle Satellite Cells. Tucson, Arizona, July 26-31, 2003. Title: The regulation of muscle size is altered with aging: the role of satellite cells and apoptosis.
9. Dept. Geriatrics Grand Rounds: Impaired regulation of muscle size with aging: do stem cells and apoptosis play a role? September, 2003.
10. Dean's Research Forum, University of Arkansas for Medical Sciences. The three A's of frailty: Aging, atrophy and apoptosis in skeletal muscle. May 2004
11. Geriatric Research Conference, Central Arkansas Veterans Health Care System, North Little Rock, AR. Atrophy, Aging and Apoptosis: the regulation of skeletal muscle size with aging. June 2004
12. Gordon Research Conference: Biology of Aging. Aussois, France, September 12-17, 2004. Title: Atrophy and Apoptosis in Aging Muscle.
13. Biochemistry Department University of Arkansas for Medical Sciences. April 27, 2005. Title: The role of apoptosis in skeletal muscle and its relevance to sarcopenia.
14. College of Health Sciences, University of Kentucky, Lexington. September 19, 2005. Title: Controlling skeletal muscle size: a role for nuclear apoptosis?

15. College of Medicine, Orthopaedics, University of Arkansas for Medical Sciences at Little Rock. December 20, 2005. Title: Role of stem cells in skeletal muscle size regulation.
16. Frontiers in Myogenesis meeting. Pine Mountain, GA, May 1, 2006. Title: Translocation of Endonuclease G is associated with nuclear apoptosis at the initiation of muscle atrophy.
17. Department of Aging and Geriatric Research, University of Florida, Gainesville. May 22, 2006. Title: Aging, Atrophy and Apoptosis: Failing "A's" for Frailty.
18. Department of Physiology, University of Kentucky, Lexington, January 31, 2007. Title: Skeletal muscle apoptosis: the potential role of endonuclease G during atrophy.
19. Department of Clinical Sciences, University of Kentucky, Lexington, February 22, 2007. Title: Sarcopenia: molecular mechanisms underlying skeletal muscle atrophy.
20. Department of Graduate Clinical Nutritional Sciences, University of Kentucky, Lexington, March 21, 2007. Title: Skeletal muscle atrophy and aging: double trouble?
21. Department of Applied Physiology and Kinesiology, University of Florida, Gainesville, March 29, 2007. Title: Disuse and aging: double trouble for skeletal muscle?
22. Department of Laboratory Animal Resources, University of Kentucky, Lexington, June 14, 2007. Title: Animal models to mimic disuse atrophy.
23. Department of Pharmacology, University of Kentucky, Lexington, December 13, 2007. Title: Skeletal muscle atrophy with disuse and aging: searching for commonalities and differences.
24. College of Health Sciences, University of Kentucky, April 29, 2008. Title: Age-related differences in muscle properties in the response to disuse.
25. Bispebjerg Symposium on Sports Medicine: Skeletal muscle atrophy, mechanical and molecular adaptations to aging and disuse. Copenhagen, Denmark, December 11, 2008. Title: Is the role of apoptosis the same in sarcopenia and disuse muscle atrophy?

Bibliography:

Peer-reviewed papers:

1. **Versteegden, E.E.F.**, Terpstra-Lindeman, E., and Adam, J.J. Relationships between Impairment and Disability in Patients with Neuromuscular Disease. *Journal of Rehabilitation Sciences*, 2: 72-75, 1989
2. **Dupont-Versteegden, E. E.**, McCarter, R. J. Differential Expression of Muscular Dystrophy in Diaphragm versus Hindlimb Muscles of mdx Mice. *Muscle & Nerve*, 15: 1105-1110, 1992
3. **Dupont-Versteegden, Esther E.**, Baldwin, R. A., McCarter, R. J., and Vonlanthen, M. G. Does Muscular Dystrophy Affect Metabolic Rate? A Study in mdx Mice. *Journal of the Neurological Sciences*, 121: 203-207, 1994
4. **Dupont-Versteegden, E. E.**, McCarter, R. J., and Katz, M. S. Voluntary Exercise Decreases Progression of Muscular Dystrophy in Diaphragm of mdx Mice. *Journal of Applied Physiology*, 77: 1736-1741, 1994.
5. **Dupont-Versteegden, E. E.**, Katz, M. S., and McCarter, R. J. Beneficial versus Adverse Effects of Long-term Use of Clenbuterol in mdx Mice. *Muscle & Nerve*, 18: 1447-1459, 1995.
6. **Dupont-Versteegden, E. E.** Exercise and Clenbuterol as Strategies to Decrease Progression of Muscular Dystrophy in mdx Mice. *Journal of Applied Physiology*, 80: 734-741, 1996
7. **Dupont-Versteegden, E. E.**, Kitten, A. M., Katz, M. S., and McCarter, R. J. Elevated Levels of Albumin in Soleus and Diaphragm Muscles of mdx mice. *Proceedings of the Society for Experimental Biology and Medicine*, 213: 281-286, 1996

8. Taylor, J. M., **Dupont-Versteegden, E. E.**, Davies, J. D., Hassell, J. A., Houle, J. D., Gurley, C. M., and Peterson, C. A.
A Role for the ETS Domain Transcription Factor PEA3 in Myogenic Differentiation. *Molecular and Cellular Biology*, 17: 5550-5558, 1997.
9. **Dupont-Versteegden, E. E.**, Houlé, J. D., Gurley, C. M., and Peterson, C. A.
Early changes in muscle fiber size and gene expression in response to spinal cord transection and exercise. *American Journal Physiology*, 275: C1124-C1133, 1998.
10. **Dupont-Versteegden, E. E.**, Murphy R. J.L., Houlé, J. D., Gurley, C. M., and Peterson, C. A.
Activated satellite cells fail to restore myonuclear number in spinal cord transected and exercised rats. *American Journal Physiology*, 277:C589-C597, 1999.
11. Murphy, R.J.L., **Dupont-Versteegden, E. E.**, Peterson, C. A. and Houlé, J. D.
Two experimental strategies to restore muscle mass in adult rats following spinal cord injury. *Neurorehabilitation and Neural Repair*, 13: 125-134, 1999.
12. Peterson, C.A., Murphy, R.J.L., **Dupont-Versteegden, E.E.**, Houlé, J.D.
Cycling exercise and fetal spinal cord transplantation act synergistically on atrophied muscle following chronic spinal cord injury in rats. *Neurorehabilitation and Neural Repair*, 14: 85-91, 2000
13. **Dupont-Versteegden, Esther E.**, Murphy, R.J.L., Houlé, J.D., Gurley, C.M., and Peterson, C.A.
Mechanisms contributing to restoration of muscle size with exercise and fetal transplants after spinal cord injury. *American Journal Physiology Cell Physiology*, 279: C1677-C1684, 2000.
14. Jozsi, A.C., **Dupont-Versteegden, E.E.**, Taylor, J.M., Evans, W.J., Trappe, T.A., Campbell, W.W., and Peterson, C.A.
Aged human muscle demonstrates an altered gene expression profile consistent with an impaired response to exercise. *Mechanisms of Aging and Development*, 120: 45-56, 2000.
15. Jozsi, A.C., **Dupont-Versteegden, E.E.**, Taylor-Jones, J.M., Evans, W.J., Trappe, T.A., Campbell, W.W., Peterson, C.A.
Molecular characteristics of aged muscle reflect an altered ability to respond to exercise. *International Journal of Sport Nutrition and Exercise Metabolism*, 11: S7-S13, 2001.
16. **Dupont-Versteegden, E.E.**, Knox, M., Gurley, C.M., Houlé, J.D., and Peterson, C.A.
Maintenance of muscle mass is not dependent on the calcineurin/NFAT pathway. *American Journal Physiology Cell Physiology*, 282: C1387-C1395, 2002
17. Fluckey, J.D., **Dupont-Versteegden, E.E.**, Montague, D.C., Knox, M., Tesch, P., Peterson, C.A., Gaddy-Kurten, D.
A rat resistance exercise regimen attenuates losses of musculoskeletal mass during hindlimb suspension. *Acta Physiologica Scandinavica*, 176: 293-300, 2002.
18. **Dupont-Versteegden, E.E.**, Houlé, J.D., Dennis, R.A., Zhang, J., Knox, M., Wagoner, G., Peterson, C.A.
Exercise-induced gene expression in soleus muscle is dependent on time after spinal cord injury in rats. *Muscle & Nerve*, 29: 73-81, 2004
19. Lang, J.M., Esser, K.A., **Dupont-Versteegden, E.E.**
Altered activity of signaling pathways in diaphragm and tibialis anterior muscle of dystrophic mice. *Experimental Biology and Medicine*, 229: 503-511, 2004. (Best Paper Award, 2004)*

* Editorial Comment dedicated to this paper: Understanding cellular signaling pathways and their relationship to genotype and phenotype of muscle disease, by Gayle Brazeau in *Experimental Biology and Medicine*, 230: 289-290, 2005

20. Gallegly, J.C., Turesky, N.A., Strotman, B.A., Gurley, C.M., Peterson, C.A., and **Dupont-Versteegden, E.E.**
Satellite cell regulation of muscle mass is altered at old age. *Journal of Applied Physiology*, 97: 1082-1090, 2004.
21. Knox, M., Fluckey, J.D., Bennett, P., Peterson, C.A., **Dupont-Versteegden, E.E.**
Hind limb unloading in adult rats using an alternative tail harness design. *Aviation, Space, and Environmental Medicine*, 75: 692-696, 2004.
22. Fluckey, J.D., **Dupont-Versteegden, E.E.**, Knox, M., Gaddy, D., Tesch, P.A., Peterson, C.A.
Insulin facilitation of muscle protein synthesis following resistance exercise in hindlimb suspended rats is independent of a rapamycin-sensitive pathway. *American Journal Physiology Endocrinology and Metabolism*, 287: E1070-E1075, 2004.
23. Leeuwenburgh, C., Gurley, C.M., Strotman, B.A., and **Dupont-Versteegden, E.E.**
Age-related differences in apoptosis with disuse atrophy in soleus muscle. *American Journal of Physiology Regulatory, Integrative, and Comparative Physiology*, 288: R1288-R1296, 2005.
24. Khaidakov, M., Chavannes-Turesky, N., Cooney, C.A., **Dupont-Versteegden, E.E.**, Kennedy, R.H., Siegel, E.R., and Shmookler-Reis, R.J.
Contribution of *de novo* point mutations to the overall mutational burden in mitochondrial DNA of adult rats. *Experimental Gerontology*, 40: 396-402, 2005.
25. Fluckey, J.D., Knox, M., Smith, L., **Dupont-Versteegden, E.E.**, Gaddy, D., Tesch, P.A., and Peterson, C.A.
The insulin-facilitated increase of muscle protein synthesis after resistance exercise involves a MAP-kinase pathway. *American Journal Physiology Endocrinology and Metabolism*, 290: E1205-E1211, 2006
26. **Dupont-Versteegden, E.E.**, Fluckey, J.D., Knox, M., Gaddy, D., and Peterson, C.A.
The effect of flywheel-based resistance exercise on processes contributing to muscle atrophy during unloading in adult rats. *Journal of Applied Physiology*, 101: 202-212, 2006.
27. **Dupont-Versteegden, E.E.**, Strotman, B.A., Gurley, C.M., Gaddy, D., Knox, M., Fluckey, J.D., and Peterson, C.A.
Nuclear translocation of EndoG at the initiation of disuse muscle atrophy and apoptosis is specific to myonuclei. *American Journal Physiology Regulatory, Integrative, and Comparative Physiology*, 291: R1730-R1740, 2006.
28. Perrien, D.S., Akel, N.S., **Dupont-Versteegden, E.E.**, Siegel, E., Suva, L.J., Gaddy, D.
Aging alters the skeletal response to disuse in the rat. *American Journal Physiology Regulatory, Integrative, and Comparative Physiology*, 292:R988-R996, 2007
29. Hofer, T., Marzetti, E., Xu, J., Seo, A.Y., Gulec, S., Knutson, M.D., Leeuwenburgh, C., and **Dupont-Versteegden, E.E.**
Increased iron content and RNA oxidative damage in skeletal muscle with aging and disuse atrophy. *Experimental Gerontology*, 43: 563-570, 2008
30. **Dupont-Versteegden, E.E.**, Nagarajan, R., Beggs, M.L., Bearden, T., Simpson, P., and Peterson, C.A.
Identification of cold-shock protein RBM3 as a possible regulator of skeletal muscle size through expression profiling. *American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology*, 295:R1263-R1273, 2008
31. Nichols, K.R., Chowdhury, P., **Dupont-Versteegden, E.E.**

Pancreatic response to hind limb suspension in rats is affected by age. *The Open Clinical Chemistry Journal*, 1: 69-74, 2008

32. McMullen, C.A., Ferry, A., Gamboa, J., Andrade, F.H., and **Dupont-Versteegden, E.E.** Age-related changes of cell death pathways in rat extraocular muscle. *Experimental Gerontology*, 44: 420-425, 2009.

33. McCarthy, J.J., Esser, K.A., Peterson, C.A., and **Dupont-Versteegden, E.E.** Evidence of MyomiR network regulation of β -myosin heavy chain gene expression during skeletal muscle atrophy. In press, <http://physiolgenomics.physiology.org/cgi/content/abstract/00042.2009v1>

Invited Reviews

1. **Dupont-Versteegden, E.E.**

Apoptosis in muscle atrophy: relevance to sarcopenia. *Experimental Gerontology*, 40: 473-481, 2005

2. **Dupont-Versteegden, E.E.**

Apoptosis in skeletal muscle and its relevance to atrophy. *World Journal Gastroenterology*, 12: 7463-7466, 2006

3. Marzetti, E., Hwang, J.C.Y., Lees, H.A., Wohlgemuth, S.E., **Dupont-Versteegden, E.E.**, Carter, C.S., Bernabei, R., Leeuwenburgh, C.

Mitochondrial death effectors: relevance to sarcopenia and disuse muscle atrophy. *Biochimica et Biophysica Acta*, in press, 2009

Abstracts:

1. **Versteegden, E.E.** and McCarter, R.J. Contractile Properties of Soleus, Extensor Digitorum Longus and Diaphragm Muscle in the mdx Mouse. *Faseb J.*, 5: A1031, 1991

2. **Dupont-Versteegden, E.E.**, Freyaldenhoven, A.M., McCarter, R.J., and Katz, M.S. Elevated Levels of Albumin in Muscles of mdx Mice. *Faseb J.*, 6: A963, 1992

3. **Dupont-Versteegden, E.E.** and McCarter, R.J. Spontaneous Exercise Alleviates Muscular Dystrophy in Diaphragm of mdx Mice. *The Physiologist*, 35: 16.8, 1992

4. **Dupont-Versteegden, E.E.**, McCarter, R.J.M. and Katz, M.S. Pulmonary Function is Decreased in mdx Mice. *Faseb J.*, 8: A901, 1994

5. Norton, M.W., **Dupont-Versteegden, E.E.**, and McCarter, R.J. Differential Effects of Voluntary Wheel Running on Tension Generation versus Oxidative Metabolism in mdx Diaphragm. *Faseb J.*, 8: A57, 1994

6. **Dupont-Versteegden, E.E.**, McCarter, R.J. and Katz, M.S. Beneficial and Adverse Effects of Clenbuterol on Muscular Dystrophy in mdx Mice. *Faseb J.*, 9: A656, 1995.

7. **Dupont-Versteegden, E.E.**, Houle, J.D., and Peterson, C.A. Involvement of MyoD and Myogenin in Response to Exercise in Paralyzed Rats. *Faseb J.*, 10: A377, 1996.

8. **Dupont-Versteegden, E.E.**, Houle, J.D., and Peterson, C.A. Expression of Muscle Specific Transcription Factors in Response to Exercise in Paralyzed Rats. *The Physiologist*, 39: 33.16, 1996.

9. Murphy, R.J.L., **Dupont-Versteegden, E.E.**, Phelan, K.D., Peterson, C.A., and Houle, J.D. Effects of fetal spinal cord transplants or exercise training on skeletal muscle of spinal cord injured rats. *Abstracts Society Neuroscience*, 24: 423, 1998.

10. Murphy, R.J.L., Peterson, C.A., **Dupont-Versteegden, E.E.**, and Houle, J.D. Electrical activity has a role in the training-induced increases in skeletal muscle mass in spinal cord injured rats. *Canadian Journal of Applied Physiology*, 23: 496, 1998

11. Murphy, R.J.L., **Dupont-Versteegden, E.E.**, Phelan, K.D., Peterson, C.A., and Houle, J.D. Delayed exercise and fetal spinal cord tissue transplantation can restore skeletal muscle mass in chronic transected rats. *Abstracts Society Neuroscience*, 25: 211, 1999.

12. **Dupont-Versteegden, E.E.**, Murphy, R.J.L., Houlé, J.D., Gurley, C.M., and Peterson, C.A. Satellite cells are involved in the restoration of muscle mass following atrophy due to spinal cord injury. *Journal of Aging and Physical Activity*, 8: 273-274, 2000
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34. Wang, X., **Dupont-Versteegden, E.E.** Intracellular free iron content is highly correlated with muscle fiber size after disuse in aged rats. Clinical and Translational Science Conference, University of Kentucky, Lexington. June 3, 2008
35. Wang, X., Leeuwenburgh, C., and **Dupont-Versteegden, E.E.** Intracellular free iron content is highly correlated with muscle fiber size after disuse in aged rats. Methuselah Foundation, Los Angeles, June 28-29, 2008.
36. **Dupont-Versteegden, E.E.**, Esser, K.A., Peterson, C.A., and McCarthy, J.J. MicroRNA expression is altered during skeletal muscle atrophy. The Physiologist, 2008.
37. Xiao, R. and **Dupont-Versteegden, E.E.** Apoptosis resistance of differentiated myotubes is associated with enhanced anti-death mechanisms. The Physiologist, 2008.
38. McMullen, C.A., Ferry, A., Gamboa, J.L., Andrade, F.H., and **Dupont-Versteegden, E.E.** Age-related changes of cell death pathways in rat extraocular muscle. Adult skeletal muscle symposium: clinical problems, molecular targets. Lexington, KY, 2008
39. **Dupont-Versteegden, E.E.**, Esser, K.A., Peterson, C.A., and McCarthy, J.J. MicroRNA expression is altered during skeletal muscle atrophy. Adult skeletal muscle symposium: clinical problems, molecular targets. Lexington, KY, 2008
40. Nicks, K.M., Akel, N.S., Savage, P.M., Palculict, T.B., **Dupont-Versteegden, E.E.**, Suva, L.J., and Gaddy, D. Use it or Lose it: Musculoskeletal adaptation with age. The Endocrine Society's 91st annual meeting, 2009.
41. Barnes, B., Rich, M. Ferry, A.L, and **Dupont-Versteegden, E.E.** Apoptosis contributes to skeletal muscle atrophy in critical illness myopathy. National Conference on Undergraduate Research. University of Wisconsin, April 2009.
42. Ferry, A.L., and **Dupont-Versteegden, E.E.** The effects of cold shock protein, RBM3, on skeletal muscle cells in vitro. CCTS Conference Lexington KY, 2009
43. Ferry, A.L., Vanderklish, P.W., and **Dupont-Versteegden, E.E.** Over-expression of cold shock protein RBM3 is associated with enhanced survival of skeletal muscle cells in vitro. Symposium: Making Muscle in the Embryo and Adult, 2009
44. Nicks, KM, Akel, NS, Savage, PM, Palculict, TB, **Dupont-Versteegden, EE**, Suva, LJ, and Gaddy, D. The age-dependent responses to disuse and reloading involve compromised proliferation, differentiation, activity, and survival of myogenic and osteoblastic cells. ASBMR, 2009

Other Scholarly activities:

2008 Served as an Expert for Muscle Physiology in the Muscle Chapter of the textbook entitled: Exercise Physiology, written by Scott Powers and Edward T. Howley.

1/29/08 Intellectual property disclosure entitled: RNA-binding motif protein-3 (Rbm3) as an adaptive response to environmental stress in skeletal muscle.

September 2008-present Director, Muscle Center Journal Club

Teaching:

Teaching Assistant:

Physiology for Physical Therapy and Occupational Therapy Students, University Texas Health Science Center at San Antonio (1990,1991,1992,1993)

Experiments in Physiology for Graduate Students, University Texas Health Science Center at San Antonio (1991,1992,1993)

Courses taught:

Physiology for Occupational Therapy Students, University Texas Health Science Center at San Antonio. Muscle Physiology (1992,1993,1994)

Summer Class for High School Science Teachers, University of Arkansas for medical Sciences. Muscle Function and Molecular Biology of Muscular Dystrophy (1996)

Telecommunication Outreach Program, University of Arkansas for Medical Sciences. Muscular Dystrophy: Can We Repair Muscle Defects with Gene Therapy? (1998)

Nutrition and Aging XIV: Nutritional Syndromes in the Elderly. Mechanisms of muscle atrophy and hypertrophy. (1999)

Physiology Journal Club: Effects of space flight and hind limb unloading. Dept. Physiology and Biophysics, University of Arkansas for Medical Sciences. (Spring, 2003)

General Physiology Graduate Course: Muscle Physiology. Dept. Physiology and Biophysics, University of Arkansas for Biomedical Sciences (Fall, 2003, 2004, 2005).

Physiology Journal Club: Intracellular Signaling in Skeletal Muscle. Dept. Physiology and Biophysics, University of Arkansas for Medical Sciences. (Spring, 2004)

Physiology Journal Club: Apoptosis. Dept. Physiology and Biophysics, University of Arkansas for Medical Sciences. (Spring, 2006)

Case studies: (1) Neuromuscular Junction; (2) Endocrine: first year medical students. Dept. Physiology and Biophysics, University of Arkansas for Medical Sciences. (Spring, 2006)

Biology of Aging: Muscle Aging. Department of Gerontology, University of Kentucky (Fall 2006, 2007, 2009)

Neurophysiology, Division of Physical Therapy, College of Health Sciences, University of Kentucky (Fall 2007, 2008, 2009)

Research Design, PT 867, Division of Physical Therapy, College of Health Sciences, University of Kentucky (Summer 2008, 2009).

Cell Biology and Signaling I, IBS 603: Apoptosis and necrosis. Integrative Biomedical Sciences Graduate Program, University of Kentucky (Fall 2009)

Student Supervision:

June-July 2001: Kimberly Layman, Summer student, Arkansas Math and Science High School.

June-July 2002: Timothy McClure, Second Year Medical Student, UAMS

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September 2003-December 2005: Co-advisor for Micheal Knox, Physiology Graduate Student, UAMS

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November 2008-present: Emily Graham and Justen Hinerman, Physical Therapy Doctoral Research Project
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Curriculum Development:

- Development Aging Biology Track for Interdisciplinary Biomedical Sciences (IBS) Graduate Program, Univ Ark Med Sci, Little Rock AR (2003)
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Educational Committee Assignments

- Course Director: Journal Club on Aging, 2003-2006
- Course Director: Biology of Aging Graduate Course, 2004-2006
- Chair: Aging Biology Track, 2005-2006
- Member IBS Graduate Program Steering Committee, 2005-2006
- Member admissions subcommittee IBS Graduate Program, 2005-2006
- Research Workgroup, Curriculum Committee PhD program in Rehabilitation Sciences, 2006- 2007
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