

Curriculum Vitae
Timothy Alan Butterfield

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I. GENERAL INFORMATION

Home Address: 3287 Waterford Park, Lexington KY 40517
 Home Phone: 859-536-1640
 Office Address: 210B Wethington, 900 South Limestone
 Office phone: (859) 323-1100 x 80840
 Birthdate: 11/30/1964
 Marital Status: Married
 Spouse: Jennifer Lee Butterfield

Certificates, Licenses or Specialty Board Licensure:

Kentucky Athletic Trainer Certification, AT710
 DEA License, RB0360696
 New York State license 000110, expires 10/31/2008
 Pennsylvania State License RT-000981-A
 Ohio State License AT.002609
 National Athletic Trainers Association Board of Certification, #03-775 since 1990

II. EDUCATION

2001-2005 University of Calgary, Faculty of Kinesiology, Doctor of Philosophy
 1990-1992 Old Dominion University, Darden College of Education, Department of Exercise Science, Sport, Physical Education and Recreation, Master of Science
 1988-1990 Messiah College, School of Health and natural Sciences, Department of Biology, Bachelor of Science
 1983-88 / 99 State University of New York at Potsdam, School of Arts and Sciences, Department of Biology, Bachelor of Arts

III. PROFESSIONAL EXPERIENCES

2005 – 2007 Post-Doctoral Researcher, Department of Family Medicine
 The Ohio State University
 Columbus, Ohio
 2003-2004 Adjunct Clinical Instructor / Supervisor, Athletic Therapy
 Mount Royal College
 Calgary, Alberta
 2002-2005 Graduate Teaching Assistant, Faculty of Kinesiology
 University of Calgary
 Calgary, Alberta

- 2001-2003 Athletic Therapist, Sport Therapy Services
University of Calgary
Calgary, Alberta
- 1998-2001 Head Certified Athletic Trainer, Department of Athletics
State University of NY at Potsdam
Potsdam, New York
- 1992-1997 Head Certified Athletic Trainer: Football, Department of Athletics.
Mansfield University
Mansfield, Pennsylvania
- 1990-1992 Head Certified Athletic Trainer, Department of Athletics
Virginia Wesleyan College
Virginia Beach, Virginia

IV. ACADEMIC APPOINTMENTS

- 2007–present Assistant Professor, Department of Rehabilitation Sciences,
Division of Athletic Training
Director of Muscle Mechanics Laboratory
University of Kentucky
- 2007-present Associate Membership, Graduate Faculty
Rehabilitation Sciences PhD program
Kinesiology and Health Promotion
Research and Graduate Studies, The Graduate School
University of Kentucky
- 2005-2007 Adjunct Assistant Professor, Athletic Training Program
School of Allied Medical Professions
The Ohio State University
Columbus, Ohio
- 2004 Adjunct Instructor, Department of Community Health
State University of New York at Potsdam
Potsdam, NY
- 1999-2001 Clinical Instructor, Department of Physical Therapy
School of Health Sciences
Clarkson University
Potsdam, New York

1998-2001 Instructor, Department of Community Health
School of Education
State University of New York at Potsdam
Potsdam, New York

V. HOSPITAL OR CLINICAL APPOINTMENTS

1997-1998 Head Certified Athletic Trainer, Outpatient Physical Therapy Department
Samaritan Medical Center
Watertown, New York

VI. CONSULTING ACTIVITY

2007–present Research Consultant, Nashville Cares, Nashville TN

VII. TEACHING ACTIVITY

University of Kentucky

2008 KHP 515 Anatomical and Mechanical Kinesiology
Sole instructor, 24 students, 3 contact hour

2007-2008 AT 680 Clinical Seminar in Athletic Training
Sole instructor, 8 athletic training students, 1 contact hour

2007 AT 720 Independent Study. 1 contact hour. 1. Engineering of a
validated, position feedback controlled massage device; 2. Engineering
of a rat dynamometer.

The Ohio State University

2007 ATH TRNG 551 Biomechanics
Sole instructor, 14 students, 4 contact hours

2006 ATH TRNG 661 Introduction to Sports Medicine
Sole instructor, 16 students, 4 contact hours

University of Calgary

2002-2004, 2005 KNES 371 Scientific Basis for the Prevention and Care of Injuries
Lab instructor (2 sections), 32 students, 2 contact hours

2003-2004 KNES 261 Gross Anatomy
Lab Instructor (2 sections), 50 students, 2 contact hours

State University of New York at Potsdam

2004 HLTH 495 Physiological Aspects of Aging, Disease and Physical
Activity
Sole instructor, 8 students, 3 contact hours

2000-2001 HLTH 495 Kinesiology
Sole instructor, 24 students, 3 contact hours

2000-2001 ILTH 425 Exercise Physiology

1998-2001 Sole instructor, 32 students, 4 contact hours
PE 326 Health and Sports Medicine

19998-2001 Sole instructor, 34 students, 4 contact hours
HLTH 215 Responding to Emergencies

Sole instructor, 24 students 2 contact hours

Continuing Education Courses (Sole Instructor)

June 2007 The Ohio State University Sports Medicine Symposium, Columbus, OH
Muscle Strain Injury and Repair

May 1998 Athletic Injury Prevention lecture series at Indian River High School,
Philadelphia NY. *Management of Sports Injuries*. 1 day CEU course

Oct 1998 Coaches Education Seminars, Lowville Academy, Lowville NY. *Injury
Prevention in Athletics*. 1 day CEU course.

Other Education Related Activities (Sole Instructor)

July 2004 Clarkson University Department of Physical Therapy, Potsdam, NY.
Mechanical Properties of Skeletal Muscle.

May 2003 University of Calgary, Department of Kinesiology, Calgary, AB *Skeletal
Muscle Plasticity Following Repetitive Strain Injury*

Feb 1995 Tenth Annual Mansfield University Developmental Baseball Clinic, Mansfield
PA. *Injury Prevention for Baseball Players*. workshop for coaches

Feb 1994 Ninth Annual Mansfield University Developmental Baseball Clinic, Mansfield
PA. *Injury Prevention for Baseball Players*. workshop for coaches

Feb 1994 Ninth Annual Mansfield University Developmental Baseball Clinic,
Mansfield PA. *Prevention and Care of Athletic Injuries to Adolescents*,
workshop for coaches

Feb 1993 Eighth Annual Mansfield University Developmental Baseball Clinic,
Mansfield PA. *Injury Prevention for Baseball Players*. workshop for coaches

VIII. ADVISING ACTIVITY

2007-present University of Kentucky (see below)

Student	Level	Year	My Role	Project	Unit
Chris Waters	MSc	2008-2010	Advisor	Effect of compressive loading on markers of inflammation and repair in skeletal muscle	Rehabilitation Sciences
Jaqueline Matus	MSc	2008-2010	Advisor	Force sharing properties of dorsiflexor muscles during eccentric exercise in the rabbit	Rehabilitation Sciences
Jennifer Wallace	MSc	2007-2009	Advisor	Thesis: Impact of strain rate on eccentric exercise-induced muscle	Rehabilitation Sciences

damage

Corey Wingan	MSc	2007-2009	Co-Advisor	Torque-joint angle relationship in sprinters: Influence on pre-disposition to strain injury	Rehabilitation Sciences
Andrew Carlson	MSc	2006-2008	Committee	Non-Thesis Project: A 15 minute ice immersion is effective at reducing plantar sensation for laboratory assessment of induced neuropathy	KHP

IX. ADMINISTRATIVE ACTIVITY AND UNIVERSITY SERVICE

Program

Department

2000	Search Committee for Facilities Director, Department of Athletics, State University of New York at Potsdam
1999	Search Committee for Director of Recreation, Department of Community Health, State University of New York at Potsdam

College

2008-present	CHS Faculty Council Member, UK College of Health Sciences
2007-present	Research Advisory Committee (alternate member), UK College of Health Sciences

University

Feb 2008	Reader for the University of Kentucky William C. Parker Diversity Scholarships
Feb 2008	Reader for the University of Kentucky Academic Scholarships
1999-2001	Faculty Advisor, State University of New York at Potsdam Campus Rescue Squad
1999-2000	Faculty Advisor, State University of New York at Potsdam, Phi Kappa Sigma Fraternity, Beta Upsilon Chapter
1998-2000	State University of New York at Potsdam, Greek Council, faculty representative

X. SPECIAL ASSIGNMENTS

XI. HONORS

- 2007 Postdoctoral award for outstanding poster presentation, OSUMC 6th Annual Graduate Research Day
- 2007 *Journal of Athletic Training* Clint Thompson Award for Clinical Advancement: first runner-up manuscript
- 2006 Research Endowment Award
American College of Sports Medicine
- 2006 Perrin Award for Outstanding Doctoral Dissertation
National Athletic Trainers' Association
- 2005-2007 Division of Sports Medicine Postdoctoral Fellowship
The Ohio State University
- 2005 Half Graduate Assistantship in Teaching, Faculty of Kinesiology, University of Calgary
- 2004 Full Graduate Assistantship in Teaching, Faculty of Kinesiology, University of Calgary
- 2004 Award for Outstanding Leadership and Contribution
University of Calgary Kinesiology Research Centre
- 2004 Clinician-Scientist Fellowship in Bone and Joint Health, Canadian Institutes of Health Research
- 2004 Graduate Research Scholarship
University of Calgary
- 2004 Journal of Biomechanics Award, Finalist
American Society of Biomechanics
- 2003 Clinician-Scientist Fellowship in Bone and Joint Health, Canadian Institutes of Health Research
- 2003 Full Graduate Assistantship in Teaching, Faculty of Kinesiology, University of Calgary
- 2003 Half Graduate Assistantship in Teaching, Faculty of Kinesiology, University of Calgary
- 2002 Bill Robertson Scholarship
Northwest Athletic Trainers' Association
- 2000 Research and Creative Endeavors Grant, Office of Research, State University of New York at Potsdam
Potsdam, NY
- 1990-1992 Graduate Assistantship, Department of Education,
Old Dominion University

XII. PROFESSIONAL ACTIVITY AND PUBLIC SERVICE

Membership in Professional Societies

- 2007-present Southeastern Athletic Trainers' Association
- 2006-present American Physiological Society
- 2005-present American College of Sports Medicine
- 2001-present International Society of Biomechanics
- 2001-present American Society of Biomechanics
- 2001-2005 Canadian Society of Biomechanics

1997-present New York State Athletic Trainers' Association
 1992-2001 Eastern Athletic Trainers' Association
 1988-present National Athletic Trainers' Association

Journal Reviewer

2006-present Journal of Applied Physiology
 2006-present Medicine and Science in Sport and Exercise
 2006-present Journal of Athletic Training
 2005-present IEEE Transactions on Rehabilitation Engineering
 2005-present Applied Physiology, Nutrition and Metabolism

Grant Reviewer

2008 Reviewer for the US Army Medical Research and Materiel Command
 (USAMRMC) through the American Institute of Biological Sciences (AIBS)
 2007-present Reviewer for NATA Foundation
 2006 Reviewer for NFL charities grants

Textbook and Chapter Reviewer

Other

2008-present Editorial Board Member, Journal of Sport Rehabilitation
 August 2008 Interview with Reuters Health for article entitled "Rabbit Study Offers Clues to
 Massage Benefits"
 2004 CIHR Science Fair judge, University of Calgary

XIII. SPEAKING ENGAGEMENTS

National/International-refereed

May 2008 American College of Sports Medicine, 55th Annual Meeting. *Extracellular Calcium influx Contributes Skeletal Muscle NF- κ B Activation During Exercise: Implications For Muscle Repair and Adaptation.* Podium Presentation.

Aug 2007 American Society of Biomechanics, 2007 Annual Conference. Stanford University. *Cyclic Compressive Loading Facilitates Functional and Histological Recovery Following Strain-Induced Damage in Skeletal Muscle.* Poster Presentation.

June 2007 American College of Sports Medicine, 54th Annual Meeting. New Orleans, LA *Stretch-Activated Calcium Channels Are Essential for Functional Adaptations Following Repeated Loading in Skeletal Muscle.* Podium Presentation

- May 2006 American College of Sports Medicine, 53rd Annual Meeting, Denver, CO. *The Magnitude of Muscle Strain Does Not Influence Serial Sarcomere Number Adaptations Following Eccentric Exercise*. Poster Presentation
- Aug 2005 American Society of Biomechanics and International Society of Biomechanics Combined Conference, August 4, 2005. Cleveland, OH. *The Interaction of Surface Grade and Exercise Duration for Serial Sarcomere Adaptations Following Treadmill Running in Rats*. Podium Presentation
- Sept 2004 American Society of Biomechanics, Annual Conference, Portland, OR. *Small Changes in the Timing of Activation Affects Fiber Length and Sarcomere Number Adaptations in the Rabbit Tibialis Anterior Exposed to Eccentric Exercise*. Podium Presentation
- Aug 2004 Canadian Society of Biomechanics, 13th Biennial Conference, Halifax, NS. *The Effect of Muscle Activation Timing on Fiber Strain During Eccentric Contractions*. Podium Presentation
- Sept. 2003 American Society of Biomechanics Annual Conference, Toledo, OH. *Sarcomere Number Adaptation in the Rabbit Tibialis Anterior After Chronic Eccentric Exercise*. Podium presentation
- Aug 2002 IV World Congress of Biomechanics, Calgary, AB. *Acute Bout of Eccentric Exercise in the Rabbit TA Shows Concomitant Fiber Length Shortening and a Subsequent Shift in the Force-Length Relationship*. Poster Presentation
- State/Regional-invited*
- May 2005 Canadian Athletic Therapists Association 39th Annual Conference, Calgary, AB, Canada. *Can an Altered Neuromuscular Coordination Pattern Result in Muscle Strain Injury?* Podium Presentation
- State/Regional-refereed*
- Oct 2003 Alberta Provincial CIHR First Annual Conference, Banff, AB. *The Adaptive Response of Rabbit Dorsiflexor Muscle to Repetitive Strain Injury*. Poster Presentation
- Nov 2002 Alberta Biomedical Engineering, Third Annual Conference, Banff, AB. *The Force-length Relationship Shift and Rotation After Injury*. Podium presentation

National-invited

Feb 2008 The Lecture Series in Biomedical Engineering and Biosciences at Rensselaer Polytechnic Institute, Troy NY. *Sarcomerogenesis As a Mechanism For The Repeated Bout Effect in Skeletal Muscle.*

Local-invited

Oct 2008 Clinical and Translational Fall Conference, Lexington, KY. *Testing a Model of Laryngeal Muscle Exercise Using Chronic Stimulation in Rats.*

Sept 2008 Kinesiology and Health Promotion Exercise Science Graduate Seminar Series, Lexington, KY. *Exercise and Adaptation in Skeletal Muscle: What we have Learned from animal Models.*

Nov 2007 University of Kentucky Physiology Journal Club, Lexington, KY. *Contraction Type-Specific Adaptations in Skeletal Muscle: The Role of Fiber Dynamics During Exercise.*

May 2007 Human Factors and Ergonomics Society, Columbus OH. *Muscle Damage and Repair*

April 2007 The Ohio State University, First Annual Sports Medicine Conference, Columbus OH. *Strain-Induced Muscle Damage, Repair and Functional Recovery.*

March 2001 SUNY Potsdam Learning and Research Fair, Potsdam NY. *The Effects of Pre-Exercise Ultrasound on Delayed Onset Muscle Soreness.*

May 1991 Mid Atlantic Athletic Trainers' Association Annual Convention, Virginia Beach, VA. *Assessment and Treatment of Spondylolysis and Spondylolisthesis.*

Guest Lectures

Feb 2008 Introduction to Athletic Training at Transylvania University. *Environmental Emergencies in Athletic Training.*

Feb 2008 Muscle Mechanics class at Rensselaer Polytechnic Institute. *Quantification of Mechanical Variables Associated with Strain Injury In-Vivo.*

XIV. RESEARCH AND/OR CREATIVE PRODUCTIVITY PUBLICATIONS

Published Journal Articles

Butterfield TA, Zhao Y, Haq F, Agarwal S, Best TM. 2008 Cyclic Compressive Loads Improve Recovery and Reduce Myofiber Damage After Eccentric Exercise. *Medicine & Science in Sports & Exercise* Jul;40(7):1289-1286.

Butterfield TA, Best TM, Merrick MA. 2006. The Dual Role of Neutrophils and Macrophages in Inflammation: A Critical Balance Between Tissue Damage and Repair. *Journal of Athletic Training* 41(4): 457-465.

Butterfield TA, Herzog W. 2006. Effect of Altering Starting Length and Activation Timing of Muscle on Fiber Strain and Muscle Damage. *Journal of Applied Physiology* 100(5):1489-1498.

Butterfield TA, Herzog W. 2006. The Magnitude of Muscle Strain Does Not Influence Serial Sarcomere Number Adaptations Following Eccentric Exercise. *Pflügers Archiv-European Journal of Physiology* Feb;451(5):688-700.

Butterfield TA, Leonard TR, Herzog W. 2005. Differential Serial Sarcomere Number Adaptations in Knee Extensor Muscles of Rats is Contraction Type Dependent. *Journal of Applied Physiology* Oct; 99 (4): 1352-1358.

Butterfield TA, Herzog W. 2005. Quantification of Muscle Fiber Strain During *In-vivo* Repetitive Stretch-Shortening Cycles. *Journal of Applied Physiology*. Aug; 99 (2): 593-602.

Butterfield, TA, Herzog W. 2005. Is the Force-Length Relationship a Reliable Indicator of Contractile Element Damage Following Eccentric Exercise? *Journal of Biomechanics*. Sept; 38 (9). 1932-1937.

Longino D, **Butterfield TA**, Herzog W. 2005. Frequency and Length Dependent Effects of Botulinum Toxin-Induced Muscle Weakness. *Journal of Biomechanics*. Mar; 38 (3): 609-613.

*Published Monographs, Books, Book Chapters**Publications Submitted or in Press*

Zeng H, **Butterfield TA**, Agarwal S, Haq F, Best TM, Zhao Y. An Engineering Approach For Quantitative Evaluation of the Lengthwise Strokes In Massage Therapies. (in press, *ASME J Medical Devices*)

Butterfield TA, Best TM. Stretch-Activated Ion Channels Are Essential for Functional Adaptations Following Repetitive Eccentric Loading in Skeletal Muscle (in press, *Medicine and Science in Sport and Exercise*).

Abstracts-refereed

Butterfield TA, Wallace JM. Faster Speed of Stretch During Eccentric Contractions Increases Muscle Damage But not Active Fiber Strain. 2009 American College of Sports Medicine 56th Annual Meeting, Seattle, WA; May 27-30 2009. (submitted)

Dwyer M, Leonard TR, Herzog W, **Butterfield TA**. Prolonged Alterations in Hindlimb EMG Following ACL Transection in an Experimental Model of Osteoarthritis. 2009 American College of Sports Medicine 56th Annual Meeting, Seattle, WA; May 27-30 2009. (submitted)

Merrick M, Dolan M, **Butterfield TA**. Inflammation and Healing in Musculoskeletal Injury. Feature Presentation Proposal to NATA Continuing Education Committee for 2009 NATA Annual Meeting and Clinical Symposium, San Antonio, TX; June 17-20, 2009 (submitted)

Zeng H, Haq F, Best TM, Agarwal S, **Butterfield TA**, Zhao Y. 2008 Biomechanical Device Towards Quantitative Massage. 2008 ASME International Mechanical Engineering Conference, Boston, Massachusetts; Oct 31 to Nov 6. (accepted for podium presentation).

Zeng H, Haq F, Best TM, Agarwal S, **Butterfield TA**, Zhao Y. 2008 Development of a Medical Device for Quantitative Physical Therapies. *Journal of Medical Devices*. June;2(2).

Muir TA, Gay J, **Butterfield TA**. 2008 Posterior Sternoclavicular Dislocation in a College Football Player. National Athletic Trainers' Association Annual Meeting & Clinical Symposia, St. Louis, Missouri; June 17 to June 21, 2008. (accepted for podium presentation)

Kirk ME, Carlson AJ, **Butterfield TA**. 2008 McKeon P.O. Traumatic Knee Injury in a High School Basketball Player. National Athletic Trainers' Association Annual Meeting & Clinical Symposia, St. Louis, Missouri; June 17 to June 21. (accepted for poster presentation)

Butterfield TA, Guttridge D, Best TM. 2007. Extracellular Calcium influx Contributes Skeletal Muscle NF- κ B Activation During Exercise: Implications For Muscle Repair and Adaptation. American College of Sports Medicine, 55th Annual Meeting. (podium presentation included in engagements)

Butterfield TA, Zhao Y, Agarwal S, Best TM. 2007. Cyclic Compressive Loading Facilitates Functional and Histological Recovery Following Strain-Induced Damage in Skeletal Muscle. American Society of Biomechanics, 2007 Annual Conference. Stanford University, August 22-25. (poster presentation included in engagements)

Butterfield TA, Brown MB, Best TM. 2007. Stretch-Activated Calcium Channels Are Essential for Functional Adaptations Following Repeated Loading in Skeletal Muscle. American College of Sports Medicine, 54th Annual Meeting. New Orleans, LA May 30-June 2. (podium presentation included in engagements).

Butterfield TA, Herzog W. 2006. The Magnitude of Muscle Strain Does Not Influence Serial Sarcomere Number Adaptations Following Eccentric Exercise. *Scandinavian Journal of Medicine and Science in Sports*. June; 16: 215.

Butterfield TA, Herzog W. 2006. The Magnitude of Muscle Strain Does Not Influence Serial Sarcomere Number Adaptations Following Eccentric Exercise. *Medicine and Science in Sports and Exercise*. 38:5 supplement page S262.

Butterfield TA, Herzog W. 2005. The Interaction of Surface Grade and Exercise Duration for Serial Sarcomere Adaptations Following Treadmill Running in Rats." American Society of Biomechanics and International Society of Biomechanics Combined Conference, August 1-5. Cleveland, OH. (podium presentation included in engagements)

Butterfield TA, Herzog W. 2005. Can an Altered Neuromuscular Coordination Pattern Result in Muscle Strain Injury?" Canadian Athletic Therapists Association 39th Annual Conference, May, 8-25-28. Calgary, AB.

Butterfield TA, Herzog W. 2004. Small Changes in the Timing of Activation Affects Fiber Length and Sarcomere Number Adaptations in the Rabbit Tibialis Anterior Exposed to Eccentric Exercise. American Society of Biomechanics, Annual Conference, September, 8-11. Portland, OR. (podium presentation included in engagements)

Butterfield TA, Herzog W. 2004. The Effect of Muscle Activation Timing on Fiber Strain During Eccentric Contractions. Canadian Society of Biomechanics, 13th Biennial Conference, August 4-7. Halifax, NS.

Butterfield TA, Herzog W. 2003. The Adaptive Response of Skeletal Muscle to Repetitive Strain Injury. Fourth Alberta Biomedical Engineering Conference Proceedings. Banff, Alberta: October 24-26.

Butterfield TA, Herzog W. 2003. Sarcomere Number Adaptation in the Rabbit Tibialis Anterior After Chronic Eccentric Exercise. Proceedings of the 27th Annual Meeting of the American Society of Biomechanics. September 24-26.

Butterfield TA, Herzog W. 2003. Sarcomere Number Adaptation in the Rabbit Tibialis Anterior After Chronic Eccentric Exercise. American Society of Biomechanics Annual Conference.

Butterfield TA, Herzog W. 2002. Fiber Strain and Damage During Eccentric Exercise in the Rabbit TA. Third Alberta Biomedical Engineering Conference Proceedings. Banff, Alberta: November 8-10.

Butterfield TA, Herzog W. 2002. Acute Bout of Eccentric Exercise in the Rabbit TA Shows Concomitant Fiber Length Shortening and a Subsequent Shift in the Force-Length Relationship. IV World Congress of Biomechanics Proceedings CD. Calgary, Alberta: Omnipress.

Butterfield TA, Gardner MM. 2001. The Effects of Pre-Exercise Ultrasound on Delayed Onset Muscle Soreness. SUNY Potsdam Learning and Research Fair Publication. March 22.

GRANT ACTIVITY

Submitted-Extramural

NIH-NCAAMS

Title: Massage Therapy in Eccentric Exercise Induced Muscle Weakness and Inflammation.

Investigators: Best TM, Guttridge D, Agarwal S, **Butterfield, TA** (Co-I, 15% effort)

Status: Resubmitted 10/15/2008

Total Amount: \$1,558,842.00

Subcontract Amount to UK: \$266,539.00

American Speech-Language-Hearing Foundation

Title: Laryngeal Muscle Response to Chronic Electrical Stimulation

Investigators: Thomas LB, Bough E, Stemple JC, Andrade FH, **Butterfield TA**

Status: Submitted 03/28/2008

Amount: \$9,850.00

Approved and Funded-Extramural

American College of Sports Medicine

Title: The Role of Calcium in Exercise Induced Muscle Adaptation.

Investigators: **Butterfield TA (PI)**; Best TM

Status: Funded 6-1-2006 thru 7-1-2007

Amount: \$9,886.00

Not Funded-Extramural

NIH-NCAAMS

Title: Massage Therapy in Eccentric Exercise Induced Muscle Weakness and Inflammation.

Investigators: Best TM, Guttridge D, Agarwal S, **Butterfield, TA** (Co-I, 15% effort)

Status: Submitted 02/03/2008. Priority Score 182, Not Funded

Amount: \$1,558,842.00

NASA-NSBRI

Title: Understanding the Molecular Basis of Exercise for the Development of Optimal Countermeasures for Muscle Atrophy.

Investigators: Agarwal S, **Butterfield, TA** (Co-I, 25% effort)

Status: Submitted 12/14/2007, not funded

Amount: \$344,895.00

National Institutes of Health

Title: Strain and Cell Signaling in Muscle: The Role of Stretch-Activated Channels

Investigators: **Butterfield TA (PI, 75% effort)**; Best TM; Agarwal S; Guttridge D.

Status: Not Funded 12/12/2006

Amount: \$717,839.00

National Center for Complementary and Alternative Medicine

Title: Massage Therapy in Exercise-Induced Muscle Inflammation

Investigators: Best TM (PI); Guttridge D(Co-PI); **Butterfield TA** (Co-I, 50% effort).

Status: Not Funded

Amount: \$1,200,00.00

*Approved and Funded-Intramural***'Got Grants' UK faculty research Support**

Title: Laryngeal Muscle Response to Chronic Electrical Stimulation

Investigators: Thomas LB, Bough E, Stemple JC, Andrade FH, **Butterfield TA**

Status: Funded 10/28/08 through 10/28/2009

Amount: \$10,164.00

State University of New York at Potsdam research foundation

Title: Effects of Continuous Ultrasound on Delayed Onset Muscle Soreness

Investigators: **Butterfield TA**; Gardiner MM.

Status: Funded 3-01-2000 through 3-01-2001

Amount: \$600.00