

Mitzi S. Laughlin, PhD, ATC, LAT

Curriculum Vitae

University of Houston
Health and Human Performance
3855 Holman St., Garrison Rm. 105R
Houston, TX 77204-6015
Phone: 713-743-0405
mslaughlin@uh.edu

2508 Sunburst Lane
Pearland, TX 77584
Phone: 713-516-8328
mitzilaughlin@yahoo.com

Professional Experience

University of Houston, Health and Human Performance, Houston, Texas
Research Assistant Professor, October 2012 to present.

- Design and conduct epidemiologic studies including appropriate study design and statistical methods.
- Develop reports and publishable manuscripts.
- Conduct surveillance analyses in conjunction with multi-disciplinary experts.
- Teach PEP 6305 Measurement in Health and Physical Education to entry level Master's students

Wyle Integrated Science and Engineering, NASA - Johnson Space Center, Houston, Texas.
Astronaut Strength, Conditioning, & Rehabilitation Specialist (Group Lead),
NASA-JSC, February 2002 to September 2012.

- Work with Flight Surgeons to provide quality medical care (athletic training services) for astronauts including injury prevention and rehabilitation programs.
- Developed a database to track all in-flight exercise sessions performed by ISS crew members and developed a post-flight rehabilitation database.
- Perform pre- and post-flight testing for long-duration crew members as part of medical requirements.
- Perform biostatistical analyses relating the microgravity environment to physiological measures, such as aerobic capacity, muscular strength and bone density.

University of Texas Health Science Center, Houston, Texas.
Program Analyst, Human Genetics Center, October 2000 to February 2002.

- Perform biostatistical analyses relating genetic polymorphisms to disease outcomes and related risk factors.
- Participate in grant writing and renewal process for NIH and CDC funded grants.
- Participate in data analysis and manuscript preparation.
- Create and maintain data files for various research projects.

VA Medical Center, Houston, Texas.
Research Assistant, Rehabilitation Research & Development, June to September 2000.

- Performed statistical analyses for nutritional studies.

- Participated in data collection for active research projects.
- Implemented storage system for blood samples prior to laboratory analysis.
- Created and maintained data files for various research projects.

Rice University, Houston, Texas.

Assistant Athletic Trainer, August 1997 to June 2000.

- Assisted the Head Athletic Trainer in the coordination of medical care for athletes.
- Provided athletic training services and event coverage for 14 Division I sports.
- Developed injury prevention and rehabilitation programs.
- Participated in planning and operating within the department budget.
- Maintained athletic medical records for all student athletes.
- Traveled with the Women's Basketball team for all events and other sports as needed.
- Provided training and supervision of student athletic trainers.

Alief Hastings High School, Alief, Texas.

Assistant Athletic Trainer, July 1991 to August 1997.

- Assisted the Head Athletic Trainer in the coordination of medical care for athletes.
- Provided athletic training services and event coverage for Alief ISD athletes in grades 7-12.
- Developed injury prevention and rehabilitation programs.
- Assisted in the ordering and maintaining of all medical supplies.
- Maintained athletic medical records for all high school student athletes and injured middle school athletes.
- Instructed high school student athletic trainers in the fundamentals of sports medicine.

Education

Ph.D. Kinesiology, University of Houston, May 2002.

Emphasis in measurement of physical and psychophysical performance.

Dissertation title: Effect of the ACE gene and physical activity on the risk of CHD and left ventricular hypertrophy.

M.S. Exercise Science, University of Houston, May 1999.

Thesis title: The relationship between isometric and isotonic closed kinetic chain leg strength.

B.S. Secondary Education in Physical Education and Mathematics, University of Texas, May 1991.

Professional Credentials

Licensed Athletic Trainer (LAT), Texas Department of Health #AT 1222.

Certified Athletic Trainer (ATC), National Athletic Trainers' Association #119102495.

Texas Teacher Certificate in Secondary Education: Mathematics and Physical Education

Publications

Peer-Reviewed Manuscripts

1. Morris BJ, Haigler RE, Cochran JM, Laughlin MS, Elkousy HA, Gartsman GM, Edwards TB. Obesity has minimal impact on short-term outcomes following reverse shoulder arthroplasty. *American Journal of Orthopedics*. 45(4): E180-E186, 2016.
2. Laughlin MS, Williams MA, Nieschwitz BA, Hoellen D. Functional fitness testing results following long-duration International Space Station missions. *Aerospace Medicine and Human Performance*. 18(12): 87-91, 2015.
3. Monts de Oca NA, Laughlin MS, Jenkins J, Lockworth CR, Bolton ID, Brammer DW. Comparison of Indoor Air Quality between 2 Ventilation Strategies in Facility Housing Rhesus Macaques (*Macaca mulatta*). *The Journal of the American Association for Laboratory Animal Science*. 45(5): 1-9, 2015.
4. Morris BJ, Waggenspack W, Laughlin MS, Elkousy HA, Gartsman GM, Edwards TB. Reverse Shoulder Arthroplasty for Management of Post-infectious Arthropathy with Rotator Cuff Deficiency. *Orthopedics*. 38(8):e701-e707, 2015.
5. Gartsman GM, Morris BJ, Unger RZ, Laughlin MS, Elkousy HA, Edwards TB. Characterization of clinical shoulder research over the last decade: A review of all *The Journal of Bone and Joint Surgery* (American) (JBJS-A) shoulder articles from 2004 to 2014. *The Journal of Bone and Joint Surgery*. 97(e26): 1-8, 2015.
6. Morris BJ, Haigler R, Laughlin MS, Elkousy HA, Gartsman GM, Edwards TB. Workers' compensation claims and outcomes following reverse shoulder arthroplasty. *Journal of Shoulder and Elbow Surgery*. 24(3): 453-459, 2015.
7. Morris BJ, Laughlin MS, Elkousy HA, Gartsman GM, Edwards TB. Preoperative Opioid Use and Outcomes Following Reverse Shoulder Arthroplasty, *Journal of Shoulder and Elbow Surgery*. 24(1): 11-16, 2015.
8. Elkousy HA, Gartsman GM, Edwards TB, Heaps BM, Laughlin MS, Press CM. Financial impact of third party reimbursement changes on a large group practice due to changes in the definition of code 29826. *The Journal of Bone and Joint Surgery*. 96(e183): 1-6, 2014.
9. Elkousy HA, Heaps BM, Overturf S, Laughlin MS. Financial impact of third party reimbursement due to changes in the definition of ICD-9 arthroscopy codes 29881, 29880, and 29877, *The Journal of Bone and Joint Surgery*. 96(e161): 1-7, 2014.
10. Di Salvo V, Pigozzi F, González-Haro C, Laughlin MS, De Witt JK. Match Performance Comparison in Top English Soccer Leagues, *International Journal of Sports Medicine*. 34(6): 526-532, 2013.
11. O'Connor DP, Mahar MT, Laughlin MS, Jackson AS. The Bland-Altman method should not be used in regression cross-validation studies. *Research Quarterly in Exercise and Sport*. 82(4): 609-616, 2011.

12. O'Connor DP, Laughlin MS, Woods GW. Factors related to additional knee injuries after anterior cruciate ligament injury. *Arthroscopy: The Journal of Arthroscopic and Related Surgery*. 21(4): 431-438, 2005.

Manuscripts in Review

1. Ihekweazu UN, Sohn GH, Laughlin MS, Goytia RN, Mathews V, Stocks G, Patel AR. Social, logistical and demographic factors impact time to discharge in a short stay model for total knee arthroplasty. *Arthroplasty*.
2. Agha NH, Baker FL, Kunz HE, Graff R, Azadan R, Dolan C, Laughlin MS, Hosing C, Markofski MM, Bond RA, Bollard CM, and Simpson RJ. Vigorous exercise mobilizes CD34+ hematopoietic stem cells to peripheral blood via the Beta-2-adrenergic receptor. *Brain, Behavior, and Immunity*.
3. DeWitt JK, Gonzales M, Laughlin MS, Amonette WE. External Loading Dependence Upon Game State in Professional Women Soccer Players. *Science and Medicine in Football*.
4. Reed JT, Simpson RJ, Kunz H, Pistillo M, Laughlin MS. Predicting physiological responses from a single blood lactate threshold test. *Journal of Strength and Conditioning Research*.
5. Szerlip B, Morris BJ, Laughlin MS, Kilian CM, Edwards TB. Clinical and Radiographic Outcomes After Total Shoulder Arthroplasty with an Anatomic Press-fit Short-Stem. *Journal of Shoulder and Elbow Surgery*.
6. Laughlin MS, Murray JD, Wear ML, Tarver WJ, Edwards TB, Elkousy HA, Van Baalen M. Shoulder consultations and surgery incidence rates in NASA astronauts and a cohort population of working professionals. *Journal of Shoulder and Elbow Surgery*.
7. Szerlip B, Morris BJ, Laughlin MS, Elkousy HA, Gartsman GM, Edwards TB. Reliability of X-ray and CT Assessment of Glenoid Morphology. *Journal of Shoulder and Elbow Surgery*.

NASA Technical Reports

1. Laughlin, MS, Murry, JD, Lee, LR, Wear, ML, Van Baalen M. Tracking Historical NASA EVA Training: LSAH Development of the EVA Suit Exposure Tracker (EVA SET). Document ID: 219291, 2017.
2. Laughlin MS, Lee SMC, Loehr JA, Amonette WE. Isokinetic strength and endurance tests used pre- and post-spaceflight: Test-retest reliability. Document ID: 200900214787, 2009.
3. DeWitt, JK; Schaffner, G; Blazine, K; Bentley, J; Laughlin, MS; Loehr, JA; Hagan, RD. Loading Configurations and Ground Reaction Forces During Treadmill Running in Weightlessness. Document ID: 20110011285, 2011.
4. Everett, ME.; Loehr, JA.; DeWitt, JK.; Laughlin, MS; Lee, Stuart MC. Metabolic Rate and Ground Reaction Force During Motorized and Non-Motorized Treadmill Exercise. Document ID: 20100036686, 2010.

5. English, K. L.; Loehr, J. A.; Lee, S. M. C.; Laughlin, M. S.; Hagan, R. D. Different Levels of Eccentric Resistance during Eight Weeks of Training Affect Muscle Strength and Lean Tissue Mass. Document ID: 20080012558, 2008.
6. Lee, SMC; DeWitt, JK.; Smith, C; Laughlin, MS.; Loehr, JA.; Norcross, J; Hagan, RD. Physiologic Responses and Biomechanical Aspects of Motorized and Non-motorized Treadmill Exercise: A Ground-Based Evaluation of Treadmills for Use on the International Space Station. Document ID: 20080013523, 2008.
7. Lee SMC, DeWitt J, Smith CA, Laughlin MS, Loehr JA, Norcross J, Hagan RD. Reliability of Strength Testing Using the Advanced Resistive Exercise Device and Free Weights. Document ID: 200800214782, 2008.
8. English KL, Loehr JA, Lee SMC, Laughlin MS, Hagan RD. Physiologic responses and biomechanical aspects of motorized and non-motorized treadmill exercise: a ground-based evaluation of treadmills for use on the International Space Station treadmill. Document ID: 20060052414, 2006.

Presentations

Research

1. Knoblauch MA, Laughlin MS, Vineyard A, Poe R. Perceptions of Athletic Trainer Abilities to Perform Skills Outlined in the BOC Practice Analysis. National Athletic Trainers' Association Annual Meeting, Houston, Texas, June 27, 2017.
2. Laughlin M, Reed J, Layne C, Kozlovskaya I, Koryak Y, Albracht K, Staudle B, Rittweger J. SARCOLAB-3: Myotendinous and Neuromuscular Adaptation to Long-term Spaceflight. NASA Human Research Program Investigators' Workshop - A New Dawn: Enabling Human Space Exploration, Galveston, Texas, January 23-26, 2017.
3. Spielmann G, Campbell J, Crucian B, Simpson R, Laughlin M. The impact of long duration spaceflight on the function of B-cells and biomarkers of inflammation. NASA Human Research Program Investigators' Workshop - A New Dawn: Enabling Human Space Exploration, Galveston, Texas, January 23-26, 2017.
4. Bigley A, Mylabathula P, Agha N, Li L, Mehta S, Crucian B, Pierson D, Laughlin M, Rezvan K, Simpson R. The role of microgravity in dysregulated NK-cell function and CMV specific T-cell responses during spaceflight. NASA Human Research Program Investigators' Workshop - A New Dawn: Enabling Human Space Exploration, Galveston, Texas, January 23-26, 2017.
5. Simpson R, Bigley A, Spielmann G, Kunz H, Agha N, Baker F, Rooney B, Mylabathula P, Graff R, Laughlin M, Mehta S, Pierson D, Crucian B. Long duration spaceflight impairs NK-cell function in ISS crewmembers: findings from the 'Salivary Markers' project. NASA Human Research Program Investigators' Workshop - A New Dawn: Enabling Human Space Exploration, Galveston, Texas, January 23-26, 2017.
6. Alfano C, Bower J, Simpson R, Connaboy C, Laughlin M, Deng Z. Psychological Risk, Overlap with Physical Health, and Associated Performance in the Human Exploration Research Analog (HERA). NASA Human Research Program Investigators' Workshop - A New Dawn: Enabling Human Space Exploration, Galveston, Texas, January 23-26, 2017.
7. Knoblauch M, Laughlin MS, Vineyard, Poe R. Perceptions of healthcare providers ability

- to perform specific practice domains. HHP Research Day, October 25, 2016.
8. Reed JT, Simpson RJ, Kunz H, Pistillo M, Laughlin MS. Lactate threshold testing: Do physiological responses to a single incremental exercise test accurately carry over to longer duration, constant power exercise sessions? HHP Research Day, October 25, 2016.
 9. Rittweger J, Laughlin MS, Kozlovskaya I. Sarcolab-3: Myotendinous and neuromuscular adaptation to long-term spaceflight. Joint ESA, NASA, JAXA and CSA Science Symposium, June 7-9, 2016.
 10. Cottingham MP, Lee D, Laughlin MS, Velasco F. Examining the size and scope of youth disability sport. North American Society for Sport Management, Orlando, Florida, June 3, 2016.
 11. Simpson RJ, Bigley AB, Spielmann G, Kunz HE, Agha N, Baker F, Rooney B, Mylabathula PL, Graff RM, Crucian BE, Laughlin M, Mehta SK, Pierson DL. Long duration spaceflight impairs NK-cell function in astronauts. American College of Sports Medicine, Boston, Massachusetts June 1, 2016.
 12. Reed J, Laughlin MS, Kunz H, Pistillo M, Simpson R. Predicting physiological response to constant power cycling exercise from a single incremental blood lactate threshold test. American College of Sports Medicine, Boston, Massachusetts May 31, 2016.
 13. Laughlin MS, Murray JD, Young M, Wear ML, Tarver WJ, Van Baalen M. Do astronauts have a higher rate of orthopedic shoulder conditions than a cohort of working professionals? NASA Human Research Program Investigators' Workshop Frontiers in Human Space Exploration Research, Galveston, Texas, February 8-11, 2016.
 14. Laughlin MS, Murray JD, Lee LR, Wear ML, Van Baalen M. Compiling a comprehensive EVA training dataset for NASA astronauts. NASA Human Research Program Investigators' Workshop Frontiers in Human Space Exploration Research, Galveston, Texas, February 8-11, 2016.
 15. Laughlin MS, Murray JD, Wear ML, Van Baalen M. Post-flight back pain following International Space Station missions: Evaluation of spaceflight risk factors. NASA Human Research Program Investigators' Workshop Frontiers in Human Space Exploration Research, Galveston, Texas, February 8-11, 2016.
 16. Alfano C, Simpson R, Connaboy C, Laughlin M, Zvolensky M, Deng Z. Characterization of Psychological Risk, Overlap with Physical Health, and Associated Performance in Isolated, Confined, Extreme (ICE) Environments. NASA Human Research Program Investigators' Workshop Frontiers in Human Space Exploration Research, Galveston, Texas, February 8-11, 2016.
 17. Brent J. Morris, MD; Mitzi S. Laughlin, PhD; Benjamin W. Szerlip, DO; Hussein A. Elkousy, MD; Gary M. Gartsman, MD; Gilles Walch, MD; T. Bradley Edwards, MD. Preoperative opioid use and outcomes after reverse shoulder arthroplasty. XXVI Congress of the European Society for Shoulder and Elbow Surgery (SECEC/ESSSE) 2015, September 16-19, Milan, Italy.
 18. Gary M. Gartsman, MD; Brent J. Morris, MD; R. Zackary Unger, MD; Mitzi S. Laughlin, PhD; Benjamin W. Szerlip, DO; Hussein A. Elkousy, MD; Gilles Walch, MD; T. Bradley Edwards, MD. Trends in Shoulder Research Over the Last Decade: A Review of Journal of Bone and Joint Surgery Shoulder Articles. XXVI Congress of the European Society for Shoulder and Elbow Surgery (SECEC/ESSSE) 2015, September 16-19, Milan, Italy.
 19. Brent J. Morris, MD; Richard Haigler, MD; Daniel P. O'Connor, PhD; Benjamin W.

- Szerlip, DO; Hussein A. Elkousy, MD; Gary M. Gartsman, MD; Gilles Walch, MD; T. Bradley Edwards, MD. Radiographic Comparison of Finned, Cementless Central Pegged Glenoid Components and Conventional Cemented Pegged Glenoid Components: A Prospective Randomized Study. Poster Presentation. XXVI Congress of the European Society for Shoulder and Elbow Surgery (SECEC/ESSSE) 2015, September 16-19, Milan, Italy.
20. Murray JD, Laughlin MS, Eudy DL, Wear ML, Van Baalen MG. Injury Surveillance among NASA Astronauts using the Barell Injury Diagnosis Matrix. NASA Human Research Program Investigators' Workshop: Integrated Pathways to Mars, Galveston, Texas, January 13-15, 2015.
 21. Laughlin MS. Shoulder Injuries: Risk Factors and Surgical Outcomes. UH HHP Research Day. October 22, 2014.
 22. Silva J, Fowler CE, Kabiri I, Hood LR, Whitney TJ, Almoosa KF, Laughlin MS, Lowder TW. Supervised Exercise Training in Patients with Lymphangiomyomatosis: A Clinical Update. UH HHP Research Day. October 22, 2014.
 23. Edwards TB, Morris BJ, Elkousy HA, Gartsman GM, Laughlin MS. Preoperative Opioid Use And Outcomes Following Reverse Shoulder Arthroplasty. 2014 Closed Meeting of the American Shoulder and Elbow Surgeons (ASES), Pinehurst, North Carolina, October 9-12, 2014.
 24. Laughlin MS, Murray JD, Foy M, Wear ML, Van Baalen M. Shoulder Injury Incidence Rates in NASA Astronauts. NASA Human Research Program Investigators' Workshop Challenges and Opportunities: Maximizing Human Space Flight Research, Galveston, Texas, February 12-13, 2014.
 25. Murray JD, Laughlin MS, Foy M, Wear ML, Van Baalen M. Shoulder Surgery Incidence Rates in NASA Astronauts. NASA Human Research Program Investigators' Workshop Challenges and Opportunities: Maximizing Human Space Flight Research, Galveston, Texas, February 12-13, 2014.
 26. Elkousy HA, Gartsman GM, Edwards TB, Press CM, Heaps BM, O'Connor DP, Laughlin MS. Was There A Behavioral Change In Surgeons When Faced With A Change In Code Status Of 29826 And Does Subspecialty Status Make A Difference? 2013 Closed Meeting of the American Shoulder and Elbow Surgeons (ASES), Las Vegas, Nevada, October 12-15, 2013.
 27. Everett, ME.; DeWitt, JK; Lee, SMC; Laughlin, MS; Wilson, CA; Loehr, JA. Joint Angles at Heel Strike and Toe Off during Motorized and Non-Motorized Treadmill Locomotion. *Medicine and Science in Sports and Exercise* 40(5):S302-S303, 2008.
 28. English, KL; Loehr, JA; Lee, SMC; Maddocks, MJ; Laughlin, MS; Hagan, RD. Musculoskeletal Adaptations to Different Levels of Eccentric Resistance during 8 Weeks of Training. *Medicine and Science in Sports and Exercise* 39(5):S325, 2007.
 29. O'Connor, DP; Mahar, M; Laughlin, MS; Wier, LT; Jackson, AS. Misuse of the Bland-Altman Method with Cross-Validation Research. *Medicine and Science in Sports and Exercise* 39(5):S34, 2007.
 30. Lynn, PA; Babiak-Vazquez, AE; Minard, CG; Laughlin, MS; Moore, AD. Decline in Aerobic Fitness after Long-Term Stays on the International Space Station. *Texas Public Health Journal* 58, 2007.
 31. Smith CA, Lee SMC, Laughlin MS, Loehr JA, Norcross J, DeWitt J, Hagan RD. Physiologic responses to motorized and non-motorized locomotion utilizing the

International Space Station treadmill. *Medicine and Science in Sports and Exercise* 38: S320, 2006.

32. Lee SMC, Shackelford LC, Smith SM, Williams ME, Loehr JA, Shepherd B, Laughlin MS, Chauvin J, Hagan RD. Lean tissue mass and muscle strength: Does resistive exercise prevent space flight deconditioning? *Medicine and Science in Sports and Exercise* 36: S272, 2004.
33. Moore AD, Laughlin MS, Lee SMC, Hagan RD. Changes in aerobic capacity during and after ISS long duration space flight. Aerospace Medical Association 75th Scientific Meeting. Anchorage, Alaska, May 2-6, 2004.
34. Lee SMC, Williams ME, Loehr JA, Laughlin MS, Shackelford LC, Smith SM, Shepherd B, Chauvin J, Hagan RD. Muscle performance and lean tissue mass after early International Space Station (ISS) missions. Aerospace Medical Association 75th Scientific Meeting. Anchorage, Alaska, May 2-6, 2004.
35. Schaffner G, DeWitt J, Laughlin MS, Bentley J, Hagan RD. Effect of bungee loading on ground reaction force during treadmill locomotion in weightlessness. Aerospace Medical Association 75th Scientific Meeting. Anchorage, Alaska, May 2-6, 2004.
36. DeWitt JK, Schaffner G, Blazine K, Bentley JR, Laughlin MS, Loehr JA, Hagan RD. Loading configurations and ground reaction forces during treadmill running in weightlessness. American Society of Biomechanics Annual Meeting. Toledo, Ohio, September 27, 2003.
37. Laughlin MS, Moore AD, Jr, Lee SMC, Hagan RD. Changes in aerobic capacity during long duration space flight onboard the International Space Station. American College of Sports Medicine 50th Annual Meeting, San Francisco, California, May 30, 2003.
38. Lee SMC, Loehr JA, Williams ME, Laughlin MS, Shackelford LC, Smith SM, Hagan RD. Isokinetic strength and endurance after International Space Station (ISS) missions. American College of Sports Medicine 50th Annual Meeting, San Francisco, California, May 30, 2003.
39. Moore AD, Jr, Lee SMC, Laughlin MS, Hagan RD. Aerobic deconditioning and recovery following long duration space flight onboard the International Space Station. American College of Sports Medicine 50th Annual Meeting, San Francisco, California, May 30, 2003.
40. Rudner LJ, Amonette WE, Bentley JR, DeWitt JK, Laughlin MS. Squat exercise load affects bar trajectory. Texas Chapter of the American Society of Sports Medicine Meeting, Houston, Texas, March 7, 2003.
41. Bray MS, Laughlin MS, Papageorgiou D, Boerwinkle E. Interaction between genetic polymorphisms and obesity predicting plasma lipid levels. The North American Association for the Study of Obesity Annual Meeting & Expo, Quebec City, Canada, October 10, 2001.
42. Laughlin MS, Jackson AS, Bray MS. Physical activity and CETP polymorphisms as predictors of HDL cholesterol levels. The North American Association for the Study of Obesity Annual Meeting & Expo, Quebec City, Canada, October 8, 2001.
43. Laughlin MS, O'Connor DP, Wier L, Bray MS, Blair S, Jackson AS. Defining the risk of low aerobic fitness of women without exercise testing. International Sports Medicine Conference, Trinity College, Dublin, Ireland, September 27, 2001.
44. Sekula BK, Jackson AS, Laughlin MS. Measuring percentage of maximal functional lift capacity: Calibration of Borg's CR10. American College of Sports Medicine 48th Annual Meeting, Baltimore, Maryland, May 30, 2001.

45. Beaver R, Clanton TO, Laughlin, MS. Foot and ankle fractures in a NCAA Division I athletic program: a 15 year review. American Academy of Orthopaedic Surgeons 67th Annual Meeting, Orlando, Florida, March 18, 2000.
46. Wissen WT, Laughlin MS, Ford KB. Conservative management of an ACL tear with tibial spine avulsion and multiple meniscal tears in a 15 year old football player. Southwest Athletic Trainers' Association 40th Annual Meeting and Clinical Symposium, Arlington, TX, July 22, 1994.
47. Wissen WT, Laughlin MS, Russell JA. Incidence and severity of high school athletic injuries: A five year retrospective study. National Athletic Trainers' Association 45th Annual Meeting and Clinical Symposium, Dallas, TX, June 11, 1994.
48. Russell JA, Wissen WT, Laughlin MS. Differences in non-exercise VO₂ max estimates of adolescent athletes based on physical activity ratings of various observers. American College of Sports Medicine 40th Annual Meeting, Indianapolis, Indiana, June 3, 1994.
49. Russell JA, Wissen WT, Laughlin MS. Clinical application of VO₂ max estimates without exercise testing in a large population of adolescent athletes. American College of Sports Medicine 39th Annual Meeting, Seattle, Washington, June 5, 1993.

Invited Lectures and Presentations

1. Athletic Training Emerging Practice Settings, Southwest Athletic Trainers' Association, San Marcos, Texas, July 21, 2017.
2. The NASA Athletic Training Experience a Non-traditional Setting, Health Science and Technology Program, Eagle Mountain-Saginaw ISD, Ft Worth, Texas, September 23, 2015.
3. Athletic Training and Sports Medicine at NASA JSC, Fort Bend ISD, Sugar Land, Texas, March 27, 2015.
4. The NASA Athletic Training Experience a Non-traditional Setting, Health Science and Technology Program, Eagle Mountain-Saginaw ISD, Ft Worth, Texas, September 18, 2014.
5. The NASA Athletic Training Experience a Non-traditional Setting, Health Science and Technology Program, Eagle Mountain-Saginaw ISD, Ft Worth, Texas, September 20, 2013.
6. The Science Behind Recess @NASA. Faculty Lecture Series, Science Teaching Equity Project, Houston, Texas, November 8, 2012.
7. Pre and Inflight Exercise Conditioning for US International Space Station Astronauts. Center for the Advancement of Science in Space (CASIS), Denver, Colorado, June 27, 2012.
8. Professional Update and SWATA Issues. South Padre Athletic Training Seminar, South Padre Island, Texas, June 16, 2012.
9. Interview Techniques for Athletic Trainers. Southwest Athletic Trainers' Association, Corpus Christi, Texas, July 19, 2008.
10. Emerging Athletic Training Practice Settings. National Athletic Trainers' Association, St Louis, Missouri, June, 2008.
11. Non-traditional Practice Settings. Southwest Athletic Trainers' Association, Houston, Texas, July 23, 2005.

12. Defining the Risk of Low Aerobic Fitness of Women without Exercise Testing. International Sports Medicine Conference, Trinity College, Dublin, Ireland, September 20, 2001.
13. Opportunities in the Medical Field. Greater Houston Student Athletic Trainers' Workshop, The Woodlands, Texas, January 13, 2001.
14. Auscultation & Palpation: Abdomen & Thorax. Competencies in Athletic Training Workshop, Arlington, Texas, July 20, 2000.
15. Core Exercises for Lower Extremity Stability. The University of Texas Medical Branch at Galveston, Innovations in Sports Medicine Conference, Galveston, Texas, June 24, 2000.
16. Compartment Syndromes of the Lower Leg. Southwest Athletic Trainers' Association, 44th Annual Meeting and Clinical Symposium, Arlington, Texas, July 24, 1998.
17. Elbow, Forearm, Wrist and Hand: Assessment Lab. Competencies in Athletic Training Workshop, Arlington, Texas, July 24, 1998.
18. Evaluation of the Pelvis and Low Back (Lab). Competencies in Athletic Training Workshop, Arlington, Texas, July 25, 1997.
19. Creating a Computerized Scientific Poster Presentation. Greater Houston Student Athletic Trainers' Workshop, Houston, Texas, January 11, 1997.
20. What the Internet can do for the Sports Medicine Professional. Colloquia on Applied Science in Sports Medicine, Houston, Texas; April 19, 1996.
21. Sports Medicine on the Internet: Computers and the Information Superhighway Simplified. Colloquia on Applied Science in Sports Medicine, Houston, Texas; April 21, 1995.
22. Use of a Macintosh in the Training Room. Southwest Athletic Trainers' Association, 38th Annual Meeting and Clinical Symposium, Arlington, Texas; July 24, 1992.

Externally Funded Support

Total Research Funding Awarded

Active (100% of total effort supported as of March 2014)

Principal Investigator or Co-Principal Investigator

1. \$1,080,227 (50% IDC) National Aeronautics and Space Administration (NASA) (NNJ10ZSA003N). Assessment of the Time Courses of Leg Muscle Strength and Performance Losses During Prolonged Spaceflight using MARES. February 2016 to January 2021. (75% credit, 25% total effort: responsible for all aspects of design, project management, execution, analysis, and reporting).
2. \$3,845 College of Liberal Arts and Social Science (CLASS). Feasibility and Reliability of Energy System Contributions during Exercise. June 2015 to June 2016.
3. \$450,000 (50.5% IDC) Joe W. King Orthopedic Institute (G109267). Clinical and translational methods and outcomes in orthopedic surgery (Co-Principal Investigator Daniel O'Connor). December 2014 to November 2017. (25% credit, 50% total effort: responsible for design, implementation, data management, analysis, and reporting).

Co-Investigator

1. \$916,446 (50.5% IDC) National Aeronautics and Space Administration (NASA) (NNJ13ZSA002N-BMED). Characterization of Psychological Risk, Overlap with Physical Health, and Associated Performance in Isolated, Confined, and Extreme (ICE) Environments (Principal Investigator Candice Alfano). January 2015 to September 2018. (10% credit, 8.3% total effort: responsible for data management, analysis, and reporting).
2. \$700,000 (50.5% IDC) National Aeronautics and Space Administration (NASA). The impact of modeled microgravity on cytomegalovirus reactivation and host immune evasion (Principal Investigator Richard Simpson). July 2015 to June 2018. 8.3% total effort: provide expertise in biostatistics, analytical design, data management and reporting.
3. \$225,000 (50.5% IDC) National Aeronautics and Space Administration (NASA) (NNJ14ZSA001N-MIXEDTOPICS). The impact of an ISS mission on the anti-viral and functional properties of NK-cells, T-cells, B-cells and dendritic cells (Principal Investigator Richard Simpson). 8.3% total effort: provide expertise in biostatistics, analytical design, data management and reporting.
4. \$100,000 (50.5% IDC) National Aeronautics and Space Administration (NASA) (NNJ15ZSA001N-OMNIBUS). The impact of long duration spaceflight on the function of B-cells and biomarkers of inflammation (Principal Investigator Guillaume Spielmann). 8.3% total effort: provide expertise in biostatistics, analytical design, data management and reporting.

Research Contract

1. Wyle Integrated Science and Engineering. Enhanced Development of the Office of Scientific Data Review and Dissemination. October 2015 to present. (25% total effort: perform surveillance and epidemiological analyses, project management, and reporting).

Completed Research Funding

Co-Investigator

1. \$402,000 (49.5% IDC) Joe W. King Orthopedic Institute (G104391). Clinical and translational methods and outcomes in orthopedic surgery (Principal Investigator Daniel O'Connor). October 2012 to November 2014. (50% total effort: responsible for design, project management, implementation, data management, analysis, and reporting).

Research Contract

2. Wyle Integrated Science and Engineering. Enhanced Development of the Office of Scientific Data Review and Dissemination. October 2012 to September 2015. (50% total effort: perform surveillance and epidemiological analyses, project management, and reporting).

Research Funding In Review or Not Awarded

1. \$168,940 (50.5% IDC) National Institutes of Health (NIH) R03. Fitness and the reconstitution of cytotoxic lymphocytes for multiple myeloma. (Principal Investigator Austin Bigley). 10% total effort: provide expertise in biostatistics, analytical design, data management, and reporting. Submitted February 28, 2017. [In review]
2. \$127,893 (50.5% IDC) National Institutes of Health (NIH) R21. The impact of radiotherapy on autonomic function and immune response in breast cancer patients. (Principal Investigator Emily Lavoy). 10% total effort: provide expertise in biostatistics, analytical design, data management, and reporting. Submitted October 3, 2016. [In review]
3. \$418,992 (50.5% IDC) National Institutes of Health (NIH) R21. Treatment of obesity among Adenovirus 36 (Ad36) seropositive Mexican American children (Principal Investigator Emily Lavoy). 8% total effort: provide expertise in biostatistics, analytical design, data management, and reporting. Submitted October 3, 2016. [Not awarded]
4. \$100,000 (50.5% IDC) National Institutes of Health (NIH) R03. Exercise as an adjuvant for CD34+ stem cell mobilization in GCSF-treated healthy donors. 4% total effort: provide expertise in exercise intervention, biostatistics, analytical design, data management, and reporting. Submitted February 16, 2016. [Not awarded]
5. \$100,000 (50.5% IDC) National Aeronautics and Space Administration (NASA). Reliability and validity of an algorithm to measure changes in the ventilatory threshold using a sub maximal exercise test during a period of training and detraining (Principal Investigator Luca Pollonini). 12.5% total effort: provide expertise in exercise physiology, analytical design, data management and reporting. Re-Submitted December 3, 2014. [Not awarded]
6. \$2,000,000 (50.5% IDC) National Aeronautics and Space Administration (NASA). Multi-systemic Adaptations to Spaceflight in Mice (Principal Investigator Yoonjung Park). 8.3% total effort: provide expertise in biostatistics, analytical design, data management and reporting. Submitted May 23, 2014. [Not Awarded]
7. \$100,000 (50.5% IDC) National Aeronautics and Space Administration (NASA). Reliability and validity of an algorithm to measure changes in the ventilatory threshold using a sub maximal exercise test during a period of training and detraining (Principal Investigator Luca Pollonini). 12.5% total effort: provide expertise in exercise physiology, analytical design, data management and reporting. Submitted December 13, 2013. [Not Awarded]
8. \$1,750,000 (40.5% IDC) United States Department of Agriculture. Nutrition Information and Fitness Training for Youth (NIFTY). (Principal Investigator Rebecca Lee). 16.7% total effort: provide exercise physiology expertise, perform surveillance, analytical design, data management and reporting. Submitted April 11, 2013. [Not Awarded]

Academic Teaching

Measurement in Health and Exercise Science (PEP 6305) University of Houston, Health and Human Performance Department, Summer 2009 and 2010, Fall 2012 and 2013.
Exercise Testing and Prescriptions (PT 5221) Texas Women's University, Houston Campus Physical Therapy Department, Fall 2004, 2005 and 2006.
Effective Use of Fitness Assessments (Lecture and lab). Integrated Physiology course, University of Houston, October 1 and 3, 2013.
Introduction to Rehabilitation Theory and Practice (Lecture). Rice University, Human Performance and Health Sciences Department, December 2, 1999.
Goniometry (Lab Session). Rice University, Human Performance and Health Sciences Department, May 5, 1999.
Introduction to Therapeutic Modalities (Lecture). Rice University, Human Performance and Health Sciences Department, November 19, 1998.
Sports Medicine (Class and supervision of student trainers). Alief Hastings High School, 1991-1997.

Thesis and Dissertation Committees

Stefan Madansingh. Dissertation "Leveraging Sensorimotor Adaptive Generalizability to Minimize Static and Dynamic Fall Risk" Chairs Dr. Charles Layne and Boom-Chan Lee, December 2016.

Patrick Howell. Thesis "Determining if an Automated Algorithm is Feasible to use as a Sub-Maximal Ventilatory Threshold Test" Chair Dr. Richard Simpson, May 2015.

Justin Reed Thesis "Predicting Physiological Response to Constant Load Exercise Based on a Single Lactate Threshold Test" Co-Chair with Dr. Richard Simpson, December 2013.

Professional Associations, Service and Consulting

National Athletic Trainers' Association, 1988 to present.
Southwest Athletic Trainers' Association, 1988 to present.
Greater Houston Athletic Trainers' Society, 1991 to present.
Texas State Athletic Trainers' Association, 2002 to present.

Current

1. NATA Annual Meeting proposal reviewer for Evidence Based Forum, 2013 to present.
2. Peer reviewer for the Journal of Applied Biomechanics, 2014 to present.
3. Peer reviewer for the Annals of Orthopedics and Rheumatology, 2014 to present.
4. Peer reviewer for the Annals of Vascular Medicine and Research, 2014 to present.

Previous

1. President, Southwest Athletic Trainers' Association, 2012 to 2014.
2. Vice President, Southwest Athletic Trainers' Association, 2010 to 2012.

3. District Secretary, NATA District VI, 2003 to 2010.
4. Home Study Program Reviewer, NATA Board of Certification, 2002 to 2013.
5. Editor, "SWATA News", Southwest Athletic Trainers' Association, 1997 to 2007.
6. Certification Examiner, National Athletic Trainers' Association, Board of Certification, 1992 to 2006.
7. Texas Athletic Trainer Licensure Examiner, Texas Department of Health, 1992 to 2005.
8. Registration Committee Member, Southwest Athletic Trainers' Association, 2000 to 2004.
9. Book and Media Reviewer, *Journal of Sport Rehabilitation*, 2002 to 2004.
10. Advisory Council Central Region Representative, Greater Houston Athletic Trainers' Society, 2000 to 2002.
11. Membership Committee, Greater Houston Athletic Trainers' Society, 2000 to 2002.
12. Salt Lake City Olympic Committee Torchbearer in Training Sports Medicine consultant, 2001.
13. Greater Houston Student Trainer Workshop organizing committee member, Greater Houston Athletic Trainers' Society, 1992 to 2000.
14. NATA Free Communications Abstract Reviewer, 1998 and 1999.
15. CEU Monitoring Committee Member, Southwest Athletic Trainers' Association, 1996 to 1999.
16. Chair of the Economic Impact Task Force, Southwest Athletic Trainers' Association, 1994 to 1996.
17. Honors and Awards Committee Member, Southwest Athletic Trainers' Association, 1993 to 2001.
18. Editor, "GHATS News", Greater Houston Athletic Trainers' Society, 1993 to 1996.
19. Sports Medicine Team, The Woodlands Invitational Diving Meet, 1993.
20. Medical Staff, Houston Tenneco Marathon (U.S. Women's Olympic Marathon Trials), 1992.

Professional and Academic Awards

1. Hall of Fame, Southwest Athletic Trainers' Association, 2016.
2. Most Distinguished Athletic Trainer, National Athletic Trainers' Association, 2013.
3. Most Distinguished Athletic Trainer, Southwest Athletic Trainers' Association, 2013.
4. NASA Lyndon B Johnson Space Center "Group Achievement Award" for Transformation of ISS to Six Person Crew Capability, 2010.
5. SWATA Eddie Wojecki Award, Southwest Athletic Trainers' Association, 2007.
6. NATA Service Award, National Athletic Trainers Association, 2007.
7. NASA Lyndon B Johnson Space Center "Group Achievement Award" for outstanding work maintaining Expedition 13 crew health on orbit, 2007.
8. Space and Life Sciences Directorate "Special Space Flight Achievement Award" for Astronaut Strength, Conditioning and Rehabilitation Team, 2005.
9. Space and Life Sciences Directorate "Special Professional Achievement Award" for Summer Science Institute Team, 2005.
10. Space and Life Sciences Directorate "Special Professional Achievement Award" for Bioastronautics Education and Outreach Team, 2004.

11. Space Medicine “Manager’s Choice” Award for presentation of NASA-MIR and ISS data at the American College of Sports Medicine annual meeting, 2004.
12. Wyle Laboratories “Outstanding Team Support” Award for the Exercise Countermeasures Team, Wyle Laboratories, 2003.
13. Space Physiology & Countermeasures Department “Manager’s Choice” Award for the SchRED MILT Team, Wyle Laboratories, 2003.
14. Space Physiology & Countermeasures Department “Manager’s Choice” Award for Development of the ISS Inflight Exercise Database, Wyle Laboratories, 2002.
15. Bobby Gunn “Unsung Hero” Watch Award, Southwest Athletic Trainers’ Association, 2001.
16. Robert H. Gunn Award for Pursuit of Excellence in Sports Medicine, Greater Houston Athletic Trainers’ Society, 1994.
17. UT Presidential Scholar, University of Texas, 1987-1988.