

## CURRICULUM VITAE

**Gretchen A. Meyer, Ph.D.**

**Date:** June 15, 2025

**Citizenship:** USA

### Contact Information

**Address:** Program in Physical Therapy  
Washington University School of Medicine  
Campus Box 8502  
4444 Forest Park Ave., Suite 1101  
St. Louis, MO 63108  
Tel: (314) 286-1456  
E-mail: meyer@wustl.edu

### Present Position

Associate Professor in Physical Therapy, Neurology, Biomedical Engineering and Orthopaedic Surgery, Washington University School of Medicine, St. Louis, MO

### Education

2000-2004 **BS Mechanical Engineering;** Washington University in St. Louis, St. Louis, MO  
2003-2004 **MS Mechanical Engineering;** Washington University in St. Louis, St. Louis, MO  
2006-2011 **Ph.D. Bioengineering;** University of California, San Diego, San Diego, CA  
2011-2014 **Postdoctoral Fellowship, Bioengineering;** University of California, San Diego, San Diego, CA

### Academic Positions/Employment

05/02-08/03 **Research Assistant,** Dynamics Laboratory  
Washington University in St. Louis, Philip V. Bayly, Director  
08/04-09/06 **Engineer/Scientist 1,** Dynamics Group  
The Boeing Company (St. Louis, MO), Robert Mullans, Group Lead  
07/07-07/11 **Graduate Research Assistant,** Muscle Physiology Laboratory  
University of California, San Diego, Richard L. Lieber, Director  
09/11-07/14 **Postdoctoral Fellow,** Stem Cell Biology and Bioengineering Laboratory  
University of California, San Diego, Adam J. Engler, Director  
08/14-07/15 **Instructor,** Physical Therapy and Neurology  
Washington University in St. Louis  
07/15-07/17 **Assistant Professor,** Physical Therapy, Neurology and Biomedical Engineering, Washington University in St. Louis  
07/17-present **Assistant Professor,** Physical Therapy, Neurology, Biomedical Engineering and Orthopaedic Surgery, Washington University in St. Louis  
07/23-present **Associate Professor with tenure,** Physical Therapy, Neurology, Biomedical Engineering and Orthopaedic Surgery, Washington University in St. Louis

## **Teaching Title and Responsibilities**

Coursemaster

2021-present L63 Bioenergetics

Lectures (2014-2025 average rating 4.5/5):

2006-2007 Graduate Teaching Assistantships (University of California, San Diego)  
BENG101: Foundations of Biomedical Imaging  
BENG122A: Biosystems and Control  
BENG125: Modeling and Computation in Bioengineering  
BENG112A: Biomechanics

2009 CSD1: Cells, Systems and Disease 1 – Lecture: *Skeletal Muscle Physiology* (Washington University in St. Louis, Physical Therapy)

2012-2013 BENG87: Engineering Stem Cells – Lecture: *Stem Cells and Disease* (University of California, San Diego, Bioengineering)

2013-2014 BENG277: Tissue Engineering Laboratory – Module: *Stiffness Driven Differentiation* (University of California, San Diego, Bioengineering)

2015 BIOL328: Principles in Human Physiology: Muscle Structure and Function (2hr)

2016 IPMS5510: Biomechanics: Muscle Injury & the Popping Sarcomere Theory (3hr)  
BME301A: Modeling Skeletal Muscle Structure & Function

2014-present (Annually) M3: Skeletal Muscle Extracellular Matrix (2 hr)  
M3: Muscle Regeneration and the Satellite Cell (2hr)  
M3: Muscle Structure and Function (2hr)  
M3: Muscle Mechanics (2hr)  
M3: Muscle Plasticity (2hr)  
M4: Precision Medicine in Physical Therapy (2hr)

## **Honors and Awards**

2000 – National Merit Scholarship & Dean’s Honorary Scholarship  
2004 – Most Outstanding Member, American Society of Mechanical Engineers (Washington University Chapter)  
2007 – Pass with Distinction, Departmental Qualifying Examination (University of California, San Diego, Bioengineering)  
2009 – Young Investigator Award Finalist, Workshop on Multi-scale Muscle Mechanics  
2016 – California Physical Therapy Association Publication Award

## **Editorial Responsibilities**

Editorial board:

- Journal of Orthopaedic Research
- Journal of Applied Physiology

Manuscript Reviewer (selected from >25):

- Diabetes
- Stem Cells Translational Medicine
- Acta Biomaterialia
- Tissue Engineering
- Frontiers in Endocrinology
- Journal of Physiology

- Journal of Cachexia, Sarcopenia and Muscle
- American Journal of Physiology, Cell Physiology
- Journal of Applied Physiology
- Scientific Reports
- Journal of Orthopaedic Research
- Journal of Shoulder and Elbow Surgery
- American Journal of Sports Medicine
- Physical Therapy Journal

### **National Scientific Panels**

#### Conference Organization:

- Co-chair - Alternative Muscle Club Annual Meeting, 2013
- MRC/CRM Conference Planning Committee for 2017 Conference
- Co-organizer – Orthopaedic Research Society Workshop: In vivo and in vitro techniques to study skeletal muscle growth and regeneration, 2018
- Co-organizer – Orthopaedic Research Society Research Interest Group: Cell and gene therapies for skeletal muscle regeneration and repair after injury, disease and aging, 2019
- Organizer – Society for Engineering Science Symposium: Engineering tools to model altered soft tissue mechanics, 2019
- Invited Participant – NSF Mechanics of Materials and Structures (MOMS) Strategic Programming Workshop
- Co-organizer – Combined Sections Meeting of the APTA: Muscle Degeneration of the Rotator Cuff: Scientific advances to guide surgery and rehabilitation, 2019
- Skeletal Muscle Topic Chair – Orthopaedic Research Society Annual Meeting 2021-2022
- Co-organizer – Orthopaedic Research Society Research Interest Group: The Cellular Orchestration of Muscle Regeneration, 2021
- Co-organizer - Combined Sections Meeting of the APTA: The Diabetic Foot Update – From Bench to Bedside, 2022

#### Grant Review:

- DoD/CDMRP Regenerative Medicine Research Panel, 2020
- NIH NIAMS Loan Repayment Program, 2021
- NIH SMEP Ad Hoc Reviewer 10/2021
- NIH SMEP Special Emphasis Panel 03/2022
- NIH SMEP Ancillary Mechanistic Studies Panel 06/2022
- Orthopaedic Research and Education Foundation, 2019, 2022
- NIH NIAMS Fellowship Review Study Section; co-chair, 03/2023
- NIH SMEP Standing Member 2024-present

### **Community Service Contributions**

#### Institutional:

- 2017 Conference Planning Committee, Musculoskeletal Biology and Regeneration Meeting
- 2018-present Associate Director (Core B), Musculoskeletal Research Center
- 2018-present Board of Directors Member, Musculoskeletal Research Center
- 2022 Co-organizer, Center for Engineering Mechanobiology Boot Camp: Matrix-Directed Cell Sensing
- 2024 Chair, Diversity, Equity & Inclusion Committee, Musculoskeletal Research Center

#### Departmental:

Curriculum Vitae - Gretchen A. Meyer, Ph.D.

- 2014-present Program in Physical Therapy Research Advisory Council
- 2016-2022 Organizer, Steven J. Rose Annual Lecture
- 2018-2019 Program in Physical Therapy Strategic Planning Committee
- 2018-2019 Faculty Search Committee
- 2021-present Program in Physical Therapy Curriculum Renewal Committee
- 2022-2023 Faculty Search Committee
- 2023-present Program in Physical Therapy Strategic Planning Committee

Professional Society Membership:

- Biomedical Engineering Society, Member
- American Society of Mechanical Engineers, Member
- American Society of Biomechanics, Member
- Orthopaedic Research Society, Member

**Major Invited Professorships and Lectureships**

2019	University of Rochester, Center for Musculoskeletal Research, William F. Neuman Visiting Speaker
2019	Shirley Ryan Ability Lab, AbilityLab Research Seminar Series
2019	St. Louis University, Biomedical Engineering Department Seminar Series
2021	Icahn School of Medicine at Mount Sinai, Orthopaedic Research Laboratories Seminar Series
2021	University of Florida, Department of Pharmacology & Therapeutics Seminar Series
2022	University of Minnesota, Department of Orthopaedic Surgery Seminar Series
2022	University of California, Davis, Musculoskeletal Research Seminar Series
2023	University of California, San Diego, Orthopaedic Research Seminar Series
2024	Wayne State University, Department of Physiology Seminar Series
2025	National University of Singapore, Singapore, Mechanobiology Institute Seminar

**Research Support**

Active:

2019-2024	NIH NIAMS R01 AR075773-01 ( <b>Principal Investigator</b> ): Promoting Muscle Regeneration through Adipose Signaling (\$1,250,000 total award) <u>NCE through 06/30/25</u>
2019-2029	NIH NIAMS P30 AR074992-06 ( <b>Core Associate Director</b> ; PI: Silva): Core Center for Musculoskeletal Biology and Medicine
2024-2029	NIH NIDCD R01 DC021830-01A1 ( <b>Co-Investigator</b> ; PI: Paniello): Treatment of Vocal Fold Paralysis with Muscle Progenitor Cells
2021-2025	NIH NIDDK R01 DK127080-01A1 ( <b>Co-Investigator</b> ; PI: Sah): SWELL1-LRRC8 mediated regulation of skeletal muscle function and metabolism
2021-2025	NIH NHLBI R01 HL163596-01 ( <b>Co-Investigator</b> ; PI: Guan): Rapid Vascularization for Critical Limb Ischemia

Past:

- 2012-2014 NIH 1F32AR063588-01 (**Principal Investigator**): Promoting regeneration in muscular dystrophy with adipose derived stem cells (\$146,070 total award)
- 2015-2016 MRC Pilot & Feasibility Program (Internal) (**Principal Investigator**): Promoting rotator cuff muscle regeneration with paracrine adipose signaling (\$35,000 total award)
- 2015-2016 Program in Physical Therapy Research Division Pilot Funding (Internal) (**Co-Principal Investigator** Co-PI: Hastings): The role of intermuscular fat in diabetic muscle pathology (\$3,000 total award)
- 2015-2017 NIH NIAMS R56 2AR057836-06 (**Co-Investigator**): Rotator cuff degeneration and repair (\$8,113 total award)
- 2017-2019 American Orthopaedic Foot and Ankle Society 2017-30-E (**Principal Investigator**): Defining the cellular basis for poor muscle performance in diabetic peripheral neuropathy (\$45,842 total award)
- 2018-2020 Center for Regenerative Medicine Seed Award (Internal) (**co-Principal Investigator**; Co-PI: Lake): Mechanical priming to direct adipose progenitor cells toward an anti-fibrotic phenotype (\$40,000 total award)
- 2019-2021 NIH NIAMS 1 R01 AR075017-01A1 (**Co-Investigator**; PI: Hughes): Promoting Muscle Regeneration through Adipose Signaling (\$1,250,000 total award)
- 2017-2021 NIH NIAMS 2 R01 AR057836-07 (**Co-Investigator**; PI: Thomopoulos): Rotator cuff degeneration and repair (\$1.8M total award; responsible for \$189,845)
- 2018-2021 NIH NIAMS 1 R21 AR071582-01A1 (**Principal Investigator**): Fat-Muscle Cross-Talk in the Injured Rotator Cuff (\$378,281 total award)

### **Training / Mentee Record:**

#### Current Trainees / Mentees:

##### Thesis Sponsorship:

- Dakota Kamm (MSP Ph.D.)
- Jordan Bollinger (BME Ph.D.; Co-mentorship with Dr. Erica Scheller)

##### Formal Mentorship:

- Rita Brookheart (NIH K01, Mentor)
- Calvin Cole (NIH K01, Mentor)
- Kelsey Collins (NIH K99, Mentor)

#### Past Trainees / Mentees:

Jacob Parson	(2019-2025)	Assistant Professor and Director of the SU Wellness Institute, Schreiner University
Chang Gui	(2020-2025)	Project Scientist, Washington University in St. Louis
Chelsey Dunham	(2016-2020)	Postdoctoral Fellow, NIH
Nicole Biltz	(2014-2017)	Assistant Professor and Director of Curriculum, Western University of Health Sciences
Lauren Chao	(Summer 2021)	MARC uSTAR Summer Scholars Program
Siena Smith	(Summer 2022)	Center for Engineering Mechanobiology REU Program

## **Bibliography:**

Peer-reviewed manuscripts:

1. Lange, S., Ouyang, K., **Meyer, G.**, Cui, L., Cheng, H., Lieber, R., \*Chen, J., "Obscurin determines longitudinal SR architecture" *Journal of Cell Science* 2009 1;122(Pt 15): 2640-50
2. **Meyer, G.A.**, Kiss, B., Ward, S.R., Morgan, D.L., Kellermayer, M, \*Lieber, R.L. "Theoretical predictions of the effects of force transmission by desmin on intersarcomere dynamics" *Biophysical Journal* 2010 98(2):258-66
3. **Meyer, G.A.**, \*Lieber, R.L., "Elucidation of extracellular matrix mechanics from muscle fibers and fiber bundles" *Journal of Biomechanics* 2011 Feb 24;44(4):771-3
4. Philp, A., Chen, A., **Meyer, G.A.**, Lan, D., Murphy, A.N., Knapp, A., Marcotte, G.R., Olfert, I.M., Carr, J.A., Hogan, M.C., Lieber, R.L., Baar, K., \*Schenk, S., "Sirtuin 1 (SIRT1) deacetylase activity is not required for mitochondrial biogenesis or peroxisome proliferator-activated receptor-gamma coactivator-1alpha (PGC-1alpha) deacetylation following endurance exercise" *Journal of Biological Chemistry* 2011 Sep 2;286(35):30561-70.
5. **Meyer, G.A.**, McCulloch, A.D., \*Lieber, R.L., "A nonlinear model of passive muscle viscosity" *Journal of Biomechanical Engineering* 2011 Sep;133(9):091007.
6. **Meyer, G.A.**, \*Lieber, R.L., "Skeletal muscle fibrosis develops in response to desmin deletion" *Am J Physiol Cell Physiol.* 2012 Jun; 302(11):C1609-20.
7. \*Chao, L.C., Wroblewski, K., Ilkayeva, O.R., Stevens, R.D., Bain, J., **Meyer, G.A.**, Schenk, S., Martinez, L., Vergnes, L., Narkar, V.A., Drew, B.G., Hong, C., Boyadjan, R., Hevener, A.L., Evans, R.M., Reue, K., Spencer, M.J., Newgard, C.B., \*Tontonoz, P. "Skeletal muscle Nur77 expression enhances oxidative metabolism" *Journal of Lipid Research* 2012 Dec 53(12):2610-9.
8. **Meyer, G.A.**, Schenk, S., \*Lieber, R.L., "Role of the cytoskeleton in muscle mechanical and transcriptional responses to altered use" *Physiological Genomics* (2013) Apr 16;45(8):321-31.
9. Palmisano, M.G., Bremner, S.N., Hornberger, T.A., **Meyer, G.A.**, Shah, S.B., Kellermeyer, M., Ryan, A.F., \*Lieber, R.L., "Muscle intermediate filaments form a stress-transmitting and stress-signaling network" *Journal of Cell Science* (2015) Jan 15;128(2):219-24
10. **Meyer, G.A.**, Farris, A.L., Sato, E., Gibbons, M., Lane J.G., Ward, S.R., \*Engler, A.J. "Muscle progenitor cell regenerative capacity in the torn rotator cuff" *Journal of Orthopaedic Research* 2015 Mar;33(3):421-9†
11. **Meyer, G.A.**, Gibbons, M., Sato, E., Lane J.G., Ward, S.R., \*Engler, A.J. "Epimuscular fat in the human rotator cuff is a novel beige depot" *Stem Cells: Translational Medicine* 2015 Jul;4(7):764-74
12. Biltz, N.K., \***Meyer, G.A.**, "A novel method for the quantification of fatty infiltration in skeletal muscle" *Skeletal Muscle* 2017 Jan;10;7:1
13. Mastenbrook MJ, Commean PK, Hillen TJ, Salsich GB, **Meyer GA**, Mueller MJ, Clohisy JC, \*Harris-Hayes M. Hip abductor muscle volume and strength differences between women with chronic hip joint pain and asymptomatic controls. *Journal of Orthopaedic and Sports Physical Therapy.* 2017 Dec;47(12):923-930
14. Dent JR, Martins VF, Svensson K, LaBarge SA, Schlenk NC, Esparza MC, Buckner EH, **Meyer GA**, Hamilton DL, \*Schenk S, \*Philp A. Muscle-specific knockout of general control of amino acid synthesis 5 (GCN5) does not enhance basal or endurance exercise-induced mitochondrial adaptation. *Molecular Metabolism.* 2017 Dec;6(12):1574-1584
15. **Meyer G**, \*Lieber RL. Muscle fibers bear a larger fraction of passive muscle tension in frogs compared with mice. *J Exp Biol.* 2018 Nov 16;221(Pt 22).
16. Dunham CL, Chamberlain AM, **Meyer GA**, \*Lake SP. Muscle does not drive persistent posttraumatic elbow contracture in a rat model. *Muscle Nerve.* 2018 Dec;58(6):843-851
17. \***Meyer GA**. Evidence of induced muscle regeneration persists for years in the mouse. *Muscle Nerve.* 2018 Dec;58(6):858-862†
18. Bryniarski AR, \***Meyer GA** Brown fat promotes muscle growth during regeneration. *Journal of Orthopaedic Research.* 2019 August;37(8):1817-1826

19. Roberts J, Liu Q, Cao C, Jackson SE, Zong, X, **Meyer GA**, Yang L, Cade WT, Zheng X, Lopez-Sanchez GF, \*Wu X, \*Smith L. Association of Hot Tea Consumption with Regional Adiposity Measured by Dual-Energy X-Ray Absorptiometry in NHANES 2003-2006. *Obesity*. 2020 Feb;28(2):445-451
20. Svensson K, LaBarge SA, Sathe A, Martins VF, Tahvilian S, Cunliffe JM, Sasik R, Mahata SK, **Meyer GA**, Philp A, David LA, Ward SR, McCurdy CE, Aslan JE, \*Schenk S. p300 and cAMP response element-binding protein-binding protein in skeletal muscle homeostasis, contractile function, and survival. *J Cachexia Sarcopenia Muscle*. 2020 Apr;11(2):464-477
21. Bohnert KL, Hastings MK, Sinacore DR, Johnson JE, Klein SE, McCormick JJ, Gontarz P, \***Meyer GA**. Skeletal Muscle Regeneration in Advanced Diabetic Peripheral Neuropathy. *Foot Ankle Int*. 2020 May;41(5):536-548
22. Biltz NK, Collins KH, Shen KC, Schwartz K, Harris CA, \***Meyer GA**. Infiltration of intramuscular adipose tissue impairs skeletal muscle contraction. *J. Physiol*. 2020 Jul;598(13):2669-2683 † #
23. Dunham C, Havlioglu N, Chamberlain A, \*Lake S, \***Meyer G**. Adipose stem cells exhibit mechanical memory and reduce fibrotic contracture in a rat elbow injury model. *FASEB J* 2020 Sep;34(9):12976-12990
24. Kumar A, Xie L, Ta CM, Hinton AO, Gunasekar SK, Minerath RA, Shen K, Maurer JM, Grueter CE, Abel ED, **Meyer G**, \*Sah R. SWELL1 regulates skeletal muscle cell size, intracellular signaling, adiposity and glucose metabolism *Elife*. 2020 Sep 15;9:e58941. doi: 10.7554/eLife.58941.
25. Collins KH, Lenz KL, Pollitt EN, Ferguson D, Hutson I, Springer LE, Oestreich AK, Tang R, Choi YR, **Meyer GA**, Teitelbaum SL, Pham CTN, Harris CA, \*Guilak F. Adipose tissue is a critical regulator of osteoarthritis. *Proc Natl Acad Sci* 2021 Jan 5;118(1)
26. Koh HE, van Vliet S, **Meyer GA**, Laforest R, Gropler RJ, Klein S, \*Mittendorfer B. Heterogeneity in insulin-stimulated glucose uptake among different muscle groups in healthy lean people and people with obesity. *Diabetologia*. 2021 May;64(5):1158-1168
27. Koh HE, van Vliet S, Pietka TA, **Meyer GA**, Razani B, Laforest R, Gropler RJ, \*Mittendorfer B. Subcutaneous Adipose Tissue Metabolic Function and Insulin Sensitivity in People With Obesity. *Diabetes*. 2021 Oct;70(10):2225-2236
28. Martins VF, LaBarge SA, Stanley A, Svensson K, Hung CW, Keinan O, Ciaraldi TP, Banoian D, Park JE, Ha C, Hetrick B, **Meyer GA**, Philp A, David LL, Henry RR, Aslan JE, Saltiel AR, McCurdy CE, \*Schenk S. p300 or CBP is required for insulin-stimulated glucose uptake in skeletal muscle and adipocytes. *JCI Insight*. 2022 Jan 11;7(1)
29. \***Meyer, GA** and Shen, K.C. A Unique Sarcopenic Progression in the Mouse Rotator Cuff" *J Cachexia Sarcopenia Muscle* 2022 Feb;13(1):561-573
30. \***Meyer, GA** Geometric modeling predicts architectural adaptations are not responsible for the force deficit following tenotomy in the rotator cuff. *J Biomech* 2022 Jun;138:111105
31. Collins KH, Gui C, Ely EV, Lenz KL, Harris CA, Guilak F, \***Meyer GA**. Leptin mediates the regulation of muscle mass and strength by adipose tissue. *J Physiol*. 2022 Aug;600(16):3795-3817. #
32. \***Meyer, GA**, Thomopoulos S, Abu-Amer, Y, Shen, KC, "Tenotomy-induced muscle atrophy is sex-specific and independent of NFκβ" *eLife* 2022 Dec 12:11:e82016. doi: 10.7554/eLife.82016.
33. Mousa MG, Vuppalahadham L, Kelly MO, Pietka T, Ek S, Shen KC, **Meyer GA**, Finck BN, \*Brookheart RT. Site-1 protease inhibits mitochondrial respiration by controlling the TGF-β target gene Mss51. *Cell Rep*. 2023 Mar 31;42(4):112336. doi: 10.1016/j.celrep.2023.112336. [Epub ahead of print] PubMed PMID: 37002920.
34. McClenaghan C, Mukadam MA, Roeglin J, Tryon RC, Grabner M, Dayal A, **Meyer GA**, \*Nichols CG. Skeletal muscle delimited myopathy and verapamil toxicity in SUR2 mutant mouse models of AIMS. *EMBO Mol Med*. 2023 Jun 7;15(6):e16883. Epub 2023 May 8. PubMed PMID: 37154692; PubMed Central PMCID: PMC10245035.
35. Parson JC, Biltz NK, \***Meyer GA**. Decellularization-Based Quantification of Skeletal Muscle Fatty Infiltration. *J Vis Exp*. 2023 Jun 9;(196). PubMed PMID: 37358301.
36. Parson JC, Zhang X, Craft CS, Magee KL, Scheller EL, \***Meyer GA**. Development and expansion of intramuscular adipose tissue is not dependent on UCP-1-lineage cells in mice. *J Orthop Res*. 2023 Dec;41(12):2599-2609. Epub 2023 May 25. PubMed PMID: 37203780; PubMed Central PMCID: PMC10657332.
37. Chiang SN, **Meyer GA**, Skolnick GB, Hunter DA, Wood MD, Li X, Snyder-Warwick AK, \*Patel KB. Effect of Veau Class on Levator Veli Palatini Muscle Composition. *Cleft Palate Craniofac J*. 2024 Feb;61(2):319-325. PubMed PMID: 36330615.

38. Peche VS, Pietka TA, Jacome-Sosa M, Samovski D, Palacios H, Chatterjee GB, Dudley AC, Beatty W, **Meyer, GA**, Goldberg IJ and \*Abumrad NA, “Endothelial Cell CD36 Regulates Membrane Ceramide Formation, Exosome Fatty Acid Delivery to Tissues and Circulating Fatty Acid Levels” *Nat Commun.* 2023 Jul 7;14(1):4029. PubMed PMID: 37419919; PubMed Central PMCID: PMC10329018.
39. Brazill JM, Shen IR, Craft CS, Magee KL, Park JS, Lorenz M, Strickland A, Wee NK, Zhang X, Beeve AT, **Meyer GA**, Milbrandt J, DiAntonio A, \*Scheller EL. Sarm1 knockout prevents type 1 diabetic bone disease in females independent of neuropathy. *JCI Insight.* 2024 Jan 4;9(4). PubMed PMID: 38175722; PubMed Central PMCID: PMC11143934.
40. Martino MR, Habibi M, Ferguson D, Brookheart RT, Thyfault JP, **Meyer GA**, Lantier L, Hughey CC, \*Finck BN. Disruption of hepatic mitochondrial pyruvate and amino acid metabolism impairs gluconeogenesis and endurance exercise capacity in mice. *Am J Physiol Endocrinol Metab.* 2024 Apr 1;326(4):E515-E527. Epub 2024 Feb 14. PubMed PMID: 38353639; PubMed Central PMCID: PMC11193532.
41. Shen KC, Collins KH, Ferey JLA, Fappi A, McCormick JJ, Mittendorfer B, Guilak F, \***Meyer GA**. Excess Intramyocellular Lipid Does Not Affect Muscle Fiber Biophysical Properties in Mice or People with Metabolically Abnormal Obesity. *Diabetes.* 2024 May 3;. [Epub ahead of print] PubMed PMID: 38701374.
42. \***Meyer GA**, Ferey JLA, Sanford JA, Fitzgerald LS, Greenberg AE, Svensson K, Greenberg MJ, \*Schenk S. Insights into posttranslational regulation of skeletal muscle contractile function by the acetyltransferases, p300 and CBP. *J Appl Physiol (1985).* 2024 Jun 1;136(6):1559-1567. Epub 2024 May 9. PubMed PMID: 38722753.
43. Kaszyk EM, Commean PK, **Meyer GA**, Smith G, Jeong HJ, York A, Chen L, Mueller MJ, Zellers JA, \*Hastings MK. Use of computed tomography to identify muscle quality subgroups, spatial mapping, and preliminary relationships to function in those with diabetic peripheral neuropathy. *Gait Posture.* 2024 Jul;112:159-166 Epub 2024 May 14. PubMed PMID: 38797052.
44. Gui C, \***Meyer GA**. Transcriptional evidence for transient regulation of muscle regeneration by brown adipose transplant in the rotator cuff. *J Orthop Res.* 2024 Nov;42(11):2414-2425. doi: 10.1002/jor.25933. Epub 2024 Jul 5. PubMed PMID: 38967130.
45. Kamm DR, Shaji A, Bohnert KL, Keener JD, Pathak A, \***Meyer GA**. Adipose stromal cells in the human rotator cuff are resistant to fibrotic microenvironmental cues. *J Physiol.* 2025 Apr 8;. doi: 10.1113/JP286563. [Epub ahead of print] PubMed PMID: 40198859.

† Cover feature # Editor’s Choice Article

## Reviews

46. Smith, L.R., **Meyer, G.A.**, \*Lieber, R.L., Systems analysis of biological networks in skeletal muscle function. *Wiley Interdisciplinary Reviews Systems Biology and Medicine* 2013 Jan-Feb 5(1):55-71
47. Thomas, K., Engler, A.J., \***Meyer, G.A.**, Extracellular matrix regulation in the muscle satellite cell niche. *Connective Tissue Research* 2015 Feb;56(1):1-8
48. **Meyer, G.A.**, \*Ward, S.R., Developmental Biology and Regenerative Medicine: Addressing the Vexing Problem of Persistent Muscle Atrophy in the Chronically Torn Human Rotator Cuff. *Physical Therapy (2016) Phys Ther.* 2016 May;96(5):722-33\*\*
49. Smith LR, \***Meyer GA**. Skeletal muscle explants: ex-vivo models to study cellular behavior in a complex tissue environment. *Connective Tissue Research.* 2020 May-Jul;61(3-4):248-261
50. Gui C, Parson J, \***Meyer GA**. Harnessing adipose stem cell diversity in regenerative medicine. *APL Bioeng.* 2021 Apr 1;5(2):021501
51. \*Lieber RL, **Meyer G**. Structure-Function relationships in the skeletal muscle extracellular matrix. *J Biomech.* 2023 May;152:111593. doi: 10.1016/j.jbiomech.2023.111593. Epub 2023 Apr 17. Review. PubMed PMID: 37099932; PubMed Central PMCID: PMC10176458.
52. Li X, Fang L, Zhou R, Yao L, Clayton SW, Muscat S, Kamm DR, Wang C, Liu CJ, Qin L, Tower RJ, Karner CM, \*Guilak F, \*Tang SY, \*Loiselle AE, \***Meyer GA**, \*Shen J “Current cutting-edge omics techniques on musculoskeletal tissues and diseases” *Bone Res.* 2025 Jun 9;13(1):59.

53. Meyer, G.A., \*Mittendorfer, B. "Diabetes meets Exercise: myonuclear gene transcription stays put" J Physiol. 2025 Jun;603(11):3277-3278. Epub 2025 May 31.

\*\* Winner of the California Physical Therapy Association Publication Award

### National/International Invited Talks

1. **Meyer, G.A.**, "Stem cells and regenerative medicine" American Physical Therapy Association Section on Research Retreat, Aug 2012
2. **Meyer, G.A.**, "Stem cells and regenerative medicine: harnessing the body's natural ability to heal" California Physical Therapy Association Annual Conference, Sept 2013
3. **Meyer, G.A.**, Gibbons, M., Sato, E., Ward, S.R., Engler A.J., "Epimuscular fat in the human rotator cuff is a novel brown fat depot influenced by cuff state" World Congress of Biomechanics, July 2014
4. **Meyer, G.A.**, Farris, A.L., Sato, E., Gibbons, M., Lane J.G., Ward, S.R., Engler, A.J. "Muscle progenitor cell regenerative capacity in the torn rotator cuff" Biomedical Engineering Society Meeting, October 2014
5. **Meyer, G.A.**, "Myogenesis in a dish: advantages and limitations to myogenic cell culture" Orthopaedic Research Society Annual Meeting, February 2018
6. **Meyer, GA** "Fat-muscle cross-talk in the rotator cuff: the good, the bad and the beige" American Association of Physical Medicine and Rehabilitation, November 2019
7. **Meyer, GA** "Fat-muscle cross-talk in the rotator cuff: implications for biologically based therapies" Combined Sections Meeting of the American Physical Therapy Association, February 2020
8. **Meyer, GA.**, "Muscle in the Diabetic Foot" in The Diabetic Foot Update: From Bench to Bedside" Combined Sections Meeting of the American Physical Therapy Association, February 2021
9. **Meyer, GA.**, "The biomechanical consequences of altered adipose partitioning in skeletal muscle." Annual Meeting of the Federation of Societies in Experimental Biology, The Brazilian Society of Physiology, August 2022
10. **Meyer, GA.**, "Muscle-fat Crosstalk: The Intersection of Adipose Phenotype and Disease." Orthopaedic Research Society Annual Meeting, February 2023
11. **Meyer, GA.**, "The Role of Leptin in the Regulation of Muscle Mass and Strength by Adipose Tissue." Advances in Skeletal Muscle Biology in Health and Disease, March 2023
12. **Meyer, GA.**, "Regulation of Muscle Mass and Strength by Adipose Tissue." New Directions in Biology and Disease of Skeletal Muscle, June 2024
13. **Meyer, GA.**, "Fatty Infiltration in Muscle: Anatomy, Etiology and Effects on Mechanics." American College of Sports Medicine Annual Meeting, May 2025

### National/International Podium Presentations

1. **Meyer, G.A.**, Kellermeyer, M., Ward, S.R., Lieber, R.L., "A Mathematical Model of Force Transmission by Desmin in Skeletal Muscle" Proceedings of the North American Congress on Biomechanics, August 2008.
2. **Meyer, G.A.**, McCulloch, A.D., Ward, S.R., Lieber, R.L., "Passive viscoelastic scaling in desmin knockout muscles" Workshop on Multi-scale Muscle Mechanics, September 2009.
3. **Meyer, G.A.**, Smith, L.R., Lieber, R.L., "Skeletal muscle fibrosis in response to compliant muscle fibers" The American Society of Biomechanics, August 2011.
4. **Meyer, G.A.**, Gibbons, M., Sato, E., Lane, J.G., Ward, S.R., Engler, A.J. "Epimuscular Fat in the Human Rotator Cuff is a Novel Brown Fat Depot Influenced by Cuff State" Biomedical Engineering Society Meeting, Oct 2014
5. Bryniarski, A.R., **Meyer, G.A.**, "Brown and beige fat promote rotator cuff muscle regeneration through paracrine signaling" Biomedical Engineering Society Annual Meeting, October 2016.
6. Bryniarski, A.R., **Meyer, G.A.**, "Rotator Cuff Muscle Regeneration is Improved through Brown Fat Signaling" Orthopaedic Research Society Annual Meeting, March 2017.
7. Biltz, N, Harris, C; **Meyer, GA** "Intramuscular Adipose Tissue Impairs Skeletal Muscle Force Production in Mice" Orthopaedic Research Society Annual Meeting, poster blitz, March, 2019.

8. Bryniarski, AR, **Meyer, GA** "Brown fat paracrine signaling promotes muscle growth during regeneration" *Advances in Skeletal Muscle Biology in Health and Disease*, March 2019
9. Biltz, N, Harris, C; **Meyer, GA** "Intramuscular Adipose Tissue Impairs Skeletal Muscle Force Production in Mice" *Society for Engineering Science*, September 2019
10. Collins, K.H., Gui, C, Ely, E., Harris, C.A., Guilak, F. and **Meyer, GA.** "Leptin is necessary and sufficient for the regulation of muscle mass by adipose tissue" *Orthopaedic Research Society Annual Meeting*, February 2022
11. **Meyer, G.A.**, Thomopoulos. S., and Shen, K.C. "Inhibition Of NF-Kappa Beta Signaling Does Not Prevent Tenotomy-Induced Muscle Atrophy" *Orthopaedic Research Society Annual Meeting*, February 2022
12. Collins, K.H., Gui, C, Ely, E., Harris, C.A., Guilak, F. and **Meyer, GA.** "Adipose-derived Leptin is a Regulator of Skeletal Muscle Contraction" *World Congress on Biomechanics*, July 2022
13. Shen KC, Collins KH, Ferey JLA, Fappi A, McCormick JJ, Mittendorfer B, Guilak F, **Meyer GA.** "Myofiber "Lipototoxicity" Does Not Disrupt Cellular Biophysical Properties" *Biomedical Engineering Society Annual Meeting* October 2023

#### Other abstracts

1. **Meyer, G.A.**; Gibbons, M; Lane, J; Sato, E; Ward, S; Engler, A, "Human Rotator Cuff Epimuscular Fat is a Novel Brown Fat Depot Influenced by Injury State" *Keystone Symposia Conference: Beige and Brown Fat: Basic Biology and Novel Therapeutics*, April 2015
2. Bryniarski, AR, **Meyer, GA** "Brown and beige fat promote rotator cuff muscle regeneration through paracrine signaling" *Molecular Mechanisms Modulating Skeletal Muscle Development and Homeostasis in Health and Disease*, *Society for Developmental Biology* June 2016
3. **Meyer, G.A.**, Lieber R.L. "Passive Mechanical Properties of Mammalian Muscle Are Not Affected By The Giant Titin Protein" *Orthopaedic Research Society Annual Meeting*, February 2018
4. Bohnert, K, Hastings, M., Sinacore, D., Johnson, J., McCormick, J., Klein S., **Meyer, GA** "Defining the Cellular Basis for Poor Muscle Performance in Diabetic Peripheral Neuropathy" *American Orthopaedic Foot & Ankle Society Meeting*, September, 2019.
5. Biltz, N, Harris, C; **Meyer, GA** "Intramuscular Adipose Tissue Impairs Skeletal Muscle Force Production in Mice" *Orthopaedic Research Society Annual Meeting*, March, 2021.
6. Collins, K.H., Gui, C, Ely, E., Harris, C.A., Guilak, F. and **Meyer, GA.** "Leptin is necessary and sufficient for the regulation of muscle mass by adipose tissue" *Biomedical Engineering Society Annual Meeting*, October 2022