

MICHAEL A. SAMAAAN
204 Seaton Center
Lexington, KY 40506
Phone: 859-257-2706
Email: michael.samaan@uky.edu

Education

Assistant Professor 2018 – Present
University of Kentucky
Department of Kinesiology & Health Promotion
Department of Biomedical Engineering
Department of Orthopaedic Surgery

Postdoctoral Fellow 2014 – 2018
University of California – San Francisco
Musculoskeletal and Quantitative Imaging Research Group
Department of Radiology and Biomedical Imaging

Ph.D. Mechanical and Aerospace Engineering 2010 – 2014
Old Dominion University

M.S. Biomedical Engineering 2008 – 2009
University of Texas at San Antonio

B.S. Biomedical Engineering 2004 – 2008
Minor: Mathematics
Rutgers University

Research Interests: biomechanics, musculoskeletal modeling, musculoskeletal imaging, osteoarthritis, femoroacetabular impingement, neuromuscular fatigue, numerical optimization

Research Funding

Current Support

University of Kentucky Research & Creative Activity Award 2020 – Present
Role: PI
Interaction of Hip Joint Morphology, Function and Health During Aerobic Exercise in Hip Osteoarthritis

Arthritis Foundation (PI: Stone) 2020 – Present
Role: Co-I
“The Arthritis Foundation OA Virtual Center of Excellence Clinical Trial Network Site”

University of Kentucky CCTS Early Career Award 2019 – Present
Role: PI
“Associations of Hip Joint Stresses with Bone and Cartilage Health in Patients with Femoroacetabular Impingement Syndrome”

University of Kentucky KL2 Award (PI: Kelly) 2019 – Present
Role: Mentee
“Hip Joint Bone and Cartilage Health and Mechanics in Patients with Femoroacetabular Impingement Syndrome”

Completed Support

NIH-NIAMS F32 (AR069458)

2016 – 2018

“Longitudinal Assessment of the Effects of Hip Arthroscopy on Articular Cartilage Biochemistry through a Novel Quantitative MRI-Based Approach”

UCSF Dept. of Radiology Seed Grant

2015 – 2017

“Longitudinal Effects of Hip Arthroscopy on Cartilage and Muscle Composition”

Peer Reviewed Journal Articles

1. Popovic, T., **Samaan, M.A.**, Link, T.M., *et al* “Patients with Symptomatic Hip Osteoarthritis have Altered Transverse Plane Kinematics during Stair Ambulation” Physical Medicine & Rehabilitation **In-Press**
2. Shimizu, T., Markes, A., **Samaan, M.A.**, *et al* (2020) “Patients with Abnormal Limb Kinetics at Six Months After Anterior Cruciate Ligament Reconstruction Have an Increased Risk of Persistent Medial Meniscus Abnormality at Three Years” Orthopaedic Journal of Sports Medicine **8**(1): 1 – 9.
3. **Samaan, M.A.**, Grace, T., Zhang, A.L., *et al* (2020) “Short Term Outcomes of Hip Arthroscopy on Hip Joint Mechanics and Cartilage Health in Patients with Femoroacetabular Impingement Syndrome” Clinical Biomechanics **71**: 214 – 220.
4. Liao, TC., **Samaan, M.A.**, Popovic, T., *et al* (2019) “Abnormal Joint Loading during Gait in Persons with Hip Osteoarthritis is Associated with Symptoms and Cartilage Lesions” Journal of Orthopaedic and Sports Physical Therapy **49**(12): 917 – 924.
5. Shimizu, T., Cheng, Z., **Samaan, M.A.**, *et al* (2019) “Increases in Joint Laxity after Anterior Cruciate Ligament Reconstruction is Associated with Sagittal Biomechanical Asymmetry” Arthroscopy **35**(7): 2072 – 2079.
6. Mah, C., Sparks, A., **Samaan, M.A.**, *et al* (2019) “Sleep Restriction Impairs Maximal Jump Performance and Alters Lower Extremity Joint Coordination Variability in Elite Athletes” Journal of Sports Sciences **37**(17): 1981 – 1988.
7. **Samaan, M.A.**, Zhang, A.L., Popovic, T., *et al* (2019) “Hip Joint Muscle Forces during Gait in Patients with Femoroacetabular Impingement Syndrome are Associated with Patient Reported Outcomes and Cartilage Composition” Journal of Biomechanics **84**: 138 – 146.
8. Inamdar, G., Padoia, V., Rossi-Devries, J., **Samaan, M.A.**, *et al* (2019) “An MR Study of Longitudinal Variations in Proximal Femur 3D Morphological Shape and Associations with Cartilage Health in Hip Osteoarthritis” Journal of Orthopaedic Research **37**(1): 161 – 170.
9. Shimizu, T., **Samaan, M.A.**, Tanaka, M.S., *et al* (2019) “Abnormal biomechanics at six months are associated with cartilage degeneration at three years following anterior cruciate ligament reconstruction” Arthroscopy **35**(2): 511 – 520.
10. Neumann, J., Zhang, A.L., Schwaiger, B.J., **Samaan, M.A.**, *et al.* (2019) “Validation of Scoring Hip Osteoarthritis with MRI (SHOMRI) Scores using Hip Arthroscopy as a Standard Reference” European Radiology **29**(2): 578-587.

11. Bolcos, P.O., Mononen, M.E., Mohammadi, A., Ebrahimi, M., Tanaka, M.S., **Samaan, M.A., et al.** (2018) “Comparison Between Kinetic and Kinetic-Kinematic Driven Knee Joint Finite Element Models” Scientific Reports **8**(1): 17351
12. Grace, T., Neumann, J., **Samaan, M.A., et al.** (2018) “Using the Scoring Hip Osteoarthritis with Magnetic Resonance Imaging (SHOMRI) System for Assessment of Intra-articular Pathology in Femoroacetabular Impingement.” Journal of Orthopaedic Research **36**(11): 3064-3070.
13. Grace, T., **Samaan, M.A.,** Souza, R.B., *et al* (2018) “Correlation of Patient Symptoms with Labral and Articular Cartilage Damage in Femoroacetabular Impingement” Orthopaedic Journal of Sports Medicine **15**(6).
14. **Samaan, M.A.,** Ringleb, S.I., Bawab, S.Y., *et al* (2018) “Altered Lower Extremity Joint Mechanics During the Star Excursion Balance Test and Single Leg Hop after ACL-Reconstruction in a Collegiate Athlete” Computer Methods in Biomechanics and Biomedical Engineering **21**(4): 344-358
15. Rossi-deVries, J., Pedoia, V., **Samaan, M.A., et al** (2018) “Using Multidimensional Topological Data Analysis to Identify Traits of Hip OA” Journal of Magnetic Resonance Imaging **48**(4): 1046-1058.
16. Adusumilli, G., Joseph, S., **Samaan, M.A., et al** (2018) “Applicability and Validity of an iOS-Based Accelerometer App in Tracking Outcome Variables of the 30-second Chair Stand Test and Stair Climb Test” Journal of Medical Internet Research mHealth & uHealth **5**(10): e166.
17. **Samaan, M.A.,** Pedoia, V., Zhang, A.L., *et al.* (2018) “A Novel MR-based Method for Detection of Cartilage Delamination in Femoroacetabular Impingement Patients” Journal of Orthopaedic Research **36**(3): 971-978.
18. Pedoia, V., **Samaan, M.A.,** Inamdar, G.P., *et al* (2018) “Study of the Interactions Between Proximal Femur 3D Bone Shape, Cartilage Health and Biomechanics in Patients with Hip Osteoarthritis” Journal of Orthopaedic Research **36**(1): 330-341.
19. **Samaan, M.A.,** Facchetti, L., Pedoia, V., *et al* (2017) “Cyclops Lesions are Associated with Altered Gait Patterns and Medial Knee Joint Cartilage Degeneration at One Year after ACL-Reconstruction” Journal of Orthopaedic Research **35**(10): 2275-2281.
20. **Samaan, M.A.,** Schwaiger, B.J., Gallo, M.C., *et al* (2017) “Abnormal Joint Moment Distributions and Functional Performance During Sit-to-Stand in Femoroacetabular Impingement Patients” Physical Medicine & Rehabilitation **9**(6): 563-570.
21. **Samaan, M.A.,** Schwaiger, B.J., Gallo, M.C., *et al* (2017) “Sagittal Plane Joint Loading During Gait is Associated with Hip Joint Abnormalities in Femoroacetabular Impingement Patients” American Journal of Sports Medicine **45**(4): 810-818.
22. **Samaan, M.A.,** Zhang, A.L., Gallo, M.C., *et al* (2016) “Quantitative Magnetic Resonance Arthrography in Patients with Femoroacetabular Impingement” Journal of Magnetic Resonance Imaging **44**(6):1539-1545.

23. **Samaan, M.A.,** Weinhandl, J.T., Bawab, S.Y., *et al* (2016) “Determining Residual Reduction Algorithm Kinematic Tracking Weights For a Sidestep Cut via Numerical Optimization.” Computer Methods in Biomechanics and Biomedical Engineering **19**(16): 1721-1729.
24. **Samaan, M.A.,** Ringleb, S.I., Bawab, S.Y., *et al* (2016) “Anterior Cruciate Ligament (ACL) Loading in a Collegiate Athlete During Sidestep Cutting After ACL Reconstruction: A Case Study” The Knee **23**(4): 744-752.
25. Schwaiger, B.J., Gersing, A.S., Lee S., Nardo, L., **Samaan, M.A., et al** (2016) “Longitudinal Assessment of MRI in Hip Osteoarthritis Using SHOMRI and Correlation with Clinical Progression.” Seminars in Arthritis and Rheumatism **45**(6): 648-655.
26. **Samaan, M.A.,** Weinhandl, J.T., Hans, S.A., *et al* (2016) “Predictive Neuromuscular Fatigue of the Lower Extremity Utilizing Computer Modeling.” Journal of Biomechanical Engineering. **138**(1): 011008.
27. **Samaan, M.A.,** Teng, H-L, Kumar, D., *et al* (2015) “Acetabular Cartilage Defects Cause Altered Hip and Knee Joint Coordination Variability During Gait.” Clinical Biomechanics. **30**(10): 1202 – 1209.
28. **Samaan, M.A.,** Greska, E.K., Hoch M.C. *et al.* (2015) “Dynamic Postural Control Two Years Following Anterior Cruciate Ligament Reconstruction in a Female Collegiate Soccer Player”. International Journal of Athletic Therapy and Training **20**(2): 24 – 29.
29. **Samaan, M.A.,** Hoch, M.C., Ringleb, S.I., *et al.* (2015) “Isolated Hamstrings Fatigue Alters Joint Coordination During a Cutting Maneuver”. Journal of Applied Biomechanics **31**(2): 102 – 110.
30. Choisne, J., Ringleb, S.I., **Samaan, M.A., et al.** (2012) “Influence of Kinematic Analysis Methods on Detecting Ankle and Subtalar Joint Instability.” Journal of Biomechanics **45**(1): 46 – 52.

Articles in Review

Research Products

Residual Reduction Algorithm MATLAB Graphical User Interface (SimTK)	2017
--	------

Invited Lectures/Presentations/Panels

Getting Your Grant Proposal Funded, UK College of Education	2019
Program in Advanced Musculoskeletal Imaging, Cleveland Clinic Foundation	2019
University of Kentucky Exercise Science Seminar Series	2018
UCSF Radiology Retreat	2018
Bay Area Biomedical Device Conference (San Jose State University)	2018
Use of MSK Imaging in Biomechanical Analyses (UCSF, MSBI240)	2017
Introduction to Radiography (UCSF, PT210)	2017
Introduction to Gait Biomechanics (UCSF, PT706)	2016
Radiological Imaging and Biomechanics (UCSF, PT210)	2016
Introduction to Radiography (UCSF, PT210)	2015

Clinical Applications of Musculoskeletal Modeling (UCSF, PT419)	2015
Kinesiology and Biomechanics (Santa Clara University, BIO103)	2015

Teaching Experience

Musculoskeletal Modeling in Human Movement (KHP781)	2019 – Present
Biomechanics of Human Movement (KHP415)	2018 – Present
Radiology for Physical Therapists (PT 210)	2015 – 2018
Exploring Engineering Technology (ENGN 110)	2013 – 2014
Project Management II (MAE 435)	2012 – 2014
Solid Mechanics Laboratory (MAE 225)	2010 – 2014
Solid Mechanics (MAE 220)	2010 – 2011

Honors and Awards

Faculty Undergraduate Mentor of the Week, University of Kentucky	2019
KL2 Award, University of Kentucky	2019
New Investigator Recognition Award (NIRA) Finalist, Orthopaedic Research Society	2019
U.S. Bone & Joint Initiative Young Investigator Initiative Program	2018
Orthopaedic Research Society Travel Grant, Force & Motion Foundation	2017
Ruth Kirschstein National Research Service Award (F32 Fellowship), NIH	2016
Outstanding Graduate Student Award, Old Dominion University	2014
OpenSim Workshop Travel Award	2013
Tiwari Endowed Graduate Scholarship, Old Dominion University	2013
Graduate Student Travel Award, Old Dominion University	2010
James Dickson Carr Scholarship, Rutgers University	2004

Certifications

Scientific Leadership and Management	2016
Preparing Future Faculty	2013

Professional Service

Journal of Science and Medicine in Sport	2020 – Present
Journal of Strength and Conditioning Research (Reviewer)	2019 – Present
Orthopaedic Research Society Hip Topic (Reviewer)	2019
TL1 Grant Reviewer, University of Kentucky	2019 – Present
Quantitative Imaging in Medicine and Surgery (Reviewer)	2019 – Present
Physical Therapy in Sport (Reviewer)	2018 – Present
IEEE Transactions on Human-Machine Systems (Reviewer)	2018 – Present
Journal of Orthopaedic Research (Reviewer)	2018 – Present
American Society of Biomechanics Awards Reviewer	2017
American Society of Biomechanics Abstract Reviewer	2017
Journal of Biomechanics (Reviewer)	2017 – Present
Journal of Applied Biomechanics (Reviewer)	2017 – Present
Gait & Posture (Reviewer)	2017 – Present
Journal of Orthopaedic & Sports Physical Therapy (Reviewer)	2017 – Present
PeerJ (Reviewer)	2017 – Present
Journal of Sport and Health Science (Reviewer)	2016 – Present
Journal of Magnetic Resonance Imaging (Reviewer)	2016 – Present
Bone (Reviewer)	2016 – Present
Annals of Sports Medicine and Research (Reviewer)	2016 – Present

Scandinavian Journal of Science and Medicine in Sports (Reviewer)	2016 – Present
Computer Methods in Biomechanics and Biomedical Engineering (Reviewer)	2015 – Present

Community Service

Volunteer at UCSF Physical Therapy Applicant Tours/Interviews	2014 – 2018
Volunteer at Bay Area Science Festival	2014 – 2016

Professional Memberships

UCSF Core Center for Musculoskeletal Biology and Medicine	2016 – 2018
Osteoarthritis Research Society International	2016 – Present
Orthopaedic Research Society	2015 – Present
American Society of Mechanical Engineers	2011 – Present
American Society of Biomechanics	2010 – Present
Biomedical Engineering Society	2008 – Present

Conference Presentations

1. Erickson, L.N., Davis, K.A., **Samaan, M.A.**, Noehren, B. “Lower Extremity Kinetics During Running in Females With and Without Patellofemoral Pain”, Combined Sections Meeting, 2020, **Podium**
2. Roach, K., Pedroia, V., Lee, J., Popovic, T., **Samaan, M.A.**, *et al* “Multivariate Functional Principal Component Analysis Identified Key Waveform Features of Gait Connected with Femoroacetabular Impingement”, Combined Sections Meeting, 2020, **Poster**
3. **Samaan, M.A.**, Grace, T., Zhang, A.L., *et al* “Post Hip Arthroscopy Gait Mechanics are Associated with Changes in Cartilage Composition in Patients with FAIS” International Society of Biomechanics Meeting, 2019, **Poster**
4. **Samaan, M.A.**, Zhang, A.L., Popovic, T. *et al*. “Abnormal Muscle Forces During Gait are Associated with Hip Joint Symptoms and Cartilage Composition in Femoroacetabular Impingement Patients” Orthopaedic Research Society, New Investigator Recognition Award Finalist, 2019, **Podium**
5. Beqaj, H., **Samaan, M.A.**, Neumann, J., *et al*. “Relationship between Hip Muscle Strength and Cartilage Health in Hip Osteoarthritis” Orthopaedic Research Society, 2019, **Poster**
6. **Samaan, M.A.**, Zhang, A.L., Popovic, T. *et al*. “Hip Joint Muscle Forces during Gait are Associated with Hip Joint Symptoms and Cartilage Health in Patients with FAIS” Combined Sections Meeting of the American Physical Therapy Association, 2019, **Podium**
7. Noginova, J.M, Bennett, H.J., **Samaan, M.A.**, Ringleb, S.I. “The Effects of Subtalar Axis Orientation on Kinematics and Kinetics During Dynamic Motion” American Society of Biomechanics, 2018, **Rapid Podium**
8. Noginova, J., Bennett, H.J., **Samaan, M.A.**, Ringleb, S.I. “The effects of subtalar axis orientation on kinematics and kinetics during walking and running” International Foot and Ankle Biomechanics Conference, New York, NY, 2018. **Podium**

9. Rossi-deVries, J., Pedroia, V., **Samaan, M.A.**, *et al* “Using Multidimensional Data Analysis to Identify Traits of Hip OA” International Society of Magnetic Resonance in Medicine, Paris, France, 2018. **Podium**
10. Shimizu, T., **Samaan, M.A.**, Tanaka, M.S., *et al*. “Limb Asymmetry at 6 Months can Predict Cartilage Degeneration at 3 Years Following ACL Injury and Reconstruction” American Academy of Orthopaedic Surgeons, New Orleans, LA, 2018. **Podium**
11. Shimizu, T., **Samaan, M.A.**, Tanaka, M.S., *et al*. “Abnormal Limb Kinematics at 6 Months May Predict Cartilage Degeneration at 3 Years Following ACL Injury and Reconstruction” Orthopaedic Research Society, New Orleans, LA, 2018. **Poster**
12. Shimizu, T., Cheng, Z., **Samaan, M.A.**, *et al* “Can Sagittal Biomechanical Differences Lead to Joint Laxity after Anterior Cruciate Ligament Reconstruction?” Orthopaedic Research Society, New Orleans, LA, 2018. **Poster**
13. Popovic, T., **Samaan M.A.** Neumann, J., *et al*. “Altered Transverse Plane Kinematics in Patients with Symptomatic Hip Osteoarthritis During Stair Ambulation” Orthopaedic Research Society, New Orleans, LA, 2018. **Poster**
14. Inamdar, A., **Samaan, M.A.**, Zhang, A.L., *et al*. “Altered Lower Extremity Kinetics in Femoroacetabular Impingement Patients” Orthopaedic Research Society, New Orleans, LA, 2018. **Poster**
15. **Samaan, M.A.**, Zhang, A.L., Neumann, J., *et al* “Abnormal Muscle Forces During Gait are Related to Cartilage Health after Hip Arthroscopy in Femoroacetabular Impingement Patients” UCSF Radiology Symposium, San Francisco, CA, 2017. **Podium**
16. **Samaan, M.A.**, Zhang, A.L., Neumann, J., *et al* “Abnormal Muscle Forces During Gait are Related to Cartilage Health after Hip Arthroscopy in Femoroacetabular Impingement Patients” American Society of Biomechanics Annual Meeting, Boulder, CO, 2017. **Podium**
17. Bolcos, P.O., Mononen, M.E., Mohammadi, A., Tanaka, M., **Samaan, M.**, *et al* “Comparison between Kinetic and Kinetic-Kinematic Driven Knee Joint Models” European Society of Biomechanics, Sevilla, Spain, 2017. **Podium**
18. **Samaan, M.A.**, Zhang, A.L., Gallo, M.C., *et al* “Early Effects of Hip Arthroscopy on Articular Cartilage Composition in Femoroacetabular Impingement Patients” Osteoarthritis Research Society International. Las Vegas, NV, 2017 **Poster**
19. **Samaan, M.A.**, Pedroia, V., Zhang, A.L., *et al* “T_{1ρ} Radial Heterogeneity is a Distinctive Feature of Cartilage Delamination in Femoroacetabular Impingement Patients” Osteoarthritis Research Society International. Las Vegas, NV, 2017 **Poster**
20. **Samaan, M.A.**, Pedroia, V., Zhang, A.L., *et al* “A Novel Approach to Detection of Acetabular Cartilage Delamination in Patients with Femoroacetabular Impingement” Orthopaedic Research Society. San Diego, CA, 2017 **Poster**

21. **Samaan, M.A.**, Zhang, A.L., Gallo, M.C., *et al* “Analysis of Gait Mechanics during Walking and T2 Relaxation Times in Femoroacetabular Impingement Patients after Hip Arthroscopy” Orthopaedic Research Society. San Diego, CA, 2017 **Poster**
22. Leung, L.J., **Samaan, M.A.**, Tanaka, M.S., *et al* “Gait Mechanics 1 Year After ACL Reconstruction are Associated with Longitudinal Knee Cartilage Degeneration” Orthopaedic Research Society. San Diego, CA, 2017 **Poster**
23. Sawyer, K., **Samaan, M.A.**, Majumdar, S., *et al* “Altered Joint Kinetics in Patellofemoral Joint Osteoarthritis Progression During Sit-to-Stand” Combined Sections Meeting. APTA. San Antonio, TX, 2017 **Poster**
24. **Samaan, M.A.**, Schwaiger, B.J., Gallo, M.C., *et al* “Altered Joint Loading During Gait is Associated with Hip Joint Abnormalities in FAI Patients”. International Society of Hip Arthroscopy, San Francisco, CA, 2016 **Podium**
25. **Samaan, M.A.**, Weinhandl, J.T., Hans, S.A., *et al* “Estimation of Anterior Cruciate Ligament Loading Under Various Levels of Neuromuscular Fatigue Using Musculoskeletal Simulations”. American Society of Biomechanics Annual Meeting, Raleigh, NC, 2016 **Thematic Poster**
26. **Samaan, M.A.**, Schwaiger, B.J., Gallo, M.C., *et al* “Sagittal Plane Joint Loading During Gait is Associated with Hip Joint Abnormalities in Femoroacetabular Impingement Patients”. American Society of Biomechanics Annual Meeting, Raleigh, NC, 2016 **Podium**
27. **Samaan, M.A.**, Facchetti, L., Tanaka, M.S., *et al* “Altered Lower Extremity Coordination Variability During a Sidestep Cut in ACL-Reconstructed Patients as an Effect of Surgical Reconstruction and Knee Osteoarthritis Progression”. Osteoarthritis Research Society International, Amsterdam 2016. **Poster**
28. **Samaan, M.A.**, Kumar, D., Schwaiger, B.J., *et al* “Patients with Hip Osteoarthritis Progression Demonstrate Altered Sensory Perception and Lower Extremity Kinematics”. Osteoarthritis Research Society International, Amsterdam 2016. **Poster**
29. **Samaan, M.A.**, Gallo, M., Link, T.M., *et al*. “Baseline Hip Joint Kinematics During Walking are Associated with Hip Osteoarthritis Progression”. Annual Radiology Symposium, UC-San Francisco, 2015. **Poster**
30. **Samaan, M.A.**, Weinhandl, J.T., Hans, S.A., *et al*. "Analytical Models Used to Predict Fatigue in OpenSim". World Congress of Biomechanics, Boston, MA, 2014. **Poster**
31. **Samaan, M.A.**, Cortes, N., Hoch, M., *et al*. “The Effects of Neuromuscular Fatigue on Coordination Variation”. American Society of Biomechanics Annual Meeting, Gainesville, FL, 2012 **Poster**
32. Osanzada, H., Ringleb, S.I., **Samaan, M.A.**, *et al*. “Kinematic Analysis of Gesture in Aphasia”. American Society of Biomechanics Annual Meeting, Gainesville, FL, 2012 **Poster**

33. Greska, E., Cortes, N., Ringleb, S., **Samaan, M.**, *et al.* "The Effects of Leg Dominance, Neuromuscular Training, and Fatigue on Bilateral Lower Extremity Kinematics". American Society of Biomechanics Annual Meeting, Gainesville, FL., 2012 **Poster**
34. Greska, E., Cortes, N., **Samaan, M.**, *et al.* "The Effects of Fatigue and Leg Dominance on Hip and Knee Neuromechanics". VI ACL Research Retreat, Greensboro, NC, 2012. **Poster**
35. Choisne, J., Ringleb, S.I., **Samaan, M.**, *et al.* "Understanding the Effects of Lateral Ligament Sectioning on the Stability of the Ankle and Subtalar Joint Using Euler Angles and the Rotation about a Helical Axis". American Society of Biomechanics Annual Meeting, Providence, RI, 2010. **Poster**
36. **Samaan, M.**, Ringleb, S.I., Choisne, J. *et al.* "Examining the Kinematics of the Knee During a Side Step Cutting Task Using the Helical Axis Method". American Society of Biomechanics Annual Meeting, Providence, RI, 2010. **Poster**
37. **Samaan, M.**, Roberson, D.L., Rogers, W., *et al.* "Development of a Three Dimensional Kinematic Speech Model". Biomedical Engineering Society Annual Meeting. Pittsburgh, PA, 2009. **Poster**

Student Mentorship

PhD Students:

1. Vanessa Ramirez, DPT (KHP; Dissertation Chair)
2. Justin Pol (Biomedical Engineering; Dissertation Chair)
3. Aziz Alameer (Rehabilitation Sciences; Committee Member)
4. Lauren Erickson, DPT (Rehabilitation Sciences; Committee Member)

M.S. Students:

1. Riley Pashak, (KHP; Thesis Chair, Graduated December 2019)
2. Rachel Hart, (KHP; Thesis Chair)
3. Ashley Wimsett (KHP; Committee Member, Graduated August 2019)
4. Walter Menke (KHP; Thesis Chair)
5. Alexander Spencer (KHP; Committee Member, Graduated May 2020)

Undergraduate Students:

1. Cambria Dotson (KHP Student; Honors College), Fall 2019 – Present
2. Andrea Martin (Agriculture and Biotech Capstone), Fall 2019 – Present
3. Margaret Stull (KHP Student), Fall 2019 – Spring 2020
4. Mariana Jacobs (KHP Student), Summer 2019 – Fall 2020
5. Margaret Tuckey (KHP Student; Honors Capstone), Fall 2018 – Spring 2019
6. Walter Menke (KHP Student), Fall 2018 – Spring 2019
7. Rachel Rivera (KHP Student), Fall 2018 – Fall 2019

Medical Students:

1. Mia MacDonald (UK Medical Student; Professional Student Mentored Research Fellowship), Fall 2018 – Present

External Dissertation Examiner:

1. Alexa Johnson (Rehabilitation Sciences, University of Kentucky, Graduated December 2019)

Graduate Students/Research Fellows:

1. Tomohiro Shimizu, M.D., Hokkaido University Dept. of Orthopaedic Surgery Visiting Scholar, *Longitudinal Effects of ACL Reconstruction on Knee Joint Mechanics and Health* (2016 – 2018)
2. Trevor Grace, M.D., UC San Francisco Dept. of Orthopaedic Surgery Resident, *Effects of Hip Arthroscopy on Hip Joint Mechanics and Cartilage Health* (2016-Current)
3. Gautam Adusumilli, Washington University School of Medicine in St. Louis, *Development and Validation of a Mobile-Based Application for the Chair-Rise Test* (2017)
4. Lawrence Leung, University of Vermont Medical School, *Gait Mechanics at One Year after ACL-reconstruction are Associated with Longitudinal Patellar Cartilage Degeneration* (2016)
5. Haroon Osmanzada, ODU Master's Thesis, *Understanding Scapular Kinematics of Gestures Following Word Retrieval Training in the Aphasiac Population* (2012-2014)
6. Jonathon Coulter, ODU Master's Thesis, *Dynamic Model of Sailors Descending a Navy Ship Ladder* (2012-2013)

Undergraduate Students:

1. Carla Kinnunen, University of San Diego, *Muscle Fat Infiltration in FAI Patients is related to Severity of Hip Joint Abnormalities and Patient Reported Outcomes* (2017)
2. Halil Beqaj, *Hip Joint Mechanics During Stair Ambulation in FAI Patients* (2017 - 2018)
3. Katherine Sawyer, UC Davis: *Distal Joint Compensations During a Sit-to-Stand Task in Patellofemoral OA Progressors* (2015-2016)
4. Widny Nazaire, San Francisco State University NIH-Bridges Program: *Hip Joint Kinematics and Kinetics of Patients with Femoracetabular Impingement and Healthy Controls During Walking* (2014-2015)
5. Jonathon Coulter, Liang Dong, Chris Holmes and Haroon Osmanzada, ODU Senior Design: *Knee Loading Device for In-Vitro Knee Joint Kinematic Assessment* (2010-2011)
6. Stephanie McCarthy, ODU Independent Research Scholar, *Kinematic Analysis of Gesture Following Word Retrieval Training for Aphasia* (2011)

High School Students:

1. Layla Souza, *Effects of Hip Joint Center Calculation on Hip Joint Kinematics and Kinetics* (2017)
2. Solomon Joseph, *Development and Validation of a Mobile-Based Application for the Chair-Rise Test* (2017)
3. Ankita Inamdar, *Altered Joint Loading Distribution During Bilateral Squats after Hip Arthroscopy in FAI Patients* (2017)
4. Victoria Louie, *Investigation of Hip Joint Mechanics in FAI Patients after Hip Arthroscopy* (2016)