Curriculum Vitae

Last Updated: 01/08/2024

PERSONAL DATA

Name: Andrew E. Anderson, Ph.D.
Birth Place: Kalamazoo, Michigan
Citizenship: United States

EDUCATION

Years	Degree	Institution (Area of Study)
2011	Visiting Scholar	Stanford University (Neuromuscular Biomechanics) Palo Alto, CA
2007	Postdoctoral Fellow	University of Utah Department of Orthopaedics, Orthopaedic Research Laboratory (Biomechanics of the Hip) Salt Lake City, UT
2001 - 2007	Ph.D.	University Of Utah (Bioengineering- Orthopaedic Biomechanics) Salt Lake City, UT
2000	Research Fellow	Mayo Clinic, Orthopaedic Biomechanical Laboratory (Optimization of a Dynamic Knee Brace System) Rochester, MN
1997 - 2001	B.S.	Michigan Technological University (Engineering, Biomedical Engineering) Houghton, MI

UNIVERSITY OF UTAH ACADEMIC HISTORY

Orthopaedics, 05/16/2022 - Present

05/16/2022 - Present	Professor

Orthopaedics, 12/01/2007 - 05/15/2022

07/01/2020 - 05/15/2022	Research Professor
07/01/2014 - 06/30/2020	Research Associate Professor
12/01/2007 - 06/30/2014	Research Assistant Professor

Physical Therapy and Athletic Training, 07/01/2016 - Present

07/01/2016 - Present	Adjunct Assistant Professor

Physical Therapy, 01/25/2012 - 06/30/2016

01/25/2012 - 06/30/2016	Adjunct Assistant Professor

Department of Biomedical Engineering, 01/25/2008 - Present

11/18/2016 - Present	Adjunct Associate Professor
01/25/2008 - 11/17/2016	Adjunct Assistant Professor

PROFESSIONAL EXPERIENCE

Full-Time Positions

2022 - Present	Professor (with tenure), University of Utah, Salt Lake City, UT
2020 - 2022	Research Professor, University of Utah, Department of Orthopaedics, Salt Lake City, UT
2014 - Present	Research Associate Professor, University of Utah, Department of Orthopaedics, Salt Lake City, UT
2011	Visiting Scholar, Stanford University, Palo Alto, CA
2007 - 2014	Research Assistant Professor, University of Utah, Department of Orthopaedics, Salt Lake City, UT
2007	Postdoctoral Scientist, University of Utah, Department of Orthopaedics, Salt Lake City, UT
2001 - 2007	Graduate Research Assistant, University of Utah, Musculoskeletal Research Laboratories, Salt Lake City, UT
2000	Summer Undergraduate Research Assistant, Mayo Clinic, Rochester, MN
1997 - 1998	Mechanical Engineering Intern, Lucas Varity-Kelsey Hayes Corporation, Fowlerville, MI

Editorial Experience

2020 - 2021	Frontiers in Sports and Active Living Team

Reviewer Experience

ASME Journal of Biomechanical Engineering
ASME Summer Bioengineering Conference Meeting
American Journal of Sports Medicine
Anatomical Record
Annals of Biomedical Engineering
Clinical Orthopaedics and Related Research
Computer Methods and Programs in Biomedicine
Computer Methods in Biomechanics and Bioengineering
Frontiers in Bioengineering and Biotechnology
IEEE Transactions on Biomedical Engineering
Journal of Applied Biomechanics
Journal of Biomechanics
Journal of Orthopaedic Research
Journal of Shoulder and Elbow Surgery
Medical and Biological Engineering and Computing
Orthopaedic Research Society Conference
Osteoarthritis and Cartilage
Scientific Reports

SCHOLASTIC HONORS

2015	Compere Award, Best Scientific Paper – "Pathomechanics of the Hip", Twentieth Century Orthopaedics Meeting
2011	Visiting Scholar (competitive award): National Center for Simulation in Rehabilitation Research; Department of Bioengineering, Stanford University
2008	Featured in Deseret News: *U. researchers taking body imaging 3-D*
2008	Featured on Fox News Salt Lake City KSTU: *3-D imaging of the body*
2006	Featured in Deseret News: *Surgery to preserve hips in young patients on the rise*
2006	University of Utah Graduate Research Travel Award
2006	Pre-doctoral Fellowship- National Research Service Award (NRSA) F31-EB005551
2005	First Place- Ph.D. Student Poster Competition, ASME Summer Bioengineering Conference Vail
2003	University of Utah Graduate Research Travel Award
2002	Authored abstract selected as 1 of the top 5 at the Annual Rehabilitation Engineering Society of North America (RESNA) student design competition
2001	Graduated Magna Cum Laude, Michigan Technological University
1999	Deans Award for Excellence in Mathematics, Michigan Technological University
1997	Board of Control Scholarship, Michigan Technological University

ADMINISTRATIVE EXPERIENCE

Administrative Duties

2023 - Present	**Division Chief of Orthopaedic Research.** Assist executive leadership with developing and implementing a long-term strategic direction for the basic, clinical, and translational research programs in the department. Identify critical needs of individual faculty and/or research teams; synthesize large scope ideas into tangible items that can be addressed by executive leadership. Promote and enhance research collaboration and the development of team research projects that span departments and colleges.
2021 - Present	**Member - School of Medicine Safety Committee.** Assist the Dean in fulfilling the college-level health and safety responsibilities. Provide peer-to-peer safety consultation and review of existing or proposed operations with respect to health and safety compliance with University policies. Serve as the primary point-of-contact/liaison with Environmental Health and Safety (EHS) to facilitate implementation of campus-wide health and safety requirements at the college level. Promptly review all safety-related incidents, injuries, and illnesses with the college, in coordination with EHS. Evaluate workplace health and safety processes and recommend improvements.
2021 - Present	**Director of Postdoctoral Studies for Clinical Sciences, University of Utah Health Sciences.** Serve as the point person to more than 90 fellows on campus. Assist in the resolution of conflicts and disputes. Organize events that encourage collaboration. Shape policy regarding postdoctoral fellows at the university-wide level.

2020 - Present	**Member - Clinical Department Research Workgroup, University of Utah School of Medicine.** Develop solutions to improve productivity of research. Contribute to the development of early-stage investigators. Develop strategies to increase visibility of research within the School of Medicine and beyond. Discuss and implement Covid-19 related policies and procedures. Communicate important updates to department leadership, researchers, and support staff.
2019 - Present	**Institutional Review Board Member, Panel A, University of Utah**
2007 - Present	**Director of Orthopaedic Research, University of Utah Motion Capture Core.** Provide administrative resources to support the goals and objectives of the Orthopaedics Department and Orthopaedic Research Lab as they relate to human motion analysis. Collaborate with the Department of Physical Therapy and Athletic Training to ensure smooth operation of the equipment and resources.

Professional Organization & Scientific Activities

2018 - 2023	Research Chair, Gait and Clinical Movement Analysis Society
2013 - 2014	Chair, American Society of Mechanical Engineers, Student Paper Competition, World Congress of Biomechanics
2012 - 2013	Program Chair, Computational Methods in Biomechanics and Biomedical Engineering
2012 - 2013	Chair, American Society of Mechanical Engineers, PhD Student Paper Competition, Summer Bioengineering Conference
2011 - 2012	Chair, American Society of Mechanical Engineers, MS Student Paper Competition, Summer Bioengineering Conference
2011	Session Chair, American Society of Mechanical Engineers, Summer Bioengineering Conference
2011	Chair, American Society of Mechanical Engineers, BS Student Paper Competition, Summer Bioengineering Conference
2007	Judge, American Society of Mechanical Engineers, Ph.D. Student Poster, Summer Bioengineering Conference, Keystone

Grant Review Committee/Study Section

2022 - Present	National Institutes of Health, Standing Study Section Member (Musculoskeletal Rehabilitation Sciences - MRS)
2021	National Institutes of Health, Ad-hoc Member (P30 Resource-Based Centers for Bone, Muscle and Orthopaedic Research)
2020	National Institutes of Health, Review Panel Ad-hoc Member (Musculoskeletal Rehabilitation Sciences - MRS)
2020	National Institutes of Health, Review Panel Ad-hoc Member (Skeletal Biology and Structural Regeneration - SBSR)
2020	National Institutes of Health, Review Panel Ad-hoc Member (Musculoskeletal Rehabilitation Sciences - MRS)
2018	National Institutes of Health, Review Panel Ad-hoc Member (Skeletal Biology and Structural Regeneration - SBSR)
2018	National Institutes of Health, Review Panel Ad-hoc Member (Skeletal Biology and Structural Regeneration Study Section- SBSR)

2018	Department of Defense, Peer-Reviewed Medical Research Program, Panel Member (Pain)
2017	National Institutes of Health, Ad-hoc Member (Centers of Biomedical Research Excellence (COBRE), P20)
2015	National Institutes of Health, Review Panel Ad-hoc Member (Neurological, Aging and Musculoskeletal Epidemiology- NAME)
2015	Department of Defense: Peer-Reivewed Medical Research Program Review Panel Member - Osteoarthritis and Post-trumatic Osteoarthritis
2014	National Institutes of Health, Review Panel Ad-hoc Member (Neurological, Aging and Musculoskeletal Epidemiology- NAME)
2014	National Science Foundation, Review Panel Member (Bioengineering I): Graduate Research Fellowship
2013	National Science Foundation,Review Panel Member (Bioengineering I): Graduate Research Fellowship
2011	National Science Foundation,Review Panel Member (Bioengineering I): Graduate Research Fellowship

PROFESSIONAL COMMUNITY ACTIVITIES

2021 - 2023	Member, Pac-12 Conference, Student-Athlete Health and Well-Being Initiative (SAHWBI), Research Committee

UNIVERSITY COMMUNITY ACTIVITIES

University Level

2011 - Present	Director of Orthopaedic Research, Motion Analysis Core Facility, University of Utah

CURRENT MEMBERSHIPS IN PROFESSIONAL SOCIETIES

American Society of Biomechanics

International Society of Biomechanics

Orthopaedic Research Society

Pediatric Research in Sports Medicine Society

FUNDING

Active Grants

09/12/23 - 08/31/28 Morphologic and Kinematic Adaptations of the Subtalar Joint after Ankle Fusion Surgery in Patients with Varus-type Ankle Osteoarthritis
Principal Investigator(s): Andrew E. Anderson
Direct Costs: $1,762,878 Total Costs: $2,679,573
National Institutes of Health
Role: Principal Investigator

08/01/20 - 07/31/24 Computational and Statistical Framework to Model Tissue Shape and Mechanics (R01EB016701)
Principal Investigator(s): Andrew E. Anderson
Direct Costs: $1,458,350 Total Costs: $2,223,983
National Institute of Biomedical Imaging and Bioengineering
Role: Principal Investigator

07/01/20 - 06/30/25 Morphological and Biomechanical Insights into the Pathophysiology of Femoroacetabular Impingement Syndrome (R01AR077636)
Principal Investigator(s): Andrew E. Anderson
Direct Costs: $1,585,441 Total Costs: $2,417,797
National Institute of Arthritis and Musculoskeletal Skin Diseases
Role: Principal Investigator

09/01/19 - 08/31/24 ShapeWorksStudio: An Integrative, User-Friendly, and Scalable Suite for Shape Representation and Analysis (U24EB029011)
Principal Investigator(s): Elhabian, Shireen Youssef
Direct Costs: $895,485 Total Costs: $1,365,614
National Institute of Biomedical Imaging & Bioengineering
Role: Co-Investigator

07/01/19 - 05/30/25 Anatomy Directly from Imagery: General Purpose, Scalable, and Open-source Machine Learning Approaches (R01AR076120)
Principal Investigator(s): Shireen Youssef Elhabian
Direct Costs: $1,922,145 Total Costs: $2,931,271
National Institute of Arthritis and Musculoskeletal and Skin Diseases
Role: Co-Investigator

Past Grants

08/17/20 - 08/16/23 Form-Function Relationships in Femoroacetabular Impingement Syndrome (F32 AR078019)
Principal Investigator(s): Joseph Mozingo
Direct Costs: $180,000 Total Costs: $180,000
National Institutes of Arthritis and Musculoskeletal Skin Disorders
Role: Primary Sponsor

08/01/19 - 07/31/21 Quantifying the Pathophysiology of Femoroacetabular Impingement Syndrome (R56AR074416)
Principal Investigator(s): Andrew E. Anderson
Direct Costs: $222,000 Total Costs: $316,395
National Institute of Arthritis and Musculoskeletal and Skin Diseases
Role: Principal Investigator

04/01/19 - 03/31/20 Advancing Total Ankle Replacement Through Morphometric and Kinematic Analyses
Principal Investigator(s): Amy Lorraine Lenz (06015176)
Direct Costs: $50,000 Total Costs: $50,000
Orthopaedic Research Society
Role: Sponsor

06/01/18 - 09/30/22 Developing a Comprehensive, Quantitative Understanding of Hip Morphometrics and Biomechanics in Collegiate Athletes at Risk for Developing Femoroacetabular Impingement Syndrome
Principal Investigator(s): Andrew E. Anderson
Direct Costs: $703,449 Total Costs: $844,139
Pac-12 Conference
Role: Principal Investigator

03/01/18 - 02/28/19 Qualitative and Quantitative Assessment of the Subtalar Joint Using Three-Dimensional Computed Tomography Models and High-Speed Dual-Fluoroscopy
Principal Investigator(s): Alexej Barg
Direct Costs: $30,000 Total Costs: $30,000
L.S. Peery Foundation
Role: Co-Investigator

04/01/17 - 03/31/20 In Vivo Arthrokinematics of Total Ankle Replacement and Ankle Arthrodesis (R21AR069773)
Principal Investigator(s): Andrew E. Anderson
Direct Costs: $242,000 Total Costs: $365,970
National Institute of Arthritis and Musculoskeletal and Skin Diseases
Role: Principal Investigator

07/01/16 - 12/30/17 Evaluating Hindfoot Biomechanics to Improve Function Following Tibiotalar Arthrodesis
Principal Investigator(s): Jennifer A Nichols
Direct Costs: $50,000 Total Costs: $50,000
Orthopaedic Research and Education Foundation
Role: Sponsor

05/01/16 - 04/30/21 Biomechanics of Reverse Total Shoulder Arthroplasty (R01AR067196)
Principal Investigator(s): Heath B. Henninger
Direct Costs: $1,543,000 Total Costs: $2,299,000
National Institute of Arthritis and Musculoskeletal and Skin Diseases
Role: Co-Investigator

09/01/15 - 08/31/17 In Vivo Hindfoot Arthrokinematics of Total Ankle Replacement and Ankle Arthrodesis: Effect of Surgical Choice
Principal Investigator(s): Andrew E. Anderson; Alexej Barg (00702686)
Direct Costs: $60,000 Total Costs: $60,000
LS-Peery Foundation
Role: Co-Principal Investigator

05/01/15 - 04/30/17 Analysis of Pelvic Tilt and Sagittal Balance During Gait
(Iain Elliott)
Direct Costs: $14,964 Total Costs: $14,964
Sherman S. Coleman Resident Research Fund
Role: Co-Investigator

04/01/15 - 03/31/18 Hip Biomechanics and Tissue Damage Mechanisms in Femoroacetabular Impingement (F32 AR067075-01)
Principal Investigator(s): Niccolo Fiorentino
Direct Costs: $135,268 Total Costs: $135,268
National Institute of Arthritis and Musculoskeletal and Skin Diseases
Role: Sponsor

07/01/14 - 09/30/15 In-Vivo Ankle Kinematics and Kinetics of the Normal and Chronically Unstable Ankle
Principal Investigator(s): Andrew E. Anderson; Charles L. Saltzman
Direct Costs: $20,000 Total Costs: $20,000
American Orthopaedic Foot & Ankle Society
Role: Co-Principal Investigator

04/01/14 - 03/31/16 In-vivo Kinematics and Kinetics of the Normal and Chronically Unstable Ankle
Principal Investigator(s): Andrew E. Anderson
Direct Costs: $40,000 Total Costs: $40,000
L.S. Peery Foundation
Role: Principal Investigator

08/01/13 - 07/31/18 Population-based Shape and Biomechanical Analysis of Hip Pathoanatomy (R01EB016701)
Principal Investigator(s): Andrew E. Anderson
Direct Costs: $907,042 Total Costs: $1,351,492
National Institute of Biomedical Imaging and Bioengineering
Role: Principal Investigator

07/01/13 - 06/30/15 Modified DESS MRI of the Hip
Principal Investigator(s): Andrew E. Anderson
Direct Costs: $28,000 Total Costs: $28,000
University of Utah
Role: Principal Investigator

05/01/13 - 04/30/16 Musculoskeletal and Finite Element Modeling of Femoroacetabular Impingement (R21-AR3466184)
Principal Investigator(s): Andrew E. Anderson
Direct Costs: $233,679 Total Costs: $348,501
National Institute of Arthritis and Musculoskeletal and Skin Diseases
Role: Principal Investigator

07/01/11 - 06/30/12 In Vivo Determination of Scapula Kinematics after Reverse Total Shoulder Arthroplasty
Direct Costs: $28,000 Total Costs: $28,000
University of Utah
Role: Co-Investigator

06/27/11 - 09/01/11 Coupling Patient-Specific Finite Element Analysis with Musculoskeletal Modeling to study Acetabular Dysplasia and Femoroacetabular Impingement
Principal Investigator(s): Andrew E. Anderson
Direct Costs: $15,000 Total Costs: $15,000
National Center for Simulation in Rehabilitation Research
Role: Principal Investigator

10/01/10 - 09/30/14 Predicting Skeletal Stability of Endoprostheses for Above Elbow Amputee
Direct Costs: $750,000 Total Costs: $750,000
U.S. Veterans Administration
Role: Co-Investigator

05/20/10 - 05/19/11 Tandem Instrumented Treadmill for Accurate Assessment of in-vivo Joint Kinetics (S10-RR026565)
Principal Investigator(s): Andrew E. Anderson; Jeffrey A. Weiss
Direct Costs: $222,000 Total Costs: $222,000
National Center for Research Resources
Role: Principal Investigator

01/01/10 - 12/31/10 Interdisciplinary Research Seed Grant
Principal Investigator(s): Andrew E. Anderson
Direct Costs: $11,000 Total Costs: $11,000
University of Utah
Role: Principal Investigator

02/01/09 - 03/31/10 Functional Assessment of Femoroacetabular Impingement
Principal Investigator(s): Andrew E. Anderson
Direct Costs: $35,000 Total Costs: $35,000
University of Utah
Role: Principal Investigator

07/01/07 - 06/30/12 Biomechanics of the Dysplastic Hip (R01AR053344)
Principal Investigator(s): Jeffrey A. Weiss
Direct Costs: $996,686 Total Costs: $1,490,046
National Institute of Arthritis and Musculoskeletal and Skin Diseases
Role: Research Associate

04/01/05 - 03/10/07 Comparative Stress Analysis of Hip Dysplasia (F31-EB005551)
Principal Investigator(s): Andrew E. Anderson
Direct Costs: $100,000 Total Costs: $100,000
National Institute of Biomedical Imaging and Bioengineering
Role: Principal Investigator

07/01/04 - 06/30/06 Comparative Stress Analysis of Hip Dysplasia
Direct Costs: $100,000 Total Costs: $100,000
Orthopaedic Research and Education Foundation
Role: Research Associate

03/01/03 - 06/01/04 Patient-Specific Computational Models for Preoperative Surgical Planning of Total Hip Arthroplasty and Correction of Hip Dysplasia
Direct Costs: $33,500 Total Costs: $33,500
University of Utah
Role: Research Associate

TEACHING RESPONSIBILITIES/ASSIGNMENTS

Course Lectures

2025 PI, BME 6970: Thesis Research-MS, 0 students, University of Utah, J & M Price College of Eng.

2025 PI, BME 7970: Thesis Research-Ph D, 0 students, University of Utah, J & M Price College of Eng.

2024 PI, BME 7970: Thesis Research-Ph D, 0 students, University of Utah, J & M Price College of Eng.

2024 PI, BME 6970: Thesis Research-MS, 0 students, University of Utah, J & M Price College of Eng.

2024	PI, BME 6970: Thesis Research-MS, 0 students, University of Utah, J & M Price College of Eng.
2024	PI, BME 7970: Thesis Research-Ph D, 3 students, University of Utah, J & M Price College of Eng.
2023	PI, BME 6970: Thesis Research-MS, 0 students, University of Utah, J & M Price College of Eng.
2023	PI, BME 7970: Thesis Research-Ph D, 3 students, University of Utah, J & M Price College of Eng.
2023	PI, BME 6970: Thesis Research-MS, 0 students, University of Utah, J & M Price College of Eng.
2023	PI, BME 7970: Thesis Research-Ph D, 0 students, University of Utah, J & M Price College of Eng.

Mentoring/Advising

Visiting Faculty

2018 - 2021	Advisor/Mentor, Cara Lewis, Boston University

Fellow

2018 - 2023	Advisor/Mentor, Joseph Mozingo (postdoc), University of Utah
2017 - 2020	Advisor/Mentor, Amy Lenz (postdoc), University of Utah
2017 - 2019	Advisor/Mentor, Keisuke Uemura (postdoc), Osaka University
2014 - 2017	Advisor/Mentor, Jennifer Nichols (postdoc), University of Utah
2013 - 2017	Advisor/Mentor, Niccolo Fiorentino (postdoc), University of Utah
2010 - 2011	Advisor/Mentor, Heath Henninger (postdoc), University of Utah

Resident

2015 - 2018	Advisor/Mentor, Iain Elliott, University of Utah
2013 - 2014	Advisor/Mentor, Bibo Wang, Shanghi Orthopaedic Hospital
2011	Advisor/Mentor, Dan Kemper, University of Utah
2010	Advisor/Mentor, Jeremy Gilliand, University of Utah
2010 - 2011	Advisor/Mentor, Alexej Barg, Basel Switzerland
2009	Advisor/Mentor, Ben Hansen, University of Utah
2009	Advisor/Mentor, Bryce Allen, University of Utah

PhD/Doctorate

2023 - Present	Advisor/Mentor, Brooklyn Vargas, University of Utah
2023 - Present	Advisor/Mentor, Bergen Braun, University of Utah
2015 - 2020	Advisor/Mentor, Jocelyn Todd, University of Utah
2013 - 2018	Primary Advisor, Koren Roach, University of Utah
2013 - 2020	Advisor/Mentor, Christopher Kolz, University of Utah

2013 - 2018 Primary Advisor, Penny Atkins, University of Utah
2009 - 2014 Primary Advisor, Christine Abraham, University of Utah
2009 - 2012 Advisor/Mentor, Hang Xu, University of Utah
2008 - 2013 Primary Advisor, Michael Harris, University of Utah
2008 - 2011 Advisor/Mentor, Shawn Reese, University of Utah
2008 - 2010 Advisor/Mentor, Ben Ellis, University of Utah
2008 - 2013 Advisor/Mentor, Corinne Henak, University of Utah
2008 - 2013 Primary Advisor, Ashley Kapron, University of Utah

Masters
2020 - 2022 Advisor/Mentor, Richard Lisonbee, University of Utah

Medical Student
2015 Advisor/Mentor, Josh Winegar, University of Utah

Undergraduate
2024 - Present Advisor/Mentor, Bowen Degraw, University of Utah
2023 - Present Advisor/Mentor, Mikhail Ahmed, University of Utah
2023 - Present Advisor/Mentor, Tyler Adamson, University of Utah
2023 - Present Advisor/Mentor, Andrew Moore, University of Utah
2023 - Present Advisor/Mentor, Jesus Carbajal, University of Utah
2023 - Present Advisor/Mentor, Olivia Leonard, University of Utah
2023 - Present Advisor/Mentor, Jonah Pingree, University of Utah
2023 - Present Advisor/Mentor, Benjamin Janzen, University of Utah
2021 - 2023 Advisor/Mentor, Megan Genetti, University of Utah
2021 Advisor/Mentor, Sequoia Hennigs-Cornell, University of Utah
2021 - 2023 Advisor/Mentor, Bergen Braun, University of Utah
2021 - 2023 Advisor/Mentor, Ryan Jensen, University of Utah
2021 - 2022 Advisor/Mentor, Josh Dean, University of Utah
2019 - 2020 Advisor/Mentor, Emma Christensen, University of Utah
2019 - 2020 Advisor/Mentor, Laura Ziegler, University of Utah
2019 - 2020 Advisor/Mentor, Lia Westermann (UROP Funded), University of Utah
2019 - Present Advisor/Mentor, Seaton Schwab, University of Utah
2019 - 2020 Advisor/Mentor, Jocelyn Longaza, University of Utah
2019 - 2020 Advisor/Mentor, Andrew Peterson (UROP Funded), University of Utah
2019 - 2020 Advisor/Mentor, Erica Mulrad, University of Utah

2019 - 2020	Advisor/Mentor, Katee Perez, University of Utah
2018 - 2020	Advisor/Mentor, Richard Lisonbee (UROP Funded), University of Utah
2018 - 2019	Advisor/Mentor, Kalebb Howell (UROP Funded), University of Utah
2017 - 2019	Advisor/Mentor, Dylan Blair (UROP Funded), University of Utah
2017 - 2018	Advisor/Mentor, Lindsay Schuring (UROP Funded), University of Utah
2017 - 2018	Advisor/Mentor, Spencer Kendell (UROP Funded), University of Utah
2016 - 2018	Advisor/Mentor, Joseph Hartle (UROP Funded), University of Utah
2016 - 2017	Advisor/Mentor, Bryant Green (UROP Funded), University of Utah
2016 - 2018	Advisor/Mentor, Youngjae Shin (UROP Funded), University of Utah
2016 - 2018	Advisor/Mentor, Samuel Colby (UROP Funded), University of Utah
2016 - 2017	Advisor/Mentor, Asal Kareem (UROP Funded), University of Utah
2015 - 2017	Advisor/Mentor, Matthew Driscoll (UROP Funded), University of Utah
2015 - 2016	Advisor/Mentor, Iasia Beh (UROP Funded), University of Utah
2015	Advisor/Mentor, Chandelle Wojahn (UROP Funded), University of Utah
2015 - 2016	Advisor/Mentor, Anh Dang, University of Utah
2015	Advisor/Mentor, Skyler Perkes, University of Utah
2014 - 2016	Advisor/Mentor, Elliott Hurd (UROP funded), University of Utah
2014 - 2017	Advisor/Mentor, Sarah Fauver (BioRUP funded), University of Utah
2014 - 2017	Advisor/Mentor, Trevor Hafer (UROP funded), University of Utah
2013 - 2015	Advisor/Mentor, Austin West (UROP funded), University of Utah
2013 - 2016	Advisor/Mentor, Spencer Knight (UROP Funded), University of Utah
2013 - 2016	Advisor/Mentor, Tyler Skinner (UROP Funded), University of Utah
2013 - 2015	Advisor/Mentor, Justine Goebel (UROP funded), University of Utah
2013	Advisor/Mentor, Blake Zimmerman (UROP funded), University of Utah
2012 - 2015	Advisor/Mentor, Lance McGavin (UROP funded), University of Utah
2012 - 2015	Advisor/Mentor, Michael Kutschke (UROP funded), University of Utah
2012	Advisor/Mentor, Rachel Thomas, University of Arizona
2010 - 2013	Advisor/Mentor, Ryan Taylor (UROP funded), University of Utah
2010	Advisor/Mentor, Eric Earnshaw, University of Utah
2010	Advisor/Mentor, Richard Amendola, University of Iowa
2009	Advisor/Mentor, Joseph Albright, University of Utah
2008 - 2009	Advisor/Mentor, Dylan Nelson (UROP funded), University of Utah
2008 - 2009	Advisor/Mentor, Ryan Davis (UROP funded), University of Utah
2007 - 2008	Advisor/Mentor, Kristen Davis (UROP funded), University of Utah

2007 Advisor/Mentor, Michael Harris (UROP funded), University of Utah
2007 Advisor/Mentor, Dave Salmon, University of Utah
2004 - 2006 Advisor/Mentor, Ben Tuttle, University of Utah
2003 - 2004 Advisor/Mentor, Janna Balling, University of Utah

High School
2016 Advisor/Mentor, Alex Yokubison, University of Utah
2016 Advisor/Mentor, Cole Stanton, University of Utah
2015 Advisor/Mentor, Jackson Burton, University of Utah
2009 Advisor/Mentor, Paxton Maeder, University of Utah

Other
2022 Advisor/Mentor, Matthias Peiffer, University of Ghent
2022 - Present Advisor/Mentor, Takuma Miyamoto, Nara Medical University
2016 - 2017 Advisor/Mentor, Takehito Hananouchi, Osaka Sangyo University

Graduate Student Committees

2024 - Present Chair, Seth Kussow, University of Utah
2024 Chair, Seth Kussow, University of Utah
2023 - Present Chair, Bergen Braun, University of Utah
2023 - Present Chair, Brooklyn Vargas, University of Utah
2022 Chair, Rich Lisonbee
2021 - Present Chair, Seth Kussow, University of Utah
2021 - Present Member, Luke Hudson, University of Utah
2019 Chair, Lindsay Schuring, University of Utah
2015 - 2020 Member, Jocelyn Todd, University of Utah
2014 - 2020 Member, Christopher Kolz, University of Utah
2013 - 2018 Chair, Koren Roach, University of Utah
2013 - 2018 Chair, Penny Atkins, University of Utah
2013 - 2015 Member, Sumedha Singla, University of Utah
2009 - 2012 Member, Ben Ellis, University of Utah
2009 - 2014 Chair, Christine Abraham, University of Utah
2008 - 2012 Member, Hang Xu, University of Utah
2008 - 2013 Member, Corinne Henak, University of Utah
2008 - 2013 Chair, Ashley Kapron, University of Utah
2008 - 2013 Chair, Michael Harris, University of Utah
2007 - 2011 Member, Shawn Reese, University of Utah

Didactic Lectures

2021	Guest Lecturer, BME 5160 Engineering Aspects of Clinical Medicine
2020	Guest Lecturer, BME 5160 Engineering Aspects of Clinical Medicine
2017 - 2019	Guest Lecturer - Introduction to Image Based Modeling (IIBM)
2009	Guest Lecturer- BIOEN 6900 Human Motion Analysis
2007	Guest Lecturer - BIOEN 7210 Biosolid Mechanics
2004	Guest Lecturer - BIOEN 5201 Introduction to Biomechanics

PEER-REVIEWED JOURNAL ARTICLES

1. Atkins PR, Morris A, Elhabian SY, **Anderson AE** (2023). A Correspondence-Based Network Approach for Groupwise Analysis of Patient-Specific Spatiotemporal Data.(Epub ahead of print). *Ann Biomed Eng*.
2. Khan N, Peterson AC, Aubert B, Morris A, Atkins PR, Lenz AL, **Anderson AE**, Elhabian SY (2023). Statistical multi-level shape models for scalable modeling of multi-organ anatomies. *Front Bioeng Biotechnol*, *11*, 1089113.
3. Peiffer M, Duquesne K, Van Oevelen A, Burssens A, De Mits S, Maas SA, Atkins PR, **Anderson AE**, Audenaert EA (2023). Validation of a personalized ligament-constraining discrete element framework for computing ankle joint contact mechanics.(Epub ahead of print) *Comput Methods Programs Biomed*, *231*, 107366.
4. Schuring LL, Mozingo JD, Lenz AL, Uemura K, Atkins PR, Fiorentino NM, Aoki SK, Peters CL, **Anderson AE** (2023). Acetabular labrum and cartilage contact mechanics during pivoting and walking tasks in individuals with cam femoroacetabular impingement syndrome. *J Biomech*, *146*, 111424.
5. Lewis CL, Uemura K, Atkins PR, Lenz AL, Fiorentino NM, Aoki SK, **Anderson AE** (2022). Patients with Cam-Type Femoroacetabular Impingement Demonstrate Increased Change in Bone-to-Bone Distance during Walking: A Dual Fluoroscopy Study. *J Orthop Res*, *41*, 161-169.
6. Lenz AL, Lisonbee RJ, Peterson AC, Roach KE, Foreman KB, Barg A, **Anderson AE** (2022). Total Ankle Replacement Provides Symmetrical Postoperative Kinematics: A Biplane Fluoroscopy Imaging Study. *Foot Ankle Int*, *43*(6), 10711007221078001.
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REVIEW ARTICLES

1. Horisberger M, Barg A, Wiewiorski M, **Anderson AE**, Valderrabano V (2014). Ankle joint-preserving surgery in a patient with severe haemophilia and Noonan syndrome: case report and literature review. [Review]. *Haemophilia*, *21*, (1), 105-8.
2. **Anderson AE**, Ellis BJ, Weiss JA. (2007). Verification, validation and sensitivity studies in computational biomechanics. [Review]. *Comput Methods Biomech Biomed Engin*, *10*, (3), 171-84.

BOOK CHAPTERS

1. Agrawal P, Mozingo JD, Elhabian SY, **Anderson AE**, Whitaker RT (2020). Combined estimation of shape and pose for statistical analysis of articulating joints. In Reuter M., Wachinger C., Lombaert H., Paniagua B., Goksel O., Rekik I. (Eds.), *Shape in Medical Imaging* (*12474*, pp. 111-121). Springer, Charm.
2. Todd JN, **Anderson AE**, Peters CL, Weiss JA (2019). Pathomechanics of the Dysplastic Hip. In Paul E. Beaule (Ed.). Springer Nature Switzerland AG.

ADDITIONAL PUBLICATIONS

Editorials

1. Diamond LE, Barrett RS, Modenese L, **Anderson AE**, Hall M (2021). Editorial: Neuromechanics of Hip Osteoarthritis. *Front Sports Act Living*, *3*, 788263.

Letters

1. Horisberger M, Barg A, Wiewiorski M, **Anderson AE**, Valderrabano V (2015). Ankle joint-preserving surgery in a patient with severe haemophilia and Noonan syndrome: case report and literature review. [Letter to the editor]. *Haemophilia*, *21*(1), e105-8.

Others

1. **Anderson AE** (2007). Computational Modeling of Hip Joint Biomechanics. *Ph.D. Dissertation*.

Multimedia

1. **Anderson AE**, Ellis BJ, Maas SA, Peters CL, Weiss JA (2007). Validation of hip joint contact pressures in a subject-specific finite element model. [Video], San Diego: 52nd Annual Orthopaedic Research Society Meeting.

RECENTLY PUBLISHED ABSTRACTS (LAST 3 YEARS)

1. Kussow SJ, Zitnay JL, **Anderson AE** (2024). Evaluation Of Synthetic Computed Topography Data As A Radiation-reducing Approach For Hip Joint Reconstruction And Model-based Markerless Tracking Of Biplane Radiography Data [Abstract]. *Proceedings, Annual Meeting of the Orthopaedic Research Society*.
2. Lisonbee RL, Dibbern KN, **Anderson AE**, Saltzman CL, Kruger KM, Lenz AL (2024). Statistical Shape Modeling Enables Comparison Of Subtalar Joint Contact Stress And Bone Mineral Density Differences Following Tibiotalar Arthrodesis And Total Ankle Replacement [Abstract]. *Proceedings, Annual Meeting of the Orthopaedic Research Society*.
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15. Braun B, Mozingo JD, Atkins PR, Foreman KB, Aoki SK, Maak TG, **Anderson AE** (2023). Statistical Shape Modeling to Evaluate Proximal Femoral Anatomy in Collegiate Athletes at Risk of Developing Femoroacetabular Impingement Syndrome [Abstract]. *Utah Athlete Health and Performance Symposium*.
16. Hudson LT, Maak TG, **Anderson AE**, Ateshian GA, Weiss JA. (2023). The Effect of Labrum Size in Patients with Cam-Type Femoroacetabular Impingement Syndrome [Abstract]. *Proceedings, Annual Meeting of the Orthopaedic Research Society*.

17. Hudson LT, Maak TG, **Anderson AE**, Ateshian GA, Weiss JA (2023). The Effect of Labrum Size in Patients with Cam-Type Femoroacetabular Impingement Syndrome [Abstract]. *Proceedings, Annual Meeting of the Orthopaedic Research Society*.
18. Atkins PR, Morris A, Elhabian SY, **Anderson AE** (2023). Application of Correspondence-based Networks to the Analysis of Spatial and Temporal Biomechanics Data [Abstract]. *Proceedings, Annual Meeting of the Orthopaedic Research Society*.
19. Atkins PR, Weiss JA, Peters CL, **Anderson AE** (2022). Application of Correspondence-based Networks to the Analysis of Spatial and Temporal Biomechanics Data. Orthopaedic Research Society Annual Meeting [Abstract]. *ORS Ambassador Regional Symposium in Conjunction with SOARS Conference*.
20. Kussow SJ, Atkins PR, **Anderson AE** (2022). Biomechanical Insights to Quantify the Pathophysiology of Femoroacetabular Impingement Syndrome [Abstract]. *ORS Ambassador Regional Symposium in Conjunction with SOARS Conference*.
21. **Anderson AE**, Atkins PR (2022). ShapeWorks: An Integrated, Opensource Software for Shape Analysis in Engineering and Medicine [Abstract].
22. Atkins PR, Agrawal P, Mozingo JD, Uemura K, Tokunaga K, Peters CL, Elhabian SY, Whitaker RT, **Anderson AE** (2022). Use of Statistical Shape Modeling to Predict Clinical Metrics of Femoral Head Coverage in Patients with Developmental Dysplasia [Abstract]. *Proceedings, International Conference of Panamerican Society of Modeling Methods in Engineering and Applied Science*.
23. Atkins PR, Elhabian SY, Weiss JA, Whitaker RT, Peters CL, **Anderson AE** (2022). Combination of Statistical Shape Modeling and Statistical Parametric Mapping to Quantify Cartilage Contact Mechanics in Hip Dysplasia [Abstract]. *Proceedings, International Conference of Panamerican Society of Modeling Methods in Engineering and Applied Science*.
24. Atkins PR, Agrawal P, Mozingo JD, Uemura K, Tokunaga K, Peters CL, Elhabian SY, Whitaker RT, **Anderson AE** (2022). Prediction of Clinical Measures of Femoral Head Coverage from Statistical Shape Modeling Parameters in Patients with Developmental Dysplasia [Abstract]. *Proceedings, Annual Meeting of the Orthopaedic Research Society*.
25. Atkins PR, Elhabian SY, Weiss JA, Whitaker RT, Peters CL, **Anderson AE** (2022). Quantification of Cartilage Mechanics through Statistical Shape Modeling and Statistical Parametric Mapping [Abstract]. *Proceedings, Annual Meeting of the Orthopaedic Research Society*.
26. Mozingo JD, Atkins PR, Maak TG, Aoki SK, **Anderson AE** (2022). Towards Identification Of Anatomic Phenotypes In Individuals At Risk For Femoroacetabular Impingement Syndrome [Abstract].
27. Atkins PR, Agrawal P, Mozingo JD, Uemura K, Tokunaga K, Peters CL, Elhabian SY, Whitaker RT, **Anderson AE** (2022). Prediction of Clinical Measures of Femoral Head Coverage from Statistical Shape Modeling Parameters in Patients with Developmental Dysplasia [Abstract]. *Proceedings, Annual Meeting of the Orthopaedic Research Society*.
28. Peterson AC, Lisonbee RJ, Krahenbuhl N, Saltzman CL, **Anderson AE**, Barg A, Elhabian S, Lenz AL (2022). Multi-Domain Statistical Shape Model of the Subtalar, Talonavicular and Calcaneocuboid Joints [Abstract]. *Proceedings, Annual Meeting of the Orthopaedic Research Society*.
29. Lisonbee RJ, Peterson AC, Saltzman CL, **Anderson AE**, Lenz AL (2022). Evaluation of Dynamic Subtalar Joint Articulation and Morphometric Shape Following Tibiotalar Arthrodesis and Total Ankle Replacement [Abstract]. *Proceedings, Annual Meeting of the Orthopaedic Research Society*.

30. Eatough ZJ, Lisonbee RJ, Krahenbuhl N, **Anderson AE**, Saltzman CL, Lenz AL (2022). Peritalar Compensation of the Subtalar Joint in Patients with Ankle Osteoarthritis: Hindfoot Alignment, Coverage, and Morphology Assessment [Abstract]. *Proceedings, Annual Meeting of the Orthopaedic Research Society*.
31. Mozingo JD, Atkins PR, Maak TG, Aoki SK, **Anderson AE** (2022). Towards Identification Of Anatomic Phenotypes In Individuals At Risk For Femoroacetabular Impingement Syndrome [Abstract]. *Proceedings, Annual Meeting of the Orthopaedic Research Society*.
32. Atkins PR, Elhabian SY, Weiss JA, Whitaker RT, Peters CL, **Anderson AE** (2022). Quantification of Cartilage Mechanics through Statistical Shape Modeling and Statistical Parametric Mapping [Abstract]. *Proceedings, Annual Meeting of the Orthopaedic Research Society*.
33. Atkins PR, Agrawal P, Mozingo JD, Uemura K, **Anderson AE** (2021). Application of an Articulated Statistical Shape Model of the Hip to Predict Clinical Measures of Coverage [Abstract]. *Proceedings, International Symposium on Computer Methods in Biomechanics and Biomedical Engineering*.
34. Mozingo JD, Atkins PR, Maak TG, Aoki SJ, **Anderson AE** (2021). Characterizing the Spectrum of Hip Morphology via Statistical Shape Modeling and Linear Discriminant Analysis [Abstract]. *Proceedings, International Symposium on Computer Methods in Biomechanics and Biomedical Engineering*.
35. Lenz AL, Nichols JA, Roach KE, Lisonbee RJ, Foreman KB, Barg A, Saltzman CL, **Anderson AE** (2021). Total Ankle Replacement In-Vivo Kinematics: A Biplane Fluoroscopy Imaging Study [Abstract]. *Proceedings, Annual Meeting of the American Society of Biomechanics*.
36. Mozingo JD, Atkins PR, Agrawal P, Uemura K, Elhabian SY, Whitaker RT, **Anderson AE** (2021). Morphology of Hip Dysplasia in Japanese Females: A Statistical Shape Modeling Study [Abstract]. *Proceedings, American Society of Biomechanics*.
37. Mozingo JD, Schuring LL, Mortensen A, **Anderson AE**, Aoki SK (2021). How do Patient Position and Measurement Technique Affect the Accuracy of the Anterior Center Edge Angle? [Abstract]. *Proceedings, American Orthopaedic Society for Sports Medicine*.

ORAL PRESENTATIONS

Keynote/Plenary Lectures

International

2017	Gait and Clinical Movement Analysis Society

Meeting Presentations

International

2019	Gait and Clinical Movement Analysis Society (Grant Writing Tutorial)

Local/Regional

2013	Guest Speaker, Snow College, Dead Cats Society (Biomedical Engineering Outreach Program)

Invited/Visiting Professor Presentations

International

2023	University of Engineering and Technology (UTEC), Lima, Peru
2019	University of Eastern Finland

2019 - 2020	International Hip Dysplasia Symposium, Course Faculty, New York, NY
2019	Spotlight Speaker, Orthopaedic Research Society Annual Meeting
2019	AONA Faculty Hip Course
2014	Annual Meeting of the Biomedical Engineering Society (BMES)
2012	34th Annual International Conference of the IEEE Engineering in Medicine & Biology Society

National

2023	Harvard University, Hip Innovative Thinking
2022	Distinguished Lecturer, Department of Biomedical Engineering, Cleveland Clinic
2021	Boston University Biomechanics Seminar
2021	Page Morton Distinguished Lecture Series, Clemson University
2015	Steadman Phillipon Research Institute, Orthopaedic Grand Rounds
2014	Mayo Clinic, Department of Orthopaedics Seminar
2011	Henry Ford Hospital Bone and Joint Seminar
2010	Michigan Technological University, Department of Biomedical Engineering
2009	University of Utah Department of Radiology
2007	Henry Ford Hospital Bone and Joint Seminar

Grand Rounds Presentations

2021	University of Utah Grand Rounds
2019	University of Utah Grand Rounds
2011	University of Utah Orthopaedics
2004	University of Utah Orthopaedics

OTHER SCHOLARLY ACTIVITIES

Additional Research/Scholarship Contributions

2007	Contributed most of the preliminary data and wrote a substantial portion of a funded grant: *Biomechanics of the Dysplastic Hip*, National Institutes of Health(R01AR05334, $1,490,047 direct costs)
2004	Contributed all of the preliminary data and wrote a substantial portion of a funded grant: *Comparative Analysis of Hip Dysplasia*, Orthopaedic Research and Education Foundation ($100,000)
2002	Wrote a grant that was funded: *Patient-Specific Computational Models for Preoperative Surgical Planning of Total Hip Arthroplasty and Correction of Hip Dysplasia*. Funding Incentive Seed Grant, University Of Utah ($33,500) Role : Graduate Student

2000 - 2001 Michigan Technological University, Biomedical Engineering**,** Houghton, MI

Advisor: Debra Wright, Ph.D. Senior Design Project Title: *Development of a Thoracic Pressure Chair for a Child with Autism* Role: Senior Design Student. Studies have shown that deep pressure therapy can generate a calming effect to children with autism, which may facilitate increased awareness in the classroom. Three other students and I designed, built, and tested a device, which applied pressure to the chest of a child with autism. It was necessary to design a device that was simple to operate since many people with autism have limited mental capacity. The final product was a chair with a padded, moveable platform / door that squeezed the subject to his / her desire. The chair was placed into a classroom and tested on a child with autism. The student has performed better in the classroom as a result of pressure therapy.