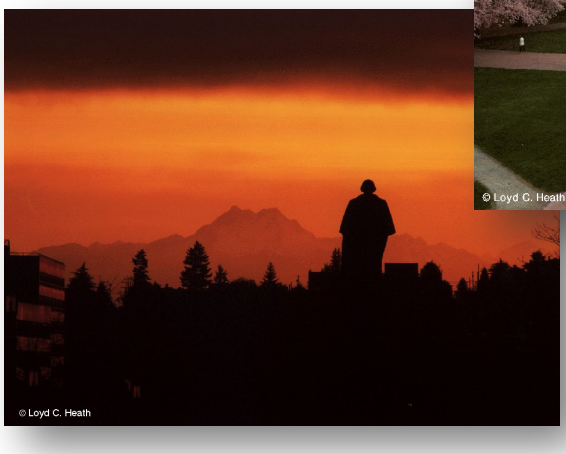
Northwest BIOMECHANICS 2023 Symposium

May 19-20, 2023
University of Washington
Seattle, WA

UNIVERSITY of WASHINGTON



An American Society of Biomechanics Regional Meeting

ASB American Society of Biomechanics
FOUNDED IN 1977

Northwest BIOMECHANICS 2023 Symposium

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Northwest BIOMECHANICS 2023 Symposium

Symposium Program

Friday, May 19, 2023: Alder Commons

1:00 - 1:30 pm	Registration
1:30 - 1:45 pm	Welcoming Remarks
1:45 - 3:00 pm	Podium Session: Human Development and Aging
3:00– 3:30 pm	Round-table Discussion (refreshments)
3:30 – 4:45 pm	Podium Session: Posture, Balance, and Falls
4:45 – 5:45 pm	Poster Session A
	Sponsored by the Mechanical Engineering Department of the University of Washington
6:30 – 9:00 pm	Dinner & Games (Husky Union Building (HUB))

Saturday, May 20, 2023: Alder Commons

8:00 – 8:30 am	Continental Breakfast
8:30 – 10:00 am	Podium Session: Running
10:00 – 11:00 am	Poster Session B
	Sponsored by the College on Engineering at the University of Washington
11:00 – 12:00 pm	ASB Keynote Address – David Nuckley
	Sponsored by the American Society of Biomechanics
12:00 – 1:15 pm	Lunch
1:15 – 2:30 pm	Podium Session: Sports and Performance
2:30 – 3:00 pm	Round-table Discussion (refreshments)
3:00 – 4:00 pm	Podium Session: Gait
4:00 – 4:15 pm	Awards and Closing Remarks

Northwest BIOMECHANICS 2023 Symposium

NWBS Keynote Address

David Nuckley

"Spine Biomechanics Research at the Intersection of Academe and Industry"

David Nuckley received his Bachelor's degree in Bioengineering from Syracuse University (1995) and his Ph.D. in Bioengineering from the University of Washington (2002). Dr. Nuckley was on faculty at the University of Washington (Research Assistant Professor 2002-2007) and the University of Minnesota (Assistant Professor 2008-2013) before moving to work in Industry for Zimmer (2013-2016) and now Stryker's Spine Division (2016-present). Dr. Nuckley's research focuses on the basic and clinically applied biomechanics of the spine. His research spans developmental through aging changes to the spine and includes experiments utilizing benchtop models, cadavers, human subjects, and computational simulations. He has performed NIH, CDC, and NHTSA funded research and has been part of the development of 4 spine medical device systems for the treatment of spinal disorders. David currently serves on the ORS Spine Section board and the ASTM Spine Committee, driving research within Industry.

Session Sponsor: American Society of Biomechanics

Northwest BIOMECHANICS 2023 Symposium

Podium Session 1: Human Development and Aging

Friday, May 19
1:45 - 3:00 pm

Moderators: Erin Mannen and JJ Hannigan

THE EFFECTS OF WEAKNESS, CONTRACTURE, AND ALTERED CONTROL ON WALKING ENERGETICS DURING CROUCH GAIT
Elijah C. Kuska and Katherine M. Steele

EFFECTS OF SPINAL STIMULATION AND INTERVAL TREADMILL TRAINING ON MOTOR CONTROL IN CHILDREN WITH CEREBRAL PALSY
Victoria M. Landrum, Charlotte D. Caskey, Siddhi Shrivastav, Kristie Bjornson, Chet T. Moritz, Katherine M. Steele

BONE DENSITY CHANGES ASSOCIATED WITH LUMBAR SPONDLYLOLISTHESIS
Brandon Khoo, Celeste Tavolaro, Scott Telfer

QUANTIFYING TODDLER EXPLORATION WITH POWERED MOBILITY IN SEATED AND STANDING POSTURES
Zaino NL, Ingraham KA, Hoffman ME, Feldner HA, Steele KM

MECHANICAL ENVIRONMENT AFFECTS MUSCLE UTILIZATION DURING INFANT ROLLING
Danielle N. Siegel, Safeer F. Siddicky, Wyatt D. Davis, and Erin M. Mannen

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Podium Session 2: Posture, Balance, and Falls

Friday, May 19
3:30 - 4:45 pm

Moderators: Kat Steele and Peter Cripton

DEVELOPMENT OF AN AUTOMATED FRAMEWORK FOR A TINYML-BASED FALL DETECTION SYSTEM
Mojtaba Mohasel, Lindsey Molina, Shane R. Wurdeman, Richard R. Neptune, Corey A. Pew

WHEELED WALKER USERS FALL SIDEWAYS AND BACKWARDS DURING TURNS AND TRANSFERS
Kimberly Nickerson, Kailey Diaz, Brittney Muir

DIFFERENT NEUROCOGNITIVE CONTROLS MODULATE OBSTACLE AVOIDANCE THROUGH PREGNANCY
Pegah Jamali, Kameron M. Kinkade, Asher Ericson, Ben Tyler, Shikha Prashad, Robert D. Catena

INVESTIGATING THE RELATIONSHIP BETWEEN LEG STRENGTH, MOBILITY, AND CENTER OF PRESSURE BALANCE IN OLDER ADULTS
Maya Holmen, Filip Fullerton, Katie Butte, Dale Cannavan

A BIOMECHANICAL CASE STUDY: NON-LINEAR RESPONSE OF THE PELVIS DURING A SIDEWAYS FALL IMPACT
E. Bliven, A. Fung, A. Baker, B. Helgason, P. Guy, P. Cripton

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Podium Session 3: Running

Saturday, May 20
8:30 - 10:00 am

Moderators: Calvin Kuo and Ravi Balasubramanian

ANKLE KINEMATICS OF SELF-SELECTED MAXIMAL AND TRADITIONAL SHOE RUNNERS
Traut, AG. Hannigan, JJ. Bartel, L. Burr, B. Pollard, CD.

EFFECT OF GRADED RUNNING ON LOWER EXTREMITY JOINT WORK ASYMMETRY
Rachel Robinson, Seth Donahue, Aida Chebbi, Michael Hahn

RUN MECHANICS IN INDIVIDUALS WITH RESOLVED PLANTAR FASCIITIS VERSUS NO HISTORY OF PLANTAR FASCIITIS
Lukas Krumpl, Nickolai J.P. Martonick, Joshua P. Bailey

INFLUENCE OF SHOE CUSHIONING ON SKELETAL AND MUSCULAR CONTRIBUTIONS TO LEG STIFFNESS PRE AND POST LONG HILLY RUN
Ashlyn Baird and James Becker

COMPARING PEAK ANTERIOR-POSTERIOR GROUND REACTION FORCES BETWEEN RECREATIONAL RUNNERS IN MAXIMAL AND TRADITIONAL SHOES
Lily Bartel, Andrew Traut, Bethany Burr, Christine Pollard, JJ Hannigan

A BIOMECHANICAL COMPARISON OF "SUPER" SPIKES TO A TRADITIONAL TRACK SPIKE IN COMPETITIVE LONG DISTANCE FEMALE RUNNERS
Christina Geisler and JJ Hannigan

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Podium Session 4: Sports and Performance

Saturday, May 20
1:15 - 2:30 pm

Moderators: Kayla Fewster and Corey Pew

UPPER LIMB MOVEMENT IN VIRTUAL AND REAL-WORLD ENVIRONMENTS
Spitzley, KA, Hoffman, Z, Perlman, SE, Karduna, AR

THE EFFECTS OF SUBSCAPULARIS TRIGGER POINT RELEASE ON ROTATOR CUFF FUNCTION
Nathan Allas, Liana Castaneda, Jared Hubbell, Katie Butte, and Dale Cannavan

SEX DIFFERENCES IN PLANTAR PRESSURE DISTRIBUTION IN SOCCER PLAYERS AFTER FATIGUE
Aymeric Feyfant, Emily Karolidis, Michael Hahn

BIOMECHANICAL CONTRIBUTORS TO HEAD IMPACT DURING FALLS IN MOUNTAIN BIKING
Rickie Ma, Sukhman Gosal, Gary Mann, Stephen Robinovitch

A LOOK AT KINEMATIC METRICS IN BOTH HALVES OF PLAYER GAMES IN WOMEN'S SOCCER
Suliat Yakubu and Calvin Kuo

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Podium Session 5: Gait

Saturday, May 20
3:00 - 4:00 pm

Moderators: Michael Pavol and Robert Catena

EFFECT OF COMMERCIAL PROSTHETIC FOOT STIFFNESS ON CONTRALATERAL KNEE LOADING AND PROSTHETIC FOOT-ANKLE BIOMECHANICS
Conrad Slater, Elizabeth Halsne, and David Morgenroth

UNEXPECTED UNDERFOOT PERTURBATIONS ELICIT CONSISTENT RESPONSES IN MEDIOLATERAL STABILITY DURING TURNING GAIT
Tyler Ho, Nicholas Kreter, Cameron Jensen, Peter Fino

COGNITIVE-MOTOR FUNCTION DURING JUMP LANDINGS FOLLOWING ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION
Fatemeh Aflatounian, Ezekiel Barden, James N. Becker, Keith A. Hutchison, Janet E. Simon, Dustin R. Grooms, and Scott M. Monfort

COMPARISON OF SEX-BASED BIOMECHANICAL MODELS TO A DEFAULT MODEL
Abigail R. Brittain, Cristian Sandino, and Tyler N. Brown

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Round-table Discussions

Friday, May 19
3:00 - 3:30 pm

and

Saturday, May 20
2:30 - 3:00 pm

Discussion Topics
• Managing Work /Life Balance • Choosing Between Academics And Industry • Choosing A Postdoc Position • Tips To Writing A Good Grant • Demystifying The Grant Review Process • Applying For, Securing, And Starting A Faculty Position • Can We Find Alternatives To Lecturing In Biomechanics? • Any Questions You Have

Dinner and Games Friday Night

Dinner on Friday night is at HUB Games in the basement of the Husky Union Building (HUB) on campus (see map). There will be bowling, pool tables, table tennis, and video games. This will be an excellent opportunity to make connections and have fun with NWBS colleagues.

WiFi

UW NetID: event0142, Password: C9c8_R7t8_P8z9

Northwest BIOMECHANICS 2023 Symposium

Poster Session A

Sponsored by the Mechanical Engineering Department of the University of Washington

Friday, May 19th
4:45-5:45 pm
Alder Commons

Poster #	
1	**ACUTE SKELETAL MUSCLE FATIGUE REDUCES CELLULAR PASSIVE AND ACTIVE STIFFNESS** Grace E. Privett, Austin W. Ricci, Jordan D. Cooper, Damien M. Callahan
2	**THE EFFECT OF INCREASED SENSORY FEEDBACK FROM NEUROMODULATION AND EXOSKELETON USE ON ANKLE CO-CONTRACTION IN CHILDREN WITH CEREBRAL PALSY** Charlotte D. Caskey, Siddhi Shrivastav, Heather Feldner, Kristie Bjornson, Chet T. Moritz, Katherine M. Steele
3	**ESTIMATING CERVICAL VERTEBRAL POSE FROM EXTERNAL MARKERS** Ozanich NR, Pascual FG, Vasavada AN
4	**MANIPULATING IMPLEMENT WEIGHT DURING WARM UPS TO INCREASE SHOT PUT PERFORMANCE** Klein, L. Graham, D. Whitten, J. McKibben, K., and Becker, J.
5	**AWARENESS OF VISUAL OFFSET REDUCES BUT DOES NOT ELIMINATE UPPER LIMB MOVEMENT ERRORS IN VIRTUAL REALITY** Motoki Sakurai and Andrew Karduna
6	**GROUND REACTION FORCE DIFFERENCES BETWEEN CONCRETE AND BARK SURFACES DURING OUTDOOR RUNNING** Anya Anand, Rachel Robinson, Michael Hahn
7	**QUADRICEPS STEADINESS AND JERKY KNEE MOTION FOR INDIVIDUALS WITH KNEE MUSCULOSKELETAL INJURY AND DISEASE** Nicholas L. Hunt, Matthew V. Robinett, Tyler N. Brown
8	**SOCCER CLEAT STUD SHAPE AND FATIGUE STATE IMPOSE SEX-SPECIFIC DIFFERENCES IN KNEE MECHANICS** Emily Karolidis, Michael E. Hahn

Northwest BIOMECHANICS 2023 Symposium

Poster Session A - cont.

9	**PEAK TORQUE LIMB COMPARISON AND KINESIOPHOBIA CORRELATION POST-ACLR SURGERY** Burr, B, Pollard, CD, Phillips, D, and Hannigan, JJ
10	**LOWER EXTREMITY JOINT WORK IN THE NIKE VAPORFLY NEXT% COMPARED TO MINIMALIST FOOTWEAR** Reyes, K, Jin, L, Westley, L, and Hannigan, JJ
11	**EVALUATING BETWEEN-LIMB DIFFERENCES IN CUTTING, DROP VERTICAL JUMPING, AND RUNNING BIOMECHANICS POST ACL-RECONSTRUCTION** Dozhier, H.D, Pollard, C.D, Hannigan, J.J.
12	**QUANTIFYING SPATIAL EXPLORATION OF TODDLERS WITH POWERED MOBILITY** Grace O'Connor, Miriam Roberts
13	**SAGITTAL PLANE TESTING FOR INFANT PRODUCT SAFETY: PROOF OF CONCEPT STUDY** Sarah Goldrod, Dr. Erin M Mannen
14	**KINEMATICS OF THE FIRST METATARSOPHALANGEAL JOINT: BAREFOOT VS SHOD** Eric Thorhauer, William R. Ledoux
15	**THE EFFECTS OF SPINAL STIMULATION AND INTERVAL TREADMILL TRAINING ON JOINT KINEMATICS IN CEREBRAL PALSY** Avocet Nagle-Christensen, Charlotte D. Caskey, Siddhi Shrivastav, Kristie Bjornson, Chet T. Moritz, Katherine M. Steele
16	**THE EFFECTS OF MUSCLE FATIGUE ON LOWER EXTREMITIES BIOMECHANICS DURING LAY-UP AND LANDING IN RECREATIONAL BASKETBALL PLAYERS** Brandon Yang, Li Jin
17	**CLUSTERING SOCCER ACTIVITIES ASSOCIATED WITH INJURY** Shealie Lock, Suliat Yakubu, Wendy Ma, Calvin Kuo
18	**EXAMINING HOW MIDSOLE MATERIAL IMPACTS CENTER OF PRESSURE TRAJECTORIES DURING TREADMILL RUNNING** Mackenzie N Pitts, Katherine M Steele, Cristine E Agresta

Poster Session A - cont.

19	**IDENTIFICATION OF TISSUE DAMAGE USING FINITE ELEMENT MODELS OF SPINAL CORD INJURY AND MACHINE LEARNING** Cesar Jimenez, Mohamad Narimani, and Carolyn Sparrey
20	**CADAVERIC SIMULATION OF FLATFOOT AND SURGICAL CORRECTIVE TECHNIQUES: THE EVANS VERSUS THE Z-OSTEOTOMY** Corey Wukelic, Grant C. Roush, Eric C. Whittaker, James Meeker, Kelly Apostle, Bruce J. Sangeorzan, William R. Ledoux
21	**QUANTIFYING THE ACTIVITY LEVELS OF TODDLERS WITH DOWN SYNDROME PLAYING IN A PARTIAL BODY WEIGHT SUPPORT SYSTEM** Mia E Hoffman, Reham Abuatiq, Katherine M Steele, and Heather A Feldner
22	**THICKNESS OF DUAL-DENSITY METAMATERIALS INFLUENCES 3D-PRINTED INSOLE PROPERTIES** Kimberly Nickerson, Ellen Li, Scott Telfer, William Ledoux, Brittney Muir
23	**EFFECTS OF SUBMAXIMAL TREADMILL RUNNING ON PLANTAR FASCIA PROPERTIES IN RESOLVED PLANTAR FASCIITIS INDIVIDUALS** Lukas Krumpl & Joshua P. Bailey
24	**SEX-DIFFERENCES IN THE BIOMECHANICS OF SOFT TISSUE OVER THE HIP: ANALYSIS OF MUSCLE ACTIVATION AND HIP REGION.** Fatemeh Khorami ; Carolyn J Sparrey
25	**SEEING PROGRESS: AN AUGMENTED REALITY SYSTEM FOR ASSESSING AND VISUALIZING BIOMECHANICS** Matthew A. Sielecki, Marianne S. Black
26	**NOVEL METHODS TO ASSESS INTERFRAGMENTARY MOTION IN DISTAL FEMUR FRACTURES: COMPUTED TOMOGRAPHY VALIDATION** Aerie Grantham, Elmer Vasquez, William D. Lack, William R. Ledoux
27	**EFFECTS OF SHOE CUSHIONING ON KNEE LOADING DURING DOWNHILL RUNNING** Lachlan Paige, Katie McKibben, Ashlyn Baird, Jim Becker
28	**VALIDATION OF BIPLANE FLUOROSCOPY BONE TRACKING** Nicholas Entress, Aerie Grantham, Eric Thorhauer, William R. Ledoux
29	**THE EFFECTS OF A MEDITATION INTERVENTION ON SELF-REPORTED SUBJECTIVE AND PHYSIOLOGICAL STRESS IN COLLEGE STUDENTS** Kara Lau, Sebastian Vargas, Rory McClelland, Katie Butte, Dale Cannavan

Poster Session A - cont.

30	**EFFECTS OF SURFACE STIFFNESS AND MASS ON HEAD IMPACT SEVERITY** Omid Vakili, Stephen N. Robinovitch
31	**PRELIMINARY DESIGN PROCESS FOR THE DEVELOPMENT OF A NEW ASSISTIVE WALKING DEVICE** Kailey Diaz, Kimberly Nickerson, and Brittney C. Muir
32	**ACUTE FATIGUE MODIFIES MUSCULOTENDINOUS STIFFNESS** J D Cooper, A W Ricci, D M Callahan
33	**EXPLORING THE EFFECT OF PHYSICAL ACTIVITY ON IN VIVO PASSIVE STIFFNESS IN THE LUMBAR SPINE** Chelsea M. Dumasal and Kayla M. Fewster
34	**EFFECT OF UNANTICIPATED CONSTRAINT ON LOWER EXTREMITY ENERGY ABSORPTION DURING JUMP LANDINGS FOLLOWING ACL RECONSTRUCTION** Brendan P. Silvia, Fatemeh Aflatounian, James N. Becker, Keith A. Hutchinson, Janet E. Simon, Dustin R. Grooms, and Scott M. Monfort
35	**OCCUPATIONAL THERAPIST'S PERSPECTIVES ON THE HARMONY EXOSKELETON FOR POST-STROKE REHABILITATION** Tiffani Teng, Claira Geller, Matthew Stutzenberger, Abbey Lacey, Ileana Howard, Brittney C. Muir
36	**COMPARING PEAK TIBIAL INTERNAL ROTATIONAL VELOCITY IN RECREATIONAL RUNNERS IN MAXIMAL AND TRADITIONAL SHOES** Ory, J, Traut, A, Bartel, L, Phillips, D, Pollard, C, Hannigan, J

Northwest BIOMECHANICS 2023 Symposium

Poster Session B

Sponsored by
The College of Engineering at
the University of Washington

Saturday, May 20th
10:00-11:00 am
Alder Commons

Poster #	
1	**KINEMATIC SEQUENCE DIFFERENCES BETWEEN TRAINED BASEBALL PLAYERS AND UNTRAINED ADOLESCENT INDIVIDUALS** Wukelic, CP, Machak, S, Gromeier, M, and Shultz, SP
2	**A ROBOTIC GAIT SIMULATOR USING A 6-DOF ROTOPOD CONTROLLED WITH SIMVITRO SOFTWARE FOR TESTING PROSTHETIC AND CADAVERIC FEET** William Lin, William R. Ledoux
3	**QUANTIFYING TENSION IN A VERTEBRAL BODY TETHERING SYSTEM FOR SCOLIOSIS TREATMENT** Phoebe Cain, Christy Farnsworth, Jason Caffrey, Tony Olmert, Erin Mannen, and Salil Upasani.
4	**TRANSPORT DYNAMICS IN THE RAT ACHILLES TENDON DEPEND ON PARTICLE SIZE** Forer, JM, Pacheco, YC, Link, K, Hahn, ME, Willett, NJ
5	**QUANTIFYING FACET JOINT CAPSULE STRAIN IN THE CERVICAL SPINE** Isabel D. Evans, Jeff M. Barrett, Kayla M. Fewster
6	**EFFECT OF SPEED ON LOWER LIMB JOINT STIFFNESS DURING DECLINE RUNNING** Lee S., Robinson R., Chebbi A., Hahn M.
7	**VALIDITY AND RELIABILITY OF A SMARTPHONE IN MEASURING POSTURAL STABILITY** Lovekin, Emily; Lugade, Vipul; Davis, April; San Juan, Jun
8	**EFFECTS OF PRIOR ACLR AND COGNITIVE CHALLENGE ON POSTURAL CONTROL FOLLOWING A MEDIAL SIDE HOP** Kaylan J Wait, Fatemah Aflatounian, Janet E Simon, Dustin R Grooms, James N Becker, Keith A Hutchison, Scott M Monfort

Northwest BIOMECHANICS 2023 Symposium

Poster Session B - cont.

9	**EXPLORING CLINICIAN PERSPECTIVE ON STANDARD OF CARE AND 3D-PRINTED ACCOMMODATIVE INSOLES** Leo Gagnon, Kimberly Nickerson, Christina Carranza, Brittney Muir
10	**QUANTITATIVE EVALUATION OF NOVEL HYBRID ANKLE FOOT ORTHOTIC DESIGN** Gagnon, L, Muir, B, Klute, G, Cyr, K, Walling, K and Rogers, E
11	**EFFECTS OF MANUAL MOBILIZATIONS ON FOOT KINEMATICS AND MUSCLE ACTIVITY** Riley Hagger, Jackson Golden, James Becker, Forest Allan, Lachlan Paige
12	**RELIABILITY OF LOW- AND HIGH-TECH METHODS TO QUANTIFY RUNNING FOOTWEAR FEATURES OF AN ERGOGENIC SHOE: A PRELIMINARY ANALYSIS** Katie Landwehr, Sarah Shultz, Cristine Agresta
13	**THE EFFECT OF SPEED ON ANKLE JOINT MECHANICS DURING INCLINE TREADMILL RUNNING** Hidetaka Hayashi, Rachel Robinson, Seth Donahue, Aida Chebbi, Michael Hahn
14	**DOES SUTURE TYPE OR CONFIGURATION MATTER IN PERCUTANEOUS ACHILLES TENDON REPAIR?** Hana Keller, Scott Telfer, Kenneth Chin, Nate Benner, Grant Branam
15	**INFANT CARRIAGE STRATEGIES UTILIZED BY NULLIPAROUS WOMEN WHILE NEGOTIATING STAIRS** Holly Olvera, Abigail R. Brittain, Erin M. Mannen, Safeer F. Siddicky
16	**NEUROFENCING: STUDY OF BRAIN, HEART AND MUSCLE NEURON ACTION POTENTIALS TO IMPROVE FENCER PERFORMANCE** Supriya Nair
17	**EFFECT OF 3-D PRINTED CUSTOM ACCOMMODATIVE INSOLES ON BALANCE DURING WALKING** Mathew Sunil Varre, Patrick Aubin, Jing-Sheng Li, Brittney C. Muir
18	**THREE-DIMENSIONAL ANALYSIS OF WINDLASS MECHANISM USING WEIGHTBEARING COMPUTED TOMOGRAPHY IN PATIENTS WITH HALLUX RIGIDUS AND HEALTHY VOLUNTEERS** Takumi Kihara

Northwest BIOMECHANICS 2023 Symposium

Poster Session B - cont.

19	**DEVELOPING COMPUTATIONAL MODELS OF UNILATERAL CERVICAL CONTUSIONS IN RATS TO QUANTIFY INJURY BIOMECHANICS** Dexter L. Zamora, Cesar Jimenez, Shawn Liu, Carolyn J. Sparrey
20	**LOWER-LIMB MUSCLE CO-ACTIVATION DOES NOT DIFFER BY AGE DURING DISTRACTED WALKING OVER CHALLENGING SURFACES** Matthew V. Robinett, Nicholas L. Hunt, Amy E. Holcomb, Clare K. Fitzpatrick, and Tyler N. Brown
21	**MORPHOLOGICAL PROPERTIES OF THE PLANTAR FASCIA: INTERVAL VS. CONTINUOUS RUNNING** Margaret A. Lewis, Lukas Krumpl, Joshua P. Bailey
22	**EVALUATING EFFICACY OF A FORCE-AMPLIFYING IMPLANTABLE MECHANISM IN A LIVE RABBIT FOREARM MODEL USING ELECTRICAL STIMULATION TO GENERATE MUSCLE TWITCHES** Gabriella I Justen, Hantao Ling, Leah Streb, Jennifer Sargent, and Ravi Balasubramanian
23	**MYTH OR SCIENCE: INCREASED GLUTEUS MAXIMUS ACTIVATION IMPROVES RUNNING ECONOMY** Ricardo Sanchez, Carlos Hernandez, Justus Ortega
24	**EFFECTS OF A TOTAL MOTION RELEASE (TMR®) INTERVENTION ON ASYMMETRICAL MOVEMENT PATTERNS** Nickolai Martonick, Joshua Bailey
25	**EVALUATING FRICTIONAL FORCES AT THE TENDON-IMPLANT INTERFACE WITH AND WITHOUT A LUBRICIOUS NON-FOULING COATING** Ajay Zubin Ratty, Hantao Ling, Ravi Balasubramanian
26	**EVALUATING THE BIOMECHANICAL EFFICACY OF AN ORTHOPEDIC IMPLANT IN AN IN-VIVO RABBIT MODEL** Mockel, Stayce A; Bestel, Hans A; Balasubramanian, Ravi
27	**MEASURING NATURAL DIVING KINEMATICS** Alex Liu, Hayden Sidney-Phillips, Jean-Sébastien Blouin, Peter Cripton, Gunter Siegmund
28	**MECHANICAL CHARACTERIZATION OF PAVLIK HARNESS STRAPS** Sabrina L Mead, Erin M Mannen

Northwest BIOMECHANICS 2023 Symposium

Poster Session B - cont.

29	**EFFECTS OF SIDE LOAD CARRIAGE ON LIMB LOADING AND UNLOADING IN TRANSTIBIAL AMPUTEES** Satria Ardiuanauri, Krista M. Cyr, Glenn K. Klute, Richard R. Neptune
30	**SURFACE, BUT NOT AGE IMPACT LOWER LIMB JOINT WORK DURING WALK AND STAIR ASCENT** Thomas A. Wenzel, Nicholas L. Hunt, Amy E. Holcomb, Clare K. Fitzpatrick, Tyler N. Brown
31	**EFFECTS OF CHANGING HIP POSITION ON SCAPULAR KINEMATICS** Sarah Schlittler, Dave Suprak, Lorrie Brilla, Jun San Juan
32	**EVALUATING EXISTING TRANSTIBIAL AMPUTEE MUSCULOSKELETAL MODELS FOR USE ON FEMALE POPULATIONS: A SYSTEMATIC REVIEW** Tess M.R. Carswell, Misha Hasan, and Joshua W. Giles
33	**STUDYING SEX DIFFERENCES IN THE PROSTHETIC NEEDS AND PRIORITIES OF LOWER LIMB AMPUTEES BY ADAPTING THE PROSTHESIS EVALUATION QUESTIONNAIRE** Tess M.R. Carswell, Helen Monkman, and Joshua W. Giles
34	**ACUTE EFFECTS OF A NON-EXHAUSTIVE LONG RUN ON METATARSAL BONE LOADS** Kaitlyn McKibben, Megan Peach, and James Becker
35	**MEASURING PLANTAR TISSUE STIFFNESS WITH THE ULTRASHOE (AN ULTRASOUND EMBEDDED SANDAL)** Ellen Y. Li, Scott Telfer, Brittney Muir, William R. Ledoux
36	**MACHINE LEARNING METHODS FOR FACILITATING ANALYSIS OF KANGAROO RAT HOPPING** Ozanich NR, Tamakloe VT, McGowan CP, and Lin DC