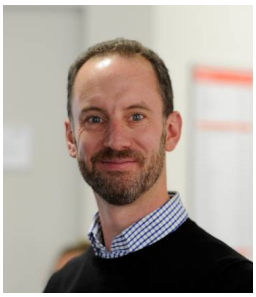
Curriculum Vitae — William R. Taylor

Personal Information



Last name: Taylor
First name: William R.
Date of birth: 1st April 1972

Email: bt@ethz.ch

Position: Professor of Movement Biomechanics
Head: Laboratory for Movement Biomechanics
Gloriastrasse 37/39, 8092 Zürich
ETH Zürich

Professional career

2024 – present	Head of Department D-HEST, ETH Zürich
2022 – 2024	Deputy Head of Department D-HEST, ETH Zürich
2015 – 2017	Director, Institute for Biomechanics, ETH Zürich
2013 – 2015	Vice Director, Institute for Biomechanics, ETH Zürich
2012 – Present	Professor for Movement Biomechanics, Institute for Biomechanics, ETH Zürich
2006 – 2012	Head of Research Group „Functional Analysis“, Charité – Universitätsmedizin Berlin, Germany
2000 – 2006	Postgraduate Scientific Research Officer, Charité – Universitätsmedizin Berlin, Germany
1999 – 2000	Postdoctoral Research Officer, Biomechanics Research Lab, Prince of Wales Hospital, Sydney
1999	Postdoctoral Research Officer, Sulzer Medica AG, Winterthur, Switzerland

Education

1995 – 1999	Ph.D. in Biomechanical Engineering from the University of Bath, UK
1990 – 1994	Degree in Mechanical Engineering (B.Eng. Hons) from the University of Bath, UK

Selected Recent Projects as Leading Investigator

Innosuisse & Industrial research funding (SwissBiomechanics AG)
Personalized Orthotic Footwear for Relieving Knee Pain and Retarding Progression of Knee Osteoarthritis through Balancing Dynamic Knee Loading (Innosuisse funding application no. 104.374 IP-LS)
Zhang Q, Reichenbach S, **Taylor WR**
Total project funding **CHF 737'240** (1.3.2023 – 28.2.2026)

HMZ LOOP Zürich funding
StimuLOOP: Precision sensorimotor neurorehabilitation through personalized stimulation loops
Luft A, **Taylor WR**, Vogt J, Huber R, Gassert R
Total project funding **5 mCHF** – value for LMB **814 kCHF** (1.9.2021 – 30.8.2026)

Innosuisse & Industrial research funding (Zimmer Biomet)
Creation of Digital Patient Twins for optimal TKA implantation
Taylor WR, Seebeck J, Vogl F, Schütz P
Total project funding **CHF 1’000’868** (1.5.2021 – 33.4.2024)

ETH Research Grant (ETH-15 21-2)
Novel approaches to understand orthopaedic deficits in Cerebral Palsy
Taylor WR, Schütz P
Total project funding **CHF 220’800** (1.9.2022 – 31.08.2025)

Innosuisse Translational Research Funding (47195.1 IP-LS)
IDIAG 4D Spine: A new low cost, dynamic 3D body scanner for clinical analysis and monitoring of spine pathologies and posture
Taylor WR, Schär C, Koch V
Total project funding **CHF 923’650** (1.2.2021 – 31.1.2025)

Singapore ETH Centre (SEC), Singapore
“Future Health Technologies”
PI Module 1: **Taylor WR**
Total project funding **50mSGD -** value for Module 1 ca. **10’140’325 SGD (7.275mCHF)** (1.3.2020 – 29.2.2025)

Industrial research funding (Sonova)
Ear mounted sensors for assessing fall risk
Singh NB, Ravi D, **Taylor WR**
Total project funding **CHF 836'000** (1.2.2020 – 31.1.2024)

SNF Research Funding (Division II)
Stretching the Limits of In Vivo Measurement: A wireless implantable sensor technology to quantify soft tissue strain during dynamic movements
Taylor WR, Smith C
Total project funding **CHF 562'126** (1.12.2018 – 30.11.2021)

Research funding from Invacare International
Postural control and control through posture: Embodied interaction and integrated therapies in wheelchairs
Taylor WR, Zemp R
Total project funding **CHF 352'193** (1.9.2018 – 30.8.2021)

SNF R'Equip equipment grant (Nr. 177170)
Dynamic dual-plane video-fluoroscopy for driving critical research in Musculoskeletal Biomechanics
Taylor WR
Total project funding **CHF 401'831** (1.12.2017 – 31.11.2018)

ETH Research Grant (ETH-18 16-2)
The MouseGait Project: Stretchable electronics based on pressure sensor arrays for quantitative characterisation of rodent gait and function
Taylor WR, Vörös J
Total project funding **CHF 390'800** (1.4.2017 – 31.3.2020)

Research grant funded by Wings for Life
ZürichMOVE: Wireless sensor technology to enrich assessments and outcome measures for clinical trials
Curt A, Gassert R, **Taylor WR**
Total project funding **€264'000** (1.7.2016 – 30.5.2018)

Research Grant funded by the Commission for Technology and Innovation (CTI)
Sitting Categorisation Technology for Wheelchair Users to prevent Pressure Ulcers
Taylor WR, Curt A, Adelsberger R, Plaschko R, Zemp R
Total project funding **CHF 286'473** (1.9.2016 - 31.8.2018)

Research Grant funded by the Commission for Technology and Innovation (KTI no. 17078.1 PFLS-LS)
Proof of concept for medial stability in the GMK Sphere knee prosthesis in vivo
List R, Schütz P, **Taylor WR**
Total project funding **CHF 249'782** (1.9.2014 - 31.0.2017)

Research Grant funded by Medacta International S.A.
Understanding GMK Sphere implant tibio-femoral kinematics by means of dynamic video-fluoroscopy
List R, **Taylor WR**
Total project funding **CHF 250'000** (1.9.2014 - 31.08.2017)

Editorial Board Member

2015 – present Editorial Board member in Journal "Functional Morphology and Kinesiology"
2014 – present Editorial Board member in Journal "Geriatrics"
2010 – present Editorial board member in Journal "Medical Engineering and Physics"

Selected Honours

SM Perren Award for European Society of Biomechanics best paper 2022 (Dreyer et at 2022)
Clinical Biomechanics Award for ISB Best Paper (Postolka et al. 2021)
Elected as a 2021 Fellow of the EAMBES society
European Society of Biomechanics SM Perren award for best scientific paper 2014
Deutsche Gesellschaft für Orthopädie und Unfallchirurgie Grundlagenforschungspreis 2013
ORMED GmbH Prize for best paper presentation 2011
AXIS prize for clinical research in orthopaedics and trauma surgery 2009

Other Contributions

Served as Vice President and Treasurer of the European Society of Biomechanics (2008-2016)
Executive board and Representative of the ETH Department D-HEST on the Teaching Commission (KdL)
Member of the ETH University Assembly
Member of ETH Ethics Commission

Publications

Researcher ID:	F-8692-2010
Total no. of peer-reviewed publications:	over 210
H-index:	Web of Science 40 / 53 Google Scholar
Citations:	Web of Science >5100 / >10200 Google Scholar
ORCID:	https://orcid.org/0000-0003-4060-4098

Selected Recent Publications [2019-2023]

[1] R.M.S. Visscher, J. Murer, F. Fahimi, E. Viehweger, **W.R. Taylor**, R. Brunner, and N.B. Singh, Identifying treatment non-responders based on pre-treatment gait characteristics - A machine learning approach. Heliyon 9 (2023) e21242.

[2] R.M.S. Visscher, M. Gwerder, E. Viehweger, **W.R. Taylor**, R. Brunner, and N.B. Singh, Can developmental trajectories in gait variability provide prognostic clues in motor adaptation among children with mild cerebral palsy? A retrospective observational cohort study. Front Hum Neurosci 17 (2023) 1205969.

[3] R. Togni, R. Zemp, P. Kirch, S. Pluss, R.J.K. Vegter, and **W.R. Taylor**, Steering-by-leaning facilitates intuitive movement control and improved efficiency in manual wheelchairs. J Neuroeng Rehabil 20 (2023) 145.

[4] R. Togni, M. Muller, S. Pluss, **W.R. Taylor**, and R. Zemp, A 2D lightweight instrumented wheel for assessing wheelchair functionality/activity. J Rehabil Assist Technol Eng 10 (2023) 20556683231155198.

[5] R. Togni, K. Disch, M. Pluss, I. Lerch, R. Zemp, and **W.R. Taylor**, Steering-by-leaning: Feasibility of Utilising Dynamic Backrests to Control Steering in Manual Wheelchairs. J Rehabil Med 55 (2023) jrm00382.

[6] E. Rothenfluh, S. Jain, R. Guggenberger, **W.R. Taylor**, and S.H. Hosseini Nasab, The influence of partial union on the mechanical strength of scaphoid fractures: a finite element study. J Hand Surg Eur Vol 48 (2023) 435-444.

[7] L. Rao, N. Horn, N. Meister, S. Preiss, **W.R. Taylor**, A. Santuz, and P. Schutz, Comparable in vivo joint kinematics between self-reported stable and unstable knees after TKA can be explained by muscular adaptation strategies: A retrospective observational study. Elife 12 (2023).

[8] A. Ortigas Vasquez, **W.R. Taylor**, A. Maas, M. Woiczinski, T.M. Grupp, and A. Sauer, A frame orientation optimisation method for consistent interpretation of kinematic signals. Sci Rep 13 (2023) 9632.

[9] K. Minta, G. Colombo, **W.R. Taylor**, and V.R. Schinazi, Differences in fall-related characteristics across cognitive disorders. Front Aging Neurosci 15 (2023) 1171306.

[10] P. Kneifel, P. Moewis, P. Damm, P. Schutz, J. Dymke, **W.R. Taylor**, G.N. Duda, and A. Trepczynski, Patellar tendon elastic properties derived from in vivo loading and kinematics. J Biomech 151 (2023) 111549.

[11] J. Kloeckner, R.M.S. Visscher, **W.R. Taylor**, E. Viehweger, and E. De Pieri, Prediction of ground reaction forces and moments during walking in children with cerebral palsy. Front Hum Neurosci 17 (2023) 1127613.

[12] Y. Kim, N. Yu, Y.E. Jang, E. Lee, Y. Jung, D.J. Lee, **W.R. Taylor**, H. Jo, J. Kim, S. Lee, and S.W. Kang, Conserved miR-370-3p/BMP-7 axis regulates the phenotypic change of human vascular smooth muscle cells. Sci Rep 13 (2023) 2404.

[13] J. Kettinen, H. Tikkanen, M. Hiltunen, A. Murray, N. Horn, **W.R. Taylor**, and M. Venojarvi, Cognitive and biomarker responses in healthy older adults to a 18-hole golf round and different walking types: a randomised cross-over study. BMJ Open Sport Exerc Med 9 (2023) e001629.

[14] M. Kaiser, T. Brusa, M. Wyss, S. Cukovic, M. Bertsch, **W.R. Taylor**, and V.M. Koch, Minimal Required Resolution to Capture the 3D Shape of the Human Back-A Practical Approach. Sensors (Basel) 23 (2023).

[15] M. Heyland, D. Deppe, M.J. Reisener, P. Damm, **W.R. Taylor**, S. Reinke, G.N. Duda, and A. Trepczynski, Lower-limb internal loading and potential consequences for fracture healing. Front Bioeng Biotechnol 11 (2023) 1284091.

[16] M. Febrer-Nafria, M.J. Dreyer, A. Maas, **W.R. Taylor**, C.R. Smith, and S.H. Hosseini Nasab, Knee kinematics are primarily determined by implant alignment but knee kinetics are mainly influenced by muscle coordination strategy. J Biomech 161 (2023) 111851.

[17] M.J. Dreyer, B. Weisse, J.I. Contreras Raggio, R. Zboray, **W.R. Taylor**, S. Preiss, and N. Horn, The influence of implant design and limb alignment on in vivo wear rates of fixed-bearing and rotating-platform knee implant retrievals. J Orthop Res (2023).

[18] M.J. Dreyer, P. Kneifel, S.H. Hosseini Nasab, B. Weisse, and **W.R. Taylor**, A novel method to accurately recreate in vivo loads and kinematics in computational models of the knee. Comput Methods Biomech Biomed Engin (2023) 1-7.

[19] F.M. Bossuyt, S. Abramovic, T. Leonard, A. Sawatsky, C.R. Smith, **W.R. Taylor**, W. Michael Scott, and W. Herzog, The non-intuitive, in-vivo behavior of aponeuroses in a unipennate muscle. J Biomech 147 (2023) 111430.

[20] N.C. Adam, C.R. Smith, W. Herzog, A.A. Amis, A. Arampatzis, and **W.R. Taylor**, In Vivo Strain Patterns in the Achilles Tendon During Dynamic Activities: A Comprehensive Survey of the Literature. Sports Med Open 9 (2023) 60.
[21] R. Visscher, N. Hasler, M. Freslier, N.B. Singh, **W.R. Taylor**, R. Brunner, and E. Rutz, Long-term follow-up after multilevel surgery in cerebral palsy. Arch Orthop Trauma Surg 142 (2022) 2131-2138.
[22] R. Togni, A. Kilchenmann, A. Proffe, J. Mullarkey, L. Demko, **W.R. Taylor**, and R. Zemp, Turning in Circles: Understanding Manual Wheelchair Use Towards Developing User-Friendly Steering Systems. Front Bioeng Biotechnol 10 (2022) 831528.
[23] L. Rao, **W.R. Taylor**, N. Horn, R. List, S. Preiss, and P. Schutz, Can tibio-femoral kinematic and kinetic parameters reveal poor functionality and underlying deficits after total knee replacement? A systematic review. Knee 34 (2022) 62-75.
[24] B. Postolka, **W.R. Taylor**, R. List, S.F. Fucentese, P.P. Koch, and P. Schutz, **ISB clinical biomechanics award winner 2021**: Tibio-femoral kinematics of natural versus replaced knees - A comparison using dynamic videofluoroscopy. Clin Biomech (Bristol, Avon) 96 (2022) 105667.
[25] B. Postolka, **W.R. Taylor**, K. Datwyler, M.O. Heller, R. List, and P. Schutz, Interpretation of natural tibio-femoral kinematics critically depends upon the kinematic analysis approach: A survey and comparison of methodologies. J Biomech 144 (2022) 111306.
[26] A. Ortigas Vasquez, A. Maas, R. List, P. Schutz, **W.R. Taylor**, and T.M. Grupp, A Framework for Analytical Validation of Inertial-Sensor-Based Knee Kinematics Using a Six-Degrees-of-Freedom Joint Simulator. Sensors (Basel) 23 (2022).
[27] Y.K. Kim, R.M.S. Visscher, E. Viehweger, N.B. Singh, **W.R. Taylor**, and F. Vogl, A deep-learning approach for automatically detecting gait-events based on foot-marker kinematics in children with cerebral palsy-Which markers work best for which gait patterns? PLoS One 17 (2022) e0275878.
[28] S.H. Hosseini Nasab, C.R. Smith, A. Maas, A. Vollenweider, J. Dymke, P. Schutz, P. Damm, A. Trepczynski, and **W.R. Taylor**, Uncertainty in Muscle-Tendon Parameters can Greatly Influence the Accuracy of Knee Contact Force Estimates of Musculoskeletal Models. Front Bioeng Biotechnol 10 (2022) 808027.
[29] S. Hodel, B. Postolka, A. Flury, P. Schutz, **W.R. Taylor**, L. Vlachopoulos, and S.F. Fucentese, Influence of Bone Morphology on In Vivo Tibio-Femoral Kinematics in Healthy Knees during Gait Activities. J Clin Med 11 (2022).
[30] I. Fleps, H. Palsson, A. Baker, W. Enns-Bray, H. Bahaloo, M. Danner, N.B. Singh, **W.R. Taylor**, S. Sigurdsson, V. Gudnason, S.J. Ferguson, and B. Helgason, Finite element derived femoral strength is a better predictor of hip fracture risk than aBMD in the AGES Reykjavik study cohort. Bone 154 (2022) 116219.
[31] M.J. Dreyer, A. Trepczynski, S.H. Hosseini Nasab, I. Kutzner, P. Schutz, B. Weisse, J. Dymke, B. Postolka, P. Moewis, G. Bergmann, G.N. Duda, **W.R. Taylor**, P. Damm, and C.R. Smith, **European Society of Biomechanics S.M. Perren Award 2022**: Standardized tibio-femoral implant loads and kinematics. J Biomech 141 (2022) 111171.
[32] V. Castonguay-Siu, and **W.R. Taylor**, Optimizing Backrest Geometry to Minimize Interfacial Pressure Concentrations in the Mid-to-Lumbar Region During Leg Press Resistance Training. J Biomech Eng 144 (2022).
[33] Q. Zhang, N.C. Adam, S.H. Hosseini Nasab, **W.R. Taylor**, and C.R. Smith, Techniques for In Vivo Measurement of Ligament and Tendon Strain: A Review. Ann Biomed Eng 49 (2021) 7-28.
[34] Q. Zhang, N.C. Adam, S. Hosseini Nasab, **W.R. Taylor**, and C.R. Smith, Techniques for in vivo measurement of ligament and tendon strain: a review. Annals of Biomedical Engineering 49 (2021) 7-28.
[35] R.M.S. Visscher, S. Sansgiri, M. Freslier, J. Harlaar, R. Brunner, **W.R. Taylor**, and N.B. Singh, Towards validation and standardization of automatic gait event identification algorithms for use in paediatric pathological populations. Gait Posture 86 (2021) 64-69.
[36] R.M.S. Visscher, M. Freslier, F. Moissenet, S. Sansgiri, N.B. Singh, E. Viehweger, **W.R. Taylor**, and R. Brunner, Impact of the Marker Set Configuration on the Accuracy of Gait Event Detection in Healthy and Pathological Subjects. Front Hum Neurosci 15 (2021) 720699.
[37] R.M. Visscher, S. Sansgiri, M. Freslier, J. Harlaar, R. Brunner, **W.R. Taylor**, and N.B. Singh, Towards validation and standardization of automatic gait event identification algorithms for use in paediatric pathological populations. Gait & Posture 86 (2021) 64-69.
[38] R. Visscher, N. Hasler, M. Freslier, N.B. Singh, **W.R. Taylor**, R. Brunner, and E. Rutz, Long-term follow-up after multilevel surgery in cerebral palsy. Archives of Orthopaedic and Trauma Surgery (2021) 1-8.
[39] A. Trepczynski, P. Moewis, P. Damm, P. Schutz, J. Dymke, H. Hommel, **W.R. Taylor**, and G.N. Duda, Dynamic Knee Joint Line Orientation Is Not Predictive of Tibio-Femoral Load Distribution During Walking. Front Bioeng Biotechnol 9 (2021) 754715.

[40] T. Roth, S. Rahm, A. Jungwirth-Weinberger, J. Süess, R. Sutter, F. Schellenberg, **W.R. Taylor**, J. Snedeker, J. Widmer, and P. Zingg, Restoring range of motion in reduced acetabular version by increasing femoral antetorsion–What about joint load? Clinical Biomechanics (2021) 105409.
[41] D.K. Ravi, C.C. Heimhofer, **W.R. Taylor**, and N.B. Singh, Adapting Footfall Rhythmicity to Auditory Perturbations Affects Resilience of Locomotor Behavior: A Proof-of-Concept Study. Front Neurosci 15 (2021) 678965.
[42] D.K. Ravi, C.R. Baumann, E. Bernasconi, M. Gwerder, N.K. Ignasiak, M. Uhl, L. Stieglitz, **W.R. Taylor**, and N.B. Singh, Does Subthalamic Deep Brain Stimulation Impact Asymmetry and Dyscoordination of Gait in Parkinson's Disease? Neurorehabil Neural Repair 35 (2021) 1020-1029.
[43] D.K. Ravi, M. Bartholet, A. Skiadopoulos, J.A. Kent, J. Wickstrom, **W.R. Taylor**, N.B. Singh, and N. Stergiou, Rhythmic auditory stimuli modulate movement recovery in response to perturbation during locomotion. J Exp Biol 224 (2021).
[44] S.H. Nasab, C. Smith, B. Postolka, P. Schütz, R. List, and W. Taylor, In Vivo Elongation Patterns of the Collateral Ligaments in Healthy Knees During Functional Activities. JBJS (2021) 10.2106.
[45] T. Limam, F. Vogl, and **W.R. Taylor**, Technologies and Sensor Design for the Measurement of Ground Reaction Forces in Mice: A Review. Biomechanics 1 (2021) 53-72.
[46] K. Kuruvithadam, M. Menner, **W.R. Taylor**, M.N. Zeilinger, L. Stieglitz, and M. Schmid Daners, Data-Driven Investigation of Gait Patterns in Individuals Affected by Normal Pressure Hydrocephalus. Sensors (Basel) 21 (2021).
[47] M. Hubli, R. Zemp, U. Albisser, F. Camenzind, O. Leonova, A. Curt, and **W.R. Taylor**, Feedback improves compliance of pressure relief activities in wheelchair users with spinal cord injury. Spinal cord 59 (2021) 175-184.
[48] S.H. Hosseini Nasab, C.R. Smith, B. Postolka, P. Schutz, R. List, and **W.R. Taylor**, In Vivo Elongation Patterns of the Collateral Ligaments in Healthy Knees During Functional Activities. J Bone Joint Surg Am 103 (2021) 1620-1627.
[49] R. Brunner, **W.R. Taylor**, and R.M.S. Visscher, Restoration of Heel-Toe Gait Patterns for the Prevention of Asymmetrical Hip Internal Rotation in Patients with Unilateral Spastic Cerebral Palsy. Children (Basel) 8 (2021).
[50] H. Boeth, R. Biesen, J. Hollnagel, S. Herrmann, R.M. Ehrig, L. Pelli, **W.R. Taylor**, G.N. Duda, and F. Buttgereit, Quantification of morning stiffness to assess disease activity and treatment effects in rheumatoid arthritis. Rheumatology (2021).
[51] F. Vogl, S. Greger, P. Favre, **W.R. Taylor**, and P. Thistlethwaite, Differentiation between mechanically loose and fixed press-fit implants using quantitative acoustics and load self-referencing: A phantom study on shoulder prostheses in polyurethane foam. PloS one 15 (2020) e0233548.
[52] W. Taylor, and S. Clift, Swelling as an approach to the simulation of cortical bone remodelling, Computer Methods in Biomechanics & Biomedical Engineering–2, CRC Press, 2020, pp. 263-269.
[53] P. Schutz, W. Taylor, and B. Postolka, Kinematic evaluation of the GMK sphere implant during gait activities: a dynamic videofluoroscopy study (vol 37, pg 2337, 2019). JOURNAL OF ORTHOPAEDIC RESEARCH 38 (2020) 2083-2083.
[54] M.G. Sayers, S.H. Nasab, C. Bachem, **W.R. Taylor**, R. List, and S. Lorenzetti, The effect of increasing heel height on lower limb symmetry during the back squat in trained and novice lifters. BMC Sports Science, Medicine and Rehabilitation 12 (2020) 1-11.
[55] M.G. Sayers, C. Bachem, P. Schütz, **W.R. Taylor**, R. List, S. Lorenzetti, and S.H. Nasab, The effect of elevating the heels on spinal kinematics and kinetics during the back squat in trained and novice weight trainers. Journal of sports sciences 38 (2020) 1000-1008.
[56] M. Sayers, The effect of increasing heel height on lower limb. (2020).
[57] S. Sansgiri, R. Visscher, N. Singh, M. Freslier, J. Harlaar, W. Taylor, and R. Brunner, A comparison of clinically and kinematically identified spatio-temporal parameters in cerebral palsy gait. Gait & Posture 81 (2020) 321-322.
[58] D. Renggli, C. Graf, N. Tachatos, N. Singh, M. Meboldt, **W.R. Taylor**, L. Stieglitz, and M. Schmid Daners, Wearable inertial measurement units for assessing gait in real-world environments. Frontiers in physiology 11 (2020) 90.
[59] D.K. Ravi, V. Marmelat, **W.R. Taylor**, K.M. Newell, N. Stergiou, and N.B. Singh, Assessing the temporal organization of walking variability: a systematic review and consensus guidelines on detrended fluctuation analysis. Frontiers in physiology 11 (2020) 562.
[60] D.K. Ravi, M. Gwerder, N.K. Ignasiak, C.R. Baumann, M. Uhl, J.H. van Dieën, **W.R. Taylor**, and N.B. Singh, Revealing the optimal thresholds for movement performance: a systematic review and meta-analysis to benchmark pathological walking behaviour. Neuroscience & Biobehavioral Reviews 108 (2020) 24-33.

[61] B. Postolka, P. Schütz, S.F. Fucentese, M.A. Freeman, V. Pinskerova, R. List, and **W.R. Taylor**, Tibio-femoral kinematics of the healthy knee joint throughout complete cycles of gait activities. Journal of Biomechanics 110 (2020) 109915.
[62] B. Postolka, R. List, B. Thelen, P. Schütz, **W.R. Taylor**, and G. Zheng, Evaluation of an intensity-based algorithm for 2D/3D registration of natural knee videofluoroscopy data. Medical engineering & physics 77 (2020) 107-113.
[63] B. Postolka, Natural Knee Kinematics-The Role of Limb Alignment and Activity on Knee Joint Motion, ETH Zurich, 2020.
[64] Z.I. Nejad, K. Khalili, S.H.H. Nasab, P. Schütz, P. Damm, A. Trepczynski, **W.R. Taylor**, and C.R. Smith, The capacity of generic musculoskeletal simulations to predict knee joint loading using the CAMS-knee datasets. Annals of biomedical engineering 48 (2020) 1430-1440.
[65] S.H. Nasab, C. Smith, P. Schütz, P. Damm, A. Trepczynski, R. List, and **W.R. Taylor**, Length-change patterns of the collateral ligaments during functional activities after Total knee Arthroplasty. Annals of biomedical engineering 48 (2020) 1396-1406.
[66] S. Lorenzetti, M. Ostermann, F. Zeidler, P. Zimmer, L. Jentsch, R. List, **W.R. Taylor**, and F. Schellenberg, How to squat? Effects of various stance widths, foot placement angles and level of experience on knee, hip and trunk motion and loading (vol 10, 14, 2018). BMC SPORTS SCIENCE MEDICINE AND REHABILITATION 12 (2020).
[67] S. Lorenzetti, M. Ostermann, F. Zeidler, P. Zimmer, L. Jentsch, R. List, **W.R. Taylor**, and F. Schellenberg, Correction to: How to squat? Effects of various stance widths, foot placement angles and level of experience on knee, hip and trunk motion and loading. BMC Sports Science, Medicine and Rehabilitation 12 (2020) 1-1.
[68] C. Huber, Q. Zhang, **W.R. Taylor**, A.A. Amis, C. Smith, and S.H. Hosseini Nasab, Properties and function of the medial patellofemoral ligament: a systematic review. The American journal of sports medicine 48 (2020) 754-766.
[69] S.H. Hosseini Nasab, C. Smith, P. Schütz, B. Postolka, S. Ferguson, **W.R. Taylor**, and R. List, Elongation patterns of the posterior cruciate ligament after total knee arthroplasty. Journal of clinical medicine 9 (2020) 2078.
[70] G.N. Duda, P. Moewis, H. Hommel, M.O. Heller, **W.R. Taylor**, G. Bergmann, and A. Trepczynski, Knieendoprothetik: Biomechanik des Kniegelenks. AE-Manual der Endoprothetik (2020) 1-18.
[71] R. Zemp, J. Rhiner, S. Plüss, R. Togni, J.A. Plock, and **W.R. Taylor**, Wheelchair tilt-in-space and recline functions: influence on sitting interface pressure and ischial blood flow in an elderly population. BioMed research international 2019 (2019).
[72] F. Vogl, B. Taylor, and M. Patil, Sensitivity of low-frequency quantitative acoustics to axially and azimuthally varying cortical thickness: A phantom-based study: Raw measurement data, analysis scripts, and plots of analysis steps. (2019).
[73] F. Vogl, M. Patil, and **W.R. Taylor**, Sensitivity of low-frequency axial transmission acoustics to axially and azimuthally varying cortical thickness: A phantom-based study. Plos one 14 (2019) e0219360.
[74] F. Vogl, B. Friesenbichler, L. Hüsken, I.A. Kramers-de Quervain, and **W.R. Taylor**, Can low-frequency guided waves at the tibia paired with machine learning differentiate between healthy and osteopenic/osteoporotic subjects? A pilot study. Ultrasonics 94 (2019) 109-116.
[75] R. Visscher, C. Wyss, N.B. Singh, **W.R. Taylor**, E. Rutz, and R. Brunner, Estimating muscle activation patterns during overground walking for typically developing children and children with spastic cerebral palsy. Gait & Posture 73 (2019) 385-386.
[76] A. Trepczynski, I. Kutzner, P. Schütz, J. Dymke, R. List, P. von Roth, P. Moewis, G. Bergmann, **W.R. Taylor**, and G.N. Duda, Tibio-femoral contact force distribution is not the only factor governing pivot location after total knee arthroplasty. Scientific reports 9 (2019) 1-9.
[77] A. Trepczynski, I. Kutzner, P. Schütz, J. Dymke, R. List, P. von Roth, P. Moewis, G. Bergmann, W. Taylor, and G. Duda, Author Correction: tibio-Femoral Contact Force Distribution is Not the only Factor Governing pivot Location after total Knee Arthroplasty. Scientific reports 9 (2019) 1-1.
[78] P. Schütz, **W.R. Taylor**, B. Postolka, S.F. Fucentese, P.P. Koch, M.A. Freeman, V. Pinskerova, and R. List, Kinematic evaluation of the GMK sphere implant during gait activities: a dynamic videofluoroscopy study. Journal of Orthopaedic Research® 37 (2019) 2337-2347.
[79] P. Schütz, B. Postolka, H. Gerber, S.J. Ferguson, **W.R. Taylor**, and R. List, Knee implant kinematics are task-dependent. Journal of the Royal Society Interface 16 (2019) 20180678.
[80] L. Reissner, G. Fischer, R. List, **W.R. Taylor**, P. Giovanoli, and M. Calcagni, Minimal detectable difference of the finger and wrist range of motion: comparison of goniometry and 3D motion analysis. Journal of orthopaedic surgery and research 14 (2019) 1-10.

[81] B. Postolka, P. Schütz, S.F. Fucentese, R. List, and **W.R. Taylor**, Tibio-femoral kinematic of the healthy knee during level and downhill walking, 79. Jahreskongress Swiss Orthopaedics, 2019.
[82] B. Postolka, P. Schütz, M.A. Freeman, R. List, and **W.R. Taylor**, Tibio-femoral kinematics of the healthy knee during gait activities, XXVII Congress of the International Society of Biomechanics (ISB 2019), 2019.
[83] M. Plüss, F. Schellenberg, **W.R. Taylor**, and S. Lorenzetti, DESIGN OF STRENGTH EXERCISES FOR THE ABDUCTOR MUSCLES USING MUSCULOSKELETAL MODELING. ISBS Proceedings Archive 37 (2019) 296.
[84] S. Orter, D.K. Ravi, N.B. Singh, F. Vogl, **W.R. Taylor**, and N. König Ignasiak, A method to concatenate multiple short time series for evaluating dynamic behaviour during walking. PLoS one 14 (2019) e0218594.
[85] N. König Ignasiak, D.K. Ravi, S. Orter, S.H. Hosseini Nasab, **W.R. Taylor**, and N.B. Singh, Does variability of footfall kinematics correlate with dynamic stability of the centre of mass during walking? PLoS One 14 (2019) e0217460.
[86] S.H. Hosseini Nasab, C.R. Smith, P. Schütz, B. Postolka, R. List, and **W.R. Taylor**, Elongation patterns of the collateral ligaments after Total knee Arthroplasty are dominated by the knee flexion angle. Frontiers in bioengineering and biotechnology 7 (2019) 323.
[87] S. Ćuković, **W.R. Taylor**, C. Heidt, G. Devedžić, V. Luković, and T. Bassani, Transpositions of Intervertebral Centroids in Adolescents Suffering from Idiopathic Scoliosis Optically Diagnosed, International Symposium on Computer Methods in Biomechanics and Biomedical Engineering, Springer, Cham, 2019, pp. 133-141.
[88] S. Ćuković, W. Taylor, V. Luković, I. Ghionea, K. Baizid, J. Iqbal, and S. Karuppasamy, Rigid 3D registration algorithm for localization of the vertebral centroids in 3D deformity models of adolescent idiopathic scoliosis, The 16th annual International CAD Conference-CAD19, 2019, pp. 446-450.
[89] S. Cukovic, V. Lukovic, **W.R. Taylor**, W. Birkfellner, R.E. Petruse, and N. Filipovic, Correlation of vertebral absolute axial rotations in cad 3d models of adolescent idiopathic scoliosis non-invasively diagnosed, 2019 IEEE 19th International Conference on Bioinformatics and Bioengineering (BIBE), IEEE, 2019, pp. 316-320.
[90] C. Bontrup, **W.R. Taylor**, M. Fliesser, R. Visscher, T. Green, P.-M. Wippert, and R. Zemp, Low back pain and its relationship with sitting behaviour among sedentary office workers. Applied ergonomics 81 (2019) 102894.
[91] R. Baumann, M. Uhl, J.H. van Dieën, **W.R. Taylor**, and N.B. Singh, Revealing the optimal thresholds for movement performance: A systematic review and meta-analysis to benchmark pathological walking behaviour. (2019).