

Janet Hanwen ZHANG-Lea

Department of Human Physiology, Gonzaga University

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Academic education and qualifications

- 2016 – 2019 **PhD in Sports Biomechanics**
Department of Rehabilitation Sciences, The Hong Kong Polytechnic University
Mentor: Dr. Roy T.H. Cheung
- 2015 – 2016 **MPhil**
Successful degree transfer to PhD
Department of Rehabilitation Sciences, The Hong Kong Polytechnic University
- 2009 – 2014 **BM** (Bachelor of medicine)
The Second School of Clinical Medicine, Southern Medical University

Working experience

- Aug 2022 – Present **Assistant Professor**
Department of Human Physiology, Gonzaga University
- Dec 2019 – June 2022 **Professional Research Associate**
Department of Integrative Physiology, University of Colorado, Boulder
Mentor: Dr. Alena Grabowski
- June 2019 – Nov 2019 **Research assistant**
Department of Rehabilitation Sciences, The Hong Kong Polytechnic University
Mentor: Dr. Chao-Ying Chen
- Feb 2018 – Aug 2018 **Visiting research student**
Harvard Biodesign Lab, Harvard University
Mentor: Dr. Conor Walsh

Teaching experience

- Project sponsor/advisor for ENSC 491/492 Senior Design Project (Gonzaga University School of Engineering, Fall 2023-Spring 2024)
- Research mentor for HPHY 441L/442L Guided Study Design (Gonzaga, Spring-Fall 2023)
- Research mentor for graduate students at University of Washington School of Medicine (Summer 2022-2023)
- Instructor for HPHY 210 Scientific Writing (Gonzaga, Spring 2023)
- Instructor for HPHY 274 Musculoskeletal Dynamics (Gonzaga, Spring 2023)
- Instructor for HPHY 375 Biomechanics (Gonzaga, Fall 2022)
- Instructor for HPHY 205 Experimental Design and Data Analysis (Gonzaga, Fall 2022)
- Instructor for HPHY 375L Biomechanics Labs (Gonzaga, Fall 2022)
- Instructor for IPHY 4540 Biomechanics (CU Boulder, Fall 2021)
- Teaching Assistant for RS593 Kinetic and Kinematic Analysis of Gait & Posture

- Teaching Assistant for RS2660 Movement Science
- Teaching Assistant for RS5360 Movement Science
- Graduate student mentor for final year project, Bachelor of Physiotherapy (2019/20)
- Graduate student mentor for final year project, Bachelor of Physiotherapy (2017/18)
- Graduate student mentor for final year project, Bachelor of Occupational therapy (2016/17)
- Graduate student mentor for final year project, Master of Manipulative Physical Therapy (2016/17)
- Teaching Assistant for Master in Physiotherapy (2017/18)
- Teaching Assistant for M.Sc. in Sports Medicine and Health Sciences (Fall 2017, Fall 2018)
- Teaching Assistant for M.Sc. in Sports Medicine and Health Sciences (2017/18)
- Graduate student mentor for summer undergraduate student research projects (2016/17, 2017/18)

Research interests

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| Motor control and motor learning | <ul style="list-style-type: none"> • Using real-time feedback for gait retraining to amplify performance or reduce injury • Effect of limb loss on motor control patterns • Application of motor learning in rehabilitation |
| Sports biomechanics | <ul style="list-style-type: none"> • Understanding the mechanism of sports-related injury • Application of motor learning in sports-related injury rehabilitation and prevention • Gender difference in sports-related injuries |
| Interdisciplinary research between biomechanics and engineering | <ul style="list-style-type: none"> • Wearable sensors for mobile biomechanics measurement • Sensor technology and its application in prosthesis development • Wearable robots and exoskeletons, and its application in sports and rehabilitation sciences |

Grant history

Funded

Understanding association between global warming and running injury risk through measuring acute response of runners after heat exposure (McKinstry Fellow Research Program, amount requested: 24,980.00 USD)
Responsibility: Principle-investigator

Relationship between high ambient heat and running injury risk (Micro-grants, Center for Climate, Society, and the Environment, Gonzaga University, 1,000 USD)
Responsibility: Principle-investigator

Disseminating research results of running gait comparisons between experienced and novice runners at varied running speeds (Global Engagement Faculty Development Fund, Gonzaga University International Education Council, 2,868.77 USD)
Responsibility: Principle-investigator

Use of Wearable Sensors to Optimize Prosthetic Alignment in People with Unilateral Transtibial Amputation (VA SPiRE grant, 230,000 USD)

Responsibility: Key personnel

Development of Wearable Sensors to Measure Knee Joint Loading in Patients with Knee Osteoarthritis (ITS/143/17, Innovation and Technology Fund, amount: 999,999 HKD, ≈127,000.00 USD)

Responsibility: Co-investigator

Under review

Real-time monitoring glycemic control and cardiovascular stress obese population with impaired glucose control using body-worn accelerometer to ensure exercise safety in response to climate change (Submitted under NIH P20 Exploratory Grants for Climate Change and Health Research Center Development, funding requested for Research Core: 1,131,847 USD)

Responsibility: Lead for Research Core, Co-investigator under the center grant

Under preparation

Effect of bilateral exercise training on neuromuscular control in people with unilateral transtibial amputation (Received first round of feedback; Preparing for submission of revision to NIH R15 REAP award, funding requested: 383,980 USD)

Responsibility: Principle-investigator

Publication list

A. Journal publications

1. **Zhang-Lea JH**, Beck ON, Tacca JR, Taboga P, Grabowski AM (2023) Running leg length differs between prosthetic legs and biological legs across varied running speed, *Scientific Reports*. 10.1038/s41598-023-34346-x
2. Huang M, Mo S, Chan PPK, Chan CYS, **Zhang-Lea JH**, Cheung RTH. (2022) The influence of running shoes on familiarization time for treadmill running biomechanics evaluation. *Sports Biomechanics*, 10.1080/14763141.2022.2046144
3. **Zhang JH**, Chan ZYS, Law FOY, Huang M, Wang AC, Wang S, Au IPH, Wang S, Lam BMF, An WW, Cheung RTH. (2021) How do training experience and geographical origin of a runner affect running biomechanics? *Gait & Posture*, 84, 209-214
4. Mo SW, Lau FOY, Lok AKY, Chan ZYS, **Zhang JH**, Shum G, Cheung RTH. (2020) Bilateral asymmetry of running gait in competitive, recreational and novice runners at different speeds. *Human Movement Science*, 71, 120600
5. Cheung VCK, Cheung BMF, **Zhang JH**, Chan CYS, Ha SCW, Chen CY, Cheung RTH. (2020) Plasticity of muscle synergies through fractionation and merging during development and training of human runners. *Nature communications*. 11(1) 1-15
6. Wang C, Chan PPK, Lam BMF, Wang S, **Zhang JH**, Chan ZYS, Chan RHM, Ho KKW, Cheung RTH. (2020) Real-time estimation of knee adduction moment for gait retraining in patients with knee osteoarthritis. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*. 28 (4) 888-894.
7. Chan ZYS, Au IPH, **Zhang JH**, Ferber R, Shum G, An WW, Cheung RTH. (2020) Effects of deceptive footwear condition on subjective comfort and running biomechanics. *Translational Sports Medicine*. 3 (3), 256-262
8. Chan ZYS, **Zhang JH**, Ferber R, Shum G, Cheung RTH. (2020) The effects of midfoot stride gait retraining on impact loading and joint stiffness. *Physical Therapy in Sports* 42, 139-145

9. Mo SW, Lam WK, Ching ECK, Chan ZYS, **Zhang JH**, Cheung RTH. (2020) Effects of heel-toe drop on running biomechanics and perceived comfort of rearfoot strikers in standard cushioned running shoes. *Footwear Science*, 12 (2), 91-99
10. Chan ZYS, MacPhail AJC, Au IPH, **Zhang JH**, Lam BMF, Ferber Reed, Cheung RTH. (2019) Walking with head-mounted virtual and augmented reality devices: Effects on position control and gait biomechanics. *Plos One* 14 (12), e0225972
11. An WW, So W, Au IPH, **Zhang JH**, Chan ZYS, Chan RHM, Cheung RTH. (2019) Neurophysiological correlates of gait retraining with real-time visual and auditory feedback. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 27 (6) 1341-1349.
12. **Zhang JH**, Chan ZYS, Au IPH, An WW, Shull PB, Cheung RTH. (2019) Transfer learning effects of biofeedback running retraining in untrained conditions. *Medicine & Science in Sports & Exercise*, 51(9), 1904-1908
13. Wei RX, Au IPH, Lau FOY, **Zhang JH**, Chan ZYS, MacPhail AJC, Mangubat AL, Pun GTK, Cheung RTH. Running biomechanics before and after Pose method gait retraining in distance runners. *Sports Biomechanics* 1-16
14. **Zhang JH**, Chan ZYS, Au IPH, An WW, Cheung RTH. (2019) Can runners maintain the newly learned gait pattern outside laboratory environment following gait retraining? *Gait & Posture*, DOI: 10.1016/j.gaitpost.2019.01.014
15. Chan ZYS, Au IPH, Lau FOY, Ching ECW, **Zhang JH**, Cheung RTH. Does maximalist footwear lower impact loading during level ground and downhill running? *European Journal of Sport Science* (2018), DOI: 10.1080/17461391.2018.1472298
16. Cheung RTH, Au IPH, An WW, **Zhang JHW**, Chan ZYS, Ho KKW, Deluzio KJ, Rainbow MJ. (2018) Immediate and short-term effects of gait retraining on the knee joint moments and symptoms in patients with early knee osteoarthritis: a randomized controlled trial. *Osteoarthritis & Cartilage*, DOI: 10.1016/j.joca.2018.07.011
17. Ching ECK, An WW, Au IPH, **Zhang JH**, Chan ZYS, Shum GLK, Cheung RTH. (2018) Impact loading during distracted running before and after auditory gait retraining. *International Journal of Sports Medicine*, DOI: 10.1055/a-0667-9875
18. Mak DNT, Au IPH, Chan M, Chan ZYS, An WW, **Zhang JH**, Draper D, Cheung RTH. Placebo effect of facilitatory Kinesio tape on muscle activity and muscle strength. *Physiotherapy Theory & Practice*, (2018), DOI: 10.1080/09593985.2018.1441936
19. Law MHC, Choi EMF, Law SHY, Chan SSC, Wong SMS, Ching ECK, Chan ZYS, **Zhang JH**, Lam GWK, Lau FOY, Cheung RTH. Effects of footwear midsole thickness on running biomechanics. *Journal of Sports Science* (2018), DOI: 10.1080/02640414.2018.1538066
20. Mangubat AMS, **Zhang JH**, Chan ZYS, MacPhail AJC, Au IPH, Cheung RTH. Biomechanical outcomes due to impact loading in runners while looking sideways. *Journal of Applied Biomechanics* (2017), DOI: 10.1123/jab.2017-0381
21. Chan ZYS, **Zhang JH**, Au IPH, An WW, Shum GLK, Ng GYF, Cheung RTH. (2017) Gait retraining for the reduction of injury occurrence in novice distance runners: 1-year follow-up of a randomized controlled trial. *The American Journal of Sports Medicine*, DOI: 10.1177/0363546517736277
22. Au IPH, Lau FOY, An WW, **Zhang JH**, Chen TLW, Cheung RTH. (2017) Immediate and short-term biomechanical adaptation of habitual barefoot runners who start shod running. *Journal of Sports Sciences* (2017), DOI: 10.1080/02640414.2017.1313997
23. Cheung RTH, An WW, Au IPH, **Zhang JH**, Chan ZYS, Man AH, Lau FOY, Lam MKY, Lau KK, Leung CY, Tsang NW, Sze LKY, Lam GWK. (2017) Measurement agreement between a newly developed sensing

insole and traditional laboratory-based method for footstrike pattern detection in runners. *PLoS one*, DOI: 10.1371/journal.pone.0175724

24. Cheung RTH, An WW, Au IPH, **Zhang JH**, Chan ZYS, MacPhail AJ. (2017), Control of impact loading during distracted running before and after gait retraining in runners. *Journal of Sports Science*, DOI: 10.1080/02640414.2017.1398886
25. Fong ICD, Li WSC, Tai WKJ, Tsang TWR., **Zhang JH**, Chen TLW, H. Baur, P. Eichelberger, Cheung RTH, Effect of foot progression angle adjustment on the knee adduction moment and knee contact force in runners with and without knee osteoarthritis. *Gait & Posture* (2017), DOI: 10.1016/j.gaitpost.2017.12.029
26. Cheung RTH, Lau FOY, Ching E, Chan ZYS, **Zhang JH**, Au IPH. (2017) Maximalist Shoes Do Not Reduce Impact Loading During Level And Downhill Running, *Medicine & Science in Sports & Exercise*, DOI: 10.1249/01.mss.0000517189.76377
27. MacPhail AJ, Au IPH, Chan M, Mak DNT, An WW, Chan ZYS, **Zhang JH**, Draper D, Cheung RTH. (2017) The effect of inhibitory Kinesio tape on measured and perceived maximal grip strength. *Journal of Bodywork and Movement Therapies* (2017), DOI: 10.1016/j.jbmt.2017.10.011
28. **Zhang JH**, McPhail AJC, An WW, Naqvi WM, Chan DLH, Au IPH, Luk ATW, Chen TLW, Cheung RTH. (2016) A new footwear technology to promote non-heelstrike landing and enhance running performance: Fact or fad? *Journal of Sports Sciences*, DOI: 10.1080/02640414.2016.1224915
29. **Zhang JH**, An WW, Au IPH, Chen TL, Cheung RTH. (2016) Comparison of the correlations between impact loading rates and peak accelerations measured at two different body sites: Intra- and inter-subject analysis. *Gait & Posture*, 46: 53-56
30. Chen TLW, An WW, Chan ZYS, Au IPH, **Zhang JH**, Cheung RTH. (2016) Immediate effects of modified landing pattern on a probabilistic tibial stress fracture model in runners. *Clinical Biomechanics*, DOI: 10.1016/j.clinbiomech.2016.02.013

B. Publications in progress

1. Cheung VCK, Ha SCW, **Zhang-Lea JH**, Chan CYS, Teng Y, Yeung G, Wu L, Liang D, Cheung RTH (2023) Experience-dependent maturation of locomotor muscle synergies revealed in subjects with spinal muscular atrophy, in revision *Communications Biology*
2. **Zhang-Lea JH**, Montgomery JR, Grabowski AM. (2023) Roll-over characteristics of powered and passive prostheses during level and uphill walking in people with unilateral transtibial amputations, under preparation for submission to *Journal of Biomechanics*
3. **Zhang-Lea JH**, Hirschman CE, Grabowski AM. (2023) Use of Real-time Visual Feedback of Peak Propulsive Force in People with Unilateral Transtibial Amputation, under preparation

C. Conference proceedings

1. Ji Y, **Zhang-Lea JH**, Tran J. (2024) Machine Learning-Based Automated Detection of ADHD Using Heart Rate Variability Data. 16th International Conference on Bioinformatics and Computational Biology, March 18-19, 2024, New Orleans, USA.
2. Hand H, Garbuz K, Etten M, McGrew T, **Zhang-Lea JH**. (2024) Effect of gait retraining and running slope on knee valgus. American College of Sports Medicine Northwest Annual Meeting, Feb 16-17, 2024, Moscow, ID.
3. Terterov A, Dreher M, Freiermuth L, Schaps P, Yeager Y, Feistner O, **Zhang-Lea JH**. (2024) Effect of visual and audio feedback on perceived running fatigue and running biomechanics. American College of Sports Medicine Northwest Annual Meeting, Feb 16-17, 2024, Moscow, ID.
4. Jones E, Garbuz K, Crissey J, Lewis M, **Zhang-Lea JH**. Effect of high heat running environment on

- Achilles tendon morphology in runners. (2024) Western Medicine Research Conference, Carmel, CA, USA
5. Luke N, **Zhang-Lea JH**, Grabowski AM. (2023) Use of inertial measurement unit for lower limb prosthesis alignment during walking. American Society of Biomechanics Annual Conference, Knoxville, Tennessee, USA
 6. Hirschman CE, **Zhang-Lea JH**, Grabowski AM. (2023) The effects of real time visual feedback on step-to-step transition work during walking in people with transtibial amputation. American Society of Biomechanics Annual Conference, Knoxville, Tennessee, USA
 7. **Zhang-Lea JH**, Chan ZYS, Sreenivasa M, Cheung RTH, Cheung VCK. (2023) Trained novice runners increase step frequency and decrease force application. International Society of Biomechanics, Fukuoka, Japan
 8. Hand H, Etten M, McGrew T, **Zhang-Lea JH**. (2023) The Influence of Gait Retraining in Downhill Running on Knee Valgus. Spokane Intercollegiate Conference, Spokane, Washington, USA
 9. Ledesma L, Chen CY, **Zhang-Lea JH**. (2023) Assessing contingent learning ability in 2–4-month-old infants using wearable sensors. Spokane Intercollegiate Conference, Spokane, Washington, USA
 10. **Zhang-Lea JH**, Montgomery JR, Grabowski AM. (2022) Use of a powered prosthesis increases peak ankle power but not effective foot arc length compared to a passive prosthesis during walking on slopes, North American Congress on Biomechanics, Ottawa, Canada
 11. **Zhang JH**, Hirschman CE, Grabowski AM. (2021) Use of Real-time Visual Feedback of Peak Propulsive Force in People with Unilateral Transtibial Amputation, Rocky Mountain ASB annual meeting (**Recipient of Best Postdoctoral Poster presentation**), Estes Park, Colorado, USA
 12. **Zhang JH**, Hirschman CE, Grabowski AM. (2021) Use of real-time visual feedback of peak propulsive force in people with unilateral transtibial amputation, American Society of Biomechanics Annual Meeting, Virtual meeting
 13. Hirschman CE, **Zhang JH**, Grabowski AM. (2021) The effects of real time visual feedback on metabolic cost during walking in people with transtibial amputation, American Society of Biomechanics Annual Meeting, Virtual meeting
 14. Taboga P, Beck ON, **Zhang JH**, Tacca JR, Grabowski AM. (2021) Prosthetic legs run shorter than biological legs, American Society of Biomechanics Annual Meeting, Virtual meeting
 15. **Zhang JH**, Grabowski AM. (2020) Effects of a Paralympian with transfemoral amputation using a prosthesis with & without a knee, American Society of Biomechanics Annual Meeting
 16. **Zhang JH**, Kowk GHJ, Koh HY, Chan ZYS, Kwan KYH, Yip J, Cheung RTH. (2019) Gait differences between patients with adult degenerative scoliosis and healthy counterparts, The 10th Annual Meeting of Japanese Orthopaedic Society of Knee, Arthroscopy and Sports Medicine
 17. **Zhang JH**, Chan ZYS, Cheung RTH. (2019) Motor strategies and learning effect translation in an established running retraining program, XXVII Congress of the International Society of Biomechanics, 31 Jul – 4 Aug, Calgary, Canada (**Winner of Congress Travel Grant**)
 18. **Zhang JH**, Chan ZYS, Au IPH, An WW, Cheung RTH. (2018) Transfer of the learning effect in outdoor conditions with varied surface inclinations upon completion of an indoor gait retraining program, 11th Pan-Pacific Conference on Rehabilitation (**Winner of the Best Oral Presentation Award**)
 19. **Zhang JH**, Chan ZYS, Au IPH, Lau FOY, An WW, Cheung RTH. (2018) A case study to identify potential innate biomechanical parameters in African distance runners: Comparison with Asian runners at different performance levels, 11th Pan-Pacific Conference on Rehabilitation (**Winner of the Best Poster Presentation Award**)
 20. **Zhang JH**, Chan ZYS, Au IPH, Lau FOY, An WW, Cheung RTH. (2018) A case study to identify potential innate biomechanical parameters in African distance runners: Comparison with Asian runners at different

performance levels, 11th Pan-Pacific Conference on Rehabilitation (**Winner of the Best Poster Presentation Award**)

21. **Zhang JH**, Kowk G, Koh HY, Chan ZYS, Kwan K, Yip J, Cheung RTH. (2018) Gait differences between patients with adult degenerative scoliosis and health controls, 11th Pan-Pacific Conference on Rehabilitation (**Winner of the Best Poster Presentation Award**)
22. **Zhang JH**, Zoe Y.S. Chan, Ivan P.H. Au, Winko W. An, Roy T.H. Cheung. (2018) Can the Newly Learnt Gait Pattern after Running Retraining be Translated to Untrained Conditions? : 1547 Board# 8 May 31, 2018, American College of Sports Medicine (ACSM) Annual Meeting
23. Lau FOY, Au IPH, Chan ZYS, **Zhang JH**, Yung PSH, Cheung RTH (2018) Running biomechanics before and after Pose method gait retraining in distance runners. 2018 Asia-Pacific Knee, Arthroscopy and Sports Medicine Society Congress, 31 May – 2 June 2018, Sydney
24. Ha SCW, Chan ZYS, **Zhang JH**, Cheung RTH, Cheung VCK (2018) Longitudinal tracking of muscle synergies of infants during the critical months of learning to walk. 2018 Annual Meeting of the Society for the Neural Control of Movement, 1-4 May 2018, New Mexico
25. Kwan K, **Zhang JH**, Koh HY, Cheung RTH, Yip J, Cheung K (2018) New insight into cervical myelopathic hand sign: a pilot study. Asia Pacific Spine Society Annual Meeting 2018, 8-9 June 2018, Taiwan
26. Cheung RTH, Ho KKW, Au IPH, **Zhang JH**, Chan ZYS, Rainbow MJ, Deluzio K (2018) Gait retraining improves symptoms in patients with early knee osteoarthritis by lowering knee adduction moment. The 10th Annual Meeting of Japanese Orthopaedic Society of Knee, Arthroscopy and Sports Medicine, 14-16 June 2018, Fukuoka (**Winner of the Conference Travel Award**)
27. Au IPH, Lam GWK, Law MHC, Choi EMF, Law SHY, Chan SSC, Wong SMS, Chan ZYS, **Zhang JH**, Cheung RTH (2018) Effects of midsole thickness on running biomechanics. The 10th Annual Meeting of Japanese Orthopaedic Society of Knee, Arthroscopy and Sports Medicine, 14-16 June 2018, Fukuoka
28. Ha SCW, Cheung BMF, Au IPH, Chan ZYS, **Zhang JH**, Cheung RTH, Cheung VCK (2018) Is running nature or nurture? A comparison between novice runners and elites. The 10th Annual Meeting of Japanese Orthopaedic Society of Knee, Arthroscopy and Sports Medicine, 14-16 June 2018, Fukuoka
29. Chan ZYS, **Zhang JH**, Au IPH, An WW, Cheung RTH (2018) A prospective study on running-related injuries in Asian runners. The 10th Annual Meeting of Japanese Orthopaedic Society of Knee, Arthroscopy and Sports Medicine, 14-16 June 2018, Fukuoka
30. Lam BMF, **Zhang JH**, Hui YK, Tong SF, Wong SH, Yip J, Kwan KYH, Cheung RTH (2018) Using EMG spectral analysis to predict modified Japanese Orthopedic Association score in patients with cervical myelopathy. The 11th Pan-Pacific Conference on Rehabilitation, 17-18 November, Hong Kong
31. Ching ECK, Law MHC, Choi EMF, Law SHY, Chan SSC, Wong SMS, Chan ZYS, **Zhang JH**, Lam GWK, Lau FOY, Cheung RTH (2018) Influence of midsole thickness on vertical loading rates, footstrike pattern and temporal spatial parameters in runners. The 11th Pan-Pacific Conference on Rehabilitation, 17-18 November, Hong Kong
32. Au IPH, Lau FOY, **Zhang JH**, Chan ZYS, MacPhail AJC, Mangubat AL, Pun G, Yung PSH, Cheung RTH (2018) Effects of coach-based gait retraining program on running biomechanics in runners. The 11th Pan-Pacific Conference on Rehabilitation, 17-18 November, Hong Kong
33. Ha SCW, Chan ZYS, **Zhang JH**, Cheung RTH, Cheung VCK (2018) Longitudinal tracking of muscle synergies of healthy infants during the critical months of learning to walk. The 11th Pan-Pacific Conference on Rehabilitation, 17-18 November, Hong Kong
34. Chan KHC, Chan ZYS, **Zhang JH**, Au IPH, Lam BMF, Lok KY, Cheung RTH (2018) Relative position between head and wireless earphones during running. The 11th Pan-Pacific Conference on Rehabilitation, 17-18 November, Hong Kong

35. Chan ZYS, **Zhang JH**, Au IPH, An WW, Cheung RTH (2018) Perceived footwear comfort, but not the running biomechanics, is altered by misinformation on price and design. The 11th Pan-Pacific Conference on Rehabilitation, 17-18 November, Hong Kong
36. Wong HW, Au IPH, So MH, Chan BKP, Li HP, Chan ZYS, Cheung BMF, **Zhang JH**, Ng L, Cheung RTH (2018) Comparison of footstrike impact sound between forefoot, midfoot and rearfoot strike. The 11th Pan-Pacific Conference on Rehabilitation, 17-18 November, Hong Kong
37. Chan PPK, Tin C, Chan DKC, Chan ZYS, **Zhang JH**, Cheung RTH (2018) Early detection of students with mood problems: a feasibility study. The 11th Pan-Pacific Conference on Rehabilitation, 17-18 November, Hong Kong
38. Chan PPK, Mangubat ALS, **Zhang JH**, Chan ZYS, MacPhail AJ, Au IPH, Cheung RTH (2018) Does vertical head shock remain stable during running while looking sideways? The 11th Pan-Pacific Conference on Rehabilitation, 17-18 November, Hong Kong
39. Chan ZYS, Lau FOY, Ching ECK, **Zhang JH**, Au IPH, Cheung RTH (2018) Enhanced shoe cushioning: are they more comfortable and better in impact attenuation during level and downhill running? The 11th Pan-Pacific Conference on Rehabilitation, 17-18 November, Hong Kong
40. Chan ZYS, **Zhang JH**, Cheung RTH (2018) Gait retraining to promote mid-foot landing in habitual rear-foot landing runners. The 11th Pan-Pacific Conference on Rehabilitation, 17-18 November, Hong Kong
41. Ching ECK, Law MHC, Choi EMF, Law SHY, Chan SSC, Wong SMS, Chan ZYS, **Zhang JH**, Lam GWK, Lau FOY, Cheung RTH (2018) Do heel-toe drop of normal stack height shoes affect vertical loading rates, footstrike pattern and temporal spatial parameters in runners? The 11th Pan-Pacific Conference on Rehabilitation, 17-18 November, Hong Kong
42. Ha SCW, **Zhang JH**, Zheng XH, Chan ZYS, Wei X, Liang D, Wu L, Cheung RTH, Cheung VCK (2018) Muscle synergies patterns as biomarkers for children and teens with type II spinal muscular atrophy. The 11th Pan-Pacific Conference on Rehabilitation, 17-18 November, Hong Kong
43. Lam BMF, Ching ECK, Chan ZYS, **Zhang JH**, Au IPH, Ho KKW, Cheung RTH (2018) Relationship between peak knee adduction moment and Kellgren and Lawrence grade in patients with medial compartment knee osteoarthritis. The 11th Pan-Pacific Conference on Rehabilitation, 17-18 November, Hong Kong
44. Chu JHM, **Zhang JH**, Chan ZYS, Ching ECK, Lam BMF, Chan RMH, Cheung RTH (2018) Prediction of maximal vertical jump height with upper-limb countermovement, pre-jump knee-flexion and approaching distance in volleyball players. The 11th Pan-Pacific Conference on Rehabilitation, 17-18 November, Hong Kong
45. Cheung RTH, **Zhang JH**, Chan ZYS, Au IPH, An WW, Davis IS (2018) Running retraining using shoe-mounted sensor may provide false impact loading reduction. International Conference on Mechanics in Medicine and Biology, 22-24 November, Taipei
46. **Zhang JH**, Ho KY, Li KK, Li KM, Mark YP, Wu HM, Sin ELL, Chan ZYS, Au IPH, An WW, Cheung RTH (2017) A highly feasible exercise program to promote executive functions in young adults. International Symposium on Physical Activity & Fitness of the Young Generation in Asia-Pacific 2017, 20 May 2017, Hong Kong (**The 3rd place for the Best Poster Award**)
47. **Zhang JH**, An WW, Au IPH, Chan ZYS, Cheung RTH (2016) Kinetics control in runners at different running speeds and slopes after completion of a gait retraining program. The 5th HKASMSS Student Conference on Sports Medicine, Rehabilitation and Exercise Science 2016, 26 November 2016, Hong Kong
48. Cheung RTH, Lau FOY, Ching E, Chan ZYS, **Zhang JH**, Au IPH (2017) Maximalist shoes do not reduce impact loading during level and downhill running. American College of Sports Medicine Annual Meeting, 30 May – 3 June 2017, Denver.
49. Chan ZYS, **Zhang JH**, Au IPH, Pun GTK, An WW, Shum G, Cheung RTH (2017) Gait retraining reduces

impact loading and injury risk in novice runners. XXVI Congress of the International Society of Biomechanics, 23-27 July 2017, Brisbane

50. MacPhail AJC, Au IPH, Chan ZYS, **Zhang JH**, Cheung RTH (2016) The effects of current virtual and augmented reality technology on walking biomechanics. The 5th HKASMSS Student Conference on Sports Medicine, Rehabilitation and Exercise Science 2016, 26 November 2016, Hong Kong
51. Chan ZYS, **Zhang JH**, Au IPH, Pun GTK, An WW, Shum G, Cheung RTH. Gait retraining reduces impact loading and injury risk in novice runners. XXVI Congress of the International Society of Biomechanics, 23-27 July 2017, Brisbane, Australia (Oral)
52. Cheung RTH, Lau FOY, Ching E, Chan ZYS, **Zhang JH**, Au IPH. (2017) Maximalist Shoes Do Not Reduce Impact Loading During Level and Downhill Running: 479 Board# 300 May 31 9. *Medicine & Science in Sports & Exercise* 49 (5S), 132
53. **Zhang JH**, An WW, Au IPH, Chan ZYS, Lau FOY, Cheung RTH (2016) Comparison of biomechanical parameters between elite and recreational marathon runners from Hong Kong and Africa. The 5th HKASMSS Student Conference on Sports Medicine, Rehabilitation and Exercise Science 2016, 26 November 2016, Hong Kong
54. **Zhang JH**, McPhail AJC, An WW, Naqvi QM, Chan DLH, Au IPH, Luk ATW, Chen TL, Cheung RTH (2016) Effects of a new running shoe design on the landing pattern and energy loss. The 21st Annual Congress of the European College of Sport Science, 6-9 July 2016, Vienna.
55. Au IPH, An WW, **Zhang JH**, Chan ZYS, Ho KKW, Rainbow M, Cheung RTH (2016) Real time feedback gait retraining improves symptoms in patients with knee osteoarthritis: a randomized controlled trial. The 5th HKASMSS Student Conference on Sports Medicine, Rehabilitation and Exercise Science 2016, 26 November 2016, Hong Kong
56. Au IPH, An WW, **Zhang JH**, Chan ZYS, Ting KH, Davis IS, Cheung RTH (2016) Effect of real-time auditory feedback on impact loading before and after running retraining. The 5th HKASMSS Student Conference on Sports Medicine, Rehabilitation and Exercise Science 2016, 26 November 2016, Hong Kong
57. Chan ZYS, **Zhang JH**, Au IPH, An WW, Cheung RTH (2016) Effects of deceptive footwear condition on subjective comfort and joint kinematics in runners. The 5th HKASMSS Student Conference on Sports Medicine, Rehabilitation and Exercise Science 2016, 26 November 2016, Hong Kong
58. Chan ZYS, **Zhang JH**, Au IPH, An WW, Cheung RTH (2016) Effects of a visual-feedback gait retraining on landing pattern transition in rear-foot striker runners. The 5th HKASMSS Student Conference on Sports Medicine, Rehabilitation and Exercise Science 2016, 26 November 2016, Hong Kong
59. Lau FOY, Au IPH, An WW, **Zhang JH**, Chen T, Cheung RTH (2016) Immediate and short term effect of running shoes in habitual barefoot runners. The 5th HKASMSS Student Conference on Sports Medicine, Rehabilitation and Exercise Science 2016, 26 November 2016, Hong Kong
60. MacPhail A, Au IPH, Chan M, Mak DNT, An WW, Chan ZYS, **Zhang JH**, Wong K, So A, Chan N, Kwok C, Lau P, Cheung RTH (2016) Effect of inhibitory Kinesio tape on measured vs. perceived maximum grip strength. The 5th HKASMSS Student Conference on Sports Medicine, Rehabilitation and Exercise Science 2016, 26 November 2016, Hong Kong (**Best Poster Presentation Award**)
61. Mak DNT, Au IPH, Chan ZYS, An WW, **Zhang JH**, Wong K, So A, Chan N, Kwok C, Lau P, Cheung RTH (2016) Effect of facilitatory Kinesio tape on muscle activity and performance in regular users and non-users. The 5th HKASMSS Student Conference on Sports Medicine, Rehabilitation and Exercise Science 2016, 26 November 2016, Hong Kong
62. An WW, Ting KH, Au IPH, **Zhang JH**, Chan ZYS, Davis I, Cheung RTH. (2016) Alpha band event-related spectral perturbation is coupled with visual feedback in gait retraining. The 22nd Annual Meeting of the

Organization for Human Brain Mapping (OHBM), Geneva, Switzerland, 26-30 June 2016, poster number 1754

63. An WW, Ting KH, Au IPH, **Zhang JH**, Chan ZYS, Davis I, Cheung RTH. (2016) Error monitoring during gait training modulates theta band oscillation: an EEG study. The 22nd Annual Meeting of the Organization for Human Brain Mapping (OHBM), Geneva, Switzerland, 26-30 June 2016

Awards

- Recipient of Jacqueline Perry Emerging Female Scientist Award from International Society of Biomechanics (One award given every two years), 2023
- Recipient of University of Colorado Boulder Postdoctoral Travel Award (first place), 2022
- Recipient of Best Postdoctoral Poster Presentation, Rocky Mountain ASB 2021
- Recipient of Faculty Distinguished Thesis Award, The Hong Kong Polytechnic University, 2019
- Recipient of ISB student Congress Travel Grant – 2019
- Best Paper Award – International Conference on Mechanics in Medicine and Biology, 2018
- Head's Award of Best Research Student in Department of Rehabilitation Sciences at The Hong Kong Polytechnic University – Nov 2018 (The only recipient of that year)
- Best Oral Presentation – 11th Pan-Pacific Conference on Rehabilitation, 2018
- Best Poster Presentation – 11th Pan-Pacific Conference on Rehabilitation, 2018
- Conference Travel Award (co-author) – The 10th Annual Meeting of Japanese Orthopaedic Society of Knee, Arthroscopy and Sports Medicine, 2018
- Recipient of HKSAR Government Scholarship Fund -- Reaching Out Award 2017/18,
- Recipient of PolyU Research student attachment program for a 6-month attachment in Harvard Biodesign Lab, Harvard University (Supervisor: Dr. Conor Walsh)
- Best Poster Award – Third Place in International Symposium Physical Activity & Fitness of the Young Generation in Asia-Pacific, 2017

Professional membership & Services

- Invited speaker for a highlighted symposium "Biomechanics and Neural Control of Movement" in American College of Sports Medicine Annual Conference 2024
- Serving on Department Search Committee for Human Physiology Department, Gonzaga University, summer 2023
- Serving on Dean Search Committee for School of Health Sciences, Gonzaga University, 2022-2023
- Participated in the Summer Project mentor program with University of Washington School of Medicine for summer 2023
- Chief editor for a special issue "Running economy, running biomechanics and injuries in runners with varied demographics" for Frontiers in Sports and Active Living 2022-2023
- Participated as a mentor in the mentor-mentee program in International Society of Biomechanics annual meeting 2023
- Participated as a mentor in the mentor-mentee program in American Society of Biomechanics annual meeting 2022
- Moderated a podium presentation session for Rocky Mountain ASB annual meeting 2022
- Judged for poster presentation sessions for Rocky Mountain ASB annual meeting 2022
- Moderated a virtual podium presentation session for Rocky Mountain ASB annual meeting 2021
- Moderated a virtual thematic poster session for ASB annual meeting 2021
- Organized virtual inter-lab meeting between Dr. Grabowski's lab and several other labs during COVID-19

shutdown

- Member of American Society of Biomechanics (2019 - present)
- Member of International Society of Biomechanics (2018 - present)
- Member of Hong Kong Association of Sports Medicine and Sports Science (2018 - 2020)
- Member of American College of Sports Medicine (2018 - 2019)
- Member of European College of Sport Science (2016 - 2017)
- Invited journal reviewer for:
 - *Medicine & Science in Sports & Exercise*
 - *Gait & Posture*
 - *Journal of Sports Sciences*
 - *Scientific Reports*
 - *IEEE Transactions on Neural Systems and Rehabilitation Engineering*
 - *BMJ Open*
 - *MDPI Sports*
 - *Sports Biomechanics*
 - *Frontiers in Sports and Active Living*
 - *Frontier Exercise & Physiology*
 - *Sensors*
 - *Applied Sciences*
 - *European Journal of Sport Science*
 - *International Journal of Environmental Research and Public Health*
 - *Journal of Bionic Engineering*
 - *PloS one*
 - *BMC Sports Sciences, Medicine and Rehabilitation*
- Name of mentored students
 - *Ethan Jones (University of Washington School of Medicine)*
 - *Alexis Terterov (Gonzaga University, Recipient of Undergraduate Student Research Grant from ACSM Northwest Chapter)*
 - *Kristina Garbuz (Gonzaga University)*
 - *Grace Watson (Gonzaga University)*
 - *Polly Schaps (Gonzaga University)*
 - *Hailey Hand (Gonzaga University)*
 - *Alexis Terterov (Gonzaga University)*
 - *Tessa Kitchel (Gonzaga University)*
 - *Sarah Nadler (University of Colorado, Boulder)*
 - *Anna Hoyt (University of Colorado, Boulder)*
 - *Benjamin Brandt (University of Colorado, Boulder)*
 - *Hannah Archer (University of Colorado, Boulder)*