

Yuqi He

Ph.D. student

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ACADEMIC EDUCATION

- 09/2021 - Ph.D. in lower limbs Biomechanics**
Title of dissertation: *Effect of kinetic chain and ball's movement during ball-racket impact in table tennis based on musculoskeletal modeling and finite element analysis*
University of Pannonia, Faculty of Engineering, Doctoral School of Chemical Engineering and Material Sciences: Chemical Engineering and Material Sciences, Veszprem, Hungary
- 09/2018 - 03/2021 M.Sc. in Sport Science (Sport Biomechanics)**
Title of thesis: *The effect of cold therapy on balance recovery of table tennis players after lower extremity muscle fatigue*
Ningbo University, Research Academy of Grand Health, Faculty of Physical Education, Zhejiang, China
- 09/2013 - 06/2017 B.Sc. in Physical Education**
Title of thesis: *The internal mechanism and solution of exercise proteinuria*
West Anhui University, Faculty of Physical Education, Luan, Anhui, China

PROFESSIONAL CAREER

- 09/2021 - Ph.D. Scholar researcher**
Faculty of Informatics: Savaria Institute of Technology, Eötvös Loránd University, Hungary
- 09/2020 - Assistant Researcher**
Research Academy of Grand Health, Ningbo University, China

RESEARCH FIELDS

- **Musculoskeletal Modeling Simulation, Finite Element Analysis, Sports Biomechanics:** Numerical modeling and experiments measurement of human movement; Musculoskeletal injuries mechanism of the lower limbs. Sports equipment research and development.
- **Application of Machine Learning in Biomechanics of Racket Sports:** Explore and create predictive models of the relationship between the human body and balls in table tennis by the ANN (Artificial Neural Network), Partial least squares regression (PLS), Principal Component Analysis (PCA), and SPM (Statistical Parametric Mapping).

LANGUAGES

- English: Professional proficiency
- Chinese: Native language

SOFTWARES

- Multi-body dynamics: Adams
- Finite element software: Ansys, Abaqus, HyperMesh
- Musculoskeletal modeling simulation: OpenSim, Vicon System, Visual 3D
- Medical imaging software: Mimics, 3-Matic
- CAD software: SolidWorks
- Programme: Python, Matlab, Stata
- Others: Novel System, Simi Motion, Dartfish, SPSS, RevMan, R, Photoshop

ACDAEMIC AWAEDS

- | | |
|-------|--------------------------------------------------------------------------------------|
| 2021- | Stipendium Hungaricum Scholarship (48 months) |
| 2021 | National Scholarship , Ningbo University, China |
| 2021- | National Scholarship for Study Abroad, China Scholarship Council (CSC), China |
| 2021 | Outstanding Master Students of Zhejiang Province, China |
| 2021 | Outstanding Master Students of Ningbo University, China |
| 2020 | Advanced Individual of Social practice of Ningbo University, China |
| 2020 | 1st place , student scholarship, Ningbo University, China |
| 2019 | Merit student of Ningbo University, China |
| 2018 | 2st place , student scholarship, Ningbo University, China |

SCIENTIFIC ACTIVITIES

Scientific reviewer

- Physical Activity and Health
- PloS One
- International Journal of Biomedical Engineering and Technology
- BMC Sports Science, Medicine and Rehabilitation
- Applied Bionics and Biomechanics
- Computer Methods in Biomechanics and Biomedical Engineering
- Frontiers in Sports and Active Living
- Frontiers in Physiology

- Frontiers in Psychology
- Frontiers in Bioengineering and Biotechnology Biomechanics
- PeerJ

PUBLICATIONS

Peer-reviewed journal papers with impact factor:

1. **He, Y.**, Lv, X., Zhou, Z., Sun, D., Baker, J. S., & Gu, Y. (2020). Comparing the kinematic characteristics of the lower limbs in table tennis: Differences between diagonal and straight shots using the forehand loop. *Journal of sports science & medicine*, 19(3), 522. IF: 4.017
2. **He, Y.**, Fekete, G., Sun, D., Baker, J. S., Shao, S., & Gu, Y. (2022). Lower Limb Biomechanics during the Topspin Forehand in Table Tennis: A Systemic Review. *Bioengineering*, 9(8), 336. IF: 5.046
3. **He, Y.**, Lyu, X., Sun, D., Baker, J. S., & Gu, Y. (2021). The kinematic analysis of the lower limb during topspin forehand loop between different level table tennis athletes. *PeerJ*, 9, e10841. IF: 3.061
4. **He, Y.**, Sun, D., Yang, X., Fekete, G., Baker, J. S., & Gu, Y. (2021). Lower limb kinetic comparisons between the chasse step and one step footwork during stroke play in table tennis. *PeerJ*, 9, e12481. IF: 3.061
5. Lu, Y., **He, Y.**, Ying, S., Wang, Q., & Li, J. (2021). Effect of Cryotherapy Temperature on the Extension Performance of Healthy Adults' Legs. *Biology*, 10(7), 591. IF: 5.168
6. Zhou, H., **He, Y.**, Yang, X., Ren, F., Ugbolue, U. C., & Gu, Y. (2021). Comparison of Kinetic Characteristics of Footwork during Stroke in Table Tennis: Cross-Step and Chasse Step. *JoVE (Journal of Visualized Experiments)*, (172), e62571. IF: 1.355
7. Yang, X., **He, Y.**, Shao, S., Baker, J. S., István, B., & Gu, Y. (2021, June). Gender Differences in Kinematic Analysis of the Lower Limbs during the Chasse Step in Table Tennis Athletes. *Healthcare* 9, 703. IF: 3.160
8. Lv, X., **He, Y.**, Sun, D., Baker, J. S., Xuan, R., & Gu, Y. (2020). Effect of stud shape on lower limb kinetics during football-related movements. *Proceedings of the Institution of Mechanical Engineers, Part P: Journal of Sports Engineering and Technology*, 234(1), 3-10. IF: 1.263
9. Yang, X., Mei, Q., Shao, S., Gu, W., **He, Y.**, Zhu, R., & Gu, Y. (2022). Understanding Sex-Based Kinematic and Kinetic Differences of Chasse-Step in Elite Table Tennis Athletes. *Bioengineering*, 9(6), 246. IF: 5.046

Peer-reviewed journal papers without impact factor:

1. **He, Y.**, & Fekete, G. (2021). The Effect of Cryotherapy on Balance Recovery at Different Moments after Lower Extremity Muscle Fatigue. *Physical Activity and Health*, 5(1). (Scopus)
2. **He, Y.**, Shao, S., Fekete, G., Yang, X., Cen, X., Song, Y., Sun, D. & Gu, Y. Lower Limb Muscle Forces in Table Tennis Footwork during Topspin Forehand Stroke Based on the OpenSim Musculoskeletal Model: A Pilot Study. *Molecular & Cellular Biomechanics*, 19(4), 221–235. (EI, Scopus)
3. Shen, S. Q., **He, Y. Q.**, Zhang, Y., Fekete, G., & Zhou, Z. X. (2020). Biomechanical analysis of long distance running on different sports surfaces. In *Journal of Biomimetics, Biomaterials and Biomedical Engineering* 45, 31-39. (EI, Scopus)

Conference papers in proceedings:

1. **He Yuqi**, Gao Zixiang, Fekete Gusztáv, Mitic Dusan, and Gu Yaodong. Plantar force comparisons between the chasse step and one step footwork during topspin forehand using statistical parametric mapping. The 40th International society of Biomechanics in Sports Proceedings Archive. 2022. Liverpool, England
2. **Yuqi He**, Zixiang Gao, Gusztáv Fekete, Dusan Mitic, Yaodong Gu. The effect of cryotherapy on balance recovery at different moments after lower extremity muscle fatigue. The 27th European Society of Biomechanics. 2022. Porto, Portugal
3. **Yuqi He**, Zixiang Gao, Gusztáv Fekete, András Kovács, Aleksandar Nedeljkovic, Dusan Mitic, and Yaodong Gu. Lumbar and Pelvis Movement Comparison between Cross-court and Long-line Topspin Forehand Stroke: Based on Musculoskeletal Model. The 50th International Society of Biomechanics. 2023. Fukuoka, Japan
- 4.
5. **Yuqi He**, Zixiang Gao, Gusztáv Fekete, András Kovács, Dusan Mitic, and Yaodong Gu. Lower limb muscle forces in table tennis footwork during topspin forehand based on musculoskeletal. The 28th European Society of Biomechanics. 2023. Maastricht, Netherlands
6. **Yuqi He**, Changxiao Yu, Zhiqiang Liang, Zhexiao Zhou, Yaodong Gu. Comparing the kinematic characteristic between diagonal and straight shot in forehand loop from world-class table tennis athlete. 16th ITTF Sports Science Congress Sports Science Committee. 2019. Budapest, Hungary
7. **Yuqi He**. Comparing the Kinematic Characteristics of the Lower Limbs in Table Tennis: Differences between Diagonal and Straight Shots Using the Forehand Loop. The 20th National Conference of Biomechanics in Sports. 2020. Taiyuan, China
8. **Yuqi He**. A review of research methods of lower extremity resistance exercise in middle-aged and old people. The 3th International Forum on Sport and Health. 2018. Ningbo, China
9. Gao Zixiang, **He Yuqi**, Xiang Liangliang, Fekete Gusztáv, Kovács András, and Gu Yaodong. Automatically detecting fatigue gait based on time series bilateral plantar force distribution using deep learning algorithms. The 28th European Society of Biomechanics. 2023. Maastricht, Netherlands
10. Gao Zixiang, **He Yuqi**, Fekete Gusztáv, Gu Yaodong. Effects of running fatigue on knee joint symmetry among amateur runners. The 40th International society of Biomechanics in Sports Proceedings Archive. 2022. Liverpool, England
11. Zixiang Gao, **Yuqi He**, Gusztáv Fekete, Yaodong Gu. The effect of the running-induced fatigue on the symmetry of kinematics and kinematic variables of knee joint in a counter movement jump. The 27th European Society of Biomechanics. 2022. Porto, Portugal
12. Yang Song, Meizi Wang, Liangliang Xiang, **Yuqi He**, Biro Istvan, Yaodong Gu. Study on biomechanics of lower extremities affected by Outsole structure of different athletic shoes on Standing Long Jump. The 20th National Conference of Biomechanics in Sports. 2020. Taiyuan, China
13. Zhiqiang Liang, Changxiao Yu, **Yuqi He**, Xiang Lv, Yaodong Gu. The kinematics analysis of stride step of elite table tennis player. 16th ITTF Sports Science Congress Sports Science Committee. 2019. Budapest, Hungary
14. Changxiao Yu, Shirui Shao, Zhiqiang Liang, **Yuqi He**, Yaodong Gu. The biomechanical effects of two performance levels during table tennis cross step. 16th ITTF Sports Science Congress Sports Science Committee. 2019. Budapest, Hungary