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## 實驗室

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## 個人研究

- 2023
- Wei-Han Hui, Pei-Hsin Chiu, Ian-Ian Ng, Shu-Wei Chang, Chia-Ching Chou, **Hsiang-Ho Chen** (2023, Feb). Unraveling the molecular mechanism of collagen flexibility during physiological warmup using molecular dynamics simulation and machine

learning. Computational and Structural Biotechnology Journal, 21: 1630–8. (SCI, 70/296, Biochemistry & Molecular Biology). nstc 105–2221–E–038–016.

● 2022

● Shiu-an-Huei Lu, Yi-Chun Kuan, Kuan-Wen Wu, Hsuan-Yu Lu, Yu-Lin Tsai, **Hsiang-Ho Chen**, Tung-Wu Lu (2022, Dec). Kinematic strategies for obstacle-crossing in older adults with mild cognitive impairment. Frontiers in Aging Neuroscience , 14:950411. (SCI, 67/275, Neurosciences). nstc 108–2314–B–038–057.

● Shih-Hao Chen, Chih-Kun Hsiao, Chih-Wei Wang, **Hsiang-Ho Chen\***, Zheng-Cheng Zhong (2022, Jul). Biomechanical Comparison between Isobar and Dynamic Transitional Optima (DTO) Hybrid Lumbar Fixators: A Lumbosacral Finite Element and Intersegmental Motion Analysis. BioMed Research International, Volume 2022, Article ID 8273853. (SCI, 90/158, BIOTECHNOLOGY & APPLIED MICROBIOLOGY).

● Srisakul Chaichum1, Shuo-Ju Chiang, Masao Daimon, Su-Chen Chang, Chih-Lin Chan, Chu-Ying Hsu, **Hsiang-Ho Chen**, Ching-Li Tseng (2022, Feb). Segmental Tissue Speckle Tracking Predicts the Stenosis Severity in Patients With Coronary Artery Disease. Front. Cardiovasc. Med., 8:832096  
| <https://doi.org/10.3389/fcvm.2021.832096>. (SCI, 30/142, Cardiac & Cardiovascular Systems).

● 2021

● Hao-Yuan Tang, Shih-Hua Tan, Ting-Yu Su, Chang-Jung Chiang and **Hsiang-Ho Chen\*** (2021, Dec). Upper Body Posture Recognition Using Inertial Sensors and Recurrent Neural Networks. Applied Sciences, 11(24), 12101. <https://doi.org/10.3390/app112412101>. (SCI, 55/170, Engineering, Multidisciplinary). MOST 109–2221–E–038–007.

● Ting-Yu Su, Hao-Yuan Tang, Jason Shian-Ching Jang\*, Chih-Hwa Chen\*, **Hsiang-Ho Chen\*** (2021, Oct). Design and Development of Magnesium-Based Suture Anchor for Rotator Cuff Repair Using Finite Element Analysis and In Vitro Testing. Applied Sciences, 11, 9602:1–14. MOST 106–3114–E–038–001.

● Henni Setia Ningsih, Leonhard Tannesia, **Hsiang-Ho Chen**, Shao-Ju Shih (2021, Mar). Fabrication, Characterization and In Vitro Cytotoxicity of Mesoporous  $\beta$ -Tricalcium Phosphate Using the Spray Drying Method. Crystals. (SCI, 10/26, CRYSTALLOGRAPHY)

● 2020

● Li GY, Tang HY, **Chen HH** (2020, Nov). A Bed-Leaving Monitoring System Using Wireless Technology and Pressure-Sensitive Sensors. The 4th Global Conference on Biomedical Engineering & Annual Meeting of TSBME, Taipei.

● Lin YC, Su TY, Tang HY, **Chen HH** (2020, Nov). Kinematics of Shoulders with Rotator Cuff Repair Using New Suture Anchors in an Animal Model. The 4th Global Conference on Biomedical Engineering & Annual Meeting of TSBME, Taipei.

● Su TY, Tang HY, **Chen HH** (2020, Nov). Design and Finite Element Analyses of Suture Anchors for Rotator Cuff Repair in Normal and Osteoporotic Bones. The

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4th Global Conference on Biomedical Engineering& Annual Meeting of TSBME, Taipei.

- Tang HY, Ho CY, **Chen HH** (2020, Nov). An Artificial Intelligence System with Wearable Devices for Correction of Inadequate Posture. The 4th Global Conference on Biomedical Engineering & Annual Meeting of TSBME, Taipei.
  - 2019
  - Chin-Chean Wong, Pei-Chun Wong, Pei-Hua Tsai, Jason Shian-Ching Jang, Cheng-Kung Cheng, **Hsiang-Ho Chen**, Chih-Hwa Chen (2019, May).
  - Biocompatibility and Osteogenic Capacity of Mg-Zn-Ca Bulk Metallic Glass for Rabbit Tendon-Bone Interference Fixation. International Journal of Molecular Sciences, 20:2191; doi:10.3390/ijms20092191. MOST 106-3114-E-038-001.
  - Chen YC, Tang HY, Ho CY, Chen CH, **Chen HH** (2019, Nov). Functional analysis of shoulders with rotator cuff repair using suture anchor fixation in an animal model.. 10th Asia-Pacific Conference on Biomechanics 2019, Taipei, Taiwan.
  - Hsu JY, Tang HY, Chang CC, **Chen HH** (2019, Nov). Effects of helmet weight and seat angle on spinal loading of aviators under high G-force.. 10th Asia-Pacific Conference on Biomechanics 2019, Taipei, Taiwan.
  - Su TY, Tang HY, Legras G, **Chen HH** (2019, Nov). Design and finite element analysis of interference screws for ACL repair.. 10th Asia-Pacific Conference on Biomechanics 2019, Taipei, Taiwan.
  - Tang HY, Pai CA, **Chen HH** (2019, Nov). Design and Finite Element Analysis of Suture Anchors for Soft-tissue Repair.. International Society of Biomechanics /American Society of Biomechanics 2019, Calgary, Canada.
  - 2018
  - Liu, Xinrui; **Chen, Hsiang-Ho**; Lin, Yu-Chien; Nabilla, Sasza Chyntara; Liu, Wai-Ching; Wang, Wen-Chi; Shih, Shao-Ju; Li, Yunqian; Lin, Ching-Po; Zhao, Gang; Chung, Ren-Jei. (2018, Apr). Composite Polyelectrolyte Multilayer and Mesoporous Bioactive Glass Nanoparticle Coating on 316L Stainless Steel for Controlled Antibiotic Release and Biocompatibility.. Journal of Biomedical Nanotechnology, 14 (4): 725-35. (SCI, MATERIALS SCIENCE, BIOMATERIALS).
  - Po-Yen Chen, Hao-Yuan Tang, Che-An Pai, Chaur-Jong Hu, **Hsiang-Ho Chen** (2018, Nov). Brain responses from heading a soccer corner kick in different areas of the penalty box.. 21st International Conference on Mechanics in Medicine & Biology, Taipei, ROC. MOST 106-2221-E-038-013.
  - Ian Ian Ng, Shu-Wei Chang, Chia-Yu Ho, **Hsiang-Ho Chen** (2018, Jul). Effects of temperature and hydration on mechanical properties of different collagen molecules: a study using molecular dynamics. 8th World Congress of Biomechanics, Dublin, Ireland.
  - Po-Yen Chen, Chaur-Jong Hu, **Hsiang-Ho Chen** (2018, Jul). Effect of different landing regions after corner kicking on brain responses during soccer-heading impact. 8th World Congress of Biomechanics, Dublin, Ireland.
-

- Yu-Lin Tsai, Tsan-Yang Chen, Wei-Chun Lee, Yang-Chieh Fu, **Hsiang-Ho Chen**, Tung-Wu Lu (2018, Jul). Lower Limb Kinematics in Children with Developmental Dysplasia of the Hip with or without Avascular Necrosis after Osteotomy During Obstacle-Crossing: Preliminary Results. ISB 3D AHM Symposium, Manchester, England.
  - 2017
  - **Hsiang-Ho Chen**, Cheng-Han Chung, Chi-Chen Lee, Cheng-Shu Yang, Yu-Shin Wen, Chi-Lien Lee, Kwo-Tsao Chiang (2017, May). Analysis of Intervertebral Angulations and Musculoskeletal Symptoms of the Spine in the Military Aircrews of Taiwan. Biomedical Engineering - Applications, Basis and Communications, Vol. 29, No. 2 1750010-1~10 DOI: 10.4015/S1016237217500107. (EI). Ministry of National Defense-Medical Affairs Bureau: 99-I-36, 100-I-123.
  - **Hsiang-Ho Chen**, Wei-Yi Lai, Tze-Jian Chee, Ya-Hui Chan, Sheng-Wei Feng (2017, Mar). Monitoring the Changes of Material Properties at Bone-Implant Interface during the Healing Process in Vivo: A Viscoelastic Investigation. BioMed Research International, Volume 2017, Article ID 1945607, 10 pages; <https://doi.org/10.1155/2017/1945607>. (SCI, 82/161, Biotechnology & Applied Microbiology).
  - Shen YH, Chiang SJ, Chen CH, **Chen HH** (2017, Aug). BIOMECHANICAL COMPARISON OF WARM-UP PROCEDURES FOR ACHILLES TENDON. ASB2017, Boulder, CO, USA. MOST 105-2221-E-038-016.
  - Ng II, Chang SW, **Chen HH** (2017, Jul). EFFECT OF TEMPERATURE AND HYDRATION ON THE MECHANICAL PROPERTIES OF COLLAGEN MOLECULE: A COMPUTATIONAL STUDY USING MOLECULAR DYNAMICS. ISB2017, Brisbane, Australia.
  - Shen YH, Chiang SJ, Chen CH, **Chen HH** (2017, Jul). BIOMECHANICAL COMPARISON OF WARM-UP PROCEDURES FOR ACHILLES TENDON. ISB2017, Brisbane, Australia. MOST 105-2221-E-038-016.
  - Liu, Xinrui; **Chen, Hsiang-Ho**; Lin, Yu-Chien; Nabilla, Sasza Chyntara; Liu, Wai-Ching; Wang, Wen-Chi; Shih, Shao-Ju; Li, Yunqian; Lin, Ching-Po; Zhao, Gang; Chung, Ren-Jei. (2018, Apr). Composite Polyelectrolyte Multilayer and Mesoporous Bioactive Glass Nanoparticle Coating on 316L Stainless Steel for Controlled Antibiotic Release and Biocompatibility.. Journal of Biomedical Nanotechnology, 14 (4): 725-35. (SCI, MATERIALS SCIENCE, BIOMATERIALS).
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