

WOEI CHYN, CHU (朱唯勤)

**Refereed Journals:** (2014-2024)

(July 2024)

摘要：2021~迄今共發表 19 篇 SCI 期刊論文，其中 12 篇以通訊作者身份發表；10 篇為 Q1 論文，9 篇為 Q2 論文；共獲得台灣、美國、歐盟、中國五件發明專利，二件（美國、中國 PCT）發明專利申請中，提出二件美國臨時發明專利申請。2022 研發之椎體重建手術產品 (iKyphe) 獲得美國 FDA Safer Technology Program (STeP) 認證。2023、2024 取得兩件台灣衛生福利部二類醫療器材許可證（相關資訊詳如下）。

70. Ching Hua Hsiao, P. J. Cheng, Y. J. Tseng, R. C. Chen, Woei-Chyn Chu,\* “Extended first-trimester screening using multiple sonographic markers and maternal serum biochemistry: A 5-year prospective study,” *Fetal Diagnosis and Therapy*, 35(6):296-301, 2014. DOI: 10.1159/000357564. (SCI) (本人為通訊作者)
71. Peihung Liao, William Chu and Woei-Chyn Chu,\* “Evaluating of the Mining Techniques in Constructing a Traditional Chinese-Language Nursing Recording System,” *CIN – Computers, Informatics, Nursing*, 32(5):223-231, 2014. (SCI) (本人為通訊作者)
72. Way-Ren Huang, Ruo-Chia Tseng, Yung-Fu Hsu, Tso-Ying Lee, and Woei-Chyn Chu,\* “Using BPMN to Model a Patient Safety Promulgation Service Based on a Clinical Process,” *Proceedings of Engineering and Technology Innovation*, Vol. 1, 36-39, 2015. (本人為通訊作者)
73. Ching Hua Hsiao, Po Jen Cheng, S.W. Steven Shaw, Yin Jiun Tseng, Ran Chou Chen, Woei-Chyn Chu,\* “The BS/BSOB ratio in aneuploidy fetuses at 11-13 weeks gestation in a Chinese population,” *Fetal Diagnosis and Therapy*, 37(4):321-326, May 2015. (SCI) (本人為通訊作者)
74. Li-Fong Lin, Tsan-Hon Liou, Chaur-Jong Hu, Hon-Ping Ma, Ju-Chi Ou, Yung-Hsiao Chiang, Wen-Ta Chiu, Shin-Han Tsai\* and Woei-Chyn Chu,\* “Balance function and Sensory Integration After Mild Traumatic Brain Injury,” *Brain Injury*, 29(1):41-46, 2015. DOI: 10.3109/02699052.2014.955881. (SCI) (本人為通訊作者)
75. Pei-Hung Liao, Pei-Ti Hsu, William Chu and Woei-Chyn Chu,\* “Applying Artificial Intelligence Technology to Support Decision Making in Nursing – A Case Study in Taiwan,” *Health Informatics Journal*, 21(2):137-148, 2015. (SCI) (本人為通訊作者)
76. Cheng-Yu Ho, Pei-Chun Li,\* Yuan-Chuan Chiang, Shuenn-Tsong Young and Woei-Chyn Chu,\* “The Binaural Masking-Level Difference of Mandarin Tone Detection and the Binaural Intelligibility-Level Difference of Mandarin Tone Recognition in the

\*Corresponding author

- Presence of Speech-Spectrum Noise,” PLoS ONE. 2015; 10 (4): e0120977. doi:10.1371/journal.pone.0120977. (SCI) (本人為通訊作者)
77. Yin-Jiun Tseng, William Chu and Woei-Chyn Chu,\* “Intramedullary Endo-Transilluminating Device for Interlocking Nailing Procedures,” ASME Transactions of Journal of Medical Devices, 9(3):030906-1 – 030906-2, 2015. MED-15-1061. doi: 10.1115/1.4030543, 2015. (SCI) – also presented at the Design of Medical Devices 2015 conference, Minneapolis, MN, USA. (本人為通訊作者)
78. Sheng-Fan Wang, Min-Wei Su, SP Tseng, MC Li, CH Tsao, SW Huang, Woei-Chyn Chu, WT Liu, Yi-Ming Arthur Chen\* and Jason C. Huang,\* “Analysis of Codon Usage Preference in Hemagglutinin Genes of the Swine-Origin Influenza A (H1N1) Virus,” Journal of Microbiology, Immunology and Infection, 49(4):477-486, August 2016. DOI: <http://dx.doi.org/10.1016/j.jmii.2014.08.011>. (SCI)
79. Cheng-Yu Ho, Pei-Chun Li,\* Shuenn-Tsong Young and Woei-Chyn Chu,\* “Preliminary measurements of the binaural masking-level difference when using hearing aids in sensorineural hearing loss,” Journal of Medical and Biological Engineering, Vol. 36(5): 1-7, November, 2016. (JMBE-2246), DOI : 10.1007/s40846-016-0174-4. (SCI) (本人為通訊作者)
80. Ya-Xuan Hung, Pei-Chen Huang, Kuan-Ta Chen and Woei-Chyn Chu,\* “What Do Stroke Patients Look For in Game-Based Rehabilitation - A Survey Study,” Medicine, 95(11): 1-10, March 2016. DOI: 10.1097/MD.00000000000003032. (SCI) (本人為通訊作者)
81. Way-Ren Huang, Yiching Wang, Woei-Chyn Chu and Ruo-Chia Tseng,\* “Refined-mapping of the nobel TSG within the 17q24.3 chromosomal region in non-small cell lung cancer samples,” Oncology Letters, Vol. 12(3): 1975-1980, September 2016. DOI: 10.3892/ol.2016.4812 (SCI)
82. Chia-Yeh Hsieh, Kai-Chun Liu, Chih-Ning Huang, Woei-Chyn Chu and Chia-Tai Chan,\* “Novel Hierarchical Fall Detection Algorithm Using Multiphase Fall Model,” Sensors, Vol. 17(2):307, 1-21, Feb. 2017. (SCI)
83. Way-Ren Huang, Chia-Jen Hsieh, Ke-Chiun Chang,\* Yen-Jo Kiang, Chien-Chung Yuan, and Woei-Chyn Chu,\* “Network Characteristics and Patent Value - Evidence from the Light-Emitting Diode Industry,” PLOS ONE, Vol. 12(8): e0181988, 17 August 2017. (SCI) (<https://doi.org/10.1371/journal.pone.0181988>) (本人為通訊作者)
84. Chia-Jui Hsieh, Ta-Ko Huang, Tung-Han Hsieh, Guo-Huei Chen, Kun-Long Shih, Zhan-Yu Chen, Jyh-Cheng Chen\* and Woei-Chyn Chu,\* “Compressed sensing based CT reconstruction algorithm combined with modified Canny edge detection,” Physics in Medicine and Biology, 63(15):155011, July 2018. (SCI IF: 4.174, JCR category rank: 44/308 (Q1) in category: HEALTH PROFESSIONS - RADIOLOGICAL AND ULTRASOUND TECHNOLOGY.) (<https://doi.org/10.1088/1361-6560/aacece>) (本人為通訊作者)

\*Corresponding author

85. Shih-Chun Jin, Chia-Jui Hsieh, Jyh-Cheng Chen,\* Shih-Huan Tu, Ya-Chen Chen, Tzu-Chien Hsiao, Angela Liu, Wen-Hsiang Chou, Woei-Chyn Chu,\* and Chih-Wei Kuo, "Development and Application of Limited Angle Iterative Reconstruction Algorithms with Context Encoder based Sinogram Completion on a micro-CT System," *Sensors*, 18(12): 1-18, 2018. doi: 10.3390/s18124458 (SCI IF: 3.847, JCR category rank: (Q1) in category: INSTRUMENTATION) (本人為通訊作者)
86. Chia-Jui Hsieh, Shih-Chun Jin, Jyh-Cheng Chen,\* Chih-Wei Kuo, Ruei-Teng Wang and Woei-Chyn Chu,\* "Comparison of sparse-view CT reconstruction via different number of directions for total variation calculation," *PLoS ONE*, 14(1): 1-24, January 2019. <https://doi.org/10.1371/journal.pone.0209674> (SCI IF: 3.752, JCR category rank: 15/120 (Q1) in category: MULTIDISCIPLINARY - MULTIDISCIPLINARY) (本人為通訊作者)
87. Jia-Hong Sie, Yin-Hua Chen, Chih-Yen Chang, Nai-Shing Yen,\* Woei-Chyn Chu,\* Yuo-Hsien Shiau,\* "Altered Central Autonomic Network in Baseball Players: A Resting-state fMRI Study," *Scientific Reports*, 9(110): 1-10, January 2019. (SCI IF: 4.997, JCR category rank: 11/120 (Q1) in category: MULTIDISCIPLINARY - MULTIDISCIPLINARY) DOI:10.1038/s41598-018-36329-9 (本人為通訊作者)
88. Jia-Hong Sie, Yin-Hua Chen, Yuo-Hsien Shiau\* and Woei-Chyn Chu,\* "Gender- and Age-Specific Differences in Resting-State Functional Connectivity of the Central Autonomic Network in Adulthood," *Frontiers in Human Neuroscience*, 13(369):1-13, October 2019. (SCI IF 3.473, JCR category rank: 162/529 (Q1) in category: MEDICINE - PSYCHIATRY AND MENTAL HEALTH) DOI: 10.3389/fnhum.2019.00369 (本人為通訊作者)
89. Shih-Hao Cheng, Kee-Hsin Chen, Chieh-feng Chen, Woei-Chyn Chu,\* Yi-No Kang,\* "The optimal strategy of vitamin D for sarcopenia: A network meta-analysis of randomized controlled trials," *Nutrients* 13(10), 3589:1-14, October 2021. (SCI IF: 6.706, JCR category rank: 14/124 (Q1) in category: NUTRITION & DIETETICS.) DOI: 10.3390/nu13103589. <https://doi.org/10.3390/nu13103589> (本人為通訊作者)
90. Woei-Chyn Chu, William Chu, Yin-Jiun Tseng, "Surgical procedures improved; patient safety enhanced," *Impact*, 2021(8), 61-63, October 2021. <https://doi.org/10.21820/23987073.2021.8.61> (<https://www.ingentaconnect.com/content/sil/impact/2021/00002021/00000008/art00023>)
91. Ching Hua Hsiao, Ching Hsuan Chen, Po Jen Cheng, Steven W. Shaw, Ran Chou Chen and Woei-Chyn Chu, "The impact of prenatal screening tests on prenatal diagnosis in Taiwan from 2006 to 2019: A regional cohort study," *BMC Pregnancy and Childbirth*, Vol. 22(23):1-8, January 2022. (SCI IF: 2.940, JCR category rank: 21/181 (Q1) in category: OBSTETRICS AND GYNECOLOGY)

\*Corresponding author

92. Yung-Fu Hsu, Chu-Sung Cheng and Woei-Chyn Chu,\* “COMPASS: A Pragmatic Real-time Indoor Positioning System Based on Active RFID,” *Human-centric Computing and Information Sciences*, 12(7):1-19, 15 February 2022 (SCI IF: 6.558, JCR category rank: 27/164 (Q1) in category: COMPUTER SCIENCES, INFORMATION SYSTEMS.) DOI: <https://doi.org/10.22967/HICIS.2022.12.007> (本人為通訊作者)
93. Yi-Cheng Wu, Yi-Li Ko, Jack Yu-Jen Huang, Chiou-Chung Yuan, Peng-Hui Wang, Ching Hsuan Chen, Ching Hua Hsiao\* and Woei-Chyn Chu,\* “Cervical power Doppler angiography with micro vessel blood flow indices in the auxiliary diagnosis of acute cervicitis,” *Diagnostics*, 12(5), 1131, May 3, 2022 (SCI IF: 3.992, JCR category rank: (Q2) in category: MEDICINE, GENERAL & INTERNAL.) DOI: <https://doi.org/10.3390/diagnostics12051131> (本人為通訊作者)
94. Hao-Jan Wang, Chi-Ping Su, Chien-Chih Lai, Wun-Rong Chen, Chi Chen, Liang-Ying Ho, Woei-Chyn Chu and Chung-Yueh Lien,\* “Deep Learning-Based Computer-Aided Diagnosis of Rheumatoid Arthritis with Hand X-ray Images Conforming to Modified Total Sharp/van der Heijde Score,” *Biomedicine - 1729454*, 10, 1355, June 8, 2022 (SCI IF: 4.757, JCR category rank: 132/276 (Q1) in category: MEDICINE - MEDICINE (MISCELLANEOUS).) DOI: 10.3390/biomedicines10061355
95. Shih-Hao Cheng, Chiehfeng Chen, Woei-Chyn Chu,\* Yi-No Kang,\* “Effects of Vitamin D on sarcopenia outcome in community-dwelling older adults might vary in age,” *Journal of Cachexia, Sarcopenia and Muscle*, 13:2581-2583, July 8, 2022. (SCI IF: 12.910, JCR category rank: 2/67 (Q1) in category: GERIATRICS & GERONTOLOGY); 9/169 (Q1) in category: MEDICINE, GENERAL & INTERNALM). DOI: 10.1002/jcsm.13038 (本人為通訊作者)
96. Way-Ren Huang, Ruo-Chia Tseng,\* and Woei-Chyn Chu, “Establishing a Prediction Model by Machine Learning for Accident-Related Patient Safety,” *Wireless Communications and Mobile Computing*, July 29, 2022 (SCI IF: 2.146, JCR category rank: (Q2) in category: COMPUTER SCIENCE – COMPUTER NETWORKS & COMMUNICATIONS; ENGINEERING – ELECTRICAL & ELECTRONIC ENGINEERING.) <https://doi.org/10.1155/2022/1869252>
97. Ching Hua Hsiao,\* Jia Shing Chen, Yu Ming Shiao, Ching Hsuan Chen, Yann-Jang Chen, Yi-Cheng Wu, and Woei-Chyn Chu, “Prenatal diagnosis using chromosomal microarray analysis in high-risk pregnancies,” June 21, 2022. *Journal of Clinical Medicine (JCM)*. (SCI IF: 5.583, JCR category rank: 15/154 (Q1) in category: MEDICINE, GENERAL & INTERNAL)
98. Yi-Cheng Wu, Ching-Hsuan Chen, Yi-Li Ko, Chiou -Chung Yuan, Peng-Hui Wang\* and Woei-Chyn Chu,\* “Classification of Vascular Hotspots and MicroVessel Flow Velocity Waveforms in Low-Grade Squamous Intraepithelial Lesions and HPV Condyloma of the Cervix,” *Diagnostics*, 12(10), 2390, October 1, 2022 (SCI IF: 3.992, JCR category rank: (Q2) in category: MEDICINE, GENERAL & INTERNAL.) DOI: <https://doi.org/10.3390/diagnostics12102390> (本人為通訊作者)

\*Corresponding author

99. Chun-Liang Hsu, Tsu-Te Yeh, Pei-Hung Shen, Jui-Jung Yang, Woei-Chyn Chu\* and Chia-Chun Wu,\* “Precise Joint Preserving Surgery by Using Three-Dimensional Printing Technology for Metastatic Periacetabular Bone Tumor: A Technique Note and Preliminary Report,” Journal of the Formosan Medical Association. Available online 12 November 2022 (SCI IF: 3.871, JCR category rank: (Q2) in category: MEDICINE, GENERAL & INTERNAL.) DOI: <https://doi.org/10.1016/j.jfma.2022.10.013> (本人為通訊作者)
100. Zeng-Ze Chen, Jia-He Lin, Woei-Chyn Chu and Chuen-Yeh Lien, “BlueLight: An Open Source DICOM Viewer Using Low-Cost Computation Algorithm Implemented using JavaScript for Advanced Medical Imaging Visualization,” Journal of Digital Imaging, November 23, 2022 (SCI IF: 4.903, JCR category rank: (Q1) in category: RADIOLOGY, NUCLEAR MEDICINE AND IMAGING; (Q1) in category: COMPUTER SCIENCE APPLICATIONS.) DOI: [10.1007/s10278-022-00746-0](https://doi.org/10.1007/s10278-022-00746-0)
101. Chung-Yueh Lien, Tseng-Tse Chen, En-Tung Tsai, Yu-Jer Hsiao, Ni Lee, Chong-En Gao, Yi-Ping Yang, Shih-Jen Chen, Aliaksandr A. Yarmishyn, De-Kuang Hwang, Shih-Jie Chou, Woei-Chyn Chu, Shih-Hwa Chiou\*, Yueh Chien\*, “Recognizing the Differentiation Degree of Human Induced Pluripotent Stem Cell-Derived Retinal Pigment Epithelium Cells Using Machine Learning and Deep Learning-Based Approaches,” **published online**, Cells, January 4, 2023 (SCI IF: 7.666, JCR category rank: (Q1) in category: GENERAL BIOCHEMISTRY, GENETICS AND MOLECULAR BIOLOGY.)
102. Shih-Tsang Tang, Victoria Tjia, Thalia Noga, Jeshika Febri, Chung-Yueh Lien, Woei-Chyn Chu, Chin-Yu Chen and Chia-Hung Hsiao, “Creating a Medical Imaging Workflow Based on FHIR, DICOMweb, and SVG,” **published online**, Journal of Digital Imaging, February 2, 2023 (SCI IF: 4.903, JCR category rank: (Q2) in category: COMPUTER SCIENCE APPLICATIONS). DOI: <https://doi.org/10.1007/s10278-021-00522-6>
103. Hui-Shan Chang, Chao-Yang Lee, Xianhui Wang, Shuenn-Tsong Young, Cheng-Hsuan Li, Woei-Chyn Chu\*, “Emotional tones of voice affect the acoustics and perception of Mandarin tones,” **published online**, PLoS ONE, April 5, 2023 (SCI IF: 3.752, JCR category rank: 15/120 (Q1) in category: MULTIDISCIPLINARY - MULTIDISCIPLINARY). (本人為通訊作者)
104. Hsin-Tzu Lu, Jia-Yi Lin, Yu-Chuan Tsuei, Yung-Fu Hsu, Chung-Yi Chen, Shih-Hao Cheng, William Chu\*, Chuan Li, Woei-Chyn Chu\*, “Impact of Aspiration Percutaneous Vertebroplasty in Reducing Bone Cement Leakage and Enhancing Distribution — an ex vi-vo Study in Goat Vertebrae,” **published online**, Bioengineering, 10(7), 795; July 3, 2023 (SCI IF: 5.046, JCR category rank: 49/151 (Q2) in category: CHEMICAL ENGINEERING - BIOENGINEERING.) DOI: <https://doi.org/10.3390/bioengineering10070795> (本人為通訊作者)
105. Shih-Hao Cheng, Wen-Hsiang Chou, Yu-Chuan Tsuei, William Chu and Woei-Chyn Chu\*, “Assessment of cement leakage in decompressed kyphoplasty,” **published online**, Journal of Clinical Medicine, 13(1), 345; January 8 2024 (SCI IF: 4.964,

\*Corresponding author

JCR category rank: 133/826 (Q1) in category: MEDICINE, GENERAL & INTERNAL.) DOI: <https://doi.org/10.3390/jcm13020345> (本人為通訊作者)

106. Shih-Hao Cheng, Yen-Tsung Lin, Hsin-Tsu Lu, Yu-Chuan Tsuei, William Chu\* and Woei-Chyn Chu,\* “The Evolution of Spinal Endoscopy: Design and Image Analysis of a Single-Use Digital Endoscope Versus Traditional Optic Endoscope,” **published online**, Journal of Bioengineering, 11(1), 99; January 20 2024 (SCI IF: 5.046, JCR category rank: 49/151 (Q2) in category: CHEMICAL ENGINEERING – BIOENGINEERING; ENGINEERING, BIOMEDICAL.) DOI: <https://doi.org/10.3390/bioengineering11010099> (本人為通訊作者)
107. Yi-Cheng Wu, Ching-Hsuan Chen, Hsin-Tzu Lu, Yu-Li Lee, Pi-Yu Chen, Ting-Yu Wu, Ming-Hsun Tien, Chiung-Hui Wu, Jack Yu Jen Huang, Ching-Hua Hsiao,\* and Woei-Chyn Chu,\* “Fetal Aortic Blood Flow Velocity and Doppler Profiles in the First Trimester: A Comprehensive Study Using HD-Flow Ultrasonography,” **published online**, Journal of Bioengineering, 11(4), 378; April 15 2024 (SCI IF: 5.046, JCR category rank: 49/151 (Q2) in category: CHEMICAL ENGINEERING – BIOENGINEERING; ENGINEERING, BIOMEDICAL.) DOI: <https://doi.org/10.3390/bioengineering11040378> (本人為通訊作者)
108. Shin-Ya Su, Chung-Yueh Lien, Pai-Jung Huang and Woei-Chyn Chu,\* “A Practical Computer Aided Diagnosis System for Breast Ultrasound Classifying Lesions into the ACR BI-RADS Assessment,” **published online**, Journal of Medical and Biological Engineering, 1-11, June 1, 2024 (SCI IF: 2.0, JCR category rank: (Q2) in category: BIOENGINEERING; ENGINEERING, BIOMEDICAL.) DOI: 10.1007/s40846-024-00869-5 (本人為通訊作者)

**CONFERENCE PRESENTATIONS AND ENGINEERING INDEXED (EI) PAPERS:**

94. Hanna S. Yuan and Woei-Chyn Chu, “Molecular basis for the increased thermal stability of the disease-linked TDP-43 mutants,” International Conference on Mathematical Biology, Tokyo, Japan, May 29-30, 2014.
95. Hanna S. Yuan and Woei-Chyn Chu, “TDP-43 domain assembly and RNA binding specificity,” The IUCr 2014 Conference, Montreal, Canada, August 5-10, 2014.
96. Yin-Jiun Tseng, William Chu and Woei-Chyn Chu,\* “Intra-Medullary Endo-Transilluminating Device,” 2014 Global Conference on Biomedical Engineering (GCBME), Tainan, Taiwan ROC, October 9-12, 2014.
97. Yin-Jiun Tseng, William Chu and Woei-Chyn Chu,\* “Intramedullary Endo-Transilluminating Device for Interlocking Nailing Procedures,” ASME Transactions of Journal of Medical Devices. (SCI) – presented at the Design of Medical Devices 2015 conference, Minneapolis, MN, USA, April 13-16, 2015. (**Invited Talk**)

\*Corresponding author

98. Chia-Yeh Hsieh, Chih-Ning Huang, Kai-Chun Liu, Woei-Chyn Chu, Chia-Tai Chan,\* “A machine learning approach to fall detection algorithm using wearable sensor,” 2016 International Conference on Applied System Innovation (IEEE ICASI 2016), Okinawa, Japan, May 28-June 1, 2016. (**Recipient of the Best Conference Paper Award**).
99. Yueh-Hsun Shih, Kuang-Te Yen, Chia-Hung Hsiao\* and Woei-Chyn Chu,\* “A Framework for Sharing Medical Image Report and Annotations using XML,” 2017 International Forum on Medical Imaging in Asia (IFMIA 2017), Tenbusu, Naha, Okinawa, Japan, January 19-20, 2017. (**Invited Talk**).
100. Meng-Tse Wu, Woei-Chyn Chu, Wei-An Chen, Yun-Huan Lu, Shih-Chun Jin, Wen-Hsiang Chou, Kai-Chieh Liang, Jyh-Cheng Chen, “Geometric Calibration on a preclinical Cone-Beam Computed Tomography,” Joint Annual Conference on Biomedical Sciences 2017, March 25-26, 2017, Neihu, Taipei, Taiwan ROC.
101. Wen-Jeng Li, Chia-Yeh Hsieh, Li-Fong Lin, Woei-Chyn Chu,\* “Hand Gesture Recognition for Post-stroke Rehabilitation using Leap Motion,” 2017 International Conference on Applied System Innovation (IEEE ICASI 2017), May 13-17, 2017, Hotel emisia, Sapporo, Japan. (**Recipient of the Best Conference Paper Award**).
102. Way-Ren Huang, Ruo-Chia Tseng, Tso-Ying Lee, Chun-Wen Huang and Woei-Chyn Chu,\* “A Method of Using Machine Learning to Predict Falls Risk,” The Second International Conference on Medical and Health Informatics 2018 (ICMHI 2018), Tsukuba, Japan, June 8-10, 2018.
103. Chia-Hung Hsiao, Yu-An Chen, Wen-Yih Liang, An-Shun Liu, et. al., Woei-Chyn Chu,\* “Computer-aided pathology image processing and its standardized specification,” 2018 Chinese Medical Association Joint Annual Meeting, Taipei International Convention Center, 2018/06/30
104. Sheng-Jun Zhong, Pei-Chun Li, Woei-Chyn Chu, Shih-Tsang Tang, Sin-Hua Jhang and Ying-Hui Lai, “Rubbing-Noise-Reduction Approach for Body-Worn Hearing-Aid Users Based on Deep-Learning Technology,” 2018 Global Conference on Biomedical Engineering (GCBME), Taoyuan, Taiwan ROC, November 30 – December 3, 2018.
105. Wen-Yih Liang, Yu-An Chen, Woei-Chyn Chu, “Development and Validation of an Automated Tool for Ki67 Assessment of Neuroendocrine Tumors,” 2019 Annual Meeting of the United States and Canadian Academy of Pathology (USCAP 2019), National Harbor, Maryland, USA, March 16 – 21, 2019.
106. Pei-Chi Guo, Chun-Shien Wu, Po-Chou Chen, Jia-Hong Sie, An-Shun Liu, Ching Hua Hsiao and Woei-Chyn Chu,\* “Brain Reorganization in Soccer Athletes: A Voxel-based Morphometric Study,” The 7th International Congress on Magnetic Resonance Imaging & 24th Annual Scientific Meeting of KSMRM, Grand Walkerhill Seoul, Korea, March 28-30, 2019. (Poster & Oral)
107. Hsin-Ya Su, An-Shun Liu, Chung-Yueh Lien, Chia-Hung Hsiao, Shih-Tsang Tang and Woei-Chyn Chu,\* “Multi-task Mass Classification in Mammography: End-to-end processing with deep convolutional neural network,” The 1st International Conference on Machine Learning and Intelligent Systems (MLIS2019), National Dong Hwa University, Huilian, Taiwan ROC, November 19-22, 2019.

\*Corresponding author

108. Zeng-Ze Chen, Jia-He Lin, Woei-Chyn Chu and Chuen-Yeh Lien, “Bluelight: Taiwan Open Source Web Medical Image Viewer,” Joint Conference on Medical Informatics in Taiwan (JCMIT) 2020, Web Conference, Taipei, Taiwan ROC, August 9-15, 2020. **(Best Oral Presentation Paper Award)**
109. Yu-Chuan Tsuei, William Chu, Pei-Hung Liao, An-Shun Liu, Wen-Hsiang Chou, Man-Kuan Au and Woei-Chyn Chu,\* “Experimental and Clinical Results of Bipedicular Decompressed Balloon Kyphoplasty: Laminated Deposition Governed by the Nonlinear Navier-Stoke Equation Reduces Cement Leakage in Treating Osteoporotic Vertebral Compression Fracture,” The 4th GCBME Global Conference on Biomedical Engineering (GCBME) 2020 and TSBME 2020, Taipei, Taiwan ROC, November 12~14, 2020.
110. Shih Hao Cheng, William Chu, and Woei-Chyn Chu,\* “Does vertebroplasty with high-viscosity cement reduce the risk of cement leakage compared to traditional low-viscosity cement?,” The 4th GCBME Global Conference on Biomedical Engineering (GCBME) 2020 and TSBME 2020, Taipei, Taiwan ROC, November 12~14, 2020.
111. Yu-Chih Chang, An-Shun Liu, Woei-Chyn Chu,\* “Using Deep Learning Algorithms in Chest X-ray Image COVID-19 Diagnosis,” 2021 IEEE 3rd Eurasia Conference on Biomedical Engineering, Healthcare and Sustainability (ECBIOS2021). Article Identifier: 317374, pp. 74-76. Web Conference, May 28~30, 2021. DOI: 10.1109/ECBIOS51820.2021.9510393.
112. Pei-Jing Chan, An-Shun Liu, Woei-Chyn Chu,\* “Using Deep Learning to Locate Lung Tumor from Chest X-ray Images,” 2021 IEEE 3rd Eurasia Conference on Biomedical Engineering, Healthcare and Sustainability (ECBIOS2021). Article Identifier: 317388, pp. 77-79. Web Conference, May 28~30, 2021. DOI: 10.1109/ECBIOS51820.2021.9510775.
113. Chun-Hsiang Liao, Yung-Fu Hsu, Woei-Chyn Chu,\* “The Use of Multi-Phase Constraints Algorithm to Construct a Bluetooth Low Energy Based Indoor Tracking System,” Taiwan Conference on Software Engineering (TCSE2021). Web Conference, July 8~9, 2021, Jin-Yi University, Taichung, Taiwan.
114. Chung-Yi Chen, Yung-Fu Hsu, Chih-Hsuan Lin, William Chu, Yu-Chuan Tsuei, Yin-Jiun Tseng, Yi-Hsuan Kao, Woei-Chyn Chu,\* “A Phantom Study of Bone Cement Leakage and Injection Homogeneity in Decompressed Vertebroplasty,” 2021 International Conference on Interdisciplinary Innovation for the Post-Epidemic Era (ICII2021), Online only, July 30, 2021, Miaoli, Taiwan.
115. Chen ZZ, Chu WC, Chiou SH, Lien CY, “以卷積神經網路建構誘導性多能幹細胞分化之分類模型,” oral presentation, TSBME 2021, November 19 - November 20, 2021, National Chung Hsing University, Taichung, Taiwan.
116. Lee CL, Lee JS, Chen ZZ, Chu WC, Sun YC, Lien CY, “發展基於開源和分散式架構開發之綜合性醫學影像研究資料庫,” TSBME 2021, November 19 - November 20, 2021, National Chung Hsing University, Taichung, Taiwan.

\*Corresponding author

117. Jia-Yi Lin, Chung-Yi Chen, Chih-Hsuan Lin, William Chu, Yu-Chuan Tsuei, Woei-Chyn Chu, "A Study of Bone Cement Infusion Benefits with Sheep Vertebra in Decompressed Vertebroplasty," accepted for poster presentation, TwICHE Conference, Exposition Hall, Kaoshiung, January 1~7, 2022.
118. Tzu-Yang Chiu, Chung-Yi Chen, Jia-Yi Lin, William Chu, Yu-Chuan Tsuei, Shih-Hao Cheng, An-Shun Liu, Q. Li, Woei-Chyn Chu,\* 「以 3D 列印製作脊椎假體模擬人體體溫骨水泥灌注之研究」 - The use of 3D printed prosthetic vertebrae to study body temperature bone cement injection outcomes. 「2022 中華民國生醫材料及藥物釋放學會」壁報論文特優獎。新竹市國立清華大學，2022/9/2.

**JOURNAL, CONFERENCE AND GRANT REVIEWERS:**

Applied Radiation and Isotopes (SCI)

Biomedical Engineering, Applications, Basis and Communications (SCIE)

IEEE on Biomedical Engineering and Informatics (EI)

Computer Methods and Programs in Biomedicine (SCI)

GENE (SCI)

IEEE on Biomedical Circuits and Systems (EI)

IEEE on Bioinformatics and Biomedical Engineering (EI)

IEEE Transactions on Communications and Mobile Computing (SCI)

IEEE Transactions on Information Technology in BioMedicine (SCI)

IEEE-EMBS on Information Technology and Applications in Biomedicine (EI)

Journal of Medical and Biological Engineering (SCI)

Magnetic Resonance Imaging (SCI)

Magnetic Resonance in Medicine (SCI)

Medical & Biological Engineering & Computing (SCI)

Medical Physics (served as Guest Associated Editor and Reviewer) (SCI)

Optical Engineering (SCI)

PLoS ONE (SCI)

Journal of Taiwan Association for Medical Informatics – Editorial Board Member

國科會計畫複審委員（生物處2004-2006，工程處2005-2007）

科技部計畫複審委員（工程司2015–2016）

國家衛生院計畫審查委員

\*Corresponding author

教育部追求卓越計畫、前瞻計畫、尖端科技人才培育計畫審查委員  
中華民國經濟部科專計畫審查委員  
中華民國智慧財產局專利審查委員

### **HONORS, AWARDS AND SCHOLARSHIPS**

- 2023 Invited Presentation for the “Advanced intra-Medullary Endo-Transilluminating Device” at the 2023 Healthcare Expo – Taiwan, Nangang Exhibition Center, Taipei, Taiwan 2023/11/30~12/03.
- 2023 Recipient of the “2023 Taiwan & Berkeley Public Health – Health Innovation Accelerator Program,” Support by the National Science & Technology Council (國科會) and National Development Council (國家發展委員會) in conjunction with University of California, Berkeley (UCB). Note, this accelerator program will commence during 2023/02~2023/05.
- 2023 協助新創公司「聯創生醫股份有限公司」研發之「聯創愛凱福 – 椎體成形術骨水泥」申請並通過第二類醫療器材許可證，字號：衛部醫器製字第 007736 號。(2023/03/03)
- 2022 榮獲第19屆「國家新創獎」- 臨床新創獎，並入選「2022 新創 Roadshow」。研發標的：低滲漏椎體成形骨水泥灌注新創醫材開發。南港展覽館一館「台灣醫療科技展 InnoZone」，2022/12/03
- 2022 榮獲第 19 屆「國家新創獎」- 新創精進獎，並收錄於「2023 國家新創獎精進標竿技術年鑑」。研發標的：「髓腔內鋼釘遠端螺孔定位裝置研發」。南港展覽館一館「台灣醫療科技展」，2022/12/03
- 2022 邀請演講：中國醫藥大學生醫所「Clinical Trial 專題講座」【臨床試驗系列 8】- 「創新醫材研發與申請上市許可經驗分享-以髓腔內鋼釘遠端螺孔定位裝置為例 – Development of Innovative Medical Devices and Experience of FDA Regulatory Application – Intra-Medullary Endo-Transilluminating Device」。2022/11/03
- 2022 新創醫材：「iKypho」 device has been designated by the U.S. Food & Drug Administration (FDA) the “Safer Technologies Program (STeP)” device. September 6, 2022
- 2022 指導碩士班研究生「以 3D 列印製作脊椎假體模擬人體體溫骨水泥灌注之研究」榮獲「2022 中華民國生醫材料及藥物釋放學會」壁報論文特優獎；新竹市國立清華大學，2022/9/2
- 2022 榮獲經濟部技術處「2022 TREE 創業競賽優勝獎&評審青睞獎」，2022/4/25

- 2022 協助「唯醫生技股份有限公司」通過 ISO 13486 醫療器材品質管理系統認證  
(證號：TW/00000067；Valid from 20 April 2022 until 20 April 2025)
- 2022 榮獲經濟部「價創計畫2.0」補助。計畫執行期限：2022/1/1～2022/12/31；補助  
經費：新台幣\$2,000 萬元 (2022/1/1～2022/12/31)
- 2021 榮獲第18屆「國家新創獎」- 臨床新創獎，台北世貿中心國際會議廳，  
2021/12/17
- 2021 獲選「台灣醫療影像標準學會」監事，2021/10/01 – 2023/09/30
- 2020 獲選「中華民國生物醫學工程學會」監事，2020/12/01 – 2022/11/30
- 2020 獲選「台灣醫療影像標準學會」監事，2019/12/01 – 2021/07/31
- 2020 指導碩士班研究生「藍光：台灣開源 Web 醫學影像瀏覽器」榮獲 2020 國際醫學  
資訊聯合線上研討會最佳口頭論文獎
- 2019 晉升為國立陽明大學「特聘教授」- Promoted to Distinguished Professor, National  
Yang Ming University
- 2019 榮獲科技部「育苗計畫」2019/10～2021/03；計畫補助經費：新台幣\$1,100 萬元
- 2019獲得國內創投基金新台幣4,500萬元投資 (WeMED Biotech Inc., 2019/12)
- 2019榮獲「2019法人鏈結產學合作計畫」成果發表會第二名；台北松山文化創意園  
區, 2019/11/04
- 2019 intra-Medullary Endo-Transilluminating (iMET) Device – WeMed Speculum and  
Accessories (Non-Sterilized), Taiwan Food & Drug Administration (TFDA) Class-I  
approval, received May 10, 2019 (衛部醫器製壹字第 007757號. 2019/5/10 ~  
2024/5/10)
- 2018 Recipient of the Gold Medal Award of the 「2018 GEC+Taipei InnoPitch with Angel  
Talk on innovation trends and pitching (2018全球創業大會-台北)」, Taipei  
International Convention Center, 2018/09/28
- 2018 榮獲台北市政府2018台北生技獎 - 「技轉合作」優等獎，2018/07/20
- 2018 榮獲「2018 FITI創新創業激勵競賽 – Innovation & Startup  
Competition」優勝：「創業傑出獎」(獎金新台幣200萬元)，2018/06/26
- 2018 榮獲科技部「TIECTW前進矽谷」專案計畫：(獎金 USD\$2 萬元)，  
2018/5～2019/5
- 2018 榮獲經濟日報「第二屆創業之星選秀大賽」優勝，2018/05/11
- 2018 榮獲 Bio2018 Exhibition – Winner of the 「Top 40 Startup Companies  
Competition」, 2018/6/4 ~ 2018/6/7 – Boston, Massachusetts, USA

- 2018 榮獲台北市政府遴選參加「Bio2018 Exhibition」, 2018/6/4 ~ 2018/6/7 – Boston, Massachusetts, USA
- 2018 主辦「建立人工智慧醫學影像標準化智慧論壇」並擔任論壇主席, (台北世貿會議中心, 2018/3/24)
- 2018 Invited Talk: 「2018中華醫學會學術研討會」邀請演講。題目: “Computer-aided pathology image processing and its web-based integration standards for virtual slide pathology image, annotation and report,” 台北世貿會議中心, 2018/6/30
- 2018 Invited Talk: 博仁綜合醫院邀請演講, 演講題目: “髓腔內鋼釘遠端螺孔定位裝置醫材研發與上市法規經驗分享,” 2018/3/7
- 2017 榮獲科技部「2017未來科技展」- 科技突破獎 & 最佳人氣技術獎。台北世貿三館。2017/12/28~30
- 2017 蔡英文總統視察竹北生醫園區並訪視Si2C輔導之新創公司 (2017/6/26): <https://news.ltn.com.tw/news/life/breakingnews/2112188>
- 2017 連任「台灣醫療影像標準學會」理事長, 2017/07 – 2019/06
- 2017 Conference President: Medical Image Standards Association of Taiwan Annual Conference – MISAT 年會與學術研討會大會主席. 2017/7/7, Taipei, Taiwan ROC.
- 2017 “Best Conference Paper Award” – IEEE International Conference on Applied System Innovation (IEEE-ICASI 2017), Title: Hand Gesture Recognition for Post-stroke Rehabilitation using Leap Motion,” May 13–17, 2017, Sapporo, Japan
- 2017 United States Food & Drug Administration - 510K approval. Number: K163037, Device Name: intra-Medullary Endo-Transilluminating (iMET) Device (FDA 510K approval on 2017/02/17)
- 2017 Invited Talk: 2017 International Forum on Medical Imaging in Asia (IFMIA 2017), Tenbusu, Naha, Okinawa, Japan, January 19-20, 2017. Topic: “A Framework for Sharing Medical Image Report and Annotations using XML.”
- 2016 榮獲國立陽明大學「良師益友」導師獎 (2016/09/01~2017/08/31)
- 2016 “Best Conference Paper Award” – IEEE International Conference on Applied System Innovation (ICASI 2016). Title: “A machine learning approach to fall detection algorithm using wearable sensor,” May 28 – June 1, 2016, Okinawa, Japan.
- 2016 Conference President: Medical Image Standards Association of Taiwan Annual Conference – MISAT 年會與學術研討會大會主席. August 17, 2016, Taipei, Taiwan ROC.
- 2016 Conference Co-Chair: Global Conference on Biomedical Engineering – GCBME2016 學術研討會大會共同主席. August 17 – 19, 2016, Taipei, Taiwan ROC.
- 2016 陽明大學生醫工程學院院級演講. 題目: “Design & Development of Medical Devices – Intramedullary Endo-Transilluminating (iMET) Device.” – 2016/02/24

- 2015 當選「台灣醫療影像標準學會」理事長 (2015/06 – 2017/05)
- 2015 當選「中華民國醫學工程學會」理事 (2015/01 – 2016/12)
- 2015 Invited Talk: Design and Development Conference – DMD2015. Topic: Intra-Medullary Endo-Transilluminating (iMET),” 2015/04/13~16, Minneapolis, Minnesota, USA
- 2014 榮獲2014 台灣生技整合育成中心( Si2C) Three-in-Five Competition Gold Medal (金質獎) – 2014/10/11
- 2014 榮獲時代基金會「生醫生農產業選秀大賽」潛力新秀獎 – 2014/09/23
- 2014榮獲工研院科技新創俱樂部舉辦之2014科技新創資本加速計畫秋季場科技新創聯合發表會第一名 – 2014/09/19
- 2014 邀請演講:兩岸四地生物醫學工程論壇.演講題目:  
“陽明大學醫工中心SPARK計畫經驗分享.” – 2014/08/17~20 – 中國安徽省黃山市
- 2014 邀請演講:海峽兩岸醫學護理現況與發展論壇.演講題目:“台灣醫護工程再造-經驗與成果分享.” – 2014/03/08~10 – 中國江蘇省南京第一人民醫院
- 2014執行神達電腦產學合作計畫:「以行動運算裝置 (MioCARE) 為最後一哩的床邊護理資訊照護系統建議」。計畫執行經費：新台幣\$3,000,000元.

#### **PATENTS, REGISTERED WORKS AND TECHNICAL TRANSFERS**

- 2014 Chu W.C., Tseng Y.J. and Chu William, Lateral light-emitting device for connecting an intra-medullary guide wire - 可與髓腔導針接合之側向發光裝置. (China Patent Filed on 2011/08/16. Patent Application No. 201110234893.2. Patent Granted on 2014/07/14 (專利公告日: 2014/09/03). Patent No.: ZL 2011 1 0234893.2. 08/16/2011 – 08/15/2031).
- 2014 Chu Woei-Chyn, Tseng Y.J. and Hsiao C.H., 染色體異常篩檢系統. (Taiwan ROC Patent Filed on 2011/06/13. Patent Application No. 100120552. Patent Granted on 2014/09/16. Patent No: 發明第 I 462720號, 9/16/2014 – 6/12/2029).
- 2015 Chu Woei-Chyn, Tseng Y.J. and Chu William, Lateral light-emitting device for connecting an intra-medullary guide wire - 可與髓腔導針接合之側向發光裝置. (EU Patent Filed on 2012/11/01. Patent Application No. 12 190 941.0-1654. Patent Granted Notification on 2015/01/15. Patent No.: 2727542)
- 2016 Chu Woei-Chyn, Tseng Y.J. and Chu William, Lateral light-emitting device for connecting an intra-medullary guide wire - 可與髓腔導針接合之側向發光裝置.

(USA Patent Filed on 2012/11/01. Patent Granted Notification on 2016/07/29. Patent Proclamation No.: US9480487 B2)

2016 Chu Woeichyn, Tseng Y.J. and Chu William, Low-resistance Kyphoplasty Kid – 低阻抗椎體擴張後凸矯形術裝置. (USA Provisional Patent Filed on 2016/12/08. Patent Filing No.: 62/431,540)

2017 intra-Medullary Endo-Transilluminating (iMET) Device – WeMed Biotech received the United States Food & Drug Administration (FDA) 510(k) approval on February 17, 2017 (FDA 510(k) No. K163037)

2018 Chu Woeichyn, Tseng Y.J. and Chu William, Low-resistance Kyphoplasty Kid – 負壓引導之骨水泥注射系統. (Taiwan ROC Patent Filed on 2017/12/7. Patent Application No. 106142980. Patent granted on 2018/08/13 (2018/10). 中華民國發明專利：發明第 I 646987 號, 2019/1/11 – 2037/12/6) (MOST 107-2218-E-010-004)

2019 intra-Medullary Endo-Transilluminating (iMET) Device – WeMed Speculum and Accessories (Non-Steriled), Taiwan Food & Drug Administration (TFDA) Class-I approval, received May 10, 2019 (衛部醫器製壹字第 007757號. 2019/5/10 ~ 2024/5/10)

2019 Chu Woeichyn, Tseng Y.J. and Chu William, Low-resistance Kyphoplasty Kid – 負壓引導之骨水泥注射系統. (Japan Patent Application Filed on 2019/07/08. 國際出願番号 PCT/CN2017/115303) – Application Pending.

2022 Chu Woei-Chyn, Tseng Y.J. and Chu William, Negative pressure guided bone cement injection system – 負壓引導之骨水泥注射系統. (USA Patent Application Filed on 2019/11/15. Application No. 16/473,428; PCT Filed on 2017/12/8; PCT No. PCT/CN2017/115303; 2019/11/15; PCT Pub. No.: WO2018/103742; PCT Pub. Date: 2018/6/14.) US Patent granted on 2022/10/18. Patent Application No.: 16/473,428, . (MOST 108-2622-B-010-006) (專利申請日：2017/12/8；申請號：16/473,428；公開日：2020/12/10；公開號：US 2020-0383715 A1；公告日：2022/12/27；公告號：US 11,534,220 B2)；發證日&證書號（同公告日&公告號）；專利證號 Patent No.: US 11,534,220 B2. Patent Period: 2022/12/27 – 2039/01/01). (MOST 106-2218-E-010-003)

2022 Chu Woeichyn, Tseng Y.J. and Chu William, Negative pressure guided bone cement injection system – 负压引导之骨水泥注射系统. (PCT Patent Filed on 2017/12/08, Application No. PCT/CN2017/115303；Publication Date on 2018/06/14, Publication No. WO2018/103742) (專利申請日：2017/12/08；申請號：2017800084623.30；公開日：2019/11/22；公開號：C110494184 A；授權公告日：2022/08/19；授權公告號：CN 110494184 B)；發證日：2022/08/19；專利證書發明第 5393540 號；專利證號 Patent No.: ZL 2017 8 0084623.3. Patent Period: 2017/12/08 – 2037/12/07). (MOST 106-2218-E-010-003)

2022 Chu Woeichyn, Tseng Y.J. and Chu William, Pressure guided bone cement injection method and instrument 使用壓力調控骨水泥注射之方法與裝置. (Taiwan Patent Filed on 2022/08/01, Application No. 111128848). (經濟部價創計畫：低滲漏椎體成

形骨水泥灌注創新醫材營運計畫 111-EC-17-A-19-S6-005) – 專利核准發文日期：  
中華民國 113 年 6 月 28 日。

2022 Chu Woeichyn, Tseng Y.J. and Chu William, Pressure guided bone cement injection method and instrument 使用壓力調控骨水泥注射之方法與裝置. (PCT Patent Filed on 2022/08/01, Application No. PCT/CN2022/109492 ; Publication Date on, Publication No.) (經濟部價創計畫：低滲漏椎體成形骨水泥灌注創新醫材營運計畫 111-EC-17-A-19-S6-005) – Application Under Review.

2023 廖珮宏、朱唯廉、朱唯勤，「脊椎手術術後狀況評估決策輔助方法與系統。」  
中華民國發明專利第 I798926 號。專利期限：20230411 – 20411108。

2023 “Unitron Ikypho” Vertebroplasty Bone Cement – Unitron Biotech. Taiwan Food & Drug Administration (TFDA) Class-II medical device clearance – No. 007736, received March 3, 2023 (“聯創愛凱福”椎體成形術骨水泥。衛部醫器製字第 007736號. 2023/3/3 ~ 2025/2/12)

2024 Chu Woeichyn, Tseng Y.J. and Chu William, Low-resistance Kyphoplasty Kid – 負壓引導之骨水泥注射系統. (EU Patent Application Filed on 2019/07/08. Submission No. 7644689; EP Application No. 17878176.1; PCT Application No. PCT/CN2017115303). Patent granted notification: 2024/02/05.

2024 “WeMED” iMET intra-Medullary Endo-Transilluminating Device – WeMED Biotech. Taiwan Food & Drug Administration (TFDA) Class-II medical device clearance – No. 008146, received April 15, 2024 (“唯醫”愛美特髓腔內透視照明裝置。衛部醫器製字第 008146號. 2024/4/15 ~ 2029/4/15)