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現職

長庚大學物理治療學系 副教授

長庚大學運動科學暨輔具研究實驗室 主持人

長庚醫院骨骼關節研究中心 合聘副研究員

校外社團組織委員

臺灣物理治療學會 副秘書長

(2017.3 訖今)

Physical Therapy Reviews 期刊編輯

(2017.3 訖今)

臺灣生物力學學會 理事

(2016.3 訖今)

物理治療期刊 副總編輯

(2015.1 訖今)

臺灣復健工程暨輔具科技學會 理事

(2014.3 訖今)

臺灣復健工程暨輔具科技學會 資訊與傳播委員會主任委員 (2014.1 訖今)

臺灣生物力學學會 秘書長

(2014.1~2016.2)

臺灣復健工程暨輔具科技學會 副秘書長

(2012.7~2014.3)

中華民國物理治療學會 財務委員會 副主任委員 (2011.4~2014.1)

教授課程

大學部

物理治療導論，肌動學，運動醫學，機能再教育，輔具學，生物力學，
骨科物理治療學，操作治療學，物理因子治療學

研究所

復健生物力學特論，生醫儀器學，復健科學化評量，臨床專業決策，復
健科學研究趨勢，骨骼肌肉系統復健工程高階分析

Publications

1. Lin YC, Niu CC, Nikkhoo M, Lu ML, Chen WC, Fu CJ, Cheng CH* (2018) Postural stability and trunk muscle response to dynamic and static balance tasks in people with and without degenerative lumbar disease. *Gait & Posture*, 64: 159-64, (SCI, IF: 2.273).
2. Ju YY, Liu YH, **Cheng CH**, Lee YL, Chang ST, Sun CC, Cheng HYK* (2018) Effects of combat training on visuomotor performance in children aged 9 to 12 years - an eye-tracking study. *BMC Pediatrics*, 18(39):1-9 (SCI)
3. HsiehTH, Peng CW, Chen KY, Huang YZ, Lin YH, Zong WZ, Liang JI, Zhao J, Cheng CY, Chang YJ, **Cheng CH**, Chuang YF*, (2018) The Applications of Smart Mobile Device for Detecting Balance Dysfunction in Individuals with Down Syndrome. *Biomedical Engineering-Applications Basis Communications*, 30(1):1850007(1-9).
4. Chen CPC, **Cheng CH**, Hsiu CC, Lin HC, Tsai YR, Chen JL, (2017) The Influence of Platelet Rich Plasma on Synovial Fluid Volumes, Protein Concentrations, and Severity of Pain in Patients with Knee Osteoarthritis. *Experimental Gerontology*, 93:68-72 (SCI)
5. Ng HH, Lin WY, Lei KF, **Cheng CH**, Jeng SC, Lin YH, (2017) Reliability of mechanomyographic amplitude measurements for trunk muscles during maximal voluntary isometric contraction. *J Back Musculoskelet Rehabil.* 30: 979–985 (SCI)
6. Ching CTS*, Liao SY, Cheng TY, **Cheng CH**, Sun TP, Yao YD, Hsiao CS, Chang MK, (2017) A mechanical sensor designed for dynamic joint angles measurement. *Journal of Healthcare Engineering*, Article ID 8465212, 12 pages (SCI)
7. Cheng HYK, Chen LY, **Cheng CH**, Ju YY, Chen CL, Tseng K, (2016) A Multimedia Child Developmental Screening Checklist: Design and Validation. *Journal of Medical Internet Research*, 18(10):e277 DOI: 10.2196/jmir.6249 (SCI)
8. **Cheng CH**, Chien A, Hsu WL, Chen CPC, Cheng HYK (2016) Investigation of the differential contributions of superficial and deep muscles on cervical

- spinal loads with changing head postures. *PLOS ONE*, 11(3) DOI: 10.1371/journal.pone.0150608 (SCI)
9. Lin YC, Tsai LC, Cheng HYK, Lin YH, **Cheng CH*** (2016) Postural steadiness after prolonged standing on different sloped surface in young healthy adults. *Biomedical Engineering-Applications Basis Communications*, 28(1): 1650007(1-7).
 10. Chien A, Lai DM, Wang SF, Hsu WL, **Cheng CH**, Wang JL* (2016) Comparison of cervical kinematics, pain and functional disability between single- and two-level Anterior Cervical Discectomy and Fusion. *Spine (Phila Pa 1976)*, 41(15):E915-22 (SCI)
 11. **Cheng CH**, Chien A, Hsu WL, Lai DM, Wang SF, Wang JL* (2016) Identification of head control deficits following anterior cervical discectomy and fusion in patients with cervical spondylotic myelopathy. *European Spine Journal*, 25(6):1855-60 (SCI)
 12. **Cheng CH***, Chen RW, Tsai LC, Chang YJ, Tang WT, Liu WY (2016) Comparisons of fatigue effect due to competitive tennis match or simulated tennis stroke on exercise physiology and performance of tennis players: a literature review. *Physical Education Journal*, 49(3):253-262 (TSSCI)
 13. **Cheng CH**, Tsai LC, Chung HC, Hsu WL, Wang SF, Wang JL, Lai DM, Chien A* (2015) Exercise training for non-operative and post-operative patient with cervical radiculopathy: a literature review. *Journal of Physical Therapy Science*, 27: 3011-8 (SCI)
 14. Yang WC, **Cheng CH**, Wang HK, Lin KH, Hsu WL* (2015) Multi-muscle coordination during a challenging stance. *European Journal of Applied Physiology*, 115(9):1959-66 (SCI) (Co-first author)
 15. Chien A, Lai DM, **Cheng CH**, Wang SF, Hsu WL, Wang JL* (2015) Responsiveness of the Chinese versions of the Japanese orthopaedic association cervical myelopathy evaluation questionnaire and neck disability index in postoperative patients with cervical spondylotic myelopathy. *Spine (Phila Pa 1976)*, 40(17), 1315-21 (SCI)

16. Wang SF*, Li PJ, Hsieh NY, **Cheng CH**, Hsu WL, Lai DM, Wang JL (2015) Motor control exercise prevent decrease of multifidus thickness in patients with cervical spondylosis myelopathy undergone anterior cervical discectomy and fusion. *Physiotherapy*, 101: e867 - e868 (SCI)
 17. **Cheng CH**, Chen RW, Chen LY, Liu XT, Yin YT, Chen YK, Lo YC, Sha IH, Wen YL, Cheng HYK* (2015) Biomechanical analysis into the differences between the skilled and non-skilled badminton players performing the overhead stroke. *Physiotherapy*, 101: e233 (SCI)
 18. Chien A, Lai DM*, Wang SF, **Cheng CH**, Hsu WL, Wang JL* (2015) Differential segmental motion contribution of single- and two-level anterior cervical discectomy and fusion. *European Spine Journal*, 24(12):2857-65 (SCI)
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19. **Cheng CH**, Chien A, Hsu WL, Yen LW, Lin YH, Cheng HYK* (2015) Changes of postural control and muscle activation pattern in response to external perturbations after neck flexor fatigue in young subjects with and without chronic neck pain. *Gait & Posture*, 41(3):801-7 (SCI)
 20. Cheng HYK, Ju YY, Chen CL, Chuang LL, **Cheng CH*** (2015) Effects of whole body vibration on spasticity and lower extremity function in children with cerebral palsy. *Human Movement Science*, 39: 65-72 (SCI)
 21. **Cheng CH**, Su HT, Yen LW, Liu WY, Cheng HYK* (2015) Long-term effects of therapeutic exercise on nonspecific chronic neck pain: a literature review. *Journal of Physical Therapy Science*, 27: 1271-1276 (SCI)
 22. Chen CY, Chang CW, Lee ST, Chen YC, **Cheng CH**, Lin YH* (2015) Is rehabilitation intervention during hospitalization enough for functional improvements in patients undergoing lumbar decompression surgery: a prospective randomized controlled study? *Clinical Neurology and Neurosurgery*, 129(Supplement 1): S41–S46 (SCI)
 23. Huang WP, Wang CC, Hung JH, Chien KC, Liu WY, **Cheng CH**, Ng HH, Lin YH* (2015) Joystick-controlled video console game practices for power

- wheelchairs indoor driving skills. *Journal of Physical Therapy Science*, 27(2): 495-498 (SCI)
24. **Cheng CH**, Ju YY, Chang HW, Chen CL, Pei YC, Tseng KC, Cheng HYK* (2014) Motor impairments screened by the Movement Assessment Battery for Children-2 are related to the visual-perceptual deficits in children with developmental coordination disorder. *Research in Developmental Disabilities*, 35(9): 2172-2179 (SSCI)
 25. Chien A, Lai DM, **Cheng CH**, Wang SF, Hsu WL, Wang JL* (2014) Translation, cross-cultural adaptation, and validation of a Chinese version of the Japanese orthopaedic association cervical myelopathy evaluation questionnaire (JOACMEQ). *Spine (Phila Pa 1976)*, 39(12): 963-970 (SCI)
 26. **Cheng CH**, Cheng HYK, Chen CPC, Lin KH, Liu WY, Wang SF, Hsu WL*, Chuang YF (2014) Altered co-contraction of cervical muscles in young adults with chronic neck pain during voluntary neck motions. *Journal of Physical Therapy Science*, 26(4): 587-590 (SCI)
 27. Hsu WL*, Lin KH, Yang RS, **Cheng CH** (2014) Use of motor abundance in old adults in the regulation of a narrow-based stance. *European Journal of Applied Physiology*, 114(2): 261-71 (SCI)
 28. **Cheng CH***, Su HT, Liu WY, Wang SF, Hsu WL, Chuan YF (2013) Exercise Training for non-operative and post-operative patient with cervical spondylotic myelopathy: systematic review. *Formosan Journal of Physical Therapy*, 38(4): 279-85.
 29. Cheng HYK*, Lien YJ, Yu YC, Ju YY, Pei YC, **Cheng CH**, Wu DBC (2013) The effect of lower body stabilization and different writing tools on writing biomechanics in children with cerebral palsy. *Research in Developmental Disabilities*, 34(4): 1152-9 (SSCI)
 30. Ju YY, Lin JK, Cheng HYK*, **Cheng CH**, Wong AMK (2013) Rapid repetitive passive movement promotes knee proprioception in the elderly. *European Review of Aging and Physical Activity*, 10(2): 133-9 (SCI)
 31. Chu YH, **Cheng CH**, Tang PH*, Lin KH (2012) Effects of age and step direction on behavioral performances and center-of-pressure characteristics of

- volitional stepping in older and young adults, *Biomedical Engineering-Applications Basis Communications*, 24(3): 207-16
32. Chen HM, Lee CS, **Cheng CH*** (2012) The weight of computer mouse affects the wrist motion and forearm muscle activity during fast operation speed task, *European Journal of Applied Physiology*, 112(6): 2205–12 (SCI)
 33. Liu WY, Chen FJ, Kuo CH, Lin YH*, **Cheng CH**, Chen TS, Yu YJ (2011) Preliminary comparisons of postural alignments of children with cerebral palsy using joystick and bimanual gliding access devices to drive the power wheelchair. *Formosan Journal of Physical Therapy*, 36(3): 216-24
 34. **Cheng CH**, Chen PJ, Kuo YW, Wang JL* (2011) Effects of disc degeneration and muscle dysfunction on the cervical spine stability from a biomechanical study, *Proceedings of the Institution of Mechanical Engineers. Part H, Journal of engineering in medicine*, 225(2): 149-57 (SCI)
 35. Liu WY, Liao CF, Lien HY, **Cheng CH**, Wong AMK, Lin YH* (2010) Using the international classification of functioning, disability and health (ICF) framework to determine the effectiveness of interactive computer play for children with cerebral palsy: systematic review. *Formosan Journal of Physical Therapy*, 35(3): 251-62
 36. **Cheng CH**, Wang JL, Lin JJ, Wang SF, Lin KH* (2010) Position accuracy and electromyographic responses during head reposition in young adults with chronic neck pain, *Journal of Electromyography & Kinesiology*, 20(5): 1014-20 (SCI)
 37. **Cheng CH**, Chang LW, Lin KH* (2010) Determination of Foot-Plate Spacing for Swivel Walkers by an Optimization Method, *Biomedical Engineering-Applications Basis Communications*, 22(3): 213-21
 38. Chu YH, Tang PF*, Chen HY, **Cheng CH** (2009) Altered muscle activation characteristics associated with single volitional forward stepping in middle-aged adults, *Clinical Biomechanics*, 24(9): 735-43 (SCI)
 39. Wang JL*, Wu TK, Lin TC, **Cheng CH**, Huang SC (2008) Rest cannot always recover the dynamic properties of fatigue-loaded intervertebral disc, *Spine (Phila Pa 1976)*, 33(17): 1863-9 (SCI)

40. **Cheng CH**, Lin KH, Wang JL* (2008) Co-contraction of cervical muscles during sagittal and coronal neck motions at different movement speeds, *European journal of applied physiology* 103(6): 647-54 (SCI)
41. **Cheng CH**, Chen PJ, Kuo YW, Wang JL* (2008) The compensation mechanism of cervical muscle dysfunction on spinal stability - An in vitro study using porcine model, *Journal of the Chinese Institute of Engineers* 31(4): 605-13 (SCI)
42. **Cheng CH**, Chen TY, Kuo YW, Wang JL* (2008) The mechanics of cervical muscle recruitment on cervical spine stability - A biomechanical in vitro study using porcine model, *Journal of Mechanics* 24: 63-8 (SCI)
43. **Cheng CH**, Chen TY, Kuo YW, Wang JL* (2007) The comparison of neutral zone, range of motion and resultant force and moment among different cervical muscle dysfunctions, *Journal of Biomechanics*, 40: S696 (SCI)
44. **Cheng CH**, Lin KH, Lin JJ, Wang JL* (2007) Effect of movement speed on cervical muscle activation pattern in healthy adults: voluntary response index analysis, *Journal of Biomechanics*, 40: S413 (SCI)
45. **Cheng CH**, Lin KH, Lin JJ, Wang JL* (2007) Cervical electromyographic activities during neck movements at different speeds in healthy subjects: voluntary response index analysis, *Biomedical Engineering-Applications Basis Communications*, 19(6): 349-57

Conference Papers

1. Liu CH, Hsu WL, **Cheng CH***. Comparisons of the Muscle Contractile Properties and Jumping Performance after the Static and Dynamic Stretching Exercise. 11th Pan-Pacific Conference on Rehabilitation, 2018
2. **Cheng CH**, Lin CF, Tang WT. Differences in Performance of Athletic Vision and Postural Control between Skilled and Non-Skilled Badminton Players. World Congress of Biomechanics, 2018
3. Lee YH, Niu CC, Chen WC, **Cheng CH***. The adaptive changes in sit to sit movement following lumbar spinal fusion. World Congress of Biomechanics, 2018
4. Nikkhoo M, Khoz Z, Ghobadiha E, Niu CC, **Cheng CH**, Khalaf K. Development of a Parametric Subject-Specific Finite Element Model to Investigate the Lumbar Spine Response before and after 1-Level Posterior Fusion. World Congress of Biomechanics, 2018
5. Lin IS, **Cheng CH**, Wang SF, Chien A, Lai DM, Wang JL, Hsu WL*. Effect of Cervical Spinal Decompression Surgery on Postural Stability Control during Quiet Standing in Patients with Cervical Spondylotic Myelopathy. World Congress of Biomechanics, 2018
6. Cheng YS, Wang SF, Lai DM, Wang JL, **Cheng CH**, Chien A, Hsu WL*. Effects of Perturbation Balance Training using a Custom-Made Treadmill on Gait and Functional Performance for Patients with Cervical Spondylotic Myelopathy after Decompression Surgery. World Congress of Biomechanics, 2018
7. Khalaf K, Nikkhoo M, El-Rich M, **Cheng CH**. Evaluation of Cervical Laminectomy on Intersegmental Motions Using a Validated Parametric Subject-Specific Finite Element Model. Computer Methods in Biomechanics and Biomedical Engineering, 2018.
8. **Cheng CH***, Niu CC, Lu ML, Chen WC, Fu CJ, Nikkhoo M, Liu XT. One-Year Comparative Functional Outcomes of Open and Minimally Invasive Transforaminal Lumbar Interbody Fusion in Patients with Degenerative Lumbar Disease. Annual Meeting of Orthopaedic Research Society, 2018

9. Liu XT, Lin CF, **Cheng CH***. Comparison between the force plate and Nintendo Wii Balance Board for the assessment of lower extremity function. International Conference on Mechanics in Medicine and Biology, 2018
10. Khalaf K, Nikkhoo M, El-Rich M, **Cheng CH**. Evaluation of cervical laminectomy on intersegmental motions using a validated parametric subject-specific finite element model. Computer Methods in Biomechanics and Biomedical Engineering, 2018
11. Liu CH, Cheng HYK, **Cheng CH***. Test-retest reliability of the ultrasound-based and IMU-based devices in assessing the cervicocephalic kinesthetic sensibility. IEEE International Conference on System Science and Engineering, 2018
12. 張曼瑋、謝昀芷、方威皓、江宇智、**鄭智修***。比較不同的阻力訓練方式對於肱三頭肌肌肉性質的影響。全國生物力學大會, 2018
13. **Cheng CH***, Chiang YC, Hsu WL, Chien A, Wang SF, Wang JL, Lai DM, Lee YH. Cervicocephalic Kinesthetic Sensibility in Elderly with and without Cervical Spondylotic Myelopathy. World Congress of Geriatrics and Gerontology, 2017
14. Yu YS, **Cheng CH***. Effect of Pillow on the Subjective Feeling and Neck-Shoulder Muscle Activities of the Male and Female Young Adults during Supine-Lying. Annual Scientific Meeting of the Taiwanese Society of Biomechanics, 2017
15. **Cheng CH***, Niu CC, Lu ML, Chen WC, Nikkhoo M, Hwang YC. Functional Outcome Following Open Versus Minimally Invasive Transforaminal Lumbar Interbody Fusion in Patients with Degenerative Lumbar Disease. Annual Meeting of Orthopaedic Research Society, 2017
16. **Cheng CH***, Hsu WL, Chien A, Wang JL, Lai DM, Wang SF, Yu YS. Changes of the Head Control Ability in Patients with Cervical Spondylotic Myelopathy. Conference for Innovation in Biomedical Engineering and Life Sciences, 2017
17. Nikkhoo M, Arbabzadeh F, **Cheng CH**, Khalaf K. Development of a Parametric Subject-Specific Finite Element Model of the Lower Cervical Spine to Evaluate the Effect of Disease on the Motion Patterns. European Orthopaedic Research Society, 2017

18. 劉沛怡、徐瑋勵、王淑芬、鄭智修、簡溫原、賴達明、王兆麟。Effect of Perturbation Training Using Split-Belt Perturbation Treadmill on Postural Control of Patients with Cervical Decompression Surgery。2017 醫工年會學術研討會 (論文壁報獎-佳作)
19. 黃詠絮、李睿恒、鄭勻卉、劉慶美、鄭智修*。疲勞對於羽球選手高手擊球時上肢關節動作的影響。國際生物力學與復健工程暨輔具科技學術研討會, 2017 (**Outstanding Poster Presentation Award**)
20. 陳怡璇、林亞哲、楊欣栩、王翠華、鄭智修*。比較不同的伸展方式對股四頭肌肌肉性質的影響。國際生物力學與復健工程暨輔具科技學術研討會, 2017
21. Li HH, Lin YC, Niu CC, Chen WC, Lu ML, Chiang YC, **Cheng CH***. Differences of the Postural Control Ability in Elderly with and without Degenerative Lumbar Disorders. WACBE World Congress on Bioengineering, 2017.
22. **Cheng CH***, Ching CTS, Yang CY. Differences of Performance Related Characteristics between the Experienced and Inexperienced Badminton Players Performing the Overhead Stroke. International Society of Biomechanics, 2017
23. 劉沛怡、王淑芬、鄭智修、簡溫原、賴達明、王兆麟、徐瑋勵*。頸椎脊髓神經病變患者其站立平衡控制於手術後之恢復。中華民國物理治療學會第七十一次學術研討會，2016
24. 李秉儒、郭乃華、徐瑋勵、簡溫原、鄭智修、黃敏瑄、王兆麟、賴達明、王淑芬*。退化性頸椎脊髓病變病人行走功能相關因素之探討。中華民國物理治療學會第七十一次學術研討會，2016
25. 郭乃華、李秉儒、鄭智修、賴達明、黃敏瑄、徐瑋勵、王兆麟、簡溫原、王淑芬*。退化性頸椎脊髓病變病人接受單節前路頸椎減壓手術後一年之症狀變化。中華民國物理治療學會第七十一次學術研討會，2016
26. **Cheng CH***, Yang CY, Ching CTS. Test-Retest Reliability of a Prototype Head Trainer for Patients with Parkinson's Disease. International Convention on Rehabilitation Engineering and Assistive Technology, 2016

27. Chien A, Lai DM, Wang SF, Hsu WL, **Cheng CH**, Wang JL*. Comparative analysis of cervical kinematics, pain and functional disability between single- and two-level anterior cervical discectomy and fusion. XIV International Symposium on 3D Analysis of Human Movement, 2016
28. **Cheng CH***, Tsai LC. Postural control and response time during voluntary arm movements is altered after neck flexor fatigue in young subjects with chronic neck pain. XIV International Symposium on 3D Analysis of Human Movement, 2016
29. Yang CY, Chou YH, Cheng HC, **Cheng CH**, Su KH. Dynamic Time Warping for IMU Based Activity Detection. IEEE International Conference on Systems, Man, and Cybernetics, 2016
30. **Cheng CH***, Chien A, Hsu WL, Wang JL, Lai DM, Wang SF. Head-Trunk Control in Patients with Cervical Spondylotic Myelopathy at 1 Year Following Decompressive Surgery. Annual Meeting of Orthopaedic Research Society, 2016
31. Chien A, Lai DM, Wang SF, Hsu WL, **Cheng CH**, Wang JL. Comparison of Cervical Kinematics, Pain and Functional Disability between Single- And Two-level Anterior Cervical Discectomy and Fusion. Annual Meeting of Orthopaedic Research Society, 2016 (**Oral Presentation**)
32. **Cheng CH***, Chen RW, Cheng HYK, Chen LY, Wen YL, Sha IH, Lo YC, Chen YK, Liu XT, Yin YT. Athletic vision performance and reaction time in badminton players. AP Biomechanics, 2015
33. Wang SF, Li PJ, Hsieh NY, **Cheng CH**, Hsu WL, Lai DM, Wang JL. Motor control exercise prevent decrease of multifidus thickness in patients with cervical spondylotic myelopathy undergone anterior cervical discectomy and fusion. WCPT Congress, 2015
34. **鄭智修***、陳任偉、程欣儀等。羽球選手和一般人在執行高手擊球時的生物力學分析。第四次 TREATS 學會暨第五次 TSICF 學會聯合學術研討會，2015
35. **鄭智修***、陳任偉、程欣儀等。羽球選手和一般人在運動視覺表現以及反應時間上的差異。第四次 TREATS 學會暨第五次 TSICF 學會聯合學術研討會，2015

36. **Cheng CH***, Lin YC, Yu YC, Cheng HYK. Postural control dynamics in prolonged standing workers on sloped surface. WACBE World Congress on Bioengineering, 2015
37. 李秉儒, 王淑芬, 鄭智修, 徐瑋勵, 賴達明, 王兆麟。核磁共振影像確診退化性頸椎病變之功能性分類。中華民國物理治療學會第六十九次學術研討會, 2015
38. **Cheng CH**, Chen RW, Chen LY, Liu XT, Yin YT, Chen YK, Lo YC, Sha IH, Wen YL, Cheng HYK*. Biomechanical analysis into the differences between the skilled and non-skilled badminton players performing the overhead stroke. WCPT Congress, 2015
39. Wang YC, Yu YC, **Cheng CH**, Ju YY, Cheng, HYK. The development of a functional-based assistive technology indexing system. WACBE World Congress on Bioengineering, 2015
40. Chien A, Lai DM, Wang SF, **Cheng CH**, Hsu WL, Wang JL*. Characteristics of radiculomyelopathy patients after anterior cervical discectomy and fusion: a biopsychosocial model. WACBE World Congress on Bioengineering, 2015 (**Oral Presentation**)
41. Hsu WL*, **Cheng CH**, Wang SF, Lai DM, Wang JL, Su HT. Upright balance stability after surgical management of cervical spondylotic myelopathy. International Scientific Meeting on Biomechanics, 2014 (**Oral Presentation**)
42. Chung HC, Cheng HYK, **Cheng CH***. Effect of knee brace on the loading of the lower extremity during sit-to-stand and stand-to-sit tasks. International Scientific Meeting on Biomechanics, 2014 (**Oral Presentation**)
43. Chen RW, Cheng HYK, **Cheng CH***. The muscle activation and postural control pattern of the skilled and non-skilled badminton players during overhead stroke. International Scientific Meeting on Biomechanics, 2014 (**Oral Presentation**)
44. **Cheng CH***, Su HT, Wang JL, Lai DM, Wang SF, Hsu WL, Chang YL, Chung HC. Characteristics of postural control dynamics in patients with cervical spondylotic myelopathy after surgery and post-surgery exercise training. Annual Meeting of Orthopaedic Research Society, 2015

45. Hsu WL, Wang SF, Wang JL, Lai DM, Su HT, **Cheng CH***. Balance control following surgical management of cervical spondylotic myelopathy. World Congress of Biomechanics, 2014
46. **Cheng CH**, Ju YY, Lin YC, Cheng HYK*. Effects of sloped surfaces on the postural control in standing workers after prolong standing. World Congress of Biomechanics, 2014
47. 簡溫原, 賴達明, 鄭智修, 王淑芬, 徐瑋勵, 王兆麟。 Translation, cross-cultural adaptation, and validation of a Chinese version of the Japanese Orthopaedic Association Cervical Myelopathy Evaluation Questionnaire。 中華民國骨科醫學會 103 年度第 66 次春季聯合學術研討會。 臺中：榮民總醫院。
48. 陳立穎, 鄭智修, 曾俊儒, 朱彥穎, 程欣儀*。 兒童發展檢核表多媒體系統開發與臨床測試。 第四次 TSICF 學會暨第三次 TREATS 學會聯合學術研討暨論文發表大會, 2014
49. 王雅秋, 俞雨春, 鄭智修, 曾俊儒, 程欣儀*。 依功能導向判斷輔具需求-以行動類與擺位類輔具為例。 第四次 TSICF 學會暨第三次 TREATS 學會聯合學術研討暨論文發表大會, 2014
50. Chung HC, Chen RW, Cheng HYK, **Cheng CH***. Effect of knee brace on lower extremity during sit-to-stand task. Joint Meeting of TSICF & TREATS, 2014
51. Chen RW, Chung HC, Cheng HYK, **Cheng CH***. Control pattern of upper extremity during overhead stroke. Joint Meeting of TSICF & TREATS, 2014
52. **Cheng CH**, Su HT, Wang JL, Lai DM, Wang SF, Hsu WL, Chen RW. Postural control in patients with cervical spondylotic myelopathy after surgery and post-surgery exercise training. Annual Meeting of Orthopaedic Research Society, 2014
53. Chien A, Wang SF, Hsiao CH, Hsieh NY, **Cheng CH**, Hsu WL, Lai DM & Wang JL. Evidence of cervical multifidus muscle wasting in patients undergone surgery for cervical spondylotic myelopathy. 6th World Confederation for Physical Therapy-Asia Western Pacific Region Conference, 2013
54. Chien A, Wang SF, Hsiao CH, Hsieh NY, **Cheng CH**, Hsu WL, Lai DM & Wang JL. Clinical prognostic indicators of surgical outcome in cervical spondylotic

myelopathy: a pilot study. 6th World Confederation for Physical Therapy-Asia Western Pacific Region Conference, 2013

55. **Cheng CH**, Cheng HYK, Tsai SI, Chiang WS, Lin YC, Changes of postural control after prolonged standing on sloped surface in young healthy adults, The 6th World Congress on Bioengineering, 2013 (**Oral Presentation**)
56. Yen LW, Su HT, Cheng HYK, **Cheng CH***, Effect of neck flexor fatigue on standing balance following perturbations in young healthy adults, World Congress on Bioengineering, 2013 (**Oral Presentation**)
57. Su HT, Yen LW, Cheng HYK, **Cheng CH***, Standing balance following internal/external perturbation in young healthy adults, Asia-Western Pacific Regional Congress of the World Confederation for Physical Therapy, 2013 (**Oral Presentation**)
58. Cheng HYK, Ju YY, Chen CL, Wong AMK, **Cheng CH**, Effects of an eight-week repetitive passive knee movement intervention on lower extremity muscle tone and function in children with cerebral palsy, Conference on Rehabilitation Engineering and Assistive Technology Society of Korea, 2012 (**Oral Presentation**)
59. **Cheng CH**, Lin YH, Ng HH, Cheng HYK, Chen CPC, Chang YL, Co-contraction of cervical muscles is altered in patients with chronic neck pain during voluntary neck movements, International Symposium on Quality of Live Technology, 2012
60. Tsai SC*, Liu WY, Wang CM, Wong AMK, Lein R, **Cheng CH**, Chen FJ, Intra-Rater Reliability of Prechtl's Method on the Qualitative Assessment of General Movements Based on the Video Recordings on Taiwanese Infants, Asia-Oceanian Conference of Physical and Rehabilitation Medicine, 2012
61. Yen LW, Lin JL, **Cheng CH***, Posture control following neck flexor muscle fatigue in young healthy adults, Asia-Oceanian Conference of Physical Rehabilitation and Medicine, 2012 (**Oral Presentation**)
62. Lin JL, Yen LW, **Cheng CH***, The comparison of whole-body muscle fatigue between the anaerobic and aerobic specific tests in badminton players,

Asia-Oceanian Conference of Physical Rehabilitation and Medicine, 2012 (**Oral Presentation**)

63. **Cheng CH**, Wang JL, Chen CPC, Chang YL, Comparisons of the in vivo flexibility characteristics of cervical spine in young subjects with/without chronic neck pain. Annual Meeting of Orthopaedic Research Society, 2012
64. **Cheng CH**, Lin YH, Ng HH, Chang YL, In vivo flexibility characteristics of cervical spine in young healthy subjects during sagittal And Coronal neck movements. International Society of Biomechanics Congress, 2011 (**Oral Presentation**)
65. **Cheng CH**, Wang JL, Chen CPC, Chang YL, Estimation of the deep muscle activation and spinal load of human cervical spine during neck movements. Annual Meeting of Orthopaedic Research Society, 2011
66. **Cheng CH**, Chu YH, Tang PF, Performance of Multi-directional Volitional Stepping in Healthy Young Adults and Elderly. World Physical Therapy, 2011
67. Liu WY, Liao CF, Lien HY, Lin YH, Wong AMK, **Cheng CH**, Effect of Modified Commercially Available Visual Center of Pressure Feedback Training on Postural Adjustments in Healthy Adults, World Physical Therapy, 2011
68. Lin JL, **Cheng CH***, Chen FJ, The Test-Retest Reliability of Perceived Neck Muscle Fatigue in Different Test directions in Healthy Adults. The 62th Scientific Conference of Physical Therapy Association of the Republic of China, March, 2011 (**Oral Presentation**)
69. Cai FT, Hung YC, Jhong YJ, Liao CF, Liu WY, **Cheng CH**, Effects of Intensive Reach Forward Practices while Standing on Reach Movement in Healthy Young Adults: A Pilot Study. International Symposium on the 3D Analysis of Human Movement, 2010
70. **Cheng CH**, Chen PJ, Kuo, YW, Wang JL, Effects of Disc Degeneration and Muscle Dysfunction on the Cervical Spine Stability – From in Vitro Study using Porcine Model. Asia-Oceanian Conference of Physical and Rehabilitation Medicine, 2010 (**Oral Presentation**)

71. **Cheng CH**, Chen HM, Lee CS, Influence of computer mouse weights and moving speeds on wrist motion and forearm/shoulder muscle activity. Annual Meeting of Orthopaedic Research Society, 2010
72. **Cheng CH**, Lin KH, Lin JJ, Wang JL, Effect of Movement Speed on Cervical Muscle Activation Pattern in Healthy Adults: Voluntary Response Index Analysis. International society of Biomechanics Congress, 2007 (**Oral Presentation**)
73. **Cheng CH**, Chen TY, Kuo YW, Wang JL, The Comparison of Neutral Zone, Range of Motion and Resultant Force and Moment among Different Cervical Muscle Dysfunctions. International society of Biomechanics Congress, 2007
74. **Cheng CH**, Lin KH, Wang JL, The Effect of Head Movement Speeds on the Cervical Muscle Co-Contraction during Sagittal and Coronal Motions. Annual Scientific Meeting of the Taiwanese Society of Biomechanics, 2006 (**Oral Presentation Award**)
75. **Cheng CH**, Lin KH, Chang LW, Determination of Foot-Plate Spacing for Swivel Walkers by an Optimization Method. Asian Pacific of Biomechanics Conference, 2005 (**Oral Presentation**)
76. **Cheng CH**, Chiou HC, Wang JL, The Load Transmission and Energy Absorption of Tibia during Impact Load. International Conference on Biomechanics combined with Annual Scientific Meeting of Taiwanese Society of Biomechanics, 2001
77. **Cheng CH**, Chang LW, A System Model of FES-Assisted Swivel Gait Orthosis System for Paraplegics. Biomedical Engineering Conference, 2001

Books

Basic Biomechanics of the Musculoskeletal System, 4th edition, 2013, ISBN 978-986-89835-0-2.

Research Grants

Current Support

1. Development of an innovative smart home exercise training device targeting better body control mechanisms and improved therapeutic efficacy in patients with cervical radiculomyelopathy. Ministry of Science and Technology:

- MOST 104-2221-E-182-078-MY3. Principle Investigator.
2015/08/01~2018/07/31.
2. Effectiveness of a new assistive exercise trainer for the head stabilization and posture control in patients with Parkinson's disease. Chang Gung Medical Research Program: CMRPD1F0151. Principle Investigator.
2015/01/01~2015/12/31.
 3. Para-spinal muscle performance study of adjacent segment disease after lumbar spinal fusion. Chang Gung Medical Research Program: CRRPG3E0131. Co-Principle Investigator. 2012/08/01~2015/07/31.
 4. Comparative analysis of surgical approach versus conservative management and the impact of psychological intervention on clinical outcome for patients with radiculomyelopathy. Ministry of Science and Technology: MOST 104-2221-E-002 -211 -MY3. Co-Principle Investigator.
2015/08/01~2018/07/31.
 5. Classification and prognosis of patients with cervical spondylotic myelopathy with imaging and sensation evaluation-comparison with patients with cervical radiculopathy and asymptomatic age matched participants. Ministry of Science and Technology: MOST 104-2221-E-002 -210 -MY3. Co-Principle Investigator. 2015/08/01~2018/07/31.
 6. Development of an in-vitro cervical spinal model to investigate the impact of different surgical approaches and rehabilitation strategies on spinal stability in radiculomyelopathy patients. Ministry of Science and Technology: MOST 104-2221-E-002 -212 -MY3. Co-Principle Investigator.
2015/08/01~2018/07/31.

Previous grants

1. Exoskeleton robot development for the handicapped project. Industrial Technology Research Institute. Principle Investigator.
2012/11/01~2014/02/28.

專書

1. 林燕慧、鄭智修、魏鴻文 編譯。骨骼肌肉系統 - 基礎生物力學。第四版。台北：澳商沃特庫爾股份有限公司台灣分公司，2013；ISBN 978-986-89835-0-2。

專利

1. 人體關節運動量管理系統及方法。發明專利：104143660。

研究計畫

105 年度委託科技研究計畫--健康資訊科技應用 重點三：銀髮數位生活之研究與國際接軌

執行中

執行期間	計畫名稱	經費來源	擔任工作
2018 ~ 2021	肌少症與脊椎疾病研究：從臨床與基礎、診斷與復健器材研發、到物理治療策略評估-子計畫四：肌少症功能篩檢指標建立與混合實境式動作功能評估系統之開發 (107-2221-E-182-018-MY3)	科技部	主持人
2017 ~ 2020	銀髮族智慧健康檢測系統之開發與臨床測試 (106-2218-E-182-007-MY3)	科技部	主持人
2017 ~ 2019	慢性頸痛患者使用傳統頸部物理治療和可攜式頸部運動訓練系統之效益比較	長庚醫學研究計劃	主持人
2015 ~ 2018	頸椎脊髓神經病變之手術選擇、心理諮詢介入、神經肌肉代償、復健運動療效與生物力學之研究—子計畫三：頸椎脊髓神經病變患者的居家運動訓練感測器之開發並應用於身體控制機制 與訓練療效之探討(104-2221-E-182-078-MY3)	科技部	主持人
2018 ~ 2021	肌少症與脊椎疾病研究：從臨床與基礎、診斷與復健器材研發、到物理治療策略評估-總計畫兼子計畫一：肌少症與退化性脊椎疾病之相關性及其臨床手術指引研究 (107-2221-E-002-060-MY3)	科技部	共同主持人

2018 ~ 2021	肌少症與脊椎疾病研究：從臨床與基礎、診斷與復健器材研發、到物理治療策略評估-子計畫六：退化性脊椎狹窄合併肌少症減壓手術後運動策略之研究 (107-2221-E-002-069-MY3)	科技部	共同主持人
2015 ~ 2018	頸椎脊髓神經病變之手術選擇、心理諮詢介入、神經肌肉代償、復健運動療 效與生物力學之研究—子計畫一：頸椎脊髓神經病變患者手術治療、保守治療以及心理諮商介入對於臨床效果之分析 (104-2221-E-182-078-MY3)	科技部	共同主持人
2015 ~ 2018	頸椎脊髓神經病變之手術選擇、心理諮詢介入、神經肌肉代償、復健運動療 效與生物力學之研究—子計畫二：退化性頸椎脊髓病人影像及感覺疼痛評估分類與治療預後探討-與神經根病 變、同年齡中老年人追蹤比較研究 (104-2221-E-182-078-MY3)	科技部	共同主持人
2015 ~ 2018	頸椎脊髓神經病變之手術選擇、心理諮詢介入、神經肌肉代償、復健運動療 效與生物力學之研究—子計畫四：探討手術方式及復健運動對於頸椎脊髓神經病變患者術後頸椎穩定度之影響 -體外頸椎肌肉模型(104-2221-E-182-078-MY3)	科技部	共同主持人

已結案

執行期間	計畫名稱	經費來源	擔任工作
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2016 ~ 2017	新式運動訓練輔具對於改善帕金森氏症患者之頭部穩定和姿勢控制能力之療效分析	長庚醫學 研究計劃	主持人
2014 ~ 2016	羽球現場運動測試與訓練平台之開發：應用於探討疲勞對於羽球選手的動作控制及反應速度之生物力學分析	長庚醫學 研究計劃	主持人
2015 ~ 2016	整合型腰椎固定之結果分析與新式骨釘設計—子計畫三：腰椎融合手術後併發鄰近節段病變患者的脊柱周邊肌群功能研究	長庚醫學 研究計劃	共同主持人
2012 ~ 2015	頸椎脊髓神經病變之手術選擇與術後物理治療方式之評估方法研究—子計畫四：頸部肌肉功能對於頸椎脊髓神經病變手術及物理治療成效影響之生物力學分析 (101-2221-E-182-020-MY3)	科技部	主持人
2012 ~ 2015	頸椎脊髓神經病變之手術選擇與術後物理治療方式之評估方法研究—子計畫一：頸椎脊髓神經病變之手術前後病人醫學影像變化、心理與生活功能影響 (101-2221-E-002-094-MY3)	科技部	共同主持人
2012 ~ 2015	頸椎脊髓神經病變之手術選擇與術後物理治療方式之評估方法研究—子計畫二：退化性頸椎髓神經病變手術後之物理治療策略 (101-2221-E-002-058-MY3)	科技部	共同主持人
2012 ~ 2015	頸椎脊髓神經病變之手術選擇與術後物理治療方式之評估方法研究—總計畫兼子計畫三：頸椎脊髓神經病變手術之體外屍骨生物力學研究 (101-2221-E-002-060-MY3)	科技部	共同主持人

2014 ~ 2015	身心障礙者功能需求導向之輔具檢 索系統設計開發 (103-2221-E-182 -048-)	科技部	共同主持人
2014 ~ 2015	探討以下顎髁突活動度與嚼肌硬度 驗證顫顎關節障礙療效的研究 (103-2314-B-241-003-)	科技部	共同主持人
2013 ~ 2014	患者自控式下肢癱瘓者交替式助動 步行矯具(1/3) (102-2218-E-002 - 010 -)	科技部	共同主持人
2014 ~2016	帕金森氏病的步態異常:臨床量化 分析、磁振刺激治療、神經影像診 斷的系列研究 (103-2314-B-182A-028-)	科技部	共同主持人
2013 ~ 2015	跌倒之於帕金森氏病 - 以姿勢不 穩和冷凍步態為觀測指標的系列研 究：臨床分析、追蹤比較、與病理 生理機轉 (102-2314-B-182A-062 -)	科技部	共同主持人
2014 ~ 2014	正常人穿戴不同膝護具由坐至站立 時之下肢生物力學分析	長庚大學 產學合作 計畫	主持人
2013 ~ 2013	運動指導影片驗證設計與常模收集	工業研究 院	共同主持人
2012 ~ 2013	慢性頸痛與頸部肌肉疲勞影響身體 姿勢控制之機制	長庚醫學 研究計劃	主持人

2011 ~ 2012	嬰幼兒第一年的壓力中心量測與神經動作評估之相關性	長庚醫學 研究計劃	共同主持人
2011 ~ 2012	頸部肌肉疲勞對於慢性頸痛患者之頭部穩定與姿勢控制的影響:身體調節機制與復健運動訓練療效之探討(100-2314-B-182-030-)	科技部	主持人
2010 ~ 2012	中老年人步行運動時軀幹與肢體動態穩定度之偵測研究 (99-2410-H-182-039-)	科技部	共同主持人
2010~2012	妥瑞症兒童在不同感覺情境下的姿勢穩定度與平衡訓練 (99-2314-B-182-019-)	科技部	共同主持人
2010~2011	年輕健康人與慢性頸痛患者在頸部矢狀平面運動上之頸椎橈度性質	長庚醫學 研究計劃	主持人
2010 ~ 2011	以新式肌電圖整合最佳化模型估算健康人與慢性頸痛患者之頸椎負載及穩定度(99-2218-E-182-004-)	科技部	主持人
