謝宗勳 (Hsieh, Tsung-Hsun) PT, Ph.D.

現職

長庚大學 醫學院 物理治療學系 教授
長庚大學 創新育成中心 主任
長庚醫院 神經科學研究中心 合聘助理研究員

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主要學歷

畢業學校	主修學門系所	學位	起訖年月
國立成功大學	生物醫學工程研究所	博士	2006/9 至 2011/12
長庚大學	復健科學研究所	碩士	2002/9 至 2004/7
中國醫藥大學	物理治療學系	學士	1998/9 至 2002/6

個人經歷

服務機關	服務部門／系所	職稱	起訖年月
長庚大學	醫學院物理治療學系/復健科學所	教授	2021/08 至 迄今
長庚大學	技術合作處創新育成中心	主任	2020/02 至 迄今
長庚大學	醫學院物理治療學系/復健科學所	副教授	2018/08 至 2021/07
長庚大學	醫學院物理治療學系/復健科學所	助理教授	2015/02 至 2018/07
臺北醫學大學	神經再生醫學博士學位學程	助理教授	2014/03 至 2015/01
臺北醫學大學	神經再生醫學博士學位學程	助理研究員	2012/09 至 2014/03
美國哈佛大學醫學院	波士頓兒童醫院神經科	博士後研究員	2012/03 至 2012/08
美國哈佛大學醫學院	波士頓兒童醫院神經科	研究學者	2010/06 至 2011/06
國立成功大學	醫學工程研究所	博士生研究助理	2006/09 至 2010/06
輔英科技大學	物理治療學系	兼任講師	2009/02 至 2009/07
樹人醫護管理專科學校	物理治療科	兼任講師	2006/08 至 2008/07
行政院衛生福利部	全民健康保險醫療費用協定委員會	醫療替代役	2005/03 至 2006/07
高雄常春聯合診所	物理治療部	物理治療師	2004/11 至 2005/01
長庚大學	醫學院物理治療系復健科學所	兼任助教	2002/07 至 2004/07
長庚大學	復健科學研究所	研究助理	2002/08 至 2004/10
林口長庚醫院	物理治療部	物理治療師	2003/07 至 2004/03

學術研究專長

系統神經科學	生物電生理學	動物行為科學	神經工程	神經物理治療
生醫訊號處理	物理因子治療學	生醫儀器開發		

授課科目

大學部		
(1) 復健醫學統計應用	(2) 小兒物理治療學	(3) 小兒物理治療學實驗
(4) 物理因子治療學(1)	(5) 物理因子治療學實驗(1)	(6) 臨床實習(5)
(7) 物理治療專題討論	(8) 神經解剖	(9) 兒童發展學
(10) 臨床實習(2)	(11) 心肺物理治療學	(12) 心肺物理治療學實習
(13) 物理因子治療學(2)	(14) 物理因子治療學實驗(2)	(15) 神經科物理治療學(2)
(16) 臨床實習(3)		
研究所碩士班		
(1) 復健科學研究趨勢	(2) 專題討論(4)	(3) 論文分析
研究所博士班		
(1) 專題討論(1)	(2) 生醫儀器學	(3) 專題討論(2)
(4) 專題討論(3)	(5) 高階復健科學臨床實習(1)	(6) 教學實習
(7) 神經科學特論	(8) 研究設計	(9)

教學輔導相關成就、獎勵或貢獻

A. 輔導學生參與國內研討會

1. 李怡寬、**謝宗勳**。功能性電刺激結合傳統物理治療對於中風後平衡能力之影響：系統性文獻回顧。臺灣物理治療學會第八十二次學術研討會。台南, 台灣。2021/10/2。
2. 吳冠穎、**謝宗勳**。肌內效貼布對於慢性腳踝不穩定患者在本體感覺與肌力之影響：系統性回顧。臺灣物理治療學會第八十二次學術研討會。台南, 台灣。2021/10/2。
3. 邱怡樺、蔡昀庭、莊育芬、**謝宗勳**。瑜珈對於慢性頸部疼痛之療效：系統性文獻回顧。臺灣物理治療學會第七十九次學術研討會。台北, 台灣。2020/03/14
4. 許昭弘、侯亮宇、莊育芬、**謝宗勳**。皮拉提斯對慢性下背痛患者疼痛與日常功能改善之效果：系統性文獻回顧。臺灣物理治療學會第七十九次學術研討會。台北, 台灣。2020/03/14
5. 侯亮宇、莊育芬、**謝宗勳**。腦性麻痺兒童之肌痙攣評估系統開發。臺灣物理治療學會第七十九次學術研討會。臺北, 台灣。2020/03/14
6. 黎書宇、李文龍、莊育芬、**謝宗勳**。經顱直流電刺激對於中風病患手部功能之療效：系統性回顧。臺灣物理治療學會第七十七次學術研討會。台北，台灣。2019/3/23
7. 江宜庭、林慧敏、蔡文琇、莊育芬、**謝宗勳**。雙重任務訓練對於腦性麻痺兒童運動功能之效果：系統性回顧。臺灣物理治療學會第七十七次學術研討會。台北，台灣。2019/3/23
8. 陳蓉萱、鄭智修、**謝宗勳**。枕頭對於人體之生物力學、肺功能與疼痛舒緩之影響：系統性文獻回顧。臺灣物理治療學會第七十七次學術研討會。台北，台灣。2019/3/23
9. 鄭均瑀、呂棟晧、呂侑蓁、莊育芬、莊麗玲、**謝宗勳**。運用智慧型裝置檢測平衡能力之定量化分析。2016 亞太復健工程與輔具科技及 2016 台灣復健工程暨輔具科技學會學術研討會。臺北、台灣。2016/3/25-27
10. Liu H, Wu YW, **Hsieh TH***. Development of Cortical Electrical Stimulation on Parkinson's Animal Model for Treatment and Application。2016 長庚大學物物治、職治、早療學術海報展示與競賽。Taoyuan, Taiwan. 2016/6/15.
11. Chen S, Wu YW, **Hsieh TH***. Development of electrophysiological biomarkers and theirtherapeutic applications using Huntington's disease as a neurodegenerative disease model. 2016 長庚大學物物治、職治、早療學術海報展示與競賽。Taoyuan, Taiwan. 2016/6/15.

B. 輔導學生參與國際研討會

1. Liu H, Kuo CW, **Hsieh TH***. The Effect of Methylcobalamin Combined with Exercise Training in

the Improvement of Motor Impairments in Parkinsonian Rats. 2018 The 33rd joint annual conference of biomedical science. Taipei, Taiwan. 2018/3/24-25.

2. Huang YT, Feng XJ, Kuo CW, **Hsieh TH***. Early transcranial direct current stimulation ameliorates motor and cognitive dysfunctions in Parkinson's disease model of rats. Neuroscience 2019. Chicago, USA. Oct 19-23, 2019.
3. Hsieh KH, Chen HY, Kuo CW, **Hsieh TH***. The Effects of Probiotics on Improving Motor and Cognitive Functions in a mouse Parkinson's model Neuroscience 2019. Chicago, USA. Oct 19-23, 2019.
4. Chen HM, Kuo CW, Juan CH, **Hsieh TH***. Reactivity of Electroencephalographic Spectral Power to Light Stimulation and Body Movement in Mice. 2018 The 33rd joint annual conference of biomedical science. Taipei, Taiwan. 2018/3/24-25.

C. 輔導學生論文發表

1. Chen JH, Chung LL, Lien HY, **Hsieh TH***. The Effects of Pillow on Biomechanical Properties, Pain Relief, and Pulmonary Function: A Systematic Review. ***Formosa Journal of Physical Therapy***. 2020. *(Accepted for publication)*
2. Leong MI, Chang YJ, **Hsieh TH***. Efficacy of Exercise Training on the Postural Control, Locomotor Function and Cardiorespiratory Endurance in Individuals with Traumatic Brain Injury: Systematic Review. ***Formosa Journal of Physical Therapy***. 2016 Mar; 41(1):7-19.
3. Feng XJ, Huang YT, Huang YZ, Kuo CW, Peng CW, Rotenberg A, Juan CH, Pei YC, Chen YH, Chen KY, Chiang YH, Liu HH, Wu JX, **Hsieh TH***. Early Transcranial Direct Current Stimulation Treatment Exerts Neuroprotective Effects on 6-OHDA-Induced Parkinsonism in Rats. ***Brain Stimulation***. 13(3), 655-633, 2020 Mar.

D. 輔導學生獲獎

1. 指導學生陳蓉萱同學獲得臺灣物理治療學會第七十七次學術研討會論文發表之壁報演講第一名(2019/03/23-24)
2. 指導詹舒晏同學獲得「財團法人健康科學文教基金會」補助學生暑期研究計畫獎助金(2015)

服務

A. 擔任國內外學術期刊之編輯或審稿委員

1. 編輯或編輯委員會(Editor/ Editorial Board)
   (1) 編輯國際期刊 *BioMed Research International* 之 Editorial Board
   (2) 國際期刊 *Annals of Physical Medicine and Rehabilitation* 之 Editorial Board
   (3) 國際期刊 *Journal of Neurology and Experimental Neuroscience* 之 Guest Editor
   (4) 國際期刊 *Behavioural Neurology* 之 Lead Guest Editor
   (5) 國際期刊 *Frontiers in Rehabilitation Sciences* 之 Editorial Board

2. 審稿委員(Reviewer)
   (1) Expert Review of Medical Devices (2021/3/10)
   (2) Sensors (2021/3/6)
   (3) Journal of Medical and Biological Engineering (2021/2/1)
   (4) Expert Review of Medical Devices (2021/1/2)
   (5) Sensors (2021/1/1)
   (6) Brain Injury (2020/11/27)
   (7) Expert Review of Medical Devices (2020/11/06)
   (8) Journal of Psychopharmacology (2020/10/20)
   (9) Expert Review of Medical Devices (2020/9/09)

(10) Applied Sciences (2020/7/17)
(11) Brain Injury (2020/7/12)
(12) Applied Sciences (2020/6/26)
(13) Expert Review of Medical Devices (2020/6/22)
(14) Brain Injury (2020/5/31)
(15) Sensors (2020/4/20)
(16) SAGE Open Medicine (2020/4/3)
(17) SAGE Open Medicine (2020/3/28)
(18) Biosensors (2020/3/6)
(19) Experimental Brain Research (2020/3/1)
(20) Journal of Cellular Physiology (2020/2/19)
(21) Neurotoxicity Research (2020/2/15)
(22) Journal of Medical and Biological Engineering (2020/2/1)
(23) SAGE Open Medicine (2020/1/28)
(24) Sensors (2020/1/24)
(25) Physiotherapy Research and Reports (2019/11/13)
(26) Ultrasound in Medicine & Biology (2019/11/13)
(27) Sensors (2019/11/12)
(28) Journal of Neurology and Experimental Neuroscience (2019/9/05)
(29) Physiotherapy Research and Reports (2019/4/16)
(30) Brain Stimulation (2019/1/10)
(31) Frontiers in Neural Circuits (2016/07/18)
(32) BioMedical Engineering OnLine (2015/08/12)
(33) BioMedical Engineering OnLine (2015/03/22)
(34) Journal of Medical and Biological Engineering (2014/11/5)
(35) BioMed Research International (2014/06/16)
(36) Journal of Materials Science: Materials in Medicine (2014/05/10)

B. 校內服務

1. 擔任長庚大學創新育成中心-主任(2020/2-)
2. 擔任長庚大學公共關係事務委員會-委員(2019/8-)
3. 擔任醫學院研究發展委員會-委員(2019/8-)
4. 擔任醫學院-宣傳策略小組-委員(2019/8-)
5. 擔任醫學院課程委員會-校友代表
6. 醫學院智慧醫材開發諮詢小組-召集人(2021/1-)
7. 擔任委員會主席，委員會名稱: 物治系網管與設備委員會
8. 擔任委員會委員，委員會名稱: 物治系招生委員會、國際交流委員會、產學發展委員會、招生委員會
9. 擔任導師(2015~)、擔任系學會輔導老師(2015/9-2016/8)
10. 擔任長庚大學校友業務委員會-醫學院委員代表
11. 長庚大學物理治療學系系友會-擔任總務
12. 主辦長庚大學物物治、職治、早療學術海報展示與競賽(2017~)

C. 校外服務

1. 台灣復健工程暨輔具科技學會-理事(2021/3-)
2. 台灣復健工程暨輔具科技學會-副秘書長(2015/11-2021/3)
3. 擔任台灣復健工程暨輔具科技學會之學術教育委員會、資訊與傳播委員會-委員(2014/9-2021/3)

4. 擔任科技部生科司復健學門、神經外科學門、工程司醫材系統與輔具系統、產學合作計畫-初審委員(2018/3-2021/3)
5. 擔任衛生福利部護理及健康照護司-預防及延緩失能照護方案研發及人才培訓計畫-培訓師資(2017/12-)
6. 籌辦國內與國際研討會
   (1) 2020 International Convention on Rehabilitation Engineering and Technology (i-CREATe 2020)-Publicity Co-Chair
   (2) 2016 International Conference of Gerontechnology for Smart Living 國際研討會-國際事務主委(2016/10/30)
   (3) 2016 亞太復健工程與輔具科技及 2016 台灣復健工程暨輔具科技學會學術研討會-座長(2016/3/25-27)
   (4) 2017 國際生物力學與復健工程暨輔具科技學術研討會-籌辦委員(2017/4/14-15)
   (5) The 3rd Asian Meeting on Rehabilitation Engineering and Assistive Technology (AMoREAT)-International Committee (2014/09)

D. 應邀演講或展演

主題	研討會/應邀單位	日期
跨出校園、接軌市場-長庚大學新創育成輔導項目說明暨師生創業團隊經驗分享	長庚大學生物醫學系	2022/01/04
Deciphering the Neuromodulation and Therapeutic Roles of Transcranial Brain Stimulation Approach in Neurological Disorders	International Seminar Neuroscience and Brain Disorders, University of Muhammadiyah Malang	2021/11/13
從學術研究到創新創業-跨出校園軌市場	長庚大學自主學習小組	2020/06/18
Development of Quantitative Measurement Device for Spasticity	2019 International Conference on Medical Design	2019/11/21
Therapeutic effects of transcranial direct current stimulation (tDCS) in motor and cognitive impairments in Parkinsonian rat model	The 13th CME International Conference on Complex Medical Engineering	2019/09/24
Animal Models of Transcranial Brain Stimulation: Methods and Mechanisms	國立陽明大學物理治療暨輔助科技學系	2019/02/18
Animal Models of Transcranial Brain Stimulation: Methods and Mechanisms	The 12th ICME International Conference on Complex Medical Engineering	2018/09/07
The Potential Applications of Brain Stimulation for the Assessment and Treatment of Traumatic Brain Injury	2017 南海國際康復論壇	2017/11/12
The Applications of Smart Wearable Devices for Detecting Balance Function in Individuals at High Risk of Falls	The 3rd Asian Meeting on Rehabilitation Engineering and Assistive Technology (Seoul, Korea)	2017/11/10
Therapeutic Brain Stimulation Techniques in Parkinsonian and Brain Injury Animal Models: The Novel Neural Engineering Methods and Scientific Approaches	林口長庚醫院-神經科學研究中心系列講座	2017/07/27
Quantitative Assessment of Movement Disorders in Rodent Models of Parkinsonism	3rd Taiwan International Congress of Parkinson's Disease and Movement Disorders (2017 TIC-PDMD)	2017/03/19
The Changes of Cortical Inhibitory	Neurotrauma Forum Dilemma in	2017/03/04

Function following TBI	Traumatic Brain Injury (TBI): The Neural Plasticity related to Neurotransmission and Neuroinflammation in TBI/台灣神經創傷學會主辦	
Brain Stimulation Techniques for the Application and Development of Rehabilitation Medicine: From Basic to Clinical	中央大學-認知神經科學所	2016/6/20
Dopamine and Non-Invasive Brain Stimulation (NiBS): Investigation from Basic Research	Symphony of non-invasive brain stimulation and dopamine.台灣臨床神經生理學會 2015 年非侵入性腦刺激訓練學程暨研討會	2015/11/22
Diagnostic and Therapeutic Brain Stimulation Techniques in Animal Models of Parkinson's Disease and Traumatic Brain Injury: Novel Neural Engineering Methods and Scientific Approaches	Neuroscience Program of Academia Sinica (NPAS) 中央研究院生物醫學科學研究所-神經科學研究計畫	2014/8/20

研究計畫

A. 科技部

計畫名稱	擔任工作	起訖年月
於帕金森氏症大鼠模型中探討創新特效型經顱陣發電刺激之作用機制與其療效：可行性評估之研究	主持人	2020/08-2023/07
探究低強度非熱能經顱聚焦超音波在動物及人腦的運動神經調控效應	主持人	2019/08-2022/07
在創傷性腦損傷動物模式下探討新式經顱交流電刺激對於神經調控與治療效應	主持人	2019/08-2020/07
腦性麻痺之肌痙攣評估與治療系統開發	主持人	2018/11-2020/04
以帕金森氏症動物模式探討跨顱直流電刺激對於帕金森氏症運動與認知缺損之生理與治療效應	主持人	2017/08-2019/07
在帕金森氏症動物模式下發展電生理生物指標以及相對應之皮質電刺激治療策略來增進神經塑性與運動功能	主持人	2016/08-2017/07
發展皮質電刺激技術於增進帕金森大鼠之神經可塑性與運動功能之研究	主持人	2014/08-2016/07

B. 長庚醫院計畫

計畫名稱	擔任工作	起訖年月
於阿茲海默症大鼠模型中探討重複性經顱磁刺激搭配有氧運動對於提升認知之治療效應	主持人	2020/12-2021/11
以創傷性腦損傷動物模式探討新式皮質電刺激應用於神經復健治療之效應	主持人	2018/10-2021/09
合併重複性經顱磁刺激與運動訓練治療對於增進帕金森氏症大鼠神經塑性與運動功能之效果	主持人	2016/10-2018/09

C. 產學合作計畫

計畫名稱	擔任工作	起訖年月
植入式電刺激裝置驗證動物實驗	主持人	2020/06-2020/12
新型超音波治療癲癇技術及癲癇模型開發	主持人	2020/04-2021/04
腦性麻痺之肌痙攣評估與治療系統開發	主持人	2018/11-2020/04
神經滋養因子以及甲基氰鈷胺對於垂足治療之作用機制	主持人	2017/03-2019/02
發展神經退化性疾病之電生理生物指標以及相對應之治療策略：以亨丁頓舞蹈症為例	主持人	2017/ 02-2018/12

D.大專學生研究計畫

計畫名稱	擔任工作	起訖年月
合併甲基氰鈷胺與運動訓練治療對於增進帕金森氏症大鼠運動功能之效果	指導教授	2017/07-2018/02
運用智慧型裝置檢測平衡能力之定量化分析	指導教授	2016/07-2017/02

E.其他

計畫名稱	補助單位	擔任工作	起訖年月
大專校院創新創業教育計畫	教育部	主持人	2020/8/1-2022/07

研究成果目錄目錄

A. 期刊論文 Selected Peer-reviewed Publications

1. **Hsieh TH***, He XK, Liu HH, Chen JJ, Peng CW, Liu HL, Rotenberg A, Chen KT, Chang MY, Chiang YH, Chang PK, Kuo CW. Early repetitive transcranial magnetic stimulation exerts neuroprotective effects and improves motor functions in hemiparkinsonian rats. ***Neural Plasticity***. 2021 Dec, 1763533. (SCI, IF: 3.599, NEUROSCIENCES 138/273=50.5%)
2. Ho MH, Yen CH, **Hsieh TH**, Kao TJ, Chiu JY, Chiang YH, Barry J Hoffer, Chang WC, Chou SY. CCL5 via GPX1 activation protects hippocampal memory function after mild traumatic brain injury. ***Redox Biology***. 2021 Jul, 46:102067. (SCI, IF: 11.799, BIOCHEMISTRY & MOLECULAR BIOLOGY: 21/297=7.0%)
3. Fan CH, Wei KCh, Chiu NH, Liao EC, Wang HC, Wu RY, Ho YJ, Chan HL, Wang TS Andrew, Huang YZ, **Hsieh TH**, Lin CH, Lin YC, Yeh CK. Sonogenetic-based neuromodulation for the amelioration of Parkinson's disease. ***Nano Letters.*** 2021 Jul; 21(14):5967-5976. doi: 10.1021/ acs.nanolett.1c00886. Epub 2021 Jul 15. (SCI, IF: 11.189, MATERIALS SCIENCE, MULTIDISCIPLINARY: 32/333=9.6%)
4. Marufa SA, **Hsieh TH(#Co-first Author)**, Liou JC, Chen HY, Peng CW. Neuromodulatory effects of repetitive transcranial magnetic stimulation on neural plasticity and motor functions in rats with an incomplete spinal cord injury: A preliminary study. ***PLoS One***. 2021 Jun; 16(6): e0252965. (SCI, IF: 3.24, MULTIDISCIPLINARY SCIENCES: 26/73=35.6%)
5. Kuo CW, Chang MY, Liu HH, He XK, Chan SY, Huang YZ, Peng CW, Chang PK, Pan CY, **Hsieh TH***. Cortical electrical stimulation ameliorates traumatic brain injury-induced sensorimotor and cognitive deficits in rats. ***Frontiers in Neural Circuits***. 15:693073 2021 (SCI, IF: 3.492, NEUROSCIENCES: 150/273=54.9%)
6. Chen JH, Chuang LL, Lien HY, **Hsieh TH***. The effects of pillow on biomechanical properties, pain relief, and pulmonary function: a systematic review. ***Formosa Journal of Physical Therapy***. 46(2): 61-72, 2021.
7. He XK, Liu HH, Chen SJ, Sun QQ, Yu G, Lei L, Niu ZY, Chen LD, **Hsieh TH***. Subsequent acupuncture reverses the aftereffects of intermittent theta-burst stimulation. ***Frontiers in Neural Circuits***. 15:675365, 2021. (SCI, IF: 3.492, NEUROSCIENCES: 150/273=54.9%)

8. Praveen Rajneesh C, Liou JC, **Hsieh TH**, Lin JH, Peng CW. The voiding efficiency in rat models with dopaminergic brain lesions induced through unilateral and bilateral intrastriatal injections. ***PLoS One***, 15(12): e0243452, 2020 Dec. (SCI, IF: 3.394, NEUROSCIENCES: 157/273 =57.5%)
9. Praveen Rajneesh C, Liou JC, **Hsieh TH**, Chin HY, Peng CW. Efficacy of deep brain stimulation on the improvement of the bladder functions in traumatic brain injured rats. ***Brain Sciences***, 10(11):E850, 2020 Nov. (SCI, IF: 3.394, NEUROSCIENCES: 157/273 =57.5%)
10. Feng XJ, Huang YT, Huang YZ, Kuo CW, Peng CW, Rotenberg A, Juan CH, Pei YC, Chen YH, Chen KY, Chiang YH, Liu HH, Wu JX, **Hsieh TH***. Early transcranial direct current stimulation treatment exerts neuroprotective effects on 6-OHDA-induced Parkinsonism in rats. ***Brain Stimulation***. 13(3), 655-633, 2020 May. (SCI, IF: 8.955, CLINICAL NEUROLOGY: 13/208 =6.2%)
11. **Hsieh TH**, Kuo CW, Hsieh KH, Shieh MJ, Peng CW, Chen YC, Chang YL, Huang YZ, Chen CH, Chang PK, Chen KY, Chen HY. Probiotics alleviate the progressive deterioration of motor functions in a mouse model of Parkinson's disease. ***Brain Sciences***, 10(4): 206, 2020 Apr. (SCI, IF: 3.394, NEUROSCIENCES: 157/273 =57.5%)
12. Wu CY, Huang RY, Liao EC, Lin YC, Chang CW, Chan HL, Huang YZ, **Hsieh TH**, Fan CH. Yeh CK. A preliminary study of Parkinson's gene therapy via sono-magnetic sensing gene vector for conquering extra/intracellular barriers in mice. ***Brain Stimulation.*** 2020 May, 13(3): 786-799 (SCI, IF: 8.955, CLINICAL NEUROLOGY: 13/208 =6.2%)
13. Rajneesh CP, **Hsieh TH**, Chen SC, Lai CH, Yang LY, Chin HY, Peng CW. Deep brain stimulation of the pedunculopontine tegmental nucleus renders neuroprotection through the suppression of hippocampal apoptosis: An experimental animal study. ***Brain Sciences.*** 2020 Jan, 10(1): 25. (SCI, IF: 3.394, NEUROSCIENCES: 157/273 =57.5%)
14. Liu HH, He XK, Chen HY, Peng CW, Rotenberg A, Juan CH, Pei YC, Liu HL, Chiang YH, Wang JY, Feng XJ, Huang YZ, **Hsieh TH***. Neuromodulatory effects of transcranial direct current stimulation on motor excitability in rats. ***Neural Plasticity***. 2019 Dec, 4252943, 2019. (SCI, IF: 3.599, NEUROSCIENCE: 138/273 =50.5%)
15. Tsai WL, Chen HY, Huang YZ, Chen YH, Kuo CW, Chen KY, **Hsieh TH***. Long-Term voluntary physical exercise exerts neuroprotective effects and motor disturbance alleviation in a rat model of Parkinson's disease. ***Behavioural Neurology***. 2019 Dec, 4829572, 2019. (SCI, IF: 3.342, CLINICAL NEUROLOGY: 102/208 =49.0%)
16. Hameed MQ, **Hsieh TH**, Morales-Quezada L, Lee HHC, Damar U, MacMullin PC, Hensch TK, Rotenberg A. Ceftriaxone treatment preserves cortical inhibitory interneuron function via transient salvage of GLT-1 in a rat traumatic brain injury model. ***Cerebral Cortex***. 2019 Dec; 29(11):4506-4518. (SCI, IF: 5.357, NEUROSCIENCES: 36/289 =12.4%)
17. Praveen Rajneesh C, Yang LY, Chen SC, **Hsieh TH**, Chin HY, Peng CW. Cystometric measurements in rats with an experimentally induced traumatic brain injury and voiding dysfunction: A time-course study. ***Brain Sciences***. 2019 Nov, 9(11): E325. (SCI, IF: 3.394, NEUROSCIENCES: 157/273 =57.5%)
18. Chen SG, Tsai CH, Lin CJ, Lee CC, Yu HY, **Hsieh TH***, Liu HL. Transcranial focused ultrasound pulsation suppresses pentylenetetrazol induced epilepsy in vivo. ***Brain Stimulation***, 2020 Jan, 13(1):35-46. (SCI, IF: 8.955, CLINICAL NEUROLOGY: 13/208 =6.2%)
19. Lai JH, Chen KY, Wu JC, Olson L, Brené S, Huang CZ, Chen YH, Kang SJ, Ma KH, Hoffer BJ, **Hsieh TH**, Chiang YH. Voluntary exercise delays progressive deterioration of markers of metabolism and behavior in a mouse model of Parkinson's disease. ***Brain Research***. 2019 Oct 1720:146301. (SCI, IF: 3.252, NEUROSCIENCES: 170/273 =62.2%)
20. Li YT, Chen SC, Yang LY, **Hsieh TH**, Peng CW. Designing and implementing a novel transcranial electrostimulation system for neuroplastic applications: A preliminary study. ***IEEE Transactions on Neural Systems and Rehabilitation Engineering***. 2019 May; 27(5):805-813. (SCI, IF: 3.802, REHABILITATION: 7/68=10.3%)
21. Chen YH, **Hsieh TH**, Kuo TT, Kao JH, Ma KH, Huang EY, Chou YC, Olson L, Hoffer BJ. Release parameters during progressive degeneration of dopamine neurons in a mouse model reveal earlier impairment of spontaneous than forced behaviors. ***Journal of Neurochemistry.*** 2019 Jul; 150(1):56-73. (SCI, IF: 5.372, NEUROSCIENCES: 67/273 =24.5%)

22. Praveen Rajneesh C, Lai CH, Chen SC, **Hsieh TH**, Chin HY, Peng CW. Improved voiding function by deep brain stimulation in traumatic brain-injured animals with bladder dysfunctions. ***International Urology and Nephrology***. 2019 Jan. 51(1):41-52. (SCI, IF: 2.37, UROLOGY & NEPHROLOGY: 58/90 =64.4%)
23. Chen YH, Lin BJ, **Hsieh TH**, Kuo TT, Miller J, Chou YC, Huang EY, Hoffer BJ. Differences in nicotine encoding dopamine release between the striatum and shell portion of the nucleus accumbens. ***Cell Transplantation.*** 2019 Mar; 28(3):248-261. (SCI, IF: 4.064, CELL & TISSUE ENGINEERING: 16/29 =55.1%)
24. Wu CW, Chiu WT, **Hsieh TH**, Hsieh CH, Chen JJ. Modulation of motor excitability by cortical optogenetic theta burst stimulation. ***PLoS One***. 2018 Aug; 13(8):e0203333. (SCI, IF: 3.24, MULTIDISCIPLINARY SCIENCES: 26/73=35.6%)
25. Yu YW, Hsueh SC, Lai JH, Chen YH, Kang SJ, Chen KY, **Hsieh TH**, Hoffer BJ, Li Y, Greig NH, Chiang YH. Glucose-dependent insulinotropic polypeptide mitigates 6-OHDA-induced behavioral impairments in Parkinsonian rats. ***International Journal of Molecular Sciences.*** 2018 Apr; 19(4): 1153. (SCI, IF: 5.923, BIOCHEMISTRY & MOLECULAR BIOLOGY: 67/297 =22.5%)
26. Chen YH, Kuo TT, Kao JH, Huang EY, **Hsieh TH**, Chou YC, Hoffer BJ. Exercise ameliorates motor deficits and improves dopaminergic functions in the rat Hemi-Parkinson's model. ***Scientific Reports.*** 2018 Mar; 5;8(1):3973. (SCI, IF: 4.379, MULTIDISCIPLINARY SCIENCES: 17/73=23.2%)
27. **Hsieh TH**, Peng CW, Chen KY, Huang YZ, Lin YH, Zong WZ, Liang JI, Zhao J, Cheng CY, Chang YJ, Cheng CH, Chuang YF. The applications of smart mobile device for detecting balance dysfunction in individuals with down syndrome. ***Biomedical Engineering: Applications, Basis and Communications***. 2018 Feb; 30(01): 1850007 (EI).
28. Hsueh SC, Chen KY, Lai JH, Wu CC, Yu YW, Luo Y, **Hsieh TH**, Chiang YH. Voluntary physical exercise improves subsequent motor and cognitive impairments in a rat model of Parkinson's disease. ***International Journal of Molecular Sciences***. 2018 Feb; 19(2): E508. (SCI, IF: 5.923, BIOCHEMISTRY & MOLECULAR BIOLOGY: 67/297=22.5%)
29. Jen En, Lin CW, **Hsieh TH**, Chiu YC, Lu TC, Chen SC, Chen MC, Peng CW. Prototype Deep Brain stimulation system with closed-loop control feedback for modulating bladder functions in traumatic brain injured animals. ***Journal of Medical and Biological Engineering***. 2018; 38(3):337-349. (SCI, IF: 1.553, ENGINEERING, BIOMEDICAL: 77/90=85.5%)
30. Chen SC, Chu PY, **Hsieh TH**, Li YT, Peng CW. Feasibility of deep brain stimulation for controlling the lower urinary tract functions: An animal study. ***Clinical Neurophysiology.*** 2017 Dec; 128(12):2438-2449. (SCI, IF: 3.708, CLINICAL NEUROLOGY: 81/208=38.9%)
31. Hsieh TH, Lee HHC, Hameed MQ, Pascual-Leone A, Hensch TK, Rotenberg A. Trajectory of parvalbumin cell impairment and loss of cortical inhibition in traumatic brain injury. ***Cerebral Cortex***. 2017 Dec; 27(12):5509-5524. (SCI, IF: 5.357, NEUROSCIENCES: 36/289 =12.4%)
32. Jen E, **Hsieh TH,** Lu TC, Chen MC, Lee FJ, Lin CT, Chen SC, Chu PY, Peng CW, Lin CW. Effects of pulsed-radiofrequency neuromodulation on the rat with overactive bladder. ***Neurourology and Urodynamics.*** 2017 Sep; 36(7):1734-1741. (SCI, IF: 2.696, Urology & Nephrology: 50/90=55.5%)
33. **Hsieh TH**, Kang JW, Lai JH, Huang YZ, Rotenberg A, Chen KY, Wang JY, Chan SY, Chen SC, Chiang YH, Peng CW. Relationship of mechanical impact magnitude to neurologic dysfunction severity in a rat traumatic brain injury model. ***PLoS One.*** 2017 May; 12(5):e0178186. (SCI, IF: 3.24, MULTIDISCIPLINARY SCIENCES: 26/73=35.6%)
34. Yang LY, Greig NH, Huang YN, **Hsieh TH**, Tweedie D, Yu QS, Hoffer BJ, Luo Y, Kao YC, Wang JY. Post-traumatic administration of the p53 inactivator pifithrin-α oxygen analogue reduces hippocampal neuronal loss and improves cognitive deficits after experimental traumatic brain injury. ***Neurobiology* of *Disease.*** 2016 Dec; 96:216-226. (SCI, IF: 5.996, NEUROSCIENCES: 54/273=19.7%)
35. Yu YW, Hsieh TH, Chen KY, Wu JC, Hoffer BJ, Greig NH, Li Y, Lai JH, Chang CF, Lin JW, Chen YH, Yang LY, Chiang YH. Glucose-dependent insulinotropic polypeptide ameliorates mild traumatic brain injury-induced ognitive and sensorimotor deficits and neuroinflammation in rats. ***Journal of Neurotrauma***. 2016 Nov; 33(22):2044-2054. (SCI, IF: 5.269, CRITICAL CARE MEDICINE: 8/36 =22.2%)

36. Lin YT[#], **Hsieh TH**[#](#Co-first Author), Chen SC, Lai CH, Kuo TS, Chen CP, Lin CW, Young ST, Peng CW. Effects of pudendal neuromodulation on bladder function in chronic spinal cord-injured rats. ***Journal of the Formosan Medical Association***. 2016 Sep; 115(9): 703-713. (SCI, IF: 3.282, MEDICINE, GENERAL & INTERNAL: 53/169 =31.3%)
37. **Hsieh TH**, Kao YS, Liu YC, Chen CY, Li YC, Chang YJ. The changes of neuromuscular properties following spinal cord injury. ***Formosan Journal of Physical Therapy***. 2016 Sep; 41(3): 211-222.
38. **Hsieh TH**, Lin YT, Chen SC, Peng CW. Chronic pudendal neuromodulation using an implantable microstimulator improves voiding function in diabetic rats. ***Journal of Neural Engineering.*** 2016 Aug; 13(4):046001. (SCI, IF: 4.655, ENGINEERING, BIOMEDICAL: 20/90=22.2%)
39. Chen SC, **Hsieh TH**, Fan WJ, Lai CH, Peng CW. Does pharmacological activation of 5-HT1A receptors improve urine flow rate in female rats? ***American journal of physiology-Renal physiology.*** 2016 Jul; 311(1): F166-175. (SCI, IF: 3.377, PHYSIOLOGY: 30/81=37.0%)
40. Su TC, Lin SH, Lee PT, Yeh SH, **Hsieh TH**, Chou SY, Su TP, Hung JJ, Chang WC, Lee YC, Chuang JY. The sigma-1 receptor-zinc finger protein 179 pathway protects against hydrogen peroxide-induced cell injury. ***Neuropharmacology.*** 2016 Jun; 105:1-9. (SCI, IF: 5.25, PHARMACOLOGY & PHARMACY: 54/275 =19.6%)
41. Leong MI, Chang YJ, **Hsieh TH***. Efficacy of exercise training on the postural control, locomotor Function and cardiorespiratory endurance in individuals with traumatic brain injury: systematic review. ***Formosa Journal of Physical Therapy***. 2016 Mar; 41(1):7-19.
42. Tsai EM, Wang YC, Lee TT, Tsai CF, Chen HS, Lai FJ, Yokoyama KK, **Hsieh TH**, Wu RM, Lee JN. Dynamic trk and G protein signalings regulate dopaminergic neurodifferentiation in human trophoblast stem cells. ***PLoS One***. 2015 Nov; 10(11):e0143852. (SCI, IF: 3.24, MULTIDISCIPLINARY SCIENCES: 26/73=35.6%)
43. **Hsieh TH**, Huang YZ, Rotenberg A, Pascual-Leone A, Chiang YH, Wang JY, Chen JJ. Functional dopaminergic neurons in substantia nigra are required for transcranial magnetic stimulation induced motor plasticity. ***Cerebral Cortex***. 2015 Jul; 25(7):1806-14. (SCI, IF: 5.357, NEUROSCIENCES: 36/289 =12.4%)
44. Chen SC, **Hsieh TH**, Fan WJ, Lai CH, Chen CL, Wei WF, Peng CW. Design and evaluation of potentiometric principles for bladder volume monitoring: a preliminary study. ***Sensors***. 2015 Jun; 15(6):12802-15. (SCI, IF: 3.576, INSTRUMENTS & INSTRUMENTATION: 14/64 =21.8%)
45. **Hsieh TH**, Huang YZ, Chen JJJ, Rotenberg A, Chiang YH, Chang Chien WS, Chang V, Wang JY, Peng CW. Novel use of theta burst cortical electrical stimulation for modulating motor plasticity in rats. ***Journal of Medical and Biological Engineering***. 2015 Feb; 35(1): 62-68. (SCI, IF: 1.553, ENGINEERING, BIOMEDICAL: 77/90=85.5%)
46. Fan WJ, Chen SC, **Hsieh TH**, Lai CH, Lin YS, Peng CW, Kou YR. Influence of Serotonergic Mechanisms on the Urine Flow Rate in Male Rats. ***Am J Physiol Regul Integr Comp Physiol.*** 2014 Nov; 307(10):R1239-1250. (SCI, IF: 3.026, PHYSIOLOGY: 27/81=33.3%)
47. Hameed MQ, Goodrich GS, Dhamne SC, Amandusson A, **Hsieh TH**, Mou D, Wang Y, Rotenberg A. A Rapid Lateral Fluid Percussion Injury (rLFPI) rodent model of traumatic brain injury and post-traumatic epilepsy. ***NeuroReport***. 2014 May; 25(7): 532-536. (SCI, IF: 1.394, NEUROSCIENCES: 243/272=89.3%)
48. Dhamne SC, Kothare RS, Yu C, **Hsieh TH**, Anastasio EM, Pascual-Leone A, Rotenberg A. A measure of acoustic noise generated from transcranial magnetic stimulation coils. ***Brain Stimulation***. 2014 May; 7(3): 432-434. (SCI, IF: 6.565, CLINICAL NEUROLOGY: 17/204=8.3%)
49. Lin YT, Lai CH, Kuo TS, Chen CC, Chen YL, Young ST, Chen SH, Lai JS, **Hsieh TH**, Peng CW. Dual-channel neuromodulation of the pudendal nerve with a closed-Loop control strategy to improve bladder functions. ***Journal of Medical and Biological Engineering***. 2014 Feb; 34(1): 82-89. (SCI, IF: 1.173, ENGINEERING, BIOMEDICAL: 73/87=83.9%)
50. Liang JI, Lin PC, Chen MY, **Hsieh TH**, Chen JJ, Yeh ML. The effect of tenocyte/hyaluronic acid therapy on the early recovery of healing Achilles tendon in rats. ***Journal of Materials Science: Materials in Medicine***. 2014 Jan; 25(1):217-227. (SCI, IF: 2.489; ENGINEERING, BIOMEDICAL: 43/87=49.4%)
51. Tsai YP, Chang CW, Lee JS, Liang JI, **Hsieh TH**, Yeh ML, Sze CI. Direct radiofrequency application

improves pain and gait in collagenase-induced acute achilles tendon injury. ***Evidence-Based Complementary and Alternative Medicine***. 2013 Oct; 2013:402692. (SCI, IF: 1.813, INTEGRATIVE & COMPLEMENTARY MEDICINE: 16/28=57.1%)

52. Liang JI, Chen MY, **Hsieh TH**, Liu CY, Lam CF, Chen JJ, Yeh ML. Video-based gait analysis for functional evaluation of healing achilles tendon in rats. ***Annals of Biomedical Engineering***. 2012 Dec; 40(12):2532-2540. (SCI, IF: 3.324, ENGINEERING, BIOMEDICAL: 30/87=34.5%)
53. Lee HY[#], **Hsieh TH[#] ([#]Co-first Author)**, Liang JI, Yeh ML, Chen JJ. Quantitative video-based gait pattern analysis for hemiparkinsonian rats. ***Medical & Biological Engineering & Computing***. 2012 Sep; 50(9):937-946. (SCI, IF: 2.022, MATHEMATICAL & COMPUTATIONAL BIOLOGY: 24/59=40.7%)
54. **Hsieh TH**, Dhamne SC, Chen JJ, Carpenter LL, Anastasio EM, Pascual-Leone A, Rotenberg A. Minimal heating of aneurysm clips during repetitive transcranial magnetic stimulation. ***Clinical Neurophysiology***. 2012 Jul; 123(7):1471-1473. (SCI, IF: 3.214, CLINICAL NEUROLOGY: 71/204=34.8%)
55. **Hsieh TH**, Dhamne SC, Chen JJ, Pascual-Leone A, Jensen FE, Rotenberg A. A new measure of cortical inhibition by mechanomyography and paired-pulse transcranial magnetic stimulation in unanesthetized rats. ***Journal of Neurophysiology***. 2012 Feb; 107(3): 966-972. (SCI, IF: 2.234, PHYSIOLOGY: 49/81=60.5%)
56. **Hsieh TH**, Chen JJ, Chen LH, Chiang PT, Lee HY. Time-course gait analysis of hemiparkinsonian rats following 6-hydroxydopamine lesion. ***Behavioural Brain Research***. 2011 Sep; 222(1):1-9. (SCI, IF: 2.977, BEHAVIORAL SCIENCES: 14/53=26.4%)
57. Chang YJ[#], **Hsieh TH[#] ([#]Co-first Author)**, Huang YM, Hsu MJ, Wong AMK. A lack of modulation of motor evoked potential in sensory-impaired individuals with spinal cord injuries. ***Journal of Medical and Biological Engineering***. 2011 Aug; 31(1): 37-43, 2011. (SCI, IF: 1.173, ENGINEERING, BIOMEDICAL: 73/87=83.9%)
58. Huang CY, **Hsieh TH**, Lu SC, Su FC. Effect of the kinesio tape to muscle activity and vertical jump performance in healthy inactive people. ***BioMedical Engineering Online***. 2011 Aug; 10(1):70. (SCI, IF: 2.059, ENGINEERING, BIOMEDICAL: 56/87=64.4%)
59. **Hsieh TH**, Tsai JY, Wu YN, Hwang IS, Chen TI, Chen JJ. Time course quantification of spastic hypertonia following spinal hemisection in rats. ***Neuroscience***. 2010 Apr; 167(1): 185-198. (SCI, IF: 3.056, NEUROSCIENCES: 136/272=50.0%)

B. 研討會論文

1. **Hsieh TH**, Liu HH, Juan CH, Rotenberg A, Pei YC, Huang YZ. Neuromodulatory effects of transcranial direct current stimulation on motor excitability and inhibition in rats. Neuroscience 2019. Oct 19-23, 2019. Chicago, USA.
2. **Hsieh TH,** Huang YT, Feng XJ, Huang YZ. Therapeutic effects of transcranial direct current stimulation (tDCS) in motor and cognitive impairments in Parkinsonian rat model. The 13th CME International Conference on Complex Medical Engineering. Dortmund, Germany. September 23-25, 2019.
3. **Hsieh TH**, Lin PY, Huang YZ, Chung YF. Development of Quantitative Measurement Device for Spasticity in Children with Cerebral Palsy. The 13th CME International Conference on Complex Medical Engineering. Dortmund, Germany. September 23-25, 2019.
4. **Hsieh TH**. Development of Quantitative Measurement Device for Spasticity. 2019 International Conference on Medical Design. Taoyuan, Taiwan, 19-22 November 2019
5. **Hsieh TH**, JH Chen, CW Peng, A Rotenberg, YH Chiang, YZ Huang. Therapeutic benefits on motor functions and neuroprotective effect of repetitive transcranial magnetic stimulation on parkinsonian rats. 5th World Parkinson Congress (WPC 2019). Kyoto, Japan. June 4-7, 2019
6. **Hsieh TH**, Juan CH, Huang YZ. Animal Models of Transcranial Brain Stimulation: Methods and Mechanisms. The 12th ICME International Conference on Complex Medical Engineering (CME 2018). Matsue, Japan. Sep 6-9, 2018
7. **Hsieh TH**, Chang Chien WS, Peng CW, Huang YZ, Chen JJ. The therapeutic effects of cortical electrical stimulation in an animal model of Parkinson's disease. 21st International Congress of Parkinson's

Disease and Movement Disorders. Vancouver, Canada. Jun 4-8, 2017

8. **Hsieh TH**, Peng CW, Rotenberg A, Chiang YH, Huang YZ , Chen JJ. Development of Cortical Electrical Stimulation Technique for Improving Neuroplasticity and Motor Function in Parkinsonian Rats. The 2nd Global Conference on Biomedical Engineering. Taipei, Taiwan, Aug 17-19, 2016
9. **Hsieh TH**, Huang YZ, Rotenberg A, Chiang YH, Chen JJ. (2015, Oct). Early repetitive transcranial magnetic stimulation intervention exerts neuroprotective effects and ameliorates motor deficits on Parkinson's disease model of rats. Neuroscience 2015 (45th annual meeting of the Society for Neuroscience), Chicago, USA. MOST 103-2320-B-182-033-MY2.
10. Chan SY, Peng CW, Chiang YH, **Hsieh TH***. Characterizing effects of mechanical impact and neurological properties in vivo mouse model of traumatic brain injury. The 1st International Taiwanese Congress of Neurology (1st ITCN) of the Taiwan Neurological Society (TNS). Taipei, Taiwan, May 7-10, 2015
11. Peng CW, Huang YZ, Chen JJ, Chiang YH, Chen SC, **Hsieh TH***. Cortical Electrical Stimulation with Theta Burst Paradigm for the Neuroplastic Modulation in the Rat. The 2nd Bangkok International Conference on Biological Engineering & Natural Science, Bangkok, Thailand, Jan 18-20, 2014.
12. **Hsieh TH**, Peng CW, Huang YZ, Rotenberg A, Chen JJ, Wang JY, Chiang YH. Modulation of motor cortical excitability by theta burst cortical electrical stimulation in rats. Neuroscience 2013, San Diego, California, USA, Nov 9-13, 2013.
13. Lee H, **Hsieh TH**, Hameed MQ, Hensch T, Rotenberg A. Loss of parvalbumin interneurons underlies impaired cortical inhibition in post-traumatic epileptogenesis. Neuroscience 2013, San Diego, California, USA, Nov 9-13, 2013.
14. Hameed MQ, **Hsieh TH**, Morales-Quezada JL, Goodrich GS, Wang XH, Rosenberg P, Rotenberg A. Ceftriaxone treatment after traumatic brain injury preserves cortical inhibition and improves functional outcomes. Neuroscience 2013, San Diego, California, USA, Nov 9-13, 2013.
15. Hameed MQ, **Hsieh TH**, Morales-Quezada JL, Wang X, Zelener J, Rosenberg P, Rotenberg A. Ceftriaxone treatment of Traumatic Brain injury. Military Health System Research Symposium (MHSRS), Fort Lauderdale, Florida, USA, 12-15 Aug, 2013.
16. Kang JW, **Hsieh TH**, Yu YW, Chiang YH, Wang JY. Quantitative assessment of impact kinematics and injury severity in an experimental model of weight-drop induced traumatic brain injury. 2013 International Symposium on Physiomics & Taiwan-Hong Kong Physiology Symposium. Nov 1-2, 2013, Taipei, Taiwan
17. Chang Chien WS, **Hsieh TH**, Peng CW, Chen JJ. Novel Use of Theta Burst Cortical Electrical Stimulation for Modulating Brain Plasticity in Parkinson's Disease Rats. 2013 International Symposium on Physiomics & Taiwan-Hong Kong Physiology Symposium. Nov 1-2, 2013, Taipei, Taiwan
18. **Hsieh TH**, Huang YZ, Chen JJ. Magnitude of Dopamine Depletion Predicts Plasticity Deficits in a Rat Model of Parkinson's disease. 1st Taiwan International Congress of Parkinson's Disease and Movement Disorders (2013TIC), Taipei, Taiwan, Mar 30-31, 2013.
19. Hameed M, **Hsieh TH**, Goldie J, Rotenberg A. Paired-pulse transcranial magnetic stimulation as a feedback sensor in a closed loop analgesia/anesthesia system. Military Health System Research Symposium (MHSRS). Florida, USA. Aug 13-16, 2012.
20. **Hsieh TH**, Hameed M, Chen JJ, Wang YP, Amandusson A, Pascual-Leone A, Jensen FE, Rotenberg A. Progressive loss of intracortical inhibition following traumatic brain injury detected by transcranial magnetic stimulation and mechanomyogram in rats. American Epilepsy Society 65th Annual Meeting, Baltimore, USA. Abstr: 3.075, Dec 2-6, 2011.
21. **Hsieh TH**, Dhamne S, Pascual-Leone A, Jensen F, Rotenberg A. Loss of cortical inhibition following traumatic brain injury detected by mechanomyography and paired-pulse transcranial magnetic stimulation in unanesthetized rats. Advanced Technology Applications for Combat Casualty Care (ATACCC) 2011 Conference. Florida, USA, 15-18 August, 2011.
22. **Hsieh TH**, Dhamne S, Chen JJ, Pascual-Leone A, Jensen FE, Rotenberg A. Loss of cortical inhibition following traumatic brain injury detected by mechanomyography and paired-pulse transcranial magnetic stimulation in unanesthetized rats. European Congress on Clinical Neurophysiology and International Conference on Transcranial Magnetic and Direct Current Stimulation, Rome, Italy. Abstr P20.9, June 21-

25, 2011.

23. Dhamne S, **Hsieh TH**, Carpenter L, Anastasio E, Pascual-Leone A, Rotenberg A. Minimal heating of aneurysm clips during repetitive transcranial magnetic stimulation. European Congress on Clinical Neurophysiology and International Conference on Transcranial Magnetic and Direct Current Stimulation, Rome, Italy. Abstr: P20.10, June 21-25, 2011.
24. Dhamne S, Ekstein D, **Hsieh TH**, Loddenkemper T, Pascual-Leone A, Jensen FE, Rotenberg A. Cathodal transcranial direct current stimulation suppresses pentylenetetrazol-induced seizures in rats. European Congress on Clinical Neurophysiology and International Conference on Transcranial Magnetic and Direct Current Stimulation, Rome, Italy. Abstr: P20.8, June 21-25, 2011.
25. Zhou Z, Dhamne SC, **Hsieh TH**, Ekstein D, Pascual-Leone A, Loddenkemper T, Jensen FE, Rotenberg A. Enhanced cortical inhibition accompanies seizure suppression by cathodal transcranial direct current stimulation in pentylenetetrazole rat seizure model. American Epilepsy Society 65th Annual Meeting, Baltimore, USA. Abstr: 3.073. Dec 2-6, 2011.
26. Hameed MQ, Goodrich GS, Dhamne SC, **Hsieh TH**, Wang YP, Rotenberg A. Rapid lateral fluid percussion injury (rLFPI): A model of traumatic brain injury and post-traumatic epilepsy. American Epilepsy Society 65th Annual Meeting, Baltimore, USA. Abstr: P20.10. Dec 2-6, 2011.
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C. 專書及專書論文

1. **Ph.D. dissertation:** Effects of Repetitive Transcranial Magnetic Stimulation on Brain Plasticity and Motor Function in Parkinsonian Rats. Department of Biomedical Engineering, National Cheng Kung University, Tainan, Taiwan, 2011/12.
2. 謝宗勳(2004): 動作誘發電位和 H 反射在感覺缺損之脊髓損傷患者經周邊神經刺激後之調控。長庚大學復健科學研究所碩士論文，桃園。
3. 神經物理治療學(下冊)：第 19 章周邊神經損傷之物理治療。出版社：禾楓書局 出版日期：2020/02/12

研發成果智慧財產權及其應用績效

A. 專利

請填入目前仍有效之專利。「類別」請填入代碼：(A)發明專利(B)新型專利(C)新式樣專利。

類別	專利名稱	國別	專利號碼	發明人	專利起訖日期
A	多功能行為分析平台裝置	中華民國	I738402	張晒凱、**謝宗勳**、陳志成、陳國軒	2020/07~2040/07
A	下肢肌痙攣評估治療系統	中華民國	I694810	**謝宗勳**、陳國軒、黃英儒、莊育芬、彭志維	2020/06/01-2039/09/10
A	Transcranial burst Electrostimulation apparatus	歐盟專利	EP3106202B1	Chih-Wei Peng, Shih-Ching Chen, Yu Ting Li, Hsiang Ching Lee, Jia-Jin Chen, **Tsung-Hsun Hsieh**, Chien-Hung Lai; Jiunn-Horng Kang	2019/8/7-2035/06/17
A	經顱陣發型電刺激裝置及其應用	中華民國	I573606	彭志維、陳適卿、李昱廷、李向晴、陳家進、**謝宗勳**、賴建宏、康峻宏	2017/03/11-2035/06/17
A	動物行為監測方法	中華民國	I468967	梁仁溢、**謝宗勳**、葉明龍	2015/01/11-2032/03/15

A	動物實驗步態存錄分析方法	中華民國	I386239	李筱瑜、張登慶、**謝宗勳**、程政群	2013/02/21-2029/07/23
A	動物步態檢測系統與方法	中華民國	I484941	梁仁溢、**謝宗勳**	2015/05/21-2032/05/09
A	定量與產生腦創傷動物模式之方法與系統	中華民國	I493374	**謝宗勳**、康靜維、蔣永孝、王家儀、彭志維、尤郁雯	2015/07/21-2033/12/19
B	動物行爲量測裝置	中華民國	M504987	**謝宗勳**、陳凱筠、吳忠哲、蔣永孝	2015/07/11-2024/12/11

專業證照

1. 中華民國副教授證書 (2018/08-)
2. 中華民國助理教授證書 (2014/03-)
3. 中華民國講師證書 (2007/11-)
4. 中華民國物理治療師執照 (2003/10-)
5. 台灣急診醫學會之初級救護技術員 EMT-1(2003/09-)

榮譽及獎勵

1. 2020台灣創新技術博覽會發明競賽-銅牌獎(2020/9/24-26)
2. 2018 Hsieh et al. (Cerebral Cortex, 2017)獲評入選2018全國神經精神科學勵翔獎與國家衛生研究院梁賡義院長獎
3. 2015 *Journal of Medical and Biological Engineering*國際SCI期刊-**年度優秀論文**
4. 張簡宛珊，**謝宗勳**，彭志維，陳家進。2013生物醫學工程科技研討會-**優等論文**
5. **謝宗勳**，獲國科會補助出席國際會議: Neuroscience 2013, San Diego, USA, 2013
6. **謝宗勳**指導國科會候鳥計畫(Taiwan Tech Trek)學員 Vincent Chang 獲得 2013 候鳥計畫-成果發表會-生命科學組-第二名
7. **謝宗勳**，榮獲中華民國斐陶斐榮譽學會 (The Phi Tau Phi Scholastic Honor Society)榮譽會員，2012
8. **謝宗勳**，獲國科會赴海外研究計畫補助前往哈佛大學醫學院神經科研究，NSC98-2917-I-006-113 (2010/06-2011/06)
9. **謝宗勳**、李志明、謝尚衡、張登慶，可攜式吞嚥量測治療系統，2008 TiC100 創新事業競賽--**科技創新優質獎(全國第三名)**。(主要貢獻: 組隊隊長)
10. **謝宗勳**，國立成功大學優秀博士班研究生獎學金 (2006/09-2010/06)
11. 梁仁溢、劉弛祐、**謝宗勳**、陳家進、陳孟意、葉明龍，經由踝關節運動分析於阿基里斯腱修復之功能性評估。第四屆國際虛擬互動式骨骼肌肉系統研討會--**優秀論文海報第二名**
12. 梁仁溢、劉弛祐、**謝宗勳**、陳家進、陳孟意、葉明龍，利用步態分析系統與功能指數評估大鼠之阿基里斯腱功能性修復的敏感度：初步研究報告， 2009 國際生物力學研討會暨生物力學年度學術研討會，優秀論文競賽-**大會優等獎**

BIOGRAPHICAL SKETCH

NAME	POSITION TITLE
Hsieh, Tung-Hsun	**Professor**

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
National Cheng Kung University, Taiwan	Ph.D.	2011	Biomedical Engineering
Chang Gung University, Taiwan	M.S.	2004	Rehabilitation Science
China Medical University, Taiwan	B.S.	2002	Physical Therapy

A. Personal Statement

Dr. Tsung-Hsun Hsieh, a biomedical engineering PhD with physical therapy background, has been devoted to electrophysiological studies for years, centering on development of brain stimulation techniques and their mechanisms in traumatic brain injury and neurodegenerative disease. During his post doctoral training in Harvard Medical School, he established several comprehensive platforms for testing sensorimotor behaviors and specific electrophysiological techniques in basic and clinical research which has been published in “Cereb Cortex”, “Brain Stimulation” and other significant journals. His current research works focus on (1) quantitative electrophysiological measures to identify early pathophysiological alterations in traumatic brain injury (TBI) and Parkinson’s disease (PD) and (2) Modeling the after-effects of brain stimulation with different stimuli protocols and exploring the novel therapeutics for the treatment of TBI or other neurological disorders.

B. Positions and Employment

2021/08-Current: Professor, School of Physical Therapy and Graduate Institute of Rehabilitation Science, Chang Gung University
2018/02-2021/08: Associate Professor, School of Physical Therapy and Graduate Institute of Rehabilitation Science, Chang Gung University
2020/02- Current: Director, The Center for Innovation and Incubation, Chang Gung University
2015/02-2018/07: Assistant Professor, School of Physical Therapy and Graduate Institute of Rehabilitation Science, Chang Gung University
2016/01- 2018/07: Assistant researcher, Neuroscience Research Center, Chang Gung Memorial Hospital, Linkou, Taoyuan, Taiwan
2014/03-2015/02: Assistant professor in Graduate Institute of Neural Regenerative Medicine, Taipei Medical University
2012/09-2014/03: Assistant Researcher, Graduate Institute of Neural Regenerative Medicine, Taipei Medical University
2012/01-2012/08: Postdoctoral Research Fellow, Department of Neurology, Harvard Medical School.
2010/06-2011/06: Research Scholar, Department of Neurology, Children’s Hospital Boston, Harvard Medical School
2009/02-2009/07: Part-time Lecturer, Department of Physical Therapy, Fooyin University
2007/08-2008/07: Part-time Lecturer, Department of Physical Therapy, Shu Zen College of Medicine and Management

C. Research Interest

- Non-invasive brain stimulation
- Neural plasticity
- Electrophysiology
- Biomechanics
- Neuroscience
- Parkinson’s disease
- Traumatic brain injury

D. Research Supports

1. Identifying the Therapeutic Effects and Mechanisms of Innovative Transcranial Burst Electrostimulation in a Rat Model of Parkinson's Disease: A Feasibility Study. Ministry of Science and Technology. 2020/08-2023/07
2. Deciphering Physiological and Therapeutic Roles of Transcranial Direct Current Stimulation (tDCS) in motor and cognitive impairments using Parkinsonian Rat Model. Ministry of Science and Technology. 2017/08-2019/07
3. Development of Electrophysiological Biomarkers and Their Therapeutic Cortical Electrical Stimulation for Improving Neuroplasticity and Motor Function in Parkinsonian Rats. Ministry of Science and Technology. 2016/08-2017/07
4. The effect of repetitive transcranial magnetic stimulation combined with exercise training in the improvement of neuroplasticity and motor function in Parkinsonian rats. Chang Gung Medical Research Program. 2016/09-2018/08
5. Development of Cortical Electrical Stimulation Technique for Improving Neuroplasticity and Motor Function in Parkinsonian Rats. Ministry of Science and Technology. 2014/08-2016/07
6. Therapeutic Effects of Cortical Electrical Stimulation on Brain Plasticity and Functional Outcome in Rodent Model of Traumatic Brain Injury. Taipei Medical University: 2014/08-2015/07