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March 2025

郭立威 研究員

生醫工程與奈米醫學研究所

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EDUCATION

2003/09 – **Ph.D.**

2008/06 Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan (Supervisors: Prof. Jyh-Horng Chen and Prof. Wen-Yih I. Tseng)

2001/09 – **M.Sc.**

2003/06 Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan (Supervisors: Prof. Jyh-Horng Chen and Prof. Wen-Yih I. Tseng)

1997/09 – **B.Sc.**

2001/06 Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan

EXPERIENCE

2025/01 – **Investigator**

Present Institute of Biomedical Engineering and Nanomedicine, National Health Research Institutes, Miaoli County, Taiwan

2023/08 – **Adjunct Associate Professor**

Present Institute of Medical Device and Imaging, National Taiwan University College of Medicine, Taipei, Taiwan

2023/08 – **Jointly Appointed Associate Professor**

2024/07 Institute of Biomedical Engineering, National Yang Ming Chiao

Tung University, Hsinchu, Taiwan

2022/02 – **Jointly Appointed Associate Professor**
 2023/01 Institute of Biomedical Engineering, National Yang Ming Chiao Tung University, Hsinchu, Taiwan

2021/02 – **Jointly Appointed Associate Professor**
 2022/01 Institute of Biomedical Engineering, National Chiao Tung University, Hsinchu, Taiwan

2020/02 – **Jointly Appointed Assistant Professor**
 2021/01 Institute of Biomedical Engineering, National Chiao Tung University, Hsinchu, Taiwan

2019/07 – **Associate Investigator**
 2024/12 Institute of Biomedical Engineering and Nanomedicine, National Health Research Institutes, Miaoli County, Taiwan

2016/08 – **Adjunct Assistant Professor**
 2023/07 Institute of Medical Device and Imaging, National Taiwan University College of Medicine, Taipei, Taiwan

2013/07 – **Assistant Investigator**
 2019/06 Institute of Biomedical Engineering and Nanomedicine, National Health Research Institutes, Miaoli County, Taiwan

2011/09 – **Assistant Investigator**
 2013/06 Division of Medical Engineering Research, National Health Research Institutes, Miaoli County, Taiwan

2010/04 – **Visiting Fellow**
 2011/08 Advanced MRI Section, Laboratory of Functional and Molecular Imaging, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, USA (Supervisor: Dr. Jeff H. Duyn)

2009/06 – **Postdoctoral Research Fellow**
 2010/03 Advanced Biomedical Lab, Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan (Supervisor: Prof. Wen-Yih I. Tseng)

HONORS & AWARDS

2023 **Gold Medal Award**, 2023 Taiwan Innotech Expo Invention Contest, October 2023, Taipei, Taiwan

2021 **The ISMRM Summa Cum Laude Merit Award**, ISMRM & SMRT Annual Meeting & Exhibition, May 2021

2020 **National Innovation Award**, Taipei, Taiwan

2020 **2020 NHRI Research Achievement Award for Young Scientist**, National Health Research Institutes, Miaoli County, Taiwan

2014 **National Invention and Creation Award**, Taipei, Taiwan

- 2010 – 2011 **Visiting Fellowship**, National Institute of Neurological Disorders and Stroke, National Institutes of Health, USA
- 2010 – 2011 **Postdoctoral Research Abroad Fellowship**, National Science Council, Taiwan
- 2006 **National Innovation Award**, Taipei, Taiwan
- 2005 **Honorable Mention Poster Award in Neuroimaging**, ISMRM 13th Annual Meeting, Miami, USA
- 2003 **Best Poster Award**, Radiological Society Republic of China Annual Meeting, Taipei, Taiwan
- 2002 **Best Poster Award (Biomedical Imaging)**, Conference on Biomedical Engineering Technology, Kaohsiung, Taiwan

RESEARCH INTERESTS

Medical Imaging

- MRI physics and methodology
- Brain neuroimaging
- Ultra-high field MRI
- MR system development

Biomedical Engineering

- Biomedical signal and image processing
- Medical imaging instrumentations

PROFESSIONAL ACTIVITIES

International Conferences and Societies

- **Organizing Committee Member & Session Moderator**, 2025 ISMRM Diffusion Workshop, Kyoto, Japan. (Feb 2025)
- **Session Moderator**, The 10th International Conference on the Development of Biomedical Engineering in Vietnam, Phan Thiet City, Vietnam. (July 2024)
- **Session Moderator**, The 2024 Taiwan Magnetic Resonance Society Annual Meeting, Taoyuan, Taiwan. (May 2024)
- **Session Moderator**, The 2024 ISMRM & SMRT Annual Meeting, Singapore. (May 2024)
- **Session Moderator**, The 2023 ISMRM & SMRT Annual Meeting, Toronto, Canada. (June 2023)
- **Session Moderator**, The 4th ASMRM Annual Meeting, Taipei, Taiwan. (May 2022)
- **Session Moderator**, The 6th International Symposium on Radiation Education, Taipei, Taiwan. (Aug. 2021)
- **Session Moderator**, 2020 Annual TMRS Meeting on the Frontiers of Biological and Medicinal Magnetic Resonance, Taipei, Taiwan. (Dec. 2020)

- **Session Moderator**, 5th International Workshop on MRI Phase Contrast & Quantitative Susceptibility Mapping, Seoul, Korea. (Sept. 2019)

Editorial & Grant Review Services

- 2023 – 2024, **Grant Review Panel Member**, Department of Life Sciences, NSTC (國科會生科處複審委員)
- 2024 – Present, **Associate Editor**, Health and Technology
- 2023 – Present, **Editorial Board Member**, Scientific Reports

Affiliations

- 2025 – Present, **Board of Directors (BOD) Member & Secretary General**, Asian Society of Magnetic Resonance in Medicine (ASMRM)
- 2024 – Present, **Board Member**, Taiwan Magnetic Resonance Society (TMRS)
- **Member**, Taiwanese Society of Biomedical Engineering (TSBME)
- **Member**, International Society for Magnetic Resonance in Medicine (ISMRM)
- **Member**, IEEE Engineering in Medicine and Biology Society (EMBS)
- **Member**, Chemical Society Located in Taipei (CSLT)

TEACHING

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|------|--|
| 2024 | Special Topics on Biomedical Signal and Image Processing Institute of Medical Device and Imaging, National Taiwan University College of Medicine, Taipei, Taiwan |
| 2023 | Special Topics on Biomedical Signal and Image Processing Institute of Medical Device and Imaging, National Taiwan University College of Medicine, Taipei, Taiwan |
| 2020 | Fundamentals of Biomedical Imaging (with Dr. Gin-Shin Chen) Institute of Biomedical Engineering, National Chiao Tung University, Hsinchu, Taiwan |
| 2017 | Special Topics on Biomedical Signal and Image Processing Institute of Medical Device and Imaging, National Taiwan University College of Medicine, Taipei, Taiwan |
| 2016 | Special Topics on Biomedical Signal and Image Processing Institute of Medical Device and Imaging, National Taiwan University College of Medicine, Taipei, Taiwan |

DOCTORAL STUDENT SUPERVISED

- | | |
|---------|---|
| 2023/01 | Chien-Feng Judith Huang, Ph.D. Department of Biomedical Engineering, College of Medicine and College of Engineering, National Taiwan University, Taipei, Taiwan (co-supervised with Prof. Win-Li Lin) |
| 2020/04 | Shih-Yen Lin, Ph.D. |

Institute of Computer Science and Engineering, College of Computer Science, National Chiao Tung University, Hsinchu, Taiwan (co-supervised with Prof. Yong-Sheng Chen)

INVITED TALKS & LECTURES

- 2024/07 “Investigation of electromagnetic properties and radio-frequency heating of implantable medical devices by developing a comprehensive simulation framework on virtual models within MRI,” the 10th International Conference on the Development of Biomedical Engineering in Vietnam (BME10), Phan Thiet City, Vietnam
- 2024/02 “Development of the Connectome MRI Techniques and Their Applications in Neurological Disorders,” 2024 Taiwan-Japan Bilateral NMR Symposium (TJNMR2024), Hiroshima, Japan.
- 2022/05 “Functional Connectomics: State-of-the-Art Developments in Methodologies & Analysis Techniques,” the 2022 Joint Annual Meeting ISMRM-ESMRMB & ISMRT 31st Annual Meeting, London, UK.
- 2021/08 “Advanced Diffusion MRI in Neurological and Neurodegenerative Diseases,” the 6th International Symposium on Radiation Education, Taipei, Taiwan.
- 2020/11 “Brain Network Analysis on Neurodegenerative Disease and Cognitive Neuroscience Applications,” the 2nd Annual Scientific Meeting of ASMRM & 8th International Congress on MRI & 25th Annual Scientific Meeting of KSMRM, Seoul, Korea.
- 2020/06 “MRI of Structural and Functional Connectome: Technical Development and Applications,” the Ph.D. Program for Neural Regenerative Medicine, Taipei Medical University, Taipei, Taiwan.
- 2019/12 “Multi-scale Connectome MRI System Development and Applications,” 2019 Taiwan Magnetic Resonance Society Annual Meeting, Academia Sinica, Taipei, Taiwan.
- 2019/12 “Multi-scale MRI System: Development and Applications,” Graduate Institute of Biomedical Engineering, Chang Gung University, Taoyuan, Taiwan.
- 2019/08-12 Lecturer in MRI, Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan.
- 2019/04 “MRI of Structural and Functional Connectome: Technical Development and Applications,” Lecture for PI Promotion, National Health Research Institutes, Miaoli County, Taiwan.
- 2019/01 “From Brownian motion to brain connective network: An introduction for diffusion MRI from a technical perspective,”

- National Institute for Physiological Sciences, Okazaki, Japan.
- 2018/06 “Exploring Human Brain Networks with Advanced MR Neuroimaging Technology,” Big Data in Health Sciences Conference, Taipei, Taiwan.
- 2017/10 “Integration of ultra-high-strength and multi-scale gradient systems on a whole-body 3T magnet for connectomics researches,” Institute of neuroscience and medicine 4, Forschungszentrum Juelich, Juelich, Germany.
- 2017/04 “Investigation of Brain Structural and Functional Networks in Dementia by MR Neuroimaging,” GIBMS, National Taiwan University, Taipei, Taiwan.
- 2016/05 “Mapping Brain Connective Network by MR Neuroimaging Techniques,” IMDI, National Taiwan University, Taipei, Taiwan.
- 2016/04-05 Lecturer in MRI education, National Taiwan University Hospital, Taipei, Taiwan.
- 2016/03 “A High-Strength Gradient System for Facilitating Diffusion MRI on Brain Connectomics,” the 4th International Congress on MRI 2016 & KSMRM, Seoul, Korea.
- 2015/12 “Mapping Brain Connective Network by MRI,” 2015 NTU-Meiji Neurobiology and Cognitive Neuroscience Symposium, Taipei, Taiwan.
- 2015/12 “Mapping Brain Connectomics with MRI: Technical Development, Methods and Applications,” BEBI, National Taiwan University, Taipei, Taiwan.
- 2015/11 “Development of Connectome MRI Techniques and Its Applications,” IEO, National Taiwan Normal University, Taipei, Taiwan.
- 2015/11 “Mapping Brain Connective Network with MRI,” CASTS, National Taiwan University, Taipei, Taiwan.
- 2015/06 “Introduction to MRI and Neuroscience,” Symposium on Trends in Mind Sciences, National Tsing-Hua University, Hsinchu, Taiwan.
- 2014/11 “Mapping Brain Connectomics with MRI: Methods and Applications,” 2014 NHRI-NTHU Joint Research Conference, NHRI, Miaoli, Taiwan.
- 2014/05 “Using Graphical Analysis to Investigate the Brain Connective Network,” BMES, National Tsing-Hua University, Hsinchu, Taiwan.
- 2013/10 “Investigating Brain Connective Network with Graphical Analysis at Multiple Scales,” CUBRIC, Cardiff University, Cardiff, UK.
- 2013/04 “Imaging the Brain Connective Network with MRI,” School of Medical Informatics, Chungshan Medical University, Taichung, Taiwan.

- 2013/01 “Advanced Sampling Strategies of High Angular Resolution Diffusion MRI to Map Complex Fiber Orientations,” 2013 Taiwan Magnetic Resonance Society Annual Meeting, National Chung Cheng University, Chiayi County, Taiwan.
- 2012/12 “Image the Brain Connective Network with MRI,” Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan.
- 2012/10 “Brain MRI Techniques and Their Applications in Cognitive and Clinical Neuroscience,” Department of Foreign Languages and Literature, National Tsing-Hua University, Hsinchu, Taiwan.
- 2012/06 “Investigating the Dependence of Spontaneous Fluctuations in Visual Cortex on Callosal Connectivity,” Glimpse into the brain dynamism conference, Taipei, Taiwan.
- 2012/06 “Overview of MRI Development at NHRI,” Department of Electrical Engineering, National Cheng-Kung University, Tainan, Taiwan.
- 2012/05 “Overview of MRI Development at NHRI,” Chung San Medical University, Taichung, Taiwan.
- 2011/12 NSC Training Course: “Software for Functional MRI Analysis,” National Taiwan University, Taipei, Taiwan.
- 2011/11 “Investigating Brain Connectivity with Advanced MRI Techniques,” Institute of Biomedical Engineering, National Central University, Jhongli City, Taoyuan County, Taiwan.
- 2011/10 “Investigating Brain Connectivity with High-Field MRI,” Institute of Biomedical Engineering, National Yang-Ming University, Taipei, Taiwan.
- 2011/10 NSC Training Course: “NMR experiment and MRI Theory”, National Taiwan University, Taipei, Taiwan.
- 2009/09 “Diffusion spectrum MRI of complex neural fiber architecture,” National Institute of Neurological Disorders and Stroke, National Institute of Health, Bethesda, MD, USA.
- 2009/08 “Background, theory, and application of diffusion spectrum imaging,” Department of Radiology, Washington University in St. Louis, St. Louis, MO, USA.
- 2008/03 “Introduction to Radio-frequency Coils on MRI,” Institute of Neuroscience, National Yang-Ming University, Taipei, Taiwan.

GRANTS

1. “*Benchtop Nuclear Magnetic Resonance System on Blood Glucose Sensitive MR Parametric Measurement: Technical Development and Validation Studies*,” 2023/8 – 2026/7, funded by Taiwan National Science and Technology Council. **Principal Investigator.**

2. *“Mapping Brain Connectivity and Plasticity using Multimodal Neuroimaging Techniques with MR Spectroscopy and Focused Ultrasound,”* 2023/1 – 2024/12, funded by Taiwan National Science and Technology Council. **Principal Investigator.**
3. *“Deciphering Tissue Microstructure and Neural Connectivity of Postmortem Fetal Cerebellum with High-resolution Multi-contrast and Connectome MRI,”* 2022/8 – 2024/7, funded by Taiwan Ministry of Science and Technology. **Principal Investigator.**
4. *“Simulation and Experimental Validation of Implantable Medical Device in Magnetic Resonance Imaging System,”* 2021/6 – 2022/5, funded by Taiwan Ministry of Science and Technology. **Principal Investigator.**
5. *“Using Connectome MRI Techniques to Investigate the Lighting Effects on Brain Microstructures and Functions,”* 2020/8 – 2023/7, funded by Taiwan Ministry of Science and Technology. **Principal Investigator.**
6. *“Development of Multiple-contrast High-resolution Postmortem Fetal Brain MRI Database and Its Application on Early Detection of Cerebral Structural Malformations,”* 2020/8 – 2022/7, funded by Taiwan Ministry of Science and Technology. **Principal Investigator.**
7. *“A Pilot Study of Ultra-high Field Magnetic Resonance Imaging (UHF-MRI) Technologies for Brain Neuroimaging and Cardiovascular Applications,”* 2019/8 – 2023/7, funded by Taiwan Ministry of Science and Technology. **Principal Investigator.**
8. *“Exploring the Development of Cerebral Cortex and Neural Architecture across Species using Multiple-contrast High-resolution Ex Vivo MRI Techniques,”* 2019/8 – 2020/7, funded by Taiwan Ministry of Science and Technology. **Principal Investigator.**
9. *“Multi-modal Motion Detection and Correction on MR Neuroimaging Techniques and Applications,”* 2018/8 – 2019/7, funded by Taiwan Ministry of Science and Technology. **Principal Investigator.**
10. *“Photo-therapy of improving in the quality of sleep and health care for early-stage dementia patients: a novel LED application on health promotion,”* 2017/5 – 2019/4, funded by Taiwan Ministry of Health and Welfare. **Sub-project Principal Investigator.**
11. *“Deciphering Structural Foundations and Functional Correlates of Cognitive Adaptation in Multiple Cultural Domains using MR Neuroimaging,”* 2017/1 – 2019/6, funded by Taiwan Ministry of Science and Technology. **Principal Investigator.**
12. *“Exploring Complex Brain Structures using Ultrahigh Magnetic Field and Ultrahigh Gradient-Strength MRI,”* 2017/1 – 2019/3, funded by Taiwan Ministry of Science and Technology. **Principal Investigator.**
13. *“Development of an MRI-guided Platform on Breast Applications,”* 2015/8 –

- 2018/7, funded by Taiwan Ministry of Science and Technology. **Principal Investigator.**
14. “*Decoding Neuroperceptual Mechanisms of Vocal Emotion Expressions using Brain MR Neuroimaging and Speech Affective Computing,*” 2015/1 – 2016/12, funded by Taiwan Ministry of Science and Technology. **Principal Investigator.**
 15. “*Development of Diffusion Spectrum MRI with Compressive Sensing for Mapping High Resolution Brain Connective Network,*” 2014/8 – 2015/7, funded by Taiwan Ministry of Science and Technology. **Principal Investigator.**
 16. “*Improving the Resolution of Neural Fiber Orientation Mapping with Diffusion MRI by Graphene-based RF Coil,*” 2013/10 – 2014/9, funded by Taiwan Ministry of Science and Technology. **Principal Investigator.**
 17. “*Development of Next Generation MRI System Platform,*” 2013/1 – 2014/6, funded by Taiwan Ministry of Economic Affairs. **Sub-project Principal Investigator.**
 18. “*Spatial and Temporal Resolution Enhancement by Applying Wideband Technology on Functional MRI,*” 2013/3 – 2014/2, funded by Taiwan Ministry of Health and Welfare. **Principal Investigator.**

PUBLICATIONS

Journal Papers (*corresponding author; †equal contribution)

1. Sheng-Min Huang, Kuan-Hung Cho, Koping Chang, Pei-Hsin Huang*, **Li-Wei Kuo***. Altered thalamocortical tract trajectory growth with undisrupted thalamic parcellation pattern in human lissencephaly brain at mid-gestational stage. *Neurobiology of Disease*, 2024;199:106577, September 2024, doi.org/10.1016/j.nbd.2024.106577.
2. Sheng-Min Huang, Cheung-Ter Ong, Yu-Ching Huang*, Nan-Hao Chen, Ting-Kai Leung, Chun-Yinh Shen, **Li-Wei Kuo***. Resting-state network analysis reveals altered functional brain connectivity in essential tremor. *Brain Connectivity*, 14 June 2024, doi.org/10.1089/brain.2024.0004.
3. Lan-Wan Wang, Kuan-Hung Cho, Pi-Yu Chao, **Li-Wei Kuo**, Chia-Wen Chiang, Chien-Ming Chao, Mao-Tsun Lin, Ching-Ping Chang, Hung-Jung Lin, Chung-Ching Chio. White and gray matter integrity evaluated by MRI-DTI can serve as noninvasive and reliable indicators of structural and functional alterations in chronic neurotrauma. *Scientific Reports*, 2024;14:7244, 27 March 2024, doi.org/10.1038/s41598-024-57706-7.
4. Min-Chien Tu, Sheng-Min Huang, Yen-Hsuan Hsu, Jir-Jei Yang, Chien-Yuan Lin, **Li-Wei Kuo***. Joint diffusional kurtosis magnetic resonance imaging analysis of white matter and the thalamus to identify subcortical ischemic vascular disease. *Scientific Reports*, 2024;14:2570, 31 January 2024, doi.org/10.1038/s41598-024-52910-x.

5. Ying-Liang Larry Lai, Fei-Ting Hsu, Shu-Yi Yeh, Yu-Tzu Kuo, Hui-Hsien Lin, Yi-Chun Lin, **Li-Wei Kuo**, Cheng-Yu Chen, Hua-Shan Liu, and Alzheimer's Disease Neuroimaging Initiative. Atrophy of the cholinergic regions advances from early to late mild cognitive impairment. *Neuroradiology*, 19 January 2024, doi.org/10.1007/s00234-024-03290-6.
6. Chun-Yuan Shin, Yi-Ping Chao, **Li-Wei Kuo**, Yi-Peng Eve Chang, Jun-Cheng Weng. Improving brain image resolution of generalized q-sampling MRI revealed by three-dimensional CNN-based method. *Frontiers in Neuroinformatics*, February 2023, doi:10.3389/fninf.2023.956600.
7. Chien-Feng Judith Huang, Win-Li Lin, San-Chao Hwang, Ching Yao, Hsu Chang, Yung-Yaw Chen, **Li-Wei Kuo***. A feasibility study of wireless inductively coupled surface coil for MR-guided high-intensity focused ultrasound ablation of rodents on clinical MRI systems. *Scientific Reports*, 2022;12:21907, 19 December 2022, doi:10.1038/s41598-022-26452-z.
8. Jui-Hong Chien, I-Tzu Hung, Joshua Oon Soo Goh*, **Li-Wei Kuo***, Wei-Wen Chang. Personal socio-cultural preferences modulate neural correlates of decisions to socialize with powerful persons. *Human Brain Mapping*, 2022;43:4422-4432, 1 October 2022, doi:10.1002/hbm.25963.
9. Pei-Hsin Huang, Tseng-Yin Yang, Chia-Wei Yeh, Sheng-Min Huang, Ho-Ching Chang, Yun-Fen Hung, Wen-Chia Chu, Kuan-Hung Cho, Tzu-Pin Lu, Po-Hsiu Kuo, Li-Jen Lee, **Li-Wei Kuo**, Cheng-Chang Lien, Hwai-Jong Cheng. Involvement of a BH3-only apoptosis sensitizer gene *Blm-s* in hippocampus-mediated mood control. *Translational Psychiatry*, 12(1):411, 26 September 2022, doi:10.1038/s41398-022-02184-6.
10. Sheau-Ling Lee, Michelle Hui-Hsin Lee, Kuo-Jen Wu, Chia-Wen Chiang, Yun-Xuan Chang, Jung-Da Fang, Hsin-Hui Tung, **Li-Wei Kuo**, Yun Wang. Post-ischemic protection of hepatocyte growth factor requires the type II transmembrane serine protease matriptase – A reciprocal regulation of the two for neuroprotection in stroke brain. *The FASEB Journal*, 2022;36:e22494, 17 August 2022, doi:10.1096/fj.202200414R.
11. Ta-Fu Chen, Sheng-Han Lee, Wan-Ru Zheng, Ching-Chou Hsu, Kuan-Hung Cho, **Li-Wei Kuo**, Charles C.-K. Chou, Ming-Jang Chiu, Boon Lead Tee, Tsun-Jen Cheng. White Matter Pathology in Alzheimer's Transgenic Mice with Chronic Exposure to Low-Level Ambient Fine Particulate Matter. *Particle and Fibre Toxicology*, 19(1):44, 30 June 2022, doi:10.1186/s12989-022-00485-8.
12. Yen-Hsuan Hsu, Sheng-Min Huang, Shih-Yen Lin, Jir-Jei Yang, Min-Chien Tu*, **Li-Wei Kuo***. Prospective memory and default mode network functional connectivity in normal and pathological aging. *Journal of Alzheimer's Disease*, 86(2):753-762, 22 March 2022, doi:10.3233/JAD-215293.
13. Sabri Altunkaya‡, Sheng-Min Huang‡, Yen-Hsuan Hsu, Jir-Jei Yang, Chien-Yuan Lin, **Li-Wei Kuo**, Min-Chien Tu. Dissociable functional brain networks

associated with apathy in subcortical ischemic vascular disease and Alzheimer's disease. *Frontiers in Aging Neuroscience*, 13:717037, 3 February 2022, doi:10.3389/fnagi.2021.717037.

14. Ezequiel Farrher^{*†}, Chia-Wen Chiang[‡], Kuan-Hung Cho, Farida Grinberg, Richard P. Buschbeck, Ming-Jye Chen, Kuo-Jen Wu, Yun Wang, Sheng-Min Huang, Zaheer Abbas, Chang-Hoon Choi, N. Jon Shah, **Li-Wei Kuo**^{*}. Spatiotemporal characterisation of ischaemic lesions in transient stroke animal models using diffusion free water elimination and mapping MRI with echo time dependence. *NeuroImage*, 244:118605, 1 December 2021, doi:10.1016/j.neuroimage.2021.118605.
15. Ying-Liang Larry Lai, Kuan Chen, Tzu-Wei Lee, Chao-Wei Tso, Hui-Hsien Lin, **Li-Wei Kuo**, Cheng-Yu Chen, Hua-Shan Liu. Effect of the APOE- ϵ 4 allele on the cholinergic circuitry for subjects with different levels of cognitive impairment. *Frontiers in Neurology*, 12:651388, 13 October 2021, doi:10.3389/fneur.2021.651388.
16. Sheng-Han Lee, Yi-Hsuan Chen, Chu-Chun Chien, Yuan-Horng Yan, Hsin-Chang Chen, Hsiao-Chi Chuang, Hui-I Hsieh, Kuan-Hung Cho, **Li-Wei Kuo**, Charles C.-K. Chou, Ming-Jang Chiu, Boon Lead Tee, Ta-Fu Chen, Tsun-Jen Cheng. Three Month Inhalation Exposure to Low-Level PM2.5 Induced Brain Toxicity in an Alzheimer's Disease Mouse Model. *PLoS One*, 16(8):e0254587, August 2021, doi:10.1371/journal.pone.0254587.
17. Xuan-Miao Zhuang, **Li-Wei Kuo**, Shih-Yen Lin, Jir-Jei Yang, Min-Chien Tu, Yen-Hsuan Hsu. Prospective memory and regional functional connectivity in subcortical ischemic vascular disease. *Frontiers in Aging Neuroscience*, 13:686040, 20 August 2021, doi:10.3389/fnagi.2021.686040.
18. Min-Chien Tu, Sheng-Min Huang, Yen-Hsuan Hsu, Jir-Jei Yang, Chien-Yuan Lin, **Li-Wei Kuo**^{*}. Discriminating Subcortical Ischemic Vascular Disease and Alzheimer's Disease by Diffusion Kurtosis Imaging in Segregated Thalamic Regions. *Human Brain Mapping*, 42(7):2018-2031, May 2021, doi:10.1002/hbm.25342.
19. **Li-Wei Kuo**[†], Guo-Chung Dong[‡], Chia-Ching Pan, Sheng-Fu Chen, Gin-Shin Chen. An MRI-guided ring high-intensity focused ultrasound system for noninvasive breast ablation. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 67(9):1839-1847, September 2020, doi:10.1109/TUFFC.2020.2992764.
20. Min-Chien Tu, Yen-Hsuan Hsu, Jir-Jei Yang, Wen-Hui Huang, Jie-Fu Deng, Shih-Yen Lin, Chien-Yuan Lin, **Li-Wei Kuo**^{*}. Attention and functional connectivity among patients with early-stage subcortical ischemic vascular disease and Alzheimer's disease. *Frontiers in Aging Neuroscience*, 12:239, August 2020, doi:10.3389/fnagi.2020.00239.
21. Ezequiel Farrher^{*}, Farida Grinberg, **Li-Wei Kuo**^{*}, Kuan-Hung Cho, Richard P.

- Buschbeck, Ming-Jye Chen, Hsuan-Han Chiang, Chang-Hoon Choi, N. Jon Shah. Dedicated diffusion phantoms for the investigation of free water elimination and mapping: insights into the influence of T2 relaxation properties. *NMR in Biomedicine*, 33:e4210, April 2020, doi:10.1002/nbm.4210.
22. Seong-Jin Yu, Kuo-Jen Wu, Eunkyung Bae, Yu-Syuan Wang, Chia-Wen Chiang, **Li-Wei Kuo**, Brandon K. Harvey, Nigel H. Greig, Yun Wang. Post-treatment with Posiphen reduces endoplasmic reticulum stress and neurodegeneration in stroke brain. *iScience*, 100866, February 2020, doi:10.1016/j.isci.2020.100866.
23. Chia-Wen Chiang, Shih-Yen Lin, Kuan-Hung Cho, Kou-Jen Wu, Yun Wang, **Li-Wei Kuo***. Effects of signal averaging, gradient encoding scheme, and spatial resolution on diffusion kurtosis imaging: An empirical study using 7T MRI. *Journal of Magnetic Resonance Imaging*, 50(5):1593-1603, November 2019, doi:10.1002/jmri.26755.
24. **Li-Wei Kuo***[‡], Pei-Sheng Lin[‡], Shih-Yen Lin, Ming-Fang Liu, Hengtai Jan, Hsin-Chien Lee, Sheng-Chang Wang*. Functional Correlates of Resting-state Connectivity in the Default Mode Network of Heroin Users on Methadone Treatment and Medication-free Therapeutic Community Program. *Frontiers in Psychiatry*, 10:381, June 2019, doi:10.3389/fpsy.2019.00381.
25. Kuan-Hung Cho, Sheng-Min Huang, Chang-Hoon Choi, Ming-Jye Chen, Hsuan-Han Chiang, Richard P. Buschbeck, Ezequiel Farrher, N. Jon Shah, Ruslan Garipov, Ching-Ping Chang, Hsu Chang, **Li-Wei Kuo***. Development, integration and use of an ultra-high-strength gradient system on a human-size 3 T magnet for small animal MRI. *PLoS One*, 14(6):e0217916, June 2019, doi:10.1371/journal.pone.0217916.
26. Shih-Yen Lin, Chi-Chun Lee, Yong-Sheng Chen, **Li-Wei Kuo***. Investigation of functional brain network reconfiguration during vocal emotional processing using graph-theoretical analysis. *Social Cognitive and Affective Neuroscience*, 14(5):529-538, May 2019, doi:10.1093/scan/nsz025.
27. Hsin-Yi Tsai, Fang-Ci Su, Chun-Han Chou, Yu-Hsuan Lin, Kuo Cheng Huang, Yao-Joe Yang, **Li-Wei Kuo**, Lun-De Liao, Hsin-Su Yu. Wearable inverse lighting-emitting diode sensor for measuring light intensity at specific wavelengths in light therapy. *IEEE Transactions on Instrumentation and Measurement*, 68(5):1561-1574, March 2019, doi:10.1109/tim.2019.2899444.
28. Shih-Yen Lin, Chen-Pei Lin, Tsung-Jen Hsieh, Chung-Fen Lin, Sih-Huei Chen, Yi-Ping Chao, Yong-Sheng Chen, Chih-Cheng Hsu, **Li-Wei Kuo***. Multiparametric Graph Theoretical Analysis Reveals Altered Structural and Functional Network Topology in Alzheimer's Disease. *Neuroimage: Clinical*, 22:101680, January 2019, doi:10.1016/j.nicl.2019.101680.
29. Chi-Hsiang Shih, Jen-Kun Chen, **Li-Wei Kuo**, Kuan-Hung Cho, Ta-Chih Hsiao,

- Zhe-Wei Lin, Yi-Syuan Lin, Jiunn-Horng Kang, Yu-Chun Lo, Kai-Jen Chuang, Tsun-Jen Cheng, Hsiao-Chi Chuang. Chronic pulmonary exposure to traffic-related fine particulate matter causes brain impairment in adult rats. *Particle and Fibre Toxicology*, 15(1):44, November 2018, doi:10.1186/s12989-018-0281-1.
30. Kou-Jen Wu, Seong-Jin Yu, Chia-Wen Chiang, Yu-Wei Lee, B. Linju Yen, Pei-Chi Tseng, Chun-Sen Hsu, **Li-Wei Kuo**, Yun Wang. Neuroprotective action of human Wharton's jelly derived-mesenchymal stromal cell transplants in a rodent model of stroke. *Cell Transplantation*, 27(11):1603-1612, November 2018, doi:10.1177/0963689718802754.
31. Kou-Jen Wu, Seong-Jin Yu, Chia-Wen Chiang, Yu-Wei Lee, B. Linju Yen, Chun-Sen Hsu, **Li-Wei Kuo**, Yun Wang. Wharton's jelly mesenchymal stromal cell therapy for ischemic brain injury. *Brain Circulation*, 4(3):124-127, October 2018, doi:10.4103/bc.bc_16_18.
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Conference Abstracts

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2. Ezequiel Farrher, Chia-Wen Chiang, Kuan-Hung Cho, Chang-Hoon Choi, Ming-Jye Chen, Sheng-Min Huang, **Li-Wei Kuo**, N. Jon Shah. Multi-echo NODDI with released intrinsic diffusivity: initial insights for rat brain tissue. Proc 2024 ISMRM & ISMRT Annual Meeting & Exhibition, Singapore, May 2024.
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