

Li-Wei Kuo, Ph.D.

July 2022

Li-Wei Kuo, Ph.D.

Associate Investigator

Institute of Biomedical Engineering and Nanomedicine

National Health Research Institutes

Address: 35 Keyan Rd., Zhunan Town, Miaoli County, TAIWAN 35053

Lab Website: <http://mrnil.nhri.org.tw/>

TEL: +886-37-206-166 #37120

FAX: +886-37-586-440

E-mail: lwkuo@nhri.edu.tw; lwkuo@nhri.org.tw

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

EXPERIENCE

- 2021/02 – **Jointly Appointed Associate Professor**
Present Institute of Biomedical Engineering, National Yang Ming 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**
Present Institute of Biomedical Engineering and Nanomedicine, National Health Research Institutes, Miaoli County, Taiwan
- 2016/08 – **Adjunct Assistant Professor**

Present 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

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

- 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 Services

- Frontiers in Neuroscience / Brain Imaging Methods (Review Editor)
- Frontiers in Human Neuroscience (Review Editor)

Journal Reviewers

- IEEE Transactions on Biomedical Engineering
- Journal of Magnetic Resonance Imaging
- Magnetic Resonance in Medicine
- NeuroImage
- Human Brain Mapping
- International Journal of Imaging Systems and Technology
- Frontiers in Neuroscience / Brain Imaging Methods
- Frontiers in Human Neuroscience
- PLOS One

Affiliations

- Member, International Society for Magnetic Resonance in Medicine (ISMRM)
- Member, IEEE Engineering in Medicine and Biology Society (EMBS)
- Member, Taiwanese Society of Biomedical Engineering
- Member, Taiwan Magnetic Resonance Society

TEACHING

- | | |
|------|---|
| 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 |

2016 College of Medicine, Taipei, Taiwan
Special Topics on Biomedical Signal and Image Processing
Institute of Medical Device and Imaging, National Taiwan University
College of Medicine, Taipei, Taiwan

GRUQUATE STUDENT SUPERVISED

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

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. *“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.**
2. *“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.**
3. *“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.**
4. *“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.**
5. “*A Pilot Study of Ultra-high Field Magnetic Resonance Imaging (UHF-MRI) Technologies for Brain Neuroimaging and Cardiovascular Applications,*” 2019/8 – 2022/7, funded by Taiwan Ministry of Science and Technology. **Principal Investigator.**
 6. “*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.**
 7. “*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.**
 8. “*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.**
 9. “*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.**
 10. “*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.**
 11. “*Development of an MRI-guided Platform on Breast Applications,*” 2015/8 – 2018/7, funded by Taiwan Ministry of Science and Technology. **Principal Investigator.**
 12. “*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.**
 13. “*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.**
 14. “*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.**
 15. “*Development of Next Generation MRI System Platform,*” 2013/1 – 2014/6, funded by Taiwan Ministry of Economic Affairs. **Sub-project Principal Investigator.**
 16. “*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. 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*, 19:44, 30 June 2022, doi:10.1186/s12989-022-00485-8.
2. 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*, 4 June 2022, doi:10.1002/hbm.25963.
3. 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.
4. 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*, 3 February 2022, doi:10.3389/fnagi.2021.717037.
5. 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.
6. 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-ε4 allele on the cholinergic circuitry for subjects with different levels of cognitive impairment. *Frontiers in Neurology*, September 2021, doi:10.3389/fneur.2021.651388.
7. 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.
8. 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*, 20 August

2021, doi:10.3389/fnagi.2021.686040.

9. Chien-Feng Judith Huang, Win-Li Lin, San-Chao Hwang, Ching Yao, Hsu Chang, **Li-Wei Kuo***. Anatomical phase extraction (APE) method: A Novel Method to Correct Detrimental Effects of Tissue-Inhomogeneity in Referenceless MR Thermometry – Preliminary Ex Vivo Investigation. *Computational and Mathematical Methods in Medicine*, vol. 2021, Article ID 5566775, 13 pages, August 2021, doi:10.1155/2021/5566775.
10. 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.
11. **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.
12. 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.
13. 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.
14. 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.
15. 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.
16. **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/fpsyt.2019.00381.
17. 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.
18. 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.
 19. 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.
 20. 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.
 21. 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.
 22. 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.
 23. 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. (Review Article)
 24. **Li-Wei Kuo**, Li-Chen Chiu, Win-Lin Lin, Jiun-Jung Chen, Guo-Chung Dong, Sheng-Fu Chen, Gin-Shin Chen. Development of a MRI-compatible high-intensity focused ultrasound phased array transducer dedicated for breast tumor treatment. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 65(8):1423-1432, August 2018, doi:10.1109/TUFFC.2018.2841418.
 25. Chi-Feng Su, Li-Hsun Chang, Chien-Yu Kao, Don-Ching Lee, Kuan-Hung Cho, **Li-Wei Kuo**, Hsu Chang, Yao-Horng Wang, Ing-Ming Chiu. Application of amniotic fluid stem cells in repairing sciatic nerve injury in minipigs. *Brain Research*, 1678:397-406, January 2018, doi:10.1016/j.brainres.2017.11.010.

26. Yan-Jye Shyong, Mao-Hsien Wang, **Li-Wei Kuo**, Chang-Fu Su, Wei-Ting Kuo, Kuo-Chi Chang, Feng-Huei Lin. Mesoporous hydroxyapatite as a carrier of olanzapine for long-acting antidepressant treatment in rats with induced depression. *Journal of Controlled Release*, 255:62-72, June 2017, doi:10.1016/j.jconrel.2017.03.399.
27. Meng-Chi Hsieh, **Li-Wei Kuo**, Yun-An Huang, Jyh-Horng Chen. Investigating Hyperoxic Effects in the Rat Brain Using Quantitative Susceptibility Mapping Based on MRI Phase. *Magnetic Resonance in Medicine*, 77(2):592-602, February 2017, doi:10.1002/mrm.26139.
28. G. Russell Glenn, **Li-Wei Kuo***, Yi-Ping Chao, Chu-Yu Lee, Joseph A. Helpert, Jens H. Jensen*. Mapping the Orientation of White Matter Fiber Bundles: A Comparative Study between Diffusion Tensor Imaging (DTI), Diffusion Kurtosis Imaging (DKI), and Diffusion Spectrum Imaging (DSI). *American Journal of Neuroradiology*, 37(7):1216-1222, July 2016, doi:10.3174/ajnr.A4714.
29. Chao-Yu Shen, Yeu-Sheng Tyan, **Li-Wei Kuo**, Changwei W. Wu, Jun-Cheng Weng. Quantitative Evaluation of Rabbit Brain Injury after Cerebral Hemisphere Radiation Exposure Using Generalized q-Sampling Imaging. *PLoS One* 10(7):e0133001, July 2015, doi:10.1371/journal.pone.0133001.
30. Wei-Chen Huang, Hsin-Yi Lai, **Li-Wei Kuo**, Chia-Hsin Liao, Po-Hsieh Chang, Ta-Chung Liu, San-Yuan Chen, You-Yin Chen. Multifunctional 3D Patternable Drug-Embedded Nanocarrier-Based Interfaces to Enhance Signal Recording and Reduce Neuron Degeneration in Neural Implantation. *Advanced Materials*, 27(28):4186-4193, July 2015, doi:10.1002/adma.201500136.
31. Kou-Jen Wu, Seong-Jin Yu, Chia-Wen Chiang, Kuan-Hung Cho, Yu-Wei Lee, B. Linju Yen, **Li-Wei Kuo***, Yun Wang*. Transplantation of human placenta-derived multipotent stem cells reduces ischemic brain injury in adult rats. *Cell Transplantation*, 24(3):459-70, March 2015, doi:10.3727/096368915X686922.
32. Lun-De Liao, Aishwarya Bandla, Ji Min Ling, Yu-Hang Liu, **Li-Wei Kuo**, You-Yin Chen, Nicolas KK King, Hsin-Yi Lai, Yan-Ren Lin, Nitish V. Thakor. Improving Neurovascular Outcomes with Bilateral Forepaw Stimulation in a Rat Photothrombotic Ischemic Stroke Model. *Neurophotonics*, 1(1):011007, July 2014, doi:10.1117/1.NPh.1.1.011007.
33. Hengtai Jan, Kuo-Ting Tsai, **Li-Wei Kuo**. Phase Locking Route behind Complex Periodic Windows in a Forced Oscillator. *Chaos*, 23(3):033126, September 2013, doi:10.1063/1.4818675.
34. Kuan-Hung Cho, **Li-Wei Kuo***, Ching-Po Lin. Mapping Brain Connectomics from Brownian Motion: A Technical Review for Diffusion MRI. *Journal of Neuroscience and Neuroengineering*, 2:104-118, April 2013, doi:10.1166/jnsne.2013.1046. (Review Article)
35. **Li-Wei Kuo**, Wen-Yang Chiang, Fang-Cheng Yeh, Van J. Wedeen, Wen-Yih I. Tseng. Diffusion Spectrum MRI Using Body-centered-cubic and Half-sphere Sampling Schemes. *Journal of Neuroscience Methods*, 212(1):143-155, January 2013,

doi:10.1016/j.jneumeth.2012.09.028.

36. Zhongming Liu, Jacco A. de Zwart, Bing Yao, Peter van Gelderen, **Li-Wei Kuo**, Jeff H. Duyn. Finding Thalamic BOLD Correlates to Posterior Alpha EEG. *Neuroimage*, 63(3):1060-9, November 2012, doi:10.1016/j.neuroimage.2012.08.025.
37. Zhongming Liu, Jacco A. de Zwart, Peter van Gelderen, **Li-Wei Kuo**, Jeff H. Duyn. Statistical Feature Extraction for Artifact Removal from Concurrent fMRI-EEG Recordings. *Neuroimage*, 59(3):2073-87, February 2012, doi:10.1016/j.neuroimage.2011.10.042.
38. Jongho Lee, Peter van Gelderen, **Li-Wei Kuo**, Hellmut Merkle, Afonso C. Silva, Jeff H. Duyn. T2*-based Fiber Orientation Mapping. *Neuroimage*, 57(1):225-34, July 2011, doi:10.1016/j.neuroimage.2011.04.026.
39. Yu-Chun Lo, Wei-Tsuen Soong, Susan Shur-Fen Gau, Yu-Yu Wu, Meng-Chuan Lai, Fang-Cheng Yeh, Wen-Yang Chiang, **Li-Wei Kuo**, Fu-Shan Jaw, Wen-Yih Isaac Tseng. The Loss of Asymmetry and Reduced Interhemisphere Connectivity in Adolescents with Autism: A study using diffusion spectrum imaging tractography. *Psychiatry Research: Neuroimaging*, 192(1):60-66, April 2011, doi:10.1016/j.pscychresns.2010.09.008.
40. I-Chao Liu, Chen-Huan Chiu, Chih-Jui Chen, **Li-Wei Kuo**, Yu-Chun Lo, Wen-Yih Isaac Tseng. The Microstructural Integrity of the Corpus Callosum and Associated Impulsivity in Alcohol Dependence: A tractography-based segmentation study using diffusion spectrum imaging. *Psychiatry Research: Neuroimaging*, 184(2):128-134, November 2010, doi:10.1016/j.pscychresns.2010.07.002.
41. **Li-Wei Kuo**, Chun-Yao Lee, Jyh-Horng Chen, Van J. Wedeen, Chih-Chuan Chen, Horng-Huei Liou, Wen-Yih I. Tseng. Mossy Fiber Sprouting in the Pilocarpine-induced Status Epilepticus Rat Hippocampus: A correlative study of diffusion spectrum imaging and histology. *Neuroimage*, 41(3):789-800, July 2008, doi:10.1016/j.neuroimage.2008.03.013.
42. **Li-Wei Kuo**, Jyh-Horng Chen, Van J. Wedeen, Wen-Yih I. Tseng. Optimization of Diffusion Spectrum Imaging and Q-ball Imaging on Clinical MRI System. *NeuroImage*, 41(1):7-18, May 2008, doi:10.1016/j.neuroimage.2008.02.016.
43. Hong-Chang Yang, Kuen-Lin Tsai, Ji-Cheng Chen, Chiu-Hsien Wu, Heng-Er Horng, Jyh-Horng Chen, **Li-Wei Kuo**. High-T_c Superconducting Surface Coils for Improving the Image Quality on a 3T Imager. *Superconductor Science and Technology*, 20(8):777-780, June 2007, doi:10.1088/0953-2048/20/8/009.
44. Jun-Cheng Weng, Jyh-Horng Chen, **Li-Wei Kuo**, Van J. Wedeen, Wen-Yih I. Tseng. Maturation-dependent Microstructure Length Scale in the Corpus Callosum of Fixed Rat Brains by Magnetic Resonance Diffusion-diffraction. *Magnetic Resonance Imaging*, 25(1):78-86, January 2007, doi:10.1016/j.mri.2006.08.018.

Conference Abstracts

1. Yeefan Lee, Kuan-Hung Cho, Chih-Hsing Tang, Chia-Wen Chiang, Shih-Yen Lin,

- Chen-Hsiang Kuan, Chien-Yuan Lin, Hsiao-Ling Lee, **Li-Wei Kuo**. Characterizing diffusion properties on extremities of patients with lymphedema by MRI. Proc Joint Annual Meeting ISMRM-ESMRMb, London, UK, May 2022.
2. Sheng-Min Huang, Kuan-Hung Cho, Koping Chang, Pei-Hsin Huang, **Li-Wei Kuo**. High angular resolution diffusion MRI tractography-based thalamic parcellation of postmortem fetal brain in the second trimester. Proc 29th ISMRM Ann Meeting, May 2021 (virtual conference).
 3. Kuan-Hung Cho, Po-Hsun He, Ming-Jye Chen, Ezequiel Farrher, Nadim Jon Shah, Chang-Hoon Choi, **Li-Wei Kuo**. A simple, multi-purpose coil for improved mouse brain image quality and coverage at 3-T MRI. Proc 29th ISMRM Ann Meeting, May 2021 (virtual conference).
 4. Nan-Hao Chen, Kuan-Hung Cho, Yi-Ping Chao, Sheng-Min Huang, Norihiro Sadato, **Li-Wei Kuo**, Masaki Fukunaga. Reproducibility evaluation on resolving complex fiber orientations using diffusion spectrum imaging at 3T and 7T. Proc 29th ISMRM Ann Meeting, May 2021 (virtual conference).
 5. Chia-Wen Chiang, Ezequiel Farrher, Kuan-Hung Cho, Shih-Yen Lin, Kuo-Jen Wu, Yun Wang, The-Chen Wang, Yi-Ping Chao, Yeun-Chung Chang, Chang-Hoon Choi, **Li-Wei Kuo**. Exploration of mannitol-treated dehydration in acute stroke using diffusion kurtosis imaging with free water elimination. Proc 28th ISMRM Ann Meeting, August 2020 (virtual conference).
 6. Ezequiel Farrher, Chia-Wen Chiang, Kuan-Hung Cho, Richard Buschbeck, Ming-Jye Chen, Zaheer Abbas, Kuo-Jen Wu, Yun Wang, Farida Grinberg, Chang-Hoon Choi, N. Jon Shah, **Li-Wei Kuo**. Spatiotemporal evolution of ischemic lesions in stroke animal models using free-water elimination and mapping with explicit T2 modelling. Proc 28th ISMRM Ann Meeting, August 2020 (virtual conference).
 7. Ezequiel Farrher, Richard Buschbeck, Kuan-Hung Cho, Ming-Jye Chen, Seong Dae Yun, Zaheer Abbas, Chang-Hoon Choi, **Li-Wei Kuo**, N. Jon Shah. Rapid DTI-based free water elimination and mapping with explicit T2 modelling using a dual-echo Stejskal-Tanner EPI sequence. Proc 28th ISMRM Ann Meeting, August 2020 (virtual conference).
 8. Richard Buschbeck, Ezequiel Farrher, Kuan-Hung Cho, Ming-Jye Chen, Seong Dae Yun, Chang-Hoon Choi, **Li-Wei Kuo**, N. Jon Shah. A multi-echo Stejskal-Tanner EPI sequence for rapid measurement of T2 and diffusion tensor correlations. Proc 27th ISMRM Ann Meeting, Montreal, Canada, 2019.
 9. Sheng-Min Huang, Kuan-Hung Cho, Tsung-Ying Yang, Yi-Shan Wu, Hsuan-Kai Huang, Chia-Wen Chiang, Pei-Hsin Huang, **Li-Wei Kuo**. Diffusion tensor imaging and resting-state functional MRI reveal altered brain network hubs on a depression knockout mouse model. Proc 27th ISMRM Ann Meeting, Montreal, Canada, 2019.
 10. Sheng-Min Huang, Kuan-Hung Cho, Ming-Jye Chen, Hsuan-Han Chiang, Chang-Hoon Choi, Richard Buschbeck, Ezequiel Farrher, N. Jon Shah, Ruslan Garipov,

- Ching-Ping Chang, Hsu Chang, **Li-Wei Kuo**. A 3T MRI platform for imaging rodent models by integrating a dedicated high-strength gradient coil on a whole-body magnet. Proc 27th ISMRM Ann Meeting, Montreal, Canada, 2019.
11. Kuan-Hung Cho, Richard Buschbeck, Shih-Yen Lin, Ezequiel Farrher, Ming-Jye Chen, Chia-Wen Chiang, N. Jon Shah, Chang-Hoon Choi, **Li-Wei Kuo**. An in vivo investigation on quantitative metrics of diffusion kurtosis tensor: the effect of diffusion gradient parameters in the clinical setting. Proc 27th ISMRM Ann Meeting, Montreal, Canada, 2019.
 12. Ming-Jye Chen, Kuan-Hung Cho, Chang-Hoon Choi, Ezequiel Farrher, Richard Buschbeck, Husan-Han Chiang, N. Jon Shah, Hsu Chang, **Li-Wei Kuo**. A feasibility study of ultra-high-strength gradient system on 3T: demonstration using DTI on anisotropic diffusion fibre phantoms. Proc Joint Annual Meeting ISMRM-ESMRMb, Paris, France, 2018.
 13. Husan-Han Chiang, Kuan-Hung Cho, Ezequiel Farrher, Johannes Lindemeyer, Richard Buschbeck, Ming-Jye Chen, Farida Grinberg, N. Jon Shah, Chang-Hoon Choi, **Li-Wei Kuo**. Design of multi-purpose and 3D-printed fibre phantoms for investigating complex tissue microstructures. Proc Joint Annual Meeting ISMRM-ESMRMb, Paris, France, 2018.
 14. Ezequiel Farrher, Kuan-Hung Cho, Richard Buschbeck, Husan-Han Chiang, Ming-Jye Chen, Farida Grinberg, N. Jon Shah, Chang-Hoon Choi, **Li-Wei Kuo**. DTI-based free-water elimination with T2-weighting using dedicated anisotropic diffusion fibre phantoms. Proc Joint Annual Meeting ISMRM-ESMRMb, Paris, France, 2018.
 15. Ezequiel Farrher, Richard Buschbeck, Chang-Hoon Choi, **Li-Wei Kuo**, Seong-Dae Yun, Farida Grinberg, N. Jon Shah. In vivo DTI-based free-water elimination with T2-weighting. Proc Joint Annual Meeting ISMRM-ESMRMb, Paris, France, 2018.
 16. Chia-Wen Chiang, Kou-Jen Wu, Shih-Yen Lin, Kuan-Hung Cho, B. Linju Yen, Yun Wang, **Li-Wei Kuo**. Using diffusion kurtosis magnetic resonance imaging to monitor iPS-MSCs treatment response in stroke. Proc SFN 47th Annual Meeting, Washington DC, USA, 2017.
 17. Ming-Jye Chen, Kuan-Hung Cho, Chang-Hoon Choi, Ezequiel Farrher, Richard Buschbeck, Husan-Han Chiang, N. Jon Shah, Hsu Chang, **Li-Wei Kuo**. Integration of ultra-high-strength, multi-scale and switchable gradient systems on a whole-body 3T magnet: diffusion MRI feasibility demonstration. Proc ESMRMb, Barcelona, Spain, 2017.
 18. Ezequiel Farrher, Kuan-Hung Cho, Richard Buschbeck, Husan-Han Chiang, Ming-Jye Chen, Farida Grinberg, N. Jon Shah, Chang-Hoon Choi, **Li-Wei Kuo**. Investigating complex structural characteristics using diffusion MRI on multi-sectional anisotropic fibre phantoms. Proc ESMRMb, Barcelona, Spain, 2017.
 19. Jhih-Rong Chen, Yi-Ping Chao, **Li-Wei Kuo**. Real-time Head Motion Detection in MRI using Accelerometer and Stereo Camera. Proc 23rd Annual Meeting of the Organization for Human Brain Mapping, Vancouver, Canada, 2017.

20. Shih-Yen Lin, Chen-Pei Lin, Ling-Ling Liao, Chi-Chun Lee, **Li-Wei Kuo**. Brain network re-configuration during emotional speech assessed by graph theoretical analysis. Proc 23rd Annual Meeting of the Organization for Human Brain Mapping, Vancouver, Canada, 2017.
21. Chen-Pei Lin, Shih-Yen Lin, Chia-Wen Chiang, Kuan-Hung Cho, Chien-Yuan Lin, **Li-Wei Kuo**. Investigating Altered Brain Functional Network in Alzheimer's Disease Using a Joint Framework of Graph Theoretical Analysis and Machine Learning. Proc 25th ISMRM Ann Meeting, Hawaii, USA, 2017.
22. Kuan-Hung Cho, Chun-Hung Yeh, Yi-Ping Chao, Ching-Po Lin, **Li-Wei Kuo**. Minimizing fiber orientation estimate error from ODF by Nelder-Mead simplex method. Proc 25th ISMRM Ann Meeting, Hawaii, USA, 2017.
23. Chen-Pei Lin, Shih-Yen Lin, Tsung-Jen Hsieh, Chih-Cheng Hsu, **Li-Wei Kuo**. Developing neuroimaging biomarkers for classification of Alzheimer's disease: A correlative study between brain network centrality, cognitive functions and biochemical measurements in clinical settings. Proc SFN 46th Annual Meeting, San Diego, USA, 2016.
24. Yi-Ping Chao, Feng-Xian Yen, **Li-Wei Kuo**, Yu-Cheng Pei. Music therapy alters brain intrinsic fluctuations in the elderly with dementia. Proc 22nd Annual Meeting of the Organization for Human Brain Mapping, Geneva, Switzerland, 2016.
25. Chia-Wen Chiang, Shih-Yen Lin, Yeun-Chung Chang, Teh-Chen Wang, **Li-Wei Kuo**. Evaluating mean diffusivity and mean kurtosis derived from different diffusion-encoding schemes and signal-to-noise ratio. Proc 24th ISMRM Ann Meeting, Singapore, 2016.
26. Shih-Yen Lin, Chia-Wen Chiang, Wen-Ling Tseng, Yi-Ping Chao, Chih-Cheng Hsu, Jyh-Lyh Juang, **Li-Wei Kuo**. Computational graph analysis on brain networks to identify altered structural and functional regions in Alzheimer's disease. Proc IEEE International Symposium on Biomedical Imaging, Prague, Czech Republic, 2016.
27. Cong Lin, Lan Lin, **Li-Wei Kuo**, Shuicai Wu, Zhenrong Fu, Yi-Ping Chao. The Relationships between the Identified Critical Nodes within DTI-Based Brain Structural Network Using Hub Measurements and Vulnerability Measurement. Proc 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Milan, Italy, 2015.
28. Hengtai Jan, Shih-Yen Lin, Shiuian-Yeu Chen, Yu-Hsien Liao, Yi-Ping Chao, Chi-Chun Lee, **Li-Wei Kuo**. Voxel-based Graph-theoretical Analysis (VGA) of Brain Networks Modulated by External Vocal Emotional Expressions. Proc 21st Annual Meeting of the Organization for Human Brain Mapping, Honolulu, USA, p3814, 2015.
29. Hsuan-Han Chiang, Ming-Jye Chen, Chien-Cheng Kuo, You-Yin Chen, Changwei W. Wu, **Li-Wei Kuo**. Improvement of Signal-to-Noise Ratio using Graphene-based

- Surface RF Coils on 3T MRI. Proc 23rd ISMRM Ann Meeting, Toronto, Canada, p2909, 2015.
30. G. Russell Glenn, Jens H. Jensen, Yi-Ping Chao, Chu-Yu Lee, Joseph A. Helpert, **Li-Wei Kuo**. Comparison of Diffusional Kurtosis Imaging (DKI) and Diffusion Spectrum Imaging (DSI) for White Matter Fiber Tractography. Proc 23rd ISMRM Ann Meeting, Toronto, Canada, p2778, 2015.
 31. Yun-An Huang, Shih-Hsien Yang, Tzu-Hao Chao, Edzer Wu, Der-Yow Chen, Kuan-Hung Cho, Yuen-Chung Chang, Tzi-Dar Chiueh, Changwei W. Wu, **Li-Wei Kuo**, Jyh-Horng Chen. A Pilot Study of 2X Temporal Resolution Wideband Gradient-Echo in Rodent fMRI. Proc 20th Annual Meeting of the Organization for Human Brain Mapping, Hamburg, Germany, 2014.
 32. Hengtai Jan, Shih-Yen Lin, Kuan-Hung Cho, Yi-Ping Chao, **Li-Wei Kuo**. Investigating the Coherence between Brain Structural and Functional Networks at Multiple Scales. Proc 22th ISMRM Ann Meeting, Milan, Italy, 2014.
 33. Shih-Yen Lin, Hengtai Jan, Tsang-Chu Yu, Yi-Ping Chao, Kuan-Hung Cho, **Li-Wei Kuo**. Parcellating Brain Cortical Regions at Multiple Levels of Granularity using the Weighted K-means Algorithm. Proc 22th ISMRM Ann Meeting, Milan, Italy, 2014.
 34. Tsang-Chu Yu, Yi-Ping Chao, **Li-Wei Kuo**, Shih-Yen Lin, Hengtai Jan, Claudia Metzler-Baddeley, Derek Jones. A GPU-based Parallel Computing Framework for Accelerating Graph Theoretical Analyses. Proc 22th ISMRM Ann Meeting, Milan, Italy, 2014.
 35. Yun-An Huang, Shih-Hsien Yang, Tzu-Hao Harry Chao, Edzer L. Wu, Der-Yow Chen, Kuan-Hung Cho, Yeun-Chung Chang, Changwei W. Wu, **Li-Wei Kuo**, Jyh-Horng Chen. Employing Wideband Gradient-echo MRI to Map the Functional Activation in Rat Somatosensory Cortex with Enhanced Spatial Resolution. Proc 22th ISMRM Ann Meeting, Milan, Italy, 2014.
 36. Shih-Hsien Yang, Yun-An Huang, Tzu-Hao Harry Chao, Der-Yow Chen, Kuan-Hung Cho, **Li-Wei Kuo**, Jyh-Horng Chen, Changwei W. Wu. Impacts of Single Carrier Wideband Gradient-Echo Sequence in BOLD Contrast. Proc 22th ISMRM Ann Meeting, Milan, Italy, 2014.
 37. Ping-Hong Yeh, Erick Jouge Canales-Rodriguez, John Morissette, **Li-Wei Kuo**, Fang-Cheng Yeh, Wei Lui, John Ollinger, Terrence R Oakes, Mark L. Ettenhofer, Gerard Riedy. Tractography of Richardson-Lucy Spherical Deconvolution under Rician Noise of Sparse Multiple Q-shell Diffusion Imaging. Proc 22th ISMRM Ann Meeting, Milan, Italy, 2014.
 38. Ping-Hong Yeh, Namgyun Lee, John Morissette, **Li-Wei Kuo**, Fang-Cheng Yeh, Erick Jouge Canales-Rodriguez, Wei Lui, John Ollinger, Terrence R Oakes, Gerard Riedy. Evaluation of Diffusion Spectrum Imaging Reconstruction with Trained Dictionaries Use of 3T MR. Proc 22th ISMRM Ann Meeting, Milan, Italy, 2014.
 39. Hengtai Jan, Yi-Ping Chao, Kuan-Hung Cho and **Li-Wei Kuo**. Investigating the

- Effects of Streamline-based Fiber Tractography on Matrix Scaling in Brain Connective Network. Proc IEEE EMBS conference, Osaka, Japan, 2013.
40. Kuan-Hung Cho, Chun-Hung Yeh, **Li-Wei Kuo**, Yi-Ping Chao and Ching-Po Lin. Estimation of Fiber Orientation by Filtered Q-ball Imaging. Proc IEEE EMBS conference, Osaka, Japan, 2013.
 41. Hengtai Jan, Yi-Ping Chao and **Li-Wei Kuo**. DIMAT: A Matlab-based Diffusion MRI Analysis Tool. Proc International Symposium on Biomedical Imaging: From Nano to Macro, San Francisco, USA, 2013.
 42. Kuan-Hung Cho, **Li-Wei Kuo** and Ching-Po Lin. Diffusion Spectrum Imaging Reconstruction Using Shell Encoding. Proc International Symposium on Biomedical Imaging: From Nano to Macro, San Francisco, USA, 2013.
 43. Hengtai Jan, Yi-Ping Chao, **Li-Wei Kuo**. Mapping Brain Connective Network with Fiber-crossings as Nodes. Proc 7th International Conference on Nonlinear Science and the 11th Taiwan International Symposium on Statistical Physics, Oral presentation, Taipei, Taiwan, 2012.
 44. **Li-Wei Kuo**, Zhongming Liu, Jacco A. de Zwart, Peter van Gelderen, Jeff H. Duyn. Investigating the Dependence of Spontaneous Fluctuations in Visual Cortex on Callosal Connectivity. Proc 19th ISMRM Ann Meeting, p432, Montreal, Canada, 2011.
 45. **Li-Wei Kuo**, Wen-Yang Chiang, Fang-Cheng Yeh, Van Jay Wedeen, Wen-Yih Isaac Tseng. Optimization of Body-Centered-Cubic Encoding Scheme for Diffusion Spectrum Imaging. Proc 18th ISMRM Ann Meeting, p1601, Stockholm, Sweden, 2010.
 46. **Li-Wei Kuo**, Justin P. Haldar, Yu-Chun Lo, Cheng-Liang Liu, Zhi-Pei Liang, Wen-Yih Isaac Tseng. Quantitative Improvement of Diffusion Spectrum Imaging Tractography Using Statistical Denoising. Proc 18th ISMRM Ann Meeting, p1669, Stockholm, Sweden, 2010.
 47. **Li-Wei Kuo**, Chun-Yao Lee, Chih-Chuan Chen, Horng-Huei Liou, Van J. Wedeen, Jyh-Horng Chen, Wen-Yih I. Tseng. Mapping Mossy Fiber Sprouting in Epileptic Rat Hippocampus With Diffusion Spectrum Magnetic Resonance Imaging. Proc 15th ISMRM Ann Meeting, p1611, Berlin, Germany, 2007.
 48. **Li-Wei Kuo**, Van J. Wedeen, Chandan Mishra, Timothy G. Reese, Jyh-Horng Chen, Wen-Yih I. Tseng. Determining Optimum b Maximum Values for Diffusion Spectrum Imaging and q-ball Imaging in clinical MRI System. Proc 15th ISMRM Ann Meeting, p1507, Berlin, Germany, 2007.
 49. **Li-Wei Kuo**, Van J. Wedeen, Jui-Chang Tsai, Ham-Min Tseng, Jun-Cheng Weng, Su-Chun Huang, Timothy G. Reese, Jyh-Horng Chen, Wen-Yih Isaac Tseng. Tract-specific Mapping of Diffusion Anisotropy Index. Proc 14th ISMRM Ann Meeting, p2743, Seattle, USA, 2006.
 50. **Li-Wei Kuo**, Ching Yao, Kun-Lin Tsai, Hong-Chang Yang, Jyh-Horng Chen. Using MR Thermometry to Monitor the Frozen Effect in High-Temperature

- Superconducting RF Coil System. Proc 14th ISMRM Ann Meeting, p2614, Seattle, USA, 2006.
51. **Li-Wei Kuo**, Van J. Wedeen, Jun-Cheng Weng, Timothy G. Reese, Jyh-Horng Chen, Wen-Yih Isaac Tseng. Using Track Similarity to Determine Optimum Sequence Parameters for Diffusion Spectrum Imaging. Proc 13th ISMRM Ann Meeting, p391, Miami, USA, 2005.
 52. **Li-Wei Kuo**, Van J. Wedeen, Jun-Cheng Weng, Timothy G. Reese, Jyh-Horng Chen, Wen-Yih Isaac Tseng. Reconstruction and Visualization of White Matter Tracts Based on Clinical Diffusion Spectrum Imaging. Proc 13th ISMRM Ann Meeting, p1313, Miami, USA, 2005.
 53. **Li-Wei Kuo**, Van J. Wedeen, Jun-Cheng Weng, Timothy G. Reese, Jyh-Horng Chen, Wen-Yih Isaac Tseng. Diffusion Spectrum Tractography in Patients with Brain Tumors. Proc 13th ISMRM Ann Meeting, p1064, Miami, USA, 2005. **(Honorable Mention Poster Award in Neuroimaging Section)**
 54. **Li-Wei Kuo**, Van J. Wedeen, Ruo-Peng Wang, Jui-Chang Tsai, Ham-Min Tseng, Su-Chun Huang, Timothy G. Reese, Jyh-Horng Chen, Wen-Yih I. Tseng. Displacement of Corticospinal Tracts Showed Association with Motor Weakness in Patients with Brain Tumors: A study with diffusion spectrum imaging tractography. Proc Radiological Society Republic of China Ann Meeting, Kaohsiung, Taiwan 2005, TP004-BN.
 55. **Li-Wei Kuo**, Van J. Wedeen, Jun-Cheng Weng, Timothy G. Reese, Jyh-Horng Chen, Wen-Yih I. Tseng. Mapping White Matter Connectivity with BOLD Activated Regions Using Diffusion Spectrum Imaging and fMRI. Proc Radiological Society Republic of China Ann Meeting, Kaohsiung, Taiwan 2004, DP022-BN.
 56. **Li-Wei Kuo**, Van J. Wedeen, Jun-Cheng Weng, Timothy G. Reese, Jyh-Horng Chen, Wen-Yih Isaac Tseng. Mapping White Matter Connectivity with BOLD Activated Regions Using Diffusion Spectrum Imaging and fMRI. Proc 12th ISMRM Ann Meeting, p1286, Kyoto, Japan, 2004.
 57. **Li-Wei Kuo**, Sheng-Kwei Song, Van J Wedeen, Ching-Po Lin, Jyh-Horng Chen, Wen-Yih Isaac Tseng. Mean Diffusivity and Anisotropy Index Mapping of Diffusion Spectrum Imaging in A Stroke Model. Proc 11th ISMRM Ann Meeting, p592, Toronto, Canada, 2003.
 58. **Li-Wei Kuo**, Wen-Yih I. Tseng, Ching-Po Lin, Sheng-Kwei Song, Jyh-Horng Chen, Diffusion Spectrum MRI of Rat Stroke Model. Proc Radiological Society Republic of China Ann Meeting, Taipei, Taiwan, 2003. **(Best Poster Award)**
 59. **Li-Wei Kuo**, Wen-Yih I. Tseng, Ching-Po Lin, Jun-Cheng Weng, Jyh-Horng Chen, Diffusion Spectrum MRI of Rat Epilepsy Model. Proc Conference on Biomedical Engineering Technology, Kaohsiung, Taiwan, 2002, poster D2-25. **(Best Poster Award)**

Book Chapters

1. Payton Lin, Yu Tsao and **Li-Wei Kuo**. The chapter “Controlling the Biocompatibility and Mechanical Effects of Implantable Microelectrodes to Improve Chronic Neural Recordings in the Auditory Nervous System,” in “An Excursus into Hearing Loss.” Ed. Hatzopoulos S. and Ciorba A., IntechOpen, 2018. DOI: 10.5772/intechopen.69828. ISBN 978-1-78923-213-4.
2. Wen-Yih Isaac Tseng and **Li-Wei Kuo**. The chapter “Diffusion Magnetic Resonance Imaging in Neuroimaging,” in “Novel Trends in Brain Science: brain imaging, learning and memory, stress and fear, and pain.” Ed. Onozuka M. and Yen C. T., Springer Tokyo, 2008. ISBN 978-4-431-73241-9.

Patents

1. Yi-Ping Chao, **Li-Wei Kuo**, Kuan-Hung Cho. 腦部磁振造影的頭動校正方法. Taiwan Patent No. I738523, 1 September 2021.
2. Fang-Ci Su, Hsin-Yi Tsai, Min-Wei Hung, Yi-Cheng Lin, Kuo-Cheng Huang, Hsin-Su Yu, Chiou-Lian Lai, Chung-Yao Hsu, Chao-Hung Cheng, **Li-Wei Kuo**. System and Method for Detecting Illuminance. Taiwan Patent No. I650535 B, 11 February 2019.
3. Yi-Cheng Lin, Hsin-Yi Tsai, Min-Wei Hung, Kuo-Cheng Huang, Hsin-Su Yu, Chiou-Lian Lai, Chung-Yao Hsu, Chao-Hung Cheng, **Li-Wei Kuo**, Hung-Che Chiang, Chih-Yi Yang. Composite Intelligent Biological Phototherapy Device. Taiwan Patent No. I645878 B, 1 January 2019.
4. Jyh-Horng Chen, Tzi-Dar Chiueh, Edzer L. Wu, **Li-Wei Kuo**. Wideband Magnetic Resonance Imaging Apparatus and Method. U.S. Patent No. 8049496 B2, 1 November 2011.
5. Jyh-Horng Chen, Tzi-Dar Chiueh, Edzer L. Wu, **Li-Wei Kuo**. Method and Apparatus for Simultaneously Acquiring Multiple Slices/Slabs in Magnetic Resonance System. U.S. Patent No. 8022701 B2, 20 September 2011.