

Sai Kam Hui

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Career Aspiration

My ultimate research goal is to better MRI as a diagnostic tool to triage disease. I have devoted my research to developing novel surrogate biomarkers in human and preclinical neurological disorders using different diffusion MR techniques and advanced tissue modeling. To take imaging research to another level, I am dedicated to take on the challenge in developing MR pulse sequences and neuroimaging techniques for human applications at high magnetic field.

Education

- **The University of Hong Kong** **Pokfulam, HK**
Doctor of Philosophy, Department of Electrical and Electronic Engineering (Advisor: Ed X. Wu) 2005 – 2009
 - Thesis title: Magnetic resonance diffusion tensor imaging for neural tissue characterization
 - **The University of Hong Kong** **Pokfulam, HK**
Bachelor of Engineering, Medical Engineering Programme (Second Class Honors, Division One) 2002 – 2005
 - Final year project title: Implementation of fast spin echo at 0.2T
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Experience

- **Department of Diagnostic Radiology, HKU** **Pokfulam, HK**
Scientific Officer 2019 – Present
 - Magnetic resonance fingerprinting
 - Brain connectivity
 - Image reconstruction
 - Pulse sequence development (Philips Achieva Release 5)
- **Department of Diagnostic Radiology, HKU** **Pokfulam, HK**
Research Assistant Professor 2013 – 2019
 - Magnetic resonance fingerprinting
 - Brain connectivity
 - Stroke imaging
 - Advanced fast imaging techniques
 - Image reconstruction
 - Pulse sequence development (Philips Achieva Release 5 and Bruker Paravision 5.1)
- **Center for Biomedical Imaging, MUSC** **Charleston, USA**
Research Assistant Professor 2012 – 2013
 - Advanced tissue modeling
 - Stroke imaging
 - Pulse sequence development (Siemens IDEA VB17 and Bruker Paravision 5.1)
- **Center for Biomedical Imaging, MUSC** **Charleston, USA**
Postdoctoral Fellow 2011 – 2012
 - Clinical and preclinical study of brain disease and disorders using diffusional kurtosis imaging
 - Advanced tissue modeling
 - Pulse sequence development (Siemens IDEA VB17)
- **Research Imaging Institute, UTHSCSA** **San Antonio, USA**
Postdoctoral Fellow 2010 – 2011
 - Magnetic resonance imaging study of rodent model of cerebral ischemia
 - Magnetic resonance imaging study of rodent model of type 1 diabetes
- **Department of Radiology, The Methodist Hospital** **Houston, USA**
Postdoctoral Fellow 2009 – 2010

- Magnetic resonance guided high intensity focused ultrasound research
 - Magnetic resonance contrast agent development
 - Computed tomography reconstruction
 - **American Heart Association**
Peer reviewer for 2013
 - Radiology Imaging Basic Science Study Group
 - **Journal-related Activities**
 - Associate Editor of *NMR in Biomedicine* 2013 – 2016
 - Social Media Editor of *NMR in Biomedicine* 2013 – 2016
 - Associate Editor of *Journal of Neuroscience and Neuroengineering* 2012 – 2015
 - Peer reviewer for 2011 – Present
 - International Society for Magnetic Resonance in Medicine
 - Journal of Magnetic Resonance Imaging
 - Magnetic Resonance in Medicine (*Ad hoc*)
 - Neuroimage (*Ad hoc*)
 - NMR in Biomedicine
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Grant Funding

Principal Investigator:

- **DH - Health and Medical Research Fund** 1,401,690 HKD
Towards a plausible underpinning of cognitive impairment due to small vessel disease - from a brain wiring perspective 22/4/2019 - 21/4/2022
- **HKU - Seed Funding Programme for Basic Research** 79,890 HKD
Prognostication of stroke rehabilitation outcome 1/4/2019 - 31/3/2021
- **HKU - Seed Funding Programme for Basic Research** 63,460 HKD
Towards a plausible underpinning of cognitive impairment due to small vessel disease 1/4/2018 - 31/3/2020
- **HKU - Seed Funding Programme for Basic Research** 57,480 HKD
A highly efficient magnetic resonance imaging technique 1/3/2016 - 28/2/2018
- **UGC - General Research Fund** 471,706 HKD
Stroke assessment using diffusional kurtosis imaging 1/1/2014 - 31/12/2015
- **HKU - Space Research Fund** 56,000 HKD
Fund for supporting postgraduate student 1/9/2014 - 31/8/2016
- **HKU - Seed Funding Programme for Basic Research** 120,000 HKD
Improving the characterization of neuroarchitecture using double-pulsed diffusional kurtosis imaging 5/12/2013 - 4/12/2015
- **CTSA - 150565IM00052** 9,875 USD
Improving ischemic stroke staging using diffusional kurtosis imaging 6/2011 - 4/2012

Co-Investigator:

- **UGC - General Research Fund** 880,300 HKD
Magnetic resonance fingerprinting for the assessment of clinically significant prostate cancer 1/1/2019 - 31/12/2021
- **UGC - General Research Fund** 780,300 HKD
Time-efficient and high-resolution three-dimensional diffusion magnetic resonance imaging on clinical scanner 1/1/2018 - 31/12/2019
- **UGC - General Research Fund** 782,592 HKD
Translating functional tumour volume and biology of peritoneal carcinomatosis to identify suitable candidate for cytoreductive surgery in ovarian carcinoma 1/1/2017 - 31/12/2018
- **UGC - General Research Fund** 630,327 HKD
The use of DKI to quantify brain microstructure alteration as predictor for neurocognitive and functional outcomes in childhood intracranial germinoma survivors 1/1/2016 - 31/12/2017

- **NIH - R21 NS085402-01A1** **411,125 USD**
Enhanced detection of cerebral microinfarcts in dementia using MRI 1/9/2013 - 31/8/2015
 - **Dana Foundation - Neuroimaging Grant** **200,000 USD**
Novel strategies to enhance MRI detection of ultra-small brain lesions in vascular dementia 1/12/2013 - 30/11/2016
 - **SCRT/NIH - UL1TR000062** **10,000 USD**
Enhanced detection of cerebral microinfarcts in dementia using MRI 1/7/2013 - 1/1/2014
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Mentoring

Primary:

- **Xiaopei Xu** **Ph.D. graduate**
Structural brain connectivity 9/2014 - 8/2018
Current position - Radiology Resident (The Second Affiliated Hospital of Zhejiang University)
- **Di Cui** **Ph.D. graduate**
Magnetic resonance fingerprinting 9/2014 - 5/2019
Current position - Postdoctoral Fellow (PI: myself)
- **Lu Wang (with Dr Charles Chang)** **Ph.D. candidate**
Brain modeling 9/2018 - Present
- **Peng Xia (with Dr Peng Cao)** **M.Phil. candidate**
Magnetic resonance fingerprinting 9/2018 - Present

Secondary:

- **Darrell Ting Hung Li (with Dr Henry Mak)** **Ph.D. graduate**
Quantitative susceptibility mapping 9/2011 - 8/2016
Current position – Medical Physicist (Prince of Wales Hospital)
 - **Guanxiong Luo (with Dr Peng Cao)** **M.Phil. graduate**
Magnetic resonance fingerprinting 9/2017 - 8/2019
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Membership in Professional Societies

- **International Society for Magnetic Resonance in Medicine** **2006 – Present**
 - **American Society for Neuroradiology** **2012 – 2014**
 - **American Heart Association** **2013**
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Awards and Honors

- **Distinguished Reviewer 2013 - 2014, Journal of Magnetic Resonance Imaging** **2015**
 - **Distinguished Reviewer 2012 - 2013, Journal of Magnetic Resonance Imaging** **2014**
 - **Research Scientist Award Finalist, American Society for Neuroradiology** **2012**
 - **Young Investigator Award, WACBE World Congress on Bioengineering** **2009**
 - **Studentship, The University of Hong Kong** **2006 – 2009**
 - **Stipend, International Society for Magnetic Resonance in Medicine** **2007 – 2009**
 - **Finalist, The Sumida and Ichiro Yawata Foundation Scholarships** **2007**
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Patents

- **Systems and methods for double pulsed diffusional kurtosis imaging** **US Patent**
Jensen JH, Hui ES, Helpert JA US 9,940,708 B2
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Publications (* indicates correspondence)

Full papers:

1. Wu EX, **Hui ES**, Cheung JS. TOF-MRA using multi-oblique-stack acquisition (MOSA). *J Magn Reson Imaging* 2007;26(2):432-436. (Impact factor = 3.612; rank = 25/129 in Radiology, Nuclear Medicine & Medical imaging. Top 19.4%)
2. Mi S, Hu B, Hahm K, Luo Y, **Hui ES**, Yuan Q, Wong WM, Wang L, Su H, Chu TH, Guo J, Zhang W, So KF, Pepinsky B, Shao Z, Graff C, Garber E, Jung V, Wu EX, Wu W. LINGO-1 antagonist promotes spinal cord remyelination and axonal integrity in MOG-induced experimental autoimmune encephalomyelitis. *Nat Med* 2007;13(10):1228-1233. (Impact factor = 32.621; rank = 1/133 in Medicine, Research & Experimental. Top 0.8%)
3. Chan KC, Fu QL, **Hui ES**, So KF, Wu EX. Evaluation of the retina and optic nerve in a rat model of chronic glaucoma using in vivo manganese-enhanced magnetic resonance imaging. *Neuroimage* 2008;40(3):1166-1174. (Impact factor = 5.426; rank = 1/14 in Neuroimaging. Top 7.1%)
4. **Hui ES**, Cheung MM, Qi L, Wu EX. Towards better MR characterization of neural tissues using directional diffusion kurtosis analysis. *Neuroimage* 2008;42(1):122-134. (Impact factor = 5.426; rank = 1/14 in Neuroimaging. Top 7.1%)
5. Cheung MM, **Hui ES**, Chan KC, Helpert JA, Qi L, Wu EX. Does diffusion kurtosis imaging lead to better neural tissue characterization? A rodent brain maturation study. *Neuroimage* 2009;45(2):386-392. (Impact factor = 5.426; rank = 1/14 in Neuroimaging. Top 7.1%)
6. Li Q, Cheung C, Wei R, **Hui ES**, Feldon J, Meyer U, Chung S, Chua SE, Sham PC, Wu EX, McAlonan GM. Prenatal immune challenge is an environmental risk factor for brain and behavior change relevant to schizophrenia: evidence from MRI in a mouse model. *PloS one* 2009;4(7):e63. (Impact factor = 2.766; rank = 15/64 in Multidisciplinary Sciences. Top 23.4%)
7. **Hui ES**, Cheung MM, Chan KC, Wu EX. B-value dependence of DTI quantitation and sensitivity in detecting neural tissue changes. *Neuroimage* 2010;49(3):2366-74. (Impact factor = 5.426; rank = 1/14 in Neuroimaging. Top 7.1%)
8. Li Q, Cheung C, Wei R, Cheung V, **Hui ES**, You Y, Wong P, Chua SE, McAlonan GM, Wu EX. Voxel-based analysis of postnatal white matter microstructure in mice exposed to immune challenge in early or late pregnancy. *NeuroImage* 2010;52(1):1-8. (Impact factor = 5.426; rank = 1/14 in Neuroimaging. Top 7.1%)
9. **Hui ES**, Du F, Huang S, Shen Q, Duong TQ. Spatiotemporal dynamics of diffusional kurtosis, mean diffusivity and perfusion changes in experimental stroke. *Brain Research* 2012;1451:100-109. (Impact factor = 3.125; rank = 126/261 in Neurosciences. Top 48.3%)
10. **Hui ES**, Fieremans E, Jensen JH, Tabesh A, Feng W, Bonilha L, Spampinato MV, Adams R, Helpert JA. Stroke assessment with diffusional kurtosis imaging. *Stroke* 2012 Nov;43(11):2968-73. (Impact factor = 6.239; rank = 16/197 in Clinical Neurology. Top 8.1%)
11. **Hui ES**. Diffusion magnetic resonance imaging of ischemic stroke. *J Neurosci Neuroeng* 2012;1:48-53.
12. Jensen JH, **Hui ES**, Helpert JA. Double pulsed diffusional kurtosis imaging. *NMR Biomed.* 2014;27(4):363-70. (Impact factor = 3.031; rank = 33/129 in Radiology, Nuclear Medicine & Medical Imaging. Top 25.6%)
13. Falangola MF, Guilfoyle DN, Tabesh A, **Hui ES**, Nie X, Jensen JH, Gerum SV, Hu C, LaFrancois J, Collins HR, Helpert JA. Histological correlation of diffusional kurtosis and white matter modeling metrics in cuprizone-induced corpus callosum demyelination. *NMR Biomed.* 2014;27(8):948-57. (Impact factor = 3.031; rank = 33/129 in Radiology, Nuclear Medicine & Medical Imaging. Top 25.6%)
14. Shih YY, Huang S, Chen YY, Lai HY, Kao YC, Du F, **Hui ES**, Duong TQ. Imaging neurovascular function and functional recovery after stroke in the rat striatum using forepaw stimulation. *J Cereb Blood Flow Metab.* 2014;34(9):1483-92. (Impact factor = 6.045; rank = 29/261 in Neurosciences. Top 11.1%)
15. Lee EYP, **Hui ES**, Chan KKL, Tse KY, Kwong WK, Chang TY, Chan Q, Khong PL. Relationship between intravoxel incoherent motion diffusion-weighted MRI and dynamic contrast-enhanced MRI in tissue perfusion of cervical cancers. *J Magn Reson Imaging.* 2015 Aug;42(2):454-9. (Impact factor = 3.612; rank = 25/129 in Radiology, Nuclear Medicine & Medical imaging. Top 19.4%)
16. **Hui ES**, Glenn GR, Helpert JA, Jensen JH. Kurtosis analysis of neural diffusion organization. *Neuroimage* 2015;106(1):391-403. (Impact factor = 5.426; rank = 1/14 in Neuroimaging. Top 7.1%)
17. Nie X, Hamlett ED, Granholm AC, **Hui ES**, Helpert JA, Jensen JH, Boger HA, Collins HR, Falangola MF. Evidence of altered age-related brain cytoarchitecture in mouse models of Down syndrome: A Diffusional kurtosis imaging study. *Magn Reson Imaging* 2015;33(4):437-47. (Impact factor = 2.564; rank = 45/129 in Radiology, Nuclear Medicine & Medical Imaging. Top 34.9%)
18. Weber RA, **Hui ES**, Jensen JH, Nie X, Falangola MF, Helpert JA, Adkins DL. Diffusional kurtosis and diffusion

- tensor imaging reveal different time-sensitive stroke-induced microstructural changes. *Stroke* 2015;46(2):545-50. (Impact factor = 6.239; rank = 16/197 in Clinical Neurology. Top 8.1%)
19. **Hui ES**, Jensen JH. Double-pulsed diffusional kurtosis imaging for the in vivo assessment of human brain microstructure. *Neuroimage* 2015;120:371-381. (Impact factor = 5.426; rank = 1/14 in Neuroimaging. Top 7.1%)
 20. Taylor ZJ, **Hui ES**, Watson AN, Nie X, Deardorff RL, Jensen JH, Helpert JA, Shih AY. Microvascular basis for infarct growth following occlusion of single cortical penetrating arterioles in mouse cortex. *J Cereb Blood Flow Metab.* 2016 Aug;36(8):1357-73. (Impact factor = 6.045; rank = 29/261 in Neurosciences. Top 11.1%)
 21. Qian W., Chan KH, **Hui ES**, Lee CY, Hu Y and Mak HKF, Application of diffusional kurtosis imaging to detect occult brain damages in multiple sclerosis and neuromyelitis optica. *NMR Biomed.* 2016 Nov;29(11):1536-1545. (Impact factor = 3.031; rank = 33/129 in Radiology, Nuclear Medicine & Medical Imaging. Top 25.6%)
 22. Xu X, **Hui ES***, Mok MY, Jian J, Lau WCS, Mak HKF. Structural brain network reorganization in patients with neuropsychiatric systemic lupus erythematosus. *Am J Neuroradiol.* 2017 Jan;38(1):64-70. (Impact factor = 3.653; rank = 5/14 in Neuroimaging. Top 35.7%)
 23. Summers PM, Hartmann DA, **Hui ES**, Nie X, Deardorff RL, McKinnon ET, Helpert JA, Jensen JH, Shih AY. Functional deficits induced by cortical microinfarcts. *J Cereb Blood Flow Metab.* 2017 Nov;37(11):3599-3614. (Impact factor = 6.045; rank = 29/261 in Neurosciences. Top 11.1%)
 24. Weber RA, Chan CH, Nie X, Maggioncalda E, Valiulis G, Lauer A, **Hui ES**, Jensen JH, Adkins DL. Sensitivity of diffusion MRI to perilesional reactive astrogliosis in focal ischemia. *NMR Biomed.* 2017 Jul;30(7). (Impact factor = 3.031; rank = 33/129 in Radiology, Nuclear Medicine & Medical Imaging. Top 25.6%)
 25. Shaw CB, **Hui ES**, Helpert JA, Jensen JH. Tensor estimation for double-pulsed diffusional kurtosis imaging. *NMR Biomed.* 2017 Jul;30(7). (Impact factor = 3.031; rank = 33/129 in Radiology, Nuclear Medicine & Medical Imaging. Top 25.6%)
 26. Li X, Gao J, Wang M, Zheng J, Li Y, **Hui ES**, Wan M, Yang J. Characterization of Extensive Microstructural Variations Associated with Punctate White Matter Lesions in Preterm Neonates. *Am J Neuroradiol.* 2017 Jun;38(6):1228-1234. (Impact factor = 3.653; rank = 5/14 in Neuroimaging. Top 35.7%)
 27. Xu X, KK Lau, Wong YK, Mak HKF, **Hui ES***. The effect of the total small vessel disease burden on the structural brain network. *Sci Rep.* 2018 May 10;8(1):7442. (Impact factor = 4.122; rank = 12/64 in Multidisciplinary Sciences. Top 18.8%)
 28. Chang HC, **Hui ES**, PW Chiu, X Liu, N Chen. Phase correction for three-dimensional (3D) diffusion-weighted interleaved EPI using 3D multiplexed sensitivity encoding and reconstruction (3D-MUSER). *Magn Reson Med.* 2018 May;79(5):2702-2712. (Impact factor = 3.858; rank = 23/129 in Radiology, Nuclear Medicine & Medical Imaging. Top 17.8%)
 29. Wang Z, Zhang J, Cui D, Xie J, Lyu M, **Hui ES**, Wu EX. Magnetic Resonance Fingerprinting using A Fast Dictionary Searching Algorithm: MRF-ZOOM. *IEEE Trans Biomed Eng.* 2019 Jun;66(6):1526-1535. (Impact factor = 4.288; rank = 9/78 in Engineering, Biomedical. Top 11.5%)
 30. Wong N, Shao R, Yeung PPS, Khong PL, **Hui ES**, Schooling CM, Leung GM, Lee TMC. Negative Affect Shared with Siblings is Associated with Structural Brain Network Efficiency and Loneliness in Adolescents. *Neuroscience.* 2019 Nov 21;421:39-47. (Impact factor = 3.056; rank = 135/271 in Neurosciences. Top 49.8%)
 31. Wang Z, Cui D, Zhang J, Wu EX, **Hui ES***. MRF-ZOOM for the unbalanced steady-state free precession (ub-SSFP) magnetic resonance fingerprinting. *Magn Reson Imaging.* 2020 Jan;65:146-154. (Impact factor = 2.112; rank = 9/78 in Engineering, Biomedical. Top 11.5%)
 32. G Luo, N Zhao, W Jiang, **Hui ES**, P Cao. MRI reconstruction using deep Bayesian estimation. *Magn Reson Med.* 2020 (*In Press*). (Impact factor = 3.858; rank = 23/129 in Radiology, Nuclear Medicine & Medical Imaging. Top 17.8%)
 33. Cao P, Cui D, Vardhanabhuti V, **Hui ES***. Development of fast deep learning quantification for magnetic resonance fingerprinting in vivo. *Magn Reson Imaging.* 2020 Apr 7;70:81-90. (Impact factor = 2.112; rank = 9/78 in Engineering, Biomedical. Top 11.5%)
 34. Lee EYP, An H, Perucho JA, Chiu KWH, **Hui ES**, Chu MMY, Ngan HYS. Functional Tumour Burden of Peritoneal Carcinomatosis Derived From DWI Could Predict Incomplete Tumour Debulking in Advanced Ovarian Carcinoma. *Eur Radiol.* 2020 May 13. (Impact factor = 4.101; rank = 21/129 in Radiology, Nuclear Medicine & Medical Imaging. Top 16.3%)
 35. Liu X, **Hui ES**, Chang HC. Elimination of residual aliasing artifact that resembles brain lesion on multi-oblique diffusion-weighted echo-planar imaging with parallel imaging using virtual coil acquisition. *J Magn Reson Imaging.* 2020 May;51(5):1442-1453. (Impact factor = 3.612; rank = 25/129 in Radiology, Nuclear Medicine &

Medical imaging. Top 19.4%)

36. Li T, Cui D, **Hui ES***, Cai J. Four-dimensional magnetic resonance fingerprinting: a feasibility study. *Med Phys.* (Conditionally accepted).
37. Chu MMY, Perucho JA, Cui D, Vardhanabhuti V, **Hui ES***, Lee EYP. Repeatability of MR Fingerprinting in Normal Cervix and Utility in Cervical Carcinoma. (In Preparation)
38. Li T, Cui D, Ren G, **Hui ES***, Cai J. Investigation of the Effect of Acquisition Schemes on Time-Resolved Magnetic Resonance Fingerprinting. (In Preparation)
39. Wang L, KK Lau, Li LSW, Wong YK, Yau C, Mak HKF, **Hui ES***. Relation between rich-club organization and motor outcomes after acute ischemic stroke. (In Preparation)

Conference papers:

1. **Hui SK**, Yang J, Cheung SC, Wu EX. MOTSA TOF-MRA using multi-oblique-stack acquisition (MOSA). 2006; In: Proceedings of the 14th Annual Meeting of ISMRM, Seattle, Washington, USA. p1942.
2. **Hui ES**, Hu B, Wu WT, So KF, Wu EX. Characterization of neurodegeneration in experimental autoimmune encephalomyelitis induced rat using high resolution DTI. 2007; In: Proceedings of the 15th Annual Meeting of ISMRM, Berlin, Germany. p2409.
3. **Hui ES**, Lu H, Jensen JH, Helpert JA, Chan KC, Wu EX. In vivo diffusion kurtosis imaging of the rat brain. 2007; In: Proceedings of the 15th Annual Meeting of ISMRM, Berlin, Germany. p2433.
4. Chan KC, Liang YX, **Hui ES**, Kau PW, Ellis-Behnke RG, Schneider GE, So KF, Wu EX. Manganese-enhanced MRI of axon regeneration by peptide nanofiber scaffold induction. 2007; In: Proceedings of the 15th Annual Meeting of ISMRM, Berlin, Germany. p2458.
5. Chan KC, Fu SQ, **Hui ES**, Li RS, Cheung MM, Li D, So KF, Wu EX. Evaluation of glaucomatous optic nerve using in vivo manganese-enhanced MRI. 2007; In: Proceedings of the 15th Annual Meeting of ISMRM, Berlin, Germany. p2459.
6. Lau HF, **Hui ES**, Siu HF, Jian Y, Khong PL, Wu EX. In vivo DTI study of developmental rat brain. 2007; In: Proceedings of the 15th Annual Meeting of ISMRM, Berlin, Germany. p2437.
7. **Hui ES**, Fu QL, So KF, Wu EX. Diffusion tensor MR study of optic nerve degeneration in glaucoma. *Conf Proc IEEE Eng Med Biol Soc* 2007;2007:4312-4315.
8. **Hui ES**, Qi L, Cheung MM, Cheng K, Helpert JA, Jensen JH, Wu EX. Towards better understanding of brain tissue using directional kurtoses by orthogonal transformation of diffusion kurtosis tensor (KDT). 2008; In: Proceedings of the 16th Annual Meeting of ISMRM, Toronto, Canada. p 37.
9. Cheung MM, **Hui ES**, Wu EX. Directional diffusion kurtosis analysis of rat brain maturation. 2008; In: Proceedings of the 16th Annual Meeting of ISMRM, Toronto, Canada. p 669.
10. Cheung MM, **Hui ES**, Wu WT, Wu EX. Comparison of directional diffusion kurtoses and diffusivities in EAE-induced spinal cord. 2008; In: Proceedings of the 16th Annual Meeting of ISMRM, Toronto, Canada. p 3328.
11. Zhao XG, **Hui ES**, Chan KC, Cai KX, Guo H, Lai PT, Wu EX. Identifying rodent olfactory bulb structures with micro-DTI. *Conf Proc IEEE Eng Med Biol Soc* 2008;2008:2028-2031.
12. **Hui ES**, Helpert JA, Wu EX. Effective reduction of CSF partial volume effect in DTI by acquiring additional DWIs with smaller b-value. 2009; In: Proceedings of the 17th Annual Meeting of ISMRM, Honolulu, USA. p 3577.
13. **Hui ES**, Ding AY, Wu EX. Does kurtosis or stretched-exponential model fit experimental diffusion-weighted data better? 2009; In: Proceedings of the 17th Annual Meeting of ISMRM, Honolulu, USA. p 3527.
14. Cheung JS, Fan SJ, Chow AM, **Hui ES**, Cai KE, Man K, Wu EX. In vivo assessment of hepatic ischemia/reperfusion injury in rat using diffusion tensor imaging. 2009; In: Proceedings of the 17th Annual Meeting of ISMRM, Honolulu, USA. p 113.
15. Cheung MM, Li DT, **Hui ES**, Ding AY, Hu Y, Wu EX. In vivo diffusion tensor imaging in rat model of chronic spinal cord compression. 2009; In: Proceedings of the 17th Annual Meeting of ISMRM, Honolulu, USA. p 636.
16. Ding AY, **Hui ES**, Wu EX. The effects of hypercapnia on DTI quantification in anesthetized rat brain. *Conf Proc IEEE Eng Med Biol Soc* 2009;2009:2711-2714.
17. **Hui ES**, Li KC, Fung SH, Wu EX. Effect of diffusion time and b-value on quantitative DTI. 2010; In: Proceedings of the 18th Annual Meeting of ISMRM, Stockholm, Sweden. p 4033.
18. **Hui ES**, Fung SH, Wu EX. Effect of diffusion time on diffusion kurtosis in neural tissues. 2010; In: Proceedings of the 18th Annual Meeting of ISMRM, Stockholm, Sweden. p 4027.
19. Fung SH, **Hui ES**, Li F, Qin G, Lo DU, Xia R, Li Z, O'Neill BE, Li KC. Gadolinium chelate functionalized gold nanoparticles for targeted NIR laser heating. 2010; In: Proceedings of the 18th Annual Meeting of ISMRM,

- Stockholm, Sweden. p 4205.
20. **Hui ES**, Du F, Shen Q, Huang S, Duong TQ. Diffusion kurtosis is sensitive to hyperacute cerebral ischemia and increases with ischemic progression without renormalization. 2011; In: Proceedings of the 19th Annual Meeting of ISMRM, Montreal, Canada. p 4071.
 21. **Hui ES**, Du F, Shen Q, Huang S, Duong TQ. Can diffusion kurtosis imaging provide better ischemic lesion delineation?. 2011; In: Proceedings of the 19th Annual Meeting of ISMRM, Montreal, Canada. p 3958.
 22. **Hui ES**, Feng W, Tabesh A, Bonilha L, Jensen JH, Helpert JA. Assessment of motor impairment in acute/subacute stroke patients with diffusional kurtosis metrics. 2012; In: Proceedings of the 20th Annual Meeting of ISMRM, Melbourne, Australia. p 3207.
 23. **Hui ES**, Lee CY, Debbins JP, Duong TQ, Helpert JA. Diffusional kurtosis imaging: towards optimal subacute assessment of the microenvironment of ischemic tissue. 2012; In: Proceedings of the 20th Annual Meeting of ISMRM, Melbourne, Australia. p 3604.
 24. **Hui ES**, Bonilha L, Tabesh A, Jensen JH, Helpert JA. Effects of ischemic stroke on cerebral tissue microenvironment using diffusional kurtosis imaging. 2012; In: Proceedings of the 20th Annual Meeting of ISMRM, Melbourne, Australia. p 3204.
 25. **Hui ES**, Huang S, Shih YY, Duong TQ. Investigation of the chronic effect of streptozotocin-induced diabetes on cerebrovascular reactivity and BOLD fmri response to electrical forepaw stimulation. 2012; In: Proceedings of the 20th Annual Meeting of ISMRM, Melbourne, Australia. p 3657.
 26. Fieremans E, Jensen JH, **Hui ES**, Novikov DS, Tabesh A, Bonilha L, Helpert JA. Direct evidence for decreased intra-axonal diffusivity in ischemic human stroke. 2012; In: Proceedings of the 20th Annual Meeting of ISMRM, Melbourne, Australia. p 3600.
 27. **Hui ES**, Helpert JA, Guilfoyle D, Gerum S, Hu C, LaFrancois J, Nie X, Jensen JH, Tabesh A, Falangola MF. Diffusional kurtosis detects cortical demyelination in the cuprizone mouse model. 2012; In: Proceedings of the 20th Annual Meeting of ISMRM, Melbourne, Australia. p 3066.
 28. Falangola MF, Guilfoyle D, **Hui ES**, Hu C, Gerum S, LaFrancois J, Nie X, Jensen JH, Tabesh A, Helpert JA. Diffusional kurtosis imaging detects age-related grey matter changes in the normal mouse brain. 2012; In: Proceedings of the 20th Annual Meeting of ISMRM, Melbourne, Australia. p 3601.
 29. **Hui ES**, Tabesh A, Helpert JA, Jensen JH. Application of diffusional kurtosis to modeling of the cerebral microenvironment. 2013; In: Proceedings of the 21st Annual Meeting of ISMRM, Salt Lake City, Utah, USA. p 498.
 30. **Hui ES**, Jensen JH, Nie X, Tabesh A, Helpert JA, Adkins DL. Investigation of the cytoarchitectural changes in ischemic infarction using cerebral microenvironment modeling (CMM). 2013; In: Proceedings of the 21st Annual Meeting of ISMRM, Salt Lake City, Utah, USA. p 2916.
 31. **Hui ES**, Shih AY. A novel mouse model of vascular cognitive impairment – a diffusional kurtosis imaging study. 2014; In: Proceedings of the 22nd Annual Meeting of ISMRM, Milano, Italy. p 3489.
 32. **Hui ES**, Jensen JH. Double-pulsed diffusional kurtosis imaging for the in vivo assessment of human brain microstructure. 2015; In: Proceedings of the 23rd Annual Meeting of ISMRM, Toronto, Canada. p 2920.
 33. **Hui ES**, Glenn GR, Helpert JA, Jensen JH. Modeling of Brain Microstructure by Kurtosis Analysis of Neural Diffusion Organization (KANDO). 2015; In: Proceedings of the 23rd Annual Meeting of ISMRM, Toronto, Canada. p 2919.
 34. Xu X, Wong CS, Gong N, Lee EYP, **Hui ES**. Delineation of tumorous tissue in peritoneal metastases using diffusion-weighted imaging. 2015; In: Proceedings of the 32nd Annual Scientific Meeting of ESMRMB, Edinburgh, United Kingdom. p 225.
 35. Cui D, Chang HC, Guo H, Chan Q, **Hui ES**. Simultaneous Multi-slice MRF with Controlled Aliasing Enabled by Temporal Data Sharing. 2016; In: Proceedings of the 24th Annual Meeting of ISMRM, Singapore. p 1170.
 36. Xu X, Mak HKF, Azman RR, Lau KK, **Hui ES**. The effect of brain microbleeds on the structural brain network after stroke. 2016; In: Proceedings of the 24th Annual Meeting of ISMRM, Singapore. p 3442.
 37. Xu X, Mak HKF, Mok MY, Lau CS, **Hui ES**. Impaired small-world structural brain network in patients with neuropsychiatric systemic lupus erythematosus. 2016; In: Proceedings of the 24th Annual Meeting of ISMRM, Singapore. p 1199.
 38. Xu X, Khong PL, Wong NML, Ho RTH, Schooling CM, Yeung PS, Lee TMC, **Hui ES**. The heritability of structural brain network. 2016; In: Proceedings of the 24th Annual Meeting of ISMRM, Singapore. p 1198.
 39. Lyu M, Xie VB, Peng PG, **Hui ES**, Wu EX. Simultaneous Spin Echo and Gradient Echo Imaging with Controlled Aliasing and Parallel Imaging Reconstruction. 2016; In: Proceedings of the 24th Annual Meeting of ISMRM, Singapore. p 6743.

40. Li DTH, **Hui ES**, Chan Q, McAlonan G, Ho SL, Mak HKF. Quantitative Susceptibility Mapping for the Evaluation of Subcortical Iron Abnormality in Parkinson's Disease with Dementia. 2016; In: Proceedings of the 24th Annual Meeting of ISMRM, Singapore. p 165.
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45. Xu X, Mak HKF, Lau GKK, Lam PL, **Hui ES**. Impact of the Topology of Brain Microbleeds on the Structural Brain Network. 2017; In: Proceedings of the 25th Annual Meeting of ISMRM, Honolulu, Hawaii, USA. p 2427.
46. Chang HC, **Hui ES**, Liu X, Chen NK. 3D Multi-Band Interleaved DW-EPI with 3D Phase Correction. 2017; In: Proceedings of the 25th Annual Meeting of ISMRM, Honolulu, Hawaii, USA. p 524.
47. Chang HC, **Hui ES**, Liu X, Chiu PW, Chen NK. Three-Dimensional Multiplexed Sensitivity Encoding and Reconstruction (3D-MUSER): 3D Phase Correction for 3D Multi-Shot DWI. 2017; In: Proceedings of the 25th Annual Meeting of ISMRM, Honolulu, Hawaii, USA. p 1094.
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51. Xu Z, Lyu M, **Hui ES**, Mei Y, Chen Z, Chen W, Wu EX, Feng Y. Motion Correction for Magnetic Resonance Fingerprinting by Using Sliding-Window Reconstruction and Image Registration. 2017; In: Proceedings of the 25th Annual Meeting of ISMRM, Honolulu, Hawaii, USA. p 1273.
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53. Xu X, Kwan SKJ, Mak HKF, Wong A, Mok CTV, **Hui ES**. Altered white matter structural brain network in patients with subjective cognitive decline and mild cognitive impairment. 2017; In: Proceedings of the 34th Annual Scientific Meeting of ESMRMB, Barcelona, Spain.
54. Cui D, Chang HCC, Guo H, **Hui ES**. Improved Temporal Data Sharing Simultaneous Multislice MRF using SSFP and low pass filter. 2017; In: Proceedings of the 34th Annual Scientific Meeting of ESMRMB, Barcelona, Spain.
55. Xu X, Lau GKK, Li L, Wong YK, Yau C, Mak HKF, Chan Q, **Hui ES**. Prognostication of stroke recovery using structural connectivity. 2018; In: Proceedings of the 25th Annual Meeting of ISMRM, Paris, France. p 4821.
56. Xu X, Lau GKK, Li L, Wong YK, Yau C, Mak HKF, Chan Q, **Hui ES**. The effect of small vessel disease lesions on structural brain network. 2018; In: Proceedings of the 25th Annual Meeting of ISMRM, Paris, France. p 1907.
57. Cui D, Chang HC, Chan Q, Liu X, **Hui ES**. Multiband Multi-slab Magnetic Resonance Fingerprinting Using Overlapping Slabs and Temporal-Sharing Reconstruction. 2018; In: Proceedings of the 25th Annual Meeting of ISMRM, Paris, France. p 4263.
58. Liao Y, Zhang Q, Cui D, **Hui ES**, Chen H. Accelerated Magnetic Resonance Fingerprinting Using Convolutional Neural Network. 2018; In: Proceedings of the 25th Annual Meeting of ISMRM, Paris, France. p 4269.
59. Cui D, Liu X, Chang HC, Chan Q, **Hui ES**. Accelerated Multi-band Magnetic Resonance Fingerprinting Using Spiral in-out with additional kz Encoding and Modified Sliding Window Reconstruction. 2019; In: Proceedings of the 26th Annual Meeting of ISMRM, Montreal, Canada. p 4557.

60. Chen S, Xu X, Lau KK, Li LSW, Wong YK, Yau C, Mak HKF, Chan Q, Chang HC, **Hui ES**. The association between functional brain network and functional outcome after acute ischemic stroke. 2019; In: Proceedings of the 26th Annual Meeting of ISMRM, Montreal, Canada. p 3895.
61. **Hui ES**, Cui D, Li T, Cai J. Motion Tracking using Continuous Magnetic Resonance Fingerprinting. 2020; In: Proceedings of the 27th Annual Meeting of ISMRM, Paris, France. p 3341.
62. Wang L, Lau KK, Li LSW, Wong YK, Yau C, Mak HKF, Chan Q, Chang HC, **Hui ES**. Rich-Club Organizational Changes Over the Course of Motor Recovery after First-Time Acute Stroke. 2020; In: Proceedings of the 27th Annual Meeting of ISMRM, Paris, France. p 3026.
63. Cui D, Cai P, **Hui ES**. Accelerated 3D Magnetic Resonance Fingerprinting Using Alternating Direction Method of Multipliers. 2020; In: Proceedings of the 27th Annual Meeting of ISMRM, Paris, France. p 7224.

Invited Talks

- **Research Imaging Institute, University of Texas Health Science Center** **San Antonio, USA**
Characterization of neural tissues using MR diffusion imaging techniques: potentials and pitfalls *August 2010*
- **Center for Biomedical Imaging, Medical University of South Carolina** **Charleston, USA**
Mapping microstructural alterations in ischemic tissues using diffusional kurtosis imaging *July 2011*
- **Department of Neurology, University of North Carolina at Chapel Hill** **Chapel Hill, USA**
Departure from "normal" diffusion *March 2012*
- **Department of Radiology, Medical University of South Carolina** **Charleston, USA**
Assessment of white matter microstructural changes in stroke with diffusional kurtosis imaging *May 2012*
- **Center for Biomedical Imaging, Medical University of South Carolina** **Charleston, USA**
Simultaneous multislice acquisition *June 2013*
- **Department of Diagnostic Radiology, The University of Hong Kong** **Pokfulam, HK**
Diffusional kurtosis imaging in a nutshell *July 2013*
- **Advanced MRI Meeting on Neuroradiology, The University of Hong Kong** **Pokfulam, HK**
Structural brain connectivity *May 2016*
- **Frontiers of MRI - Physics and Applications, The University of Hong Kong** **Pokfulam, HK**
Unconventionally fast magnetic resonance imaging *May 2016*
- **Mini-Symposium on MRI in Radiation Therapy** **Hung Hom, HK**
Magnetic resonance fingerprinting - a potential multicontrast technique for tumor differentiation? *January 2018*
- **Headquarter, United Imaging** **Shanghai, China**
Personal journey in magnetic resonance imaging *October 2019*

Core Skills

Pulse sequence programming: Philips Paradise Release 5, Siemens IDEA VB17, Bruker Paravision 5.1
MRI scanner experience: TIM Trio 3T, Achieva 3T, Signa 3T, Biospec and PharmaScan 7T
Programming languages: C/C++, L^AT_EX, MATLAB, Python