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ACADEMIC QUALIFICATION

2005 Ph.D. The University of Hong Kong (Chemistry)
2005 PgCert. HKU School of Professional and Continuing Education (TCM)
2001 B.Sc. The University of Hong Kong (First Class Honors, Chemistry)

ACADEMIC POSITION

2019-present Associate Professor, Dept of Biomedical Engineering, CityU;
Adjunct Assistant Professor, Dept of Radiology, Johns Hopkins Medicine
2016-present Assistant Professor, Dept of Biomedical Engineering, CityU;
Adjunct Assistant Professor, Dept of Radiology, Johns Hopkins Medicine
2014-2016 Assistant Professor, Dept of Radiology, Johns Hopkins Medicine
2013-2014 Instructor, Dept of Radiology, Johns Hopkins Medicine
2010-2013 Post-doctoral Fellow, Dept of Radiology, Johns Hopkins Medicine
2006-2009 Post-doctoral Fellow, Department of Chemistry, HKU

RESEARCH INTERESTS

- Molecular MRI, Chemical Exchange Saturation Transfer (CEST) MRI
- Neuroimaging, brain tumor imaging, imaging neurodegenerative diseases
- Biomaterials, nanosensors and hydrogels

SELECTED PUBLICATIONS (out of 54)

1. J. Huang, L. Chen, X. Xu, P. C. M. van Zijl, J. Xu, **K. W. Y. Chan***. Relayed nuclear overhauser enhancement imaging with suppressed magnetization transfer for hydrogel-based therapy in the brain at 3 T MRI. *Magn. Reson. Med. 2020 In Press* 10.1002/mrm.28433
2. J. Huang, P. C. M. van Zijl, X. Han, C. M. Dong, G. W. Y. Cheng, K. H. Tse, L. Knutsson, L. Chen, J. H. C. Lai, E. X. Wu, J. Xu*, **K. W. Y. Chan***. Altered D-glucose in brain parenchyma and cerebrospinal fluid of early Alzheimer's disease detected by dynamic glucose enhanced MRI. 2020 *Science Advances In Press*
3. X. Han, J. H. A. K.W. To, J. H.C. Lai, P. Xiao, E. X. Wu, J. Xu, **K. W. Y. Chan***. CEST MRI detectable liposomal hydrogels for multiparametric monitoring in the brain at 3T. *Theranostics* 2020:10:2215-2228.
4. L. Chen, M. Schar, **K. W. Y. Chan**, J. Huang, Z. Wei, H. Lu, Q. Qin, R. G. Weiss, P. C. M. van Zijl, J. Xu. In vivo imaging of phosphocreatine with artificial neural networks. *Nature Communications* 2020:11:1071.
5. A. Thakur, G. Qiu, X. Han, **K. W. Y. Chan**, L. C. Wu, Y. Lee. Label-free sensing of exosomal MCT1 and CD147 for tracking metabolic reprogramming and malignant progression in glioma. *Science Advances In Press*
6. L. Chen, Z. Wei, **K. W. Y. Chan,** Y. Li, K. Suchal, S. Bi, J. Huang, X. Xu, P. C. Wong, H. Lu, P. C. M. van Zijl, T. Li, J. Xu. D-gluocse uptake and clearance in the tauopathy Alzheimer's disease mouse brain detected by on-resonance variable delay multiple pulse. *J. Cereb. Blood Flow Metab.* 2020 doi:https://doi.org/10.1177/0271678X20941264.
7. X. Xu, J. Xu, L. Knutsson, J. Liu, H. Liu, Y. Li, B. Lal, J. Laterra, D. Artemov, G. Liu, P. C. M. van Zijl*, **K. W. Y. Chan***. The effect of the mTOR inhibitor rapamycin on glucoCEST signal in a preclinical model of glioblastoma. *Magn. Reson. Med.* 2019:81:3798-3807.
8. L. Chen, Z. Wei, **K. W.Y. Chan**, S. Cai, G. Liu, H. Lu, P. Wong, P. C. M. van Zijl, T. Li, J. Xu. Protein aggregation in Alzheimer's Disease revealed by saturation transfer MRI. *NeuroImage* 2018:188:380-390.
9. X. Xu, J. Xu, **K. W. Y. Chan**, J. Liu, H. Liu, Y. Li, G. Liu, P. C. M. van Zijl. GlucoCEST imaging with on-resonance variable delay multiple pulse (onVDMP) MRI. *Magn. Reson. Med.* 2019:81:47-56.

10. L. Chen, X. Xu, H. Zeng, **K. W. Y. Chan**, N. Yadav, et al. Separating fast and slow exchange transfer and magnetization transfer using off-resonance variable-delay multiple-pulse (VDMP) MRI. *Magn. Reson. Med*. 2018:80:1568-1576.
11. J. Xu, **K. W. Y. Chan***, X. Xu, N. Yadav, G. Liu, P. C. M. van Zijl. (*, authors contributed equally) On-resonance variable delay multipulse scheme for imaging of fast-exchanging protons and semisolid macromolecules. *Magn. Reson. Med.*2017:77:730-739
12. **K. W. Y. Chan**, L. Jiang, M. Cheng, J. P. Wijnen, G. Liu, et al. CEST-MRI detects metabolite levels for monitoring breast cancer cell aggressiveness and chemotherapy response. *NMR Biomed.*2016:29:806-816.
13. T. Yu*, **K. W. Y. Chan***, A. Anonuevo, X. Song, B. S. Schuster, et al. (*, authors contributed equally) Liposomal mucus-penetrating particles(MPP) for efficient mucosal delivery and intravaginal diamagnetic chemical exchange saturation transfer(diaCEST) magnetic resonance imaging. *Nanomedicine:Nanotechnology, Biology and Medicine* 2015:11:401-405.
14. X. Xu*, **K. W. Y. Chan***, L. Knutsson, D. Artemov, J. Xu, et al. (*, authors contributed equally) Dynamic glucose enhanced(DGE) MRI for combined imaging of blood-brain barrier break down and increased blood volume in brain cancer. *Magn. Reson. Med.*2015:74:1556-1563.
15. **K. W. Y. Chan**, T. Yu, Y. Qiao, Q. Liu, M. Yang, et al. A diaCEST MRI approach for monitoring liposomal accumulation in tumors. *J Control. Release*2014:180:51-59.
16. **K. W. Y. Chan**, J. W. M. Bulte, M. T. McMahon. Diamagnetic chemical exchange saturation transfer(diaCEST) liposomes: physicochemical properties and imaging applications. *WIREs Nanomed. Nanobiotech.*2014:6:111-124.
17. **K. W. Y. Chan**, G. Liu, P. C. M. van Zijl, J. W. M. Bulte, M. T. McMahon. Magnetization transfer contrast MRI for non-invasive assessment of innate and adaptive immune responses against alginate-encapsulated cells. *Biomaterials* 2014:53:7811-7818.
18. **K. W. Y. Chan**, G. Liu, X. Song, H. Kim, T. Yu, et al. MRI-detectable pH nanosensors incorporated into hydrogels for *in vivo* sensing of transplanted cell viability. *Nat. Mater.*2013:12:268-275. (***Cover Article*** *highlighted in News & Views in Nat. Mater.; Editor's choice in Sci. Trans Med; Scientist*)
19. **K. W. Y. Chan**, M. T. McMahon, Y. Kato, G. Liu, J. W. M. Bulte, et al. Natural D-glucose as a biodegradable MRI contrast agent for detecting cancer. *Magn. Reson. Med.*2012:68:1764-1773.
20. G. Liu, M. Moake M, Y-e Har-el, C. M. Long, **K. W. Y. Chan**, et al. *In vivo* multicolor molecular MR imaging using diamagnetic chemical exchange saturation transfer liposomes. *Magn. Reson. Med.*2012:67:1106-1113.
21. G. Liu, **K. W. Y. Chan**, X. Song, J. Zhang, A. A. Gilad, et al. NOrmalized MAgnetization Ratio(NOMAR) Filtering for Creation of Tissue Selective Contrast Maps. *Magn. Reson. Med.*2013:69:516-523.

SELECTED PATENTS (out of 6)

1. D-glucose and its analogs as tracers to assess the glucose transporter function in blood-cerebrospinal fluid barrier and the functioning of the brain lymphatic system. Invention disclosure filed with City University of Hong Kong & Johns Hopkins University 2019 (JHU Ref: C16142).Use of non-metallic CEST agents for MRI monitoring of nanoparticle delivery.(PCT/US2013/036904; US Patent, Pub. No.: US2015/0133768; WO2103158719 A1)
2. Lipid-based drug carriers for rapid penetration through mucus linings.(PCT/US2013/039731; US Patent, Pub. No.:US2015/0086484; EP2849728A1, WO2013166498A1; CA2872519 A1)
3. Use of non-labeled glucose infusion and detection by MRI for assessing perfusion and metabolism. *US Patent*(PCT/US2011/1064868).

AWARDS & HONORS

2015	1000 Talents Scheme, PRC.
2014	Highly-cited paper by Web of Science: *Nat. Mater.* 2013:12:268-275
2013	Summa cum laude award, ISMRM
2013	Two Magna cum laude awards, ISMRM
2012	First Place, The 3rd International workshop on CEST imaging
2010	First Place in Molecular Imaging, ISMRM
2010-2013	Fellowship, Department of Radiology, JHMI