Kenneth Wengler, PhD

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EDUCATION

PhD in Biomedical Engineering, Stony Brook University, Stony Brook, New York — December 2018
Advisor: Xiang He, PhD
Dissertation: *Novel Techniques and Applications of Diffusion-Based Magnetic Resonance Imaging in Brain and Tendon: Exchange, Microcirculation, and Microstructure*

MS in Medical Physics, Stony Brook University, Stony Brook, New York — May 2016
CAMPEP Accredited

BS in Physics, St. John's University, Queens, New York — May 2014
Minor: Mathematics
Magna cum Laude

POSITIONS

Postdoctoral Research Fellow
Columbia University, New York State Psychiatric Institute, New York, New York — January 2019 – Present
Advisor: Guillermo Horga, MD, PhD

Research Assistant — January 2017 – December 2018
Stony Brook University, Stony Brook, New York
Advisor: Anissa Abi-Dargham, MD

Research Assistant — May 2013 – September 2014
Memorial Sloan-Kettering Cancer Center, New York, NY
Advisors: Neelam Tyagi, PhD and Margie Hunt, MS

AWARDS & HONORS

Psychiatric MR Spectroscopy & Imaging Study Group Trainee Award — 2018
Finished 3rd place out of all trainee abstracts at the International Society of Magnetic Resonance in Medicine Annual Meeting for abstract titled: "Baseline GABA Concentration Predicts Treatment Response to Selective Serotonin Reuptake Inhibitors in Major Depressive Disorder"

MR Spectroscopy Study Group Trainee Award — 2018
Finished 3rd place out of all trainee abstracts at the International Society of Magnetic Resonance in Medicine Annual Meeting for abstract titled: "Baseline GABA Concentration Predicts Treatment Response to Selective Serotonin Reuptake Inhibitors in Major Depressive Disorder"

Trainee Travel Award — 2016, 2017, & 2018
International Society of Magnetic Resonance in Medicine Annual Meeting

Student Travel Stipend Award — 2018
Radiological Society of North America Annual Meeting

St. John's College Dr. Robert Finkle Award — 2014
Awarded to one graduating physics major who demonstrated commitment and excellence in research while at St. John's University

St. John's University Scholastic Excellence Scholarship 2010 – 2014

St. John's University Grant 2010 – 2014

St. John's Deans Fellowship 2014

Phi Sigma
National biological sciences honor society 2013

St. John's College Physics Department Silver Key 2013
Awarded to the highest achieving physics major in their third year

Omicron Delta Kappa: 2013
National leadership honor society

Sigma Pi Sigma 2012
National physics honor society

PROFESSIONAL MEMBERSHIPS

International Society of Magnetic Resonance in Medicine 2014 – Present
Radiological Society of North America 2014 – Present
American Association of Physicists in Medicine 2013 – Present

PUBLICATIONS

K. Wengler, L. Bangiyev, T. Canli, T.Q. Duong, M.E. Schweitzer, and X. He. "3D MRI of Whole-Brain Water Permeability with Intrinsic Diffusivity Encoding of Arterial Labeled Spin (IDEALS)." *NeuroImage* (2019), 189: 401–414.

T. Fukuda, **K. Wengler**, R. de Carvalho, P. Boonsri, and M.E. Schweitzer. "MRI biomarkers in osseous tumors." *Journal of Magnetic Resonance Imaging* (2019), doi:10.1002/jmri.26672

K. Wengler, J. Wang, M. Serrano Sosa, S. Gumus, A. C. Huang, K.T. Bae, X. He. "Mapping Hepatic Blood Oxygenation by quantitative BOLD (qBOLD)." *Magnetic Resonance in Medicine* (2019), doi:10.1002/mrm.27642.

K. Wengler, T. Fukuda, D. Tank, M. Huang, E. Gould, M.E. Schweitzer, and X. He. "Intravoxel Incoherent Motion (IVIM) Imaging in Human Achilles Tendon." *Journal of Magnetic Resonance Imaging* (2018), 48: 1690-1699.

K. Wengler, D. Tank, T. Fukuda, J. Paci, M. Huang, M.E. Schweitzer, and X. He. "Diffusion Tensor Imaging of Human Achilles Tendon by Stimulated Echo Readout-Segmented EPI (ste-RS-EPI)." *Magnetic Resonance in Medicine* (2018), 80: 2464–2474.

X. He, **K. Wengler**, and M.E. Schweitzer. "Diffusion sensitivity of 3D-GRASE in arterial spin labeling." *Magnetic Resonance in Medicine* (2018), 80: 736-747.

N. Tyagi, N. Riaz, V. Hatzoglou, R. Young, **K. Wengler**, J. Mechalakos, M. Hunt, and N. Lee. "Weekly response assessment of involved lymph nodes to radiotherapy using diffusion-weighted MRI in oropharynx squamous cell carcinoma." *Medical Physics* (2016), 43.1: 137-147.

ABSTRACTS

K. Wengler, K. Chen, T. Canli, C. DeLorenzo, M.E. Schweitzer, and X. He. "Abnormal Blood-Brain Barrier Water Permeability in Major Depressive Disorder". *In Proceedings of the 27th Annual Meeting of ISMRM* (2019), Montreal.

K. Wengler, K. Chen, M.E. Schweitzer, and X. He. "Increased Blood-Brain Barrier Water Permeability in the Visual Cortex in Response to Visual Stimulation". *In Proceedings of the 27th Annual Meeting of ISMRM* (2019), Montreal.

K. Wengler, K. Chen, M.E. Schweitzer, and X. He. "Effect of Caffeine on Blood-Brain Barrier Water Permeability Measured with Intrinsic Diffusivity Encoding of Arterial Labeled Spins (IDEALS)". *In Proceedings of the 27th Annual Meeting of ISMRM* (2019), Montreal.

K. Wengler, K. Chen, T. Canli, C. DeLorenzo, M.E. Schweitzer, and X. He. "Abnormal Blood-Brain Barrier Water Permeability in Major Depressive Disorder". *In Proceedings of the 27th Annual Meeting of ISMRM* (2019), Montreal.

K. Wengler, T. Fukuda, D. Tank, D.E. Komatsu, M. Paulus, E. Gould, M. Huang, M.E. Schweitzer, and X. He. "In Vivo Diffusion MRI Evaluation of Human Patellar Tendon Microstructure and Microcirculation". *In Proceedings of the 27th Annual Meeting of ISMRM* (2019), Montreal.

X, He, **K, Wengler**, M. Amin, K. Spuhler, and C. Huang. "Changes to Blood-Brain Barrier Water Permeability After CPAP Treatment in Patients with Obstructive Sleep Apnea". *In Proceedings of the 27th Annual Meeting of ISMRM* (2019), Montreal.

K. Wengler, T.Q. Duong, M.E. Schweitzer, and X. He. "Intrinsic Diffusivity Encoding of Arterial Labeled Spins (IDEALS) for Whole Brain Water Permeability Mapping with MRI." *RSNA 2018 Scientific Assembly and Annual Meeting*, (2018), Chicago.

K. Wengler, T. Fukuda, D. Tank, M. Huang, D.E. Komatsu, E. Gould, M.E. Schweitzer, and X. He. "Diffusion MRI of Human Patellar Tendon: Initial Experience." *RSNA 2018 Scientific Assembly and Annual Meeting*, (2018), Chicago.

K. Wengler, D. Ouellette, T. Wang, P. Stefancin, P. Sibony, T.Q. Duong, and X. He. "Diffusion Tensor Imaging of Human Optic Nerve Observes Gaze Evoked Changes." *RSNA 2018 Scientific Assembly and Annual Meeting*, (2018), Chicago.

S. Tirumalai Govindarajan, T. Wang, M.A. Parra, **K. Wengler**, C. Huang, X. He, L. Charvet, L. Krupp, and T.Q. Duong. "Brain Structural Damage and Atrophy Correlates of Impaired Processing Speed in Pediatric Onset Multiple Sclerosis." *RSNA 2018 Scientific Assembly and Annual Meeting*, (2018), Chicago.

P. Vaska, M. Salerno, **K. Wengler**, D. Ouellette, S. Wei, B. Cruickshank, D. Franeschi, L. Bangiyev, J. Oseni, E. Thomas, S. Yang, M.E. Schweitzer, K. Dams-O'Connor, J. Pacim and X. He. "Elucidating Mechanisms of Acute Sports Concussion with PET/MRI." *RSNA 2018 Scientific Assembly and Annual Meeting*, (2018), Chicago.

K. Wengler, J. Ha, P. Coyle, M.E. Schweitzer, T. Q. Duong, and X.He. "Blood-Brain Barrier Water Permeability in Non-Enhancing Multiple Sclerosis Lesion with Intrinsic Diffusivity Encoding of Arterial Labeled Spins (IDEALS)." *In Proceedings of the 26th Annual Meeting of ISMRM* (2018), Paris.

K. Wengler, D. Tank, M. Huang, E. Gould, M.E. Schweitzer, and X. He. "Intravoxel Incoherent Motion (IVIM) Imaging in Human Achilles Tendon." *In Proceedings of the 26th Annual Meeting of ISMRM* (2018), Paris.

K. Wengler, J. Tam, S. Weissbart, and X. He. "Bladder Filling Induced Changes to Cerebral Blood Flow and BOLD Response." *In Proceedings of the 26th Annual Meeting of ISMRM* (2018), Paris.

K. Wengler, T. Wang, P. Stefancin, P. Sibony, T. Q. Duong, and X. He. "Gaze Evoked Changes in Diffusion Characteristics of Human Optic Nerve." *In Proceedings of the 26th Annual Meeting of ISMRM* (2018), Paris.

X. He, **K. Wengler**, T. Q. Duong, and M.E. Schweitzer. "3D MRI Mapping of Whole-Brain Water Permeability with Intrinsic Diffusivity Encoding of Arterial Labeled Spins (IDEALS)." *In Proceedings of the 26th Annual Meeting of ISMRM* (2018), Paris.

X. He, **K. Wengler**, G. Perlman, E. Bartlett, and C. DeLorenzo. "Baseline GABA Concentration Predicts Treatment Response to Selective Serotonin Reuptake Inhibitors in Major Depressive Disorder." *In Proceedings of the 26th Annual Meeting of ISMRM* (2018), Paris.

X. He, **K. Wengler**, E. Bartlett, L. Charvet, T. Q. Duong, C. DeLorenzo, and L. Krupp. "Mismatch Between Cerebral Glucose and Oxygen Metabolisms in Young Adults with Relapsing-Remitting Multiple Sclerosis." *In Proceedings of the 26th Annual Meeting of ISMRM* (2018), Paris.

X. He, **K. Wengler**, A. LaBella, T. Wang, P. Stefancin, and T. Q. Duong. "3D MRI of Blood Flow of Human Retina." *In Proceedings of the 26th Annual Meeting of ISMRM* (2018), Paris.

A. LaBella, **K. Wengler**, J. Tam, S. Weissbart, T. Q. Duong, and X. He. "Resting-State Fractional ALFF and Seed-Based Analysis as a Function of Bladder Discomfort." *In Proceedings of the 26th Annual Meeting of ISMRM* (2018), Paris.

K. Spuhler, L. Kunkel, A. Yacoub, **K. Wengler**, X. He, and C. Huang. "A pilot study of cerebral blood flow changes in patients undergoing electroconvulsive therapy." *In Proceedings of the 26th Annual Meeting of ISMRM* (2018), Paris.

S.T. Govindarajan, M.A. Parra, T. Wang, **K. Wengler**, C. Huang, X. He, L. Charvet, L. Krupp, and T. Q. Duong. "Diffusivity and the neurocognitive domains of premorbid intelligence and visuospatial memory in Pediatric Multiple Sclerosis." *In Proceedings of the 26th Annual Meeting of ISMRM* (2018), Paris.

T. Wang, S.T. Govindarajan, M.A. Parra, P. Stefancin, A. Labella, **K. Wengler**, C. Huang, X. He, L. Charvet, L. Krupp, and T. Q. Duong. "DTI Analysis in FLAIR-positive Lesions and Normal-Appearing White Matter in Young Adult Multiple Sclerosis Patients." *In Proceedings of the 26th Annual Meeting of ISMRM* (2018), Paris.

M. J. Salerno, **K. Wengler**, D. Ouellette, S. Wei, B. Cruickshank, D. Komatsu, D. Francheschi, L. Bangiyev, J. Oseni, E. Thomas, M. Schweitzer, K. Dams-O'Connor, X. He, J. Paci, P. Vaska. "PET/MRI brain imaging in the acute phase of sports concussion." *SNMMI 2018 Annual Meeting*, (2018), Philadelphia.

J. Tam, **K. Wengler**, J. Kim, W. Waltzer, X. He, S. Weissbart, "Quantification of Cerebral Blood Flow During Bladder Filling in Healthy Subjects." *The Journal of Urology (2018) 199.4: e111.*

X. He, **K. Wengler**, D. Tank, E. Gould, M.E. Schweitzer, M. Huang. "Intravoxel Incoherent Motion (IVIM) Imaging of Exercised Induced Hemodynamics Response in Achilles Tendon." *RSNA 2017 Scientific Assembly and Annual Meeting*, (2017), Chicago.

A. LaBella, **K. Wengler**, X. He, L. Krupp, L. Charvet, P. Coyle, and T. Q. Duong. "Resting State Functional Connectivity of the Language Network in Young Adults with Multiple Sclerosis." *RSNA 2017 Scientific Assembly and Annual Meeting*, (2017), Chicago.

T. Wang, C. Huang, **K. Wengler**, J. Ding, D. Ouellette, C. Carcamo, X. He, L. Krupp, L. Charvet, C. DeLorenzo, P. Coyle, A. LaBella, and T. Q. Duong. "Axial, Radial and Mean Diffusivity in FLAIR-Positive Lesions and Normal-Appearing White Matter in Young Adult Multiple Sclerosis Patients." *RSNA 2017 Scientific Assembly and Annual Meeting*, (2017), Chicago.

K. Wengler and X. He. "A Deconvolution Method for Improved CBF Quantification in 3D-GRASE ASL." *In Proceedings of the 25th Annual Meeting of ISMRM* (2017), Honolulu.

K. Wengler, A. He, H.C. Leung, X. He, C. Huang. "The Role of Microvascular Blood Motion in fMRI." *In Proceedings of the 25th Annual Meeting of ISMRM* (2017), Honolulu.

K. Wengler, C.H. Lin, M. Hunag, E. Gould, M.E. Schweitzer, and X. He. "Mapping of Intramyocellular Lipid Content in Foot Muscle." *In Proceedings of the 25th Annual Meeting of ISMRM* (2017), Honolulu.

K Wengler, L. Bangiyev, R. Matthews, D. Franceschi, and M. Barish. "Quantification of DWI Using ADC Maps in Comparison to SUV in Lymph Node Metastases Using PET-MRI." *ARRS Annual Meeting*, (2017), New Orleans.

X. He, **K. Wengler**, C.H. Lin, D. Tank, M.A. Oriundo-Verastegui, A.C. Sacher, K. Baker, M. Huang, E. Gould, and M.E. Schweitzer. "Achilles Tendon Diffusion Tensor Imaging and Tendon Fiber Tracking by Stimulated Echo Resolve (ste-RESOLVE)." *RSNA 2016 Scientific Assembly and Annual Meeting*, (2016), Chicago.

X. He, **K. Wengler**, K. Baker, C.H. Lin, M. Huang, E. Gould, ME. Schweitzer. "MRI Biomarkers of Muscle Hypoxia in Diabetic Foot Ulcers." *RSNA 2016 Scientific Assembly and Annual Meeting* (2016), Chicago.

K. Wengler, M. Huang, E. Gould, M.E. Schweitzer, S. Korbin, J. Paci, and X. He. "Measurement of Fast T2* of the ACL Using 3D UTE Imaging." *In Proceedings of the 24th Annual Meeting of ISMRM* (2016), Singapore.

X. He, **K. Wengler**, A. Narayanan, C. Huang, C. DeLorenzo, R. Parsey, M.E. Schweitzer, and A. Goldfine. "Mapping Cerebral Oxidative Metabolism of Oxygen in Patients with Post-Stroke Apathy." *In Proceedings of the 24th Annual Meeting of ISMRM* (2016), Singapore.

X. He, **K. Wengler**, A.C. Sacher, M.A. Oriundo-Verastegui, A. Simeone, M. Huang, E. Gould, and M.E. Schweitzer. "Diffusion Tensor Imaging of Human Achilles Tendon by Stimulated Echo RESOLVE (ste-RESOLVE)." *In Proceedings of the 24th Annual Meeting of ISMRM* (2016), Singapore.

X. He, **K. Wengler,** T. Le, H.C. Leung, P. Ramin, and M.E. Schweitzer. Diffusion Sensitivity of ASL Perfusion with 3D-GRASE Readout. *In Proceedings of the 23th Annual Meeting of ISMRM* (2015), Toronto.

N. Tyagi, N. Riaz, V. Hatzoglou, R. Young, **K. Wengler**, J. Mechalakos, A. Dave, M. Hunt, and N, Lee. Weekly Response Assessment of Involved Lymph Nodes to Radiotherapy Using Diffusion Weighted MRI in Oropharynx Head and Neck Squamous Cell Carcinoma. *The 3rd Magnetic Resonance in Radiotherapy Symposium* (2015), Ann Arbor.

K. Wengler and N. Tyagi. Separating Perfusion and Diffusion Parameters from Diffusion Weighted MRI in Rectal Carcinoma. *Radiological and Medical Physics Society of New York Young Investigator Symposium* (2014), New York.

N. Tyagi, **K. Wengler**, M. Hunt, E. Yorke, J. Deasy and A. Rimne. Diffusion Weighted MRI for Response Assessment of Inoperable Lung Tumors for Patients Undergoing SBRT. *In Proceedings of the 56th Annual Meeting of AAPM* (2014), Austin.

N. Tyagi, **K. Wengler**, Y. Mazaheri, M. Hunt, J. Deasy and M. Gollub. Separating Perfusion and Diffusion Components from Diffusion Weighted MRI Based on Intravoxel Incoherent Motion Analysis. *In Proceedings of the 56th Annual Meeting of AAPM* (2014), Austin.

N. Tyagi and **K. Wengler**. Patient Induced Susceptibility Distortion in Head and Neck Anatomical and Diffusion Weighted MRI for Treatment Planning Applications. *The 2nd Magnetic Resonance in Radiotherapy Symposium* (2014), St. Louis.

M. Hunt, N. Tyagi, M. Tam, P. Zhang, **K. Wengler**, Y-C Hu, S. Rao and N. Lee. Dosemetric and Anatomical Evaluation of Normal Tissue Change During IMRT Radiotherapy for Head and Neck Cancer. *In Proceedings of the 55th Annual Meeting of AAPM* (2013), Indianapolis.