Stanford

Jennifer A McNab

Associate Professor (Research) of Radiology (Radiological Sciences Laboratory)

CONTACT INFORMATION

- **Alternate Contact**

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Bio

BIO

Dr. McNab is an MRI Physicist focused on the development of magnetic resonance imaging (MRI) contrast mechanisms and acquisition strategies that yield new and/or improved images of the in vivo human brain. Over the past decade, she has developed numerous MRI acquisition methods, with her primary contributions being in the field of diffusion MRI. Dr. McNab has extensive experience with the most cutting-edge MRI technology, including the world's strongest human-MRI gradients (300 mT/m), highly-parallelized phased-array RF coils (64-channels) and ultra-high magnetic field (7T).

ACADEMIC APPOINTMENTS

- Associate Professor (Research), Radiology
- Member, Bio-X
- Member, Wu Tsai Human Performance Alliance
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Director of Industry Collaborations, Department of Radiology, Stanford University, (2020- present)
- Co-Director of the Vizualization Laboratory, Wu Tsai Neurosciences Institute at Stanford University, (2020- present)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Ex Officio, Executive Committee Member, The AIMI Center at Stanford (2021 - present)
- Oversight Committee Member, Pre-Clinical MRI Lab at the Wu Tsai Neuroscience Institute at Stanford (2019 - present)
- Annual Meeting Program Committee Member, International Society for Magnetic Resonance in Medicine (2015 - 2017)
- Chair of the Diffusion Study Group, International Society for Magnetic Resonance in Medicine (2018 - 2019)

PROFESSIONAL EDUCATION

- Post-doc, Harvard Medical School, Massachusetts General Hospital , Radiology (2012)
- PhD, University of Oxford , MRI Physics (2009)

- MSc, University of Western Ontario , Medical Biophysics (2005)
- BSc, University of British Columbia , Physics (2003)

LINKS

- Group Website: http://med.stanford.edu/mcnablab/
- NIH Grant Support as PI: https://projectreporter.nih.gov/Reporter_Viewsh.cfm?sl=14EACE034B8AC0D57598B8961CAA4A01A2FFCEB861BF
- PubMed Profile: http://bit.ly/3uIdioz
- NIH MyBibliography Profile: https://www.ncbi.nlm.nih.gov/myncbi/jennifer.mcnab.1/bibliography/public/
- Google Scholar Profile: https://scholar.google.com/citations?user=bPfJ2zoAAAAJ&hl=en
- twitter profile: https://twitter.com/jennifer_mcnab

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My research is focused on developing magnetic resonance imaging (MRI) methods that probe brain tissue microstructure. This requires new MRI contrast mechanisms, strategic encoding and reconstruction schemes, physiological monitoring, brain tissue modeling and validation. Applications of these methods include neuronavigation, neurosurgical planning and the development of improved biomarkers for brain development, degeneration, disease and injury.

Active projects include:

- development of q-space trajectory imaging methods for probing tissue microstructure

- development of diffusion MRI methods for mapping cortical fiber patterns

- comparisons of MRI with CLARITY 3D histology

- development of a mixed-reality neuronavigation system for TMS

- leveraging 7T MRI for predicting healthy versus pathological aging

- developing diffusion tractography-based neurosurgical targeting methods

Teaching

STANFORD ADVISEES

Orals Chair

Jean-Raymond Betterton

Postdoctoral Faculty Sponsor

Erpeng Dai, Anjali Datta

Doctoral Dissertation Advisor (AC)

Gustavo Chau Loo Kung

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Bioengineering (Phd Program)
- Neuropathology (Fellowship Program)
- Neuroradiology (Fellowship Program)
- Neurosciences (Phd Program)

Publications

PUBLICATIONS

- **Distortion-Free Diffusion Imaging Using Self-Navigated Cartesian Echo-Planar Time Resolved Acquisition and Joint Magnitude and Phase Constrained Reconstruction** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Dai, E., Lee, P. K., Dong, Z., Fu, F., Setsompop, K., McNab, J. A.
  2022; 41 (1): 63-74

- **Comparison of diffusion MRI and CLARITY fiber orientation estimates in both gray and white matter regions of human and primate brain.** *NeuroImage*
  Leuze, C., Goubran, M., Barakovic, M., Aswendt, M., Tian, Q., Hsueh, B., Crow, A., Weber, E. M., Steinberg, G. K., Zeineh, M., Plowey, E. D., Daducci, A., Innocenti, et al
  2020; 228: 117692

- **Double diffusion encoding MRI for the clinic** *MAGNETIC RESONANCE IN MEDICINE*
  Yang, G., Tian, Q., Leuze, C., Wintermark, M., McNab, J. A.
  2018; 80 (2): 507–20

- **Eddy current nulled constrained optimization of isotropic diffusion encoding gradient waveforms.** *Magnetic resonance in medicine*
  Yang, G. n., McNab, J. A.
  2018

- **The separate effects of lipids and proteins on brain MRI contrast revealed through tissue clearing.** *NeuroImage*
  Leuze, C., Aswendt, M., Ferenczi, E., Liu, C. W., Hsueh, B., Goubran, M., Tian, Q., Steinberg, G., Zeineh, M. M., Deisseroth, K., McNab, J. A.
  2017

- **Wiring and Molecular Features of Prefrontal Ensembles Representing Distinct Experiences** *CELL*
  Ye, L., Allen, W. E., Thompson, K. R., Tian, Q., Hsueh, B., Ramakrishnan, C., Wang, A., Jennings, J. H., Adhikari, A., Halpern, C. H., Witten, I. B., Barth, A. L., Luo, et al
  2016; 165 (7): 1776-1788

- **Q-space truncation and sampling in diffusion spectrum imaging.** *Magnetic resonance in medicine*
  Tian, Q., Rokem, A., Folkerth, R. D., Nummenmaa, A., Fan, Q., Edlow, B. L., McNab, J. A.
  2016

- **The impact of gradient strength on in vivo diffusion MRI estimates of axon diameter.** *NeuroImage*
  Huang, S. Y., Nummenmaa, A., Witzel, T., Duval, T., Cohen-Adad, J., Wald, L. L., McNab, J. A.
  2015; 106: 464-472

- **The Human Connectome Project and beyond: Initial applications of 300 mT/m gradients** *NEUROIMAGE*
  McNab, J. A., Edlow, B. L., Witzel, T., Huang, S. Y., Bhat, H., Heberlein, K., Feiweier, T., Liu, K., Keil, B., Cohen-Adad, J., Tisdall, M. D., Folkerth, R. D., Kinney, et al
  2013; 80: 234-245

- **Surface based analysis of diffusion orientation for identifying architectonic domains in the in vivo human cortex** *NEUROIMAGE*
  McNab, J. A., Polimeni, J. R., Wang, R., Augustinack, J. C., Fujimoto, K., Stevens, A., Janssens, T., Farivar, R., Folkerth, R. D., Vanduffel, W., Wald, L. L.
  2013; 69: 87-100

- **High-resolution hippocampal diffusion tensor imaging of mesial temporal sclerosis in refractory epilepsy.** *Epilepsia*
  Chau Loo Kung, G., Chiu, A., Davey, Z., Mouchawar, N., Carlson, M., Moein Taghavi, H., Martin, D., Graber, K., Razavi, B., McNab, J., Zeineh, M.
  2022

- **Aberrant impulse control circuitry in obesity.** *Molecular psychiatry*
  Barbosa, D. A., Kuijper, F. M., Duda, J., Wang, A. R., Cartmell, S. C., Saluja, S., Cunningham, T., Shivacharan, R. S., Bhati, M. T., Safer, D. L., Lock, J. D., Malenka, R. C., de Oliveira-Souza, et al
  2022

- **Changes In The Cerebello-thalamo-cortical Network After MR-guided Focused Ultrasound Thalamotomy.** *Brain connectivity*
  Thaler, C., Tian, Q., WIntermark, M., Ghanouni, P., Halpern, C., Henderson, J., Airan, R., Zeineh, M., Goubran, M., Leuze, C., Fiehler, J., Butts Pauly, K., McNab, et al

2022

- **Complex negative emotions induced by electrical stimulation of the human hypothalamus.** *Brain stimulation*
  Parvizi, J., Veit, M. J., Barbosa, D. A., Kucyi, A., Perry, C., Parker, J. J., Shivacharan, R. S., Chen, F., Yih, J., Gross, J. J., Fisher, R., McNab, J. A., Falco-Walter, et al
  2022

- **Augmented Reality for Retrosigmoid Craniotomy Planning** *JOURNAL OF NEUROLOGICAL SURGERY PART B-SKULL BASE*
  Leuze, C., Neves, C. A., Gomez, A. M., Navab, N., Blevins, N., Vaisbuch, Y., McNab, J. A.
  2021

- **Nanostructure-specific X-ray tomography reveals myelin levels, integrity and axon orientations in mouse and human nervous tissue.** *Nature communications*
  Georgiadis, M., Schroeter, A., Gao, Z., Guizar-Sicairos, M., Liebi, M., Leuze, C., McNab, J. A., Balolia, A., Veraart, J., Ades-Aron, B., Kim, S., Shepherd, T., Lee, et al
  2021; 12 (1): 2941

- **Rapid computation of TMS-induced E-fields using a dipole-based magnetic stimulation profile approach.** *NeuroImage*
  Daneshzand, M., Makarov, S. N., de Lara, L. I., Guerin, B., McNab, J., Rosen, B. R., Hamalainen, M. S., Raij, T., Nummenmaa, A.
  2021: 118097

- **Oscillating diffusion-encoding with a high gradient-amplitude and high slew-rate head-only gradient for human brain imaging.** *Magnetic resonance in medicine*
  Tan, E. T., Shih, R. Y., Mitra, J., Sprenger, T., Hua, Y., Bhushan, C., Bernstein, M. A., McNab, J. A., DeMarco, J. K., Ho, V. B., Foo, T. K.
  2020

- **Evidence for the role of the dorsal ventral lateral posterior thalamic nucleus connectivity in deep brain stimulation for Gilles de la Tourette syndrome.** *Journal of psychiatric research*
  Kakusa, B. n., Saluja, S. n., Barbosa, D. A., Cartmell, S. n., Espil, F. M., Williams, N. R., McNab, J. A., Halpern, C. H.
  2020; 132: 60–64

- **Landmark-based mixed-reality perceptual alignment of medical imaging data and accuracy validation in living subjects** *IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*
  Leuze, C., Sathyanarayana, S., Daniel, B. L., McNab, J. A.
  2020

- **Comparison of head pose tracking methods for mixed-reality neuronavigation for transcranial magnetic stimulation** *SPIE Medical Imaging*
  Sathyanarayana, S., Leuze, C., Hargreaves, B., Daniel, B. L., Wetzstein, G., Etkin, A., Bhati, M. T., McNab, J. A.
  2020

- **Case Report on Deep Brain Stimulation Rescue After Suboptimal MR-Guided Focused Ultrasound Thalamotomy for Essential Tremor: A Tractography-Based Investigation.** *Frontiers in human neuroscience*
  Saluja, S. n., Barbosa, D. A., Parker, J. J., Huang, Y. n., Jensen, M. R., Ngo, V. n., Santini, V. E., Pauly, K. B., Ghanouni, P. n., McNab, J. A., Halpern, C. H.
  2020; 14: 191

- **Application of holographic augmented reality for external approaches to the frontal sinus.** *International forum of allergy & rhinology*
  Neves, C. A., Vaisbuch, Y. n., Leuze, C. n., McNab, J. A., Daniel, B. n., Blevins, N. H., Hwang, P. H.
  2020

- **Multimodal characterization of the human nucleus accumbens** *NEUROIMAGE*
  Cartmell, S. D., Tian, Q., Thio, B. J., Leuze, C., Ye, L., Williams, N. R., Yang, G., Ben-Dor, G., Deisseroth, K., Grill, W. M., McNab, J. A., Halpern, C. H.
  2019; 198: 137–49

- **Generalized diffusion spectrum magnetic resonance imaging (GDSI) for model-free reconstruction of the ensemble average propagator** *NEUROIMAGE*
  Tian, Q., Yang, G., Leuze, C., Rokem, A., Edlow, B. L., McNab, J. A.
  2019; 189: 497–515

- **Eddy current nulled constrained optimization of isotropic diffusion encoding gradient waveforms** *MAGNETIC RESONANCE IN MEDICINE*
  Yang, G., Mcnab, J. A.
  2019; 81 (3): 1818–32

- **Motion-robust reconstruction of multishot diffusion-weighted images without phase estimation through locally low-rank regularization** *MAGNETIC RESONANCE IN MEDICINE*
  Hu, Y., Levine, E. G., Tian, Q., Moran, C. J., Wang, X., Taviani, V., Vasanawala, S. S., Mcnab, J. A., Daniel, B. L., Hargreaves, B. A.
  2019; 81 (2): 1181–90

- **Generalized diffusion spectrum magnetic resonance imaging (GDSI) for model-free reconstruction of the ensemble average propagator.** *NeuroImage*
  Tian, Q., Yang, G., Leuze, C. W., Rokem, A., Edlow, B. L., McNab, J. A.
  2019

- **Multimodal image registration and connectivity analysis for integration of connectomic data from microscopy to MRI.** *Nature communications*
  Goubran, M. n., Leuze, C. n., Hsueh, B. n., Aswendt, M. n., Ye, L. n., Tian, Q. n., Cheng, M. Y., Crow, A. n., Steinberg, G. K., McNab, J. A., Deisseroth, K. n., Zeineh, M. n.
  2019; 10 (1): 5504

- **High-gradient diffusion MRI reveals distinct estimates of axon diameter index within different white matter tracts in the in vivo human brain.** *Brain structure & function*
  Huang, S. Y., Tian, Q. n., Fan, Q. n., Witzel, T. n., Wichtmann, B. n., McNab, J. A., Daniel Bireley, J. n., Machado, N. n., Klawiter, E. C., Mekkaoui, C. n., Wald, L. L., Nummenmaa, A. n.
  2019

- **Multi-shot diffusion-weighted MRI reconstruction with magnitude-based spatial-angular locally low-rank regularization (SPA-LLR).** *Magnetic resonance in medicine*
  Hu, Y. n., Wang, X. n., Tian, Q. n., Yang, G. n., Daniel, B. n., McNab, J. n., Hargreaves, B. n.
  2019

- **Multimodal characterization of the human nucleus accumbens.** *NeuroImage*
  Cartmell, S. C., Tian, Q. n., Thio, B. J., Leuze, C. n., Ye, L. n., Williams, N. R., Yang, G. n., Ben-Dor, G. n., Deisseroth, K. n., Grill, W. M., McNab, J. A., Halpern, C. H.
  2019

- **Motion-robust reconstruction of multishot diffusion-weighted images without phase estimation through locally low-rank regularization.** *Magnetic resonance in medicine*
  Hu, Y., Levine, E. G., Tian, Q., Moran, C. J., Wang, X., Taviani, V., Vasanawala, S. S., McNab, J. A., Daniel, B. A., Hargreaves, B. L.
  2018

- **Increased white matter connectivity seen in young judo athletes with MRI** *CLINICAL RADIOLOGY*
  Toh, Z. H., Gu, Q. L., Seah, T. C., Wong, W. H., McNab, J. A., Chuang, K., Hong, X., Tang, P. H.
  2018; 73 (10)

- **RNA-Sequencing Analysis Revealed a Distinct Motor Cortex Transcriptome in Spontaneously Recovered Mice After Stroke.** *Stroke*
  Ito, M., Aswendt, M., Lee, A. G., Ishizaka, S., Cao, Z., Wang, E. H., Levy, S. L., Smerin, D. L., McNab, J. A., Zeineh, M., Leuze, C., Goubran, M., Cheng, et al
  2018; 49 (9): 2191-2199

- **RNA-Sequencing Analysis Revealed a Distinct Motor Cortex Transcriptome in Spontaneously Recovered Mice After Stroke** *STROKE*
  Ito, M., Aswendt, M., Lee, A. G., Ishizaka, S., Cao, Z., Wang, E. H., Levy, S. L., Smerin, D. L., McNab, J. A., Zeineh, M., Leuze, C., Goubran, M., Cheng, et al
  2018; 49 (9): 2191–99

- **Multimodal Characterization of the Late Effects of Traumatic Brain Injury: A Methodological Overview of the Late Effects of Traumatic Brain Injury Project** *JOURNAL OF NEUROTRAUMA*
  Edlow, B. L., Keene, C., Perl, D. P., Iacono, D., Folkerth, R. D., Stewart, W., Mac Donald, C. L., Augustinack, J., Diaz-Arrastia, R., Estrada, C., Flannery, E., Gordon, W. A., Grabowski, et al
  2018

- **Characterizing Signals within Lesions and Mapping Brain Network Connectivity After Traumatic Axonal Injury: A 7 Tesla Resting-State FMRI Study.** *Brain connectivity*
  Lee, S., Polimeni, J. R., Price, C. M., Edlow, B. L., McNab, J. A.
  2018

- **Dementia After Moderate-Severe Traumatic Brain Injury: Coexistence of Multiple Proteinopathies** *JOURNAL OF NEUROPATHOLOGY AND EXPERIMENTAL NEUROLOGY*

Kenney, K., Iacono, D., Edlow, B. L., Katz, D. I., Diaz-Arrastia, R., Dams-O'Connor, K., Daneshvar, D. H., Stevens, A., Moreau, A. L., Tirrell, L. S., Varjabedian, A., Yendiki, A., van der Kouwe, et al
2018; 77 (1): 50–63

- **Mixed-reality guidance for brain stimulation treatment of depression**
  Leuze, C., Yang, G., Hargreaves, B., Daniel, B., Mcnab, J. A., IEEE
  IEEE.2018: 377–80

- **Diffusion MRI tractography for improved transcranial MRI-guided focused ultrasound thalamotomy targeting for essential tremor.** *NeuroImage. Clinical*
  Tian, Q., Wintermark, M., Jeffrey Elias, W., Ghanouni, P., Halpern, C. H., Henderson, J. M., Huss, D. S., Goubran, M., Thaler, C., Airan, R., Zeineh, M., Pauly, K. B., McNab, et al
  2018; 19: 572–80

- **Accelerating Functional MRI Using Fixed-Rank Approximations and Radial-Cartesian Sampling** *MAGNETIC RESONANCE IN MEDICINE*
  Chiew, M., Graedel, N. N., McNab, J. A., Smith, S. M., Miller, K. L.
  2016; 76 (6): 1825-1836

- **Motion correction for functional MRI with three-dimensional hybrid radial-Cartesian EPI.** *Magnetic resonance in medicine*
  Graedel, N. N., McNab, J. A., Chiew, M., Miller, K. L.
  2016

- **Characterization of Axonal Disease in Patients with Multiple Sclerosis Using High-GradientDiffusion MR Imaging** *RADIOLOGY*
  Huang, S. Y., Tobyne, S. M., Nummenmaa, A., Witzel, T., Wald, L. L., McNab, J. A., Klawiter, E. C.
  2016; 280 (1): 244-251

- **The Structural Connectome of the Human Central Homeostatic Network.** *Brain connectivity*
  Edlow, B. L., McNab, J. A., Witzel, T., Kinney, H. C.
  2016; 6 (3): 187-200

- **In vivo mapping of human spinal cord microstructure at 300 mT/m** *NEUROIMAGE*
  Duval, T., McNab, J. A., Setsompop, K., Witzel, T., Schneider, T., Huang, S. Y., Keil, B., Klawiter, E. C., Wald, L. L., Cohen-Adad, J.
  2015; 118: 494-507

- **Targeting of White Matter Tracts with Transcranial Magnetic Stimulation** *BRAIN STIMULATION*
  Nummenmaa, A., McNab, J. A., Savadjiev, P., Okada, Y., Haemaelaeinen, M. S., Wang, R., Wald, L. L., Pascual-Leone, A., Wedeen, V. J., Raij, T.
  2014; 7 (1): 80-84

- **A 22-channel receive array with Helmholtz transmit coil for anesthetized macaque MRI at 3 T** *NMR IN BIOMEDICINE*
  Janssens, T., Keil, B., Serano, P., Mareyam, A., McNab, J. A., Wald, L. L., Vanduffel, W.
  2013; 26 (11): 1431-1440

- **Corrigendum to "Surface based analysis of diffusion orientation for identifying architectonic domains in the in vivo human cortex" [NeuroImage 69 (2013) 87-100].** *NeuroImage*
  McNab, J. A., Polimeni, J. R., Wang, R., Augustinack, J. C., Fujimoto, K., Stevens, A., Triantafyllou, C., Janssens, T., Farivar, R., Folkerth, R. D., Vanduffel, W., Wald, L. L.
  2013; 81: 505

- **Pushing the limits of in vivo diffusion MRI for the Human Connectome Project.** *NeuroImage*
  Setsompop, K., Kimmlingen, R., Eberlein, E., Witzel, T., Cohen-Adad, J., McNab, J. A., Keil, B., Tisdall, M. D., Hoecht, P., Dietz, P., Cauley, S. F., Tountcheva, V., Matschl, et al
  2013

- **A combined post-mortem magnetic resonance imaging and quantitative histological study of multiple sclerosis pathology** *BRAIN*
  Kolasinski, J., Stagg, C. J., Chance, S. A., DeLuca, G. C., Esiri, M. M., Chang, E., Palace, J. A., McNab, J. A., Jenkinson, M., Miller, K. L., Johansen-Berg, H.
  2012; 135: 2938-2951

- **An implanted 8-channel array coil for high-resolution macaque MRI at 3 T** *NEUROIMAGE*
  Janssens, T., Keil, B., Farivar, R., McNab, J. A., Polimeni, J. R., Gerits, A., Arsenault, J. T., Wald, L. L., Vanduffel, W.
  2012; 62 (3): 1529-1536

- **T-2* mapping and B-o orientation-dependence at 7 T reveal cyto- and myeloarchitecture organization of the human cortex** *NEUROIMAGE*

Cohen-Adad, J., Polimeni, J. R., Helmer, K. G., Benner, T., McNab, J. A., Wald, L. L., Rosen, B. R., Mainero, C.
2012; 60 (2): 1006-1014

- **Diffusion tractography of post-mortem human brains: Optimization and comparison of spin echo and steady-state free precession techniques** *NEUROIMAGE*
  Miller, K. L., McNab, J. A., Jbabdi, S., Douaud, G.
  2012; 59 (3): 2284-2297

- **Size-optimized 32-Channel Brain Arrays for 3 T Pediatric Imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Keil, B., Alagappan, V., Mareyam, A., McNab, J. A., Fujimoto, K., Tountcheva, V., Triantafyllou, C., Dilks, D. D., Kanwisher, N., Lin, W., Grant, P. E., Wald, L. L.
  2011; 66 (6): 1777-1787

- **Diffusion imaging of whole, post-mortem human brains on a clinical MRI scanner** *NEUROIMAGE*
  Miller, K. L., Stagg, C. J., Douaud, G., Jbabdi, S., Smith, S. M., Behrens, T. E., Jenkinson, M., Chance, S. A., Esiri, M. M., Voets, N. L., Jenkinson, N., Aziz, T. Z., Turner, et al
  2011; 57 (1): 167-181

- **Steady-state diffusion-weighted imaging: theory, acquisition and analysis** *NMR IN BIOMEDICINE*
  McNab, J. A., Miller, K. L.
  2010; 23 (7): 781-793

- **3D Steady-State Diffusion-Weighted Imaging With Trajectory Using Radially Batched Internal Navigator Echoes (TURBINE)** *MAGNETIC RESONANCE IN MEDICINE*
  McNab, J. A., Gallichan, D., Miller, K. L.
  2010; 63 (1): 235-242

- **Reduced limbic connections may contraindicate subgenual cingulate deep brain stimulation for intractable depression Case report** *JOURNAL OF NEUROSURGERY*
  McNab, J. A., Voets, N. L., Jenkinson, N., Squier, W., Miller, K. L., Goodwin, G. M., Aziz, T. Z.
  2009; 111 (4): 780-784

- **High resolution diffusion-weighted imaging in fixed human brain using diffusion-weighted steady state free precession** *NEUROIMAGE*
  McNab, J. A., Jbabdi, S., Deoni, S. C., Douaud, G., Behrens, T. E., Miller, K. L.
  2009; 46 (3): 775-785

- **Cortical and subcortical connections within the pedunculopontine nucleus of the primate Macaca mulatta determined using probabilistic diffusion tractography** *JOURNAL OF CLINICAL NEUROSCIENCE*
  Aravamuthan, B. R., McNab, J. A., Miller, K. L., Rushworth, M., Jenkinson, N., Stein, J. F., Aziz, T. Z.
  2009; 16 (3): 413-420

- **Sensitivity of diffusion weighted steady state free precession to anisotropic diffusion** *MAGNETIC RESONANCE IN MEDICINE*
  McNab, J. A., Miller, K. L.
  2008; 60 (2): 405-413

- **Quantitative short echo-time H-1 LASER-CSI in human brain at 4T** *NMR IN BIOMEDICINE*
  McNab, J. A., Bartha, R.
  2006; 19 (8): 999-1009

- **Tissue oxygen tension measurements in the Shionogi model of prostate cancer using F-19 MRS and MRI** *12th Annual Meeting of the ISMRM*
  McNab, J. A., Yung, A. C., Kozlowski, P.
  SPRINGER.2004: 288–95