



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 two decades, 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 and fastest human-MRI gradients, highly-parallelized phased-array RF coils and ultra-high magnetic field. Dr. McNab is Senior Fellow of the International Society for Magnetic Resonance in Medicine and a Distinguished Investigator of The Academy for Radiology & Biomedical Imaging Research.

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)

HONORS AND AWARDS

- Senior Fellow, International Society for Magnetic Resonance in Medicine (2024)
- Distinguished Investigator, The Academy for Radiology & Biomedical Imaging Research (2023)
- Basic Scientist of the Year, Department of Radiology Stanford (2022)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Scientist from North America, Board of Trustees, International Society for Magnetic Resonance in Medicine (2024 - present)
- Faculty Evaluation Process Ad Hoc Committee Member, Department of Radiology, Stanford University (2022 - present)

- Instructor Review Committee Member, Department of Radiology, Stanford University (2023 - present)
- 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)

PATENTS

- McNab, Leuze. "United States Patent 11,291,852 Neuro-navigation device for localization of internal anatomical regions", Leland Stanford Junior University, Apr 5, 2022
- McNab, Leuze, Sathyanarayana. "United States Patent 11,024,096 Improved Virtual-to-Real Alignment for Augmented Reality", Leland Stanford Junior University, Jun 1, 2021
- Deisseroth, McNab, Ye, Tian. "United States Patent 10,641,782 Low Cost, High-Throughput CLARITY Imaging with Single-Cell Resolution and Axon Visualization", Leland Stanford Junior University, May 5, 2020

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/3uldioz>
- 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>

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

Postdoctoral Faculty Sponsor

FNU Shailja

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

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

Publications

PUBLICATIONS

- **An orexigenic subnetwork within the human hippocampus.** *Nature*
Barbosa, D. A., Gattas, S., Salgado, J. S., Kuijper, F. M., Wang, A. R., Huang, Y., Kakusa, B., Leuze, C., Luczak, A., Rapp, P., Malenka, R. C., Hermes, D., Miller, et al
2023
- **Frequency-dependent diffusion kurtosis imaging in the human brain using an oscillating gradient spin echo sequence and a high-performance head-only gradient.** *NeuroImage*
Dai, E., Zhu, A., Yang, G. K., Quah, K., Tan, E. T., Fiveland, E., Foo, T. K., McNab, J. A.
2023: 120328
- **Quantitative MRI reveals widespread, network-specific myelination change during generalized epilepsy progression.** *NeuroImage*
Kung, G. C., Knowles, J. K., Batra, A., Ni, L., Rosenberg, J., McNab, J. A.
2023: 120312
- **Multi-band multi-shot diffusion MRI reconstruction with joint usage of structured low-rank constraints and explicit phase mapping.** *Magnetic resonance in medicine*
Dai, E., Mani, M., McNab, J. A.
2022
- **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
- **Quantitative Profiling of the Effects of Subanesthetic Ketamine on Naturalistic Behavior and Brain Microstructure**
Ewbank, S., Hart, A., Muwanga, G., Gopal, D., Roy, K., Yu, B., Laurent, R., Tawfik, V., Rodriguez, C., McNab, J., Airan, R.
SPRINGER NATURE.2024: 104
- **"Quality over quantity:" smaller, targeted lesions optimize quality of life outcomes after MR-guided focused ultrasound thalamotomy for essential tremor.** *Frontiers in neurology*
Buch, V. P., Purger, D., Datta, A., Wang, A., Barbosa, D., Chodakiewitz, Y., Lev-Tov, L., Li, C., Halpern, C., Henderson, J., McNab, J. A., Bitton, R. R., Ghanouni, et al
2024; 15: 1450699
- **Impact of pathogenic variants of the Ras-mitogen-activated protein kinase pathway on major white matter tracts in the human brain.** *Brain communications*
Siqueiros-Sanchez, M., Dai, E., McGhee, C. A., McNab, J. A., Raman, M. M., Green, T.
2024; 6 (4): fcae274
- **Diffusion MRI tractography guides investigation of the zona incerta: a novel target for deep brain stimulation.** *Biological psychiatry*

- Saluja, S., Qiu, L., Wang, A. R., Campos, G., Selheimer, R., McNab, J. A., Haber, S. N., Barbosa, D. A., Halpern, C. H.
2024
- **An Individualized Tractography Pipeline for the Nucleus Basalis of Meynert Lateral Tract.** *medRxiv : the preprint server for health sciences*
Crockett, R. A., Wilkins, K. B., Zeineh, M. M., McNab, J. A., Henderson, J. M., Buch, V. P., Brontë-Stewart, H. M.
2023
 - **A Twin Study of Altered White Matter Heritability in Youth With Autism Spectrum Disorder.** *Journal of the American Academy of Child and Adolescent Psychiatry*
Hegarty, J. P., Monterrey, J. C., Tian, Q., Cleveland, S. C., Gong, X., Phillips, J. M., Wolke, O., McNab, J. A., Hallmayer, J., Reiss, A. L., Hardan, A. Y., Lazzeroni, L. C.
2023
 - **Human habit neural circuitry may be perturbed in eating disorders.** *Science translational medicine*
Wang, A. R., Kuijper, F. M., Barbosa, D. A., Hagan, K. E., Lee, E., Tong, E., Choi, E. Y., McNab, J. A., Bohon, C., Halpern, C. H.
2023; 15 (689): eabo4919
 - **Audiovisual augmentation for coil positioning in transcranial magnetic stimulation** *COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING-IMAGING AND VISUALIZATION*
Schutz, L., Weber, E., Niu, W., Daniel, B., McNab, J., Navab, N., Leuze, C.
2022
 - **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., Raji, T., Nummenmaa, A.
2021: 118097
 - **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

- **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
- **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
- **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
- **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
- **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
- **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
- **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 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
- **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
- **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
 - **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
 - **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): 2191–99
 - **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
 - **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
 - **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., Folkert, 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
 - **Eddy current nulled constrained optimization of isotropic diffusion encoding gradient waveforms.** *Magnetic resonance in medicine*
Yang, G. n., McNab, J. A.

2018

- **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
- **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
- **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-Gradient Diffusion MR Imaging** *RADIOLOGY*
Huang, S. Y., Tobyn, S. M., Nummenmaa, A., Witzel, T., Wald, L. L., McNab, J. A., Klawiter, E. C.
2016; 280 (1): 244-251
- **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
- **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
- **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
- **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
- **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
- **Targeting of White Matter Tracts with Transcranial Magnetic Stimulation** *BRAIN STIMULATION*
Nummenmaa, A., McNab, J. A., Savadjiev, P., Okada, Y., Haemaelaenen, 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
- **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
- **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
 - **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
 - **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-0 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*
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