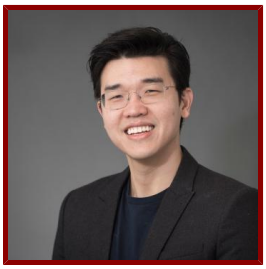
Stanford



Kawin Setsompop

Professor of Radiology (Radiological Sciences Laboratory) and, by courtesy, of Electrical Engineering

Curriculum Vitae available Online

CONTACT INFORMATION

- **Alternate Contact**

  Jaqueline Velazquez - Administrative Assistant

  Email jvela021@stanford.edu

  Tel 650.721.4641

Bio

BIO

Kawin Setsompop is a Professor of Radiology and, by courtesy, of Electrical Engineering. His research focuses on the development of novel MRI acquisition methods, with the goal of creating imaging technologies that can be used to help better understand brain structure and function for applications in Healthcare and Health sciences. He received his Master's degree in Engineering Science from Oxford University and his PhD in Electrical Engineering and Computer Science from MIT. Prior to joining Stanford, he was a postdoctoral fellow and subsequently a faculty at the A.A. Martinos center for biomedical imaging, MGH, as well as part of the Harvard and MIT faculty. His group has pioneered several widely-used MRI acquisition technologies, a number of which have been successfully translated into FDA-approved clinical products on Siemens, GE, Phillips, United Imaging and Bruker MRI scanners worldwide. These technologies are being used daily to study the brain in both clinical and neuroscientific fields.

ACADEMIC APPOINTMENTS

- Professor, Radiology
- Professor (By courtesy), Electrical Engineering
- Member, Bio-X
- Member, Wu Tsai Human Performance Alliance
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Co-director of the Center for Cognitive and Neurobiological Imaging, Stanford, (2023- present)
- Associate Chair of Research Strategic Development, Department of Radiology, (2020- present)

HONORS AND AWARDS

- K99/R00 Career development award, National Institute of Health (2010)
- NIBIB New Horizon planery lecture, International Society of Magnetic Resonance in Medicine (2016)
- Fellow, International Society of Magnetic Resonance in Medicine (2020)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Advisory Board, Subtle Medical (2021 - present)

PROFESSIONAL EDUCATION

- PostDoc, Harvard University/Massachusetts General Hospital , Radiology (2010)
- Ph.D., MIT , Electrical Engineering and Computer Science (2008)
- M.Eng, Oxford University , Engineering Science (2003)

PATENTS

- Lawrence, Setsompop, Cauley. "United States Patent US 11035920 Sparse approximate encoding of Wave-CAIPI: preconditioner and noise reduction"
- Cauley, Bilgic, Setsompop, Wald. "United States Patent US10126397 Systems and methods for fast magnetic resonance image reconstruction using a heirarchically semiseparable solver"
- Hoge, Polimeni, Setsompop. "United States Patent US10175328B2 System and method for reconstructing ghost-free images from data acquired using simultaneous multislice magnetic resonance imaging"
- Zhao, Setsompop, Wald. "United States Patent US10241176B2 Systems and methods for statistical reconstruction of magnetic resonance fingerprinting data"
- Cauley, Polimeni, Setsompop, Wald. "United States Patent US10310042B2 Hierrarchical mapping framework for coil compression in magnetic resonance image reconstruction"
- Setsompop, Stockmann, Wald, Witzel. "United States Patent US10324149B2 Systems and methods for generalized slice dithered enhanced resolution magnetic resonance imaging"
- Eichner, Wald, Setsompop. "United States Patent US10345409B2 System and method for simultaneous multislice excitation using combined multiband and periodic slice"
- Cauley, Setsompop, Wald. "United States Patent US10408910B2 Systems and methods for joint trajectory and parallel magnetic resonance imaging optimization for auto-calibrated image reconstruction"
- Polimeni, Setsompop, Wald. "United States Patent US10429475B2 Method for increasing signal-to-noise ratio in magnetic resonance imaging using per-voxel noise"
- Setsompop, Bilgic, Wald. "United States Patent US10436866B2 Simultaneous multislice MRI with random gradient encoding"
- Gulani, Griswold, Yang, Jiang, Setsompop. "United States Patent US10598747 System and method for simultaneous multislice magnetic resonance fingerprinting with variable radio frequency encoding"
- Eichner, Setsompop, Wald, Cauley. "United States Patent US10605882 Systems and methods for removing background phase variations in diffusionweighted magnetic resonance imaging"
- Setsompop, Wald, Dong, Guo, Wang, Reese. "United States Patent US10871534 Accelerated magnetic resonance imaging using tilted reconstruction kernel in phase encoded and point spread function encoded k-space"
- Polak, Raithel, Setsompop. "United States Patent US10895622 Noise suppression for wave-CAIPI"
- Setsompop, Wald, Dong, Guo, Wang, Reese. "United States Patent US10901061 Accelerated diffusion-weighted magnetic resonance imaging with self-navigated, phase corrected titled kernel reconstruction of phase encode and point spread function encoded k-space"
- Setsompop, Bilgic, Wald, Witzel. "United States Patent US10908248 Systems and methods for slice dithered enhanced resolution simultaneous multislice magnetic resonance imaging"
- Bilgic Setsompop, Polak, Ye, Wald. "United States Patent US11009675 Method for simultaneous time-interleaved multislice magnetic resonance imaging"
- Setsompop, Lawrence, Fuyixue. "United States Patent US11022665 Method for echo planar time-resolved magnetic resonance imaging"
- Polak, Setsompop. "United States Patent US11181598 Multi-contrast MRI image reconstruction using machine learning"
- Splitthoff, Polak, Setsompop, Gagoski. "United States Patent US11249162 Motion corrected blipped CAIPIRINHA and SMS"
- Polak, Setsompop. "United States Patent US11360176 Reconstruction of magnetic-resonance datasets using machine learning"
- Bilgic, Han, Cauley, Wald, Setsompop. "United States Patent US11391803 Multi-shot echo planar imaging through machine learning"
- Polak, Setsompop, Cauley. "United States Patent US11486953 Phase estimation for retrospective motion correction"
- Polak, Setsompop. "United States Patent US20200249301 Reconstruction of Magnetic-Resonance Datasets using Machine Learning"

- Polak, Setsompop. "United States Patent US20200341094 Multi-contrast MRI Imaging Reconstruction using Machine Learning"
- Zelinski, Adalsteinsson, Setsompop, Wald, Fontius. "United States Patent US7336145 Method for designing RF excitation pulses in magnetic resonance tomography"
- Setsompop, Alagappan, Adalsteinsson, Wald. "United States Patent US8076939 Method for Fast Magnetic Resonance Radiofrequency Coil Transmission Profile Mapping"
- Setsompop, Alagappan, Adalsteinsson, Wald. "United States Patent US8076939 Method for Fast Magnetic Resonance Radiofrequency Coil Transmission Profile Mapping."
- Setsompop, Alagappan, Gagoski, Wald, Adalsteinsson. "United States Patent US8085044 Method for producing spectral-spatial parallel RF excitations for magnetic resonance imaging"
- Zelinski, Setsompop, Adalsteinsson, Goyal. "United States Patent US8148985 Method for Reducing Maximum Local Specific Absorption Rate in Magnetic Resonance Imaging"
- Setsompop, Wald. "United States Patent US8405395 Method for Simultaneous Multi-slice Magnetic Resonance Imaging"
- Adalsteinsson, Fautz, Setsompop, Wald. "United States Patent US8866478 Method and processor and magnetic resonance apparatus for designing RF pulses to mitigate off-resonance effects"
- Setsompop, Wald. "United States Patent US8981776 Method for magnetic resonance imaging with controlled aliasing"
- Setsompop, Wald. "United States Patent US9081055 Method for Reducing Local Specific Absorption Rate in Magnetic Resonance Imaging Using Radio Frequency Coil Array Dark Modes"
- Setsompop, Bilgic. "United States Patent US9542763 Systems and methods for fast reconstruction for Quantitative Susceptibility Mapping using Magnetic Resonance Imaging"
- Polimeni, Bhat, Heberlein, Setsompop, Witzel, Cauley. "United States Patent US9588208 Methods, systems and apparatuses for rapid segmented, accelerated, and simultaneous multi-slice echo planar imaging"
- Polimeni, Wald, Setsompop. "United States Patent US9778336 System and method for rapid, multi-shot segmented magnetic resonance imaging"
- Setsompop, Griswold, Ye, Wald, Ma, Jiang. "United States Patent US9897675B2 Magnetic resonance fingerprinting (MRF) with simultaneous multivolume acquisition"
- Cauley, Griswold, Setsompop, Wald. "United States Patent US9964616B2 Fast group matching for magnetic resonance fingerprinting reconstruction"

LINKS

- Setsompop Lab: https://med.stanford.edu/setsompoplab.html

Teaching

COURSES

2026-27

- Medical Imaging Systems II: BMP 269B, EE 369B (Win)

2025-26

- Medical Imaging Systems II: BMP 269B, EE 369B (Win)

2024-25

- Medical Image Reconstruction: EE 369C (Aut)
- Medical Imaging Systems II: BMP 269B, EE 369B (Win)

2023-24

- Medical Imaging Systems II: BMP 269B, EE 369B (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Hong En Chew, Matt McCready, Aizada Nurdinova, Alex Toews, Xuetong Zhou

Doctoral Dissertation Advisor (AC)

Daniel Abraham, Jaehyeok Bae, Mengze Gao, Zimu Huo, Yimeng Lin, Zachary Shah, Yonatan Urman

Publications

PUBLICATIONS

- **OPTIKS: Optimized Gradient Properties Through Timing in k-Space** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  McCready, M. A., Cao, X., Setsompop, K., Pauly, J. M., Kerr, A. B.
  2026; 45 (4): 1651-1660

- **Semi-supervision for clinical contrast-weighted image synthesis from magnetic resonance fingerprinting.** *Magma (New York, N.Y.)*
  Yurt, M., Alkan, C., Cao, X., Liao, C., Zhou, Z., Cukur, T., Syed, A., Pauly, J., Vasanawala, S., Setsompop, K.
  2026

- **Accelerating MRI With Longitudinally-Informed Latent Posterior Sampling.** *Magnetic resonance in medicine*
  Urman, Y., Shah, Z., Kumar, A., Soares, B. P., Setsompop, K.
  2026

- **A Dynamic Shim Approach for Correcting Eddy Current Effects in Diffusion-Prepared MRI Acquisition Using a Multi-Coil AC/DC Shim-Array.** *Magnetic resonance in medicine*
  Liao, C., Stockmann, J. P., Li, Z., Wang, Z., Gao, M., Craven-Brightman, L., Sliwiak, M., Biggs, C., Glad, J. A., Zhou, J., Qian, Y., Zhong, Z., Wang, et al
  2026

- **Neural Space-Time Modeling for Motion-Corrected MR Reconstruction**
  Nurdinova, A., Huang, W., Abraham, D., Bae, J., Lin, Y., Setsompop, K., Hargreaves, B.
  edited by Felsner, L., Kustner, T., Maier, A., Qin, C., Ahmadi, S. A., Kazi, A., Hu
  SPRINGER INTERNATIONAL PUBLISHING AG.2026: 118-128

- **Physics-Informed Implicit Neural Representations for Joint B0 Estimation and Echo Planar Imaging**
  Huang, W., Wang, N., Liao, C., Line, Y., Gao, M., Rueckert, D., Setsompop, K.
  edited by Gee, J. C., Alexander, D. C., Hong, J., Iglesias, J. E., Sudre, C. H., Venkataraman, A., Golland, P., Kim, J. H., Park, J.
  SPRINGER INTERNATIONAL PUBLISHING AG.2026: 481-490

- **T2-Weighted Imaging of Water, Fat and Silicone** *Magn Reson Med.*
  Nurdinova, A., Zhou, X., Oscanoa, J. A., Shah, P., Setsompop, K., Daniel, B. L., Hargreaves, B. A.
  2026; 95 (5): 2765-2775

- **In Vivo Meso-Scale Whole-Brain Quantitative Imaging With Tailored MRF on the NexGen 7T Scanner.** *Magnetic resonance in medicine*
  Cao, X., Beckett, A., Liao, C., Walker, E., Zhu, Z., Qian, Y., Gao, M., Wang, N., Lin, Y., Gong, L., McCready, M. A., Wang, Z., Li, et al
  2025

- **Pulsatile Brain Motion as a Marker of Brain Aging and Dementia: Insights from 3D q-aMRI.** *medRxiv : the preprint server for health sciences*
  Terem, I., Younes, K., Weiss, S., Dreisbach, A., Vossler, H., Kwon, E., Cornfeld, D., Wright, J., Condron, P., Poston, K. L., Henderson, V. W., Mormino, E. C., Holdsworth, et al
  2025

- **The Effect of Voxel Volume and Voxel Shape on Cardiac Diffusion Tensor Imaging Metrics** *MAGNETIC RESONANCE IN MEDICINE*
  Hannum, A. J., Cork, T. E., Setsompop, K., Ennis, D. B.
  2025

- **Micron-resolution fiber mapping in histology independent of sample preparation.** *Nature communications*
  Georgiadis, M., Auf der Heiden, F., Abbasi, H., Ettema, L., Nirschl, J., Taghavi, H. M., Wakatsuki, M., Liu, A., Ho, W. H., Carlson, M., Doukas, M., Koppes, S. A., Keereweer, et al
  2025; 16 (1): 9572

- **Evaluation of EPI-Based Distortion Correction Techniques for Cardiac Diffusion Tensor Imaging.** *NMR in biomedicine*
  Cork, T. E., Middione, M. J., Loecher, M., Liao, C., Setsompop, K., Ennis, D. B.
  2025; 38 (11): e70147

- **Stretched Radial Trajectory Design for Efficient MRI with Enhanced K-Space Coverage and Image Resolution.** *Bioengineering (Basel, Switzerland)*
  Gong, L. S., Zhou, Z., Li, Q., Qian, Y., Yang, Y., Setsompop, K., Li, Z., Cao, X., Liao, C.
  2025; 12 (11)
- **An Efficient Algorithm for Spatial-Spectral Partial Volume Compartment Mapping with Applications to Multicomponent Diffusion and Relaxation MRI.** *IEEE transactions on computational imaging*
  Liu, Y., Mandal, D., Liao, C., Setsompop, K., Haldar, J. P.
  2025; 11: 1283-1293
- **DM-Net: a physics-model-independent direct mapping approach for calibration-free multi-coil MRI.** *Research square*
  Wu, Y., Alkan, C., Oscanoa, J., Sun, A., Setsompop, K., Syed, A., Ma, Y., Liao, C., Alley, M., Zhang, F., Pauly, J., Vasanawala, S.
  2025
- **Fast and reliable quantitative measures of white matter development with magnetic resonance fingerprinting** *IMAGING NEUROSCIENCE*
  Yablonski, M., Zhou, Z., Cao, X., Schauman, S., Liao, C., Setsompop, K., Yeatman, J. D.
  2025; 3
- **Fast and reliable quantitative measures of white matter development with magnetic resonance fingerprinting.** *Imaging neuroscience (Cambridge, Mass.)*
  Yablonski, M., Zhou, Z., Cao, X., Schauman, S., Liao, C., Setsompop, K., Yeatman, J. D.
  2025; 3
- **Deep learning initialized compressed sensing (Deli-CS) in volumetric spatio-temporal subspace reconstruction.** *Magma (New York, N.Y.)*
  Schauman, S. S., Iyer, S. S., Sandino, C. M., Yurt, M., Cao, X., Liao, C., Ruengchaijatuporn, N., Chatnuntawech, I., Tong, E., Setsompop, K.
  2025
- **Three-dimensional high-isotropic-resolution MR fingerprinting optimized for 0.55 T.** *Magnetic resonance in medicine*
  Cao, X., Liao, C., Zhu, Z., Li, Z., Bhattacharjee, R., Nishmura, M., Wang, Z., Wang, N., Zhou, Z., Chen, Q., Abraham, D., Majumdar, S., Villanueva-Meyer, et al
  2025
- **An Efficient Algorithm for Spatial-Spectral Partial Volume Compartment Mapping With Applications to Multicomponent Diffusion and Relaxation MRI** *IEEE TRANSACTIONS ON COMPUTATIONAL IMAGING*
  Liu, Y., Mandal, D., Liao, C., Setsompop, K., Haldar, J. P.
  2025; 11: 1283-1293
- **ENHANCING DIFFUSION-WEIGHTED IMAGES (DWI) FOR DIFFUSION MRI: IS IT ENOUGH WITHOUT NON-DIFFUSION-WEIGHTED B=0 REFERENCE?**
  Wu, Y., Huang, J., Wang, F., Gao, M., Liao, C., Yang, G., Setsompop, K., IEEE
  IEEE.2025
- **Foundation Models for Multimodal MRI Synthesis with Language Guidance**
  Yurt, M., Cao, X., Zhou, Z., Setsompop, K., Vasanawala, S., Pauly, J., IEEE COMPUTER SOC
  IEEE COMPUTER SOC.2025: 6818-6823
- **Blip-up blip-down circular EPI (BUDA-cEPI) for distortion-free dMRI with rapid unrolled deep learning reconstruction.** *Magnetic resonance imaging*
  Yarach, U., Chatnuntawech, I., Liao, C., Teerapittayanon, S., Iyer, S. S., Kim, T. H., Haldar, J., Cho, J., Bilgic, B., Hu, Y., Hargreaves, B., Setsompop, K.
  2024: 110277
- **Data- and Physics-driven Deep Learning Based Reconstruction for Fast MRI: Fundamentals and Methodologies.** *IEEE reviews in biomedical engineering*
  Huang, J., Wu, Y., Wang, F., Fang, Y., Nan, Y., Alkan, C., Abraham, D., Liao, C., Xu, L., Gao, Z., Wu, W., Zhu, L., Chen, et al
  2024; PP
- **Spherical echo-planar time-resolved imaging (sEPTI) for rapid 3D quantitative T 2 * and susceptibility imaging.** *Magnetic resonance in medicine*
  Wang, N., Liao, C., Cao, X., Nishimura, M., Brackenier, Y. W., Yurt, M., Gao, M., Abraham, D., Alkan, C., Iyer, S. S., Zhou, Z., Jeong, H., Kerr, et al
  2024

- **3D Quantitative-Amplified Magnetic Resonance Imaging (3D q-aMRI).** *Bioengineering (Basel, Switzerland)*
  Terem, I., Younes, K., Wang, N., Condron, P., Abderezaei, J., Kumar, H., Vossler, H., Kwon, E., Kurt, M., Mormino, E., Holdsworth, S., Setsompop, K.
  2024; 11 (8)
- **Phase stabilization with motion compensated diffusion weighted imaging.** *Magnetic resonance in medicine*
  Hannum, A. J., Cork, T. E., Setsompop, K., Ennis, D. B.
  2024
- **Uncovering microstructural architecture from histology.** *bioRxiv : the preprint server for biology*
  Georgiadis, M., Auf der Heiden, F., Abbasi, H., Ettema, L., Nirschl, J., Taghavi, H. M., Wakatsuki, M., Liu, A., Ho, W. H., Carlson, M., Doukas, M., Koppes, S. A., Keereweer, et al
  2024
- **Pre-excitation gradients for eddy current nulled convex optimized diffusion encoding (Pre-ENCODE).** *Magnetic resonance in medicine*
  Middione, M. J., Loecher, M., Cao, X., Setsompop, K., Ennis, D. B.
  2024
- **Clinical Evaluation of a 2-Minute Ultrafast Brain MR Protocol for Evaluation of Acute Pathology in the Emergency and Inpatient Settings.** *AJNR. American journal of neuroradiology*
  Lang, M., Clifford, B., Lo, W. C., Applewhite, B. P., Tabari, A., Filho, A. L., Hosseini, Z., Longo, M. G., Cauley, S. F., Setsompop, K., Bilgic, B., Feiweier, T., Lev, et al
  2024
- **Improved reconstruction for highly accelerated propeller diffusion 1.5T clinical MRI.** *Magma (New York, N.Y.)*
  Yarach, U., Chatnuntawech, I., Setsompop, K., Suwannasak, A., Angkurawaranon, S., Madla, C., Hanprasertpong, C., Sangpin, P.
  2024
- **The Potential of Phase Constraints for Non-Fourier Radiofrequency-Encoded MRI.** *IEEE transactions on computational imaging*
  Liu, Y., Liao, C., Setsompop, K., Haldar, J. P.
  2024; 10: 223-232
- **Rapid and accurate navigators for motion and B0 tracking using QUEEN: Quantitatively enhanced parameter estimation from navigators.** *Magnetic resonance in medicine*
  Brackenier, Y., Wang, N., Liao, C., Cao, X., Schauman, S., Yurt, M., Cordero-Grande, L., Malik, S. J., Kerr, A., Hajnal, J. V., Setsompop, K.
  2024
- **Polynomial Preconditioners for Regularized Linear Inverse Problems.** *SIAM Journal on Imaging Sciences*
  Iyer, S. S., Ong, F., Cao, X., Liao, C., Daniel, L., Tamir, J. I., Setsompop, K.
  2024; 17:1 : 116-146
- **The Potential of Phase Constraints for Non-Fourier Radiofrequency-Encoded MRI** *IEEE Transactions on Computational Imaging*
  Liu, Y., Liao, C., Setsompop, K., Haldar, J. P.
  2024: 1-10
- **High-resolution myelin-water fraction and quantitative relaxation mapping using 3D ViSTa-MR fingerprinting.** *Magnetic resonance in medicine*
  Liao, C., Cao, X., Iyer, S. S., Schauman, S., Zhou, Z., Yan, X., Chen, Q., Li, Z., Wang, N., Gong, T., Wu, Z., He, H., Zhong, et al
  2023
- **High-resolution myelin-water fraction and quantitative relaxation mapping using 3D ViSTa-MR fingerprinting.** *ArXiv*
  Liao, C., Cao, X., Srinivasan Iyer, S., Schauman, S., Zhou, Z., Yan, X., Chen, Q., Li, Z., Wang, N., Gong, T., Wu, Z., He, H., Zhong, et al
  2023
- **Next-generation MRI scanner designed for ultra-high-resolution human brain imaging at 7 Tesla.** *Nature methods*
  Feinberg, D. A., Beckett, A. J., Vu, A. T., Stockmann, J., Huber, L., Ma, S., Ahn, S., Setsompop, K., Cao, X., Park, S., Liu, C., Wald, L. L., Polimeni, et al
  2023
- **DTI-MR fingerprinting for rapid high-resolution whole-brain T1 , T2 , proton density, ADC, and fractional anisotropy mapping.** *Magnetic resonance in medicine*
  Cao, X., Liao, C., Zhou, Z., Zhong, Z., Li, Z., Dai, E., Iyer, S. S., Hannum, A. J., Yurt, M., Schauman, S., Chen, Q., Wang, N., Wei, et al

2023

- **Time-efficient, high-resolution 3T whole-brain relaxometry using 3D-QALAS with wave-CAIPI readouts.** *Magnetic resonance in medicine*
  Cho, J., Gagoski, B., Kim, T. H., Wang, F., Manhard, M. K., Dean, D. 3., Kecskemeti, S., Caprihan, A., Lo, W., Splitthoff, D. N., Liu, W., Polak, D., Cauley, et al
  2023
- **High-fidelity mesoscale in-vivo diffusion MRI through gSlider-BUDA and circular EPI with S-LORAKS reconstruction.** *NeuroImage*
  Liao, C., Yarach, U., Cao, X., Iyer, S. S., Wang, N., Kim, T. H., Tian, Q., Bilgic, B., Kerr, A. B., Setsompop, K.
  2023: 120168
- **Deep Learning Initialized Compressed Sensing (Deli-CS) in Volumetric Spatio-Temporal Subspace Reconstruction.** *bioRxiv : the preprint server for biology*
  Iyer, S. S., Schauman, S. S., Sandino, C. M., Yurt, M., Cao, X., Liao, C., Ruengchaijatuporn, N., Chatnuntawech, I., Tong, E., Setsompop, K.
  2023
- **High-resolution motion- and phase-corrected functional MRI at 7 T using shuttered multishot echo-planar imaging.** *Magnetic resonance in medicine*
  Sengupta, S., Berman, A., Polimeni, J. R., Setsompop, K., Grissom, W. A.
  2023
- **Optimal deep brain stimulation sites and networks for stimulation of the fornix in Alzheimer's disease.** *Nature communications*
  Rios, A. S., Oxenford, S., Neudorfer, C., Butenko, K., Li, N., Rajamani, N., Boutet, A., Elias, G. J., Germann, J., Loh, A., Deeb, W., Wang, F., Setsompop, et al
  2022; 13 (1): 7707
- **Validation of a highly accelerated post-contrast wave-controlled aliasing in parallel imaging (CAIPI) 3D-T1 MPRAGE compared to standard 3D-T1 MPRAGE for detection of intracranial enhancing lesions on 3-T MRI.** *European radiology*
  Goncalves Filho, A. L., Awan, K. M., Conklin, J., Ngamsombat, C., Cauley, S. F., Setsompop, K., Liu, W., Splitthoff, D. N., Lo, W., Kirsch, J. E., Schaefer, P. W., Rapalino, O., Huang, et al
  2022
- **Clinical validation of Wave-CAIPI susceptibility-weighted imaging for routine brain MRI at 1.5 T.** *European radiology*
  Conklin, J., Figueiro Longo, M. G., Tabari, A., Lio Goncalves Filho, A., Liu, W., Splitthoff, D. N., Lo, W. C., Cauley, S. F., Setsompop, K., Schaefer, P. W., Kirsch, J. E., Rapalino, O., Huang, et al
  2022
- **Detecting Silent Acute Microinfarcts in Cerebral Small Vessel Disease Using Submillimeter Diffusion-Weighted Magnetic Resonance Imaging: Preliminary Results.** *Stroke*
  Misquitta, K., Daou, M., Conklin, J., Liao, C., Setsompop, K., Poublanc, J., Shirzadi, Z., MacIntosh, B. J., Tomlinson, G., Cohn, M., Aviv, R. I., Silver, F. L., Mandell, et al
  2022: 101161STROKEAHA122039723
- **Highly accelerated EPI with wave encoding and multi-shot simultaneous multislice imaging.** *Magnetic resonance in medicine*
  Cho, J., Liao, C., Tian, Q., Zhang, Z., Xu, J., Lo, W. C., Poser, B. A., Stenger, V. A., Stockmann, J., Setsompop, K., Bilgic, B.
  2022
- **Motion-corrected 3D-EPTI with efficient 4D navigator acquisition for fast and robust whole-brain quantitative imaging.** *Magnetic resonance in medicine*
  Dong, Z., Wang, F., Setsompop, K.
  2022
- **Blip up-down acquisition for spin- and gradient-echo imaging (BUDA-SAGE) with self-supervised denoising enables efficient T2 , T2 *, para- and dia-magnetic susceptibility mapping.** *Magnetic resonance in medicine*
  Zhang, Z., Cho, J., Wang, L., Liao, C., Shin, H. G., Cao, X., Lee, J., Xu, J., Zhang, T., Ye, H., Setsompop, K., Liu, H., Bilgic, et al
  2022
- **SNR-efficient distortion-free diffusion relaxometry imaging using accelerated echo-train shifted echo-planar time-resolving imaging (ACE-EPTI).** *Magnetic resonance in medicine*
  Dong, Z., Wang, F., Wald, L., Setsompop, K.
  2022

- **Optimized multi-axis spiral projection MR fingerprinting with subspace reconstruction for rapid whole-brain high-isotropic-resolution quantitative imaging.** *Magnetic resonance in medicine*
  Cao, X., Liao, C., Iyer, S. S., Wang, Z., Zhou, Z., Dai, E., Liberman, G., Dong, Z., Gong, T., He, H., Zhong, J., Bilgic, B., Setsompop, et al
  2022

- **Mapping the Human Connectome using Diffusion MRI at 300 mT/m Gradient Strength: Methodological Advances and Scientific Impact.** *NeuroImage*
  Fan, Q., Eichner, C., Afzali, M., Mueller, L., Tax, C. M., Davids, M., Mahmutovic, M., Keil, B., Bilgic, B., Setsompop, K., Lee, H., Tian, Q., Maffei, et al
  2022: 118958

- **Evaluation of highly accelerated wave controlled aliasing in parallel imaging (Wave-CAIPI) susceptibility-weighted imaging in the non-sedated pediatric setting: a pilot study.** *Pediatric radiology*
  Conklin, J., Tabari, A., Longo, M. G., Cobos, C. J., Setsompop, K., Cauley, S. F., Kirsch, J. E., Huang, S. Y., Rapalino, O., Gee, M. S., Caruso, P. J.
  1800

- **3D Echo Planar Time-resolved Imaging (3D-EPTI) for ultrafast multi-parametric quantitative MRI.** *NeuroImage*
  Wang, F., Dong, Z., Reese, T. G., Rosen, B., Wald, L. L., Setsompop, K.
  2022: 118963

- **Comprehensive diffusion MRI dataset for in vivo human brain microstructure mapping using 300 mT/m gradients.** *Scientific data*
  Tian, Q., Fan, Q., Witzel, T., Polackal, M. N., Ohringer, N. A., Ngamsombat, C., Russo, A. W., Machado, N., Brewer, K., Wang, F., Setsompop, K., Polimeni, J. R., Keil, et al
  1800; 9 (1): 7

- **Optimization of magnetization transfer contrast for EPI FLAIR brain imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Demir, S., Clifford, B., Lo, W., Tabari, A., Goncalves Filho, A. M., Lang, M., Cauley, S. F., Setsompop, K., Bilgic, B., Lev, M. H., Schaefer, P. W., Rapalino, O., Huang, et al
  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

- **An artificial intelligence-accelerated 2-minute multi-shot echo planar imaging protocol for comprehensive high-quality clinical brain imaging.** *Magnetic resonance in medicine*
  Clifford, B., Conklin, J., Huang, S. Y., Feiweier, T., Hosseini, Z., Goncalves Filho, A. L., Tabari, A., Demir, S., Lo, W., Longo, M. G., Lev, M., Schaefer, P., Rapalino, et al
  1800

- **High-fidelity fast volumetric brain MRI using synergistic wave-controlled aliasing in parallel imaging and a hybrid denoising generative adversarial network (HDnGAN).** *Medical physics*
  Li, Z., Tian, Q., Ngamsombat, C., Cartmell, S., Conklin, J., Filho, A. L., Lo, W., Wang, G., Ying, K., Setsompop, K., Fan, Q., Bilgic, B., Cauley, et al
  1800

- **Simultaneous pure T2 and varying T2'-weighted BOLD fMRI using Echo Planar Time-resolved Imaging for mapping cortical-depth dependent responses.** *NeuroImage*
  Wang, F., Dong, Z., Wald, L. L., Polimeni, J. R., Setsompop, K.
  2021; 245: 118641

- **Scout accelerated motion estimation and reduction (SAMER).** *Magnetic resonance in medicine*
  Polak, D., Splitthoff, D. N., Clifford, B., Lo, W., Huang, S. Y., Conklin, J., Wald, L. L., Setsompop, K., Cauley, S.
  2021

- **Comparison of ultrafast wave-controlled aliasing in parallel imaging (CAIPI) magnetization-prepared rapid acquisition gradient echo (MP-RAGE) and standard MP-RAGE in non-sedated children: initial clinical experience.** *Pediatric radiology*
  Tabari, A., Conklin, J., Figueiro Longo, M. G., Jaimes, C., Setsompop, K., Cauley, S. F., Kirsch, J. E., Huang, S. Y., Rapalino, O., Gee, M. S., Caruso, P. J.
  2021

- **Evaluation of Ultrafast Wave-Controlled Aliasing in Parallel Imaging 3D-FLAIR in the Visualization and Volumetric Estimation of Cerebral White Matter Lesions.** *AJNR. American journal of neuroradiology*

Ngamsombat, C., Goncalves Filho, A. L., Longo, M. G., Cauley, S. F., Setsompop, K., Kirsch, J. E., Tian, Q., Fan, Q., Polak, D., Liu, W., Lo, W., Gilberto Gonzalez, R., Schaefer, et al
2021

- **Feasibility of accelerated 3D T1-weighted MRI using compressed sensing: application to quantitative volume measurements of human brain structures.** *Magma (New York, N.Y.)*
  Yarach, U., Saekho, S., Setsompop, K., Suwannasak, A., Boonsuth, R., Wantanajittikul, K., Angkurawaranon, S., Angkurawaranon, C., Sangpin, P.
  2021

- **MRI Highly Accelerated Wave-CAIPI T1-SPACE versus Standard T1-SPACE to detect brain gadolinium-enhancing lesions at 3T.** *Journal of neuroimaging : official journal of the American Society of Neuroimaging*
  Goncalves Filho, A. L., Longo, M. G., Conklin, J., Cauley, S. F., Polak, D., Liu, W., Splitthoff, D. N., Lo, W., Kirsch, J. E., Setsompop, K., Schaefer, P. W., Huang, S. Y., Rapalino, et al
  2021

- **Efficient T2 mapping with blip-up/down EPI and gSlider-SMS (T2 -BUDA-gSlider).** *Magnetic resonance in medicine*
  Cao, X., Wang, K., Liao, C., Zhang, Z., Srinivasan Iyer, S., Chen, Z., Lo, W., Liu, H., He, H., Setsompop, K., Zhong, J., Bilgic, B.
  2021

- **Segmented simultaneous multi-slice diffusion-weighted imaging with navigated 3D rigid motion correction.** *Magnetic resonance in medicine*
  Riedel Ne Steinhoff, M., Setsompop, K., Mertins, A., Bornert, P.
  2021

- **Coupled Neural, Vascular, and Cerebrospinal Fluid Dynamics in Human Sleep**
  Fultz, N., Bonmassar, G., Setsompop, K., Stickgold, R., Rosen, B., Polimeni, J., Lewis, L.
  ELSEVIER SCIENCE INC.2021: S31

- **A multi-inversion multi-echo spin and gradient echo echo planar imaging sequence with low image distortion for rapid quantitative parameter mapping and synthetic image contrasts** *MAGNETIC RESONANCE IN MEDICINE*
  Manhard, M., Stockmann, J., Liao, C., Park, D., Han, S., Fair, M., van den Boomen, M., Polimeni, J., Bilgic, B., Setsompop, K.
  2021

- **Variable flip angle Echo Planar Time-Resolved Imaging (vFA-EPTI) for fast high-resolution gradient echo myelin water imaging.** *NeuroImage*
  Dong, Z., Wang, F., Chan, K., Reese, T. G., Bilgic, B., Marques, J. P., Setsompop, K.
  2021: 117897

- **In vivo human whole-brain Connectom diffusion MRI dataset at 760 µm isotropic resolution.** *Scientific data*
  Wang, F. n., Dong, Z. n., Tian, Q. n., Liao, C. n., Fan, Q. n., Hoge, W. S., Keil, B. n., Polimeni, J. R., Wald, L. L., Huang, S. Y., Setsompop, K. n.
  2021; 8 (1): 122

- **Connectome 2.0: Developing the next-generation ultra-high gradient strength human MRI scanner for bridging studies of the micro-, meso- and macro-connectome.** *NeuroImage*
  Huang, S. Y., Witzel, T., Keil, B., Scholz, A., Davids, M., Dietz, P., Rummert, E., Ramb, R., Kirsch, J. E., Yendiki, A., Fan, Q., Tian, Q., Ramos-Llordén, et al
  2021: 118530

- **A 31-channel integrated "AC/DC" B0 shim and radiofrequency receive array coil for improved 7T MRI.** *Magnetic resonance in medicine*
  Stockmann, J. P., Arango, N. S., Witzel, T., Mareyam, A., Sappo, C., Zhou, J., Jenkins, L., Craven-Brightman, L., Milshteyn, E., Davids, M., Hoge, W. S., Sliwiak, M., Nasr, et al
  2021

- **SNR-enhanced diffusion MRI with structure-preserving low-rank denoising in reproducing kernel Hilbert spaces.** *Magnetic resonance in medicine*
  Ramos-Llordén, G. n., Vegas-Sánchez-Ferrero, G. n., Liao, C. n., Westin, C. F., Setsompop, K. n., Rathi, Y. n.
  2021

- **Distortion-free, high-isotropic-resolution diffusion MRI with gSlider BUDA-EPI and multicoil dynamic B0 shimming.** *Magnetic resonance in medicine*
  Liao, C. n., Bilgic, B. n., Tian, Q. n., Stockmann, J. P., Cao, X. n., Fan, Q. n., Iyer, S. S., Wang, F. n., Ngamsombat, C. n., Lo, W. C., Manhard, M. K., Huang, S. Y., Wald, et al

2021

- **Robust autocalibrated structured low-rank EPI ghost correction.** *Magnetic resonance in medicine*
  Lobos, R. A., Hoge, W. S., Javed, A., Liao, C., Setsompop, K., Nayak, K. S., Haldar, J. P.
  2020
- **Diffusion-PEPTIDE: Distortion- and blurring-free diffusion imaging with self-navigated motion-correction and relaxometry capabilities.** *Magnetic resonance in medicine*
  Fair, M. J., Liao, C., Manhard, M. K., Setsompop, K.
  2020
- **Nonlinear dipole inversion (NDI) enables robust quantitative susceptibility mapping (QSM).** *NMR in biomedicine*
  Polak, D., Chatnuntawech, I., Yoon, J., Iyer, S. S., Milovic, C., Lee, J., Bachert, P., Adalsteinsson, E., Setsompop, K., Bilgic, B.
  2020; 33 (12): e4271
- **Improving in vivo human cerebral cortical surface reconstruction using data-driven super-resolution.** *Cerebral cortex (New York, N.Y. : 1991)*
  Tian, Q., Bilgic, B., Fan, Q., Ngamsombat, C., Zaretskaya, N., Fultz, N. E., Ohringer, N. A., Chaudhari, A. S., Hu, Y., Witzel, T., Setsompop, K., Polimeni, J. R., Huang, et al
  2020
- **Axon diameter index estimation independent of fiber orientation distribution using high-gradient diffusion MRI.** *NeuroImage*
  Fan, Q., Nummenmaa, A., Witzel, T., Ohringer, N., Tian, Q., Setsompop, K., Klawiter, E. C., Rosen, B. R., Wald, L. L., Huang, S. Y.
  2020; 222: 117197
- **Ultra-high spatial resolution BOLD fMRI in humans using combined segmented-accelerated VFA-FLEET with a recursive RF pulse design** *MAGNETIC RESONANCE IN MEDICINE*
  Berman, A. J. L., Grissom, W. A., Witzel, T., Nasr, S., Park, D. J., Setsompop, K., Polimeni, J. R.
  2020
- **SURE-based automatic parameter selection for ESPIRiT calibration** *MAGNETIC RESONANCE IN MEDICINE*
  Iyer, S., Ong, F., Setsompop, K., Doneva, M., Lustig, M.
  2020
- **DeepDTI: High-fidelity six-direction diffusion tensor imaging using deep learning.** *NeuroImage*
  Tian, Q., Bilgic, B., Fan, Q., Liao, C., Ngamsombat, C., Hu, Y., Witzel, T., Setsompop, K., Polimeni, J. R., Huang, S. Y.
  2020: 117017
- **Echo planar time-resolved imaging with subspace reconstruction and optimized spatiotemporal encoding** *MAGNETIC RESONANCE IN MEDICINE*
  Dong, Z., Wang, F., Reese, T. G., Bilgic, B., Setsompop, K.
  2020: 2442–55
- **Joint multi-contrast variational network reconstruction (jVN) with application to rapid 2D and 3D imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Polak, D., Cauley, S., Bilgic, B., Gong, E., Bachert, P., Adalsteinsson, E., Setsompop, K.
  2020; 84 (3): 1456–69
- **High-fidelity, accelerated whole-brain submillimeter in vivo diffusion MRI using gSlider-spherical ridgelets (gSlider-SR)** *MAGNETIC RESONANCE IN MEDICINE*
  Ramos-Llorden, G., Ning, L., Liao, C., Mukhometzianov, R., Michailovich, O., Setsompop, K., Rathi, Y.
  2020; 84 (4): 1781–95
- **Blood Oxygen Level-Dependent MRI of the Myocardium with Multiecho Gradient-Echo Spin-Echo Imaging** *RADIOLOGY*
  van den Boomen, M., Manhard, M., Snel, G. H., Han, S., Emblem, K. E., Slart, R. A., Sosnovik, D. E., Catana, C., Rosen, B. R., Prakken, N. H. J., Nguyen, C. T., Borra, R. J. H., Setsompop, et al
  2020; 294 (3): 538–45
- **Fast submillimeter diffusion MRI using gSlider-SMS and SNR-enhancing joint reconstruction** *MAGNETIC RESONANCE IN MEDICINE*
  Haldar, J. P., Liu, Y., Liao, C., Fan, Q., Setsompop, K.
  2020; 84 (2): 762–76

- **Further Development of Subspace Imaging to Magnetic Resonance Fingerprinting: A Low-rank Tensor Approach.** *Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference*
  Zhao, B., Setsompop, K., Salat, D., Wald, L. L.
  2020; 2020: 1662–66

- **FURTHER DEVELOPMENT OF SUBSPACE IMAGING TO MAGNETIC RESONANCE FINGERPRINTING: A LOW-RANK TENSOR APPROACH**
  Zhao, B., Setsompop, K., Salat, D., Wald, L. L., IEEE
  IEEE.2020: 1662–66

- **Accelerated Post-contrast Wave-CAIPI T1 SPACE Achieves Equivalent Diagnostic Performance Compared With Standard T1 SPACE for the Detection of Brain Metastases in Clinical 3T MRI.** *Frontiers in neurology*
  Goncalves Filho, A. L., Conklin, J., Longo, M. G., Cauley, S. F., Polak, D., Liu, W., Splitthoff, D. N., Lo, W., Kirsch, J. E., Setsompop, K., Schaefer, P. W., Huang, S. Y., Rapalino, et al
  2020; 11: 587327

- **High-fidelity, high-isotropic-resolution diffusion imaging through gSlider acquisition with B 1 + and T1 corrections and integrated ΔB0 /Rx shim array.** *Magnetic resonance in medicine*
  Liao, C. n., Stockmann, J. n., Tian, Q. n., Bilgic, B. n., Arango, N. S., Manhard, M. K., Huang, S. Y., Grissom, W. A., Wald, L. L., Setsompop, K. n.
  2020; 83 (1): 56–67

- **Linear Predictability in Magnetic Resonance Imaging Reconstruction: Leveraging Shift-Invariant Fourier Structure for Faster and Better Imaging** *IEEE SIGNAL PROCESSING MAGAZINE*
  Haldar, J. P., Setsompop, K.
  2020; 37 (1): 69–82

- **Accelerated spin-echo functional MRI using multisection excitation by simultaneous spin-echo interleaving (MESSI) with complex-encoded generalized slice dithered enhanced resolution (cgSlider) simultaneous multislice echo-planar imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Han, S., Liao, C., Manhard, M., Park, D., Bilgic, B., Fair, M. J., Wang, F., Blazejewska, A., Grissom, W. A., Polimeni, J. R., Setsompop, K.
  2020; 84 (1): 206–20

- **Propeller echo-planar time-resolved imaging with dynamic encoding** *MAGNETIC RESONANCE IN MEDICINE*
  Fair, M. J., Wang, F., Dong, Z., Reese, T. G., Setsompop, K.
  2020; 83 (6): 2124–37

- **Coupled electrophysiological, hemodynamic, and cerebrospinal fluid oscillations in human sleep** *SCIENCE*
  Fultz, N. E., Bonmassar, G., Setsompop, K., Stickgold, R. A., Rosen, B. R., Polimeni, J. R., Lewis, L. D.
  2019; 366 (6465): 628-+

- **Highly accelerated multishot echo planar imaging through synergistic machine learning and joint reconstruction** *MAGNETIC RESONANCE IN MEDICINE*
  Bilgic, B., Chatnuntawech, I., Manhard, M., Tian, Q., Liao, C., Iyer, S. S., Cauley, S. F., Huang, S. Y., Polimeni, J. R., Wald, L. L., Setsompop, K.
  2019; 82 (4): 1343–58

- **Network Accelerated Motion Estimation and Reduction (NAMER): Convolutional neural network guided retrospective motion correction using a separable motion model** *MAGNETIC RESONANCE IN MEDICINE*
  Haskell, M. W., Cauley, S. F., Bilgic, B., Hossbach, J., Splitthoff, D. N., Pfeuffer, J., Setsompop, K., Wald, L. L.
  2019; 82 (4): 1452–61

- **Full utilization of conjugate symmetry: combining virtual conjugate coil reconstruction with partial Fourier imaging for g-factor reduction in accelerated MRI** *MAGNETIC RESONANCE IN MEDICINE*
  Kettinger, A. O., Setsompop, K., Kannengiesser, S. A. R., Breuer, F. A., Vidnyanszky, Z., Blaimer, M.
  2019; 82 (3): 1073–90

- **Highly-accelerated volumetric brain examination using optimized wave-CAIPI encoding** *JOURNAL OF MAGNETIC RESONANCE IMAGING*
  Polak, D., Cauley, S., Huang, S. Y., Longo, M., Conklin, J., Bilgic, B., Ohringer, N., Raithel, E., Bachert, P., Wald, L. L., Setsompop, K.
  2019; 50 (3): 961–74

- **Accelerated whole-brain perfusion imaging using a simultaneous multislice spin-echo and gradient-echo sequence with joint virtual coil reconstruction** *MAGNETIC RESONANCE IN MEDICINE*

Manhard, M., Bilgic, B., Liao, C., Han, S., Witzel, T., Yen, Y., Setsompop, K.
2019; 82 (3): 973–83

- **Phase-matched virtual coil reconstruction for highly accelerated diffusion echo-planar imaging** *NEUROIMAGE*
  Liao, C., Manhard, M., Bilgic, B., Tian, Q., Fan, Q., Han, S., Wang, F., Park, D., Witzel, T., Zhong, J., Wang, H., Wald, L. L., Setsompop, et al
  2019; 194: 291–302
- **Echo planar time-resolved imaging (EPTI)** *MAGNETIC RESONANCE IN MEDICINE*
  Wang, F., Dong, Z., Reese, T. G., Bilgic, B., Manhard, M., Chen, J., Polimeni, J. R., Wald, L. L., Setsompop, K.
  2019; 81 (6): 3599–3615
- **The quest for high spatial resolution diffusion-weighted imaging of the human brain in vivo** *NMR IN BIOMEDICINE*
  Holdsworth, S. J., O'Halloran, R., Setsompop, K.
  2019; 32 (4): e4056
- **Optimal Experiment Design for Magnetic Resonance Fingerprinting: Cramer-Rao Bound Meets Spin Dynamics** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Zhao, B., Haldar, J. P., Liao, C., Ma, D., Jiang, Y., Griswold, M. A., Setsompop, K., Wald, L. L.
  2019; 38 (3): 844–61
- **Wave-LORAKS: Combining wave encoding with structured low-rank matrix modeling for more highly accelerated 3D imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Kim, T., Bilgic, B., Polak, D., Setsompop, K., Haldar, J. P.
  2019; 81 (3): 1620–33
- **Highly efficient MRI through multi-shot echo planar imaging**
  Liao, C., Cao, X., Cho, J., Zhang, Z., Setsompop, K., Bilgic, B.
  edited by VanDeVille, D., Papadakis, M., Lu, Y. M.
  SPIE-INT SOC OPTICAL ENGINEERING.2019
- **Tilted-CAIPI for highly accelerated distortion-free EPI with point spread function (PSF) encoding** *MAGNETIC RESONANCE IN MEDICINE*
  Dong, Z., Wang, F., Reese, T. G., Manhard, M., Bilgic, B., Wald, L. L., Guo, H., Setsompop, K.
  2019; 81 (1): 377–92
- **Motion-robust sub-millimeter isotropic diffusion imaging through motion corrected generalized slice dithered enhanced resolution (MC-gSlider) acquisition** *MAGNETIC RESONANCE IN MEDICINE*
  Wang, F., Bilgic, B., Dong, Z., Manhard, M., Ohringer, N., Zhao, B., Haskell, M., Cauley, S. F., Fan, Q., Witzel, T., Adalsteinsson, E., Wald, L. L., Setsompop, et al
  2018; 80 (5): 1891–1906
- **Stimulus-dependent hemodynamic response timing across the human subcortical-cortical visual pathway identified through high spatiotemporal resolution 7T fMRI** *NEUROIMAGE*
  Lewis, L. D., Setsompop, K., Rosen, B. R., Polimeni, J. R.
  2018; 181: 279–91
- **Dynamic 2D self-phase-map Nyquist ghost correction for simultaneous multi-slice echo planar imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Yarach, U., Tung, Y., Setsompop, K., In, M., Chatnuntawech, I., Yakupov, R., Godenschweger, F., Speck, O.
  2018; 80 (4): 1577–87
- **Quantitative susceptibility mapping using deep neural network: QSMnet** *NEUROIMAGE*
  Yoon, J., Gong, E., Chatnuntawech, I., Bilgic, B., Lee, J., Jung, W., Ko, J., Jung, H., Setsompop, K., Zaharchuk, G., Kim, E., Pauly, J., Lee, et al
  2018; 179: 199–206
- **Dual-polarity slice-GRAPPA for concurrent ghost correction and slice separation in simultaneous multi-slice EPI** *MAGNETIC RESONANCE IN MEDICINE*
  Hoge, W., Setsompop, K., Polimeni, J. R.
  2018; 80 (4): 1364–75
- **Wave-CAIPI ViSTa: highly accelerated whole-brain direct myelin water imaging with zero-padding reconstruction** *MAGNETIC RESONANCE IN MEDICINE*

Wu, Z., Bilgic, B., He, H., Tong, Q., Sun, Y., Du, Y., Setsompop, K., Zhong, J.
2018; 80 (3): 1061–73

- **Improving parallel imaging by jointly reconstructing multi-contrast data** *MAGNETIC RESONANCE IN MEDICINE*
  Bilgic, B., Kim, T., Liao, C., Manhard, M., Wald, L. L., Haldar, J. P., Setsompop, K.
  2018; 80 (2): 619–32
- **Prefrontal Cortex Stimulation Enhances Fear Extinction Memory in Humans** *BIOLOGICAL PSYCHIATRY*
  Raij, T., Nummenmaa, A., Marin, M., Porter, D., Furtak, S., Setsompop, K., Milad, M. R.
  2018; 84 (2): 129–37
- **Simultaneous Multislice Resting-State Functional Magnetic Resonance Imaging at 3 Tesla: Slice-Acceleration-Related Biases in Physiological Effects** *BRAIN CONNECTIVITY*
  Golestani, A. M., Faraji-Dana, Z., Kayvanrad, M., Setsompop, K., Graham, S. J., Chen, J.
  2018; 8 (2): 82–93
- **Pulse sequences and parallel imaging for high spatiotemporal resolution MRI at ultra-high field** *NEUROIMAGE*
  Poser, B. A., Setsompop, K.
  2018; 168: 101–18
- **Improved magnetic resonance fingerprinting reconstruction with low-rank and subspace modeling** *MAGNETIC RESONANCE IN MEDICINE*
  Zhao, B., Setsompop, K., Adalsteinsson, E., Gagoski, B., Ye, H., Ma, D., Jiang, Y., Grant, P., Griswold, M. A., Wald, L. L.
  2018; 79 (2): 933–42
- **Evaluation of SLIce Dithered Enhanced Resolution Simultaneous MultiSlice (SLIDER-SMS) for human fMRI** *NEUROIMAGE*
  Vu, A. T., Beckett, A., Setsompop, K., Feinberg, D. A.
  2018; 164: 164–71
- **High-resolution in vivo diffusion imaging of the human brain with generalized slice dithered enhanced resolution: Simultaneous multislice (gSlider-SMS)** *MAGNETIC RESONANCE IN MEDICINE*
  Setsompop, K., Fan, Q., Stockmann, J., Bilgic, B., Huang, S., Cauley, S. F., Nummenmaa, A., Wang, F., Rathi, Y., Witzel, T., Wald, L. L.
  2018; 79 (1): 141–51
- **Wave-CAIPI for highly accelerated MP-RAGE imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Polak, D., Setsompop, K., Cauley, S. F., Gagoski, B. A., Bhat, H., Maier, F., Bachert, P., Wald, L. L., Bilgic, B.
  2018; 79 (1): 401–6
- **3D MR fingerprinting with accelerated stack-of-spirals and hybrid sliding-window and GRAPPA reconstruction** *NEUROIMAGE*
  Liao, C., Bilgic, B., Manhard, M., Zhao, B., Cao, X., Zhong, J., Wald, L. L., Setsompop, K.
  2017; 162: 13–22
- **Use of Pattern Recognition for Unaliasing Simultaneously Acquired Slices in Simultaneous Multislice MR Fingerprinting** *MAGNETIC RESONANCE IN MEDICINE*
  Jiang, Y., Ma, D., Bhat, H., Ye, H., Cauley, S. F., Wald, L. L., Setsompop, K., Griswold, M. A.
  2017; 78 (5): 1870–76
- **Advancing RF pulse design using an open-competition format: Report from the 2015 ISMRM challenge** *MAGNETIC RESONANCE IN MEDICINE*
  Grissom, W. A., Setsompop, K., Hurley, S. A., Tsao, J., Velikina, J. V., Samsonov, A. A.
  2017; 78 (4): 1352–61
- **Autocalibrated wave-CAIPI reconstruction; Joint optimization of k-space trajectory and parallel imaging reconstruction** *MAGNETIC RESONANCE IN MEDICINE*
  Cauley, S. F., Setsompop, K., Bilgic, B., Bhat, H., Gagoski, B., Wald, L. L.
  2017; 78 (3): 1093–99
- **New insights about time-varying diffusivity and its estimation from diffusion MRI** *MAGNETIC RESONANCE IN MEDICINE*
  Ning, L., Setsompop, K., Westin, C., Rathi, Y.
  2017; 78 (2): 763–74
- **Simultaneous Time Interleaved MultiSlice (STIMS) for Rapid Susceptibility Weighted acquisition** *NEUROIMAGE*

Bilgic, B., Ye, H., Wald, L. L., Setsompop, K.
2017; 155: 577–86

- **Simultaneous multislice magnetic resonance fingerprinting (SMS-MRF) with direct-spiral slice-GRAPPA (ds-SG) reconstruction** *MAGNETIC RESONANCE IN MEDICINE*
  Ye, H., Cauley, S. F., Gagoski, B., Bilgic, B., Ma, D., Jiang, Y., Du, Y. P., Griswold, M. A., Wald, L. L., Setsompop, K.
  2017; 77 (5): 1966–74
- **Single-step quantitative susceptibility mapping with variational penalties**
  Chatnuntawech, I., McDaniel, P., Cauley, S. F., Gagoski, B. A., Langkammer, C., Martin, A., Grantc, P., Wald, L. L., Setsompop, K., Adalsteinsson, E., Bilgic, B.
  WILEY.2017
- **Diffusion Tractography of the Entire Left Ventricle by Using Free-breathing Accelerated Simultaneous Multisection Imaging** *RADIOLOGY*
  Mekkaoui, C., Reese, T. G., Jackowski, M. P., Cauley, S. F., Setsompop, K., Bhat, H., Sosnovik, D. E.
  2017; 282 (3): 850–56
- **LORAKS Makes Better SENSE: Phase-Constrained Partial Fourier SENSE Reconstruction Without Phase Calibration** *MAGNETIC RESONANCE IN MEDICINE*
  Kim, T., Setsompop, K., Haldar, J. P.
  2017; 77 (3): 1021–35
- **SIMULTANEOUS MULTISLICE MAGNETIC RESONANCE FINGERPRINTING WITH LOW-RANK AND SUBSPACE MODELING**
  Zhao, B., Bilgic, B., Adalsteinsson, E., Griswold, M. A., Wald, L. L., Setsompop, K., IEEE
  IEEE.2017: 3264–68
- **A joint compressed-sensing and super-resolution approach for very high-resolution diffusion imaging (vol 125, pg 386, 2016)** *NEUROIMAGE*
  Ning, L., Setsompop, K., Michailovich, O., Makris, N., Shenton, M. E., Westin, C., Rathi, Y.
  2016; 142: 696
- **Fast fMRI can detect oscillatory neural activity in humans** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Lewis, L. D., Setsompop, K., Rosen, B. R., Polimeni, J. R.
  2016; 113 (43): E6679–E6685
- **Vectorial total generalized variation for accelerated multi-channel multi-contrast MRI** *MAGNETIC RESONANCE IMAGING*
  Chatnuntawech, I., Martin, A., Bilgic, B., Setsompop, K., Adalsteinsson, E., Schiavi, E.
  2016; 34 (8): 1161–70
- **Rapid brain MRI acquisition techniques at ultra-high fields** *NMR IN BIOMEDICINE*
  Setsompop, K., Feinberg, D. A., Polimeni, J. R.
  2016; 29 (9): 1198–1221
- **Maximum Likelihood Reconstruction for Magnetic Resonance Fingerprinting** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Zhao, B., Setsompop, K., Ye, H., Cauley, S. F., Wald, L. L.
  2016; 35 (8): 1812–23
- **Music-Based Magnetic Resonance Fingerprinting to Improve Patient Comfort During MRI Examinations** *MAGNETIC RESONANCE IN MEDICINE*
  Ma, D., Pierre, E. Y., Jiang, Y., Schluchter, M. D., Setsompop, K., Gulani, V., Griswold, M. A.
  2016; 75 (6): 2303–14
- **In vivo functional connectome of human brainstem nuclei of the ascending arousal, autonomic, and motor systems by high spatial resolution 7-Tesla fMRI** *MAGNETIC RESONANCE MATERIALS IN PHYSICS BIOLOGY AND MEDICINE*
  Bianciardi, M., Toschi, N., Eichner, C., Polimeni, J. R., Setsompop, K., Brown, E. N., Hamalainen, M. S., Rosen, B. R., Wald, L. L.
  2016; 29 (3): 451–62
- **Accelerating magnetic resonance fingerprinting (MRF) using t-blipped simultaneous multislice (SMS) acquisition** *MAGNETIC RESONANCE IN MEDICINE*
  Ye, H., Ma, D., Jiang, Y., Cauley, S. F., Du, Y., Wald, L. L., Griswold, M. A., Setsompop, K.

2016; 75 (5): 2078–85

- **A joint compressed-sensing and super-resolution approach for very high-resolution diffusion imaging** *NEUROIMAGE*
  Ning, L., Setsompop, K., Michailovich, O., Makris, N., Shenton, M. E., Westin, C., Rathi, Y.
  2016; 125: 386–400
- **Rapid multi-orientation quantitative susceptibility mapping** *NEUROIMAGE*
  Bilgic, B., Xie, L., Dibb, R., Langkammer, C., Mutluay, A., Ye, H., Polimeni, J. R., Augustinack, J., Liu, C., Wald, L. L., Setsompop, K.
  2016; 125: 1131–41
- **OPTIMAL EXPERIMENT DESIGN FOR MAGNETIC RESONANCE FINGERPRINTING**
  Zhao, B., Haldar, J. P., Setsompop, K., Wald, L. L.
  edited by Patton, J., Barbieri, R., Ji, J., Jabbari, E., Dokos, S., Mukkamala, R., Guiraud, D., Jovanov, E., Dhaher, Y., Panescu, D., Vangils, M., Wheeler, B., Dhawan, A. P.
  IEEE.2016: 453–56
- **A 32-Channel Combined RF and B-0 Shim Array for 3T Brain Imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Stockmann, J. P., Witzel, T., Keil, B., Polimeni, J. R., Mareyam, A., LaPierre, C., Setsompop, K., Wald, L. L.
  2016; 75 (1): 441–51
- **Toward an In Vivo Neuroimaging Template of Human Brainstem Nuclei of the Ascending Arousal, Autonomic, and Motor Systems** *BRAIN CONNECTIVITY*
  Bianciardi, M., Toschi, N., Edlow, B. L., Eichner, C., Setsompop, K., Polimeni, J. R., Brown, E. N., Kinney, H. C., Rosen, B. R., Wald, L. L.
  2015; 5 (10): 597–607
- **Real diffusion-weighted MRI enabling true signal averaging and increased diffusion contrast** *NEUROIMAGE*
  Eichner, C., Cauley, S. F., Cohen-Adad, J., Moeller, H. E., Turner, R., Setsompop, K., Wald, L. L.
  2015; 122: 373–84
- **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
- **Fast group matching for MR fingerprinting reconstruction** *MAGNETIC RESONANCE IN MEDICINE*
  Cauley, S. F., Setsompop, K., Ma, D., Jiang, Y., Ye, H., Adalsteinsson, E., Griswold, M. A., Wald, L. L.
  2015; 74 (2): 523–28
- **Accelerated H-1 MRSI using randomly undersampled spiral-based k-space trajectories** *MAGNETIC RESONANCE IN MEDICINE*
  Chatnuntawech, I., Gagoski, B., Bilgic, B., Cauley, S. F., Setsompop, K., Adalsteinsson, E.
  2015; 74 (1): 13–24
- **Wave-CAIPI for highly accelerated 3D imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Bilgic, B., Gagoski, B. A., Cauley, S. F., Fan, A. P., Polimeni, J. R., Grant, P., Wald, L. L., Setsompop, K.
  2015; 73 (6): 2152–62
- **Design of Parallel Transmission Pulses for Simultaneous Multislice with Explicit Control for Peak Power and Local Specific Absorption Rate** *MAGNETIC RESONANCE IN MEDICINE*
  Guerin, B., Setsompop, K., Ye, H., Poser, B. A., Stenger, A. V., Wald, L. L.
  2015; 73 (5): 1946–53
- **RARE/Turbo Spin Echo Imaging with Simultaneous Multislice Wave-CAIPI** *MAGNETIC RESONANCE IN MEDICINE*
  Gagoski, B. A., Bilgic, B., Eichner, C., Bhat, H., Grant, P., Wald, L. L., Setsompop, K.
  2015; 73 (3): 929–38
- **Fast Reconstruction for Multichannel Compressed Sensing Using a Hierarchically Semiseparable Solver** *MAGNETIC RESONANCE IN MEDICINE*
  Cauley, S. F., Xi, Y., Bilgic, B., Xia, J., Adalsteinsson, E., Balakrishnan, V., Wald, L. L., Setsompop, K.
  2015; 73 (3): 1034–40
- **Sparse Methods for Quantitative Susceptibility Mapping**
  Bilgic, B., Chatnuntawech, I., Langkammer, C., Setsompop, K.

edited by Papadakis, M., Goyal, V. K., VanDeVille, D.
SPIE-INT SOC OPTICAL ENGINEERING.2015

- **A Compressed-Sensing Approach for Super-Resolution Reconstruction of Diffusion MRI.** *Information processing in medical imaging : proceedings of the ... conference*
  Ning, L., Setsompop, K., Michailovich, O., Makris, N., Westin, C., Rathi, Y.
  2015; 24: 57–68
- **MAXIMUM LIKELIHOOD RECONSTRUCTION FOR MAGNETIC RESONANCE FINGERPRINTING**
  Zhao, B., Lam, F., Bilgicy, B., Ye, H., Setsompop, K., IEEE
  IEEE.2015: 905–9
- **FAST RECONSTRUCTION FOR ACCELERATED MULTI-SLICE MULTI-CONTRAST MRI**
  Chatnuntawech, I., Bilgic, B., Martin, A., Setsompop, K., Adalsteinsson, E., IEEE
  IEEE.2015: 335–38
- **Fast Quantitative Susceptibility Mapping with L1-Regularization and Automatic Parameter Selection** *MAGNETIC RESONANCE IN MEDICINE*
  Bilgic, B., Fan, A. P., Polimeni, J. R., Cauley, S. F., Bianciardi, M., Adalsteinsson, E., Wald, L. L., Setsompop, K.
  2014; 72 (5): 1444-1459
- **A Low Power Radiofrequency Pulse for Simultaneous Multislice Excitation and Refocusing** *MAGNETIC RESONANCE IN MEDICINE*
  Eichner, C., Wald, L. L., Setsompop, K.
  2014; 72 (4): 949–58
- **Slice Accelerated Gradient-Echo Spin-Echo Dynamic Susceptibility Contrast Imaging with Blipped CAIPI for Increased Slice Coverage** *MAGNETIC RESONANCE IN MEDICINE*
  Eichner, C., Jafari-Khouzani, K., Cauley, S., Bhat, H., Polaskova, P., Andronesi, O. C., Rapalino, O., Turner, R., Wald, L. L., Stufflebeam, S., Setsompop, K.
  2014; 72 (3): 770–78
- **Nineteen-Channel Receive Array and Four-Channel Transmit Array Coil for Cervical Spinal Cord Imaging at 7T** *MAGNETIC RESONANCE IN MEDICINE*
  Zhao, W., Cohen-Adad, J., Polimeni, J. R., Keil, B., Guerin, B., Setsompop, K., Serano, P., Mareyam, A., Hoecht, P., Wald, L. L.
  2014; 72 (1): 291–300
- **Fast Image Reconstruction With L2-Regularization** *JOURNAL OF MAGNETIC RESONANCE IMAGING*
  Bilgic, B., Chatnuntawech, I., Fan, A. P., Setsompop, K., Cauley, S. F., Wald, L. L., Adalsteinsson, E.
  2014; 40 (1): 181–91
- **Interslice Leakage Artifact Reduction Technique for Simultaneous Multislice Acquisitions** *MAGNETIC RESONANCE IN MEDICINE*
  Cauley, S. F., Polimeni, J. R., Bhat, H., Wald, L. L., Setsompop, K.
  2014; 72 (1): 93–102
- **Improving the spatial resolution of magnetic resonance inverse imaging via the blipped-CAIPI acquisition scheme** *NEUROIMAGE*
  Chang, W., Setsompop, K., Ahveninen, J., Belliveau, J. W., Witzel, T., Lin, F.
  2014; 91: 401–11
- **Slice Accelerated Diffusion-Weighted Imaging at Ultra-High Field Strength** *MAGNETIC RESONANCE IN MEDICINE*
  Eichner, C., Setsompop, K., Koopmans, P. J., Luetzkendorf, R., Norris, D. G., Turner, R., Wald, L. L., Heidemann, R. M.
  2014; 71 (4): 1518–25
- **Simultaneous Multislice Excitation by Parallel Transmission** *MAGNETIC RESONANCE IN MEDICINE*
  Poser, B. A., Anderson, R., Guerin, B., Setsompop, K., Deng, W., Mareyam, A., Serano, P., Wald, L. L., Stenger, V.
  2014; 71 (4): 1416–27
- **Rapid High Spatial Resolution Diffusion MRI at 7 Tesla using Simultaneous MultiSlice Acquisition**
  Eichner, C., Wald, L. L., Setsompop, K., IEEE
  IEEE.2014
- **Fast Dictionary-Based Reconstruction for Diffusion Spectrum Imaging** *IEEE TRANSACTIONS ON MEDICAL IMAGING*

Bilgic, B., Chatnuntawech, I., Setsompop, K., Cauley, S. F., Yendiki, A., Wald, L. L., Adalsteinsson, E.
2013; 32 (11): 2022–33

- **A 64-channel 3T array coil for accelerated brain MRI** *MAGNETIC RESONANCE IN MEDICINE*
  Keil, B., Blau, J. N., Biber, S., Hoecht, P., Tountcheva, V., Setsompop, K., Triantafyllou, C., Wald, L. L.
  2013; 70 (1): 248–58
- **Ultra-fast MRI of the human brain with simultaneous multi-slice imaging** *JOURNAL OF MAGNETIC RESONANCE*
  Feinberg, D. A., Setsompop, K.
  2013; 229: 90–100
- **Diffusion Propagator Estimation from Sparse Measurements in a Tractography Framework**
  Rathi, Y., Gagoski, B., Setsompop, K., Michailovich, O., Grant, P., Westin, C.
  edited by Mori, K., Sakuma, Sato, Y., Barillot, C., Navab, N.
  SPRINGER-VERLAG BERLIN.2013: 510–17
- **Accelerated diffusion spectrum imaging with compressed sensing using adaptive dictionaries** *MAGNETIC RESONANCE IN MEDICINE*
  Bilgic, B., Setsompop, K., Cohen-Adad, J., Yendiki, A., Wald, L. L., Adalsteinsson, E.
  2012; 68 (6): 1747–54
- **Blipped-controlled aliasing in parallel imaging for simultaneous multislice echo planar imaging with reduced g-factor penalty** *MAGNETIC RESONANCE IN MEDICINE*
  Setsompop, K., Gagoski, B. A., Polimeni, J. R., Witzel, T., Wedeen, V. J., Wald, L. L.
  2012; 67 (5): 1210–24
- **Accelerated Diffusion Spectrum Imaging with Compressed Sensing Using Adaptive Dictionaries**
  Bilgic, B., Setsompop, K., Cohen-Adad, J., Wedeen, V., Wald, L. L., Adalsteinsson, E.
  edited by Ayache, N., Delingette, H., Golland, P., Mori, K.
  SPRINGER-VERLAG BERLIN.2012: 1–9
- **Broadband Slab Selection with B-1(+) Mitigation at 7T via Parallel Spectral-Spatial Excitation** *MAGNETIC RESONANCE IN MEDICINE*
  Setsompop, K., Alagappan, V., Gagoski, B. A., Potthast, A., Hebrank, F., Fontius, U., Schmitt, F., Wald, L. L., Adalsteinsson, E.
  2009; 61 (2): 493–500
- **Slice-Selective RF Pulses for In Vivo B(1)(+) Inhomogeneity Mitigation at 7 Tesla Using Parallel RF Excitation With a 16-Element Coil** *MAGNETIC RESONANCE IN MEDICINE*
  Setsompop, K., Alagappan, V., Gagoski, B., Witzel, T., Polimeni, J., Potthast, A., Hebrank, F., Fontius, U., Schmitt, F., Wald, L. L., Adalsteinsson, E.
  2008; 60 (6): 1422–32
- **High-flip-angle slice-selective parallel RF transmission with 8 channels at 7 T** *JOURNAL OF MAGNETIC RESONANCE*
  Setsompop, K., Alagappan, V., Zelinski, A. C., Potthast, A., Fontius, U., Hebrank, F., Schmitt, F., Wald, L. L., Adalsteinsson, E.
  2008; 195 (1): 76–84
- **Sparsity-enforced slice-selective MRI RF excitation pulse design** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Zelinski, A. C., Wald, L. L., Setsompop, K., Goyal, V. K., Adalsteinsson, E.
  2008; 27 (9): 1213–29
- **Fast slice-selective radio-frequency excitation pulses for mitigating B-1(+) inhomogeneity in the human brain at 7 tesla** *MAGNETIC RESONANCE IN MEDICINE*
  Zelinski, A. C., Wald, L. L., Setsompop, K., Alagappan, V., Gagoski, B. A., Goyal, V. K., Adalsteinsson, E.
  2008; 59 (6): 1355–64
- **Comparison of three algorithms for solving linearized systems of parallel excitation RF waveform design equations: Experiments on an eight-channel system at 3 tesla** *CONCEPTS IN MAGNETIC RESONANCE PART B-MAGNETIC RESONANCE ENGINEERING*
  Zelinski, A. C., Wald, L. L., Setsompop, K., Alagappan, V., Gagoski, B. A., Goyal, V. K., Hebrank, F., Fontius, U., Schmitt, F., Adalsteinsson, E.
  2007; 31B (3): 176–90
- **Degenerate mode band-pass birdcage coil for accelerated parallel excitation** *MAGNETIC RESONANCE IN MEDICINE*
  Alagappan, V., Nistler, J., Adalsteinsson, E., Setsompop, K., Fontius, U., Zelinski, A., Vester, M., Wiggins, G. C., Hebrank, F., Renz, W., Schmitt, F., Wald, L. L.

2007; 57 (6): 1148–58

- **Parallel RF transmission with eight channels at 3 Tesla** *MAGNETIC RESONANCE IN MEDICINE*
  Setsompop, K., Wald, L. L., Alagappan, V., Gagoski, B., Hebrank, F., Fontius, U., Schmitt, F., Adalsteinsson, E.
  2006; 56 (5): 1163–71