CURRICULUM VITAE – KAWIN SETSOMPOP, PH.D.

PERSONAL

Name	*Kawin Setsompop, Ph.D.*
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CV Updated	*May 31, 2023*

I. Educational Background

2003	M. Eng	Department of Engineering Science
	First-Class Honor	Oxford University
		Oxford, United Kingdom
2008	Ph.D.	Department of Electrical Engineering and Computer Science
		Thesis Advisor: Elfar Adalsteinsson
		Massachusetts Institute of Technology
		Cambridge, Massachusetts

2008 – 2010	Postdoctoral Fellow	Department of Radiology Harvard Medical School
2008 – 2010	Research Fellow	Department of Radiology Massachusetts General Hospital

II. Professional Appointments

2010 – 2014	Instructor	Department of Radiology Harvard Medical School
2014 – 2016	Assistant Professor	Department of Radiology Harvard Medical School
2016 – 2020	Associate Professor	Department of Radiology Harvard Medical School
2016 – 2020	Affiliated Faculty	Department of Health Sciences and Technology Harvard – MIT
2020 –	Associate Professor	Department of Radiology Stanford University
2020 –	Associate Professor *(Courtesy)*	Department of Electrical Engineering Stanford University
2020 –	Associate Chair	Research Strategic Development, Department of Radiology Stanford University
2023 –	Faculty Director	Center for Cognitive and Neurobiological Imaging (CNI) – *starting October 1, 2023*

Teaching of Students in Courses

2011, 2013, 2015	HST.580/6.556, Data Acquisition and Image Reconstruction in MRI	2x1.5 hours lectures per semester
2011, 2012	HST.582J/6.555J, Biomedical Signal and Image Processing	1.5 hours lecture per semester
2012, 2014, 2016, 2018	HST.584, Magnetic Resonance Analytic, Biochemical, and Imaging Techniques	Course Director/80 hours per semester
2012, 2015, 2017	HST.583, Functional Magnetic Resonance Imaging: Data Acquisition and Analysis	1.5 hours lecture per semester
2017	HST.563, Imaging Biophysics and Clinical Application	1.5 hours lecture per semester
2021	EE301: Introductory Research Seminar in Electrical Engineering: Algorithm design for better brain MRI	1 hour lecture
2022	BMP211: Biomedical Signals I	Co-Course director
2022	BMP210: Seminar Series for Biomedical Physics	Guest lecture: intro to neuroMR research
2023	EE369B: Medical Imaging Systems II	Course director

Laboratory and Other Research Supervisory and Training Responsibilities

Athinoula A. Martinos Center for Biomedical Imaging, MGH, Harvard Medical School

2011-2020 Supervision of undergraduate, graduate, post-doctoral research fellows
Daily mentorship

Department of Radiology and Department of Electrical Engineering, Stanford University

2020-present Supervision of undergraduate, graduate, post-doctoral research fellows
Daily mentorship

Formally Supervised Trainees

Years	*Name*	*Degree, institution*	*Role in training*	*Current position*
2011-2015	Berkin Bilgic	PhD, MIT	2011-2013: PhD Thesis committee member, supervise some of research work and co-authored three first author manuscripts 2013- 2015: Postdoctoral Fellow co-authored six first author manuscripts	Assistant Professor, Harvard Medical School
2012-2014	Cornelius Eichner	PhD, Max Plank, Leipzig University	Supervise research work during his research fellowship at MGH as part of his PhD program, co-authored four first author manuscripts	Postdoctoral Fellow, Max Plank
2011-2013	Steven Cauley	PhD, Purdue	Supervise research work during his research scientist role in my lab, co-authored five first author manuscripts	Assistant Professor, Harvard Medical School
2013-2015	HuiHui Ye	PhD, Zhejiang University	Supervise research work for her graduate study, as a visiting student in my lab for 2 years, co-authored two first author manuscripts	Instructor, Zhejiang University, China
2012-2015	Itthi Chatnuntawech	PhD, MIT	PhD Thesis committee member, supervise some of research work and co-authored two first author manuscripts	Staff Scientist, National Nanotechnology Center, Thailand
2015-2017	Haifeng Wang	PhD, UW-Milwaukee	Postdoctoral Fellow supervisor	Associate Professor, Shenzhen Institutes of Advanced Technology, China
2015-2021	Daniel Polak	Msc, Heidelberg	Supervise research work, long-term visiting PhD student (3 years), co-authored four first author manuscripts	Scientist, Siemens Healthineers

2015-2019	Bo Zhao	PhD, UIUC	Co-supervise research work of his postdoc training, co-authored three first author manuscripts	Assistant Professor, Biomedical Engineering, University of Texas at Austin
2016-2017	Elda Fischi-Gomez	PhD, EPFL	Postdoctoral Fellow supervisor	Research Associate EPFL
2016-2020	Mary Katherine Manhard	PhD, Vanderbilt	Postdoctoral Fellow supervisor, co-authored two first author manuscript	Assistant Professor, Cincinnati Children's Hospital
2016-2020	Fuyixue Wang	BSc, Tsinghua	Supervise research work, co-authored five first author manuscripts	Instructor, Harvard Medical School
2017-2019	Jun Ma	BE, Michigan	PhD Thesis committee member	Scientist, Siemens Healthineers
2016-2022	Congyu Liao	PhD, Zhejiang	Co-supervise research work (visiting student from Zhejiang University), Postdoctoral Fellow supervisor, co-authored four first author manuscripts	Instructor, Stanford
2017-2018	Jenni Schulz	BSc, Radboud	PhD Thesis committee member	Postdoctoral Fellow, Donders Centre for Cognitive Neuroimaging, Netherlands
2017-2019	Sohyun Han	PhD, Ulsan	Postdoctoral Fellow supervisor, co-authored one first author manuscript	Staff scientist, Sungkyunkwan University, South Korea
2017-2021	Zijing Dong	Msc, Tsinghua	Supervise research work (was a visiting student from Tsinghua University, and as MIT PhD student, co-authored five first author manuscript	Postdoctoral Fellow, MGH
2017-	Siddharth Srinivasan Iyer	Msc, MIT	Supervise research work, co-authored three manuscripts	PhD candidate, EECS, MIT
2017-2019	Maaike Van den Boomen	Msc, Eindhoven	Supervise research work (visiting student), co-authored one first author manuscript	Product Manager, Cercare Medical

2018-2021	Merlin Fair	PhD, Imperial College	Postdoctoral Fellow supervisor, co-authored two first author manuscript	Postdoctoral Fellow, Stanford
2018-2019	Jinmin Xu	BSc, Zhejiang	Visiting Student	PhD candidate, Zhejiang University, China
2018-2019	Gilad Liberman	PhD, Bar-Ilan	Postdoctoral Fellow supervisor	MRI Scientist, DeepSpin GmbH
2019-	XiaoZhi Cao	PhD, Zhejiang	Postdoctoral Fellow supervisor	Postdoctoral Fellow, Stanford
2021-	Sophie Schauman	PhD, Univ. of Oxford	Postdoctoral Fellow supervisor	Postdoctoral Fellow, Stanford
2021-	Nan Wang	PhD, UCLA	Postdoctoral Fellow supervisor	Postdoctoral Fellow, Stanford
2022-	Quan Chen	PhD, Shanghai Jiao Tong Univ.	Postdoctoral Fellow supervisor	Postdoctoral Fellow, Stanford
2022-	Mahmut Yurt	Msc, Bilkent Univ.	Graduate Student in Electrical Engineering, Stanford University	PhD candidate, Stanford
2022-	Ariel Hannum		Graduate Student in Bioengineering, Stanford University	PhD candidate, Stanford
2022-	Itamar Terem	Msc, Stanford	Graduate Student in Electrical Engineering, Stanford University	PhD candidate, Stanford
2022-	Molin Zhang	BSc, Tsinghua Univ.	Visiting Student Researcher	PhD candidate, EECS, MIT
2022-2023	Guanhua Wang	BSc, Tsinghua Univ.	PhD Thesis Committee Member	PhD candidate, ECE, University of Michigan
2022-2023	Yannick Brackenier	PhD, King's College	Visiting Student Researcher	PhD candidate, King's College, London
2023-	Zihan Zhou	PhD, Zhejiang Univ.	Postdoctoral Fellow supervisor	Postdoctoral Fellow, Stanford
2023-	Mengze Gao	BE, Tsinghua Univ.	Graduate Student in Biomedical Physics, Stanford University	PhD candidate, Stanford
2023-	Mark Nishimura	BS, MS, Stanford Univ.	Graduate Student in Electrical Engineering, Stanford University	PhD candidate, Stanford
2023-	Daniel Abraham	BS, UC Berkeley	Graduate Student in Electrical Engineering, Stanford University	PhD candidate, Stanford

2023-	Yonatan Urman	MSc, Tel-Aviv Univ.	Graduate Student in Electrical Engineering, Stanford University	PhD candidate, Stanford

Thesis Committee Member (Other Trainees)

Year	*Name*	*Degree*	*Institute*	*Department*
2023	Guanhua Wang	PhD	University of Michigan	Electrical Engineering
2023	Matt McCready	PhD	Stanford University	Electrical Engineering
2023	Tyler Cork	PhD	Stanford University	Electrical Engineering

Other Formal Mentoring Roles

Year	Name	Degree	Institute	Department
2022	Christoph Aigner	PhD	Postdoc, Physikalisch-Technische Bundesanstalt	ISMRM Junior Fellow career mentoring
2023	Liyong Liu	PhD	Assistant Professor, Jinan University	ISMRM Junior Fellow career mentoring

Formal Teaching of Peers (e.g., CME and other continuing education courses)

2013	*Faculty*: fMRI and Connectivity Hands-on Training, 9th Biennial Minnesota Workshops on High and Ultra-high Field Imaging, University of Minnesota	2 hrs. session, Minneapolis, Minnesota
2012-	*Faculty:* Athinoula A. Martinos center: Connectivity course	1 hr./course, ~2 courses/year, Charlestown, MA
2013-	*Faculty*: Athinoula A. Martinos center: Multi-Modality course	1 hr./course, ~2 courses/year, Charlestown, MA
2013, 2015	*Faculty*: Harvard Catalyst: Advanced Imaging Course: Neuroscience Imaging for Clinical/Translational Research	1 hr./course, Cambridge, MA
2014	*Faculty:* Intelligent MR educational session, MICCAI annual conference	1 hr. lecture, Cambridge, MA
2014-	*Faculty*: MGH Radiology, MRI mini course for residence	2 hrs. lecture, Charlestown, MA
2015-	*Faculty:* Athinoula A. Martinos center: fMRI course	2 hrs./course, ~2 courses/year, Charlestown, MA
2015	*Faculty: Hands-on training on SMS Image Reconstruction, ISMRM workshop on Simultaneous MultiSlice imaging: Neuroscience & Clinical Applications:*	2 hrs. session, Pacific Groove, California
2017	*Faculty: MGH annual Neuroradiology post graduate course*	1 hr. lecture, Boston, MA
2017	*Faculty: Introduction to Parallel Imaging and Simultaneous MultiSlice Acquisition, SMRT annual meeting*	1 hr. lecture, Hawaii

2017	*Faculty*: Prototype to Product (Pathways to Commercialization): Simultaneous MultiSlice EPI with Blipped-CAIPI; ISMRM annual meeting	30 min lecture, Hawaii
2019	*Faculty*: Fast and better MRI through tailored Undersampling; ISMRM annual meeting	30 min lecture, Montreal
2019, 2020, 2021,2022	Faculty: New directions in MRI through tailored acquisitions; Annual meeting of the Radiological Society of North America (RSNA)	25 min lecture, Chicago/Virtual

III. Honors and Awards

2000 – 2003	Keble college scholar
	Keble College, Oxford University
2008	First place, Poster Award in High Field Category
	International Society of Magnetic Resonance in Medicine (ISMRM)
2010	K99/R00 Career development award
	NIH
2012	Young Scientist Award Finalist (Mentor for Berkin Bilgic)
	MICCAI
2012 – 2014	Graduate Student Scholarship (Mentor for Cornelius Eichner)
	ERP scholarship, Federal Ministry of Economics and Technology, Germany
2015	Junior Fellow (Mentor for Berkin Bilgic)
	ISMRM
2015	Graduate Student Scholarship (Mentor for Daniel Polak)
	Bayer
2016	Postdoc Mobility Fellowship (Mentor for Elda Fischi-Gomez)
	Swiss National Science Foundation
2016	NIBIB New Horizon plenary lecture, ISMRM Annual Meeting
	ISMRM
2017	Graduate Student Scholarship (Mentor for Daniel Polak)
	Siemens
2017	F32 Postdoctoral Fellowship (Co-mentor for Bo Zhao)
	NIH
2017	Opening plenary lecture, SMRT Annual Meeting
	Society for MR Radiographers & Technologists (SMRT)
2017	First place, Poster Award in Diffusion study group (Mentor for Elda Fischi-Gomez)
	International Society of Magnetic Resonance in Medicine (ISMRM)
2018	F32 Postdoctoral Fellowship (Mentor for Mary Kate Manhard)
	NIH
2018	K99/R00 Career development award (Co-mentor for Bo Zhao)
	NIH

2018	China Scholarship Counsel (CSC) program, two-year fellowship (Mentor for Jinmin Xu) China
2019	Young Investigator Award Finalist (Mentor for Fuyixue Wang) International Society of Magnetic Resonance in Medicine (ISMRM)
2019	2nd place, Young Investigator Award (Mentor for Congyu Liao) Overseas Chinese Society for Magnetic Resonance in Medicine (OSCMRM)
2020	ISMRM Senior Fellow International Society of Magnetic Resonance in Medicine (ISMRM)
2020	First place, Diffusion study group (Mentor for Merlin Fair) International Society of Magnetic Resonance in Medicine (ISMRM)
2021	Best abstract award in the Validation Category; qMR Study Group competition (Mentor for Fuyixue Wang); International Society of Magnetic Resonance in Medicine (ISMRM)
2021	ISMRM German Chapter: Best PhD Thesis Award (Mentor for Daniel Polak)
2022	ISMRM Junior Fellow (Mentor for Congyu Liao)
	ISMRM Junior Fellow (Mentor for Nan Wang)
	ISMRM Junior Fellow (Mentor for Zijing Dong)
2023	Best poster award; ISMRM data sampling workshop (Mentor for Mahmut Yurt)

IV. Public and Professional Service

National

2010 – 2012	Organizer of Brain Mapping Seminar Athinoula A. Martinos Center for Biomedical Imaging
2012 – 2020	Director of HST 584 Magnetic Resonance Analytic, Biochemical, and Imaging Techniques Harvard-MIT Division of Health Sciences and Technology
2021 –	Faculty Search Committee: VA Neuroradiology
2021 –	Faculty Search Committee: MIPS Neuro/CVI
2021 –	Graduate Student Admission Committee: Dept. of Electrical Engineering
2021 –	Curriculum Committee: Biomedical Physics (BMP) program
2021 –	Graduate Student Admission Committee: Biomedical Physics

International

2012	Founder MR club of Thailand (MCT)
2012	Initiate, organize and chair ISMRM global outreach workshop, Thailand
2015	Advisory Board Magnetic Resonance in South East Asia workshop, Singapore

2018	Advisory Board
	KinetiCor—Motion Correction Technologies
2021	Advisory Board
	Subtle Medical

Committee Service

Local

2020	Stanford Radiology, Faculty search committees: MIPS Neuro/CVI
2020	Stanford Radiology, Faculty search committees: VA NeuroRadiology
2020	Stanford Radiology, RSL Retreat Committee
2021,2022	Stanford EE, graduate admission committee
2022	Stanford BioMedical Physics (BMP), graduate admission committee
2022	Stanford BioMedical Physics (BMP), curriculum committee
2022	Stanford Radiology, Faculty search committee: Pediatric Neuroradiology section chief
2022	Stanford's Cognitive and Neurobiological Imaging (CNI); Advisory Board member

Regional

2014	Co-organizer, Biomedical Imaging session
	40th annual Northeast Bioengineering Conference (NEBEC)

International

2018 –2020	Annual Meeting Program Committee
	(Acquisition, Reconstruction and Analysis table chair)
	International Society of Magnetic Resonance in Medicine (ISMRM)

Grant Review Activities

2015, 2018	Netherlands Organization of Scientific Research (STW)
2014	Austrian Science Fund (FWF)
2016-2019	National Institute of Health - BMIT-A study section - IGIS study section - BRAIN Initiative Fellowship (F32)
2019	Welcome Trust Fellowship (U.K.)
2021	French National Research Agency
2021-2022	National Institute of Health - EITN study section
2022	Swiss National Science Foundation
2023	Austrian Science Fund (FWF) National Institute of Health - CSR peer-review panel (videoconference), ZRG1 MCST-U 81 S, Special Topics: Neuroimaging methods and data analysis

Editorial Activities

Ad hoc reviewer

Magnetic Resonance in Medicine
NeuroImage
IEEE Transactions on Medical Imaging
Magnetic Resonance Materials in Physics, Biology and Medicine (MAGMA)
Journal of Magnetic Resonance Imaging
Nature in Biomedical Engineering
PLOS One
Human Brain Mapping

Other Editorial Roles

2015	Guest Editor Magnetic Resonance in Medicine, *Virtual Issue on Simultaneous MultiSlice Imaging*
2015 –	Editorial Board Tomography

V. Grants

Current Funding

U01 EB025162 **Feinberg/Setsompop/Wald/Liu/Mukherjee PIs** **11/01/20 – 07/31/23**
NIH/NINDS/University of California
MRI Corticography: Developing Next Generation Microscale Human Cortex MRI Scanner
We will explore the development of 128 channel head-only receiver array with 150 channel shim elements. We will also perform simulations to help aid in the design of an optimal gradient system for head imaging at ultra-high field, as well as explore design approaches to mitigate the increased peripheral nerve stimulation that such high-performance gradient system could have.
Role: Co-PI, Sub-PI

P41 EB030006 **Rosen PD/PI** **11/01/20 – 04/30/25**
NIH/NIBIB/Massachusetts General Hospital
Center for Mesoscale Mapping - Project 2: Acquisition technology for in vivo functional and structural MR imaging at the mesoscopic scale
The goal of the Center for Mesoscale Mapping is to drive the convergence of microscopic- and macroscopic- scale evaluation of brain structure and function for human translational neuroscience, by developing and applying tools to study the spatial distribution and temporal orchestration of mesoscopic events in the human brain.
Role: Project Leader

R01 EB019437 **Polimeni/Setsompop PIs** **04/01/21 – 03/31/24**
NIH/NIBIB/Massachusetts General Hospital
fMRI Technologies for Imaging at the Limit of Biological Spatiotemporal Resolution
To develop methods for 7 Tesla functional MRI, including highly accelerated acquisitions for purely T2 weighted BOLD, and to demonstrate the ability of these methods to achieve higher neuronal specificity than standard methods.
Role: Co-PI, Sub-PI

R01 MH116173 **Setsompop PI** **02/01/21 – 01/31/24**

NIH/NIMH

Next generation in-vivo diffusion imaging at submillimeter resolution

In this grant, we propose to develop novel ways to acquire and reconstruct diffusion MRI data leading to a quantum jump in spatial resolution in a clinically feasible scan time. The acquired data can show anatomical structures of the in-vivo brain at an unprecedented level of detail, which heretofore has not been possible using existing technology.

A-122 **Setsompop PI** **04/06/21 – 06/30/23**

General Electric Healthcare

Technique development for advanced diffusion and rapid multiparametric imaging of the brain

Neuroimaging is the most widely used clinical application of MRI, but its performance at high spatiotemporal resolutions using current acquisition approaches has been severely limited by the slow encoding, low-SNR, and image artifacts. This project aims to develop new acquisition technologies to address these limitations with a particular focus on the following high-yield target applications: i) ultra-high-resolution diffusion MRI, ii) rapid distortion-free EPI, and iii) high resolution quantitative brain MRI.

R01 EB033206 **Setsompop PI** **09/01/22 – 08/31/24**

NIH/R01

An acquisition and reconstruction framework to enable mesoscale human fMRI on clinical 3 Tesla scanners

We propose a proof-of-concept development of a promising new next-generation technology that can measure these changes with enough sensitivity to be useable for a wide range of studies, which can also be used on standard MRI scanners used both in research and medical centers.

R01 HL155962 **Salerno PI** **08/05/22 – 04/30/25**

NIH/R01

Rapid Free-Breathing Self-Gated Spiral Pulse Sequences for Simultaneous Cine and T1 mapping

The specific aims of this proposal are (1) to develop a 2D CAT- SPARCS technique to simultaneously acquire cine, T1 maps and LGE images during a free-breathing cardiac self-gated acquisition, (2) to extend the 2D CAT-SPARCS to provide whole heart simultaneous acquisition of cine, T1 mapping and LGE images using simultaneous multi-slice (SMS) and 3D spiral acquisition techniques, and (3) to validate the CAT-SPARCS technique against the clinical gold standard breath-held ECG-gated clinical techniques in normal subjects and patients being evaluated for HF.

Role: Co-Investigator

A-131 **McNab PI** **09/01/22 – 08/31/24**

General Electric Healthcare

A-131 – Stanford Neuro Tiger Team 2022-2024

To develop methods that improve detection of focal cortical dysplasia in epilepsy using high quality cortical surface reconstructions and high-resolution, low distortion DTI for mapping cortical fiber patterns. To determine WM tract microstructural connectivity markers of the seizure propagation network. To develop a 5 min, clinically feasible diffusion tractography data acquisition using an SMS-spiral diffusion MRI sequence, with DL-denoising and an optimized sampling scheme.

Role: Co-Investigator

U24 NS129893 **Wang PI** **05/01/23 – 04/30/28**

NIH/U24

Advancing fMRI Acquisition through Dissemination of EPTI – An Efficient Distortion-Free Multi-Contrast Imaging Technology

The goal of this project is to broadly disseminate EPTI as the next-generation fMRI acquisition tool.

Role: Sub-PI

Pending Funding

SPO#280964 **Rutt PI** **07/01/23 – 06/30/28**

NIH

Developing ultra-high field connectome hardware for order-of-magnitude increase in MRI sensitivity

Prior Funding

08/2010 – 07/2015 NIH/NIBIB/**R00/K99EB012107**
MRI technology for measurement of functional and structural connectivity in brain.
Role: PI

09/2012 – 11/2017 NIH/**R01MH097979**
Taking Advance Diffusion Imaging to the Clinic for Pediatric Patients with ADHD
Role: Subcontract PI

09/2014 – 05/2017 NIH/**R24MH106096**
MRI Corticography (MRC0G): Microscale Human Cortical Imaging
Role: Co-PI

08/2013 – 07/2017 NIH/**R01EB017219**
Magnetic Resonance Fingerprinting (MRF) for Improved high field MRI
Role: Investigator

09/2014 – 05/2017 NIH/**R24MH106053**
Magnetic Particle Imaging (MPI) for Functional Brain Imaging in Humans
Role: Investigator

04/2016 – 03/2018 NIH/**R44NS084788**
Highly Accelerated Simultaneous Multi-Slice Phase Contrast MRI
Role: Subcontract-PI

04/2015 – 03/2018 NIH/**R44NS084788**
Highly effective cerebral perfusion MRI
Role: Subcontract-PI

06/2014 – 05/2019 NIH/**P41EB015896**
Center for Functional Imaging Technologies
Role: Investigator

04/01/16 – 12/31/21 NIH/**R01EB020613**
Rapid MRI acquisition for pediatric low-grade gliomas
Role: PI

09/15/16 – 07/31/21 NIH/**R01MH111419**
Improving Human fMRI through Modeling and Imaging Microvascular Dynamics
Role: Investigator

09/15/17 – 07/31/20 NIH/**R01MH111917**
Patient-specific, Effective, and Rational Functional Connectivity Targeting for DBS in OCD
Role: Investigator

09/21/18 – 06/20/23 NIH/**U01EB026996**
Connectome 2.0: Developing the next generation human MRI scanner for bridging studies of the micro-, meso- and macro-connectome
Role: Investigator

04/01/18 – 01/31/22 NIH/**R01EB016695**

Array-Compressed Parallel Transmission for High Resolution Neuroimaging at 7T
Role: Sub-PI

VI. Scholarly Publications

1. **Setsompop K**, Wald LL, Alagappan V, Gagoski B, Hebrank F, Fontius U, Schmitt F, Adalsteinsson E. Parallel RF transmission with eight channels at 3 Tesla. Magn Reson Med. 2006 Nov;56(5):1163-71. PubMed PMID: 17036289.
2. Alagappan V, Nistler J, Adalsteinsson E, **Setsompop K**, Fontius U, Zelinski A, Vester M, Wiggins GC, Hebrank F, Renz W, Schmitt F, Wald LL. Degenerate mode band-pass birdcage coil for accelerated parallel excitation. Magn Reson Med. 2007 Jun;57(6):1148-58. PubMed PMID: 17534905.
3. **Setsompop K**, Wald LL, Alagappan V, Gagoski BA, Adalsteinsson E. Magnitude least squares optimization for parallel radio frequency excitation design demonstrated at 7 Tesla with eight channels. Magn Reson Med. 2008 Apr;59(4):908-15. doi: 10.1002/mrm.21513. PubMed PMID: 18383281; PubMed Central PMCID: PMC2715966.
4. Zelinski AC, Wald LL, **Setsompop K**, Alagappan V, Gagoski BA, Goyal VK, Adalsteinsson E. Fast slice-selective radio-frequency excitation pulses for mitigating B+1 inhomogeneity in the human brain at 7 Tesla. Magn Reson Med. 2008 Jun;59(6):1355-64. doi: 10.1002/mrm.21585. PubMed PMID: 18506800; PubMed Central PMCID: PMC2723802.
5. Zelinski AC, Wald LL, **Setsompop K**, Goyal VK, Adalsteinsson E. Sparsity-enforced slice-selective MRI RF excitation pulse design. IEEE Trans Med Imaging. 2008 Sep;27(9):1213-29. doi: 10.1109/TMI.2008.920605. PubMed PMID: 18779063; PubMed Central PMCID: PMC2666002.
6. **Setsompop K**, Alagappan V, Zelinski AC, Potthast A, Fontius U, Hebrank F, Schmitt F, Wald LL, Adalsteinsson E. High-flip-angle slice-selective parallel RF transmission with 8 channels at 7 T. J Magn Reson. 2008 Nov;195(1):76-84. doi:10.1016/j.jmr.2008.08.012. Epub 2008 Aug 30. PubMed PMID: 18799336; PubMed Central PMCID: PMC2610679.
7. **Setsompop K**, Alagappan V, Gagoski B, Witzel T, Polimeni J, Potthast A, Hebrank F, Fontius U, Schmitt F, Wald LL, Adalsteinsson E. Slice-selective RF pulses for in vivo B1+ inhomogeneity mitigation at 7 tesla using parallel RF excitation with a 16-element coil. Magn Reson Med. 2008 Dec;60(6):1422-32. doi: 10.1002/mrm.21739. PubMed PMID: 19025908; PubMed Central PMCID: PMC2635025.
8. **Setsompop K**, Alagappan V, Gagoski BA, Potthast A, Hebrank F, Fontius U, Schmitt F, Wald LL, Adalsteinsson E. Broadband slab selection with B1+ mitigation at 7T via parallel spectral-spatial excitation. Magn Reson Med. 2009 Feb;61(2):493-500. doi: 10.1002/mrm.21834. PubMed PMID: 19161170; PubMed Central PMCID: PMC2632721.
9. **Setsompop K**, Gagoski BA, Polimeni JR, Witzel T, Wedeen VJ, Wald LL. Blipped-controlled aliasing in parallel imaging for simultaneous multislice echo planar imaging with reduced g-factor penalty. Magn Reson Med. 2012 May;67(5):1210-24. doi: 10.1002/mrm.23097. Epub 2011 Aug 19. PubMed PMID: 21858868; PubMed Central PMCID: PMC3323676. ***Most cited article in MRM 2013***
10. **Setsompop K**, Cohen-Adad J, Gagoski BA, Raij T, Yendiki A, Keil B, Wedeen VJ, Wald LL. Improving diffusion MRI using simultaneous multi-slice echo planar imaging. Neuroimage. 2012 Oct 15;63(1):569-80. doi: 10.1016/j.neuroimage.2012.06.033. Epub 2012 Jun 23. PubMed PMID: 22732564; PubMed Central PMCID: PMC3429710.

11. Bilgic B, **Setsompop K**, Cohen-Adad J, Yendiki A, Wald LL, Adalsteinsson E. Accelerated diffusion spectrum imaging with compressed sensing using adaptive dictionaries. Magn Reson Med. 2012 Dec;68(6):1747-54. doi: 10.1002/mrm.24505. Epub 2012 Sep 24. PubMed PMID: 23008145; PubMed Central PMCID: PMC3504650. ***Cover article for Dec 2012***
12. Keil B, Blau JN, Biber S, Hoecht P, Tountcheva V, **Setsompop K**, Triantafyllou C, Wald LL. A 64-channel 3T array coil for accelerated brain MRI. Magn Reson Med. 2013 Jul;70(1):248-58. doi: 10.1002/mrm.24427. Epub 2012 Jul 31. PubMed PMID: 22851312; PubMed Central PMCID: PMC3538896.
13. **Setsompop K**, Kimmlingen R, Eberlein E, Witzel T, Cohen-Adad J, McNab JA, Keil B, Tisdall MD, Hoecht P, Dietz P, Cauley SF, Tountcheva V, Matschl V, Lenz VH, Heberlein K, Potthast A, Thein H, Van Horn J, Toga A, Schmitt F, Lehne D, Rosen BR, Wedeen V, Wald LL. Pushing the limits of in vivo diffusion MRI for the Human Connectome Project. Neuroimage. 2013 Oct 15;80:220-33. doi: 10.1016/j.neuroimage.2013.05.078. Epub 2013 May 24. PubMed PMID: 23707579; PubMed Central PMCID: PMC3725309.
14. Bilgic B, Chatnuntawech I, **Setsompop K**, Cauley SF, Yendiki A, Wald LL, Adalsteinsson E. Fast dictionary-based reconstruction for diffusion spectrum imaging. IEEE Trans Med Imaging. 2013 Nov;32(11):2022-33. doi: 10.1109/TMI.2013.2271707. Epub 2013 Jul 4. PubMed PMID: 23846466; PubMed Central PMCID: PMC4689148.
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85. Van den Boomen M, Manhard MK, Emblem K, Sosnovik D, Prakken N, Nguyen C, **Setsompop K**, Borra R. Vessel architectural imaging in the human hear using heartbeat-to-heartbeat GESE-EPI. ISMRM, 2020, program number: 1095.
86. Ramos-Llordén G, Ning L, Liao C, Mukhometzianov R, Michailovich O, **Setsompop K**, Rathi Y. Whole-brain in-vivo submillimeter diffusion MRI in 10 minutes with combined gSlider-Spherical Ridgelets reconstruction. ISMRM, 2020, program number: 4369.

2019

87. Wang F, Dong Z, Reese T, Wald LL, **Setsompop K**. 3D-EPTI for Ultra-fast Multi-contrast and Quantitative Imaging. ISMRM, 2019.
88. Han S, Liao C, Manhard M, Polimeni JR, **Setsompop K.** Accelerated spin-echo fMRI using Multisection Excitation by Simultaneous Spin-echo Interleaving (MESSI) with 'complex-basis' RF-encoded generalized

SLIce Dithered Enhanced Resolution Simultaneous Multi-Slice (MESSI-gSlider-SMS). ISMRM, 2019.

89. Wang F, Dong Z, Reese T, Bilgic B, Manhard MK, Chen J, Polimeni J, Wald LL, **Setsompop K.** Echo Planar Time-resolved Imaging (EPTI). ISMRM, 2019. *Young Investigator Finalist*

90. Dong Z, Wang F, Reese T, Bilgic B, **Setsompop K.** Echo Planar Time-Resolved Imaging (EPTI) with subspace constraint and optimized k-t trajectory. ISMRM, 2019.

91. Manhard MK, Liao C, Stockmann J, Park D, Han S, Polimeni J, Bilgic B, **Setsompop K**. Combined T1, T2, and T2* mapping using a multi-inversion multi-echo spin and gradient echo EPI sequence. ISMRM, 2019.

92. Fair M, Wang F, Dong Z, Bilgic B, Reese T, **Setsompop K.** Propeller Echo-Planar Time-resolved Imaging with Dynamic Encoding (PEPTIDE). ISMRM, 2019.

93. Polak D, Cauley S, Bilgic B, Raithel E, Bachert P, Adalsteinsson E, **Setsompop K.** Joint multi-contrast Variational Network reconstruction (jVN) with application to Wave-CAIPI acquisition for rapid imaging. ISMRM, 2019.

94. Iyer S, Polak D, Liao C, Cauley S, Bilgic B, **Setsompop K.** Rapid, Time-Resolved Brain Imaging with Multiple Clinical Contrasts using Wave-Shuffling. ISMRM, 2019.

95. Bilgic B, Liao C, Manhard MK, Tian Q, Chatnuntawech I, Iyer S, Cauley S, Feiweier T, Giri S, Hu Y, Huang S, Polimeni J, Wald LL, **Setsompop K**. Robust high-quality multi-shot EPI with low-rank prior and machine learning. ISMRM, 2019.

96. Liao C, Stockmann J, Tian Q, Bilgic B, Manhard MK, Wald LL, **Setsompop K.** High-fidelity, high-isotropic resolution diffusion imaging through gSlider acquisition with B1+ & T1 corrections and multi-coil B0 shim array. ISMRM, 2019.

97. Van den Boomen M, Snel GJ, Nguyen C, Manhard MK, Sosnovik D, Dierckx R, Catana C, Izquerdo-Garcia D, Rosen B, Prakken N, Borra R, **Setsompop K.** Heartbeat-to-Heartbeat Quantitative Myocardial Oxygenation Imaging within a Single Breath-Hold using a Combined Gradient Echo-Spin Echo EPI (GESE-EPI) Sequence in Patients with Hypertension. ISMRM, 2019.

98. Liu W, Zhou K, Cheng S, **Setsompop K.** 3D Flow Compensated Interleaved EPI for a Fast-High-Resolution Susceptibility-Weighted Imaging at 1.5T. ISMRM, 2019.

99. In MH, Dong Z, **Setsompop K**, Kang D, Yarach U, Shu Y, Trzasko J, Huston J, Bernstein M. An efficient reconstruction by combining tilted-CAIPI with eddy-current calibration for high-resolution distortion-free diffusion imaging using DIADEM. ISMRM, 2019.

100. Viessmann O, Chen J, **Setsompop K**, Wald LL, Polimeni J. BOLD temporal SNR bias and variance across the HCP population as a function of cortical B0-orientation and orientation variability. ISMRM, 2019. ISMRM, 2019.

101. Tian Q, Ngamsombat C, Bilgic B, Fan Q, Hu Y, McNab J, Witzel T, **Setsompop K**, Polimeni J, Huang S. Creating a diffusion tractography-based atlas of human thalamic ventral intermediate nucleus aided by deep learning. ISMRM, 2019.

102. Nguyen C, Reese T, Liao C, Kostis W, Jackowski M, **Setsompop K**, Mekkaoui C. Free Breathing Isotropic Cardiac Diffusion Tensor MRI of the Left Ventricle Using M2-gSlider: Unfolding the Fiber Architecture of the Human Heart. ISMRM, 2019.

103. Cauley S, Polak D, Liu W, Bilgic B, Gagoski B, Grant EP, Conklin J, Kirsch J, Huang S, **Setsompop K**, Wald LL. Geometric Coil Mixing (GCM) to Dampen Confounding Signals in MRI Reconstruction. ISMRM, 2019.

104. Berman A, Witzel T, Grissom W, Park D, **Setsompop K**, Polimeni J. High-resolution segmented-accelerated EPI using Variable Flip Angle FLEET with tailored slice profiles. ISMRM, 2019.

105. Lewis L, Bonmassar G, **Setsompop K**, Stickgold R, Rosen B, Polimeni J. Identifying focal thalamic activity

underlying sleep and wake states through EEG-fMRI at 7 Tesla. ISMRM, 2019.

106. Ramos-Llordén G, Aja-Fernandez S, Liao C, **Setsompop K**, Rathi Y. Joint-diffusion GRAPPA: enabling higher acceleration rates in dMRI by exploiting joint information from the k- and q-space. ISMRM, 2019.
107. Wang Y, Dong Z, Hu Z, Li X, Wang F, **Setsompop K**, Pan Z, Yuan C, Guo H. Multi-contrast Distortion-free MRI using PSF-EPI. ISMRM, 2019.
108. Cho J, Park H, **Setsompop K**, Bilgic B. Multi-shot Echo-planar Imaging with Simultaneous MultiSlice Wave-Encoding. ISMRM, 2019.
109. Haskell M, Cauley S, Bilgic B, Hossbach J, Pfeuffer J, **Setsompop K**, Wald LL. Network Accelerated Motion Estimation and Reduction (NAMER): Accelerating forward model based retrospective motion correction using a convolutional neural network. ISMRM, 2019.
110. Conklin J, Longo MG, Cauley S, **Setsompop K**, Kirsch J, Liu W, Ahn S, Beck T, Gonzalez R, Schaefer P, Rapalino O, Huang S. Prospective Evaluation of Wave-CAIPI Susceptibility-Weighted Imaging (SWI) Compared to Conventional 3D SWI in a Clinical Setting. ISMRM, 2019.
111. Arefeen Y, Arango N, Iyer S, Gagoski B, **Setsompop K**, White J, Adalsteinsson E. Refined-subspaces for two iteration single shot T2-Shuffling using dictionary matching. ISMRM, 2019.
112. Tian Q, Bilgic B, Fan Q, Ngamsombat C, Liao C, Hu Y, Witzel T, **Setsompop K**, Polimeni J, Huang S. Six-direction diffusion tensor MRI using a convolutional neural network. ISMRM, 2019.
113. Tian Q, Bilgic B, Fan Q, Ngamsombat C, Chaudhari A, Ohringer N, Hu Y, Witzel T, **Setsompop K**, Polimeni J, Huang S. SuperSurfer: Cortical surface reconstruction using super-resolution anatomical MR images synthesized by deep learning. ISMRM, 2019.
114. Cao X, Liao C, Iyer S, He H, **Setsompop K**, Zhong J, Bilgic B. T2-gSlider: rapid high resolution T2 mapping with generalized SLIce Dithered Enhanced Resolution and model-based reconstruction.
115. Polak D, Chatnuntawech I, Yoon J, Iyer S, **Setsompop K**, Bilgic B. VaNDI: Variational Nonlinear Dipole Inversion enables QSM without free parameters. ISMRM, 2019.
116. Liu Y, Liao C, **Setsompop K**, Haldar J. Whole-brain DTI at 860 μm isotropic resolution in 10 minutes on a commercial 3T Scanner. ISMRM, 2019.

2018

117. Manhard MK, Bilgic B, Liao C, Han S, Witzel T, Yen YF, **Setsompop K.** Accelerated dynamic quantitative perfusion imaging using an optimized simultaneous multi-slice (SMS) spin and gradient echo (SAGE) sequence with joint-virtual coil (JVC) reconstruction. ISMRM, 2018.
118. Han S, Liao C, Manhard MK, Bilgic B, Wang F, Blazejewska A, Van den Boomen M, Grissom W, Polimeni J, **Setsompop K.** Accelerated spin-echo fMRI using generalized SLIce Dithered Enhanced Resolution Simultaneous MultiSlice (gSlider-SMS) with 'complex-basis' RF-encoding. ISMRM, 2018.
119. Bilgic B, Cauley S, Chatnuntawech I, Manhard MK, Wang F, Haskell M, Liao C, Wald LL, **Setsompop K**. Combining MR-Physics and Machine Learning to Address Intractable Reconstruction Problems. ISMRM, 2018.
120. Wang F, Dong Z, Reese T, Bilgic B, Manhard MK, Wald LL, **Setsompop K.** Echo Planar Time-resolved Imaging (EPTI). ISMRM, 2018.
121. Polak D, Cauley S, Huang S, Longo M, Bilgic B, Raithel E, Wald LL, **Setsompop K.** Highly-accelerated volumetric brain protocol using optimized Wave-CAIPI encoding. ISMRM, 2018.
122. Dong Z, Wang F, Reese T, Manhard MK, Bilgic B, Wald LL, Guo H, **Setsompop K.** Fast Distortion-Free Diffusion Imaging using "tilted-CAIPI" PSF-EPI. ISMRM, 2018.

123. Iyer S, Bilgic B, **Setsompop K**. Faster T2 Shuffling with Wave-encoding. ISMRM, 2018.

124. Bilgic B, Kim T, Liao C, Manhard MK, Wald LL, Haldar J, **Setsompop K.** Improving Parallel Imaging by Jointly Reconstructing Multi-Contrast Data. ISMRM, 2018.

125. Bilgic B, Cauley S, Wald LL, **Setsompop K**. Joint SENSE Reconstruction for Faster Multi-Contrast Wave Encoding. ISMRM, 2018.

126. Liao C, Manhard MK, Bilgic B, Fan Q, Wang H, Han S, Park D, Wang F, Zhong J, Wald LL, **Setsompop K.** Joint Virtual Coil Reconstruction with Background Phase Matching for Highly Accelerated Diffusion Echo-Planar Imaging. ISMRM, 2018.

127. Wang F, Bilgic B, Dong Z, Manhard MK, Ohringer N, Zhao B, Haskell M, Cauley S, Fan Q, Witzel T, Adalsteinsson E, Wald LL, **Setsompop K.** Motion-robust sub-millimeter isotropic diffusion imaging through Motion Corrected Generalized Slice Dithered Enhanced Resolution (MC-gSlider) acquisition. ISMRM, 2018.

128. Liao C, Bilgic B, Manhard MK, Cao X, Zhong J, Wald LL, **Setsompop K.** Optimized 3D Stack-of-Spirals MR Fingerprinting with Hybrid Sliding-Window and GRAPPA Reconstruction. ISMRM, 2018.

129. Van den Boomen M, Manhard MK, Nguyen C, Han S, Emblem K, Slart R, Catana C, Prakken N, Rosen B, Borra R, **Setsompop K.** Simultaneous Multi-Slice Gradient Echo Spin Echo EPI (SMS-GESE-EPI) enables simultaneous cardiac T2 and T2* imaging and mapping across six slices within a single heartbeat. ISMRM, 2018.

130. Dong Z, Wang F, Reese T, Manhard MK, Bilgic B, Wald LL, Guo H, **Setsompop K.** Tilted-CAIPI for Highly Accelerated Distortion-Free EPI with Point Spread Function (PSF) Encoding. ISMRM, 2018.

131. Gong E, Bilgic B, **Setsompop K**, Fan A, Zaharchuk G, Pauly J. Accurate and Efficient QSM Reconstruction using Deep Learning. ISMRM, 2018.

132. Lewis L, **Setsompop K**, Rosen B, Polimeni J. High-frequency BOLD responses in human thalamus detected through fast fMRI at 7 Tesla. ISMRM, 2018.

133. Wei H, Bilgic B, **Setsompop K**, Keil B, Feinberg D, Liu C. Imaging Human Brain Cortical Substructure with Quantitative Susceptibility Mapping at 7T. ISMRM, 2018.

134. Zhao B, Haldar J, Liao C, Ma D, Griswold M, **Setsompop K**, Wald LL. Optimal Experiment Design for Magnetic Resonance Fingerprinting: New Insights and Further Improvements. ISMRM, 2018.

135. Chang Y, Cauley S, Liu W, Polak D, Gagoski B, Bilgic B, **Setsompop K**, Polimeni J. Quantitative assessment of automatic cortical surface reconstructions from Wave-CAIPI MPRAGE: A validation study. ISMRM, 2018.

136. Yoon J, Ko J, Lee J, Jung H, Bilgic B, **Setsompop K**, Lee J. Quantitative susceptibility mapping using deep neural network. ISMRM, 2018.

137. Mekkaoui C, Edlow B, Kostis W, Jackowski M, **Setsompop K**, Witzel T, Fan Q, Ohringer N, Cabrera J, Reese T, Wu O, Huang S. Ribbon Tractography Reveals Reorientation of White Matter in the Corpus Callosum Following Severe Traumatic Brain Injury. ISMRM, 2018.

138. Sengupta S, **Setsompop K**, Grissom W. Shuttered EPI Brain Imaging at 7 Tesla. ISMRM, 2018.

139. Grøvik E, Emblem K, Digernes I, Nilsen L, Eichner C, Jafari K, Witzel T, Vachha B, Gerstner E, Kalpathy-Cramer J, **Setsompop K**, Stufflebeam S. Template maps of vascular function and structure in the healthy brain. ISMRM, 2018.

140. Kettinger A, Hermann P, Vakli P, Blaimer M, **Setsompop K**, Kannengiesser S, Breuer F, Vidnyanszky Z. Using Virtual Conjugate Coil reconstruction for statistical improvement in highly accelerated Simultaneous Multislice fMRI. ISMRM, 2018.

141. Wu Z, Bilgic B, He H, Sun Y, Du Y, **Setsompop K**, Zhong J. Zero-padding reconstruction for wave-CAIPI

images with improved accuracy, and its application in ViSTa myelin water images. ISMRM, 2018.

Local Invited Presentations

2012	Efficient Diffusion Imaging Acquisition, Brain-mapping seminar, Athinoula A. Martinos center, MGH
2013	Simultaneous MultiSlice techniques for efficient Diffusion and fMRI acquisition, Fetal- Neonatal Neuroimaging & Developmental Science Center (FNNDSC), Boston Children's Hospital
2015, 2016, 2017	Advanced MR Imaging: Multi-Channel; Multi-Slice, MGH Radiology resident Noon Lecture series
2017	Wave-CAIPI, Pediatric Neuro-Oncology group, Boston Children's Hospital
2021	Accelerated MRI through smarter encoding for more speed and more information, Molecular Imaging Program at Stanford (MIPS) Faculty meeting
2021	RSL overview and Molecular-Neuroimaging related research, Molecular Imaging Program at Stanford (MIPS) mini-retreat
2021	Efficient encoding approaches for Brain MRI, Stamford Vision Brunch seminar, Department of Psychology, Stanford.
2021	Advances in Rapid Quantitative MRI; Stanford's NeuroRadiology seminar
2021	Towards an Era in Precision MRI; Stanford's Radiology faculty meeting
2021	Towards an Era in Precision MRI; RSL seminar.
2022	MRI acquisition technology for Neuroimaging; Stanford's EE faculty meeting
2022	BMP introduction to research: MRI acquisition technology for advanced neuroimaging
2023	MRI acquisition technology for Neuroimaging; Research Mixer: Lucile Packard Children's Hospital, Stanford
2022	MRI acquisition technology for Neuroimaging; Stanford Center for Image Systems Engineering (SCIEN) Industry Affiliates Meeting.
2023	MRI technology: RISE (Raising Interest in Science and Engineering) at the Sequoia High School, Redwood City.

Invited Presentations and Courses

National

No presentations below were sponsored by outside entities.

2010	Simultaneous multi-slice imaging techniques for human brain connectivity mapping, Langone Medical Center, New York University
2015	Advanced Parallel Imaging for high-quality order of magnitude acceleration in MRI brain acquisition, Kennedy Krieger Institute, Johns Hopkins
2015	Blipped-CAIPI and Wave-CAIPI: techniques for order of magnitude acceleration in MRI, General Electric research center, Milwaukee
2015	Advanced Parallel Imaging for brain MRI acquisitions, Medical Imaging Seminar Series, University of Southern California
2015	Technologies for Order of Magnitude Acceleration in MRI brain Acquisitions, Functional Magnetic Resonance Facility (FMRIF), National Institute of Health (NIH)
2016	Rapid Brain MRI; more speed and more information, University of Southern California
2019	New Directions in MRI through Tailored Acquisitions, Langone Medical Center, New York University
2019	New Directions in MRI through Tailored Acquisitions, Radiological Sciences Laboratory (RSL), Stanford University
2020	Fast MR Imaging of the Brain, Annual symposium, UT Southwestern medical center

2021 Emerging fMRI method for improved functional specificity,
NIH BRAIN Workshop: Transformative Non-Invasive Brain Imaging Technologies.

2021 Efficient encoding approaches for brain MRI. Stanford Vision Brunch seminar

2021 Advances in Rapid Quantitative MRI, Annual meeting of the American Society of Functional Neuro-Radiology (ASFNR), Santa Fe

2022 Towards an Era in Precision MRI; fMRI speaker series, University of Michigan

2022 Towards an Era in Precision MRI; Magnetic Resonance Research Facility (MRRF) seminar, University of Iowa.

2022 Efficient Volumetric and Continuous MRI; Southern California High-Field Low-Field workshop, USC

2022 Towards Precision mesoscale MRI across the lifespan; Brain Across the Lifespan: Tools and Methodologies for Measuring the Changing Brain Workshop. National Institute of Child Health and Human Development (NICHHD)

2022 Towards an Era in Precision MRI; Section on Quantitative Imaging and Tissue Sciences (SQITS) seminar, NIH.

International

No presentations below were sponsored by outside entities.

2007 High flip angle slice selective Parallel RF Excitation on an 8-channel system at 3T, *(selected from abstracts),* ISMRM annual meeting, Berlin, Germany

2007 In vivo Parallel RF Excitation with B_0 correction, *(selected from abstracts),* ISMRM annual meeting, Berlin, Germany

2007 Sparse spokes slice selective design for B_1 inhomogeneity correction at 7T, *(selected from abstracts),* ISMRM annual meeting, Berlin, Germany

2008 Uniform Wideband Slab Selection with B_1^+ Mitigation at 7T via Parallel Spectral-Spatial Excitation, *(selected from abstracts),* ISMRM annual meeting, Toronto, Ontario, Canada

2009 Design Algorithms for Parallel RF transmission in Magnetic Resonance Imaging; seminar at the Singapore Bioimaging Consortium (SBIC), Singapore

2010 Multislice acquisition via Blipped CAIPIRINHA, Invited talk, FMRIB, Univ. of Oxford, Oxford, UK

2010 Improving SNR per unit time in Diffusion Imaging using a blipped-CAIPIRINHA simultaneous multislice EPI acquisition, *(selected from abstracts),* ISMRM annual meeting, Stockholm, Sweden

2010 Blipped CAIPIRHINA for simultaneous multi-slice EPI with reduced g-factor penalty, *(selected from abstracts),* ISMRM annual meeting, Stockholm, Sweden

2011 Wave-CAIPIRHINA: a method for reducing g-factors in highly accelerated 3D acquisitions, *(selected from abstracts),* ISMRM annual meeting, Montreal, Canada

2011 Efficient data acquisition in MRI; IEEE section of the Republic of Macedonia, Faculty for Electrical Engineering and Information Technologies, University Ss. Cyril and Methodius, Skopje, Macedonia

2011 Introduction to Diffusion MRI, MR-Balkan, International Society of Magnetic Resonance in Medicine Conference global outreach program, Ohrid, Republic of Macedonia

2012 Efficient data acquisition in MRI, Chiang Mai University, Thailand

2012 Whole-brain DSI in 4 minutes: sparse sampling in q-space with simultaneous multi-slice acquisitions, *(selected from abstracts),* ISMRM annual meeting, Melbourne, Australia

2012 Introduction to Diffusion MRI, MCT 2012, International Society of Magnetic Resonance in Medicine Conference global outreach program, Bangkok, Thailand

2013 Characterization of Artifactual Correlation in Highly-Accelerated Simultaneous Multi-Slice (SMS) fMRI Acquisitions, *(selected from abstracts)*, ISMRM annual meeting, Salt Lake City, U.S.A.

2013 fMRI & Diffusion of the Whole Brain at 7T,Invited Talk, ISMRM workshop on Ultra High Field MRI, Noordwijk aan Zee, The Netherlands

2013 Simultaneous MultiSlice acquisition and reconstruction; invited talk at Nijmegen-Maastricht Brain Imaging Symposium, Nijmegan, The Netherlands

2013 Ultra-Fast diffusion and resting-state fMRI imaging with Simultaneous Multi-Slice EPI and Q-space compressed sensing; Invited Talk, International Biomedical and Astronomical Signal Processing (BASP) Frontiers workshop, Switzerland

2013 Accelerated DSI and Efficient Acquisition of MR Connectomics Data, invited talk, Center of Magnetic Resonance Research (CMMR), 9th Biennial Minnesota Workshops on High and Ultra-high Field Imaging, University of Minnesota

2014 Simultaneous MultiSlice Imaging for Rapid fMRI, invited talk, the ISMRM workshop on functional MRI: Emerging techniques and new interpretations, South Carolina

2014 Simultaneous Multi-Slice Acquisition for Connectomic Applications and Beyond; invited talk, Siemens Lunch Symposium, Annual meeting of the Organization of Human Brain Mapping (OHBM)

2014 Parallel Transmission in MRI, and Simultaneous Multi-Slice Acquisition; invited talk, 3rd MR-Balkan Outreach program, International Society of Magnetic Resonance in Medicine Conference global outreach program, Ankara, Turkey

2014 High-speed acquisition of QSM and STI with Wave-CAIPI; invited talk at the 3rd International Workshop on Phase Contrast and Quantitative Susceptibility Mapping (QSM), Duke University, North Carolina

2014 Parallel imaging & Simultaneous Multi-Slice; invited talk at IntelligentMR educational session, Annual meeting of the Medical Image Computation Computer Assist Intervention (MICCAI), Boston

2015 Advanced Parallel Imaging for rapid MRI exam; invited talk at Magnetic Resonance in South East Asia workshop, Singapore

2015 Advanced Parallel Imaging for rapid MRI exam; invited talk at Duke-NUS graduate medical school, Singapore

2015 Wave-CAIPI for an order of magnitude acceleration in MRI acquisition; invited talk at the international biomedical and astronomical signal processing (BASP) Frontiers workshop, Switzerland

2015 SLIce Dithered Enhanced Resolution Simultaneous MultiSlice (SLIDER-SMS) for High Resolution (700 um) Diffusion Imaging of the Human Brain; *(selected from abstracts)*, ISMRM annual meeting, Toronto, Canada

2015 Overview of SMS reconstruction; invited talk at ISMRM Workshop on Simultaneous Multi-Slice Imaging: Neuroscience & Clinical Applications, Pacific Grove, U.S.A.

2015 Towards Routine Sub-Millimeter Diffusion Imaging with Slider-SMS; invited talk at ISMRM Workshop on Simultaneous Multi-Slice Imaging: Neuroscience & Clinical Applications, Pacific Grove, U.S.A.

2016 Generalized SLIce Dithered Enhanced Resolution Simultaneous MultiSlice (gSlider-SMS) to increase volume encoding, SNR, and partition profile fidelity in high-resolution diffusion imaging *(selected from abstracts)*, ISMRM annual meeting, Singapore

2016	A New Generation of Accelerated Imaging: Smarter Encoding in the Quest for Speed; invited for ISMRM NIBIB New Horizons plenary lecture, ISMRM annual meeting, Singapore
2016	Rapid Brain MRI; more speed and more information; invited talk for the Gordon Research Conference on In Vivo Magnetic Resonance, New Hampshire
2016	Advance in acquisition software and hardware for diffusion imaging; invited talk for Toward a Super-Big Brain Workshop: Promises and Pitfalls of Microstructural Imaging, Montreal, Canada
2016	Rapid Brain MRI; more speed and more information; SFB workshop on Imaging with Modulated/Incomplete Data, Graz, Austria
2017	MRI and the Quest for Speed; invited Plenary lecture for SMRT 26th annual meeting; Hawaii
2017	A new generation of accelerated imaging: smarter encoding in the quest for speed; Invited talk at SKKU-Siemens High-Speed Neuro Imaging Symposium; Seoul, Korea
2017	Pushing the spatial and temporal resolutions of brain MRI; 3rd SIAT MR Workshop in Shenzhen, Shenzhen Institutes of Advanced Technology (SIAT), Chinese Academy of Sciences; China
2018	Efficient dMRI acquisition; invited talk at the Axon diameter diffusion MRI workshop; Paris
2020	New directions in MRI through tailored acquisitions; invited talk at the Wellcome Centre for Integrative Neuroimaging; Oxford University; (Virtual)
2021	Towards an Era in Precision MRI; invited talk at the EPFL's Workshop on New Horizons in MRI. (one of six keynote speakers), Switzerland.
2022	Toward mesoscale in vivo diffusion imaging of the human brain; Society for Brain Mapping and Therapeutics (SBMT) Annual Conference, Los Angeles
2022	Precision Mesoscale Diffusion MRI; MicroClub monthly virtual seminar, (organizer: Derek Jones)
2022	Towards an Era in Precision MRI; Seoul National University, Korea
2023	Why Physicians Should Adopt New Neuro MRI Methods, *Junior Fellows Symposium: MR Inventions That Change the Clinical Game;* ISMRM annual meeting, Toronto

Those presentations below sponsored by outside entities are so noted and the sponsor appears in parentheses.

2016	Technologies for Order of Magnitude Acceleration in MRI brain Acquisitions, Samsung Healthcare, Seoul, South Korea (SAMSUNG)
2016	Rapid Brain MRI; more speed and more information; invited talk for the Siemens MAGNETOM user meeting at the ISMRM, Singapore (SIEMENS)
2017	Rapid MRI: more speed and more information; Invited talk at Siemens Neurology Symposium; Seoul, Korea (SIEMENS)
2018	Advances in Rapid Neuro MRI; Invited talk at Siemens Magnetom World Summit, Bamberg, Germany (SIEMENS)
2018	Rapid Neuro MRI; invited talk for the Siemens MAGNETOM user meeting at the ISMRM, Paris (SIEMENS)
2022	Precision mesoscale diffusion MRI; invited talk for GE summit at the ISMRM, London (GE)

II. Patents

Total patent licensing fee generated: $4 M with on-going royalty income (GE, Phillips, Samsung, United Imaging, Bruker). The Blipped-CAIPI method (patent no. 8405395) has been distributed to more than 200 research institutes worldwide for use in fMRI and diffusion imaging studies. GE, Phillips, Siemens, and United Imaging have incorporated this technology into their latest FDA-approved acquisition software for all their MRI scanners. Bruker has also incorporated this technology into their animal MRI scanners. Siemens have also released an FDA-approved acquisition software product based on the Wave-CAIPI method (patent

no. 8981776) and parallel transmission methods (patent no. 8085044, 8866478, 8148985)

Granted patent application (38)

2008 Patent no. US7336145 *Method for designing RF excitation pulses in magnetic resonance tomography,* Inventors = Zelinski, Adalsteinsson, Setsompop, Wald, Fontius

2011 Patent no. US8076939 *Method for Fast Magnetic Resonance Radiofrequency Coil Transmission Profile Mapping.* Inventors = Setsompop, Alagappan, Adalsteinsson, Wald.

2011 Patent no. US8085044 *Method for producing spectral-spatial parallel RF excitations for magnetic resonance imaging.* Inventors = Setsompop, Alagappan, Gagoski, Wald, Adalsteinsson

2012 Patent no. US8148985 *Method for Reducing Maximum Local Specific Absorption Rate in Magnetic Resonance Imaging*. Inventors = Zelinski, Setsompop, Adalsteinsson, Goyal

2013 Patent no. US8405395 *Method for Simultaneous Multi-slice Magnetic Resonance Imaging*. Inventors = Setsompop, Wald

2014 Patent no. US8866478 *Method and processor and magnetic resonance apparatus for designing RF pulses to mitigate off-resonance effects.* Inventors = Adalsteinsson, Fautz, Setsompop, Wald

2015 Patent no. US8981776 *Method for magnetic resonance imaging with controlled aliasing.* Inventors = Setsompop, Wald

2015 Patent no. US9081055 *Method for Reducing Local Specific Absorption Rate in Magnetic Resonance Imaging Using Radio Frequency Coil Array Dark Modes*. Inventors = Setsompop, Wald

2017 Patent no. US9542763 *Systems and methods for fast reconstruction for Quantitative Susceptibility Mapping using Magnetic Resonance Imaging*. Inventors = Setsompop, Bilgic

2017 Patent no. US9778336 System and method for rapid, multi-shot segmented magnetic resonance imaging. Inventors = Polimeni, Wald, Setsompop

2017 Patent no. US9588208 *Methods, systems, and apparatuses for rapid segmented, accelerated, and simultaneous multi-slice echo planar imaging.* Inventors = Polimeni, Bhat, Heberlein, Setsompop, Witzel, Cauley

2018 Patent no. US10126397 *Systems and methods for fast magnetic resonance image reconstruction using a hierarchically semiseparable solver;* Inventors = Cauley, Bilgic, Setsompop, Wald

2018 Patent no. US9964616B2 *Fast group matching for magnetic resonance fingerprinting reconstruction;* Inventors = Cauley, Griswold, Setsompop, Wald

2018 Patent no. US9897675B2 *Magnetic resonance fingerprinting (MRF) with simultaneous multivolume acquisition;* Inventors = Setsompop, Griswold, Ye, Wald, Ma, Jiang

2019 Patent no. US10302727B2 *System and method for high resolution diffusion imaging;* Inventors = Rathi, Ning, Michailovich, Setsompop

2019 Patent no. US10436866B2 *Simultaneous multislice MRI with random gradient encoding;* Inventors = Setsompop, Bilgic, Wald

2019 Patent no. US10310042B2 *Hierarchical mapping framework for coil compression in magnetic resonance image reconstruction;* Inventors = Cauley, Polimeni, Setsompop, Wald

2019 Patent no. US10175328B2 *System and method for reconstructing ghost-free images from data acquired using simultaneous multislice magnetic resonance imaging*; Inventors = Hoge, Polimeni, Setsompop

2019 Patent no. US10324149B2 *Systems and methods for generalized slice dithered enhanced resolution magnetic resonance imaging*; Inventors = Setsompop, Stockmann, Wald, Witzel

2019 Patent no. US10241176B2 *Systems and methods for statistical reconstruction of magnetic resonance fingerprinting data;* Inventors = Zhao, Setsompop, Wald

2019 Patent no. US10345409B2 *System and method for simultaneous multislice excitation using combined multiband and periodic slice*; Inventors = Eichner, Wald, Setsompop

2019 Patent no. US10408910B2 *Systems and methods for joint trajectory and parallel magnetic resonance imaging optimization for auto-calibrated image reconstruction*; Inventors = Cauley, Setsompop, Wald

2019 Patent no. US10429475B2 *Method for increasing signal-to-noise ratio in magnetic resonance imaging using per-voxel noise*; Inventors = Polimeni, Setsompop, Wald

2020 Patent no. US10598747 *System and method for simultaneous multislice magnetic resonance fingerprinting with variable radio frequency encoding*; Inventors = Gulani, Griswold, Yang, Jiang, Setsompop

2020 Patent no. US10605882 *Systems and methods for removing background phase variations in diffusion-weighted magnetic resonance imaging*; Inventors = Eichner, Setsompop, Wald, Cauley

2020 Patent no. US20200249301 *Reconstruction of Magnetic-Resonance Datasets using Machine Learning*; Inventors = Polak, Setsompop

2020 Patent no. US20200341094 *Multi-contrast MRI Imaging Reconstruction using Machine Learning*; Inventors = Polak, Setsompop

2020 Patent no. US10871534 *Accelerated magnetic resonance imaging using tilted reconstruction kernel in phase encoded and point spread function encoded k-space*; Inventors = Setsompop, Wald, Dong, Guo, Wang, Reese

2021 Patent no. US10895622 *Noise suppression for wave-CAIPI*; Inventors = Polak, Raithel, Setsompop

2021 Patent no. 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*; Inventors = Setsompop, Wald, Dong, Guo, Wang, Reese

2021 Patent no. US10908248 *Systems and methods for slice dithered enhanced resolution simultaneous multislice magnetic resonance imaging*; Inventors = Setsompop, Bilgic, Wald, Witzel

2021 Patent no. US11009675 *Method for simultaneous time-interleaved multislice magnetic resonance imaging*; Inventors = Bilgic Setsompop, Polak, Ye, Wald

2021 Patent no. US11022665 *Method for echo planar time-resolved magnetic resonance imaging*; Inventors = Setsompop, Lawrence, Fuyixue

2021 Patent no. US 11035920 *Sparse approximate encoding of Wave-CAIPI: preconditioner and noise reduction*; Inventors = Lawrence, Setsompop, Cauley

2021 Patent no. US11181598 *Multi-contrast MRI image reconstruction using machine learning*; Inventors = Polak, Setsompop

2021 Publication no. 20210373105 Scout Acquisition Enables Rapid Motion Estimation and Reduction (SAMER) Systems and Methods for Retrospective Motion Mitigation; Inventors = Polak, Cauley, Setsompop

2022 Publication no. 20220043089 *Motion corrected blipped CAIPIRINHA and SMS*; Inventors = Splitthoff, Polak, Setsompop, Gagoski

2021 Publication no. 20210364589 *Improved Multi-shot Echo Planar Imaging Through Machine Learning*; Inventors = Bilgic, Han, Cauley, Wald, Setsompop

2022 Patent no. US11249162 *Motion corrected blipped CAIPIRINHA and SMS*; Inventors = Splitthoff, Polak, Setsompop, Gagoski

2022 Publication no. 20220065971 *Phase Estimation for Retrospective Motion Correction*; Inventors = Polak, Setsompop, Cauley

2022 Publication no. 20220179024 *Multi-shot Echo Planar Imaging Using Reordered Segments and recursive Radio Frequency Pulse Design Giving Matched Slice Profiles Across Segments*; Inventors = Berman, Polimeni, Grissom, Setsompop, Witzel

2022 Patent no. US11360176 *Reconstruction of magnetic-resonance datasets using machine learning*; Inventors = Polak, Setsompop

2022 Publication no. 20220221540 *Propeller Echo Planar Time-Resolved Imaging with Dynamic Encoding*; Inventors = Fair, Setsompop

2022 Patent no. US11391803 *Multi-shot echo planar imaging through machine learning*; Inventors = Bilgic, Han, Cauley, Wald, Setsompop

2022 Patent no. US11486953 *Phase estimation for retrospective motion correction*; Inventors = Polak, Setsompop, Cauley

Patent applications in pending/processing: ~20 additional pending applications