

CV – J. Thomas Vaughan, Jr.

Date: April 6, 2026

Personal data:

John Thomas Vaughan, Jr.
June 1, 1957
Columbus, GA
USA

Education:

1982 BS Biology; Auburn University, Auburn, AL
1982 BS Electrical Engineering; Auburn University, Auburn, AL
1993 PhD Biomedical Engineering; University of Alabama at Birmingham,
Birmingham, AL

Professional organizations and societies:

Institute of Electrical and Electronics Engineers (IEEE), Fellow
International Society for Magnetic Resonance in Medicine (ISMRM), Fellow
American Institute for Medical and Biological Engineering (AIMBE), Fellow
Radiological Society of North America, Full Member
Biomedical Engineering Society (BMES), Full Member

Academic appointments:

1994 – 1995 Assistant Professor in Biomedical Engineering, University of Alabama at
Birmingham, Birmingham, AL
1995 – 1999 Assistant Professor in Radiology, Harvard Medical School, Boston, MA
1999 – 2001 Assistant Professor in Radiology, On-Leave, Harvard Medical School, Boston,
MA
1999 – 2016 Professor in Radiology, Medical School, University of Minnesota, Minneapolis,
MN
1999 – 2016 Professor in Electrical and Computer Engineering, College of Science
and Engineering, University of Minnesota, Minneapolis, MN
1999 – 2016 Professor in Biomedical Engineering, College of Science and Engineering,
University of Minnesota, Minneapolis, MN
2015 – 2016 Lillian Quist–Joyce Henline Chair in Biomedical Research, University of
Minnesota, Minneapolis, MN
2016 – Adjunct Professor in Radiology, University of Minnesota, Minneapolis, MN
2016 – Professor in Biomedical Engineering, Fu Foundation School of
Engineering and Applied Science, Columbia University, New York, NY
2016 – Professor in Radiology, Vagelos College of Physicians and Surgeons,
Columbia University, New York, NY

- 2916 – Professor in Applied Physics and Applied Mathematics, Fu Foundation School of Engineering and Applied Science, Columbia University, New York, NY
- 2024 - Adjunct Professor of Electrical and Computer Engineering, Tuskegee University, Tuskegee, AL

Hospital and Institutional Appointments:

- 1984 – 1989 Research Engineer, Radiology, University of Texas Southwestern, Dallas, TX
- 1989 – 1993 Chief Biomedical Engineer, Center for Nuclear Imaging Research, Philips Research Laboratories, Hamburg, Germany and University of Alabama at Birmingham, Birmingham, AL
- 1994 – 1995 Director of Engineering, Ctr. for Nuclear Imaging Research, University of Alabama at Birmingham, Birmingham, AL
- 1995 – 1999 Assistant in Physics, Massachusetts General Hospital, Boston, MA
- 1995 – 1999 Director of Engineering, Nuclear Magnetic Resonance Center, Massachusetts General Hospital, Boston, MA
- 1999 – 2016 Engineering Core Director, Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN
- 2016 – Member and Principal Investigator at Mortimer B. Zuckerman Mind Brain Behavior Institute, Columbia University, New York, NY
- 2016 – Director, Magnetic Resonance Platform, Zuckerman Mind Brain Behavior Institute, Columbia University, New York, NY
- 2018 – Founding Director, Columbia Magnetic Resonance Research Center, Columbia University, New York, NY
- 2019 – Staff Scientist and Director of the High Field Imaging Laboratory, New York State Nathan Kline Psychiatric Research Institute, Orangeburg, NY

Honors:

- 1979 - Pi Mu Epsilon, National Mathematics Honor Society
- 1980 - Eta Kappa Nu, National Electrical Engineering Honor Society
- 1980 - Tau Beta Pi, National Engineering Honor Society -1981
- 1981 - NASA STS (Space Shuttle) Service Award
- 1981 - Phi Beta Kappa, National Academic Honor Society
- 1993 - UAB School of Engineering Dean's Award, Outstanding Graduate Student
- 1993 - UAB Department of Biomedical Engineering, Outstanding Graduate Student
- 2002 - Opening Plenary, International Society for Magnetic Resonance in Medicine
- 2005 – 2007 Board of Trustees, International Society for Magnetic Resonance in Medicine
- 2009 - Fellow, International Society for Magnetic Resonance in Medicine
- 2014 - Fellow, Institute of Electrical and Electronic Engineers
- 2015 - Lillian Quist-Joyce Henline Chair in Biomedical Research, Univ. of Minnesota
- 2015 - Nominee for ISMRM Gold Medal (Twice)
- 2018 – Founding Director, Columbia Magnetic Resonance Research Center
- 2019 – Tenure in Biomedical Engineering, Radiology, Columbia University
- 2021 - College of Fellows, American Institute for Medical and Biological Engineering
- Numerous international keynote lectures
- Numerous elected professional society committee chairs

Columbia Magnetic Resonance Research Center, Founded 2018

<https://mr.research.columbia.edu/>

Founded Columbia Magnetic Resonance Research Center consisting of:

Personnel: 137 Investigators, 80 newly trained MR system operators, 450 experiment support and first responder staff with MR safety training.

Facilities: Six fully equipped and staffed MR Research Laboratories at Columbia University Irving Medical Center, Columbia University Cancer Center, Zuckerman Mind Brain Behavior Center, Fu School of Engineering and Applied Sciences, New York State Psychiatric Research Center, and New York State Nathan Kline Psychiatric Research Institute.

Equipment: 18 MR systems, 1.5T to 9.4T for human and animal research (13 full-time research, 5 clinical + research)

Data: Investigators' labs, MR facilities and MR systems are being fully integrated with Google Cloud Platform for data acquisition, archiving, curating, sharing and computing.

Academic Grant support:

Past

1985 – 1990 NIH 1 P41 RR002584-01 RL Nunnally, PI; JT Vaughan, Co-PI Core Project 2, Engineering

Institution: University of Texas Southwestern Medical Center, Dallas, TX

Title: "Southwestern NMR Center for In Vivo Metabolism"

Support: \$3.8m

1988 – 1990 Texas Advanced Technology Program RL Nunnally, PI;

JT Vaughan, Co-PI

Institution: University of Texas Southwestern Medical Center, Dallas, TX

Title: "New Approaches to Radiofrequency Antennas for MR Imaging and Spectroscopy"

Support: \$250,000

1988 – 1990 Dallas Biomedical, Inc. RL Nunnally, PI; JT Vaughan, Co-PI

Institution: University of Texas Southwestern Medical Center, Dallas, TX

Title: "Physiological Phantom Standard for NMR Imaging and Spectroscopy"

Support: \$100,000

1992 – 1997 NIH 1 P41 RR07723-01 GM Pohost, PI; JT Vaughan, PI Core I, Engineering

Institution: University of Alabama at Birmingham, Birmingham, AL

Title: "Clinical NMR Studies at 4.1T"

Support: \$4.2m

1997 – 1998 NIH-NCRR-1R41 RR11754-01 JT Vaughan, PI

Institution: Harvard Medical School, Boston, MA and Advanced NMR Systems, Inc., Wilmington, MA.

Title: "Double Tuned Head Coils for High Field NMR,"

Support: \$95,881

- 1997 – 1998 NIH-NCI-1R-41RR12264-01 JT Vaughan, PI
Institution: Harvard Medical School, Boston, MA and Enon Microwave, Topsfield, MA
Title: “High Power TR Switch for High Field Human MRI,”
Support: \$99,000
- 1997 – 1999 NSF-DBI-9724627 JT Vaughan, PI
Institution: Massachusetts General Hospital, Boston, MA
Title: “Electromagnetics Analysis System for NMR,”
Support: \$310,691 direct with institutional matching
- 1997 – 1999 GE Medical Systems JT Vaughan, PI
Institution: Enon Microwave, Inc., Topsfield, MA
Title: RF Front End for 3T MRI System
Support: \$400,000
- 1998 - 1999 NIH-NCRR-1R-41-RR13230-01 JT Vaughan, PI
Institution: Enon Microwave, Topsfield, MA, and Massachusetts General Hospital, Boston, MA
Title: “A Homogeneous Transmit Coil for High Field NMR”
Support: \$99,000
- 1996 – 2001 NIH-1 RO1 NS34626-01-A1 RG Gonzalez, PI; JT Vaughan, Co-I
Institution: Massachusetts General Hospital, Boston, MA
Title: “Molecular Neuroimaging of AIDS Dementia: Animal Models”
Support: \$984,865
- 1998 - 1999 DOD-ONDCP (B Rosen, PI; JT Vaughan, H. Breiter, authors and Co-PIs
Institution: Massachusetts General Hospital, Boston, MA
Title: A 7T Human MRI System for Studying Cocaine Addiction
Support: \$7,200,000 (including \$1,200,000 matched by Vaughan’s grants)
- 1997 – 2000 Whitaker Foundation JT Vaughan, PI
Institution: Massachusetts General Hospital, Boston, MA
Title: “MR Imaging of the Brain at Very High Fields,
Support: \$179,319
- 1997 – 2002 NIH-NCI-2P 01 CA48729-09 T. Brady, PI; Vaughan PI Core B
Institution: Massachusetts General Hospital, Boston, MA
Title: “Biomedical Implications of Magnetic Susceptibility”
Support: \$1,848,260, Core B
- 1997 - 2002 NIH-NCRR- P41-RR08079, K Ugurbil, PI; JT Vaughan, PI Project 13
Institution: University of Minnesota, Minneapolis, MN
Title: “NMR Imaging and Localized Spectroscopy at High Magnetic Fields”
Support: \$4.7m
- 1999 – 2002 NIH- RO1 CA76535 J.T.Vaughan, PI
Institution: Massachusetts General Hospital, Boston, MA
Title: "Minimizing RF Losses in High Field MR Head Imaging"
Support: \$726,363

- 2000 – 2002 NIH-S10 RR139850 JT Vaughan, PI
 Institution: University of Minnesota
 Title: “A 9.4T NMR Imaging System for Primate Research”
 Support: \$400,000
- 2002 – 2006 NIH-R33 CA94318 JT Vaughan, PI
 Institution: University of Minnesota
 Title: “High Field RF Coils for Improved Breast Cancer Detection”
 Support: \$1,021,842
- 2002 -2005 NIH-R01 CA94200-01A1 01A1 J.T. Vaughan, PI
 Institution: University of Minnesota
 Title: “New RF Technology for Improved Breast Cancer Diagnostics”
 Support: \$1,131,643
- 2002 – 2006 NIH-2 R42 RR13230-02 J.T. Vaughan, PI
 Institution: Biomedical Engineering, Inc. with subcontract to University of Minnesota
 Title: “A Homogeneous Transmit Coil for High Field Human NMR”
 Support: \$518,000
- 2002 -2007 NIH-R01 EB00473 J Duncan, PI; JT Vaughan, PI subcontract
 Institution: Yale University
 Title: “Bioimaging and Intervention in Neocortical Epilepsy”
 Support: \$876,870 for subcontract
- 2008 State of Alabama bond fund, JT Vaughan, originator and author
 Institution: Auburn University
 Title: MR Center for Auburn University and University of Alabama at Birmingham
 Support: \$25m for Auburn
- 2008 State of Alabama bond fund, JT Vaughan, originator and author
 Institution: University of Alabama at Birmingham
 Title: MR Center for University of Alabama at Birmingham and Auburn University
 Support: \$25m for UAB
- 2001 – 2006 NIH-R01 RR15413 K Ugurbil, PI, JT Vaughan, Co-I
 Institution: University of Minnesota
 Title: “Functional MRI in Humans at 7 Tesla”
 Support: \$37,500 Vaughan budget
- 2004 – 2009 NIH- R01 EB000895-04 J.T.Vaughan, PI
 Institution: University of Minnesota
 Title: “Minimizing RF Losses in High Field MR Imaging” (renewal of R01 CA76535)
 Support: \$1,992,897
- 2005 - 2008 NIH-Center Grant Supplemental Award J.T.Vaughan, Co-PI
 Institution: University of Minnesota
 Title: “MR Image-Guided Intervention in Breast Cancer”
 Support: \$400,000
- 2007 – 2009 NIH-SBIR R43 CA126098-01 B Larson, T Vaughan, Co-PIs

- Institution: MR Robotics, Inc.
 Title: MRI-Guided Robotic Breast Cancer Interventions
 Support: \$290,000
- 2009 – 2011 NIH S10 RR 25437 JT Vaughan, PI
 Institution: University of Minnesota
 Title: A Multi-Mode, Multi-Channel Transmitter for 9.4T NMR
 Support: \$500,000 (ARA Stimulus grant)
- 2008 – 2013 NIH-PAR-02-010 Chris Collins, PI at Penn State, Vaughan, Co-I subcontract
 Institution: Pennsylvania State University with subcontract to University of Minnesota
 Title: “High Field MRI: Limitations and Solutions”
 Support: \$663,446 for subcontract
- 2011 – 2013 NIH 1R41EB013543-01 JT Vaughan, PI
 Institution: Life Services, LLC and U of MN
 Title: Coils for Human Whole Body Imaging at 7T
 Support: \$100,000
- 2011 – 2013 NIH 1 R01 EB011551-01A1 Yudong Zhu PI, JT Vaughan, subcontract PI
 Institution: New York University
 Title: RF Technology Innovation for Advancing High Field MR
 Support: (sub contract) \$500,000
- 2010 – 2015 1 U54 MH091657 (Co-PI: Ugurbil) JT Vaughan Co-I
 Title: Mapping the Human Connectome: Structure, Function, and Heritability
 Costs: \$777,981 / anum
- 2013 – 2015 Siemens Grant Ugurbil, Vaughan, MPIs
 Title: 3T Body Coil
 Direct Costs: \$180,000
- 2008 – 2018 (renewed) NIH-P41 RR08079 K Ugurbil, PI; JT Vaughan, PI Engineering Core
 Institution: University of Minnesota
 Title: “NMR Imaging and Localized Spectroscopy”
 Support: \$984,683 for Core V (2013-2018 renewal)
- 2007 – 2016 (renewed) NIH-R01-EB006835 JT Vaughan, PI
 Institution: University of Minnesota
 Title: “Human MRI to 9.4T and Beyond”
 Support: \$ 1.5m (2013-2016 renewal)
- 2007 -2017 (renewed) NIH-R01 EB007327 JT Vaughan, PI
 Institution: University of Minnesota
 Title: “RF Safety Assurance for High Field MRI”
 Support: \$2m (2011-2017 renewal)
- 2014 – 2016 NIH 1 R01 EB011551-01A1 Chris Collins, PI, JT Vaughan, subcontract PI
 Institution: NYU
 Title: RF Technology Innovation for Advancing High Field MR
 Support: \$300,000 (subcontract)

- 2011 – 2016 P30 NS5076408 PI: Ugurbil, JT Vaughan, Co-I
 Institution: University of Minnesota
 Title: Institutional Center Cores for Advanced Neuroimaging
 Support: \$2.41m
- 2013 Samsung License (19 patents) from U. Minn, MGH, and UAB.
 Principal Inventor: JT Vaughan
 Institution: University of Minnesota
 Title: Patent Portfolio for multi-channel MRI
 Support: \$12m to UMN, \$330,000 to MGH, \$330,000 to UAB.
- 2014 – 2017 Samsung PI: JT Vaughan
 Institution: University of Minnesota
 Title: 3T Body Coil
 Support: \$1.2m
- 2014 – 2017 NIH NIMH R24-MH105998-01 JT Vaughan, MPI, MG Garwood
 Institution: University of Minnesota
 Title: Imaging Brain Function in Real World Environments & Populations with Portable MRI
 Support: \$1m
- 2015 – 2017 NIH NIMH 3R24-MH105998-02S1 JT Vaughan, MG Garwood, MPI
 Institution: University of Minnesota
 Title: Imaging Brain Function in Real World Environments & Populations with Portable MRI
 Support: \$121,004 (supplement)
- 2016 – 2021 NIH1K99EB020058 Sung-Min Sohn, PI; JT Vaughan, mentor
 Institution: University of Minnesota
 Title: “Automatic RF Signal Tuning and Matching System for MR Imaging and Spectroscopy”
 Support: \$1.2m
- 2016 – 2021 NIH 1 K99 EB021173-01A1 Yigitcan Eryaman, PI, JT Vaughan, mentor
 Institution: University of Minnesota
 Title: Magnetic Resonance Imaging of Neural Implants
 Support: \$900,000
- 2014 – 2018 NIH 2R42EB013543-02 JT Vaughan, PI (Phase II STTR)
 Institution: Life Services, LLC
 Title: Coils for Human Whole-Body Imaging at 7T
 Support: \$1m
- 2016 – 2018 NIH EB01869 NIH G Adriany, PI, JT Vaughan Co-I
 Institution: Life Services, LLC
 Title: Multi-channel transmit / Multi-channel receive coil array for human fMRI
 Support: \$150,000
- 2016 - 2022 Columbia, JT Vaughan, PI
 Title: Discretionary Startup
 Institution: Columbia University
 Support: \$3m

- 2017 - 2022 NIH U 01– EB025153 M Garwood PI, JT Vaughan Columbia U Subcontract PI
 Title: Imaging Human Brain Function with Minimal Restrictions
 Institutions: U. Minnesota, Columbia, Harvard, Yale, U. Sao Paulo, Victoria U.
 Support: \$11.2 m, Columbia sub-contract: 3.2m
- 2018 - 2020 Columbia University RISE Grant; V. Ferrara, JT Vaughan, N Kriegeskorte, MPIs
 Title: An Integrative Approach for Tracing Parallel Visual Pathways in the Non-human Primate Brain. Support: \$160,000
- 2018 - Columbia SEAS SIRS/STAR Grant. PIs JT Vaughan, C Juchem
 Title: Integrated Multi-Coil B0 and Radio-Frequency Technology for 1H Magnetic Resonance Spectroscopy of Cervical Spine Pathology in Multiple Sclerosis
 Support: \$60,000
- 2018 - Google Development Grant
 Title: First MR Research Center Integrated in the Google Cloud Platform (GCP)
 Google, Inc.
 Support: \$20,000 in Cloud Credits
- Current**
- 2018 - Columbia University Center Stimulus Grant, JT Vaughan PI
 Title: Columbia Magnetic Resonance Research Center (CMRRC)
 Support: \$50,000
- 2021-2024 R01 EB030560-04 PI: JT Vaughan (previously C. Juchem)
 Title: Dynamic Multicoil B1 Shimming for Diagnostic MRI of Frontal Brain
- 2021 - 2026 NSF-2117823, MRI Grant. JT Vaughan, contact PI. A. Franco, T. Foo, M. Milham, D. Sodickson co-PIs
 Institution: New York State Nathan Kline Psychiatric Research Institute, Orangeburg, NY
 Title: Development of a Next Gen 9.4T Magnetic Resonance System for Translational Neuroscience
 Support: \$3,940,688 from NSF, \$6m matching from NYS, \$2m from NKI. \$350,000 from Columbia.
- 2026 - 2028 New York State Office of General Services (O.G.S.) PROJECT NO. 46218 for \$15m+ to NKI

University Committees

- 1999 – 2004 NIH External Advisory Committee, Advanced Magnetic Resonance and Spectroscopy Facility, University of Florida, and National High Magnetic Field Laboratory
- 1999 – 2016 University of Minnesota, Department of Radiology, Center for Magnetic Resonance Research, Biennial High Field Workshop Planning Committee.
- 2000 - 2001 Graduate Program Planning, Dept. Biomedical Engineering, U. Minnesota
- 2007 – 2011 Promotions and Tenure Review, Dept. Radiology, University of Minnesota
- 2009 – 2015 Senate Research Committee, University of Minnesota

2011 - 2013 Office of the Vice President for Research, Research Risk Advisory Committee
 2013 - 2015 Special Panel on Research Misconduct, Harvard University
 2014 – Member, Board of Advisors, Tra Vinh University, Tra Vinh, Viet Nam
 2016 - Chair, Columbia MR Research Center Faculty Advisory Committee
 2017 - Chair, Columbia MR Research User's Group
 2017 - Chair, Columbia MR Safety Committee and IRB Review
 2017 - Member, Zuckerman Inst. Human Cognitive Imaging Committee
 2018- Member, Zuckerman Preclinical MR Safety Committee
 2018- Chair, MR Center Grant Planning Committee
 2019- Member, MR Research Center Oversight Committee

Teaching Experience

Classroom Courses:

1986 – 1989 (annual) Basics of NMR Physics for medical interns, residents and fellows
 Instructor: JT Vaughan
 Institution: University of Texas Southwestern Medical School, Dept. of Radiology

1991 – 1995, Biomedical Magnetic Resonance Imaging I, BME 640/740, 3 units
 Instructor: Don Twieg, with periodic lectures by JT Vaughan.
 Institution: The University of Alabama at Birmingham, AL

1991 – 1995, Biomedical Magnetic Resonance Imaging II, BME 641/741, 3 units
 Instructor: Don Twieg, with periodic lectures by JT Vaughan
 Institution: The University of Alabama at Birmingham, AL

1995 – 1999, MR Physics, 3 unit graduate course
 Instructor: Bruce Rosen, with periodic lectures by JT Vaughan
 Institution: Harvard/MIT Health Sciences Technology Program, Boston MA

1999 – 2002, Biophysics 8147, “MRI Instruments and Methods” 3 units
 Instructor: Xiaoping Hu, with periodic lectures by JT Vaughan
 Institution: Department of Biophysics, University of Minnesota, Minneapolis, MN

2001 - 2004 HCol 3070H "Honors Colloquium: Ethical Choices in Science & Technology",
 3 units
 Instructor: JT Vaughan
 Institution: College of Liberal Arts, University of Minnesota, Minneapolis, MN

2003 – Biophysics 8293, “MR Spectroscopy and Imaging”, 3 units
 Instructor, Kamil Ugurbil, Michael Garwood with individual lectures by JT Vaughan
 Institution: Department of Biophysics, University of Minnesota, Minneapolis, MN

2003 –2005, HCol 1001, “Freshman Honors Colloquium: Introduction to the Arts &
 Sciences”
 Instructor: Individual lectures by JT Vaughan
 Institution: College of Liberal Arts, University of Minnesota, Minneapolis, MN

2004 – BME 8601 Biomedical Engineering Graduate Seminar

Instructors: John Bischoff, Bin He, lectures by JT Vaughan
 Institution: Biomedical Engineering, University of Minnesota, Minneapolis, MN

- 2017 - 2019 BHD The Body in Health and Disease Preclinical Neuroscience Course
 Instructors: Serge Przedborski, JT Vaughan
 Institution: Columbia University Vagelos College of Physicians and Surgeons, New York, NY
- 2018 Research to Revenue
 Instructors: Sam Sia Case Study Mentor: JT Vaughan
 Institution: School of Engineering and Applied Sciences + Business, Columbia University
- 2020 - BMEN 600X Topics in MR Instrumentation
 Instructor: JT Vaughan
 Institution: Department of Biomedical Engineering, School of Engineering and Applied Sciences
- 2020 - PSY 600X Human Brain Imaging for Cognitive Neuroscience: Data Acquisition, Analysis, and Sharing
 Instructors: N Kriegeskorte, L. Davachi, Special Lectures, JT Vaughan
- 2021 - BMEN 4000 Ethical Choices in Science and Technology
 Instructor: JT Vaughan
 Institution: Department of Biomedical Engineering, School of Engineering and Applied Sciences
- 2022 - BMEN 4000 Ethical Choices in Science and Technology
 Instructor: JT Vaughan
 Institution: Department of Biomedical Engineering, School of Engineering and Applied Sciences
- 2023 - BMEN 4000 Ethical Choices in Science and Technology
 Instructor: JT Vaughan
 Institution: Department of Biomedical Engineering, School of Engineering and Applied Sciences
- 2024 - BMEN 6000 Fundamentals of MRI
 Instructor: JT Vaughan
 Institution: Department of Biomedical Engineering, School of Engineering and Applied Sciences

Thesis Sponsorships and Committees

- 1993 – 1994, Suriyanarayanan Venkatraman, MS, BME
 Advisor: D. Twieg, JT Vaughan, thesis project advisors
 Institution: Department of Biomedical Engineering, University of Alabama at Birmingham, AL
- 1993 – 1995, Nanqing Zhang, PhD, Physics
 Advisor: T.F. Budinger, JT Vaughan project advisor
 Institution: Department of Physics, University of California, Berkeley, CA
- 1997 – 1998, Andrew Josephson, MS, EE
 Advisor: J.T. Vaughan (summer student)
 Institution: Department of Electrical Engineering, University of Minnesota.
- 1997 – 1998, Mark Skubis, MS, Nuclear Sciences

Advisor: JT Vaughan
 Institution: Massachusetts Institute of Technology, Nuclear Sciences
 Thesis: "An Analytical Solution for Radiation Loss from a Small Current Loop"

1998 – 1999, Christian Haselgrove, MS Program

Advisor: JT Vaughan
 Institution: MIT Nuclear Sciences

2000 – 2001 Eddie Auerbach, PhD, Biophysics

Advisory Committee: JT Vaughan
 Institution: Biomedical Engineering, University of Minnesota

2001 – Nicola DeSanch, Ph.D, BME

Advisor: Peter Allen, JT Vaughan, External Examiner
 Institution: University of Alberta Biomedical Engineering
 Dissertation: "Anatomically-Tailored Magnetic Resonance Radiofrequency Probes"

2001 – Guang-Tsai Lei, PhD, EE

Advisor: J. Holte; J.T. Vaughan, Advisory Committee
 Institution: Mayo Clinic, Department of Physiology and Biophysics,
 Dissertation: "Elliptic Operators in Hilbert Space and in Microwave Engineering."

2001 – 2007 Jinfeng Tian, PhD, BME

Advisor: J.T. Vaughan
 Institution: University of Minnesota, Biomedical Engineering
 Dissertation Project: "Modeling of Electromagnetic Propagation and Losses in Coil Structures and Tissues for High Field NMR"

2001 – 2012 Carl Snyder, PhD BME

Advisor: J.T. Vaughan
 Institution: University of Minnesota, Electrical Engineering
 Thesis Project: RF Body Coils for Ultra-High field MRI

2002 Bethany Steichen

Advisor: JT Vaughan (summer student)
 Institution: University of Minnesota, Center for Magnetic Resonance Research
 Research Project: "A Critical Examination of the Influence of Magnetic Fields on Human Blood."

2000 – 2004 Jang-Yeon Park, PhD

Committee, JT Vaughan, member
 Institution: University of Minnesota, Biomedical Engineering
 Thesis Project: "RF Pulse Sequence Optimization for High Field NMR"

2002 – 2006 Robert Pinkerton, PhD

Advisor, Ravi Menon, JT Vaughan external examiner
 Institution: Western University, London Ontario
 Thesis Project: "RF Coils for MRI"

2003 – 2011 Can Akun, PhD, BME

Advisor: JT Vaughan
 Institution: University of Minnesota, Electrical Engineering

Thesis Project: Optimal field generators for high RF coils

2004 – 2007 Joshua Holwell, MS EE

Advisor: JT Vaughan

Institution: University of Minnesota, Electrical Engineering

Thesis Project: Phased Array Receivers for High Field MRI

2003-2007 Chris Olson, MS Student

Degree status: MS EE received 2007

Thesis / Project Advisors: A. Gopinath / JT Vaughan

Institution: University of Minnesota, Electrical Engineering

Thesis Project: “RF localization for high field MRI”

2005- 2009 Hyongsuk Yoo, PhD

Thesis Advisors: A. Gopinath, JT Vaughan

Institution: University of Minnesota, Electrical Engineering

Thesis Project: “Electromagnetics of waveguides, scattering, and MRI systems”

2008 – 2014 Leeor Alon, PhD

Thesis Advisor, Dan Sodickson. JT Vaughan, external examiner.

Institution: New York University

Thesis Project, RF power deposition and temperature mapping.

2009 – 2014 Sung-Min Sohn, PhD

Advisors: A. Gopinath, JT Vaughan

Institution: University of Minnesota, Electrical Engineering

Thesis Project: “Auto-tuning of RF transmission line coil for high-fields MRI systems”

2011 – 2016 Albert Jang, PhD

Advisor: JT Vaughan

Institution: University of Minnesota, Electrical Engineering

Thesis Project: “MR Imaging in Inhomogeneous Fields”

2016 – 2019 Julie Kabil, PhD

Intern Advisor: JT Vaughan

Institution: University of Lorraine, Nancy, France

2017 - 2024 Marina Manso, PhD

Intern Advisor: JT Vaughan

Institution: University of Groningen, The Netherlands

2018 -2020 Jia Guo, PhD

Advisor: Andrew Laine; JT Vaughan, Committee Member

Institution: BME, Columbia University

2018 - Gehua Tong, BME Doctoral Student

Advisor: JT Vaughan

Institution: BME, Columbia University

2018 - 2024 Enlin Qian, PhD

Advisor: JT Vaughan

- Institution: BME, Columbia University
- 2018 - 2024 Keerthi Sravan Ravi, PhD
 Advisor: JT Vaughan
 Institution: BME, Columbia University
- 2018 - 2018 Israel Chavarria, Intern
 Intern Advisor: JT Vaughan, Intern Advisor
 Institution: APAM, Columbia University
- 2018 – 2020 El Sherif Mahmoud, EE MS
 Advisor: JT Vaughan
 Institution: EE, Columbia University
- 2018 - 2023 Yunsuo Duan, PhD, Assist. Prof., MRI Research, Dept. Psychiatry
 Career Mentor: JT Vaughan
 Institution: Career Mentoring Program, Columbia University Irving Medical Center
- 2019 - David Parker, PhD
 Advisor: Ray Razlighi, JT Vaughan co-advisor and examiner
 Institution: Department of Biomedical Engineering, School of Engineering and Applied Sciences, Columbia University
 Thesis: Optimal Correction of The Slice Timing Problem and Subject Motion Artifacts in fMRI/
- 2019 -2022 Xinyang Feng, Ph.D.
 Advisor: A Laine, JT Vaughan Advisory Committee
 Institution: Department of Biomedical Engineering, School of Engineering and Applied Science, Columbia University
- 2020 –2022 Seyed Hossein Mirjahanmardi, MSEE
 Advisor: O.M Ramahi, JT Vaughan, External Advisor
 Institution: Department of Electrical and Computer Engineering, University of Waterloo, Canada
- 2022 - Isabelle Zinghini
 Advisor: C. Juchem, JT. Vaughan
 Institution: Department of Biomedical Engineering, School of Engineering and Applied Science, Columbia University
- 2024 - Sophia Lopez, BS
 Advisor (Internship) : JT. Vaughan
 Institution: Barnard College
- 2024 - James Liu, MS
 Advisor: JT Vaughan
 Institution: Department of Biomedical Engineering, School of Engineering and Applied Science, Columbia University
- 2024 - Ning Wang
 Advisor: (Internship) JT Vaughan
 Institution: Tsinghua University, China

Supported/Mentored Graduate Students, Post Docs and Research Scientists

- 1993 – 1994, Suriyanarayanan Venkatraman, MS, BME
 Institution: Student in BME, University of Alabama at Birmingham, AL
 Current Employment: General Electric Healthcare
- 1997 – 1998, Andrew Josephson, MS, EE
 Institution: Student at MGH/Harvard EE
 Current Employment: General Dynamics
- 1998 - 1999, Lawrence Wald, PhD, Biophysics
 Institution: Research Scientist at MGH/Harvard
 Current Employment: MGH/Harvard/MIT Martinos Center
- 1998 - 1999, Douglas Kelley, PhD, EE
 Institution: Research Scientist at MGH
 Current Employment: General Electric Healthcare
- 1997 – 1998, Mark Skubis, MS, Nuclear Sciences
 Institution: Student in Harvard/MIT Health Science Technologies (HST) Nuclear Sciences
 Current Employment: US Navy (Nuclear Submarine Captain)
- 1998 – 1999, Christian Haselgrove, MS, Nuclear Sciences
 Institution: Student in Harvard/MIT HST, Nuclear Sciences
 Current Employment: NIH
- 1999 - Gregor Adriany, PhD, EE
 Institution: Research Scientist, Center for Magnetic Resonance Research, U of Minnesota
 Current Employment: University of Minnesota
- 2000 – 2001 Eddie Auerbach, PhD, Biophysics
 Institution: Student in Biophysics, University of Minnesota
 Current Employment: University of Minnesota, Center for Magnetic Resonance Research
- 2001 – 2018 Jinfeng Tian, PhD, BME
 Institution: Student, Post Doc, Scientist in BME at University of Minnesota and Columbia
 Current Employment: US Food and Drug Administration
- 2001 – 2012 Carl Snyder, PhD BME
 Institution: Student, Post Doc in BME at University of Minnesota
 Current Employment: Champaign Imaging, LLC, Minneapolis
- 2002 Bethany Steichen, MD
 Institution: University of Minnesota, Center for Magnetic Resonance Research
 Current Employment: -an MD somewhere

- 2002 - 2016 Lance Delabarre, PhD Biophysics
 Institution: Post Doc, Research Associate, University of Minnesota
 Current: Center for Magnetic Resonance Research, University of Minnesota
- 2003 –2011 Can Akun, PhD, BME
 Institution: University of Minnesota, Electrical Engineering
 Current Employment: Flywheel, LLC, Minneapolis
- 2004 – 2007 Joshua Holwell, MS EE
 Institution: University of Minnesota, Electrical Engineering
 Current Employment: MR Instruments, LLC, Minneapolis
- 2003 - 2007 Chris Olson, MS
 Institution: University of Minnesota, EE
 Current Employment: - a Chicago Engineering Firm.
- 2005- 2009 Hyongsuk Yoo, PhD
 Institution: University of Minnesota, Electrical Engineering
 Current Employment: KAIST, Seoul
- 2009 – 2018 Sung-Min Sohn, PhD
 Institution: Student, Post Doc, Scientist at University of Minnesota, Electrical Engineering
 Current Employment: Arizona State Univ.
- 2011 – 2016 Yigitcan Eryman
 Institution: Post Doc, Research Scientist at Univ. Minnesota Ctr. for MR Research.
 Current Employment: Univ. Minnesota, CMRR
- 2012 - 2016 Russell LaGore, MS EE
 Institution: Research Engineer, University of Minnesota
 Current Employment, Center for Magnetic Resonance Research, University of Minnesota
- 2016 - 2019, Julie Kabil, PhD, BME
 Institution: University of Lorraine, Nancy, France
 Current Employment: Post Doc at Columbia MR Research Center
- 2016 - 2023 Ray Lee, PhD
 Position Research Scientist, Zukerman Institute
 Institution Associate Professor, UT San Antonio, TX
- 2016 - Present, Kathleen Durkin, MS
 Position Research Administrator
 Institution ZMBBI, Columbia University
- 2017 - Present, Dania Elder. BS
 Position Senior MR Tech.
 Institution ZMBBI, Columbia, University
- 2017 - Present Marina Manso, PhD
 Institution: Intern from University of Groningen, The Netherlands
 Current Employment: Post Doc at Zuckerman Inst., Columbia MR Research Ctr.

- 2017 - Present Sairam Geethanath
 Institution: Post Doc, Radiology, now Research Scientist, Zuckerman Institute, Columbia U.
 Current: Assistant Professor in BME, Johns Hopkins University
- 2018 - Present Jia Guo, PhD, BME
 Position: Post Doc transitioning to Research Scientist
 Current Employment, Assistant Professor in Psychiatry, Columbia University
- 2018 - Gehua Tong, MS
 Position: BME Doctoral Student (on leave)
 Current Institution: Columbia University
- 2018 - Enlin Qian, PhD
 Institution: BME Doctoral Student
 Current , NYstitution: Post Doctoral Fellow, Memorial Sloan Kettering, NY
- 2018 - Israel Chavarria, BS
 Position: Student Intern
 Current Institution: APAM, Columbia University
- 2018 - ElSherif Mahmoud, BS
 Position: MS Student
 Current Institution: EE, Columbia University
- 2018 - Peidong He, MS
 Co-mentor: Sairam Geethanath
 Position, BME MS Student
 Institution: Columbia, University
- 2018 - Yunsuo Duan, PhD,
 Position: Assist. Prof., MRI Research, Dept. Psychiatry
 Institution: Columbia University Irving Medical Center
- 2018 - Student Team in Research to Revenue Course
 Prof: Sam Sia
 Case Study Mentor: JT Vaughan
 Institution, School of Engineering and Applied Sciences + School of Business, Columbia University
- 2019 - Niveta Ramakrishnan
 Position: 3rd Year Medical Student Intern
 Institution: The Royal College of Surgeons in Ireland
- 2019 - David Hidary
 Co-mentor: Ray Lee
 Position: Highschool Summer Intern
 Institution: Zuckerman Mind Brain Behavior MR Platform
- 2019 - Zhihua Ren, MSEE
 Position: PhD Student, Senior Year Intern

Institution: Electrical Engineering, Singapore University of Technology and Design

2019 - Keerthi Sravan Ravi, PhD

Institution: BME Department, School of Engineering and Applied Science, Columbia University

Current: GE, California

2019 - Sabrina Josephine Gjerswold-Selleck, MS

Co-mentor: Jia Guo

Position: Ph.D. Student

Institution: Neurology Department, College of Physicians and Surgeons, Columbia University

2019 - Haoran Sun

Co-mentor: Jia Guo

Position: Ph.D. Student

Institution: Neurology Department, College of Physicians and Surgeons, Columbia University

2019 - Rosalie Zhu, MS (Jia Guo's)

Co-mentor: Jia Guo

Position: Ph.D. Student

Institution: Neurology Department, College of Physicians and Surgeons, Columbia University

2019 - Chen Raphael Liu, MS (Jia Guo's)

Co-mentor: Jia Guo

Position: Ph.D. Student

Institution: Neurology Department, College of Physicians and Surgeons, Columbia University

2019 David Gultekin, PhD

Position: MR Physicist and Safety Officer

MR Platform, Zuckerman Mind Brain Behavior Institute, Columbia University

2024 James Liu

Position: Masters Student

BME

2024 Sophia Gomez

Position: Undergraduate Student

Barnard

2024 Ning Wang

Position: Medical Intern

Tsinghua

Other professional activities

Editorial

2003 – present, Editorial Board for John Wiley & Sons, “NMR in Biomedicine”

2006 – 2010, Guest Editor for Special Ed. of NMR in Biomedicine

2007 – 2012 Section Editor to John Wiley, Encyclopedia for NMR.

2008 – 2012 Book Editor for John Wiley Handbook of RF Coils for MRI.

2012 – present, Book Editor for John Wiley Handbook of RF Safety for MRI.

2023 - present, Guest Editor for Special Ed. of NMR in Biomedicine
 2023 - present, Book Editor for John Wiley Handbook for RF Coils for MRI, 2nd Ed.

Consultative

1994 – present, NIH reviewer on numerous standing and ad hoc NIH study sections for review of SBIR, STTR, R-41, R-01, R-21, R-33, S-10, and P-41 grant applications and site visits. (approximately 2 sections /year since 1994)
 1997 – present, NSF reviewer for SIG, SBIR and STTR grant applications.
 1989 – 1992 Radiofrequency Scientist in the Technical Systems Division of the Philips Research Labs, Hamburg, Germany
 1994 – 2009 Founder, President, Bioengineering, Inc., Birmingham, AL/ Stillwater, MN
 1995 – 1997 Advanced NMR Systems, Inc, Wilmington, MA building first GE 3T MRI
 1996 – 1998 Medical Advances, Inc., Waukesha, WI
 1996 – 2000 VP and Board of Directors, Enon Microwave, Inc., Topsfield, MA
 1998 – 2000 General Electric Medical Systems, Milwaukee, WI
 1999 – 2002 HF Imaging, Inc., Minneapolis, MN
 2000 – 2010 Varian Medical System, Inc. Palo Alto, CA
 2000 – 2012 National Institute of Radiological Sciences, Tsukuba, Japan
 2001 – 2016 Board of Advisors, Wang NMR, Livermore CA
 2002 – 2005 USA Instruments, Inc. Cleveland, OH
 2002 – 2008 Founder, CTO, Board of Directors, MR Instruments, Inc, Minneapolis, MN
 2002 – 2009 Bruker Biospin MRI, GmbH. Ettlingen, Germany
 2004 – 2010 CEA Neurospin, Saclay, France
 2005 – 2010 Medtronic, Fridley, MN
 2005 – 2009 Hitachi Corporate Research, Tokyo, Japan
 2005 – 2016 Founder, owner, MRI Robotics, LLC., Minneapolis, MN
 2007 – 2016 Board, Jupiter Imaging, Livermore, CA.
 2008 – 2016 Board of Advisors, Medspira, Inc., Minneapolis, Rochester, MN
 2009 – present, Founder and CTO of Life Services, LLC., Minneapolis, MN
 2010 – present, Founder and President of MR Safe Devices, LLC., Minneapolis, MN
 2011 – 2012 Expert Consultant – Hand Arendall LLC, Birmingham, AL
 2011 – 2012 Expert Consultant – Maynard, Cooper, and Gale, PC, Birmingham, AL
 2011 – 2016 Consulting Advisor – Samsung Electronics Co., Seoul S. Korea
 2014 – 2016 Member and consultant, Brigham and Women's 7T Task Force, Boston, MA
 2015 – present, Advisor, Foundation for Cancer Care in Tanzania
 2015 - present, Board of Advisors, Tra Vinh School of Engineering, Tra Vinh, Viet Nam
 2022 - present. Co-Founder, MR Access, Inc., New York, NY

Publications:

Original, Peer Reviewed Articles

<https://www.ncbi.nlm.nih.gov/myncbi/john.vaughan.1/bibliography/public/>

1. Brateman L, Jennings LW, Nunnally RL, Vaughan JT. Evaluations of magnetic-resonance-imaging parameters with simple phantoms. Medical Physics. 1986;13(4):441-8. doi: 10.1118/1.595894. PubMed PMID: WOS:A1986D182200002.

2. Malloy CR, Jeffrey FM, Klein DL, Lange RA, Babcock EE, Vaughan JT, Peshock RM, Nunnally RL. Single and double coil methods for P-31 NMR-spectroscopy of the human myocardium. Circulation. 1987;76(4):245-. PubMed PMID: WOS:A1987K429000987.

3. Babcock EE, Vaughan JT, Lesan B, Nunnally RL. Multinuclear NMR investigations of probe construction materials at 4.7-T. *Magnetic Resonance in Medicine*. 1990;13(3):498-503. doi: 10.1002/mrm.1910130317. PubMed PMID: WOS:A1990CV21700016.
4. Fleckenstein JL, Archer BT, Barker BA, Vaughan JT, Parkey RW, Peshock RM. Fast short-tau inversion-recovery MR imaging. *Radiology*. 1991;179(2):499-504. doi: 10.1148/radiology.179.2.2014300. PubMed PMID: WOS:A1991FH13000037.
5. Vaughan JT, Hetherington HP, Harrison JG, Otu JO, Pan JW, Noa PJ, Pohost GM. High frequency coils for clinical nuclear magnetic resonance imaging and spectroscopy. *Phys Medica*, vol. 9, pp. 147-53, 1993.
6. Vaughan JT, Hetherington HP, Otu JO, Pan JW, Pohost GM. High-frequency volume coils for clinical NMR imaging and spectroscopy. *Magnetic Resonance in Medicine*. 1994;32(2):206-18. doi: 10.1002/mrm.1910320209. PubMed PMID: WOS:A1994NZ79300008.
7. Hetherington HP, Mason GF, Pan JW, Ponder SL, Vaughan JT, Twieg DB, Pohost GM. Evaluation of cerebral gray and white-matter metabolite differences by spectroscopic imaging at 4.1T. *Magnetic Resonance in Medicine*. 1994;32(5):565-71. doi: 10.1002/mrm.1910320504. PubMed PMID: WOS:A1994PN57500003.
8. Hetherington HP, Luney DJE, Vaughan JT, Pan JW, Ponder SL, Tschendel O, Twieg DB, Pohost GM. 3D P-31 spectroscopic imaging of the human heart at 4.1-T. *Magnetic Resonance in Medicine*. 1995;33(3):427-31. doi: 10.1002/mrm.1910330318. PubMed PMID: WOS:A1995QK08600017.
9. Pan JW, Vaughan JT, Kuzniecky RI, Pohost GM, Hetherington HP. High resolution neuroimaging at 4.1 T. *Magnetic Resonance Imaging*. 1995;13(7):915-21. doi: 10.1016/0730-725x(95)02002-b. PubMed PMID: WOS:A1995TN08400001.
10. Hetherington HP, Kuzniecky RI, Pan JW, Vaughan JT, Twieg DB, Pohost GM. Application of high-field spectroscopic imaging in the evaluation of temporal-lobe epilepsy. *Magnetic Resonance Imaging*. 1995;13(8):1175-80. doi: 10.1016/0730-725x(95)02029-s. PubMed PMID: WOS:A1995TJ68100019.
11. Hetherington H, Kuzniecky R, Pan J, Mason G, Morawetz R, Harris C, Faught E, Vaughan T, Pohost G. Proton nuclear-magnetic-resonance spectroscopic imaging of human temporal-lobe epilepsy at 4.1 T. *Annals of Neurology*. 1995;38(3):396-404. doi: 10.1002/ana.410380309. PubMed PMID: WOS:A1995RU33300008.
12. Vaughan JT, Haupt DN, Noa PJ, Vaughn JM, Pohost GM. RF front-end for a 4.1-tesla clinical NMR spectrometer. *IEEE Transactions on Nuclear Science*. 1995;42(4):1333-7. doi: 10.1109/23.467862. PubMed PMID: WOS:A1995RP81900192.
13. Chu WJ, Hetherington HP, Kuzniecky RI, Vaughan JT, Twieg DB, Faught RE, Gilliam FG, Hugg JW, Elgavish GA. Is the intracellular pH different from normal in the epileptic focus of patients with temporal lobe epilepsy? A P-31 NMR study. *Neurology*. 1996;47(3):756-60. doi: 10.1212/wnl.47.3.756. PubMed PMID: WOS:A1996VG59600023.
14. Pan JW, Hetherington HP, Vaughan JT, Mitchell G, Pohost GM, Whitaker JN. Evaluation of multiple sclerosis by H-1 spectroscopic imaging at 4.1 T. *Magnetic Resonance in Medicine*. 1996;36(1):72-7. doi: 10.1002/mrm.1910360113. PubMed PMID: WOS:A1996UT36800012.

15. Pan JLW, Mason GF, Vaughan JT, Chu WJ, Zhang YT, Hetherington HP. C-13 editing of glutamate in human brain using J-refocused coherence transfer spectroscopy at 4.1 T. *Magnetic Resonance in Medicine*. 1997;37(3):355-8. doi: 10.1002/mrm.1910370308. PubMed PMID: WOS:A1997WJ66400007.
16. Mason GF, Chu WJ, Vaughan JT, Ponder SL, Twieg DB, Adams D, Hetherington HP. Evaluation of P-31 metabolite differences in human cerebral gray and white matter. *Magnetic Resonance in Medicine*. 1998;39(3):346-53. doi: 10.1002/mrm.1910390303. PubMed PMID: WOS:000072087900002.
17. Tong F, Nakayama K, Vaughan JT, Kanwisher N. Binocular rivalry and visual awareness in human extrastriate cortex. *Neuron*. 1998;21(4):753-9. doi: 10.1016/s0896-6273(00)80592-9. PubMed PMID: WOS:000076697300019.
18. Tootell RBH, Hadjikhani N, Hall EK, Marrett S, Vanduffel W, Vaughan JT, Dale AM. The retinotopy of visual spatial attention. *Neuron*. 1998;21(6):1409-22. doi: 10.1016/s0896-6273(00)80659-5. PubMed PMID: WOS:000077910600022.
19. Bonmassar G, Van De Moortele PF, Purdon P, Jaaskelainen I, Ives JR, Vaughan JT, Ugurbil K, Belliveau JW. 7 tesla interleaved EEG and fMRI recordings: BOLD measurements. *Neuroimage*. 2001;13(6):S4-S. PubMed PMID: WOS:000169106300005.
20. Ferris CF, Snowdon CT, King JA, Duong TQ, Ziegler TE, Ugurbil K, Ludwig R, Schultz-Darken NJ, Wu ZJ, Olson DP, Sullivan JM, Tannenbaum PL, Vaughan JT. Functional imaging of brain activity in conscious monkeys responding to sexually arousing cues. *Neuroreport*. 2001;12(10):2231-6. doi: 10.1097/00001756-200107200-00037. PubMed PMID: WOS:000169809200038.
21. Hetherington HP, Spencer DD, Vaughan JT, Pan JW. Quantitative P-31 spectroscopic imaging of human brain at 4 tesla: Assessment of gray and white matter differences of phosphocreatine and ATP. *Magnetic Resonance in Medicine*. 2001;45(1):46-52. doi: 10.1002/1522-2594(200101)45:1<46::aid-mrm1008>3.0.co;2-n. PubMed PMID: WOS:000166167400008.
22. Yacoub E, Shmuel A, Pfeuffer J, Van de Moortele PF, Adriany G, Andersen P, Vaughan JT, Merkle H, Ugurbil K, Hu XP. Imaging brain function in humans at 7 Tesla. *Magnetic Resonance in Medicine*. 2001;45(4):588-94. doi: 10.1002/mrm.1080. PubMed PMID: WOS:000167819100009.
23. Vaughan JT, Garwood M, Collins CM, Liu W, DelaBarre L, Adriany G, Andersen P, Merkle H, Goebel R, Smith MB, Ugurbil K. 7T vs. 4T: RF power, homogeneity, and signal-to-noise comparison in head images. *Magnetic Resonance in Medicine*. 2001;46(1):24-30. doi: 10.1002/mrm.1156. PubMed PMID: WOS:000169561000005.
24. Raynaud JS, Duteil S, Vaughan JT, Hennel F, Wary C, Leroy-Willig A, Carlier PG. Determination of skeletal muscle perfusion using arterial spin labeling NMRI: Validation by comparison with venous occlusion plethysmography. *Magnetic Resonance in Medicine*. 2001;46(2):305-11. doi: 10.1002/mrm.1192. PubMed PMID: WOS:000170114100014.
25. Collins CM, Yang QX, Wang JH, Zhang X, Liu H, Michaeli S, Zhu XH, Adriany G, Vaughan JT, Anderson P, Merkle H, Ugurbil K, Smith MB, Chen W. Different excitation and reception distributions with a single-loop transmit-receive surface coil near a head-sized spherical phantom at 300 MHz. *Magnetic Resonance in Medicine*. 2002;47(5):1026-8. doi: 10.1002/mrm.10153. PubMed PMID: WOS:000175346100026.

26. Yang QX, Wang JH, Zhang XL, Collins CM, Smith MB, Liu HY, Zhu XH, Vaughan JT, Ugurbil K, Chen W. Analysis of wave behavior in lossy dielectric samples at high field. *Magnetic Resonance in Medicine*. 2002;47(5):982-9. doi: 10.1002/mrm.10137. PubMed PMID: WOS:000175346100019.
27. Vaughan JT, Adriany G, Garwood M, Yacoub E, Duong T, DelaBarre L, Andersen P, Ugurbil K. Detunable transverse electromagnetic (TEM) volume coil for high-field NMR. *Magnetic Resonance in Medicine*. 2002;47(5):990-1000. doi: 10.1002/mrm.10141. PubMed PMID: WOS:000175346100020.
28. Duong TQ, Yacoub E, Adriany G, Hu XP, Ugurbil K, Vaughan JT, Merkle H, Kim SG. High-resolution, spin-echo BOLD, and CBF AM at 4 and 7 T. *Magnetic Resonance in Medicine*. 2002;48(4):589-93. doi: 10.1002/mrm.10252. PubMed PMID: WOS:000178361000003.
29. Lazovic-Stojkovic J, Yang QX, Collins CM, Liu WZ, Vaughan JT, Smith MB. Hexagonal zero mode coil: A single channel multi-coil design for small animal magnetic resonance Imaging. Moxon K, ElSherif D, Kanakasabai S, editors 2002. 65-6 p.
30. Lazovic-Stojkovic J, Yang QX, Stojkovic D, Liu WZ, Vaughan JT, Smith MB. Hexagonal coil: A single channel multi-coil design for small animal imaging. *Developmental Neuroscience*. 2002;24(5):452-3. PubMed PMID: WOS:000181910500029.
31. Ugurbil K, Adriany G, Andersen P, Chen W, Garwood M, Gruetter R, Henry PG, Kim SG, Lieu H, Tkac I, Vaughan T, Van de Moortele PF, Yacoub E, Zhu XH. Ultrahigh field magnetic resonance imaging and spectroscopy. *Magnetic Resonance Imaging*. 2003;21(10):1263-81. doi: 10.1016/j.mri.2003.08.027. PubMed PMID: WOS:000188123800018.
32. Ferris CF, Snowdon CT, King JA, Sullivan JM, Ziegler TE, Olson DP, Schultz-Darken NJ, Tannenbaum PL, Ludwig R, Wu ZJ, Einspanier A, Vaughan JT, Duong TQ. Activation of neural pathways associated with sexual arousal in non-human primates. *Journal of Magnetic Resonance Imaging*. 2004;19(2):168-75. doi: 10.1002/jmri.10456. PubMed PMID: WOS:000188741500003.
33. Collins CM, Liu WZ, Wang JH, Gruetter R, Vaughan JT, Ugurbil K, Smith MB. Temperature and SAR calculations for a human head within volume and surface coils at 64 and 300 MHz. *Journal of Magnetic Resonance Imaging*. 2004;19(5):650-6. doi: 10.1002/jmri.20041. PubMed PMID: WOS:000221254100024.
34. Duong TQ, Yacoub E, Adriany G, Hu XP, Andersen P, Vaughan JT, Ugurbil K, Kim SG. Spatial specificity of high-resolution, spin-echo BOLD, and CBF fMRI at 7 T. *Magnetic Resonance in Medicine*. 2004;51(3):646-7. doi: 10.1002/mrm.200039. PubMed PMID: WOS:000220003200033.
35. Vaughan JT, Adriany G, Snyder CJ, Tian J, Thiel T, Bolinger L, Liu H, DelaBarre L, Ugurbil K. Efficient high-frequency body coil for high-field MRI. *Magnetic Resonance in Medicine*. 2004;52(4):851-9. doi: 10.1002/mrm.20177. PubMed PMID: WOS:000224238600020.
36. Terpstra M, Lim KO, Vaughan JT, Ugurbil K, Gruetter R, Schulz SC. Reduced anterior cingulate glutathione in schizophrenia. *Biological Psychiatry*. 2004;55:168S-9S. PubMed PMID: WOS:000220755300588.
37. Adriany G, Van de Moortele PF, Wiesinger F, Moeller S, Strupp JP, Andersen P, Snyder C, Zhang XL, Chen W, Pruessmann KP, Boesiger P, Vaughan T, Ugurbil K. Transmit and receive transmission line arrays for 7 tesla parallel imaging. *Magnetic Resonance in Medicine*. 2005;53(2):434-45. doi: 10.1002/mrm.20321. PubMed PMID: WOS:000226651100022.

38. Lazovic J, Stojkovic DS, Collins CM, Yang QX, Vaughan JT, Smith MB. Hexagonal zero mode TEM coil: A single-channel coil design for imaging multiple small animals. *Magnetic Resonance in Medicine*. 2005;53(5):1150-7. doi: 10.1002/mrm.20459. PubMed PMID: WOS:000228796900022.
39. Van De Moortele PF, Akgun C, Adriany G, Moeller S, Ritter J, Collins CM, Smith MB, Vaughan JT, Ugurbil K. B-1 destructive interferences and spatial phase patterns at 7 T with a head transceiver array coil. *Magnetic Resonance in Medicine*. 2005;54(6):1503-18. doi: 10.1002/mrm.20708. PubMed PMID: WOS:000233655200022.
40. Terpstra M, Vaughan TJ, Ugurbil K, Lim KO, Schulz SC, Gruetter R. Validation of glutathione quantitation from STEAM spectra against edited H-1 NMR spectroscopy at 4T: application to schizophrenia. *Magnetic Resonance Materials in Physics Biology and Medicine*. 2005;18(5):276-82. doi: 10.1007/s10334-005-0012-0. PubMed PMID: WOS:000234549700007.
41. Ugurbil K, Adriany G, Akgun C, Andersen P, Chen W, Garwood M, Gruetter R, Henry PG, Marjanska M, Moeller S, Van de Moortele PF, Prussmann K, Tkac I, Vaughan JT, Wiesinger F, Yacoub E, Zhu XH. High magnetic fields for imaging cerebral morphology, function, and biochemistry. *Ultra High Field Magnetic Resonance Imaging* 2006. p. 285-342.
42. Vaughan JT. Ultra high field MRI: high-frequency coils. *Ultra High Field Magnetic Resonance Imaging* 2006. p. 127-61.
43. Vaughan JT, DelaBarre L, Snyder C, Garwood M, Adriany G, Bolan PJ, Ugurbil K: RF Technology and Techniques for Highest Field MRI. In: *Proceedings of IEEE Trans Biomed Eng*, 2006
44. Vaughan JT, DelaBarre LJ, Snyder CJ, Tian J, Bolan PJ, Garwood MG, Ugurbil K, Highest field human imaging, *IEEE Trans Electromagn Compat*, p. 213, 2006.
45. Vaughan JT, Snyder C, DelaBarre L, Tian JF, Akgun C, Ugurbil K, Olson C, Gopinath A. Current and Future Trends in Magnetic Resonance Imaging (MRI), 2006 IEEE MTT-S International Microwave Symposium Digest, San Francisco, CA, 2006, pp. 211-212. doi: 10.1109/MWSYM.2006.249451"
46. Vaughan T, DelaBarre L, Snyder C, Tian JF, Akgun C, Shrivastava D, Liu WZ, Olson C, Adriany G, Strupp J, Andersen P, Gopinath A, van de Moortele PF, Garwood M, Ugurbil K. 9.4T human MRI: Preliminary results. *Magnetic Resonance in Medicine*. 2006;56(6):1274-82. doi: 10.1002/mrm.21073. PubMed PMID: WOS:000242388400012.
47. Shrivastava D, Hanson T, Schlentz R, Gallagher W, Snyder C, DelaBarre L, Prakash S, Laizzo P, Vaughan JT, Asme. MR safety and in vivo thermal characterization of an RF coil at 9.4T. *ASME Summer Bioengineering Conference*, ASME 2007 Summer Bioengineering Conference ():699-700. doi:10.1115/SBC2007-176078.
48. Shrivastava D, Hanson T, Schlentz R, Gallagher W, Snyder C, DelaBarre L, Prakash S, Iaizzo P, Vaughan JT. Radiofrequency heating at 9.4T: In vivo temperature measurement results in swine. *Magnetic Resonance in Medicine*. 2008;59(1):73-8. doi: 10.1002/mrm.21425. PubMed PMID: WOS:000251979600010.
49. Metzger GJ, Snyder C, Akgun C, Vaughan T, Ugurbil K, Van de Moortele PF. Local B-1(+) shimming for prostate imaging with transceiver arrays at 7T based on subject-dependent transmit phase

measurements. *Magnetic Resonance in Medicine*. 2008;59(2):396-409. doi: 10.1002/mrm.21476. PubMed PMID: WOS:000252901700019.

50. Adriany G, De Moortele PFV, Ritter J, Moeller S, Auerbach EJ, Akgun C, Snyder CJ, Vaughan T, Ugurbil K. A geometrically adjustable 16-channel transmit/receive transmission line array for improved RF efficiency and parallel imaging performance at 7 Tesla. *Magnetic Resonance in Medicine*. 2008;59(3):590-7. doi: 10.1002/mrm.21488. PubMed PMID: WOS:000253881200019.

51. Marjanska M, Waks M, Snyder CJ, Vaughan JT. Multinuclear NMR investigation of probe construction materials at 9.4T. *Magnetic Resonance in Medicine*. 2008;59(4):936-8. doi: 10.1002/mrm.21566. PubMed PMID: WOS:000254645500034.

52. Wang ZW, Lin JC, Vaughan JT, Collins CM. Consideration of physiological response in numerical models of temperature during MRI of the human head. *Journal of Magnetic Resonance Imaging*. 2008;28(5):1303-8. doi: 10.1002/jmri.21556. PubMed PMID: WOS:000260566100034.

53. Akgun CE, DelaBarre L, Sohn SM, Snyder C, Adriany G, Ugurbil K, Vaughan JT, Gopinath A, IEEE. Novel multi-channel transmission line coil for high field magnetic resonance imaging. 2009 IEEE MTT-S International Microwave Symposium Digest, Boston, MA, 2009, pp. 1425-1428.

54. Vaughan JT, Snyder CJ, DelaBarre LJ, Bolan PJ, Tian J, Bolinger L, Adriany G, Andersen P, Strupp J, Ugurbil K. Whole-body imaging at 7T: preliminary results. *Magnetic Resonance in Medicine*. 2009;61(1):244-8. doi: 10.1002/mrm.21751. PubMed PMID: WOS:000261914000030.

55. Snyder CJ, DelaBarre L, Metzger GJ, van de Moortele PF, Akgun C, Ugurbil K, Vaughan JT. Initial results of cardiac imaging at 7 tesla. *Magnetic Resonance in Medicine*. 2009;61(3):517-24. doi: 10.1002/mrm.21895. PubMed PMID: WOS:000263608300003.

56. Shrivastava D, Hanson T, Kulesa J, DelaBarre L, Iaizzo P, Vaughan JT. Radio frequency heating at 9.4T (400.2 MHz): in vivo thermoregulatory temperature response in swine. *Magnetic Resonance in Medicine*. 2009 Oct;62(4):888-95. doi: 10.1002/mrm.22072. PubMed PMID: 19572392; WOS:000270558700007.

57. Shrivastava D, Vaughan JT. A generic bioheat transfer thermal model for a perfused tissue. *Journal of Biomechanical Engineering-Transactions of the ASME*. 2009 Jul;131(7). doi: 10.1115/1.3127260. PubMed PMID: 19640142; WOS:000268439900018.

58. Vaughan JT Jr. Special Issue: Radiofrequency Coils. *NMR in Biomedicine*. 2009 Nov;22(9):907. doi: 10.1002/nbm.1459. PubMed PMID: 19856387. WOS:000271806300001.

59. Wu XP, Vaughan JT, Ugurbil K, Van de Moortele PF. Parallel excitation in the human brain at 9.4 T counteracting K-space errors with RF pulse design. *Magnetic Resonance in Medicine*. 2010 Feb;63(2):524-9. doi: 10.1002/mrm.22247. PubMed PMID: 20017161 WOS:000273995200030.

60. Adriany G, Auerbach EJ, Snyder CJ, Gozubuyuk A, Moeller S, Ritter J, Van de Moortele PF, Vaughan T, Ugurbil K. A 32-Channel lattice transmission line array for parallel transmit and receive MRI at 7 Tesla. *Magnetic Resonance in Medicine*. 2010;63(6):1478-85. doi: 10.1002/mrm.22413. PubMed PMID: WOS:000278164400007.

61. Metzger GJ, van de Moortele PF, Akgun C, Snyder CJ, Moeller S, Strupp J, Andersen P, Shrivastava D, Vaughan T, Ugurbil K, Adriany G. Performance of external and internal coil

configurations for prostate investigations at 7 T. *Magnetic Resonance in Medicine*. 2010;64(6):1625-39. doi: 10.1002/mrm.22552. PubMed PMID: WOS:000284659300011.

62. Shrivastava D, Abosch A, Hanson T, Tian JF, Gupte A, Iaizzo PA, Vaughan JT. Effect of the extracranial deep brain stimulation lead on radiofrequency heating at 9.4 Tesla (400.2 MHz). *Journal of Magnetic Resonance Imaging*. 2010 Sep;32(3):600-7. doi: 10.1002/jmri.22292. PubMed PMID: WOS:000281532700009.

63. Suttie JJ, DelaBarre L, Metzger GJ, van de Moortele PF, Weale P, Ugurbil K, Robson MD, Vaughan JT, Neubauer S. High field (7 tesla) cardiovascular MRI: a feasibility and comparison study. *Heart*. 2010;96:A51-A2. doi: 10.1136/hrt.2010.196071.6. PubMed PMID: WOS:000279427700090.

64. Wu XP, Akgun C, Vaughan JT, Andersen P, Strupp J, Ugurbil K, Van de Moortele PF. Adapted RF pulse design for SAR reduction in parallel excitation with experimental verification at 9.4 T. *Journal of Magnetic Resonance*. 2010 Jul;205(1):161-70. doi: 10.1016/j.jmr.2010.04.018. PubMed PMID: WOS:000279200000020.

65. Deelchand DK, Van de Moortele PF, Adriany G, Iltis I, Andersen P, Strupp JP, Vaughan JT, Ugurbil K, Henry PG. In vivo H-1 NMR spectroscopy of the human brain at 9.4 T: Initial results. *Journal of Magnetic Resonance*. 2010 Sep;206(1):74-80. doi: 10.1016/j.jmr.2010.06.006. PubMed PMID: WOS:000281507600010.

66. Yoo H, Gopinath A, Vaughan JT, IEEE. A method to control non-uniformity RF B(1) field for high field magnetic resonance imaging. 2010 IEEE MTT-S International Microwave Symposium Digest2010. p. 752-5.

67. Akgun CE, DelaBarre L, Snyder CJ, Sohn SM, Adriany G, Ugurbil K, Gopinath A, Vaughan JT, IEEE. Alternating impedance multi-channel transmission line resonators for high field magnetic resonance imaging. 2010 IEEE MTT-S International Microwave Symposium Digest2010. p. 756-9.

68. Crandall CG, Brothers RM, Zhang R, Brengelmann GL, Covaciu L, Jay O, Cramer MN, Fuller A, Maloney SK, Mitchell D, Romanovsky AA, Caputa M, Nordstrom CH, Reinstrup P, Nishiyasu T, Fujii N, Hayashi K, Tsuji B, Flouris AD, Cheung SS, Vagula MC, Nelatury CF, Choi JH, Shrivastava D, Gordon CJ, Vaughan JT. Comments on point: counterpoint: humans do/do not demonstrate selective brain cooling during hyperthermia. *Journal of Applied Physiology* (1985). 2011 Feb;110(2):575-80, PMID: 21304015

69. Shrivastava D, Gordon CJ, Vaughan JT. selective brain cooling in humans during exercise. *Journal of Applied Physiology*. 2011;110(2):580-. PubMed PMID: WOS:000288207100049.

70. Doherty WE, Watkins R, Gopinath A, and Vaughan JT. A microwave engineer's view of MRI. *IEEE Microw Mag*, vol. 12, pp. 78-86, May 2011. (IEEE Xplore Digital Library)

71. Omar A, Caverly R, Doherty WE, Watkins R, Gopinath A, Vaughan JT. A microwave engineer's view of MRI. *IEEE Microwave Magazine*. 2011;12(3):78-86. doi: 10.1109/mmm.2011.940318. PubMed PMID: WOS:000289206400002.

72. Shrivastava D, Hanson T, Kulesa J, Tian J, Adriany G, Vaughan JT. Radiofrequency heating in porcine models with a "large" 32 cm internal diameter, 7 T (296 MHz) head coil. *Magnetic Resonance in Medicine*. 2011 Jul;66(1):255-63. PMID: 21337423

73. Sohn SM, Vaughan JT, Gopinath A. an interdigitated split-ring resonator for metamaterials. *Microwave and Optical Technology Letters*. 2011;53(1):174-7. doi: 10.1002/mop.25683. PubMed PMID: WOS:000285231200048.
74. Yoo H, Vaughan JT, Gopinath A. RF B-1 field calculation with transmission-line resonator analysis for high-field magnetic resonance systems. *IEEE Antennas and Wireless Propagation Letters*. 2011;10:592-5. doi: 10.1109/lawp.2011.2158286. PubMed PMID: WOS:000292159900003.
75. Ellermann J, Goerke U, Morgan P, Ugurbil K, Tian J, Schmitter S, Vaughan T, Van De Moortele PF. Simultaneous bilateral hip joint imaging at 7 Tesla using fast transmit B1 shimming methods and multichannel transmission - a feasibility study. *NMR in Biomedicine*. 2012;25(10):1202-8. doi: 10.1002/nbm.2779. PubMed PMID: WOS:000308710400014.
76. Olson C, Yoo H, DelaBarre L, Vaughan JT, Gopinath A. RF B-1 field localization through convex optimization. *Microwave and Optical Technology Letters*. 2012;54(1):31-7. doi: 10.1002/mop.26456. PubMed PMID: WOS:000297861200009.
77. Shrivastava D, Abosch A, Hughes J, Goerke U, DelaBarre L, Visaria R, Harel N, Vaughan JT. Heating induced near deep brain stimulation lead electrodes during magnetic resonance imaging with a 3 T transceive volume head coil. *Physics in Medicine and Biology*. 2012 Sep;57(17):5651-65. doi: 10.1088/0031-9155/57/17/5651. PubMed PMID: WOS:000307876600019.
78. Snyder CJ, DelaBarre L, Moeller S, Tian J, Akgun C, Van de Moortele PF, Bolan PJ, Ugurbil K, Vaughan JT, Metzger GJ. Comparison between eight- and sixteen-channel TEM transceive arrays for body imaging at 7 T. *Magnetic Resonance in Medicine*. 2012 Apr;67(4):954-64. doi: 10.1002/mrm.23070. PubMed PMID: WOS:000301533500010.
79. Suttie JJ, DelaBarre L, Pitcher A, van de Moortele PF, Dass S, Snyder CJ, Francis JM, Metzger GJ, Weale P, Ugurbil K, Neubauer S, Robson M, Vaughan T. 7 Tesla (T) human cardiovascular magnetic resonance imaging using FLASH and SSFP to assess cardiac function: validation against 1.5 T and 3 T. *NMR in Biomedicine*. 2012;25(1):27-34. doi: 10.1002/nbm.1708. PubMed PMID: WOS:000299074600003.
80. Visaria R, Prakash S, Vaughan JT, Shrivastava D. Safety in diagnostic imaging techniques used in omics. Barh D, Blum K, Madigan MA, editors 2012. 201-9 p.
81. Yoo H, Gopinath A, Vaughan JT. A method to localize RF B-1 Field in high-field magnetic resonance imaging systems. *IEEE Transactions on Biomedical Engineering*. 2012 Dec;59(12):3365-71. doi: 10.1109/TBME.2012.2208965. PubMed PMID: WOS:000311843500011.
82. Rodgers CT, Piechnik SK, DelaBarre LJ, Van de Moortele PF, Snyder CJ, Neubauer S, Robson MD, Vaughan JT. Inversion recovery at 7 T in the human myocardium: Measurement of T-1, inversion efficiency and B-1(+). *Magnetic Resonance in Medicine*. 2013 Oct;70(4):1038-46. doi: 10.1002/mrm.24548. PubMed PMID: WOS:000325136300015.
83. Schmitter S, DelaBarre L, Wu XP, Greiser A, Wang DX, Auerbach EJ, Vaughan JT, Ugurbil K, Van de Moortele PF. Cardiac imaging at 7 Tesla: single- and two-spoke radiofrequency pulse design with 16-channel parallel excitation. *Magnetic Resonance in Medicine*. 2013;70(5):1210-9. doi: 10.1002/mrm.24935. PubMed PMID: WOS:000326115000004.

84. Snyder CJ, DelaBarre L, Vaughan JT, IEEE. Automated tuning and matching of a 16-channel TEM transmit-only array used in conjunction with a 32-channel receive-only loop array for MR cardiac imaging at 7 Tesla. 2013 IEEE MTT-S International Microwave Symposium Digest 2013.
85. Sohn SM, DelaBarre L, Vaughan JT, Gopinath A, IEEE. 8-Channel RF Head Coil of MRI with Automatic Tuning and Matching. 2013 IEEE MTT-S International Microwave Symposium Digest 2013.
86. Son HW, Cho YK, Gopinath A, Vaughan JT, Lee CH, Yoo H. B-1(+) shimming with SAR reduction in high-field MRI. *Journal of Electromagnetic Waves and Applications*. 2013;27(12):1521-4. doi: 10.1080/09205071.2013.817958. PubMed PMID: WOS:000322213700008.
87. Vaughan JT, DelaBarre L, Tian JF, Sohn SM, Shrivastava D, Adriany G, Ugurbil K, IEEE. RF technology for human MRI at 10.5T. 2013 IEEE MTT-S International Microwave Workshop Series on RF and Wireless Technologies for Biomedical and Healthcare Applications 2013. p. 22-4.
88. Xiong Q, Ye L, Zhang PY, Lepley M, Tian JF, Li J, Zhang LY, Swingen C, Vaughan JT, Kaufman DS, Zhang JY. Functional consequences of human induced pluripotent stem cell therapy myocardial ATP turnover rate in the in vivo swine heart with postinfarction remodeling. *Circulation*. 2013 Mar 5;127(9):997-1008. doi: 10.1161/CIRCULATIONAHA.112.000641. PubMed PMID: WOS:000315804800014.
89. Yoo H, Lee J, Akgun CE, Gopinath A, Vaughan JT. B-1 field comparison for RF coils in ultra-high-field MRI. *Electronics Letters*. 2013;49(25). doi: 10.1049/el.2013.1255. PubMed PMID: WOS:000327714500013.
90. Akgun CE, DelaBarre L, Yoo H, Sohn SM, Snyder CJ, Adriany G, Ugurbil K, Gopinath A, Vaughan JT. Stepped impedance resonators for high-field magnetic resonance imaging. *IEEE Transactions on Biomedical Engineering*. 2014 Feb;61(2):327-33. doi: 10.1109/TBME.2013.2250973. PubMed PMID: WOS:000333268000011.
91. E. Ebbini, L. DelaBarre, J. T. Vaughan and A. Gopinath, IEEE. Digital beam forming in MRI, 2014 IEEE Benjamin Franklin Symposium on Microwave and Antenna Sub-systems for Radar, Telecommunications, and Biomedical Applications (BenMAS), Philadelphia, PA, 2014, pp. 1-2. doi: 10.1109/BenMAS.2014.7529482
92. Rodgers CT, Clarke WT, Snyder C, Vaughan JT, Neubauer S, Robson MD. Human cardiac P-31 magnetic resonance spectroscopy at 7 Tesla. *Magnetic Resonance in Medicine*. 2014 Aug;72(2):304-15. doi: 10.1002/mrm.24922. PubMed PMID: WOS:000339714900002.
93. Shrivastava D, Utecht L, Tian JF, Hughes J, Vaughan JT. In vivo radiofrequency heating in swine in a 3T (123.2-MHz) birdcage whole body coil. *Magnetic Resonance in Medicine*. 2014 Oct;72(4):1141-50. doi: 10.1002/mrm.24999. PubMed PMID: WOS:000342342300026.
94. Sohn SM, DelaBarre L, Gopinath A, Vaughan JT. RF Head Coil Design with Improved RF Magnetic Near-Fields Uniformity for Magnetic Resonance Imaging (MRI) systems. *IEEE Transactions on Microwave Theory and Techniques*. 2014 Aug;62(8):1784-1789. doi: 10.1109/tmtt.2014.2331621. PubMed PMID: WOS:000340619200023.
95. Sohn SM, A. Gopinath and J. T. Vaughan, IEEE. Tunable and high directivity coupler for MRI applications, 2014 IEEE MTT-S International Microwave Symposium (IMS2014), Tampa, FL, 2014, pp. 1-3. doi: 10.1109/MWSYM.2014.6848491

96. Keith GA, Rodgers CT, Hess AT, Snyder CJ, Vaughan JT, Robson MD. Automated tuning of an eight-channel cardiac transceiver array at 7 tesla using piezoelectric actuators. *Magnetic Resonance in Medicine*. 2015 Jun;73(6):2390-7. doi: 10.1002/mrm.25356. PubMed PMID: WOS:000354729100036.
97. Panda V, Vaughan JT, Gopinath A, IEEE. 7T MRI RF Head Coil with Metamaterial Elements. 2015 IEEE MTT-S International Microwave Symposium, Phoenix, AZ, 2015, pp.1-3. doi: 10.1109/MWSYM.2015.7167124
98. Sohn SM, DelaBarre L, Gopinath A, Vaughan JT. Design of an Electrically Automated RF Transceiver Head Coil in MRI. *IEEE Transactions on Biomedical Circuits and Systems*. 2015 Oct;9(5):725-32. doi: 10.1109/TBCAS.2014.2360383. PubMed PMID: WOS:000366661800013.
99. Tian JF, Lagore RL, Vaughan JT, IEEE. Design considerations for dipole for head MRI at 10.5T. 2015 IEEE MTT-S International Microwave Workshop Series on RF and Wireless Technologies for Biomedical and Healthcare Applications 2015. p. 99-100.
100. Toporcov TN, Znaor A, Zhang ZF, Yu GP, Winn DM, Wei Q, Vilensky M, Vaughan T, Thomson P, Talamini R, Szeszenia-Dabrowska N, Sturgis EM, Smith E, Shangina O, Schwartz SM, Schantz S, Rudnai P, Richiardi L, Ramroth H, Purdue MP, Olshan AF, Eluf-Neto J, Muscat J, Moyses RA, Morgenstern H, Menezes A, McClean M, Matsuo K, Mates D, Macfarlane TV, Lissowska J, Levi F, Lazarus P, La Vecchia C, Lagiou P, Koifman S, Kjaerheim K, Kelsey K, Holcatova I, Herrero R, Healy C, Hayes RB, Franceschi S, Fernandez L, Fabianova E, Daudt AW, Curioni OA, Dal Maso L, Curado MP, Conway DI, Chen C, Castellsague X, Canova C, Cadoni G, Brennan P, Boccia S, Antunes JLF, Ahrens W, Agudo A, Boffetta P, Hashibe M, Lee YCA, Wuensch V. Risk factors for head and neck cancer in young adults: a pooled analysis in the INHANCE consortium. *International Journal of Epidemiology*. 2015;44(1):169-85. doi: 10.1093/ije/dyu255. PubMed PMID: WOS:000350864200024.
101. Wu XP, Zhang XT, Tian JF, Schmitter S, Hanna B, Strupp J, Pfeuffer J, Hamm M, Wang DX, Nistler J, He B, Vaughan TJ, Ugurbil K, Van de Moortele PF. Comparison of RF body coils for MRI at 3T: a simulation study using parallel transmission on various anatomical targets. *NMR in Biomedicine*. 2015;28(10):1332-44. doi: 10.1002/nbm.3378. PubMed PMID: WOS:000363468300016.
102. Wu XP, Tian JF, Schmitter S, Vaughan JT, Ugurbil K, Van de Moortele PF. Distributing coil elements in three dimensions enhances parallel transmission multiband RF performance: A simulation study in the human brain at 7 Tesla. *Magnetic Resonance in Medicine*. 2016 Jun;75(6):2464-72. doi: 10.1002/mrm.26194. PubMed PMID: WOS:000384994700026.
103. Jang A, Kobayashi N, Moeller S, Vaughan JT, Zhang JY, Garwood M. 2D pulses using spatially dependent frequency sweeping. *Magnetic Resonance in Medicine*. 2016 Nov;76(5):1364-74. doi: 10.1002/mrm.25973. PubMed PMID: WOS:000389127100003.
104. Sohn S-M, Vaughan JT, Lagore RL, Garwood M, Idiyatullin D. In vivo MR imaging with simultaneous RF transmission and reception. *Magnetic Resonance in Medicine*. 2016 Dec;76(6):1932-1938. (DOI: 10.1002/mrm.26464)
105. Panda V, Sohn SM, Vaughan JT, Gopinath A, IEEE. A Zeroth Order resonant element for MRI transmission line RF coil. 2016 IEEE Antennas and Propagation Society International Symposium 2016. p. 1389-90.

106. Sohn SM, Gopinath A, Vaughan JT. A Compact, High Power Capable, and Tunable High Directivity Microstrip Coupler. *IEEE Transactions on Microwave Theory and Techniques*. 2016 Oct;64(10):3217-3223. doi: 10.1109/TMTT.2016.2602835. PubMed PMID: WOS:000385199700020.
107. Vaughan JT, Lagore R, Tian JF. Detection coils for MRS. *EMagRes*. 2016;5(2):1363-76. doi: 10.1002/9780470034590.emrstm1465. PubMed PMID: WOS:000390917100023.
108. Erturk MA, Wu XP, Eryaman Y, Van de Moortele PF, Auerbach EJ, Lagore RL, DelaBarre L, Vaughan JT, Ugurbil K, Adriany G, Metzger GJ. Toward imaging the body at 10.5 tesla. *Magnetic Resonance in Medicine*. 2017 Jan;77(1):434-443. doi: 10.1002/mrm.26487. Epub 2016 Oct 21. PubMed PMID: WOS:000391038800043.
109. Panda V, Adriany G, Vaughan JT, Gopinath A, IEEE. Metamaterial loop body coil element for 10.5T MRI. 2017 IEEE International Symposium on Antennas and Propagation & USNC-URSI National Radio Science Meeting2017. p. 1007-8.
110. Sohn SM, Garwood M, Vaughan JT, IEEE. Automatic RF leakage signal canceler in MRI applications. 2017 IEEE MTT-S International Microwave Symposium 2017. p. 1390-1.
111. Eryaman Y, Lagore RL, Erturk MA, Utecht L, Zhang P, Torrado-Carvajal A, Turk EA, DelaBarre L, Metzger GJ, Adriany G, Ugurbil K, Vaughan JT. Radiofrequency heating studies on anesthetized swine using fractionated dipole antennas at 10.5 T. *Magnetic Resonance in Medicine*. 2018 Jan;79(1):479-88. doi: 10.1002/mrm.26688. Epub 2017 Mar 31. PubMed PMID: WOS:000417926300047.
112. Eryaman Y, Zhang P, Utecht L, Kose K, Lagore RL, DelaBarre L, Kulesa J, Eberly LE, Adriany G, Iles TL, Iaizzo PA, Vaughan JT, Ugurbil K. Investigating the physiological effects of 10.5 Tesla static field exposure on anesthetized swine. *Magnetic Resonance in Medicine*. 2018 Jan;79(1):511-514. doi: 10.1002/mrm.26672. Epub 2017 Mar 25. PubMed PMID: 28342176 WOS:000417926300050.
113. Huang SY, Ma ZH, Wan L, Yu WW, Vaughan JT. Fast full-wave calculation of electromagnetic fields based on weak-form volume integral equation for MRI applications. *Journal of Engineering-Joe*. 2018(9):762-7. doi: 10.1049/joe.2018.0122. PubMed PMID: WOS:000446641500002.
114. Geethanath S, Vaughan JT Jr. Accessible magnetic resonance imaging: A review. *J Magn Reson Imaging*. 2019 Jun;49(7):e65-e77. PubMed PMID: 30637891.
115. Eryaman, Y, Kobayashi N, Moen S, Aman J, Grant A, Vaughan JT, Molnar; Michael Park G, Vitek J, Adriany G, Ugurbil K, Harel N. A simple geometric analysis method for measuring and mitigating RF induced currents on deep brain stimulation leads by multichannel transmission/reception. *Neuroimage*. 2018 Sep 28;184:658-668. doi: 10.1016/j.neuroimage.2018.09.072. PubMed PMID: 30273715
116. V. Panda, L. DelaBarre, G. Adriany, J. T. Vaughan and A. Gopinath, "Metamaterial Zeroth-Order Resonator RF Coil for Human Head: Preliminary Design for 10.5 T MRI," in *IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology*, vol. 3, no. 1, pp. 33-40, March 2019. doi: 10.1109/JERM.2019.2893546
117. Ravi, K.S., Geethanath, S. and Vaughan, J., "PyPulseq: A Python Package for MRI Pulse Sequence Design." *Journal of Open Source Software*, 2019; DOI: 10.21105/joss.01725

118. Gehua Tong¹ , Sairam Geethanath¹ , Marina Manso Jimeno¹ , Enlin Qian¹ , Keerthi Sravan Ravi¹ , Nishika Girish² , and John Thomas Vaughan Jr.¹

Virtual Scanner: MRI on a Browser. The Journal of Open Source Software

JavaScript Python Submitted 22 July 2019 • Published 25 November 2019 DOI: 10.21105/joss.01637

119. Keerthi Sravan Ravi¹ , Sairam Geethanath¹ , and John Thomas Vaughan Jr.¹

PyPulseq: A Python Package for MRI Pulse Sequence

Design <https://doi.org/10.21105/joss.01725> (doi: 10.21105/joss.01725)

120. Giuseppe Carluccio, Can Akgun, J. Thomas Vaughan, Chris Collins. Temperature-based MRI Safety Simulations with a Limited Number of Tissues. Magnetic Reson Med (accepted for 2021 publication)

121. Vaughan JT, “RF Coils and MR Safety” eMagRes. American Cancer Society pp. 100-112. doi:10.1002/9780470034590.emrstm1572

122. Vaughan JT, Lagore, R. “RF Coil Construction for MRI” eMagRes. American Cancer Society pp159-172. doi:10.1002/9780470034590.emrstm1572

123. Ravi, K. S., Nandakumar, G., Thomas, N., Lim, M., Qian, E., Jimeno, M. M., Poojar, P., Jin, Z., Quarterman, P., Srinivasan, G., Fung, M., Vaughan, J. T., Jr, & Geethanath, S. (2023). Accelerated MRI using intelligent protocolling and subject-specific denoising applied to Alzheimer’s disease imaging. Frontiers in Neuroimaging, 2, 1072759. <https://doi.org/10.3389/fnimg.2023.1072759>

124. Qian, E., Poojar, P., Fung, M., Jin, Z., Vaughan, J. T., Jr, Shrivastava, D., Gultekin, D., Fernandes, T., & Geethanath, S. (2023). Magnetic resonance fingerprinting based thermometry (MRFT): application to ex vivo imaging near DBS leads. Physics in Medicine and Biology, 68(17). <https://doi.org/10.1088/1361-6560/acea54>

125. Qian, E., Poojar, P., Vaughan, J. T., Jr, Jin, Z., & Geethanath, S. (2022). Tailored magnetic resonance fingerprinting for simultaneous non-synthetic and quantitative imaging: A repeatability study. Medical Physics, 49(3), 1673–1685. <https://doi.org/10.1002/mp.15465>

126. Tong, G., Gaspar, A. S., Qian, E., Ravi, K. S., Vaughan, J. T., Nunes, R. G., & Geethanath, S. (2022). A framework for validating open-source pulse sequences. Magnetic Resonance Imaging, 87, 7–18. <https://doi.org/10.1016/j.mri.2021.11.014>

127. Tong, G., Geethanath, S., Jimeno, M., Qian, E., Ravi, K., Girish, N., & Vaughan, J. (2019). Virtual scanner: MRI on a browser. Journal of Open Source Software, 4(43), 1637. <https://doi.org/10.21105/joss.01637>

128. [Virtual Scanner Games: expanding access to Magnetic Resonance \(MR\) education through interactive web tutorials](#)

G Tong, R Ananth, JT Vaughan Jr, S Geethanath
arXiv preprint arXiv:2304.05582

129. Manso Jimeno M, Vaughan JT, Geethanath S. Superconducting magnet designs and MRI accessibility: A review [published online ahead of print, 2023 Mar 13]. *NMR Biomed.* 2023;e4921. doi:10.1002/nbm.4921
130. Marina Manso Jimeno, Keren Bachi, George Gardner, Yasmin Hurd, John Thomas Vaughan Jr, Sairam Geethanath. (24/2/2024) GDCNet: Calibrationless geometric distortion correction of echo planar imaging data using deep learning. arXiv preprint arXiv:2402.18777
131. Artifact ID: Identifying artifacts in low-field MRI of the brain using deep learning
Marina Manso Jimeno, Keerthi Sravan Ravi, John Thomas Vaughan, Dotun Oyekunle, Godwin Ogbole, Sairam Geethanath *Magnetic Resonance Imaging* 89, 42-48 □ 10.1016/j.mri.2022.02.002
- 132: Marina Manso Jimeno, John Thomas Vaughan, Sairam Geethanath
Off-resonance CorreCtION OPen soUrce Software (OCTOPUS), 2021.
Journal of Open Source Software 6(59), 2578 □ 10.21105/joss.02578
133. Ravi, K.S., Nandakumar, G., Thomas, N., Lim, M., Qian, E., Jimeno, M.M., Poojar, P., Jin, Z., Quarterman, P., Srinivasan, G. , Fung, M., Vaughan JT, Geethanath, S., 2023.
Accelerated MRI using intelligent protocolling and subject-specific denoising applied to Alzheimer's disease imaging. *Frontiers in Neuroimaging*, 2, p.1072759
134. Ravi, K.S., Geethanath, S. and Vaughan, J.T., 2019. PyPulseq: A python package for mri pulse sequence design. *Journal of Open Source Software*, 4(42), p.1725.
135. Francis X. Shen, Susan M. Wolf, Frances Lawrenz,* Donnell S. Comeau, Kafui Dzirasa, Barbara J. Evans, Damien Fair, Martha J. Farah, Michael Garwood, S. Duke Han, Judy Illes, Jonathan D. Jackson, Eran Klein, Matthew S. Rosen, Efraín Torres, Paul Tuite, J. Thomas Vaughan. "Ethical, Legal, and Policy Challenges in Field-Based Neuroimaging Research Using Emerging Portable MRI Technologies: Guidance for Investigators and for Oversight *Journal of Law and the Biosciences*, Volume 11, Issue 1, January-June 2024, Isac008, <https://doi.org/10.1093/jlb/Isac008>
136. David Gultiken, J. Thomas Vaughan, Devashish Shrivastava. An experimental evaluation of the relationship between the induced radiofrequency heating near an implanted conductive medical device during MRI, scanner reported B1+rms, and scanner reported average transmit power. medRxiv.
doi: <https://doi.org/10.1101/2024.03.04.24303732>
137. Lorenzo R. Sewanan, Marco R. Di Tullio, Andrew F. Laine Belinda D'Souza, Jay Leb, Alexander Mironov, Ahsan Khan, Dylan E. Stanger, Elisa E. Konofagou, Rochelle. Goldsmith, Sachin R. Jambawalikar, Cole B. Hirschfeld, Michelle Castillo , Kathleen J. Durkin, Stephen Dashnaw, J. Thomas Vaughan*, and Andrew J. Einstein* (*co-senior authors) Absence of long-term structural and functional cardiac abnormalities on multimodality imaging in a multi-ethnic group of COVID-19 survivors from the early stage of the pandemic. *European Heart Journal - Imaging Methods and Practice* (2023) 1, 1–11
<https://doi.org/10.1093/ehjimp/kyad034>
138. Poojar, P., Oiye, I.E., Aggarwal, K., Jimeno, M.M., Vaughan, J.T. and Geethanath, S., 2024. Repeatability of image quality in very low-field MRI. *NMR in Biomedicine*, p.e5198.
in *Biomedicine*, p.e5198.
139. Chen Liu, Nanyan Zhu, Haoran Sun, Junhao Zhang, Xinyang Feng, Sabrina Gjerswold-Sellek, Dipeka Sikka, Xuemin Zhu, Xueqing Liu, Tal Nuriel, Hong-Jian Wei, Cheng-Chia Wu, J. Thomas

Vaughan, Andrew Laine, Frank Provenzano, Scott Small, Jia Guo. Deep learning of fMRI contrast enhancement for mapping cerebral blood volume from single-modal non-contrast scans of aging and Alzheimers disease brains. *Frontiers in Aging Neuroscience* 10 August 2022 Vol 14

140. Tong, G., Gaspar, A.S., Qian, E., Ravi, K.S., Vaughan, J.T., Nunes, R.G. and Geethanath, S., 2022. Open-source magnetic resonance imaging acquisition: Data and documentation for two validated pulse sequences. *Data in Brief*, 42, p.108105.

141. Tong, G., Ananth, R., Vaughan Jr, J.T. and Geethanath, S., 2024. Expanding access to magnetic resonance education through open-source web tutorials. *NMR in Biomedicine*, pp.e5109-e5109.

142. Sebastian Theilenberg, Yun Shang, Jalal Ghazouani, Chathura Kumaragamage, Terence W Nixon, Scott McIntyre, J Thomas Vaughan, Ben Parkinson, Mike Garwood, Robin A de Graaf, Christoph Juchem. (2024). Design and realization of a multi-coil array for B0 field control in a compact 1.5T head-only scanner. *Magnetic resonance in medicine* 90 (3) 1228-1241

143. DH Gultekin, JT Vaughan, D Shrivastava. 2025 Experimental Evaluation of Relationship Between Radiofrequency Heating Near Implanted Conductive Devices, Scanner-Reported B1+rms, and Transmit Power. *IEEE Journal of Microwaves*.

144. IE Oiye, P Poojar, E Qian, JT Vaughan, S Geethanath. A standalone and cost-effective MR-compatible computer numerical control machine for simultaneous, multi-parameter mapping. *Measurement Science and Technology*. Vol 36, Issue 4. 2025/3/14.

145. M Manso, KS Ravi, M Fung, D Oyekunle, G Ogbole. Automated detection of motion artifacts in brain MR images using deep learning. *NMR in Biomedicine* 38 (1), e5276

146. Zachary A Colwell, Lance DelaBarre, Djaudat Idiyatullin, Gregor Adriany, Michael Garwood, J Thomas Vaughan, Sung-Min Sohn. Stand-alone RF Self-Interference Cancellation System for In Vivo Simultaneous Transmit and Receive (STAR) MRI. *IEEE Transactions on Biomedicine*, Volume 17, Issue 3. 12 May, 2023.

147. Francis X Shen, Susan M Wolf, Francis Lawrenz, Donnell S Comeau, Barbara J Evans, Damian Fair, Martha J Farah, Michael Garwood, S Duke Han, Judy Illes, Jonathan D Jackson, Eran Klein, Matthew Rosen, Efrain Torres, Paul Tuite, J Thomas Vaughan. Conducting research with highly portable MRI in community settings: a practical guide to navigating ethical issues and ELSI checklist. *Journal of Law, Medicine & Ethics* 52 (4), 769-785. 12-2024

148. Zachary A Colwell, Sri Kirthi Kandala, Lance DelaBarre, Djaudat Idiyatullin, Gregor Adriany, Michael Garwood, John Thomas Vaughan, Sung-Min Sohn Towards Ultra-Low RF Power Simultaneous Transmit and Receive (STAR) MRI with a Wearable RF Transceiver Head Coil. 2024 IEEE/MTT-S International Microwave Symposium-IMS 2024, 1008-1011.

149. Gehua Tong, Rishi Ananth, John Thomas Vaughan, Sairam Geethanath. Expanding access to magnetic resonance education through open-source web tutorials. *NMR in Biomedicine* 37(5)

150. Marina Manso Jimeno, Keerthi Sravan Ravi, Maggie Fung, John Thomas Vaughan Jr, Sairam Geethanath. "Automated detection of motion artifacts in brain MR images using deep learning and explainable artificial intelligence." *arXiv preprint arXiv:2402.08749*, 2024.

151. JT Vaughan, W. Zia, "Pushing boundaries with ultra-high field MRI: innovations and applications in neuroscience." *Frontiers in Neuroscience*.
Invited manuscript, currently accepted for revision.
152. JT Vaughan, S. Geethanath, C. Rose, W. Zia. "Population Neuroimaging Leverages Diversity to Advance Discovery in Neuroscience" *Frontiers in Neuroimaging*. Invited manuscript submitted April 20.
153. Oiyee, I.E., Poojar, P., Qian, E., Vaughan Jr, J.T. and Geethanath, S., 2025. A standalone and cost-effective MR-compatible computer numerical control machine for simultaneous, multi-parameter mapping. *Measurement Science and Technology*, 36(4), p.045902.
154. Manso Jimeno, M., Ravi, K.S., Fung, M., Oyekunle, D., Ogbale, G., Vaughan Jr, J.T. and Geethanath, S., 2025. Automated detection of motion artifacts in brain MR images using deep learning. *NMR in Biomedicine*, 38(1), p.e5276.
155. David H Gultekin, John T Vaughan, Devashish Shrivastava, "Experimental Evaluation of Relationship Between Radiofrequency Heating Near Implanted Conductive Devices, Scanner Reported B1+rms, and Transmit Power" *IEEE Journal of Microwaves*, Volume: 5, Issue: 3 (2025)

Special Editions, Books, Encyclopedia Sections

- 1.) JT Vaughan, editor, "RF Coils" special edition for *NMR in Biomedicine*, (2010)
- 2.) JT Vaughan, J Griffiths, editors, "RF Coils for MRI." John Wiley and Sons, Ltd. (2012)
- 3.) JT Vaughan, J. Griffiths, editors, "RF Coils." *Encyclopedia of Magnetic Resonance (eMagRes)*, EMR@wiley .com (2012)
- 4.) D Shrivastava, JT Vaughan editors "Safety and Biological Effects in MRI", John Wiley and Sons (2020)
- 5.) JT Vaughan, F. Robb , J. Griffiths, "RF Coils for MRI, 2nd Ed." John Wiley and Sons, Ltd. (in contract)
- 6.) JT Vaughan, S. Geethanath, N.R Jagannathan, P Barker editors, "MRI for the World" Special Edition for *NMR in Biomedicine in progress*, (2024) (in press)

Chapters

- 1.) JT Vaughan "Chapter 6, RF Coils" in *Ultra High Field Magnetic Resonance Imaging*, Springer Academic / Plenum Publishers, New York, NY (2006)
- 2.) Kamil Ugurbil, Gregor Adriany, Can Akgun, Peter Andersen, Wei Chen, Michael Garwood, Rolf Gruetter, Pierre-Francois Van de Moortele, Klaas Pruessmann, Ivan Tkac, J. Thomas Vaughan, Florian Wiesinger, Essa Yacoub, and Xiao-Hong Zhu. "Chapter 10: High Magnetic Fields for Imaging Cerebral Morphology, Function, and Biochemistry in Biomedical Magnetic Resonance", *Ultra High Field Magnetic Resonance Imaging*, P.M.L. Robitaille, and Berliner, L.J., Editor Springer Academic / Plenum Publishers, New York, NY (2006) . p.285-342
- 3.) M Garwood, A McIntosh, PT Bolan, S Meisamy, CJ Snyder, A Stycznski, L DelaBarre, J Ellermann, Gulbahce, TM Tuttle, LI Everson, TH Emory, MT Nelson, D Yee, JT Vaughan. "Clinical Assessment of

Breast Cancer using 1H MRS at High Magnetic Field” Biomedical Magnetic Resonance. Jaypee Brothers Medical Publisher Ltd., New Delhi (2005)

- 4.) Vaughan JT, "TEM Body Coils for MRI" in Handbook of RF Coils, John Wiley and Sons, (2012)
- 5.) Vaughan JT, "TEM Body Coils for MRI" in Encyclopedia of Magnetic Resonance, John Wiley and Sons, (2011)
- 6.) Visaria R, Prakash S, Vaughan JT, Shrivastava D, “Safety in Diagnostic Imaging Techniques used in Omics,” in Advanced Topics in Omics, Institute of Integrative Omics and Applied Biotechnology, India, 2010.
- 7.) Shrivastava D, Goerke U, Porter D, Vaughan JT “New Developments in Bioheat Transfer Modeling and MR Thermometry to Improve Radiofrequency Safety in High-field and Ultra-high Field MRI,” ISMRM Workshop- RF Safety in Humans in Ultra-high Field MRI, Stillwater, Minnesota, 2010.
- 8.) Shrivastava D, Vaughan JT, “Radiofrequency Heating Measurements and Models,” in Encyclopedia of Magnetic Resonance, John Wiley and Sons, 2012
- 9.) T. Vaughan, R. LaGore, J. Tian, “MRS Detection Coils” in Handbook of MRS, P. Bottomley, J. Griffiths editors, John Wiley and Sons, Ltd. 2016.
- 10.) Vaughan JT, “RF Coils and MR Safety” Chapter in Safety and Biological Effects in MRI Srivastava and Vaughan editors, John Wiley and Sons (2020) eMagRes. American Cancer Society pp. 100-112. doi10.1002/9780470034590.emrstm1572
- 11.) Vaughan JT, Lagore, R. “RF Coil Construction for MRI” Chapter in Safety and Biological Effects in MRI Srivastava and Vaughan editors, John Wiley and Sons (2020) eMagRes. American Cancer Society pp159-172. doi:10.1002/9780470034590.emrstm1572
- 12.) Geethanath, S., Kabil, J. and Vaughan, J.T., 2020. Radio frequency safety assessment for open source pulse sequence programming. Saf. Biol. Eff. MRI, 207.
- 13.) JT Vaughan, "RF Coils for MRI: Introduction" Chapter 1. in 2nd Ed. RF Coil Handbook, JT Vaughan, Fraser Robb, John Griffiths Ed. John Wiley and Sons, 2026.
- 14.) JT Vaughan, "TEM Volume Coils for MRI" Chapter 13, 2nd Ed. RF Coil Handbook, JT Vaughan, Fraser Robb, John Griffiths Ed. John Wiley and Sons, 2026.
- 15.) Geethanath, S., Artiges, A., Block, K.T., Chen, Q., Fernandes, T.F., Ganji, S., Grissom, W.A., Hoinkiss, D., Vaughan Jr, J.T., Konar, A.S. and Konstandin, S., 2025. Validating and Sharing Open-Source and Vendor-Neutral Pulse Sequence Programs: A Practical Approach. In MRI Pulse Sequences: Physics, Methods and Clinical Applications (pp. 313-322). Cham: Springer Nature Switzerland.

Patents

(Most patents are either licensed to Samsung or under negotiation for license to other parties.)

1. Vaughan, J.T.: "Electrically Parallel, Equal Phase Resonant Loops for NMR Surface Coils". U.S. Patent 4,812,767 (1988)

2. Vaughan, J.T., Lesan, B.: "Physiological Standard Phantom for NMR Imaging and Spectroscopy". U.S. Patent 4,888,555 (1989)
3. Vaughan, J.T.: "High Frequency Volume Coils for Nuclear Magnetic Resonance Applications" U.S. Patent 5,557,247 (1996)
4. Vaughan, J.T.: "Cavity Resonator for NMR System " US Patent 5,744,957(1998)
5. Vaughan, J.T.: "Radiofrequency Coils for Imaging and Spectroscopy", US Patent 5,886,596 (1999)
6. Vaughan, J.T.: "RF Coil for Imaging System" US Patent Serial 6,633,161 (2003)
7. Vaughan, J.T. Adriany G, Ugurbil K. "Radiofrequency Magnetic Field Unit" US Patent 6,788,056 B2 (2004)
8. Vaughan, J.T., Adriany G., Strupp J., Andersen P., Ugurbil K., "Parallel Transceiver for Nuclear Magnetic Resonance System, US Patent 6,969,992 (2005)
9. Vaughan, J.T., Adriany G, Ugurbil K., "Assymetric Radio Frequency Transmission Line Array" US Patent 6,958,607 (2005)
10. Vaughan, J.T.: "RF Coil for Imaging Systems and Use Therein", US Patent 7,268,554 B2 (2007)
11. Vaughan JT "Cavity Resonator for MR Systems", US Patent 7,375,527 (2008)
12. Vaughan, J.T. Adriany G., Ugurbil K. "Radiofrequency Gradient, Shim, and Parallel Imaging Coil", US Patent 7,598,739B2 (2009)
13. Olson C, Gopinath A, Vaughan JT "Radiofrequency Field Localization for Magnetic Resonance", US Patent 7,633,293 (2009)
14. Vaughan, J.T., Ugurbil, K. "Wirelessly Coupled Magnetic Resonance Coil", US Patent App. 11/429,463 (2009)
15. Adriany G, Vaughan JT, Ugurbil K. "Spatially Reconfigurable Magnetic Resonance Coil" US Patent 7,514,926 (2009)
16. Vaughan, J.T., Adriany G, Snyder C, Agkun C, Tian J., Van de Moortelle, P-F, Ugurbil, K. S. Moeller. "Multi-Current Elements for Magnetic Resonance Radio Frequency Coils" US Patent 7,710,117. May 4 (2010)
17. Vaughan JT, Van de Moortele P-F, DelaBarre L, Olson CC, Orser H, Gopinath A, Ugurbil K, Snyder C, Adriany G, Agkun CE, Tian J, Strupp J, Andersen PM, Wu X, "High field magnetic resonance" US Patent 7,800,368 September 21, 2010
18. Vaughan JT, Adriany G, Ugurbil K. "Assymetric Radiofrequency Transmission Line Array", US Patent 7,893,693, 2011

19. Vaughan JT, Adriany G, Ugurbil K. "Assymetric Radiofrequency Transmission Line Array", US Patent 7,893,693 (2011)
20. Vaughan, JT, Van de Moortelle P-F, DelaBarre L, Olson C, Orser H, Gopinath A, Ugurbil K, Snyder C, Adriany G, Akgun C, Tian J, Strupp J, Andersen P, Wu X.. "High Field Magnetic Resonance" US Patent App.11/707,560 (2008)
21. Akgun C, Snyder C, DelaBarre L, Moeller S, van de Moortele P-F, Vaughan JT, Ugurbil K. "Three Dimensional RF Coil Structures for Field Profiling." US Patent Appl.12/151/053 May 2 (2008)
22. Vaughan JT, "RF Coil for Imaging Systems and Methods of Operation", US Patent App. 12/390/193 Feb. 20 (2009)
23. Akgun C, Snyder C, DelaBarre L, Moeller S, Van de Moortele P, Vaughan JT, Ugurbil K. "Three Dimensional RF Coil Structure for Field Profiling", US Patent 8,193,809 June 5 (2012)
24. Vaughan JT. "RF Coil for MRI Which Can be Switched Between Different Modes of Operation" PCT/US2009/034761 (2009)
25. Vaughan J, Tian J. University of Minnesota, assignee. Coil Element Decoupling for MRI. USA patent 8,380,266. 2013 February 19 (2013)
26. Vaughan J, "Coil Element Decoupling for MRI" PCT/US2009/06084 (2008)
US Appl. 61/105/678 Oct 15,2008 awarded April 22, (2010)
27. Snyder CJ, Vaughan JT, Lemaire CA. "Remotely Adjustable Reactive and Resistive Electrical Elements and Method" US Patent 8,299,681. October 30, 2012
28. Vaughan JT, Lemaire CA. "Active Transmit Elements for MRI Coils and Other Antenna Devices" US Patent 8604791 Dec. 2013
29. Vaughan JT, Tian J. "Coil Element Decoupling for MRI" US 8380266B2 2013-02- 19
30. Vaughan JT, Lemaire CA "Active Transmit Elements for MRI" US 8604791B2 2013- 12-10
31. Snyder CJ, Vaughan JT "Method and Remotely Adjustable Reactive and Resistive Electrical Elements" US 8816566B2 2014-08-26
32. Vaughan JT, Lemaire CA "Method and Coils for Human Whole-Body Imaging at 7TUS 8854042B2 2014-10-07
33. Vaughan JT, Neely WC, Rader BJ "Method and Apparatus for Processing Agricultural Materials and Changing the Proportions of Output Materials" US 9043221B1 2015-05-26
34. Schillak SM, Vaughan JT, Lemaire CA, Waks MT. "Simultaneous TX-RX for MRI Systems and Other Antenna Devices" US 9097769B2 2016-06-07
35. Gopinath A, Ebbini ES, Vaughan JT, DelaBarre L. "System and Method for Parallel Magnetic Resonance Image Reconstruction Using Digital Beamforming" US 9360543B2 2016-06-07

36. Sohn S-M, Vaughan JT, Gopinath A. "System and Method for Control of RF Circuits for Use With An MRI System" US 9500727B2

37. Vaughan JT Bandage or Garment Combined with a Wirelessly Coupled Magnetic Resonance Coil US 9568572B2 2017-02-14

38. Snyder CJ, Vaughan JT, Lamaire CA "Method and Remotely Adjustable Reactive and Resistive Electrical Elements" US 9847471B2 2017-12-19

39. Snyder AL Styczynski, Snyder CJ, Garwood MG, Vaughan JT "Beam Steering with Resonance Along a Trajectory" US 9903928B2 2018-02-27

40. Lamaire CA, Vaughan JT "Active Transmit Elements for MRI Coils and Other Antenna Devices and Method" US 9977101B2 2018-05-22

41. Vaughan JT, Lamaire CA "Auto-Tune-and-Match Coils for Human Whole-Body Imaging and Method" US9995803B2 2018-06-12

42. Vaughan JT, Van de Moortele P-F, DelaBarre L, Olson CE, Orser H, Gopinath A, Ugurbil K, Snyder C, Adriany G, Akgun C, Tian J, Strupp J, Andersen PM "High Field Magnetic Resonance" US RE47026E1 2018-09-04

43. Patent Application – US 15/863,288 (awarded)
Filed – January 5, 2018
Client Reference – UMN 20160259
Q&B Reference – 920171.00199
System and method for Feedback-Driven Neuromodulation

44. Patent 12392847
Myer D. Vaughan JT. "Radiofrequency Power Amplifier System for Magnetic Resonance Imaging" August 19, 2025

Patent Applications (published, in prosecution)

45. Sung-Min Sohn, John Thomas Vaughan, Anand Gopinath, "System and method for automatic tuning of RF coil circuits for us with MRI system" US20130285659 A1 (2013)

46. Michaeli S, Vaughan JT, Mangia S, Lehto L, Johnson L, Slopsema M, Grohn J, Molnar G. "System and Method for Feedback-Driven Neuromodulation" US20180185649A1 2018-07-05

47. Sohn S-M, Idiytullin DS, Vaughan JT, Garwood M "System and Method for Simultaneous Radiofrequency Transmission and Reception in Magnetic Resonance Imaging" US20180203083A1 2018-07-19

48. Vaughan JT "System, Method and Computer-Accessible Medium for Determining a Magnetic Resonance Imaging Temperature Profile CU 17344 2017-05-26

49. Vaughan JT "Simultaneous "Transmit and Receive (STAR) for MRI" CU 18407 2018- 06-13

50. Vaughan JT, Geethanath S "Methods, Apparatus and Systems for an Accessible Magnetic Resonance (aMR) Solution" CU 18408 2018-06-14

51. Vaughan JT, Geethanath S "Non-Invasive Temperature Estimation using Machine Learning" CU 19018 2018-07-20
50. Vaughan JT, Geethanath S "Voice Activated MR Operation for External Sequence with Inline Reconstruction Support" CU 19019 2018-07-20
52. Vaughan JT, Geethanath S "A Simple, Generalized Framework for Tissue Fingerprinting (SG-TiF) CU 19022 2018-07-25
53. Vaughan JT, Geethanath S " Accessible Magnetic Resonance System for Medicine and Science." CU21181 1/25/2021
54. Vaughan JT, Geethanath S " Magnet for Accessible Magnetic Resonance Imaging, Spectroscopy and Functional Magnetic Resonance Imaging." CU 21362. 6/22/2021
55. 63/230,363 - Apparatus, Computer-Accessible Medium, System and Method for Providing Magnetic Resonance Imaging, Spectroscopy and Functional Magnetic Resonance Imaging
56. 62/717,860
PCT/US2019/46136
Methods, apparatus and systems for an accessible Magnetic Resonance solution
57. 62/470,324
62/498,150
PCT/US2019/46136
System, Method and Computer-Accessible Medium for Determining a Magnetic Resonance Imaging Temperature Profile
58. 17/475,630
PCT/US2020/22980
62/819,125
Image reconstruction on Non-Cartesian MRI data using deep learning
59. 63/125,745
System, method, and computer-accessible medium for facilitating single echo reconstruction of rapid magnetic resonance imaging
60. 63/125,658
Multi-contrast denoising of MR images
61. 62/717,859
System, method and computer-accessible medium for tissue fingerprinting

62. 62/717,858

Non-Invasive Temperatures Estimation using machine learning (NITE)

63. US Patent granted: 12,392,847. Radio frequency Power Amplifier System for Magnetic Resonance Imaging. Daniel P. Myer, J. Thomas Vaughan, Michael Kozma (August 19, 2025).

Abstracts - Peer Reviewed

1. JW Pan, HP Hetherington, JT Vaughan, BLW Chapman, PM Noa, JWAH Vermeulen and GM Pohost; Division of Cardiovascular Disease, Univ. Alabama Birmingham and Philips Medical Systems: In Vivo 1H NMR Observation of ATP and ADP in Human Skeletal Muscle at 4.1T. 10th Annual Scientific Meeting of the Society for Magnetic Resonance in Medicine, San Francisco, CA Aug. 10-16, 1991; 1:113

2. HP Herrington, JW Pan, JWAH Vermeulen, BLW Chapman, JT Vaughan, PM Noa, GM Pohost; Division of Cardiovascular Disease, Univ. Alabama Birmingham, Philips Medical Systems: In Vivo 4.1T Human Studies of Cerebral Amino Acids by 1H NMR Spectroscopy. 10th Annual Scientific Meeting of the Society for Magnetic Resonance in Medicine, San Francisco, CA Aug. 10-16, 1991; 1:391

3. JT Vaughan, P Roschmann, JW Pan, HP Hetherington, BLW Chapman, P Noa, J Vermeulen, and GM Pohost; The University of Alabama Birmingham and Philips Research Labs, Germany and Best, The Netherlands: A Double Resonant Surface Coil for 4.1 Tesla Whole Body NMR. 10th Annual Scientific Meeting of the Society for Magnetic Resonance in Medicine, San Francisco, CA Aug. 10-16, 1991; 2:722

4. J.T. Vaughan, J.O. Otu, H.P. Hetherington, P. Noa, and G.M. Pohost; The University of Alabama at Birmingham, U.S.A.: A High Frequency Tuned Resonator for Clinical NMR. 11th Annual Scientific Meeting of the Society for Magnetic Resonance in Medicine, Berlin, Germany Aug. 8-14, 1992; WIP:279

5. JT Vaughan, J Harrison, HP Hetherington, WT Evanochko, and GM Pohost; The University of Alabama at Birmingham: Radiofrequency Surface Coil Heating Measurements in Porcine Muscle. 11th Annual Scientific Meeting of the Society for Magnetic Resonance in Medicine, Berlin, Germany Aug. 8-14, 1992; 2:4026

6. HP Hetherington, JW Pan, GF Mason, SL Ponder, DB Twieg, JT Vaughan, and GM Pohost; Departments of Medicine, Neurology and Biomedical Engineering, University of Alabama at Birmingham: High Resolution 1H Spectroscopic Imaging of Human Brain at High Field: Quantitative Evaluation of Gray and White Matter Metabolite Differences. 12th Annual Scientific Meeting of the Society for Magnetic Resonance in Medicine, New York, New York, Aug. 14-20, 1993; 1:127

7. JT Vaughan, HP Hetherington, JW Pan, PJ Noa, GM Pohost; The University of Alabama Birmingham: A High Frequency Double Tuned Resonator for Clinical NMR. 12th Annual Scientific Meeting of the Society for Magnetic Resonance in Medicine, New York, New York, Aug. 14-20, 1993; 1:306

8. JW Pan, HP Hetherington, JT Vaughan, and GM Pohost; Departments of Neurology and Medicine, University of Alabama at Birmingham: High Resolution Neuro-Imaging at 4.1T. 12th Annual Scientific Meeting of the Society for Magnetic Resonance in Medicine, New York, New York, Aug. 14-20, 1993; 1:333

9. HP Hetherington, JW Pan, GF Mason, SL Ponder, DB Twieg, JT Vaughan, and GM Pohost; Departments of Medicine, Neurology and Biomedical Engineering of The University of Alabama at Birmingham: A Sequence for High Resolution ^1H Spectroscopic Imaging without FOV Restriction: Imaging the Human Brain with 0.5cc Voxels at 4.1T. 12th Annual Scientific Meeting of the Society for Magnetic Resonance in Medicine, New York, New York, Aug. 14-20, 1993; 2:901
10. JT Vaughan, JM Vaughn, HP Hetherington, JG Harrison, PJ Noa, GM Pohost; The University of Alabama at Birmingham: High Frequency Surface Coils for Clinical NMR Imaging and Spectroscopy. 12th Annual Scientific Meeting of the Society for Magnetic Resonance in Medicine, New York, New York, Aug. 14-20, 1993; 3:1332
11. JT Vaughan, JG Harrison, BT Thorn, GM Pohost; The University of Alabama at Birmingham: Hot Rings: High Frequency Heating Patterns in Tissues. 12th Annual Scientific Meeting of the Society for Magnetic Resonance in Medicine, New York, New York, Aug. 14-20, 1993; 3:1369
12. DB Twieg, JW van der Veen, RK Justice, J den Hollander, HP Hetherington, JT Vaughan, G Deutsch, and GM Pohost; Center for NMR Research and Development, Dept. of Medicine, Depts. of Biomedical Engineering and Neurology, University of Alabama at Birmingham, Birmingham, AL: High Resolution 3-D Cerebral Activation Mapping at 4.1 Tesla. 12th Annual Scientific Meeting of the Society for Magnetic Resonance in Medicine, New York, New York, Aug. 14-20, 1993; 3:1389
13. JT Vaughan. High Frequency Coils for Clinical Nuclear Magnetic Resonance Imaging and Spectroscopy, Thesis, University of Alabama at Birmingham, Birmingham, AL
14. HP Hetherington, DJE Luney, JT Vaughan, JW Pan, SL Ponder, O Tschendel, DB Twieg, and GM Pohost; University of Alabama at Birmingham and Philips Medical Systems: 3D 31P Spectroscopic Imaging of the Human Heart at 4.1T. 2nd Scientific Meeting of the Society of Magnetic Resonance, San Francisco, CA, Aug. 6-12, 1994; 1:86
15. HP Hetherington, R Kuzniecky, JW Pan, GF Mason, JT Vaughan, and GM Pohost; Departments of Medicine and Neurology, University of Alabama at Birmingham: Identification of the Epileptic Focus in Temporal Lobe Epilepsy by High Resolution Spectroscopic Imaging at 4.1T. 2nd Scientific Meeting of the Society of Magnetic Resonance, San Francisco, CA, Aug. 6-12, 1994; 1:396
16. N Zhang, MS Roos, STS Wong, and JT Vaughan; Lawrence Berkeley Laboratory, University of California, Berkeley, CA, University of California, San Francisco, CA, University of Alabama, Birmingham, AL: An Experimental Study of a Head Coil for Proton Imaging and Spectroscopy at 8-10T. 2nd Scientific Meeting of the Society of Magnetic Resonance, San Francisco, CA, Aug. 6-12, 1994; 3:1102
17. JT Vaughan, HP Hetherington, GM Pohost; The University of Alabama at Birmingham: A High Frequency Body Coil for Clinical NMR. 2nd Scientific Meeting of the Society of Magnetic Resonance, San Francisco, CA, Aug. 6-12, 1994; 3:1113
18. JT Vaughan, HP Hetherington, and GM Pohost; The University of Alabama at Birmingham: Multiply Tuned, High Frequency Volume Coils for Clinical NMR. 2nd Scientific Meeting of the Society of Magnetic Resonance, San Francisco, CA, Aug. 6-12, 1994; 3:1119
19. JH McDuffie, JG Harrison, GM Pohost, JT Vaughan; The University of Alabama at Birmingham, USA: 3D Numerical Modeling of High Frequency Volume Coils for Clinical NMR. 3rd Scientific Meeting of the Society of Magnetic Resonance and the 12th Annual Meeting of the European Society For Magnetic Resonance In Medicine And Biology, Nice, France, Aug. 19-25, 1995; 1:185

20. G Adriany, JT Vaughan, P Andersen, H Merkle, M Garwood, and K Ugurbil; Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, The University of Alabama at Birmingham: Comparison Between Head Volume Coils At High Field. 3rd Scientific Meeting of the Society of Magnetic Resonance and the 12th Annual Meeting of the European Society For Magnetic Resonance In Medicine And Biology, Nice, France, Aug. 19-25, 1995; 2:971

21. M Griswold, C Cook, JT Vaughan, RR Edelman; Dept of Radiology, Beth Israel Hospital, Boston, MA; Joint Center for Magnetic Resonance, Boston, MA; Dept of Biomedical Engineering, Univ. of Alabama at Birmingham: A Toroid Cavity Resonator for MRI at 4.7T. 3rd Scientific Meeting of the Society of Magnetic Resonance and the 12th Annual Meeting of the European Society For Magnetic Resonance In Medicine And Biology, Nice, France, Aug. 19-25, 1995; 2:995

22. JT Vaughan, HP Hetherington, GM Pohost; The University of Alabama at Birmingham, USA: A Toroidal Cavity for High Frequency Clinical NMR. 3rd Scientific Meeting of the Society of Magnetic Resonance and the 12th Annual Meeting of the European Society For Magnetic Resonance In Medicine And Biology, Nice, France, Aug. 19-25, 1995; 2:996

23. WJ Chu, HP Hetherington, JT Vaughan, RI Kuzniecky, GF Mason, DB Twieg, GA Elgavish,; Div. of Cardiovascular Disease, Dept. of Medicine, UAB Epilepsy Center, Dept. of Neurology, and Dept. of Biomedical Engineering; The University of Alabama at Birmingham, Birmingham, AL 35294: High Resolution in vivo 31P Spectroscopy of Temporal Lobe Epilepsy on 4.1 Tesla Whole Body NMR. 4th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, New York, New York, April 27 – May 3, 1996; 1:133

24. N Zhang, MS Roos, JT Vaughan, STS Wong, and TF Budinger; Lawrence Berkeley National Laboratory, University of California, Berkeley, CA 94720, MGH-NMR Center, Harvard University Medical School, Boston, MA 02129: Head Coil B1 Field Homogeneity and SNR Performance at 8-10T. 4th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, New York, New York, April 27 – May 3, 1996; 1:252

25. JW Pan, GF Mason, JT Vaughan, GM Pohost, and HP Hetherington; Depts. of Neurology and Medicine at the University of Alabama at Birmingham, Dept. of Radiology, Mass. General Hospital, Boston, MA: C Editing of Glutamate in Human Brain Using J-refocused Coherence Transfer Spectroscopy at 4.1T. 4th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, New York, New York, April 27 – May 3, 1996; 1:379

26. TG Reese, BP Poncelet, JT Vaughan, TM Koelling, T Campbell, CS Schmidt, HL Kantor, TJ Brady, and RM Weiskoff: Cardiac EPI On A 3T Whole-body Imaging System. 5th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, Vancouver, B.C., Canada, April 12-18, 1997; 2:865

27. HP Hetherington, JT Vaughan, and JW Pan; Departments of Medicine and Neurology, University of Alabama at Birmingham, and Department of Radiology Massachusetts General Hospital: Ultra High Resolution 1H Spectroscopic Imaging (0.175cc) of Human Brain With a Volume Coil at 4T. 5th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, Vancouver, B.C., Canada, April 12-18, 1997; 3:1440

28. JT Vaughan, B Poncelet, T Reese, R Weiskoff, T Campbell, M Rohan, and T Brady; Massachusetts General Hospital NMR Center, & Advanced NMR Systems, Inc, MA: The Feasibility of Cardiac Imaging

with a Surface Coil at 3T. 5th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, Vancouver, B.C., Canada, April 12-18, 1997; 3:1491

29. JT Vaughan; Massachusetts General Hospital & Harvard Medical School, USA: An RF Volume Coil Comparison Study: 1.5T to 9.4T. 6th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, Sydney, Australia, April 18-24, 1998; 1:646

30. JT Vaughan; MGH-NMR Center- Harvard Medical School, Boston, MA: An Improved Volume Coil for High Field MRI. 7th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, Philadelphia, Pennsylvania, May 22-28, 1999; 1:167

31. PJ Ledden, LL Wald, JT Vaughan; Massachusetts General Hospital-NMR Center, Dept. of Radiology, Charlestown MA, USA, Enon Microwave Inc. Topsfield MA, USA: A Volume Coil Transmit, Surface Coil Receive System for Brain Imaging at 3T. 7th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, Philadelphia, Pennsylvania, May 22-28, 1999; 1:168

32. J Tropp, JT Vaughan; GE Medical Systems, Fremont, CA; Massachusetts General Hospital, Charlestown, MA: The Prospects for Systematic Design of TEM Resonators. 7th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, Philadelphia, Pennsylvania, May 22-28, 1999; 1:421

33. G Adriany, E Yacoub, X Hu, M Garwood, H Merkle, W Chen, S-G Kim, P Andersen, K Ugurbil, JT Vaughan: A Detuneable TEM Transmit Coil for 4T fMRI and Spectroscopy. 8th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Denver, Colorado, USA, April 1-7, 2000; 1:145

34. PJ Ledden, LL Wald, JT Vaughan, D Hinton: A Detuneable Elliptic Transmission Line Resonator for Body Imaging at 3T. 8th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Denver, Colorado, USA, April 1-7, 2000; 1:146

35. JT Vaughan, M Garwood, CM Collins, L DelaBarre, G Adriany, P Andersen, H Merkle, MB Smith, K Ugurbil: 7T vs. 4T: Preliminary B1, SNR, SAR Comparison in the Human Head. 8th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Denver, Colorado, USA, April 1-7, 2000; 1:147

36. CM Collins, MB Smith, JT Vaughan, M Garwood, K Ugurbil: B1 Field Homogeneity Comparison at 300MHz: Calculation vs. Experiment. 8th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Denver, Colorado, USA, April 1-7, 2000; 1:148

37. HP Hetherington, WJ Chu, JT Vaughan, DD Spencer, and JW Pan: Quantitative Evaluation of Regional Heterogeneity of Phosphorus Metabolites in Human Brain. 8th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Denver, Colorado, USA, April 1-7, 2000; 1:420

38. G Adriany, E Yacoub, I Tkac, P Andersen, H Merkle, JT Vaughan, and K Ugurbil: Shielded Surface Coils and Halfvolume Cavity Resonators for Imaging and Spectroscopy Applications at 7 Tesla. 8th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Denver, Colorado, USA, April 1-7, 2000; 1:563

39. JH Wang, QX Yang, CM Collins, MB Smith, S Michaeli, X-H Zhu, G Adriany, X Zhang, H Liu, P Andersen, JT Vaughan, K Ugurbil, and W Chen: Analysis of The Interaction Between RF Field And Sample With A Surface Coil at 7.0T. 8th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Denver, Colorado, USA, April 1-7, 2000; 1:564

40. X Hu, E Yacoub, P Andersen, JT Vaughan, G Adriany, H Merkle, and K Ugurbil: Initial Experience with fMRI in Humans at 7 Tesla. 8th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Denver, Colorado, USA, April 1-7, 2000; 2:935
41. E Yacoub, JT Vaughan, G Adriany, P Andersen, H Merkle, K Ugurbil, and X Hu: Observation of the Initial “Dip” in fMRI Signal in Human Visual Cortex at 7 Tesla. 8th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Denver, Colorado, USA, April 1-7, 2000; 2:991
42. PJ Ledden, LL Wald, JT Vaughan: An Four Port Drive Flat-Element Transmission-Line Coil for Brain Imaging at 3T. 8th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Denver, Colorado, USA, April 1-7, 2000; 2:1395
43. J Wang, QX Yang, CM Collins, MB Smith, X Zhang, G Adriany, H Liu, X-H Zhu, JT Vaughan, K Ugurbil, W Chen: Analysis of the RF Field of a Quadrature Surface Coil at 7.0T. 9th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, Glasgow, Scotland, UK, April 21-27, 2001; 1:698
44. X Zhang, R Sainati, JT Vaughan, W Chen: Analysis of Single Microstrip Resonator with Capacitive Termination at Very High Fields. 9th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, Glasgow, Scotland, UK, April 21-27, 2001; 1:699
45. G Adriany, J Pfeuffer, E Yacoub, P-F Van de Moortele, A Shmuel, P Andersen, X Hu, JT Vaughan, K Ugurbil: A Half-Volume Transmit/Receive Coil Combination for 7 Tesla Applications. 9th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, Glasgow, Scotland, UK, April 21-27, 2001; 2:1097
46. C Collins, Q Yang, J Wang, X Zhang, H Liu, S Michaeli, X-H Zhu, G Adriany, JT Vaughan, P Andersen, H Merkle, K Ugurbil, M Smith, W Chen: A Verification of Reciprocity for High-Field Systems: Agreement between Theory and Experiment in a Head-sized Spherical Phantom Excited with a Surface Coil at 300MHz. 9th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, Glasgow, Scotland, UK, April 21-27, 2001; 2:1099
47. TQ Duong, E Yacoub, X Hu, G Adriany, H Merkle, P Andersen, JT Vaughan, K Ugurbil, SG Kim: Diffusion-Weighted BOLD fMRI at 4 and 7 Tesla: Evaluation of Micro-versus Macrovascular Contributions. 9th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, Glasgow, Scotland, UK, April 21-27, 2001; 2:1253
48. CF Ferris, CT Snowden, JA King, TQ Duong, TE Ziegler, DP Olson, R Ludwig, N Schultz-Darken, Z Wu, P Tannenbaum, J Sullivan, S-G Kim, JT Vaughan: Imaging Brain Activity in Fully Conscious Monkeys in Response to Sexually Relevant Olfactory Cues. 9th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, Glasgow, Scotland, UK, April 21-27, 2001; 2:1335
49. AG Sorensen, O Wu, K Yamada, JT Vaughan: MRI at 3.0 Tesla: Preliminary Ex-vivo Animal and In-vivo Human Safety Studies. 9th Scientific Meeting of the International Society of Magnetic Resonance in Medicine, Glasgow, Scotland, UK, April 21-27, 2001; 3:1762
50. JT Vaughan, G Adriany, L Bolinger, M Waks, L DelaBarre, M Garwood, P Andersen, K Ugurbil: A Body Coil for High Field MR. 10th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Honolulu, Hawaii, USA, May 18-24, 2002; 1:160

51. G Adriany, K Heberlein, X Hu, P Andersen, K Ugurbil, JT Vaughan: Four Channel Array Coil for 4 Tesla Brain Imaging. 10th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Honolulu, Hawaii, USA, May 18-24, 2002; 1:860
52. G Oz, I Tkac, I-Y Choi, JT Vaughan, EG Shapiro, MC Gibbs, LR Chamas, R Gruetter: Proton MRS of Childhood Adrenoleukodystrophy at 4 Tesla. 10th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Honolulu, Hawaii, USA, May 18-24, 2002; 1:982
53. TQ Duong, E Yacoub, X Hu, G Adriany, H Merkle, P Andersen, JT Vaughan, K Ugurbil, S-G Kim: High-Resolution, Spin-Echo BOLD and CBF fMRI: Single-Shot, Slab-Selective EPI. 10th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Honolulu, Hawaii, USA, May 18-24, 2002; 1:1334
54. JT Vaughan: Technological Challenges and Solutions for High Field In Vivo Magnetic Resonance. 10th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Honolulu, Hawaii, USA, May 18-24, 2002; 1:1
55. J Tian, JT Vaughan: Frequency Limits and Radiation Resistance for Volume Coils. 11th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Ontario, Canada, July 10-16, 2003; 1:2354
56. X Zhang, X Zhu, H Qiao, H Liu, JT Vaughan, K Ugurbil, W Chen: A Circular-polarized Double-tuned (^{31}P and ^1H) TEM Coil for Human Head MRI/MRS at 7T. 11th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Ontario, Canada, July 10-16, 2003; 1:423
57. JT Vaughan, G Adriany, M Waks, M Watson, T Thompson, H Liu, G Berghoff, K Sundquist, K Ugurbil: A Patient Friendly Head Coil for High Field MRI. 11th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Ontario, Canada, July 10-16, 2003; 1:718
58. JT Vaughan, C Snyder, G Adriany, L Bolinger, H Liu, A Stolpen, K Ugurbil: The Technology and Techniques of 4T Body Imaging. 11th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Ontario, Canada, July 10-16, 2003; 1:425
59. G Adriany, P Van de Moortele, F Wiesinger, P Andersen, J Strupp, X Zhang, CJ Snyder, W Chen, KP Pruessmann, P Boesiger, JT Vaughan, K Ugurbil: Transceive Stripline Arrays for Ultra High Field Parallel Imaging Applications. 11th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Ontario, Canada, July 10-16, 2003; 1:474
60. G Adriany, P-F Van de Moortele, PM Andersen, JP Strupp, JB Ritter, CJ Snyder, S Moeller, JT Vaughan, K Ugurbil: An Elliptical Open-Faced Transceive for Ultra High Field Parallel Imaging and fMRI Applications. 12th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Kyoto, Japan, May 15-21, 2004; 1:1604
61. MB Smith, JT Vaughan: The Quartz TEM Coil: Improved Performance at 3.0 Tesla. 12th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Kyoto, Japan, May 15-21; 1:1549
62. CM Collins, BJ Swift, W Liu, JT Vaughan, K Ugurbil, MB Smith: Optimal Multiple-Element Driving Configuration Depends on Head Geometry, Placement, and Volume of Interest. 12th Scientific

Meeting of the International Society for Magnetic Resonance in Medicine, Kyoto, Japan, May 15-21; 1:1566

63. P-F Van de Moortele, G Adriany, S Moeller, J Strupp, P Andersen, C Snyder, JT Vaughan, K Ugurbil: Whole Brain fMRI in Humans at Ultra-High Field with Parallel SENSE Imaging. 12th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Kyoto, Japan, May 15-21; 1:1027

64. S Moeller, P-F Van de Moortele, G Adriany, CJ Snyder, PM Andersen, JP Strupp, JT Vaughan, K Ugurbil: Parallel Imaging Performance for Densely Spaced Coils in Phase Arrays at Ultra High Field Strength. 12th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Kyoto, Japan, May 15-21; 1:2388

65. M Terpstra, SC Schulz, JT Vaughan, K Ugurbil, KO Lim, R Gruetter: Comparison of Glutathione (GSH) Concentrations Quantified with STEAM Versus Edited Spectroscopy: Application to Schizophrenia. 12th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Kyoto, Japan, May 15-21; 1:1485

66. F Wiesinger, P-F Van de Moortele, G Adriany, N De Zanche, C Snyder, JT Vaughan, K Ugurbil, KP Pruessmann: An Investigation into the Role of Dielectric Resonance in Parallel Imaging. 12th Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Kyoto, Japan, May 15-21; 1:2393

67. G Adriany, J Ritter, P-F Van de Moortele, S Moeller, C Snyder, B Voje, T Vaughan, K Ugurbil: A Geometrically Adjustable 16 Channel Transceive Transmission Line Array for 7 Tesla. 13th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Miami, May 7-13, 2005

68. CJ Snyder, C Akgun, P-F Van de Moortele, G Adriany, K Ugurbil, JT Vaughan: 13th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Miami, May 7-13, 2005

69. JT Vaughan, L DelaBarre, C Snyder, G Adriany, C Collins, P-F Van de Moortele, S Moeller, J Fitter, J Strupp, P Andersen, J Tian, M Smith, K Ugurbil: RF Image Optimization at 7T & 9.4T. 13th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Miami, May 7-13, 2005

70. P-F Van de Moortelle, G. Adriany, C. Akgun, S Moeller, JB Richter, JT Vaughan, K Ugurbil: "B1 Phase Spatial Pattern at 7 Tesla: Impact on B1 Homogeneities With a Head Transceive Stripline Array Coil. 13th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Miami, May 7-13, 2005

71. JT Vaughan. Highest Field Human Imaging. Categorical Course for 13th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Miami, May 7-13, 2005

72. T Vaughan, L DelaBarre, C Snyder, J Tian, P Andersen, J Strupp, G Adriany, P-F van de Moortele, K. Ugurbil. "9.4T Human Imaging, Preliminary Results" 14th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Seattle, May 2006

73. T Vaughan, C Snyder, L DelaBarre, J Tian, P Andersen, J Strupp, G Adriany, K Ugurbil. "7T Body Imaging: First Results". 14th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Seattle, May 2006.

74. L DelaBarre, C Snyder, K Ugurbil, T Vaughan. "A Parallel Transceiver for Human Imaging at 9.4T." 14th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Seattle, May 2006

75. C Akgun, L DelaBarre, P-F van de Moortele, C Snyder, K Ugurbil, JT Vaughan. "Microstrip TEM Coil Optimization at 7T." 14th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Seattle, May 2006

76. PJ Bolan, CJ Snyder, LJ DelaBarre, L Bolinger, M Garwood, JT Vaughan. "Preliminary Experience with Breast 1H MRS at 7 Tesla". 14th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Seattle, May 2006

77. CJ Snyder, L DelaBarre, C Akgun, S Moeller, G Adriany, K Ugurbil, JT Vaughan. "High-Field Transmission Line Arrays for Transmit and Receive." 14th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Seattle, May 2006

78. P-F Van de Moortele, C Akgun, C Snyder, L DelaBarre, G Adriany, T Vaughan, K Ugurbil. "Impact of Coil Diameter and Number of Coil Elements on B1 Destructive Interferences with Stripline Coil Arrays at 7 Tesla." 14th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Seattle, May 2006

79. G Adriany, Vaughan JT. 14th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Seattle, May 2006

80. TS Ibrahim, R Abraham, L Tang, JT Vaughan. "Comparison of the Coax Element and Stripline Element TEM Head Coils at Ultra-High Field." 14th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Seattle, May 2006

81. T White, A Fox, M Schmidt, P Quam, N Valley, M Lukoskie, R Charlton, J Bengston, T Vaughan. "Measurement of Head Movement During Mock Structural and Functional Scanning." #2181 Human Brain Mapping 2006.

82. T.Vaughan, L. DelaBarre, C. Snyder, S. Mangia, J. Tian, M. Waks, S. Shillak, L. Petropoulos, G. Adriany, P. Andersen, J. Strupp, K. Ugurbil. "Whole Body Imaging at 7T with a 16 Channel Body Coil and B1 Shimming" 15th Annual Proceedings of the International Society of Magnetic Resonance in Medicine, Toronto, Canada, 2007

83. D. Shrivastava, B. Schlentz, J. Kulesa, C. Snyder, L. DelaBarre, T. Hanson, P. Iaizzo, J.T. Vaughan. "RF Safety at 9.4T- Porcine In vivo Results" Proceedings of the International Society of Magnetic Resonance in Medicine, Toronto, Canada 2007

84. D. Shrivastava, R. Schlentz, J. Kulesa, L. DelaBarre, C. Snyder, T. Hanson, J.T. Vaughan. "9.4T RF Heating: In Vivo Thermoregulatory Temperature Response in Porcine Models." Proceedings of the International Society of Magnetic Resonance in Medicine, Toronto, Canada, 2007

85. D. Shrivastava, L. DelaBarre, S. Michaeli, C. Snyder, T. Hanson, JT Vaughan. "Proton Resonance Frequency Shift Based NMR Thermometry for Ultra-High Field RF Safety Applications. Proceedings of the International Society of Magnetic Resonance in Medicine, Toronto, Canada, 2007

86. G. Adriany, A. Gozubuyuk, E. Auerbach, P-F van de Moortele, P. Andersen, T. Vaughan, K. Ugurbil. "A 32 channel Transmit/Receive Transmission Line Head Array for 3D RF Shimming." Proceedings of the 15th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, Canada. 2007

87. P Bolan, G Adriany, C Akgun, P Andersen, E Auerbach, L DelaBarre, U Goerke, A Gozubuyuk, G Metzger, S Moeller, A Styczynski C Snyder, J Strupp, PF Van de Moortele, JT Vaughan, K Ugurbil. "Technical Aspects of Ultra-High Field (7T) Body MR Imaging and Spectroscopy" Proceedings of the Radiological Society of North America, Chicago, IL (2007)
88. PF Van de Moortele, C Snyder, L DelaBarre, G Adriany, JT Vaughan, K. Ugurbil, 2007. Calibration Tools for RF Shim at Very High Field with Multiple Elements RF Coils: from Ultra Fast Local Relative Phase to Absolute Magnitude B1+ Mapping. ISMRM 13th Annual meeting, Berlin, p. 1676. 2007
89. PF Van de Moortele, Akgun C, Vaughan, T, Ugurbil, K. "Can We Find Reason in Distorted Fields? A Reconciliation Tale for Electromagnetic Fields Doomed to Corruption by Dielectric and Conductive Properties of Biological Tissues. ISMRM 13th Scientific Meeting, Berlin. 2007
90. X Wu, Akgun C, Vaughan, T., Ugurbil, K., Van de Moortele, P.F., 2007. SAR Reduction in Transmit SENSE Using Adapted Excitation K-Space Trajectories. ISMRM 13th Scientific Meeting, Berlin, p. 673.
91. X Wu, Akgun C., Vaughan T., Ugurbil, K., Van de Moortele, P.F., 2007. SAR Analysis for Transmit SENSE at 7T with a Human Head Model. ISMRM 15th Scientific Meeting, Berlin, p. 3350.
92. D Shrivastava, Hanson T, Schlentz R, Kulesa J, Gallagher W, Snyder C, DelaBarre L, Iaizzo PA, Vaughan JT, "Thermally Safe Magnetic Resonance Imaging at 9.4 Tesla and In Vivo Thermal Characterization of the Radio Frequency Head Coil", Summer Bioengineering Conference, Colorado, USA 2007.
93. D Shrivastava, Schlentz R, Kulesa J, Gallagher W, Snyder C, DelaBarre L, Hanson T, Iaizzo PA, Vaughan JT, "Radio-Frequency Heating at 9.4T – In Vivo Porcine Studies", ISMRM Annual Meeting, Berlin, 2007.
94. D Shrivastava, Schlentz R, Kulesa J, Gallagher W, Snyder C, DelaBarre L, Hanson T, Iaizzo PA, Vaughan JT, "MR Safety Measurements", 6th Bi-Annual 2007 Minnesota Workshops, Minneapolis, USA, 2007.
95. CJ Snyder, DelaBarre L, Van de Moortele PF, Snyder A, Akgun C, Jinfeng T, Metzger G, Ugurbil K, Vaughan JT. Stripline/TEM Transceiver Array for 7T Body Imaging Proc Intl Soc Mag Reson Med 2007;15:164.
96. G Metzger, Van de Moortele PF, Snyder C, Vaughan JT, Ugurbil K. Local B1 Shimming for Imaging the Prostate at 7 Tesla. Proc Intl Soc Mag Reson Med 2007;15:799.
97. X Wu, Akgun C., Vaughan JT, Ugurbil, K., Van de Moortele, "SAR Analysis for Transmit SENSE at 7T with a Human Head Model," ISMRM 2007.
98. X Wu, Akgun C., Vaughan JT, Ugurbil, K., Van de Moortele, "SAR Reduction in Transmit SENSE Using Adapted Excitation k-Space Trajectories," ISMRM 2007.
99. J Tian, Snyder CJ., Delabarre L., Akgun C., Liu W., Collins C.M., Gopinath A., and Vaughan JT., "Effect of Head Size to B1, SNR and SAR," ISMRM 2007, Abstract 1011.
100. C Akgun, Snyder C, DelaBarre L, Tian J, Van De Moortele P-F, Moeller S, Ugurbil K, Vaughan JT. A Novel RF Head Coil for 7T Homogeneity and Parallel Imaging Applications. Proceedings 15th Scientific Meeting, International Society for Magnetic Resonance in Medicine; 2007 May 19-25, 2007; Berlin, DE.

101. L DelaBarre, Snyder C, Van De Moortele P-F, Akgun C, Ugurbil K, Vaughan JT. Cardiac Imaging at 7T. Proceedings 15th Scientific Meeting, International Society for Magnetic Resonance in Medicine; 2007 May 19-25, 2007; Berlin, DE.

102. C Olson, DelaBarre L, Vaughan JT, Gopinath A. B_1^+ Region of Interest Localization Through Convex Optimization. Proceedings 15th Scientific Meeting, International Society for Magnetic Resonance in Medicine; 2007 May 19-25, 2007; Berlin, DE.

103. ALS Snyder, Snyder C, DelaBarre L, Van De Moortele P-F, Vaughan JT, Ugurbil K, Garwood M, Bolan PJ. Preliminary Experience with Liver MRI and ^1H MRS at 7 Tesla. Proceedings 15th Scientific Meeting, International Society for Magnetic Resonance in Medicine; 2007 May 19-25, 2007; Berlin, DE.

104. ALS Snyder, Snyder C, Van De Moortele P-F, DelaBarre L, Haddadin IS, Truskinovsky A, Vaughan JT, Ugurbil K, Garwood M, Michaeli S. Endometrial Imaging at High Magnetic Fields: Feasibility of In-Vivo Studies at 7 T. Proceedings 15th Scientific Meeting, International Society for Magnetic Resonance in Medicine; 2007 May 19-25, 2007; Berlin, DE.

105. C Snyder, DelaBarre L, Van De Moortele P-F, Snyder ALS, Akgun C, Tian J, Metzger G, Ugurbil K, Vaughan JT. Stripline/TEM Transceiver Array for 7T Body Imaging. Proceedings 15th Scientific Meeting, International Society for Magnetic Resonance in Medicine; 2007 May 19-25, 2007; Berlin, DE.

106. J Tian, Snyder C, DelaBarre L, Akgun C, Strupp J, Gopinath A, Vaughan JT, editors. Characterization of Transmission Line Coil Elements. Proceedings 15th Scientific Meeting, International Society for Magnetic Resonance in Medicine; 2007 May 19-25, 2007; Berlin, DE.

107. PF Van De Moortele, Snyder C, DelaBarre L, Adriany G, Vaughan JT, Ugurbil K, editors. Calibration Tools for RF Shim at Very High Field with Multiple Element RF Coils: From Ultra Fast Local Relative Phase to Absolute Magnitude B_1^+ Mapping. Proceedings 15th Scientific Meeting, International Society for Magnetic Resonance in Medicine; 2007 May 19-25, 2007; Berlin, DE.

108. P-F Van de Moortele, Akgun C, Vaughan JT, Ugurbil K., "Can We Find Reason in Distorted Fields? A Reconciliation Tale for Electromagnetic Fields Doomed to Corruption by Dielectric and Conductive Properties of Biological Tissues", ISMRM 13th Scientific Meeting, 2007, Berlin, DE

109. P Bolan, Adriany G, Akgun C, Andersen P, Auerbach E, DelaBarre L, Goerke U, Gozubuyuk A, Metzger GJ, Moeller S, Snyder AS, Snyder C, Strupp J, Van de Moortele P-F, Vaughan JT, Ugurbil K, "Technical Aspects of Ultra-High Field (7T) Body MR Imaging and Spectroscopy" Proceedings of the Radiological Society of North America, Chicago, IL (2007)

110. C.Akgun, C. Snyder, L. DelaBarre, J. Tian, P-F. Van de Moortele, S. Moeller, K. Ugurbil, J.T. Vaughan. "A Novel RF head coil for 7T Homogeneity and Parallel Imaging Applications" Proceedings of the International Society of Magnetic Resonance in Medicine, Toronto, Canada, 2008.

111. C. Akgun, C Snyder, S. Moeller, P. Bolan, T. Vaughan, K. Ugurbil, P-F Van de Moortele, G. Metzger. "Transmit and receive FDTD modeling as a valuable tool for RF coil development: validation of simulations with in vivo torso imaging at 7 Tesla." Proceedings of the International Society of Magnetic Resonance in Medicine, Toronto, Canada. 2008

112. U Goerke, Bolan P, Akgun C, Adriany G, Snyder C, van de Moortele P, DelaBarre L, Harel N, Vaughan JT, Ugurbil K, Ellermann J, editors. Ultrahigh magnetic field imaging of the knee using a

transmit/receive array coil. Proceedings 16th Scientific Meeting, International Society for Magnetic Resonance in Medicine; 2008 April; Toronto.

113. D Shrivastava, Schlentz R, Kulesa J, DelaBarre L, Snyder C, Hanson T, Vaughan JT, “9.4 T RF Heating – In Vivo Thermoregulatory Response in Porcine Models”, ISMRM Annual Meeting, Toronto, 2008.

114. D Shrivastava, DelaBarre L, Michaeli, S, Snyder C; Hanson T, Vaughan JT, “Proton Resonance Frequency Based NMR Thermometry of Ultra-High Field RF Safety Applications”, ISMRM Annual Meeting, Toronto, 2008.

115. D Shrivastava, DelaBarre L, Hanson T, Vaughan JT, “Improved MR Thermometry to Measure Brain Temperatures”, ASME - Summer Bioengineering Conference, Marco Island, USA, 2008.

116. D Shrivastava, Kulesa J, DelaBarre L, Snyder C, Hanson T, Vaughan JT, “Identification of Possibly Unsafe RF Exposure Thresholds for Humans using Porcine Models”, ASME -Summer Bioengineering Conference, Marco Island, USA, 2008.

117. C Snyder, DelaBarre L, Metzger GJ, Akgun C, Bolan P, Ugurbil K, Vaughan JT. Separate Transmit and Receive Arrays for 7T Body Imaging. Proc Intl Soc Mag Reson Med 2008;16:1065.

118. C Akgun, Snyder C, DelaBarre L, Tian J, Van de Moortele P-F, Moeller S, Ugurbil K, Vaughan JT, “A Novel RF head coil for 7T Homogeneity and Parallel Imaging Applications” Proceedings of the International Society of Magnetic Resonance in Medicine, Toronto, Canada

119. C Akgun, Snyder CJ, Moeller S, Bolan P, Vaughan JT, Ugurbil K, Van de Moortele PF, Metzger GJ Transmit and Receive FDTD Modeling as a Valuable Tool for RF Coil Development: Validation of Simulations with in Vivo Torso Imaging at 7 Tesla. Proc Intl Soc Mag Reson Med 2008;16:1196.

120. X Wu, Chang, T-H, Luo Z-Q, Akgun C., Vaughan JT, Ugurbil K., Van de Moortele, P-F, “Worst case SAR scenario as a new metric for SAR analysis in B1 phase shim,” ISMRM 2008.

121. JT Vaughan, DelaBarre L, Snyder C, Mangia S, Tian J, Waks M, Shillak S, Petropoulos L, Adriany G, Andersen P, Strupp J, Ugurbil K, editors. Whole Body Imaging at 7T with a 16 Channel Body Coil and B1 Shimming. Proceedings 16th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Toronto. 2008

122. G. Adriany, Gozubuyuk A, Auerbach E, Van de Moortele P-F, Andersen P, Vaughan JT, Ugurbil K. “A 32 channel Transmit/Receive Transmission Line Head Array for 3D RF Shimming.” Proceedings of the International Society of Magnetic Resonance in Medicine, Toronto, Canada. 2008

123. G Adriany, Vaughan JT “Design/Simulation/Construction/Implementation of RF Arrays for 7T and 9.4T”, in Proc. ISMRM High Field Workshop, Rome, 2008.

124. D Shrivastava, Liimatainen T, Goerke U, Kulesa J, Hanson T, Michaeli S, and Vaughan JT., “Optimized Signal Intensity and $T_{1\rho}$ Based NMR Thermometry for Ultra-High Field RF Safety Applications”, ISMRM Annual Meeting, Hawaii, 2009.

125. D Shrivastava, Hanson T, Kulesa J, and Vaughan JT., “RF Safety and Thermal Characteristics of Porcine Heads After Euthanasia”, ISMRM Annual Meeting, Hawaii, 2009.

126.D Shrivastava, Hanson T, Abosch, Aviva, and Vaughan JT., “RF Heating due to a Deep Brain Stimulation Electrode at 9.4 T (400.2 MHz) in Porcine Heads”, ISMRM Annual Meeting, Hawaii, 2009.

127.D Shrivastava, Hanson T, Kulesa J, Adrian G, Iaizzo P, and Vaughan JT., “Thermoregulatory Temperature Response in Porcine Models due to a CW, 400 MHz, RF Heating”, Society of Thermal Medicine, Arizona, USA, 2009.

128.CJ Snyder, DelaBarre L, Tian J, Akgun C, Metzger G, Moeller S, Ugurbil K, Vaughan JT. Using separated volume transmit and local receiver arrays for body imaging at 7T. Proc Intl Soc Mag Reson Med 2009;17:#6876.

129.L DelaBarre, Weale P, Snyder CJ, Van de Moortele PF, Metzger GJ, Zuehlsdorff S, Nielles-Vallespin S, Bolan P, Auerbach EJ, Ugurbil K, Jerecic R, Vaughan JT. Cardiac cine: Advances at 7T. Proc Intl Soc Mag Reson Med 2009;17:#4186.

130.GJ Metzger, Weale P, DelaBarre L, Bolan P, Zuehlsdorff S, Nielles-Vallespin S, Van de Moortele PF, Snyder CJ, Auerbach EJ, Vaughan JT, Ugurbil K, Jerecic R. Exploring the promised land of 7T for CMR with T-PAT accelerated imaging techniques: First results for real time cardiac function and tagging in volunteers. Proc Soc Cardiac Magn Reson 2009;12.

131.GJ Metzger, Vaughan JT “Endorectal combined surface array for prostate imaging at 7T”, in Intl. Soc. Mag. Reson. Med. 2009.

132.G Adrian G, Vaughan JT “A 9.4T Head Array for Localized Spectroscopy Applications and fMRI”, in Intl Soc Magn Reson Med. 2009. Honolulu.

133.C Akgun, Vaughan, JT “Novel Multi-Channel Transmission Line Coil for High Field Magnetic Resonance Imaging”, IEEE 2009.

134.C Akgun, DelaBarre L, Goerke U, Snyder C, Ellerman J, Ugurbil K, Vaughan JT, editors. Multi-channel transceive coil for improved knee imaging at 7T. Proceedings 17th Scientific Meeting, International Society for Magnetic Resonance in Medicine; 2009 April; Honolulu.

135.C Akgun, DelaBarre L, Snyder C, Tian J, Gopinath A, Ugurbil K, Vaughan JT, editors. Alternating Impedance Element for 7T Multi-Channel Transceive Coil. Proceedings 17th Scientific Meeting, International Society for Magnetic Resonance in Medicine; 2009 April; Honolulu.

136.C Akgun, Vaughan JT. “Transmit and Receive FDTD Modeling as a Valuable Tool for RF Coil Development: Validation of Simulations with In Vivo Torso Imaging at 7 Tesla”, in Intl Soc Magn Reson Med. 2009, Honolulu.

137.JT Vaughan, Snyder C, Delabarre L, Tian J, Adrian G, Andersen P, Strupp J, Ugurbil K, Clinical Imaging at 7T with a 16 Channel Whole Body Coil and 32 Receive Channels. Proceedings 17th Scientific Meeting, International Society for Magnetic Resonance in Medicine; 2009 April; Honolulu.

138.JT Vaughan, “7T Cardiovascular MRI”, in Society for Cardiac Magnetic Resonance. 2009. Orlando.

139.JT Vaughan, “Transmitter Arrays for Cardiac Imaging at 7T”, in Intl Soc Magn Reson Med. 2009: Honolulu.

140. L DelaBarre, Vaughan JT, “Cardiac Cine: Advances at 7T”, in Intl Soc Magn Reson Med, 2009, Honolulu.
141. LL Warmington, Vaughan JT, “Breast Imaging with a 2-Channel Bilateral Loop Design”, in Intl. Soc. Mag. Reson. Med. 2009.
142. Yoo H, Gopinath A, and Vaughan JT, “RF B1 Field Localization at 9.4T Through Convex Optimization with an Iterative Method”, in Intl Soc Magn Reson Med, Honolulu, 2009.
143. Yoo H, Gopinath A, Vaughan JT “Convex Optimization with Iterations for RF B1 Field Localizatoin in 9.4T MRI System”, in Applied Computational Electromagnetics Society. 2009: Monterey.
144. H Yoo, Lance Delabarre, Anand Gopinath and J. Thomas Vaughan, “RF magnetic field signal localization at very high magnetic field system,” Design of Medical Devices Conference, Minneapolis, USA, Apr. 14~16, 2009. J. Med. Devices. Jun 2009, 3(2): 027550
145. D Shrivastava and Vaughan JT, “Development of an Anatomically Accurate Porcine Head Model to Study Radiofrequency Heating due to MRI”, ISMRM Annual Meeting, Stockholm, Sweden, 2010.
146. CJ Snyder, DelaBarre L, Tian J, Metzger GJ, Ugurbil K, Vaughan JT. 28-Channel Receive-Only Array For Body Imaging at 7T. Proc Intl Soc Mag Reson Med 2010;18.
147. X Wu, Schmitter S., Tian J., Vaughan JT., Ugurbil, K., Van de Moortele P-F, “SAR analysis of Parallel Transmission in Cardiac Imaging at 7T,” ISMRM workshop on MR safety: RF heating of the human in MR, 2010.
148. G Adriany, Ritter J, Vaughan JT, Ugurbil K, van de Moortele P-F. Experimental verification of enhanced B1 shim performance with a Z-encoding RF coil array at 7 tesla. 2010; Stockholm. p 1490.
149. C Akgun, DelaBarre L, Snyder C, Adriany G, Gopinath A, Ugurbil K, Vaughan JT. RF Field Profiling Through Element Design for High Field Volume Coils. 2010; Stockholm, Sweeden.
150. C Akgun, DelaBarre L, Snyder C, Sohn S-M, Adriany G, Ugurbil K, Gopinath A, Vaughan JT. Alternating Impedance Multi-Channel Transmission Line Resonators for High Field Magnetic Resonance Imaging. 2010; Anaheim, CA.
151. L DelaBarre, Schillak S, Tramm B, Snyder CJ, Vaughan JT. Separated Volume Transmit / Volume Receive Arrays for Use in a 7T Head Gradient. 2010; Stockholm, Sweeden.
152. J Tian, Snyder CJ, DelaBarre LJ, Vaughan JT. Using Dielectrics and RF Shielding to Increase B_1^+ Efficiency and Homogeneity. Proceedings 18th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Stockholm, Sweeden 2010. p. 1482.
153. H Yoo, Gopinath A, Vaughan JT. Rapid B1 field calculation using integral eqations for RF shimming. Proceedings 18th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Stockholm, Sweeden 2010.
154. Hyongsuk Yoo, Anand Gopinath and J. Thomas Vaughan, “A method to control non-uniformity RF B₁ field for high field magnetic resonance imaging,” IEEE MTT-S International Microwave Symposium (IMS), Anaheim, USA, May 23~28, 2010.

155. X Wu, Vaughan JT, Ugurbil K, Van de Moortele PF. 16-channel parallel transmission in the human brain at 9.4 Tesla: Initial results. Proceedings 18th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Stockholm, Sweden 2010.
156. C Snyder, DelaBarre L, Tian J, Akgun C, Metzger GJ, Ugurbil K, Vaughan JT. 28-Channel Receive-Only Array for Body Imaging at 7T. Proceedings of the 19th Annual Meeting of ISMRM; Stockholm 2010. p. 3839.
157. C Snyder, DelaBarre L, Tian J, Akgun C, Vaughan JT. Using Piezoelectric Actuators for Remote Tuning of Transmit Coils. In: Proceedings of the 19th Annual Meeting of ISMRM; Stockholm 2010. p. 1523.
158. D Shrivastava, Goerke U, Porter D, Vaughan J. New developments in bioheat transfer modeling and MR thermometry to improve radiofrequency safety in high field and ultra-high field MRI. ISMRM - RF Safety Workshop; ISMRM - RF Safety Workshop, Stillwater, MN 2010.
159. D Shrivastava, Hanson T, Kulesa J, Tian J, Gregor A, Vaughan JT. Systemic radio-frequency heating in porcine models with a 12.5" diameter, 8 channel, 7 T (296 MHz) head coil. ISMRM, Stockholm, Sweden 2010.
160. D Shrivastava, Vaughan JT. Development of an Anatomically Accurate Porcine Head Model to Study Radiofrequency Heating due to MRI. Proceedings 18th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Stockholm, Sweden 2010.
161. JT Vaughan, Snyder CJ, DelaBarre LJ, Ugurbil K. RF Coil Designs for 7T Cardiac Imaging. Proceedings 18th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Stockholm, Sweden 2010.
162. X Wu, Schmitter S, Tian J, Vaughan JT, Ugurbil K, Van de Moortele PF. SAR analysis of Parallel Transmission in Cardiac Imaging at 7T. ISMRM - RF Safety Workshop; Stillwater, MN 2010.
163. JJ Suttie, DelaBarre L, Metzger GJ, van de Moortele PF, Snyder CJ, Weale P, Neubauer S, Robson MD, Vaughan JT. Clinical cardiac imaging at 7 Tesla: a validation study. Proceedings 18th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Stockholm, SE 2010. p. 3596.
164. D. Shrivastava, Goerke U, Porter D, Vaughan JT. New Developments in Bioheat Transfer Modeling and MR Thermometry to Improve Safety in High-field and Ultra-high Field MRI. In: Vaughan JT, Shrivastava D, editors. RF Heating in Human MRI: International Society for Magnetic Resonance in Medicine; 2010.
165. R Visaria, Vaughan JT, Shrivastava D. Safety in Diagnostic Imaging Techniques used in Omics. Advanced Topics in Omics: Institute of Integrative Omics and Applied Technology; 2010.
166. G Adriany, Ritter J, Van de Moortele PF, Vaughan JT, K. U. Experimental verification of enhanced B1 Shim performance with a Z-encoding RF coil array at 7 tesla. Proc 18th Annual ISMRM; Stockholm, Sweden 2010. p. 3831.
167. CE Akgun, DelaBarre LJ, Snyder CJ, Adriany G, Gopinath A, Ugurbil K, Vaughan JT. RF Field Profiling Through Element Design for High Field Volume Coils. Proceedings 18th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Stockholm, Sweden 2010.

168. CE Akgun, DelaBarre LJ, Snyder CJ, Sohn S-M, Adriany G, Ugurbil K, Gopinath A, Vaughan JT, editors. Alternating Impedance Multi-Channel Transmission Line Resonators for High Field Magnetic Resonance Imaging. IEEE Microwave Theory and Techniques International Microwave Symposium; 2010; Anaheim, CA.
169. LJ DelaBarre, Schillak S, Tramm B, Snyder CJ, Vaughan JT. Separated Volume Transmit / Volume Receive Arrays for Use in a 7T Head Gradient. Proceedings 18th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Stockholm, Sweden 2010.
170. Can Akgun, Lance Delabarre, Hyoungsuk Yoo, Carl Snyder, Sung-Min Sohn, Gregor Adriany, Pierre-Francois Van De Moortele, Anand Gopinath, Kamil Ugurbil, and J. Thomas Vaughan, "Stepped impedance resonators for high field MRI," International Society for Magnetic Resonance in Medicine (ISMRM), Montreal, Canada, May 7~13, 2011.
171. Can Akgun, Hyoungsuk Yoo, Lance Delabarre, Carl Snyder, Gregor Adriany, Pierre-Francois Van De Moortele, Anand Gopinath, Kamil Ugurbil, and J. Thomas Vaughan, "Novel 24 element volume head coil for high field MRI," International Society for Magnetic Resonance in Medicine (ISMRM), Montreal, Canada, May 7~13, 2011.
172. LJ DelaBarre, Snyder CJ, Vaughan JT, van de Moortele PF. Balanced SSFP cardiac imaging at 7T. Proceedings 19th Scientific Meeting, ISMRM; Montreal, Quebec 2011.
173. GJ Metzger, Auerbach EJ, Snyder CJ, Adriany G. Three Dimensional Spectroscopic Imaging in the Prostate with a Surface Combined Endorectal Coil at 7 Tesla. Proceedings 19th Scientific Meeting, ISMRM; Montreal, Quebec 2011.
174. GJ Metzger, DelaBarre LJ, Bi X, Shah S, Zuehlsdorff S, Vaughan JT, Ugurbil K, Van de Moortele PF. Left Coronary Artery Imaging at 7T: Initial Results using Multiple B1+ Shimming Algorithms and Targets. Proceedings 19th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Montreal, Quebec 2011.
175. D. Shrivastava, Goerke U, Michaeli S, Tian J, Abosch A, Vaughan JT. An MR Thermometry-GBHTM 'Hybrid' Model to Determine Radiofrequency Heating near Implanted Leads in High Field Imaging. Proceedings 19th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Montreal, Quebec 2011.
176. D Shrivastava, Goerke U, Michaeli S, Tian J, DelaBarre LJ, Vaughan JT. Total Proton Resonance Frequency Shift Coefficient in the Porcine Brain to Image Radiofrequency Heating in Ultra-high Field MRI. Proceedings 19th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Montreal, Quebec 2011.
177. D Shrivastava, Kulesa J, Tian J, Adriany G, DelaBarre LJ, Vaughan JT. Radio-Frequency Heating in Swine with an 8 Channel, 7 T (296 MHz) Head Coil. Proceedings 19th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Montreal, Quebec 2011.
178. D. Shrivastava, Tian J, Abosch A, Vaughan JT. Radio-Frequency Heating at Deep Brain Stimulation Lead Electrodes due to Imaging with Head Coils in 3 T and 7T. Proceedings 19th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Montreal, Quebec 2011.
179. C Snyder, DelaBarre L, Metzger G, Ugurbil K, Vaughan JT. 32-Channel Receive Only Array for Cardiac Imaging at 7T. Proceedings of the 19th Annual Meeting of the ISMRM; Montreal 2011.

180. C Snyder, Rogers C, DelaBarre L, Robson M, Vaughan JT. Remote Tuning and Matching an 8-Channel Transceive Array at 7T. Proceedings of the 19th Annual Meeting of ISMRM; Montreal 2011. p. (Accepted as an e-poster).
181. S-M Sohn, Gopinath A, Vaughan JT. Electrically auto-tuned RF coil design. Proceedings 20th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Montreal, Quebec 2011.
182. JJ Suttie, DelaBarre L, Pitcher A, Van de Moortele PF, Dass S, Snyder C, Francis JM, Metzger GJ, Weale P, Ugurbil K, Neubauer S, Robson MD, Vaughan JT. Ultrahigh field (7 Tesla) human cardiovascular magnetic resonance imaging to assess cardiac volumes and mass: A feasibility and validation study. In Proceedings Society of Cardiovascular Magnetic Resonance 2011.
183. J Tian, Vaughan JT. Tailoring RF Power Distribution for Body Torso MRI at 300MHz. Proceedings 19th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Montreal, Quebec 2011.
184. JT Vaughan, Myer D. RF Coil Element Mounted Power Amplifiers. Proceedings 19th Scientific Meeting, International Society for Magnetic Resonance in Medicine; Montreal, Quebec 2011.
185. Hyongsuk Yoo, Anand Gopinath and J. Thomas Vaughan, “ B_1^+ homogenization over whole field view in high field MRI,” International Society for Magnetic Resonance in Medicine (ISMRM), Montreal, Canada, May 7~13, 2011.
186. Hyongsuk Yoo, Anand Gopinath and J. Thomas Vaughan, “ B_1^+ shimming with SAR reduction in high field MRI,” International Society for Magnetic Resonance in Medicine (ISMRM), Montreal, Canada, May 7~13, 2011.
187. Sung-Min Sohn, Lance DelaBarre, John Thomas Vaughan, and Anand Gopinath, “RF multi-channel head coil design with improved B_1^+ fields uniformity for high field MRI systems,” Microwave Symposium Digest, 2012 IEEE MTT-S International, 17-22 June 2012
188. Sung-Min Sohn, Lance DelaBarre, John Thomas Vaughan, and Anand Gopinath, “ π (Pi)-matching technique for RF coil of MRI systems,” Microwave Symposium Digest (MTT), 2012 IEEE MTT-S International , 17-22 June 2012
189. G Adriany, Schillak S, Waks M, Tramm B, Roebroek A, Formisano E, DeMartino F, Yacoub ES, Vaughan JT. A Flexible 4 Ch. Transmit / 16ch. Receive Auditory Cortex Array for HiRes fMRI at 7 Tesla. 2013; Salt Lake City, UT. p 2734.
190. L DelaBarre, Myer D, Vaughan JT. Muti-Channel, In-Bore Power Amplifiers for Multi-Channel Coil at 7T. 2013; Salt Lake City, UT. p 726.
191. E. Ebbini, DelaBarre L, Vaughan JT, Gopinath A. New Results for Digital Beamforming in MRI. 2013; Salt Lake City, UT. p 4405.
192. D. Shrivastava, Utecht L, Tian J, Visaria R, Hughes J, Vaughan JT. In vivo Radio-Frequency Heating Did Not Change Due to the Power Deposition from Similar 3T and 7T Head Coils. 2013; Salt Lake City, UT. p 284.

193. D. Shrivastava, Utecht L, Tian J, Visaria R, Hughes J, Vaughan JT. Radiofrequency Heating During Head Imaging in a 3T Transmit Body Coil. 2013; Salt Lake City, UT. p 2828.
194. C. Snyder, DelaBarre L, Hess AT, Rodgers C, Robson M, Vaughan JT. A Separated Transmit-Only, Receive-Only Array for Body Imaging at 7T with Automated Tuning and Matching Capabilities. 2013; Salt Lake City, UT. p 131.
195. C. Snyder, DelaBarre L, Vaughan JT. Automated Tuning and Matching of a 16-Channel TEM Transmit-Only Array used in Conjunction with a 32-Channel Receive-Only Loop Array for MR Cardiac Imaging at 7 Tesla. 2013; Seattle, WA. p 1-4.
196. J Thomas Vaughan, Lance DelaBarre, Jinfeng Tian, Sungmin Sohn, Devashish Shrivastava, Gregor Adriany, and Kamil Ugurbil, "RF technology for human MRI at 10.5 T," in IEEE MTT-S international RF and wireless technologies for biomedical and healthcare applications (IMWS-BIO), 2013
197. Sung-Min Sohn, Lance DelaBarre, John Thomas Vaughan, and Anand Gopinath, "8-Channel RF head coil of MRI with automatic tuning and matching," Microwave Symposium Digest, 2013 IEEE MTT-S International, 2-7 June 2013
198. Sung-Min Sohn, Lance DelaBarre, Anand Gopinath, and John Thomas Vaughan, "RF coil design with automatic tuning and matching," 21st Annual Meeting of ISMRM, Salt Lake City, Utah, USA, 20-26 April 2013
199. Y. Eryaman, B. Guerin, C. E. Akgun, J. L. Herraiz, A. Martin, A. Torrado-Carvajal, *et al.*, "A simulation based validation of a pTx pulse design strategy using implant-friendly modes for patients with DBS implants," in *Joint Annual Meeting ISMRM-ESMRMB*, Milan, Italy, 2014, p. 178.
200. G. Adriany, S. M. Schillak, M. T. Waks, J. T. Vaughan, K. Ugurbil, P.-F. Van de Moortele, *et al.*, "A 16-channel arterial spin labeling - head transceiver array combination for 7 Tesla," in *Joint Annual Meeting ISMRM-ESMRMB*, Milan, Italy, 2014, p. 317.
201. S.-M. Sohn, L. J. DelaBarre, A. Gopinath, and J. T. Vaughan, "Automatically tuned and matched RF transceive head coil at 7T," in *Joint Annual Meeting ISMRM-ESMRMB*, Milan, Italy, 2014, p. 318.
202. J. Tian, L. J. DelaBarre, and J. T. Vaughan, "Coil evaluation metrics," in *Joint Annual Meeting ISMRM-ESMRMB*, Milan, Italy, 2014, p. 1381.
203. J. T. Vaughan, L. J. DelaBarre, J. Tian, S.-M. Sohn, D. Shrivastava, G. Adriany, *et al.*, "Toward 10.5T MRI," in *Joint Annual Meeting ISMRM-ESMRMB*, Milan, Italy, 2014, p. 4822.
204. X. Zhang, X. Wu, J. Tian, S. Schmitter, L. J. DelaBarre, M. Hamm, *et al.*, "Excitation performance and SAR control with Z-stacked body RF coil arrays in parallel transmission at 3T," in *Joint Annual Meeting ISMRM-ESMRMB*, Milan, Italy, 2014, p. 4882.
205. S.-M. Sohn, A. Gopinath, and J. T. Vaughan, "Tunable and high directivity coupler for MRI applications," in *IEEE MTT-S International Microwave Symposium*, Tampa Bay, FL, 2014.
206. G Adriany, Schillak S, Waks M, Tramm B, Grant A, Yacoub E, T. Vaughan, C. Olman, S. Schmitter, k. Ugurbil. "A Modular 16 Ch. Transmit/32 Ch. Receive Array for Parallel Transmission and High Resolution fMRI at 7 Tesla." *Proceedings 23rd Scientific Meeting, International Society for Magnetic Resonance in Medicine*; 2015; Toronto, ON.

207. L DelaBarre, Neubauer S, Robson MD, Vaughan JT, Rodgers CT., B₀ Shimming Further Improves Human Cardiac ³¹P-MRS at 7 Tesla. *Proceedings 23rd Scientific Meeting, International Society for Magnetic Resonance in Medicine*; 2015; Toronto, ON.
208. MA Erturk, Raaijmakers A, Adriany G, Tian J, Van de Moortele P-F, van den Berg CAT, D Klomp, J. T. Vaughan, K. Ugurbil, G. Metzger . Comparison of 16-Channel Stripline and 10-Channel Fractionated Dipole Transceive Arrays for Body Imaging at 7T. *Proceedings 23rd Scientific Meeting, International Society for Magnetic Resonance in Medicine*; 2015; Toronto, ON.
209. S-M Sohn, DelaBarre L, Gopinath A, Vaughan JT, 2nd Prototype of an Automatic Tune and Match RF Transceive Coil: Design and Evaluation. *Proceedings 23rd Scientific Meeting, International Society for Magnetic Resonance in Medicine*; 2015; Toronto, ON.
210. S-M Sohn, L DelaBarre, JT Vaughan, "Comparisons of RF Signal Tuning and Matching Networks." *Proceedings 23rd Scientific Meeting, International Society for Magnetic Resonance in Medicine*; 2015; Toronto, ON.
211. S-M Sohn, A Gopinath, JT Vaughan, 'On-Coil Power Monitor with a High Directivity Coupler.' *Proceedings 23rd Scientific Meeting, International Society for Magnetic Resonance in Medicine*; 2015; Toronto, ON.
212. J Tian, L DelaBarre, GJ Metzger, JT Vaughan "Impact of Matching Capacitors in SAR Evaluation for a 7T Endo-Rectal Coil." *Proceedings 23rd Scientific Meeting, International Society for Magnetic Resonance in Medicine*; 2015; Toronto, ON.
213. J Tian, Lagore R, Vaughan JT, "Dipole Arrays for MR Head Imaging: 7T Vs. 10.5T". *Proceedings 23rd Scientific Meeting, International Society for Magnetic Resonance in Medicine*; 2015; Toronto, ON.
214. J Tian, Lagore RL, Vaughan JT, "Design considerations for dipole for head MRI at 10.5T." *RF and Wireless Technologies for Biomedical and Healthcare Applications (IMWS-BIO), 2015 IEEE MTT-S 2015 International Microwave Workshop Series on*; 2015 21-23 Sept. 2015.
215. X Wu, D Wang, J Tian, S Schmitter, V Deshpande, JT Vaughan . "Slab-Wise Pulse Design Enhances the Performance of Dual Source Parallel RF Transmission at 3T". *Proceedings 23rd Scientific Meeting, International Society for Magnetic Resonance in Medicine*; 2015; Toronto, ON.
216. Sung-Min Sohn, J. Thomas Vaughan, Michael Garwood, and Djaudat Idiyatullin, "The first demonstration of simultaneous transmit and receive MRI in vivo," *Proceedings 24th Scientific Meeting, International Society for Magnetic Resonance in Medicine*; 2016; Singapore
217. J. Thomas Vaughan, Bert Wang, Djaudat Idiyatullin, **Sung-Min Sohn**, Albert Jang, Lance DelaBarre, and Michael Garwood, "Progress Toward a Portable MRI System for Human Brain Imaging," in *International Society for Magnetic Resonance in Medicine*; Singapore, 2016
218. V. Panda, S.-M. Sohn, J. T. Vaughan, and A. Gopinath, "A Zeroth Order resonant element for MRI transmission line RF coil," in 2016 IEEE International Symposium on Antennas and Propagation (APSURSI), pp. 1389-1390, 2016.

219. Sung-Min Sohn, Michael Garwood, and John Thomas Vaughan, “Automatic RF leakage signal canceler in MRI applications,” in Microwave Symposium Digest (IMS), IEEE MTT-S International, 2017
220. Y Eryaman, R Lagore, A Erturk, L Utrecht, P Zhang, ATorrado-Carvajal, E Turk, L DelaBarre, G Metzger, G Adriany, K Ugurbil, JT Vaughan. "RF Heating Studies on Anesthetized Swine Using Fractionated Dipole Antennas at 10.5T #5576 *Proceedings 25th Scientific Meeting, International Society for Magnetic Resonance in Medicine; 2017; Honolulu, HI, USA*
221. JT Vaughan "The Future of MRI" Progress In Electromagnetics Research (PIERS) 2017, Singapore.
222. Y Eryaman, L Utrecht, D Koski, G Adriany, N. Harel, K Ugurbil, J Vaughan "Investigating the Relationship between CEM43 and Brain Tissue Damage with MRI" #4180 5576 *Proceedings 25th Scientific Meeting, International Society for Magnetic Resonance in Medicine; 2018;Paris,France*
223. Y Eryaman, S Moen, A Grant, G Adriany, K Ugurbil, JT Vaughan "Measuring Radio-Frequency Induced Currents On Metallic Leads Using Parallel Imaging"#4068 *Proceedings 24th Scientific Meeting, International Society for Magnetic Resonance in Medicine;2018; Paris, France*
224. Punith B. Venkate Gowda, Asha Kumara Swamy , Sachin Jambawalikar, John Thomas Vaughan Jr. and Sairam Geethanath, “REconstruction of MR Images acquired in highly inhOmogeneous fields using DEep Learning (REMODEL) , ISMRM-2018
225. Amaresha Shridhar Konar, Vineet Vinay Bhombore , Imam Ahmed Shaik , Seema Bhat , Rajagopalan Sundaresan, Sachin Jambawalikar , Ramesh Venkatesan, John Thomas Vaughan Jr. and Sairam Geethanath, “Deep Learning Reconstruction for Tailored Magnetic Resonance Fingerprinting”, ISMRM – 2018
226. Sairam Geethanath, Julie M. Kabil, John Thomas Vaughan Jr., “Non Invasive Temperature Estimation using machine learning” ISMRM machine learning workshop 2018
227. Keerthi Sravan Ravi, Sairam Geethanath, John Thomas Vaughan Jr., “MR value driven autonomous scanner” ISMRM machine learning workshop 2018
228. Peidong He, Sairam Geethanath, John Thomas Vaughan Jr., “Image Reconstruction database (ImRiD) for machine learning” ISMRM machine learning workshop 2018
229. Sairam Geethanath, Sachin Jambawalikar, Rami Vanguri, Michael Liu, Miriam Klien, Keerthi Sravan Ravi, Guido Buonincontri, Maggie Feng, John Thomas Vaughan Jr., RSNA 2018
231. Qian, E., Poojar, P., Fung, M., Jin, Z., Vaughan, JT., Shrivastava, D., Gultekin, D., and Geethanath, S., “Magnetic resonance fingerprinting thermometry (MRFT) versus PRFS thermometry: comparative temperature prediction in ex vivo bovine muscle,” 2023 ISMRM & ISMRT Annual Meeting & Exhibition. June 2023, Toronto, ON, Canada.
232. Qian, E., Poojar, P., Fung, M., Jin, Z., Vaughan, JT., Shrivastava, D., Gultekin, D., and Geethanath, S., “Magnetic resonance fingerprinting based thermometry (MRFT): application to ex vivo imaging near DBS leads,” BMEII Symposium, Apr 2023, New York City, NY, USA

233. Qian, E., Poojar, P., Fung, M., Jin, Z., Vaughan, JT., Shrivastava, D., Gultekin, D., and Geethanath, S., "Magnetic resonance fingerprinting based thermometry (MRFT): application to ex vivo imaging near DBS leads," ISMRM Workshop on MR Safety, Oct 2022, New York City, NY, USA
234. Qian, E., Poojar, P., Gultekin, D., Vaughan, JT., Shrivastava, D., Jin, Z., Youngerman, BE., and Geethanath, S., "MR thermometry using fingerprinting: application to lead heating," The International Society for Magnetic Resonance in Medicine. May 2022, online.
235. Qian, E., Geethanath, S., Nielsen, JF., and Vaughan, JT., "Rapid open source prototyping of Magnetic Resonance Fingerprinting using Pulseseq to enable multi-site two vendor studies," The International Society for Magnetic Resonance in Medicine 27th meeting & exhibition. May 2019, Montreal, QC, Canada.
- 236 Ravi KS, Manso Jimeno M, Vaughan JT, Geethanath S. Inline artifact identification using segmented acquisitions and deep learning. ISMRM 2022. London, United Kingdom.
- 237 Manso Jimeno M, Vaughan JT, Geethanath S. Reconstruction of MR images acquired in highly inhomogeneous fields using Deep Learning (REMODEL 2.0). ISMRM 2022. London, United Kingdom.
238. Manso Jimeno M, Vaughan JT, Geethanath S. GDCNet: deep learning model for self-consistent geometric distortion correction of EPI images without a field map. Accepted at ISMRM 2023. Toronto, Canada.
- 239.vGDCNet: deep learning model for self-consistent geometric distortion correction of EPI images without a field map Marina Manso Jimeno, John Thomas Vaughan, Sairam Geethanath ISMRM 2022 London
240. REconstruction of MR images acquired in highly inhOmogeneous fields using DEep Learning (REMODEL 2.0) Marina Manso Jimeno, John Thomas Vaughan, Sairam Geethanath
241. Demonstration of an end-to-end open-source pipeline for a spiral based rs-fMRI sequence Marina Manso Jimeno, John Thomas Vaughan, Sairam Geethanath
242. Inline artifact identification using segmented acquisitions and deep learning Keerthi Sravan Ravi, Marina Manso Jimeno, John Thomas Vaughan, Sairam Geethanath ISMRM 2021
243. ArtifactID: identifying artifats in low field MRI using deep learning. Marina Manso Jimeno, Keerthi Sravan Ravi, John Thomas Vaughan, Dotun Oyekunle, Godwin Ogbole, Sairam Geethanath ISMRM 2021
244. Deblurring of spiral fMRI images using deep learning Marina Manso Jimeno, John Thomas Vaughan, Sairam Geethanath ISMRM 2020
245. Open-source Python package for spiral off-resonance correction Marina Manso Jimeno, John Thomas Vaughan, Sairam Geethanath ISMRM 2020

246. Rapid Prototyping of Spiral Based Three-Points Dixon Acquisition and Reconstruction Using Pulseseq Marina Manso Jimeno, Sairam Geethanath, John Thomas Vaughan. ISMRM 2019

247. Ravi, Keerthi Sravan, Gautham Nandakumar, Nikita Thomas, Mason Lim, Enlin Qian, Marina Manso Jimeno, Pavan Poojar, Zhezhen Jin, Patrick Quarterman, Maggie Fung, Girish Srinivasan, John Thomas Vaughan Jr., and Sairam Geethanath. "Accelerated MRI using intelligent protocolling and subject-specific denoising." ISMRM & ISMRT Annual Meeting & Exhibition, 2023.

248. Ravi, Keerthi Sravan, Yun Soung Kim, John Thomas Vaughan Jr., and Sairam Geethanath. "Feasibility of integrating a wearable accelerometer in very low-field MRI to detect motion." ISMRM & ISMRT Annual Meeting & Exhibition, 2023.

249. Ravi, Keerthi Sravan, Marina Manso Jimeno, John Thomas Vaughan Jr., and Sairam Geethanath. "Inline artifact identification using segmented acquisitions and deep learning." Joint Annual Meeting ISMRM-ESMRMB & ISMRT 31st Annual Meeting, 2022.

250. Manso Jimeno, Marina*, Keerthi Sravan Ravi*, John Thomas Vaughan Jr., Dotun Oyekunle, Godwin Ogbole, and Sairam Geethanath. "ArtifactID: identifying artifacts in low field MRI using deep learning." ISMRM & SMRT Annual Meeting & Exhibition, 2021.

251. Ravi, Keerthi Sravan, John Thomas Vaughan Jr., and Sairam Geethanath. "Single board computer as a satellite-linked, deepvlearning capable pocket MR workstation: a feasibility study." ISMRM & SMRT Annual Meeting & Exhibition, 2021.

252. Ravi, Keerthi Sravan, John Thomas Vaughan Jr., and Sairam Geethanath. "PyPulseq in a web browser: a zero footprint tool for collaborative and vendor-neutral pulse sequence development." ISMRM & SMRT Annual Meeting & Exhibition, 2021.

253. Ravi, Keerthi Sravan, Thomas O'Reilly, John Thomas Vaughan Jr., Andrew Webb, and Sairam Geethanath. "Seq2prospa: translating PyPulseq for low-field imaging". ISMRM & SMRT Annual Meeting & Exhibition, 2021.

254. Ravi, Keerthi Sravan, Sairam Geethanath, Girish Srinivasan, Rahul Sharma, Sachin R Jambawalikar, Angela Lignelli-Dipple, and John Thomas Vaughan Jr. "Deep learning Assisted Radiological reportT (DART)". ISMRM & SMRT Virtual Conference & Exhibition, 2020.

255. Ravi, Keerthi Sravan, Sairam Geethanath, Patrick Quarterman, Maggie Fung, and John Thomas Vaughan Jr. "Intelligent protocolling for Autonomous MRI." ISMRM & SMRT Virtual Conference & Exhibition, 2020.

256. . Ravi, Keerthi Sravan, Sairam Geethanath, and John Thomas Vaughan Jr. "Self-administered exam using Autonomous Magnetic Resonance Imaging (AMRI)". ISMRM 27th Annual Meeting & Exhibition. Montreal, Canada, 2019.

257. Ravi, Keerthi Sravan, Sairam Geethanath, and John Thomas Vaughan Jr.. "Autonomous scanning using imr-framework to improve MR accessibility." ISMRM Workshop on Accessible MRI for the World. New Delhi, India, 2019.

258. Ravi, Keerthi Sravan, Sairam Geethanath, Jochen Weber, and John Thomas Vaughan Jr. "MR Value driven Autonomous MRI using imr-framework." ISMRM Workshop on Machine Learning, Part II. Washington DC, USA, 2018.

259. Ravi, Keerthi Sravan, Sairam Geethanath, and John Thomas Vaughan Jr. "imr-framework for rapid design and deployment of non-Cartesian sequences". NYU i2i Workshop 2018. New York, USA, 2018.

260. Wasif Zia, Alexandre R. Franco, J. Thomas Vaughan Jr. Development of a Next Gen 9.4T Magnetic Resonance System for Translational Neuroscience. 12th Annual BMEII Symposium March 20th-21st, New York, 2024.

261. Taylor Froelich , Sebastian Theilenberg , Joseph Bailey , Lance DelaBarre , SteveSuddarth , Daniel Cosmo Pizetta , Mateus José Martins , Edson Luiz Géa Vidoto , RussellLagore , Terence W. Nixon , John P. Strupp ,Jamal Olatunji , Mathieu Szmigiel , Mark Hunter Edgar Rodríguez Ramírez , Mailin Lemke , Chathura Kumaragamage , Huub Weijers , RGilberto Gonzalez , J. Thomas Vaughan , Robin A. de Graaf , Christoph Juchem , Alberto Tannús , Ben Parkinson , Michael Garwood. "Development of a compact head-only scanner with a window and shoulders outsideits vertical bore. " ISMRM 2024

262. . Yunsuo Duan, Feng Liu, Rachel Marsh, Matthew Riddle, Guaraw Patel, Lawrence Kegeles, John Vaughan, Jack Grinband. A Sixteen-channel Elastic Thin RF Coil Array for Whole Brain Concurrent TMS-MRI. ISMRM Proceedings, Toronto, 2024.

264.Carlotta Ianniello, Sebastian Theilenberg, Isabelle Zinghini, Thomas Vaughan, Christoph Juchem. Design and Construction of Integrated MC/RF Hardware for MRI of the Human Brain. #1147 ISMRM Proceedings, Toronto 2024

265. J. Thomas Vaughan. Brain Thermometry: MR Measurements, Modeling and Clinical Applications: Brain Thermal Modeling. ISMRM Proceedings, Toronto, 2024.

266. Manso Jimeno M, Vaughan JT, Geethanath S. GDCNet: deep learning model for self-consistent geometric distortion correction of EPI images without a field map. Accepted at ISMRM 2024. Toronto

265. J. Thomas Vaughan. Brain Thermometry: MR Measurements, Modeling and Clinical Applications: Brain Thermal Modeling. ISMRM Proceedings, Toronto, 2024.

267.J. Thomas Vaughan Jr. Improving Safety Oversight for MRI Across the Globe. ISMRM Proceedings, Honolulu, 2025

268. Sairam Geethanath, Anais Artiges, Tobias Block, Qingping Chen, Tiago F. Fernandes, Sandeep Ganji, William A. Grissom, Daniel Hoinkiss, John Thomas Vaughan Jr., Amaresha Shridhar Kumar, Simon Konstandin, Vasco Mascarenhas, Martijn Nagtegaal, Jon Fredrik Nielsen, Rita G. Nunes, Mojtaba Shafiekhani, Maxim Zaitsev #1971, Proceedings ISMRM Honolulu 2025

269.Yunsuo Duan, Emma Su, Feng Liu, Matthew Riddle, Jack Grinband, John Vaughan Jr. Presenting, Lawrence Kegeles, Rachel Marsh, Gaurav Patel, Automatic Tuning of RF Coils for Concurrent TMS-fMRI Digital Poster, ISMRM 2026

