

Danny J. J. Wang, Ph.D., M.S.C.E.Curriculum VitaeRevised Date: Jan 2024Full Contact:

Professor of Neurology and Radiology  
 Director of Imaging Technology Innovation  
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 Mark & Mary Stevens Neuroimaging and Informatics Institute  
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Education:

1989-1993	B.S. Fu Dan University, Shanghai, China (Biophysics)
1993-1998	Ph.D. University of Science and Technology of China, Beijing, China (Biophysics, advisor: Prof. Lin Chen)
2007-2010	M.S.C.E. (Master of Science in Clinical Epidemiology) University of Pennsylvania, School of Medicine, Philadelphia, PA

Fellowship:

3/99-11/00	Postdoc Research Fellow, Department of Diagnostic Therapeutics, University of Connecticut Health Center, Farmington, CT (Advisor: Song Lai, Ph.D.)
11/00-11/01	Postdoc Research Fellow, Departments of Neurology and Radiology, University of Pennsylvania School of Medicine, Philadelphia, PA (Advisor: John Detre, M.D.)
11/01-9/03	Research Associate, Departments of Neurology and Radiology, University of Pennsylvania School of Medicine, Philadelphia, PA

Professional Experience:

9/03-2/10	Research Assistant Professor, Department of Radiology, University of Pennsylvania School of Medicine, Philadelphia, PA
1/06-2/10	Research Assistant Professor, Department of Neurology, University of Pennsylvania School of Medicine, Philadelphia, PA
2/11-2/13	Adjunct Associate Professor, Department of Radiology, University of Pennsylvania School of Medicine, Philadelphia, PA
2/10-6/15	Associate Professor-in-Residence, Department of Neurology, UCLA David Geffen School of Medicine, Los Angeles, CA
2/11-6/15	Associate Professor-in-Residence (secondary), Department of Radiology, UCLA David Geffen School of Medicine, Los Angeles, CA
7/15-6/16	Professor-in-Residence, Department of Neurology, UCLA David Geffen School of Medicine, Los Angeles, CA
7/15-6/16	Professor-in-Residence (secondary), Department of Radiology, UCLA David Geffen School of Medicine, Los Angeles, CA

6/12-6/17	Executive Director, UCLA-Beijing Joint Center for Advanced Brain Imaging
6/16-6/17	Adjunct Professor, Department of Neurology, UCLA David Geffen School of Medicine, Los Angeles, CA
6/16-present	Professor, Department of Neurology, Keck School of Medicine, University of Southern California, Los Angeles, CA
6/16-present	Director of Imaging Technology Innovation, Mark & Mary Stevens Neuroimaging and Informatics Institute, Keck School of Medicine, University of Southern California, Los Angeles, CA
6/16-present	Professor (secondary), Department of Radiology, Keck School of Medicine, University of Southern California, Los Angeles, CA

Professional Activities:

2004-present	Developed and disseminated through Siemens C2P agreement ASL pulse sequences to ~300 imaging centers around the world (ranked top C2Ps), widely used in NIH and industry sponsored clinical studies/trials
2004-present	External reviewer for Hong Kong RGC (Research Grants Council)
2006	NICHD Special Emphasis Panel CHHD-C
2008	NSF Cognitive Neuroscience Advisory Panel
2008	External reviewer for Strategic Grant, MRC UK
2009	External reviewer for BBSRC fellowship grant, BBSRC, UK
2010	Consultant for Pfizer, Inc. Groton, CT
2010-present	Director of Laboratory of fMRI Technology (LOFT <a href="http://www.loft-lab.org">www.loft-lab.org</a> )
2011-2012	NIH Special Emphasis Panel ZRG1 OTC-K, ZDA1 GXM-A
2010-2012	UCLA Department of Neurology Graduate Education Committee
2011-2016	Legislative Assembly Member   UCLA Academic Senate
2013	NIH Study Section MEDI
2013-2016	UCLA Department of Neurology Appoint & Promotion committee
2015	Graduate Summer Research Mentorship (GSRM) Program Fellowship Review Committee
2015-2017	NIH Study Section NOIT
2015	Consultant for Novartis, Inc. Basel, Switzerland
2016-2018	Consultant for Biogen IDEC and Bioclinica, Newark, CA
2017-2018	ISMRM Ad hoc committee on standards in quantitative MRI
2017	External reviewer for Netherlands Organisation for Scientific Research (NWO)
2018	NIH Special Emphasis Panel ZRG1 ETTN-K (02)
2017-2018	Certificate – Deep Learning, a 5-course specialization by deeplearning.ai on Coursera.
2019	NIH Special Emphasis Panel ZRG1 IFCN-L (70) R, ITD
2019	ISMRM Member-Initiated Symposium: Mapping BBB Permeability: From Contrast- to Non-Contrast-Enhanced Imaging (Sole organizer and moderator)
2019-present	ISMRM, AHA and AAPM conference abstract reviewer
2019	Neuroimage Oct issue cover article

2019	Organizer of first Southern California (SoCal) High-Low (Hi-Lo) Field MRI workshop
2019	Organizing Committee for ISMRM endorsed International Workshop on Arterial Spin Labeling MRI
2019	External reviewer for Wellcome Trust, UK
2020	External reviewer for Dutch Heart Foundation, Czech Science Foundation, Medical Research Council (MRC) of UK, Geneva University Hospitals and Faculty of Medicine Research Foundation
2020	Award committee of NYC Neuromodulation 2020 online conference and organizer of symposium “Real-time MRI of neuromodulation”
2020-2021	NIH Study Section EITN, EITA and Special Emphasis Panel ZMH1 ERB-S (08) R, ZMH1 ERB-Q (04) R,
2020	Chair of Young Investigator Award committee, OCSMRM
2020-2023	ISMRM Ad hoc committee on publication
2021	ISMRM Member-Initiated Symposium: Real-time MRI of neuromodulation (Sole organizer and moderator)
2021-2023	ISMSM Perfusion Study Group Secretary, Vice Chair, Chair
2021-2022	Chair of Organizing Committee for ISMRM sponsored workshop “MRI in Neuromodulation: Target Engagement, Neuromechanism and Biomarker Development”
2021-2022	Organizing Committee for ISMRM sponsored workshop “Perfusion MRI: from head to toe”
2021-2023	ISMRM Ad hoc committee on education
2021	Ad hoc reviewer for the DoD Congressionally Directed Medical Research Programs (CDMRP).
2021	External reviewer for MUI-START program Innsbruck University, Austria
2022	ISMRM Member-Initiated Symposium: Perfusion MRI for Mapping Neurofluid Circulation and Exchange (Organizer and moderator)
2022	Organizer of second Southern California (SoCal) High-Low (Hi-Lo) Field MRI workshop
2021-2022	Charter member of NIH study section EITN
2023	External reviewer for Dutch Research Council (NWO) and Swiss National Science Foundation
2023-	ISMRM Ad hoc committee on study groups
2023-	Initiator of 7T Translational Alliance of North America (7TANA.org) and host of kickoff event

#### Awards, Honors and Membership in Honorary Societies:

1990-93	People’s Scholarship
1997	HongKong Dong’s Scholarship
2012-present	Outstanding Reviewer for MRM and JMRI – ISMRM
2014	ISMRM Junior Fellow (Mentor)
2014-present	ISMRM Summa Cum Laude, Magna Cum Laude (Mentor)
2015-2017	OHBM Merit Abstract Award (Mentor)

2018	ISMRM Moore Young Investigator Award (Finalist mentor)
2018-2019	Top downloaded papers in <i>Magn Reson Med</i> by Wiley
2019	Editor's pick for May issue of <i>Magn Reson Med</i>
2019	Cover article of Oct issue of <i>Neuroimage</i>
2021	ISMRM Junior Fellow (Mentor)
2021-2023	ISMSM Perfusion Study Group Secretary, Vice Chair, Chair
2021	OCSMRM Outstanding Contribution Award
2021	ISMRM High Field Study Group Video Challenge Awardee
2022-2023	OCSMRM Board of Trustees
2022	ISMRM Fellow
2023	ISMRM Rabi Young Investigator Award (Finalist mentor)
2023	Top downloaded papers in <i>Alzheimer's &amp; Dementia</i> by Wiley
2023	Editor's pick for May and Dec issue of <i>Magn Reson Med</i>

International Society of Magnetic Resonance in Medicine (Member 1998-present)  
 Organization of Human Brain Mapping (Member 1999-present)  
 American Association of Physicists in Medicine (Member 2015-present)  
 American Heart Association (Member 2017-present)  
 Institute of Electrical and Electronics Engineers (Member 2020-present)

#### Editorial Positions:

2011	Guest Editor, Special issue of <u>Journal of Cognitive Science</u>
2014-present	Editorial Board Member <u>Frontiers in Neuroscience</u> and <u>Frontiers in Neurology</u>
2014	Guest Editor, Special issue of <u>BioMed Research International</u> "Resting Brain Networks and Function"
2017	Guest Editor, Special issue of <u>Frontiers in Neuroscience</u> "Advances in multiscale analysis of brain complexity"
2020-2021	Guest Editor, Special issue of <u>Frontiers in Neuroscience</u> "Cerebrovascular imaging — from micro- to macroscopic scales"
2020-2021	Guest Editor, Special issue of <u>Frontiers in Neuroscience</u> "Multiparametric perfusion MRI using arterial spin labeling"
2023-present	Guest Editor, Special issue of <u>Frontiers in Neuroscience</u> "Methodological Development and Applications of Nonlinear Dynamic Analysis for Neuroimaging"
2020-present	Associate Editor, <u>Frontiers in Neuroscience - Brain Imaging Methods</u>
2021-present	Editorial Board Member <u>Entropy</u>
2023-present	Editorial Board Member <u>NeuroImage</u>
2023-present	Editorial Board Member <u>iRadiology</u>

#### Ad hoc Reviewer:

2002-present	<u>Magnetic Resonance in Medicine</u> , <u>NMR in Biomed.</u>
2004-present	<u>American Journal of Respiratory and Critical Care Medicine</u> , <u>Neuroscience Letters</u>
2005-present	<u>Journal of Cerebral Blood Flow and Metabolism</u> , <u>IEEE Transaction on Medical Imaging</u> , <u>Journal of the International Neuropsychological</u>
2007-present	<u>NeuroImage</u> , <u>Stroke</u> , <u>Neuropsychopharmacology</u> , <u>Journal of Magnetic Resonance Imaging</u>

2008-present Psychoneuroendocrinology, American Journal of Neuroradiology  
 2010-present Medical Physics; American Journal of Psychiatry, Human Brain Mapping, American Journal of Psychiatry  
 2011-present European Neurology, Journal of Neuroscience, Translational Stroke Research, MAGMA, PNAS  
 2012-present Brain Connectivity, Psychopharmacology, Frontiers Psychology, Psychiatric Research: Neuroimaging  
 2013-present PLoS One, Neuroradiology  
 2015-present Biological Psychiatry, Brain Imaging and Behavior, PeerJ, Journal of Neurology, Neurosurgery, & Psychiatry, Frontiers in Neuroscience and Neurology  
 2016-present Brain Stimulation, International Journal of Imaging Systems and Technology, Brain and Behavior, Lupus, Science in China, Scientific Report, Journal of Neurosci Method, Nature Communications, Magnetic Resonance Imaging  
 2017-present Sleep, Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring, The Open Neuroimaging Journal  
 2018-present Journal of Clinical Neuroscience, BMC Medical Imaging, Nature Communications, Yale Journal of Biology and Medicine, Journal of Neurointerventional Surgery, Journal of Neurodevelopment Disorder, Acta Radiologica Open  
 2019-present Depression & Anxiety, Neurobiology of Aging, Journal of Alzheimer's Disease, Multiple Sclerosis and Related Disorders, Physics in Biology and Medicine  
 2020-present IEEE Journal of Selected Topics in Signal Processing, Journal of Neurology, Cerebral Cortex, AAPM annual conference abstract, Medical Image Analysis  
 2021-present European Journal of Neurology, Frontier Aging Neurosci, Postgraduate Medical Journal, Life, Chinese Medical Journal  
 2022-present Journal of Neuro-Oncology, Molecules, CNS Neurosci & Therapeutics; IEEE TBME; QMRI  
 2023-present Annals of Clinical and Translational Neurology, Acta Radiologica, Heliyon, Aging and Disease

### Teaching:

Faculty in UCLA Bioengineering Graduate Program	2010-2016
Faculty in UCLA Biomedical Physics Graduate (BMP) Program	2011-2016
Faculty in UCLA Neuroscience Inter-Department Graduate Program (IDP)	2012-2016
Faculty in USC Biomedical Engineering (BME) Program	2016-present

### Courses:

1. ISMRM annual meeting weekend education courses	2008-2009
2. UCLA, Advanced topics in MRI (resident course)	2010-2012
3. UCLA Advances in MRI: Clinical MRS & Fast MRI Techniques (BMP222)	2011-2014
4. UCLA Quantitative MRI and Contrast Agents (BMP225)	2012-2014
5. UCLA Human Diseases: Current and Future Role of Biomedical Physics (BMP227)	2014-2016
6. UCLA Advanced Topics in MRI (BMP229)	2014

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|-----|--|--------------|
| 7.  | UCLA CTSI short course on translational neuroimaging                   | 2013-2014    |
| 8.  | Ethics and Accountability in Biomedical Research (C234)                | 2015-2016    |
| 9.  | Neuroimaging and Neuromodulation (BE298)                               | 2015-2016    |
| 10. | Principles of Neuroimaging (M284)                                      | 2016         |
| 11. | NIIN 510: Fundamentals of Human Functional and Structural Neuroimaging | 2016         |
| 12. | NIIN 598: Neuroimaging and informatics seminar series                  | 2017-present |
| 13. | NIIN 530: Neuroimaging data acquisition with MRI                       | 2017-present |
| 14. | ISMRM annual meeting weekend education courses                         | 2023         |

Research Grants and Fellowships Received (total over \$39M as PI and MPI):

**Active:**

RF1AG084072                                      Wang/Shi/Jiang (MPI)                                      9/1/23 - 8/31/28

Imaging Cerebral Small Vessels in VCID

This project will develop and evaluate novel imaging biomarkers of cerebral small vessels in vascular cognitive impairment and dementia (VCID) Asian American, Caucasian, African American and Latinx cohorts.

Role: Principal Investigator

RF1NS122028                                      Gold/Wang (MPI)                                      02/01/22-1/31/2025

Reduced BBB Water Exchange as a Preclinical Biomarker of Small Vessel Disease

This project will evaluate a new metric of BBB water exchange rate (kw) as a preclinical biomarker of cerebral small vessel disease in a longitudinal cohort of aged subjects.

Role: Co-Principal Investigator

U01NS100614                                      Wang/Ringman/Kashani (MPI)                                      9/30/21 - 7/31/26

Validation of Imaging and Blood-based Small Vessel VCID Biomarkers in Multiethnic Population

This project will validate imaging and fluid biomarkers of vascular cognitive impairment and dementia (VCID) related to small vessel disease (SVD) within the MarkVCID consortium in Caucasian, African American and Latinx cohorts.

Role: Principal Investigator

U01EB029823                                      LV Wang/DJ Wang (MPI)                                      09/1/20-8/31/25

Massively parallel high-speed 3D functional photoacoustic CT of the adult human brain

This BRAIN project will develop the first high-speed 3D functional photoacoustic CT (PACT) of the adult human brain.

Role: Co-Principal Investigator

R01AG066711                                      Jann/Wang (MPI)                                      04/01/20-3/31/2025

Complexity of FMRI in Alzheimer's Disease

This project will develop and evaluate biomarker for Alzheimer's disease based on the complexity or regularity of resting state functional magnetic resonance imaging (fMRI).

Role: Co-Principal Investigator

R01NS114382                                      Wang (PI)                                      02/01/20-01/31/25

BBB Permeability Imaging in CADASIL

This US-China Biomedical Research Collaboration project will investigate the role of BBB in the initiation and progression of SVD, in a unique cohort of Chinese patients with genetically defined SVD (CADASIL)

Role: Principal Investigator

R01EB028297 Wang (PI) 07/01/19-03/31/24

Multiband ASL for Neurodevelopment Study

This project will develop and evaluate accelerated 2D and 3D multiband acquisitions for multi-delay pCASL in children.

Role: Principal Investigator

R01EB028297-S1 Wang (PI) 07/01/20-03/31/23

Multiband ASL for Alzheimer's disease

This project will develop and evaluate accelerated 2D and 3D multiband acquisitions for multi-delay pCASL in elderly subjects with mild cognitive impairment and mild AD.

Role: Principal Investigator

R01EB032169 Wang (PI) 07/01/21-6/30/25

Laminar Perfusion Imaging

This project will develop and evaluate ASL based laminar perfusion imaging at 7T

Role: Principal Investigator

R44-EB024438 Alger/Wang (MPI) 08/1/2020 - 05/31/2024

Novel Algorithms for Reducing Radiation Dose of CT Perfusion

SBIR phase 2 project to develop and evaluate novel dose reduction algorithms for CT perfusion data.

Role: Co-Principal Investigator

RF1AG078362 Yassine (PI) 09/2022 – 08/2025

Effect of diabetes and AD pathology on brain imaging and cognition in Latino adults

The goal of this grant is to evaluate the relationship between type II diabetes status and the brain's response to glucose ingestion in non-demented older adults.

Role: Co-Investigator

R01AG082073 Nation (PI) 04/2023 – 03/2028

Locus Coeruleus Imaging Markers in Preclinical Alzheimer's disease, Cerebrovascular Disease and Cognitive Decline

This 3-site longitudinal study will examine the trajectory of changes in brain imaging markers of the locus coeruleus and how they relate to changes in cognition and Alzheimer's biomarkers.

Role: Co-Investigator

R01AG058648 Daiello (PI) / Wang (Sub-PI) 05/01/19-02/29/24

Blood-Brain Barrier Disruption as a Biomarker for Perioperative Neurocognitive Disorder:

Cognitive Recovery after Elective Surgery

The proposed research will increase understanding of the underlying reasons for these harmful and costly events, and will lay essential groundwork for development of future interventions to improve the cognitive safety of major surgery for older adults.

Role: USC Subaward-PI

P01AG052350                      Zlokovic/Toga (MPI)                      05/2022 – 04/2027  
 Vascular contributions to dementia and genetic risk factors for Alzheimer's disease  
 Program project to study imaging and molecular biomarkers of neurovascular dysfunction in individuals at genetic risk for AD both familial and sporadic.  
 Role: Co-Investigator

R01AG058162                      Marmarelis/Chui (MPI)                      07/01/18-06/30/24  
 Model-based cerebrovascular markers extracted from hemodynamic data for diagnosing MCI or AD and predicting disease progression.  
 This project will evaluate cerebral hemodynamics, using transcranial Doppler and Near Infrared Spectroscopy, can provide a biomarker of MCI and AD pathophysiology and progression.  
 Role: Co-Investigator

R01NS114628                      Hong (PI)                      08/15/20-08/14/24  
 Lifespan Vascular Biology on White Matter  
 This project will study the lifespan vascular biology of white matter in Amish cohort using multi-modality imaging.  
 Role: Co-Investigator

R01AG060049                      Nation (PI)                      08/01/19- 04/30/24  
 Cerebrovascular Resistance in Cognitive Aging and Alzheimer's Disease Risk  
 This project will study the cerebrovascular resistance in aging and AD using multi-modality imaging.  
 Role: Co-Investigator

R01AG058648                      Daiello (PI)                      05/01/19-02/29/24  
 Blood-Brain Barrier Disruption as a Biomarker for Perioperative Neurocognitive Disorder: Cognitive Recovery after Elective Surgery  
 The proposed research aims to study older adults undergoing major surgeries using noncontrast BBB imaging.  
 Role: Co-Investigator

**Past:**

R56NS09593                      Ress (PI)                      7/15/21-6/30/23  
 Measurements and modeling of the hemodynamic response function in human cerebral cortex  
 We propose further development of a novel model for the transient delivery of oxygen to brain tissue, test and validate the model's predictions against precise local measurements of functional MRI contrast and flow changes induced by brief neural stimulation.  
 Role: Co-Investigator

USC Core Instrumentation Grant                      Wang (PI)                      2/1/22- 1/31/23  
 A flexible body array for 7T Terra  
 This grant supports the acquisition of an 8Tx/8Rx flexible body array coil for 7T Terra at USC Stevens Neuroimaging and Informatics Institute.  
 Role: Principal Investigator

R13EB033693                      Wang (PI)                      07/01/22-6/30/2023  
 ISMRM Workshop on MRI of Neuromodulation



This project will support the first ISMRM Workshop on MRI of Neuromodulation hosted at NIH campus on Oct 17-19, 2022.

Role: Principal Investigator

UH3NS100614 Wang/Ringman/Kashani (MPI) 10/1/16-9/30/21

Imaging Cerebral and Retinal Microvasculature in Cerebral Small Vessel Disease

This project aims to develop and evaluate MRI and OCTA markers of small vessel diseases

Role: Principal Investigator

U01MH110008 Narr/Wang/Espinoza (MPI) 9/2/16-8/31/21

Perturbation of the Treatment Resistant Depression Connectome by Fast-acting Therapies

This project aims to investigate connectome changes in patients with treatment resistant depression using the HCP protocol.

Role: Co-Principal Investigator

U01-AG051218 Ringman (PI) 9/1/15-8/31/21

NIA The structural and functional connectome across Alzheimer's disease subtypes

This Connectome in Human Disease project investigates structural and functional connectome across Alzheimer's disease subtypes

Role: Co-Investigator

R01 MH111896 Bikson (PI) / Wang (Sub-PI) 9/01/16-6/30/21

NIMH (BRAIN project) Software package for dose optimization of tDCS

This project aims to develop, optimize and validate a cloud based software package for simulating and optimizing tDCS dose.

Role: USC Subaward-PI

R01NR016463 Pike/Kumar (MPI) 09/01/16-05/31/20

Cerebral Artery Integrity Linked to Brain Injury and Cognition in Congenital Heart Disease

The purpose of this study is to examine brain mean arterial transit time values and compare regional changes in MD values between CHD and age and gender match control subjects.

Role: Co-Investigator

R61MH110526 Narr/Wang (MPI) 07/10/2017 - 06/30/2020

Imaging-guided tDCS therapy in major depression

This project aims to optimize and evaluate MRI guided tDCS therapy in patients with major depression.

Role: Co-Principal Investigator

S10OD025312 Wang (PI) 08/1/2018 - 07/31/2020

NOVA PTX Coil for Ultrahigh Field MRI

Shared instrument grant to purchase NOVA 8Tx/32Rx head coil for Siemens 7T Terra

Role: Principal Investigator

R41-EB024438 Wang (PI) 08/1/2017 - 07/31/2020

A Novel System for Reducing Radiation Dose of CT Perfusion

STTR phase 1 project to develop and evaluate a novel dose reduction technique for CT perfusion data.

Role: Principal Investigator

- R01NR015038 Kumar (PI) 4/1/15-1/31/19  
 NINR Blood-Brain Barrier Deficit and Brain Injury in Obstructive Sleep  
 To investigate BBB injury in obstructive sleep using diffusion weighted perfusion MRI and diffusion MRI.  
 Role: Co-Investigator
- R01 EB014922 Wang (PI) 12/14/12-11/30/18  
 NIBIB Non-contrast 4D dynamic MRA in arteriovenous malformation  
 This project will develop and validate a non-contrast 4D dynamic MRA technique for the evaluation of arteriovenous malformation.  
 Role: Principal Investigator
- R01NR014669 Woo/Kumar (PI) 9/12/14-6/30/18  
 NINR Blood-Brain Barrier Dysfunction and Brain Injury in Heart Failure  
 To investigate BBB injury in heart failure using diffusion weighted perfusion MRI and diffusion MRI.  
 Role: Co-Investigator
- U01 HD087221 Devaskar, Janzen, Sung (PI) 10/1/15-6/30/16  
 NICHD Imaging Innovations for Placental Assessment in Response to Environmental Pollution  
 This project will develop and evaluate noninvasive MRI of placenta throughout pregnancy.  
 Role: Co-Investigator
- U01AG052564 Van Essen et. al. (PIs) 8/19/16-5/31/17  
 NIA Mapping the human connectome during typical aging  
 This is the second phase Human Connectome Project to map the human connectome during typical aging  
 Role: Consultant for ASL development and application
- R01NS081077 Wang (PI) 9/1/12-8/31/16  
 NINDS Arterial spin labeling in acute ischemic stroke  
 To evaluate ASL perfusion MRI in the diagnosis of acute ischemic stroke (AIS).  
 Role: Principal Investigator
- CDPH 13-12008 Ringman/Wang (MPI) 05/01/13-4/30/16  
 CDPH ASL perfusion and resting state fMRI in FAD  
 This California state funded project will evaluate ASL perfusion and resting state fMRI in familial AD  
 Role: Co-Principal Investigator
- R01 MH080892 Wang (PI) 4/15/09-6/30/15  
 NIMH Pediatric template of brain perfusion  
 To develop a functional template or atlas of the normal pediatric brain using arterial spin labeling perfusion MRI.  
 Role: Principal Investigator
- Biogen Idec Wang (PI) 05/01/13-04/30/15  
 Development and Optimization of Renal MRI in Lupus Nephritis

This industry sponsored project will develop and optimize diffusion, perfusion, BOLD and T1rho MRI for kidney imaging in Lupus Nephritis and healthy controls.

Role: Principal Investigator

Restrepo (PI)

05/01/14-04/30/15

Pfizer Inc A PHASE 2 R DB PC TRAIL TO EVALUATE THE SAFETY, TOLERABILITY, PHARMACOKINETICS & EFFICACY OF PF-04360

This industry sponsored project will evaluate a novel agent for cerebral amyloid angiopathy using MRI.

Role: Co-Investigator

Wang (PI)

11/01/12-10/31/14

Siemens Healthcare Development and Evaluation of 3D GRASE pCASL

This industry sponsored project will develop and evaluate 3D GRASE based pCASL on the new Skyra system.

Role: Principal Investigator

UCLA CART Pilot grant

Wang (PI)

7/1/13-6/30/14

NIH Perfusion and Connectivity in ASD

This pilot project will explore ASL perfusion MRI and functional connectivity analysis in autism spectrum disorder.

Role: Principal Investigator

HHSN275200900018C

Holland/Toga (MPI)

1/1/11-12/31/13

NICHD Pediatric Functional Neuroimaging Research Network

This project attempts to acquire and develop a database for resting state fMRI and ASL perfusion MRI in children 1mo to 17years old.

Role: Co-Investigator

US-China Biomedical Collaboration Project

R01 MH080892-04S1

Wang (PI)

7/1/12-6/30/13

NIMH Pediatric template of brain perfusion and connectivity

To investigate the relationship between CBF and structural and functional connectivity of pediatric brain using perfusion, diffusion, structural and functional MRI.

Role: Principal Investigator

Wang (PI)

05/01/12-04/30/13

Biogen Idec

Development and Optimization of Renal MRI

This industry sponsored project will develop and optimize diffusion, perfusion, BOLD and T1rho MRI for kidney imaging.

Role: Principal Investigator

R01 MH080892-S1 (ARRA)

Wang (PI)

10/1/09-9/30/12

NIMH Pediatric template of brain perfusion

To develop an integrated structural and functional template or atlas of pediatric brain using perfusion, diffusion, structural and functional MRI.

Role: Principal Investigator

Wang (PI)

06/01/09-05/30/12

Thrasher Research Fund      Noninvasive Perfusion MRI in Pediatric Brain Tumor  
 This project explores the feasibility for the use of ASL as a biomarker of pediatric brain tumor.  
 Role: Principal Investigator

P50 AG016570-11A      Wang (PI)      05/01/10-04/30/12  
 UCLA ADRC Pilot      Quantitative Perfusion and Oxygenation MRI in MCI and AD  
 This project attempts to validate quantitative perfusion and oxygenation MRI with 15O-water and FDG PET in MCI and AD subjects.  
 Role: Principal Investigator

R01DA022807      Gee (PI)      05/1/08-04/30/11  
 NIMH      Advanced neuroimaging registration methods: effects of prenatal cocaine exposure  
 To develop advanced image registration methods for analysis of perfusion, diffusion and structural MRI of adolescents with prenatal cocaine exposure.  
 Role: Co-Investigator

P30NS045839      Detre (PI)      04/01/03-11/30/13  
 NINDS      Neuroscience Neuroimaging Center  
 This Center Core Grant provides infrastructure support for neuroimaging research.  
 Role: Co-Investigator

R01 MH080729      Detre (PI)      12/01/07-11/30/10  
 NIH      Perfusion MRI for Multisite Studies of Brain Function  
 This project will develop and validate scaleable 3D MRI pulse sequences for imaging cerebral blood flow on multiple scanner platforms.  
 Role: Co-Investigator

P41RR002305-20      Reddy (PI)      06/01/05-05/31/10  
 NIH      A Resource for Magnetic Resonance and Optical Imaging  
 To develop innovative MR and optical technologies for biomedical research.  
 Role: Co-Investigator

R01 DA014129      Hurt (PI)      5/1/07 – 4/30/12  
 NIDA      In Utero Cocaine Use: Adolescent and Young Adult  
 Neurocognitive Outcome Understanding long-term effects of in-utero cocaine use using neuroimaging and behavioral methods.  
 Role: Co-Investigator

R01 NS057400      Cucchiara (PI)      10/1/07 – 9/30/11  
 NIH      Circle of Willis variability and migraine  
 To test the hypothesis that Circle of Willis variability is associated with migraine pathophysiology.  
 Role: Co-Investigator

R01AT004921      Cohen (PI)      5/1/09-4/30/14  
 NIH      Lifestyle Modification and blood Pressure Study (LIMBS)  
 RCT to test the effect of a structured 24 week yoga program on hypertension  
 Role: Co-Investigator

R21MH72576 Wang (PI) 01/01/05-11/30/07  
 NIMH Pediatric Template of Brain Perfusion  
 To explore the development a functional template or atlas of the normal pediatric brain using arterial spin labeling perfusion MRI.  
 Role: Principal Investigator

R21 HD049893 Wang (PI) 09/15/05-09/14/08  
 NICDH Hemodynamic Neuroimaging of Pediatric Stroke  
 To evaluate perfusion and diffusion MRI in the diagnosis and prognosis of pediatric stroke.  
 Role: Principal Investigator

Thrasher Research Fund Wang (PI) 02/01/04-1/31/06  
 ASL Perfusion MRI in Pediatric Brain Stroke  
 Role: Principal Investigator

Lectures by Invitation (total >100 including >50 international):

- Oct 20, 2023 “Mapping Blood-Brain Barrier Dysfunction in Neurological Diseases” – 35<sup>th</sup> annual conference of Society for MRA, Sendai, Japan
- Oct 19, 2023 “Vessel Density Mapping with High Resolution Black Blood MRI” – 35<sup>th</sup> annual conference of Society for MRA, Sendai, Japan
- June 7, 2023 “Blood-Brain Barrier Dysfunction in Neurological Diseases” – Invited education talk at ISMRM annual meeting, Toronto, Canada
- May 13, 2023 “7T ASL perfusion MRI – methods and applications” – Invited talk at Siemens ultrahigh field summit, Shanghai, China
- May 3, 2023 “Imaging morphology and function of cerebral small vessels at 3 and 7T” – Invited talk at UC Riverside, Riverside, CA
- Feb 14, 2023 “Imaging morphology and function of cerebral small vessels at 3 and 7T” – Invited virtual talk at Krembil Brain Institute, Toronto Western Hospital, University Health Network, Canada
- Jan 17, 2023 “Imaging morphology and function of cerebral small vessels at 3 and 7T” – Invited talk at Tsinghua University, Beijing, China
- Jan 16, 2023 “Multi-model imaging biomarkers of cerebral small vessel disease” – Invited talk at Chaoyang Hospital of Capital Medical University, Beijing, China
- Jan 10, 2023 “Imaging morphology and function of cerebral small vessels at 3 and 7T” – Invited talk at Shanghai Technology University, Shanghai, China
- Jan 9, 2023 “Multi-model imaging biomarkers of cerebral small vessel disease” – Invited talk at Huashan Hospital of Fudan University, Shanghai, China
- Dec 5, 2022 “Imaging morphology and function of cerebral small vessels at 3 and 7T” – Invited virtual talk at University of Arizona
- Nov 4, 2022 “Imaging BBB water exchange with diffusion weighted arterial spin labeling” – Invited talk at 10th International Congress on MRI & 27th Annual Scientific Meeting of the KSMRM, Seoul, Korea
- Nov 2, 2022 “Imaging morphology and function of cerebral small vessels at 3 and 7T” – Invited talk at Seoul National University, Seoul, Korea
- Nov 1, 2022 “Imaging morphology and function of cerebral small vessels at 3 and 7T” – Invited talk at Konkuk University Hospital, Seoul, Korea
- Oct 31, 2022 “Imaging morphology and function of cerebral small vessels at 3 and 7T” – Invited talk at Kyung Hee University Hospital, Seoul, Korea

- Oct 18, 2022 “Concurrent mapping of electromagnetic field and neurophysiological effects of tDCS using MRI” – Invited talk at ISMRM workshop on MRI of Neuromodulation, NIH Bethesda, MA
- Aug 26, 2022 “Mentor-Mentee relationship” – 34<sup>th</sup> annual conference of Society for MRA, UCLA
- Aug 24, 2022 “Imaging Cerebral Small Vessel in Latinx and African American Populations” – 34<sup>th</sup> annual conference of Society for MRA, UCLA
- July 22, 2022 “Imaging BBB water exchange with diffusion weighted arterial spin labeling” – 10<sup>th</sup> annual meeting of International Society of Neurovascular Disease (ISNVD), New York University
- June 7, 2022 “Perfusion MRI at Ultrahigh Field” – Invited virtual talk at Johns Hopkins University F.M. Kirby Center Lecture Series in High Field MR.
- Mar 19, 2022 “Perfusion MRI at Ultrahigh Field” – ISMRM high field workshop, Lisbon, Portugal
- Mar 7, 2022 “Perfusion MRI at Ultrahigh and Low Field” – ISMRM perfusion workshop: from head to toe, Los Angeles, CA
- Nov 9, 2021 “Imaging BBB water exchange with diffusion weighted arterial spin labeling” – virtual Symposium for Translational MR Research at National University of Singapore
- July 9, 2021 “High resolution neurovascular imaging at 7T” – Congress of the Society of Brain Mapping & Therapeutics (SBMT), Los Angeles, CA
- Jun 21, 2021 “Concurrent mapping of electromagnetic field and neurophysiological effects of tDCS using MRI” – Invited talk at annual virtual conference of Organization of Human Brain Mapping (OHBM)
- Nov 2, 2020 “High resolution ASL perfusion MRI at 7T” – Online talk at Siemens high field workshop
- April 28, 2020 “High resolution neurovascular imaging with ASL and MRA at 3 and 7T” – Online talk at Overseas Chinese Society of Magnetic Resonance Medicine (OCSMRM)
- Sept 13, 2019 “Mapping subtle BBB permeability changes with contrast and noncontrast MRI” – Invited talk at 4<sup>th</sup> workshop of International Consortium of Physiology MRI, Johns Hopkins Univ, Baltimore, MD
- Mar 10, 2019 “ASL perfusion MRI in the body” – Invited talk at University of Michigan International Workshop on Arterial Spin Labeling MRI, Ann Arbor, MI
- Dec 14, 2018 “ASL perfusion MRI in cerebrovascular and neurodevelopmental disorders” – Invited talk at Nationwide Children’s Hospital, Columbus, OH
- Oct 29, 2018 “Emerging MRI Markers of cerebrovascular disorders” – Invited talk at Tsinghua Neuroimaging Symposium, Tsinghua University, Beijing, China
- Oct 28, 2018 “Development and applications of ASL perfusion MRI in brain and body organs” – Invited talk at Siemens Magnetom Prisma Alliance workshop, Beijing, China
- Jun 4, 2018 “Noncontrast MRI Perfusion and Low Dose CT Perfusion” – Invited talk at the Institute of Advanced Technologies, Chinese Academy of Sciences, Shenzhen, China
- Jun 1, 2018 “Perfusion MRI – the battle between DSC and non-contrast ASL” – Invited talk at the 28<sup>th</sup> International Society of Neurovascular Disorders, Zhengzhou, Henan, China
- May 4, 2018 “Multi-modal MRI biomarkers in cerebral small vessel diseases” – Invited talk at China Stroke Conference, Beijing, China
- Apr 28, 2018 “Multi-modal MRI biomarkers in cerebral small vessel diseases” – Invited talk at Huashang Hospital, Medical School of Fudan Univ, Shanghai, China
- Jan 25, 2018 “Multi-modal MRI biomarkers in cerebral small vessel diseases” – Invited talk at International Stroke Conference, Los Angeles, CA

- Jan 22, 2018 “Imaging Cerebral and Retinal Microvasculature in Cerebral Small Vessel Disease” – Invited talk at the meeting of the MarkVCID consortium, Los Angeles, CA
- Oct 25, 2017 “7T Terra and its applications in cerebral small vessel diseases” – Invited talk at Beijing Center of MRI Research, Institute of Biophysics, Chinese Academy of Sciences, Beijing, China
- Oct 23, 2017 “ASL perfusion MRI in cerebral small vessel diseases” – Invited talk at Department of Radiology, Beijing PLA Hospital, Beijing, China
- Oct 12, 2017 “ASL perfusion MRI in cerebral small vessel diseases” – Invited talk at 2<sup>nd</sup> Leducq Transatlantic Consortium meeting, University of Southern California, Los Angeles
- Oct 6, 2017 “In vivo mapping of electromagnetic and neurophysiological effects of tDCS using MRI” – Invited talk at NM Neuromodulation meeting, University of New Mexico, Albuquerque, NM
- Oct 5, 2017 “ASL perfusion MRI in cerebral small vessel diseases” – Invited talk at Mind Research Network, University of New Mexico, Albuquerque, NM
- Apr 18, 2017 “ASL perfusion MRI in stroke and cerebrovascular disorders” – Invited talk at 14<sup>th</sup> annual congress of Society for Brain Mapping and Therapeutics (SBMT), Los Angeles, CA
- Feb 20, 2017 “Imaging Cerebral and Retinal Microvasculature in Cerebral Small Vessel Disease” – Invited talk at the Kickoff meeting of the MarkVCID consortium, Houston, TX
- Dec 1, 2016 “Quantitative perfusion and functional MRI in the era of connectome” – Invited talk at Interdisciplinary Institute of Neuroscience and Technology, Zhejiang University (ZIINT), Hangzhou, Zhejiang, China
- Nov 30, 2016 “ASL perfusion MRI and dynamic MRA” – Invited talk at Department of Radiology, Xuanwu Hospital, Beijing, China
- Aug 30, 2016 “Noncontrast perfusion MRI and dynamic MRA in cerebrovascular disorders” – Invited talk at Huntington Memorial Research Institute, Pasadena, CA
- May 14, 2016 “ASL perfusion MRI in stroke and cerebrovascular disorders” – Invited talk at Qianjiang Radiology Workshop, Zhejiang University, Hangzhou, China
- Nov 23, 2015 “Quantitative perfusion and functional MRI in the era of connectome” – Invited talk at Biomedical Research Imaging Center (BRIC), University of North Carolina at Chapel Hill, Chapel Hill, NC
- Nov 22, 2015 “Quantitative perfusion and functional MRI in the era of connectome” – Invited talk at Department of Radiology, Johns Hopkins University, Baltimore, MD
- Nov 21, 2015 “ASL perfusion MRI and dynamic MRA” – Invited talk at Department of Radiology, Johns Hopkins University, Baltimore, MD
- July 22, 2015 “Overview of SMS in arterial spin labeling – the battle between 3D and 2D SMS” – Invited talk at ISMRM simultaneous multi-slice (SMS) workshop, Pacific Grove, CA
- June 3, 2015 “Assessing relationship between intracranial vascular compliance and aortic pulse wave velocity” – Oral presentation at 23<sup>rd</sup> ISMRM conference educational session “Quantitative Physiology”, Toronto, Canada
- June 1, 2015 “Postischemic hyperperfusion is related to hemorrhagic transformation in patients with acute ischemic stroke” – Oral presentation at 23<sup>rd</sup> ISMRM conference educational session “Quantitative Physiology”, Toronto, Canada
- May 30, 2015 “Vascular permeability imaging and quantitative ASL” – Invited talk at 23<sup>rd</sup> ISMRM conference educational session “Quantitative Physiology”, Toronto, Canada
- April 28, 2015 “Utility of imaging outcome in multi-center SLE trial” – Invited talk at Novartis Biomarker Summit, Boston, MA
- April 27, 2015 “Multi-modal renal fMRI in lupus nephritis” – Invited talk at Biogen IDEC, Boston, MA

- Mar 8, 2015 “Intracranial vascular compliance and perfusion in aging and dementia” – Invited talk at 2015 Congress of the Society of Brain Mapping & Therapeutics (SBMT), Los Angeles, CA
- Mar 7, 2015 “Arterial spin labeling based noncontrast dynamic MR angiography” – Invited talk at ISMRM workshop on noncontrast MRA, Long Beach, CA
- Aug 26, 2014 “Arterial spin labeling perfusion MRI and dynamic MR angiography” – Invited talk at Wayne State University, Detroit, MI
- June 30, 2014 “Characterization of resting and behavioral states using perfusion and BOLD fMRI” – Invited talk at Multimodal Neuroimaging Training Program (MNTP), University of Pittsburgh, PA
- March 1, 2014 “Characterization of resting and behavioral states using perfusion and BOLD fMRI” – Invited talk at Hangzhou Normal University, Hangzhou, China
- Oct 22, 2013 “Arterial spin labeling perfusion MRI and dynamic MR angiography” – Invited talk at University of Southern California, Los Angeles, CA
- April 22, 2013 “Multi-Delay Multi-Parametric Arterial Spin-Labeled Perfusion MRI in Acute Ischemic Stroke – Comparison with Dynamic Susceptibility Contrast Enhanced Perfusion Imaging” – Oral presentation at 21th ISMRM annual meeting, Salt Lake City, Utah
- March 14, 2013 “Characterization of resting and behavioral states using perfusion and BOLD fMRI” – Invited talk at Indiana University Center for Neuroimaging, Indianapolis, IN
- March 13, 2013 “Translation of arterial spin labeling perfusion MRI and angiography in neurologic disorders” – Invited talk at Indiana University Center for Neuroimaging, Indianapolis, IN
- March 4, 2013 “Complexity of resting state fMRI in aging and dementia” – Invited talk at 3<sup>rd</sup> Pacific Rim Neuroimaging Conference, Oahu, HI
- Dec 16, 2012 “ASL perfusion fMRI” – Invited talk at OCSMRM/CSMRM and ISMRM International Outreach Workshop, Xiamen, China
- Sept 10, 2012 “Multi-delay multi-parametric ASL perfusion MRI in acute ischemic stroke – comparison with dynamic susceptibility contrast (DSC) enhanced MRI” – Proffered talk at ISMRM perfusion workshop, Amsterdam, Netherland
- June 8, 2012 “Arterial spin labeling perfusion MRI” – Invited talk at Cedars-Sinai Hospital, Los Angeles, CA
- May 10, 2012 “Non-contrast dMRA with dynamic golden angle radial acquisition and k-space weighted imaging contrast (KWIC)” – Oral presentation at 20<sup>th</sup> ISMRM annual meeting, Melbourne, Australia
- May 8, 2012 “Arterial spin labeling perfusion MRI in CNS drug development and applications” – Invited kiosk talk at ISMRM MRI in drug development study group, Melbourne, Australia
- Sept 8, 2011 “Arterial spin labeling perfusion MRI - present and future” “Non-contrast 4D dynamic MRA and flow imaging” – Invited talks at Biomedical institute, National Polytechnic Institute, Mexico City, Mexico
- May 12, 2011 “Arterial Spin-Labeled Perfusion Imaging in Acute Ischemic Stroke – Comparison with Dynamic Susceptibility Contrast Enhanced MRI.” Presentation at 19th Annual Meeting ISMRM, Montréal, Canada
- May 5, 2011 “Recent developments of arterial spin labeling” – Invited talk at Siemens workshop on ASL, Erlangen, Germany
- Sept 15, 2010 “Perfusion fMRI using arterial spin labeling” – Invited talk at University of California Berkeley, Berkeley, CA



- Sept 15, 2010 “Pediatric perfusion MRI using arterial spin labeling” – Invited talk at Children’s Hospital of Los Angeles (CHLA), Los Angeles, CA
- Aug 18, 2010 “Characterizing stress states using perfusion and resting fMRI” – Invited talk at The 7th International Conference on Cognitive Science (ICCS2010), Beijing, China
- Jun 11, 2010 “Translation of arterial spin labeling perfusion MRI” – Invited talk at Center for Applied Medical Research, University of Navarra, Pamplona, Spain
- Jun 7, 2010 “Translation of arterial spin labeling perfusion MRI” – Invited talk at Karolinska Institute, Stockholm, Sweden
- Jan 11, 2010 “Latest technical development and clinical applications of ASL” – Invited talk at University of Texas Health Center at San Antonio, San Antonio, TX
- Nov 13, 2009 “Latest technical development and clinical applications of ASL” – Invited talk at Washington University, St Louis, MO
- Oct 19, 2009 “Latest technical development and clinical applications of ASL” – Invited talk at Tsinghua University, Beijing, China
- Oct 17, 2009 “Latest technical development and clinical applications of ASL” – Invited talk at National Seoul University, Seoul, Korea.
- July 1, 2009 “Arterial spin labeling - perfusion and beyond” – Invited talk at Ahmanson Lovelace Brain Mapping Center of UCLA, Los Angeles, CA
- May 27, 2009 “Arterial spin labeling - perfusion and beyond” – Invited talk at Neuroimaging lab, NIDA, Baltimore, MD
- May 8, 2009 “Technical development and applications of ASL perfusion MRI” – Invited talk at University of Kentucky, Lexington, KY
- April 20, 2009 “When perfusion meets diffusion – in vivo measurement of water permeability” – Invited talk at perfusion and diffusion study group, 17<sup>th</sup> ISMRM annual conferences, Honolulu, Hawaii
- April 18, 2009 “Can we measure perfusion in patients?” – Invited educational talk at 17<sup>th</sup> ISMRM annual conferences, Honolulu, Hawaii
- Oct 23, 2008 “Updates on latest development in ASL perfusion MRI” – Invited talk at Oxford centre for functional magnetic resonance imaging of the brain, Oxford university, Oxford, UK
- July 9, 2008 “Noninvasive perfusion MRI – from bench to bedside” – Invited talk at Brain Imaging Analysis Center, Duke Medical Center, Durham, NC
- July 2, 2008 “Noninvasive perfusion MRI – from bench to bedside and biomarker for drug discovery” – Invited talk at biomedical imaging consortium, Singapore
- May 3, 2008 “Applications of ASL perfusion MRI” – Invited educational talk at 16<sup>th</sup> ISMRM annual conferences, Toronto, Canada
- Oct 15, 2007 “ASL perfusion MRI in neuroimaging of stroke and stress” – Invited talk at University of Pittsburgh Medical Center, Pittsburgh, PA
- July 29, 2007 “Dynamic time course of water exchange across the blood-brain barrier revealed by diffusion weighted perfusion MRI” – Proffered talk at ISMRM workshop of perfusion and brain function, Salvador, Brazil
- July 31, 2007 “ASL perfusion MRI in cerebrovascular diseases” – Invited lecture at ISMRM workshop of perfusion and brain function, Salvador, Brazil
- May 16, 2007 “New frontiers in perfusion fMRI” – Invited lecture at University Hospital of Clinical Psychiatry, University of Bern, Switzerland
- Nov 16, 2006 “New frontiers in perfusion fMRI” – Invited lecture at Rochester Center for Brain Imaging, University of Rochester, Rochester NY
- Aug 8, 2006 “New advances in arterial spin labeling perfusion fMRI” – Invited lecture at Institute of Neuroscience, Chinese Academy of Sciences, Shanghai.

- May 4, 2006 “Perfusion fMRI of psychological stress” – Invited lecture at Rockefeller University, New York.
- Feb. 7, 2006 “Pediatric perfusion MRI using arterial spin labeling” – Invited lecture at Lawson Health Research Institute, London ON, Canada
- Jun. 29, 2005 “Perfusion fMRI in Cognitive Neuroscience” – Invited lecture at Singapore General Hospital, Singapore
- Jun. 12, 2005 “Perfusion fMRI in Cognitive Neuroscience” – Invited lecture at State Key Laboratory of Cognitive Brain Imaging, Chinese Academy of Science, Beijing, China
- May 18, 2005 “Perfusion fMRI reveals cerebral blood flow pattern under psychological stress” – 13<sup>th</sup> International Society of Magnetic Resonance in Medicine meeting, Miami.
- Apr. 29, 2005 “New frontiers in perfusion fMRI” – Invited lecture at Medical College of Wisconsin, Milwaukee, WI
- Sept 9, 2004 “New frontiers in perfusion fMRI” – Invited lecture at Emory University, Atlanta, GA
- June 20, 2004 “To spoil or not to spoil the labeling – transit time imaging in pulsed arterial spin labeling” – 12<sup>th</sup> International Society of Magnetic Resonance in Medicine meeting, Kyoto, Japan
- June 19, 2003 “Application of perfusion fMRI” – 10<sup>th</sup> Annual Conference of the Organization of Human Brain Mapping, New York
- July, 14, 2003 “Pediatric perfusion imaging using pulsed arterial spin labeling” – 11<sup>th</sup> International Society of Magnetic Resonance in Medicine meeting, Toronto
- July, 15, 2003 “Transit time imaging with flow encoding arterial spin tagging (FEAST)” – 11<sup>th</sup> International Society of Magnetic Resonance in Medicine meeting, Toronto.
- June, 11, 2002 “Comparison of Quantitative Perfusion Imaging using Arterial Spin Labeling at 1.5 and 4.0 Tesla” – 10<sup>th</sup> International Society of Magnetic Resonance in Medicine meeting, Hawaii.

Meeting session moderated/organized:

- June 3, 2023 Role of MRI in Epilepsy Surgery & Neuromodulation – ISMRM annual conference
- Oct 19, 2022 Application of neuromodulation in psychiatric disorders – ISMRM workshop on MRI of Neuromodulation (Chair of workshop and moderator)
- May 20, 2021 Pulse sequence II – 29<sup>th</sup> virtual ISMRM annual conferences (Poster facilitator)
- May 18, 2021 Member-Initiated Symposium: Real time MRI of Neuromodulation in human brain – 29<sup>th</sup> virtual ISMRM annual conferences (Sole organizer and moderator)
- April 22, 2020 Real time MRI of neuromodulation in human brain – symposium at NYC Neuromodulation 2020 online conference (Sole organizer and moderator)
- April 20, 2020 Fast presentation competition at NYC Neuromodulation 2020 online conference (Judge)
- May 16, 2019 Member-Initiated Symposium: Mapping BBB Permeability: From Contrast- to Non-Contrast-Enhanced Imaging– 27<sup>th</sup> ISMRM annual conferences, Montreal, Canada (Sole organizer and moderator)
- March 9-10, 2019 University of Michigan International Workshop on Arterial Spin Labeling MRI, Ann Arbor, MI
- Apr 24, 2017 Cerebrovascular Disease: Intracranial & Extracranial – 25<sup>th</sup> ISMRM annual conferences, Honolulu, Hawaii
- Mar 8, 2015 Neurovascular Imaging in Stroke and Dementia – Congress of the Society of Brain Mapping & Therapeutics (SBMT), Los Angeles, CA
- Aug 18, 2010 Symposium on arterial spin labeling perfusion MRI - The 7th International Conference on Cognitive Science (ICCS2010), Beijing, China

April 23, 2009 Arterial spin labeling techniques session - 17<sup>th</sup> ISMRM annual conferences,  
Honolulu, Hawaii

July 31, 2007 Clinical applications of perfusion MRI – ISMRM workshop of perfusion and brain  
function, Salvador, Brazil

Publication/Bibliography (total over 250):

Google Scholar *H*-index = 77, total citations > 22,000

<http://scholar.google.com/citations?user=10iNskYAAAAJ&hl=en>

<https://www.ncbi.nlm.nih.gov/sites/myncbi/danny.wang.1/bibliography/40511333/public/?sort=date&direction=descending>

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Research Publications, peer reviewed:

1. **J. Wang**, Y. Jin, F. Xiao, S. Fan and L. Chen. (1999) Attention-Sensitive Event-Related Potentials Elicited by Kinetic Forms. *Clin. Neurophysio.* **110**: 329-341.
2. **J. Wang**, T. Zhou, M. Qiu, A. Du, K. Cai, Z. Wang, C. Zhou, M. Meng, Y. Zhuo, S. Fan and L. Chen. (1999) Relationship between Ventral Stream for Object Vision and Dorsal Stream for Spatial Vision: an fMRI+ERP Study. *Human Brain Mapping* **8**(4): 170-181.
3. S. Lai, **J. Wang**, G.H. Jahng. (2001) FAIR exempting separate T1 measurement (FAIREST): a novel technique for online quantitative perfusion imaging and multi-contrast fMRI. *NMR in Biomed.* **14**:507-516.
4. R.L. Wolf, D.C. Alsop, M.L. McGarvey, J.A. Maldjian, **J. Wang**, J.A. Detre (2003) Susceptibility Contrast and Arterial Spin Labeled Perfusion MRI in Cerebrovascular Disease. *J. Neuroimage* **13**(1): 17-27.
5. **J. Wang**, D.C. Alsop, L. Li, J. Listerud, J.B. Gonzalez-At, M.D. Schnall and J.A. Detre (2002) Comparison of Quantitative Perfusion Imaging using Arterial Spin Labeling at 1.5 and 4.0 Tesla. *Magn. Reson. Med.* **48**:242-254.
6. T.F. Floyd, S.J. Ratcliffe, **J. Wang**, B. Resch, J.A. Detre. (2003) Precision of the CASL-perfusion MRI technique: global and regional cerebral blood flow within vascular territories at one hour and one week. *J. Mag. Reson. Imag.* **18**:649-655.
7. **J. Wang**, G.K. Aguirre, D.Y. Kimberg, J.A. Detre (2003) Empirical analyses of null-hypothesis perfusion fMRI data at 1.5 and 4.0 Tesla. *Neuroimage.* **19**(4):1449-1462.
8. **J. Wang**, D.C. Alsop, H.K. Song, J.A. Maldjian, K. Tang, A.E. Salvucci, J.A. Detre. (2003) Transit time imaging with flow encoding arterial spin tagging (FEAST). *Magn. Reson. Med.* **50**(3):599-607.

9. **J. Wang**, G.K. Aguirre, D.Y. Kimberg, A.C. Roc, L. Li, J.A. Detre (2003) Arterial spin labeling perfusion fMRI with very low task frequency. *Magn. Reson. Med.* **49**: 796-802.
10. Y. Zhuo, T. Zhou, H. Rao, **J. Wang**, M. Meng, M. Chen, C. Zhou, L. Chen (2003) Contributions of the visual ventral pathway to long range apparent motion. *Science* **299** (17): 417-420.
11. **J. Wang**, L. Li, A.C. Roc, D.C. Alsop, K. Tang, N. Butler, M.D. Schnall and J.A. Detre (2004) Reduced susceptibility effect in perfusion fMRI using single-shot spin-echo EPI acquisitions. *Magn. Reson. Imag.* **22**:1-7.
12. T. Durduran, G. Yu, M.G. Burnett, J.A. Detre, J.H. Greenberg, **J. Wang**, C. Zhou, A.G. Yodh (2004) Diffuse optical measurement of blood flow, blood oxygenation and metabolism in a human brain during sensorimotor cortex activation. *Optics Letters*, **29**(15): 1766-1768
13. **J. Wang**, D.J. Licht, G.H. Jahng, C.S. Liu, J.T. Rabin, J. Haselgrove, R.A. Zimmerman and J.A. Detre (2004) Pediatric perfusion imaging using pulsed arterial spin labeling. *J. Magn. Reson. Imag.* **18**(4):404-413.
14. **J.Wang**, Z. Wang, G.K. Aguirre, J.A. Detre (2004) To smooth or not to smooth? – ROC analysis of perfusion fMRI data. *Magn. Reson. Imag.* **23**: 75-81
15. D.J. Licht, **J. Wang**, D.W. Silvestre, S.C. Nicolson, L.M. Montenegro, S. Tabbutt, S.M. Durning, M. Shabbout, D.M. Shera, J.W. Gaynor, T.L. Spray, R.R. Clancy, R.A. Zimmerman, J.A. Detre (2004) Preoperative Cerebral Blood Flow is Diminished in Neonates with Severe Congenital Heart Defects. *J. Thoracic & Cardiovascular Surgery*. **128**: 841-849
16. **J. Wang**, H. Rao, G.S. Wetmore, P.M. Furlan, M. Korczykowski, D.F. Dinges, J.A. Detre (2005) Perfusion functional MRI reveals cerebral blood flow pattern under psychological stress. *Proceedings of the National Academy of Sciences of U.S.A.* **102**:17804-17809.
17. A. Newberg, **J. Wang**, H. Rao, R.L. Swanson, J.S. Karp, A. Alavi, J.H. Greenberg, N. Wintering, J.A. Detre (2005) Concurrent CBF and CMRGlc Changes During Human Brain Activation by Combined fMRI-PET Scanning. *Neuroimage* **28**: 500-506
18. M. Fernández-Seara, Z. Wang, **J.Wang**, H. Rao, M. Guenther, D.A. Feinberg, J.A. Detre (2005) Continuous arterial spin labelling perfusion measurements using single shot 3D GRASE at 3T *Magn. Reson. Med.* **54**: 1241-1247
19. R.L. Wolf, **J. Wang**, S. Wang, E.R. Melhem, D.M. O'Rourke, K.D., Judy, J.A. Detre (2005) Grading of CNS neoplasms using continuous arterial spin labeled perfusion MRI at 3 Tesla. *J. Magn. Reson. Imag.* **22**: 475-482
20. Z. Wang, **J.Wang**, J.A. Detre (2005) An improved data reconstruction method for GRAPPA. *Magn. Reson. Med.* **54**: 738-742
21. Y. Zhang, H.K. Song, **J. Wang**, A. Techawiboonwong, F.W. Wehrli (2005) Spatially confined arterial spin labeling with FAIR *J. Magn. Reson. Imag.* **22**(1): 119-124

22. Z. Wang, **J.Wang**, T. Connic, G. Wetmore, J.A. Detre (2005) Continuous ASL perfusion MRI with an array coil and parallel imaging at 3T. *Magn. Reson. Med.* **54**: 732-737
23. K.S. Lawrence, **J.Wang** (2005) Effects of the apparent transverse relaxation time on cerebral blood flow measurements obtained by arterial spin labeling. *Magn. Reson. Med.* **53**:425-433
24. **J. Wang**, Y. Zhang, R.L. Wolf, A.C. Roc, D.C. Alsop and J.A. Detre (2005) Amplitude modulated continuous arterial spin labeling perfusion MRI with single coil at 3.0 Tesla- feasibility study. *Radiology* **235**:218-228
25. A.C. Roc, **J. Wang**, B.M. Ances, D.S. Liebeskind S.E. Kasner, J.A. Detre (2006) Altered Hemodynamics and Regional Cerebral Blood Flow in Patients with Hemodynamically Significant Stenoses. *Stroke* **37**:382-387
26. **J. Wang**, D.J. Licht, D.W. Silvestre, J.A. Detre (2006) Why Perfusion in Neonates with Congenital Heart Defects is Negative? -- Technical Issues Related to Pulsed Arterial Spin Labeling. *Magn. Reson. Imag.* **24**: 249-254
27. Z. Wang, **J.Wang**, V. Calhoun, H. Rao, J.A. Detre A.R. Childress (2006) Strategies for reducing large fMRI data sets for independent component analysis. *Magn. Reson. Imag.* **24**:591-596
28. H. Rao, **J. Wang**, K. Tang, W. Pan, J.A. Detre (2006) Imaging Brain Activities during Natural Vision by ASL Perfusion fMRI. *Human Brain Mapping* **28**(7):593-601
29. S. Wang, R.L. Wolf, J. Woo, **J. Wang**, D. O'Rourke, R. Subhojit, E.R. Melhem, H Poptani (2006) Actinomycotic Brain Abscess: Combined Findings of Diffusion, Perfusion and MR Spectroscopy. *Neuroradiology* **48**:346-50.
30. B.M. Ances, A.C. Roc, **J. Wang**, M. Korczykowski, J. Okawa, J. Stern, J. Kim, R. Wolf, K. Lawler, D.L. Kolson, J.A. Detre (2006) Caudate blood flow and volume are reduced in HIV<sup>+</sup> neurocognitively impaired patients. *Neurology* **66**: 862-866
31. C.E. Jones, R.L. Wolf, J.A. Detre, B. Das, P.K. Saha, **J. Wang**, Y. Zhang, H.K. Song, A.L. Wright, E.R. Mohler III, R.M. Fairman, E.L. Zager, O.C. Velazquez, M.A. Golden, H.D. Aronow, F.W. Wehrli (2006) Unilateral spin labeling provides detailed information on the hemodynamics of brain blood flow in patients with carotid artery disease before and after endarterectomy. *NMR in Biomedicine* **19**: 198-208
32. J. Kim, J. Whyte, **J. Wang**, H. Rao, K. Tang, J.A. Detre (2006) Continuous ASL perfusion fMRI investigation of higher cognition: quantification of tonic CBF changes during sustained attention and working memory tasks. *Neuroimage* **31**:376-385
33. I.R. Olson, H. Rao, K. Sledge, **J. Wang**, J.A. Detre, G.K. Aguirre (2006) Continuous Sequence Learning Studied with Perfusion fMRI *Brain and Cognition* **60**:262-271
34. W.-C. Wu, M.A. Fernández-Seara, J.A. Detre, F.W. Wehrli, **J. Wang** (2007) A theoretical and experimental investigation of the tagging efficiency of pseudo-continuous arterial spin labeling. *Magn. Reson. Med.* **58**(5):1020-7

35. Z. Wang, A.R. Childress, **J. Wang**, J.A. Detre (2007) Support vector machine learning-based fMRI data group analysis. *Neuroimage* **36**(4):1139-1151
36. S. Chawla, S. Wang, R.L. Wolf, J.H. Woo, **J. Wang**, D.M. O' Rourke, K.D. Judy, M.S. Grady, E.R. Melhem, H. Poptani (2007) Arterial Spin Labeling and Magnetic Resonance Spectroscopy in Differentiation of Gliomas *AJNR* **28**(9):1683-9
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1. Noninvasive Perfusion MRI on the Horizon **J. Wang**, D.J. Licht, R.L. Wolf *Medical Imaging* 2007 May.

Patents:

1. Noninvasive 4D time-resolved dynamic MRA (US 10,470,676 B2)
2. Systems and methods for reducing radiation dose of CT (US10772579B2; EP3302282B1)
3. A novel method for measuring water exchange across blood-brain barrier using MRI (US11826134B2)

\* Founded perfusion fMRI website ([www.cfn.upenn.edu/perfusion](http://www.cfn.upenn.edu/perfusion)) and LOFT lab ([www.loft-lab.org](http://www.loft-lab.org)). Written and disseminated (through agreement with Siemens and UPenn/UCLA/USC Technology Transfer Center) ASL pulse sequences to approximately 300 imaging sites around the world

\* Developed software package for complexity of resting state fMRI (<http://www.fil.ion.ucl.ac.uk/spm/ext/#Complexity>)

\* Co-Founder of Translational MRI, LLC to facilitate the translation of cutting-edge imaging technologies in clinical trials, attracted investment to develop post-processing software for analyzing ASL data, and received FDA 510(k) clearance in March 2023.

\* Co-Founder of Hura Imaging, LLC to develop and market low dose CT imaging technologies, awarded NIH Phase 1 STTR award R41-EB024438 and Phase 2 SBIR R44-EB024438, and received FDA 510(k) clearance in Nov 2021.

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