Date of Document: February 11, 2026

CURRICULUM VITAE

Andrew S. Nencka PhD

Center Director, Professor
Department of Radiology
Division of Research

OFFICE ADDRESS:

MRI Research Building
8701 Watertown Plank Rd
Milwaukee, WI 53226
Phone: 414-955-4766

EDUCATION:

08/2000 - 06/2004 BS, Mathematics and Physics, Marquette University, Milwaukee, WI
07/2004 - 06/2009 PhD, Biophysics, Medical College of Wisconsin, Milwaukee, WI
03/2007 General Electric EPIC MRI Pulse Programming Course, Waukesha, WI
11/2010 Bruker ParaVision MRI Pulse Programming Course, Bilerica, MA
09/2020 Siemens IDEA and ICE Programming

POSTGRADUATE TRAINING AND FELLOWSHIP APPOINTMENTS:

07/2009 - 04/2011 Research Scientist, Department of Biophysics and the Center for Imaging Research, Medical College of Wisconsin, Milwaukee, WI

MILITARY SERVICE:

NA

FACULTY APPOINTMENTS:

04/2011 - 06/2018 Assistant Professor, Department of Biophysics, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226
09/01/2014 - 06/2018 Assistant Professor, Radiology, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226
07/2018 - 07/2025 Associate Professor, Biomedical Engineering, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226
07/2018 - 07/2025 Associate Professor, Biophysics, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226
07/2018 - 07/2025 Associate Professor, Radiology, Medical College of Wisconsin, 8701 Watertown Plank Rd, Milwaukee, WI 53226
07/2025 - Present Tenured Professor, Radiology, Research, Medical College of Wisconsin, 8701 Watertown Plank Rd., Milwaukee, WI 53226

ADMINISTRATIVE APPOINTMENTS:

NA

EDUCATIONAL ADMINISTRATIVE APPOINTMENTS:

NA

HOSPITAL AND CLINICAL ADMINISTRATIVE APPOINTMENTS:

NA

RESEARCH ADMINISTRATIVE APPOINTMENTS:

10/18/2016 - 12/01/2021 Associate Director, Center for Imaging Research, Medical College of Wisconsin, 8701 Watertown Plank Rd., Milwaukee, WI 53226
12/01/2021 - 04/01/2025 Operations Director, Center for Imaging Research, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226
04/01/2025 - Present Director, Center for Imaging Research, Medical College of Wisconsin, 8701 Watertown Plank Rd, Milwaukee, WI 53226

HOSPITAL STAFF PRIVILEGES:

NA

SPECIALTY BOARDS AND CERTIFICATION:

Board Certified	Issue Date	Expiration
NA		None

AWARDS AND HONORS:

08/2000 - 06/2004 Marquette University Ignatius Scholarship for Academic Excellence, Marquette University
06/2003 Karioris Award for the Outstanding Junior in Physics, Marquette University
01/2004 - 06/2004 John R. Wooden Award Scholarship, Marquette University
05/2005 - 05/2007 Student Travel Award, Medical College of Wisconsin
05/2008 International Society for Magnetic Resonance in Medicine Student Stipend Award, International Society for Magnetic Resonance in Medicine
07/2010 Outstanding Dissertation Award, Medical College of Wisconsin
07/01/2016 Faculty Service Award, Medical College of Wisconsin
11/01/2017 Outstanding Graduate School Educator Award, Medical College of Wisconsin
11/01/2018 Outstanding Graduate School Educator Award, Medical College of Wisconsin
07/01/2023 Office of Research Outstanding Service Award, Medical College of Wisconsin

MEMBERSHIPS IN HONORARY AND PROFESSIONAL SOCIETIES:

08/2002 - Present Sigma Pi Sigma Physics Honor Society (Member)
01/2005 - 07/2009 International Society of Magnetic Resonance in Medicine (Student Member)
07/2009 - Present International Society of Magnetic Resonance in Medicine (Member)
01/01/2017 - Present Radiological Society of North America (Member)

EDITORSHIPS/EDITORIAL BOARDS/JOURNAL REVIEWS:

Journal Review

2009 - Present Medical Physics
2009 Proceedings of the Indiana Academy of Science
2010 Journal of Statistical Software
2011 - Present Brain Connectivity
2013 - Present Journal of Magnetic Resonance Imaging
2016 - Present PLoS One
2017 - Present Magnetic Resonance Imaging

LOCAL/REGIONAL APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

NA

NATIONAL ELECTED/APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

NA

INTERNATIONAL ELECTED/APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

NA

RESEARCH GRANTS/AWARDS/CONTRACTS/PROJECTS:

Active

Peer Review

Title:	ABCD-USA Consortium: UWM Site
Source:	NIH/CRAN (U01 DA041025)
Role & Effort:	Investigator
PI:	Krista Lisdahl
Dates:	07/15/2017 - 03/31/2027
Direct Funds:	$973,485
Title:	Emotion Regulation in Complicated Grief
Source:	NIH Mental Health (R01MH122490)
Role & Effort:	Co-Investigator
PI:	Joseph Goveas
Dates:	02/15/2020 - 01/31/2025
Direct Funds:	$1,673,546
Title:	Prostate Cancer Radio-Pathomics for Differentiating Clinically Significant Disease
Source:	NIH NCI (R01CA249882)
Role & Effort:	Co-Investigator
PI:	Peter LaViolette
Dates:	03/01/2021 - 02/28/2026
Direct Funds:	$1,947,523
Title:	Characterizing Potential Chronic Brain Health Effects of Concussion and Repetitive Head Impact Exposure: The CARE-SALTOS Integrated (CSI) Study
Source:	Indiana University/The Medical Technology Enterprise Consortium (MTEC), Advanced Technology International (ATI) and U.S. Army Medical Research Acquisition Activity (USAMRAA)
Role & Effort:	Co-Investigator
PI:	Thomas McAllister and Michael McCrea
Dates:	09/21/2021 - 11/21/2026
Direct Funds:	$2,595,092
Title:	CAREScan Mobile Cancer Screening Center of Excellence
Source:	United States Economic Development Administration
Role & Effort:	Co-Investigator
PI:	Mara Lord
Dates:	10/01/2024 - 09/31/2027
Direct Funds:	$9,183,000
Title:	Image Guided Therapies for Personalized Medicine
Source:	United States Economic Development Administration
Role & Effort:	Site PI
PI:	Andrew Nencka
Dates:	10/01/2024 - 09/31/2029
Direct Funds:	$1,200,000

Non-Peer Review

Title:	Advances in MRI-Based Dynamic Visualization and Improved MAVRIC SL MRI of the Instrumented Spine
Source:	GE Healthcare
Role & Effort:	Co-Investigator
PI:	Kevin Koch and Andrew Nencka
Dates:	12/08/2023 - 12/07/2025
Direct Funds:	$211,322

Title:	Contrast Enhanced Imaging Assessment on the Hyperfine Swoop
Source:	Hyperfine
Role & Effort:	Principal Investigator
PI:	Andrew Nencka
Dates:	01/25/2024 - 11/30/2024
Direct Funds:	$8,476

Title:	Assessment of Contrast-Enhanced MRI Performance Using the Hyperfine Swoop Portable System
Source:	Soref Pilot Award
Role & Effort:	Principal Investigator
PI:	Andrew Nencka
Dates:	02/23/2024 - 02/23/2025
Direct Funds:	$5,000

Title:	Applications of Deep Learning to Enhance SPACE MSI Metal Artifact Reduction
Source:	Siemens Medical Solutions USA, Inc
Role & Effort:	Co-Investigator
PI:	Kevin Koch and Andrew Nencka
Dates:	07/01/2024 - 06/30/2026
Direct Funds:	$160,000

Title:	Clinical Validation of Prototype Acquisitions
Source:	Hyperfine
Role & Effort:	Principal Investigator
PI:	Andrew Nencka
Dates:	10/30/2024 - 10/29/2025
Direct Funds:	$22,600

Prior

Peer Review

Title:	The NCAA-DOD Grand Alliance: Concussion Assessment, Research and Education (CARE)
Source:	Indiana University/The Department of Defense
Role & Effort:	Co-Investigator
PI:	Thomas McAllister, Steven Broglio and Michael McCrea
Dates:	09/15/2014 - 09/04/2019

Direct Funds:	$4,990,526

Title:	Comprehensive Study of Acute Effects and Recovery After Concussion
Role & Effort:	Co-Investigator
PI:	Michael McCrea
Dates:	09/30/2014 - 12/29/2019
Direct Funds:	$4,208,052

Title:	Project Head to Head 2
Source:	Department of Defense
Role & Effort:	Co-Investigator
PI:	Michael McCrea
Dates:	04/01/2015 - 03/31/2018
Direct Funds:	$4,623,687

Title:	The Epilepsy Connectome Project
Source:	NIH/NINDS (U01 NS093650)
Role & Effort:	Co-Investigator
PI:	Jeffrey Binder
Dates:	09/01/2015 - 06/30/2019
Direct Funds:	$4,115,741

Title:	The Alzheimers Disease Connectome Project
Source:	NIH/NIA (U01 AG051216)
Role & Effort:	Co-Investigator
PI:	Shi-Jiang Li
Dates:	04/01/2016 - 09/30/2020
Direct Funds:	$4,906,569

Title:	Brain Cancer Radio-Pathomics for Predicting Heterogeneous Cytology
Source:	NIH/NIBIB (R01 CA218144)
Role & Effort:	Co-Investigator
PI:	Peter LaViolette
Dates:	06/09/2017 - 05/31/2023
Direct Funds:	$1,250,000

Title:	The Role of Neuroactive Kynurenine Metabolites in the Chronic Sequelae of Concussion and Contact Sport Exposure
Source:	NIH Neurological Disorders and Stroke (R01NS102225)
Role & Effort:	Co-Investigator
PI:	Timothy Meier
Dates:	12/01/2017 - 11/30/2022
Direct Funds:	$1,159,382

Title:	Alzheimer’s Disease Radio-Pathomics
Source:	NIH NCI (R01 CA218144)
Role & Effort:	Co-Investigator
PI:	Peter LaViolette
Dates:	06/01/2018 - 05/31/2019
Direct Funds:	$81,168

Title:	Service Academy Longitudinal TBI

	Outcomes Study (SALTOS)
Source:	Indiana University/DoD Army Medical Research Acquisition
Role & Effort:	Co-Investigator
PI:	Paul Pasquina, Thomas McAllister, and Michael McCrea
Dates:	07/01/2018 - 06/30/2022
Direct Funds:	$565,933

Title:	Cumulative and Persistence Intermediate Effects of Concussion and Head Impact Exposure in CARE Consortium Military Service Academy Members and NCAA Athletes
Source:	Indiana University/DoD Army Medical Research Acquisition
Role & Effort:	Co-Investigator
PI:	Steven Broglio, Thomas McAllister, Michael McCrea and Paul Pasquina
Dates:	09/15/2018 - 08/31/2020
Direct Funds:	$2,301,586

Title:	MRI Predication and Evaluation for Complete Response to Neoadjuvant Therapy in Rectal Cancer
Source:	Association of VA Surgeons
Role & Effort:	Co-Investigator
PI:	Timothy Ridolfi
Dates:	07/01/2020 - 06/30/2022
Direct Funds:	$25,000

Title:	A Complete Metal Artifact Reduced MRI Exam for Neuroimaging
Source:	NIH NIBIB (1R21EB030123)
Role & Effort:	Principal Investigator
PI:	Kevin Koch and Andrew Nencka
Dates:	02/01/2021 - 11/30/2023
Direct Funds:	$262,500

Title:	Fatigability of Limb Muscle in Older Adults: Protective Effects of Exercise
Source:	Marquette University/NIH Aging
Role & Effort:	Co-Investigator
PI:	Christopher Sundberg
Dates:	09/01/2021 - 04/30/2023
Direct Funds:	$369,640

Title:	Advancing Artificial Intelligence (AI) Toward Precision Medicine in Traumatic Brain Injury: A Collaboration by DHA, DOE, TRACK-TBI, and the CARE Consortium
Source:	Department of Defense (USAMRAA)
Role & Effort:	Co-Investigator
PI:	Michael McCrea
Dates:	09/30/2021 - 09/29/2023
Direct Funds:	$2,261,370

Non-Peer Review

Title:	Development of a Voxelwise Database of Physical Parameters for Neuroimaging
Source:	Advancing a Healthier Wisconsin
Role & Effort:	Principal Investigator
PI:	Andrew Nencka
Dates:	05/01/2011 - 04/30/2015
Direct Funds:	$300,000
Title:	CTSI KL2: Alternation of Degluition Connectome in Unilateral Hemispheric Stroke
Source:	Advancing a Healthier Wisconsin
Role & Effort:	Co-Investigator
PI:	Arash Babaei
Dates:	05/01/2013 - 04/30/2017
Direct Funds:	$495,000
Title:	A Prospective Study of MRI Biomarkers After SRC
Source:	GE Healthcare
Role & Effort:	Co-Investigator
PI:	Michael McCrea
Dates:	04/07/2014 - 04/06/2015
Direct Funds:	$300,000
Title:	Motion Mitigation Strategies for 7T Neuroimaging
Source:	Daniel M Soref Charitable Trust
Role & Effort:	Principal Investigator
PI:	Andrew Nencka
Dates:	01/01/2015 - 12/31/2015
Direct Funds:	$10,000
Title:	A Prospective Study of MRI Biomarkers After SRC: Phase 2
Source:	GE Healthcare
Role & Effort:	Co-Investigator
PI:	Michael McCrea
Dates:	09/01/2015 - 08/31/2016
Direct Funds:	$500,000
Title:	Multi-Spectral EVI for Reduced Distortion Diffusion at 7T
Source:	Daniel M. Soref Charitable Trust
Role & Effort:	Principal Investigator
PI:	Andrew Nencka
Dates:	12/01/2016 - 11/31/2017
Direct Funds:	$5,000
Title:	Enhancing MAVRIC Metal Artifact Reduction Technology Phase II: Advanced Quantification and Image Repair
Source:	GE Healthcare

Role & Effort:	Investigator
PI:	Kevin Koch and Andrew Nencka
Dates:	07/20/2017 - 07/19/2019
Direct Funds:	$147,726

Title:	Optimizing B1+ shimming on GE950 7T MRI
Source:	GE Healthcare
Role & Effort:	Co-Investigator
PI:	Tugan Muftuler and Kevin Koch
Dates:	11/21/2017 - 11/20/2018
Direct Funds:	$52,476

Title:	Connectome Technology Maintenance and Development Hub
Source:	GE Healthcare
Role & Effort:	Co-Principal Investigator
PI:	Kevin Koch and Andrew Nencka
Dates:	11/21/2017 - 11/20/2019
Direct Funds:	$221,676

Title:	Cardiac Magnetic Resonance Imaging for Assessing Cancer Related Cardiotoxicity
Source:	GE Healthcare
Role & Effort:	Co-Investigator
PI:	El-Sayed Ibrahim
Dates:	08/07/2018 - 08/06/2021

Title:	Neurologic Function across the Lifespan: A Prospective, LONGitudinal, and Translational Study for Former National Football League (NFL-LONG)
Source:	National Football League
Role & Effort:	Co-Investigator
PI:	Kevin Guskiewicz
Dates:	09/01/2018 - 08/31/2023
Direct Funds:	$4,700,000

Title:	The MCW Human Connectome Project Technology and Application Hub
Source:	GE Healthcare
Role & Effort:	Principal Investigator
PI:	Kevin Koch and Andrew Nencka
Dates:	05/18/2020 - 05/17/2022
Direct Funds:	$192,000

Title:	Improving the Efficiency of Advanced WARP 3D-MSI Metal Artifact Reduction for MRI
Source:	Siemens Medical Solutions USA, Inc
Role & Effort:	Principal Investigator
PI:	Kevin Koch and Andrew Nencka
Dates:	07/15/2020 - 07/14/2021
Direct Funds:	$49,500

Title:	Mechanisms of and Potential Treatments

	for Repetitive Concussions and Chronic Traumatic Encephalopathy (NFL Long Prospective Study)
Source:	Children's Hospital of Boston/National Football League
Role & Effort:	Co-Investigator
PI:	William Meehan, Michael McCrea and Jason Mihalik
Dates:	10/31/2020 - 10/30/2023
Direct Funds:	$1,860,734

Title:	Neurovascular Uncoupling Correlates of Executive Functioning in Non-amnestic Mild Cognitive Impairment
Source:	Advancing a Healthy Wisconsin
Role & Effort:	Co-Investigator
PI:	Laura Umfleet and Yang Wang
Dates:	12/01/2020 - 11/30/2022
Direct Funds:	$20,000

Title:	To Identify Ferromagnetic Components of Medical Implants in Patients by Dual Energy CT
Source:	Research Affairs Committee (MCW)
Role & Effort:	Co-Investigator
PI:	Yong Gang Lu
Dates:	07/01/2022 - 07/31/2023
Direct Funds:	$34,836

Title:	Advanced 3D-MSI Metal Artifact Reduction Technology: SPACE Integration, Spectral Calibration and Spectral Domain Acceleration
Source:	Siemens Medical Solutions USA, Inc
Role & Effort:	Co-Investigator
PI:	Kevin Koch and Andrew Nencka
Dates:	08/15/2022 - 06/30/2024
Direct Funds:	$160,000

Title:	Development of Dark Blood Contrast on Hyperfine Swoop MRI Platform
Source:	Hyperfine
Role & Effort:	Co-Principal Investigator
PI:	Andrew Nencka and Kevin Koch
Dates:	08/17/2023 - 02/16/2024
Direct Funds:	$67,200

INVITED LECTURES/WORKSHOPS/PRESENTATIONS:

National

Andrew Nencka, Kevin Koch, Yu-Chien Wu, Andy Saykin, Mike McCrea, Stability of Advanced MR Metrics in the Advanced Research Core, CARE Consortium Investigator Meeting, Washington, D.C., 11/09/2016

Regional

Andrew Nencka, Towards physical modeling in fMRI, Center for MR Research, University of Illinois at Chicago, Chicago, IL, 11/20/2008

Andrew S. Nencka, William Hogan, Artificial Intelligence at the Medical College of Wisconsin, 2024 Wisconsin Doctor Day, Madison, WI, 01/23/2024 - Present

Local

Andrew Nencka, Physics in Medical Imaging Research, Physics Colloquium, Marquette University, Milwaukee, WI, 10/24/2006

Andrew Nencka, Physics 002 Guest Lecture, Magnetic Resonance Imaging, Marquette University, Milwaukee WI, 04/30/2008

Andrew Nencka, Parallel Imaging at MCW, Biophysics Seminar Series, Medical College of Wisconsin, Milwaukee, WI, 03/30/2012

Andrew Nencka, Parallel Slice Acquisition for Enhanced Fast Magnetic Resonance Imaging, Cancer Imaging Research Program, Medical College of Wisconsin, Milwaukee, WI, 10/19/2012

Andrew Nencka, Maximizing Information in MRI Through Fast Time Series Imaging, MCW Cancer Center Cell Biology Research Forum, Medical College of Wisconsin, Milwaukee, WI, 10/31/2013

Andrew Nencka, Physics 002 Guest Lecture, Magnetic Resonance Imaging, Marquette University, Milwaukee WI, 4/30/2008, Marquette University, Milwaukee WI, 04/2015

Andrew Nencka, Matt Budde, Kevin Koch, Tim Meier, Tugan Muftuler, Mike McCrea, Imaging protocool and informatics infrastructure for Project Head to Head Two, Project Head to Head Two Exteranl Advisory Board Meeting, Medical College of Wisconsin, Milwaukee WI, 06/16/2016

Andrew Nencka, Imaging Informatics Infrastructure, MCW Radiology Grand Rounds, Medical College of Wisconsin, Milwaukee W, 10/18/2016

Andrew Nencka, Matt Budde, Kevin Koch, Tim Meier, Tugan Muftuler, Mike McCrea, Stability and reproducibility of advanced MRI metrics in Project Head to Head Two, Project Head to Head Two External Advisory Board Meeting, Medical College of Wisconsin, Milwaukee WI, 05/11/2017

Andrew Nencka, Matt Budde, Andy Klein, Kevin Koch, Mike McCrea, Tim Meier, Tugan Muftuler, Yang Wang, Big and Bigger Data in Multi-Contrast Neuroimaging of Mild TBI, MCW Brain Injury Research Day, Medical College of Wisconsin, Milwaukee WI, 10/26/2017

Andrew Nencka, Using ChatGPT Data Analytics for Core Insights at the Medical College of Wisconsin, Department of Radiology Faculty Meeting, Medical College of Wisconsin, Milwaukee WI, 01/29/2024

Andrew Nencka, An Introduction to AI in Research, Basic to Clinical Translational Research Pathway, Medical College of Wisconsin, Milwaukee, WI, 02/08/2024

Andrew Nencka, An Overview of AI in Healthcare, Department of Pathology/Residents Retreat, Medical College of Wisconsin, Milwaukee, WI, 02/16/2024

PEER REVIEWED WORKSHOPS/PRESENTATIONS:

International

Andrew Nencka, Daniel Rowe, Complex Constant Phase Activation Model Removes Venous BOLD Contribution in fMRI, Annual Meeting of the International Society for Magnetic Resonance in Medicine, Maimi, FL, 05/11/2005

Andrew Nencka, Tim Meier, Yang Wang, Yu-Chien Wu, Brad Swearingen, Robin Karr, Melissa Koschnitzke, Andy Saykin, Mike McCrea, Kevin Koch, Reproducibility of Advanced MR Metrics in a Multi-Site, Multi-Vendor Study of Mild Traumatic Brain Injury, Annual Meeting of the International Society of Magnetic Resonance in Medicine, Honolulu, HI, 04/24/2017

Andrew Nencka, Tim Meier, Yu-Chien Wu, Tugan Muftuler, Yang Wang, Brad Swearingen, Robin Karr, Andy Saykin, Mike McCrea, Kevin Koch, Reproducibility of Advanced Neuroimaging Metrics Across Sessions, Sites and Subjects, Annual Meeting of the Radiological Society of North America, Chicago, IL, 11/20/2017

COMMITTEE SERVICE:

Medical College of Wisconsin

07/2009 - Present Member, Research MRI Safety Committee, Medical College of Wisconsin
07/2012 - 07/2013 Member, Faculty IT Committee, Medical College of Wisconsin
07/2012 - Present Chair, Research MRI Safety Committee, Medical College of Wisconsin
07/2013 - 07/2016 Member, Curriculum Committee, Graduate School of Biomedical Sciences
07/2013 - 07/2014 Vice Chair, Faculty IT Committee, Medical College of Wisconsin

07/2014 - 07/2016 Chair, Faculty IT Committee, Medical College of Wisconsin
07/2016 - Present Member, Research Computing Center Faculty Advisory Committee, Information Services, Medical College of Wisconsin
07/2016 - 07/2017 Secretary, Faculty IT Committee, Medical College of Wisconsin
07/2017 - 07/2019 Chair, Research Computing Center Faculty Advisory Committee, Information Services, Medical College of Wisconsin
08/2023 - Present Member, Faculty AI Workgroup, Information Services, Medical College of Wisconsin

Hospital

02/01/2016 - Present Member, Froedtert Hospital System MRI Safety Committee, Imaging Services, Radiology, Froedtert Hospital
04/01/2017 - 07/01/2023 Chair, Froedtert Hospital System MRI Safety Committee, Imaging Services, Radiology, Froedtert Hospital
10/01/2021 - Present Member, IT Leadership Committee, Radiology, Froedtert and Medical College of Wisconsin

MCW TEACHING ACTIVITIES:

Medical Student Education

2013 - Present M4 Integrative Selective: Introduction to Medical Imaging, Course Co-Director (led 6 lectures annually)

Graduate Student Education

2011 - 2019 Biophysics 3230, Nuclear Magnetic Resonance, Course Director (Offered odd numbered years, led all lectures)
2011 - 2015 Biophysics 3240 Fourier Transformation, Course Co-Director (Offered odd numbered years, led 1/3 of lectures)
01/01/2014 - 05/09/2014 Biophysics 3298, MRI Journal Club, Course Director (led all discussions)

EXTRAMURAL TEACHING:

Community/Lay Public

2002 - 2004 Marquette University, Introductory Physics Teaching Assistant

MCW STUDENTS, FACULTY, RESIDENTS AND CLINICAL/RESEARCH FELLOWS MENTORED:

Undergraduate Students

06/2012 - 08/2012 Nikolai Mickevicius, Summer Program for Undergraduate Research (SPUR) Advisor, Medical College of Wisconsin
06/2021 - 08/2021 Skylar Bogardus, Summer Program for Undergraduate Research (SPUR)Advisor, Medical College of Wisconsin
06/2024 - 08/2024 Hannah Hotchkiss, Summer Program for Undergraduate Research (SPUR) Advisor, Medical College of Wisconsin

Graduate Students

PhD Committees

07/2008 - 08/2013 Danielle Reitsma, Investigating fMRI Visual Field Maps in Human Visual Cortex with Central Damage, Medical College of Wisconsin, Hired into fMRI lab upon graduation. Currently faculty at Azusa Pacific University.
07/2008 - 12/2013 Guangyu Chen, Imaging Analysis of Brain Network and Its Application to Alzheimer’s Disease, Medical College of Wisconsin, Currently on staff for MRI research at MCW.
07/2011 - 07/2014 Daniel Shefchik, Mapping relaxivity and B-field parameters in echo planar imaging (EPI) warped space to inform functional MRI studies, Medical College of Wisconsin, Currently Employed by Froedtert Hospital's Data Analytics Team
07/01/2013 - 07/2018 Zhan Xu, Multi-Echo Echo Planar Imaging for Robust Resting State Imaging, Medical College of Wisconsin
07/01/2013 - 07/2018 Daniel Olson, Advanced Diffusion Kurtosis Imaging, Medical College of

Wisconsin
12/15/2014 - 06/2016 Ali Eroz, Advanced Data Acquisition and Reconstruction Techniques for Fast Radial Magnetic Resonance Imaging, Medical College of Wisconsin, Currently Employed by GE Healthcare's MRI System Engineering Team
07/2015 - 07/2019 Nikolai Mickevicius, Imaging Framework to Support Real-Time Online Adaptive Replanning on the MR-Linac, Medical College of Wisconsin
10/2016 - 04/2017 Nathan Skinner, Assessment of Spinal Cord Injury in a Rat Model using an Orthogonal Filter-Probe Diffusion Encoding Scheme, Medical College of Wisconsin
02/2017 - 07/2021 Ethan Duwell, Albinism: A Window to Studying the Role of Retinotopic Organization in Visual Attention, Medical College of Wisconsin
02/2017 - 07/2020 Sean McGarry, Medical College of Wisconsin
07/01/2018 - 10/18/2024 Kyle A. Johnson, Advancing Pre-Clinical Multi-Echo fMRI with Inductively Coupled Surface Coils, Medical College of Wisconsin, Hired as postdoctoral fellow before graduation
- 07/2023 Seongtaek Lee, NONINVASIVE PERFUSION MRI AND ANGIOGRAPHY WITH ARTERIAL SPIN LABELING (ASL) IN THE RAT SPINAL CORD, Medical College of Wisconsin
- 09/2022 Samuel Bobholz, Radio-Pathomic Mapping of Glioma Pathology Using Autopsy Tissue Samples as Ground Truth, Medical College of Wisconsin
- 07/2023 Briana Meyer, Spinal Cord Perfusion MRI: Technical Advancements with Arterial Spin Labeling and Application to Preclinical Traumatic Injury, Medical College of Wisconsin

PhD Students Advised

01/2013 - 08/2016 Andrew Huettner, Magnetic Resonance Imaging RF Pulse Design Techniques Applied to Neuroimaging and Musculoskeletal Imaging, Medical College of Wisconsin, Hired by GE Healthcare's MRI System Engineering Team Upon Graduation

MS Committees

07/2014 - 07/2016 Casey Anderson, Volume-Parcellated Quantitative Susceptibility Mapping, Medical College of Wisconsin

EXTRAMURAL STUDENTS, FACULTY, RESIDENTS, AND CLINICAL/RESEARCH FELLOWS MENTORED:

Undergraduate Students

01/2012 - 05/2012 Wei Wu, Readings and Research Advisor, Marquette University

Graduate Students

PhD Committees

07/2012 - 07/2014 Muge Karaman, Improving fMRI analysis and MR reconstruction with the incorporation of MR relaxivities and correlation effect examination, Marquette University, Currently postdoctoral fellow in an MRI lab at University of IL, Chicago
07/2013 - 07/2016 Mary Kociuba, A Fourier Description of Covariance, and Separation of Simultaneously Encoded Slices with in-Plane Acceleration in fMRI, Marquette University, Postdoctoral fellow at University of Washington, Department of Pediatrics Biomedical Image Computing Group

PROGRAMMATIC DEVELOPMENTS:

Educational Programs

Student

08/2012 - 02/2013 Proposed and worked to organize the M4 integrative selective "Introduction to Medical Imaging" with Shi-Jiang Li, and numerous faculty from Biophysics, Radiology and Radiation Oncology.

Research Programs

03/2014 - 09/2014 Simultaneous multi-slice (SMS) imaging development program. Led development of SMS technology at MCW, leading to over $10M in successful "connectome" NIH applications at MCW.
11/2014 - Present MCW Center for Imaging Research Imaging Informatics Services. Led the deployment of the MCW CIR XNAT image repository and integrated it with the MCW Research Computing

Center. Serves over 97 studies.

COMMUNITY SERVICE ACTIVITIES:

03/29/2016 St. Alphonsus Grade School STEM Career Fair Representative

BIBLIOGRAPHY

Refereed Journal Publications/Original Papers

1. **Nencka AS**, Rowe DB. Reducing the unwanted draining vein BOLD contribution in fMRI with statistical postprocessing methods. Neuroimage 37(1): 177-188, 2007.
2. Rowe DB, **Nencka AS**, Hoffmann RG. Signal and noise of Fourier reconstructed fMRI data. J Neurosci Methods. 2007 Jan 30;159(2):361-9. PMCID: PMC4089039
3. Hahn AD, **Nencka AS**, Rowe DB. Improving robustness of phase sensitive fMRI using Temporal Off-resonance Alignment of Single-echo Timeseries (TOAST). NeuroImage 44(3): 742-752, 2009.
4. Rowe DB, Hahn AD, **Nencka AS**. Functional magnetic resonance imaging brain activation directly from k-space. Magnetic Resonance Imaging 27(10): 1370-1381, 2009.
5. **Nencka AS**, Hahn AD, Rowe DB. A mathematical model for understanding the statistical effects of k-space (AMMUST-k) preproscessing on observed voxel measurements in fcMRI and fMRI. Journal of Neuroscience Methods 181(2): 268-282, 2009.
6. Prah D, Paulson ES, **Nencka AS**, Schmainda K. A simple method for rectified noise floor suppression: Phase-corrected real data reconstruction with application to diffusion weighted imaging. Magnetic Resonance in Medicine 64(6): 1597-1608, 2010.
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<u>Non-Peer Reviewed Educational Products</u>

1. MRI Safety for First Responders. https://youtu.be/4-HssTy0Qgo. 10 Aug. 2023

2. MRI Safety for General Medical Staff. https://youtu.be/ikWINMHTve0 10 Aug 2023
3. Level MRI Safety. https://youtu.be/VdS6qK58qP4 10 Aug. 2023

Database, Video, or Other Research/Clinical Contributions

1. Nencka: MCW XNAT image repository system: tbixnat.mcw.edu:8080, cirxnat1.rcc.mcw.edu, cirxnat2.rcc.mcw.edu, gwxnat.rcc.mcw.edu, 2014-Present

Software, Software Modules

1. Nencka, Swearingen, Karr, Espana, Meier, Wang, Koch: XNAT Processing Pipelines for Advanced Neuroimaging, 2013-Present. Used with all studies in the MCW XNATsystem.
2. Nencka: Simultaneous Multi-Slice Echo Planar Imaging Pulse Sequence for fMRI, 2014-Present. Used in at least 5 ongoing studies at MCW and UW
3. Nencka: Simultaneous Multi-Slice Echo Planar Imaging Pulse Sequence for Diffusion MRI, 2014-Present. Used in at least 4 ongoing studies at MCW and UW
4. Nencka: Orchestra MATLAB Reconstruction for Simultaneous Multi-Slice Echo Planar Imaging, 2014-Present. Used in at least 5 ongoing studies at MCW and UW
5. Nencka: Orchestra C++ Reconstruction for Simultaneous Multi-Slice Echo Planar Imaging, 2014-Present. Used in at least 3 ongoing studies at MCW and UW
6. Nencka: Clustered Echo Planar Imaging for Silent Periods in fMRI acquisitions, 2015-Present. Used in 1 ongoing study at UW-Milwaukee
7. Nencka: 3D Multi-Spectral Imaging. 2021-Present. Basis for work in progress pulse sequence distributed by Siemens to at least 2 sites.

Patents

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2. Koch KM, **Nencka AS**, Liu J. US11372066B2 Multi-resolution quantitative susceptibility mapping with magnetic resonance imaging 28 June 2022
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