curriculum vitae

Beth Meyerand

[redacted]

EDUCATION

1990 B.S. **Molecular Biophysics and Biochemistry**, Yale University, New Haven, CT Thesis: *A study of the spatial localization of NMR spectra using an inhomogeneous B1 RF field*

1992 M.S. **Biomedical Engineering**, University of North Carolina, Chapel Hill, NC. Thesis: *A magnetic resonance imaging study of renal function in the rat during normal and ischemic conditions*

1996 Ph.D. **Biophysics**, Medical College of Wisconsin, Milwaukee, WI. Thesis: *Single-shot magnetic resonance imaging using time encoding*

POSITIONS HELD

Current

Full Professor – *University of Wisconsin, Madison, Department of Medical Physics, School of Medicine and Public Health; Department of Biomedical Engineering, College of Engineering and affiliate appointments in Industrial and Systems Engineering, Neuroscience and Radiology*
April 2009-present

Teaching and research at the undergraduate and graduate levels with the aim of integrating clinical knowledge, engineering/physics and neuroscience

- PI and project leader in the area of applied, neuro-magnetic resonance imaging (MRI)
- Responsible for integration and collaboration with various research groups and clinicians, design and operation of experimental systems, theoretical modeling of systems, *in vivo* and *in vitro* studies, and translation of the technology to the clinic for use in diagnosis
- Specific areas of expertise include physiologic MRI for use in neurological imaging, diffusion tensor imaging, functional magnetic resonance imaging (fMRI) of clinical populations including epilepsy, amyotrophic lateral sclerosis, traumatic brain injury, stroke, brain tumors and balance dysfunction.
- Teaching, advising and supervising graduate students, undergraduates and staff.

Co-Director and Co-PI – *Institute for Clinical and Translational Research (ICTR) Pre and Post-doctoral Training Program: (May 2016-present)*

The goal of the training program is to provide 18 graduate students, and 6 postdocs the knowledge and skills needed to conduct and translate basic science discoveries into clinical applications through patient (human or animal)-oriented research, commonly known as bench-to-bedside research. Patient-oriented research includes the study of disease, therapeutic interventions, development of new technologies. The program is part of a larger $40 million Clinical and Translational Sciences Award (CTSA) to the UW-

Madison to promote all aspects of "bench to bedside" research. The Directors are responsible for recruitment, curriculum development and implementation, and trainee advising and mentoring.

Director - *Pre-clinical 4.7T Magnetic Resonance Imaging (MRI) Lab:* University-wide service facility (2006 –present)

Oversees all aspects of 4.7T MRI lab operation: recruits, trains and supervises lab staff, scheduling, financial management, review of potential user projects, system maintenance and upgrades and effective interfacing with other molecular imaging modalities on campus

Director - Science and Medicine Graduate Research Scholars Program (SciMed GRS) (January 2019-present)

The SciMed GRS program was established in 2008 to enhance the experiences of underrepresented graduate students in the biological sciences. It is a unique program offering professional development, community resources, and funding opportunity for underrepresented minority students. The program is currently the largest program on campus to support graduate students of color, currently supporting over 140 students yearly in 38 graduate programs spanning four schools and colleges on campus. The Director is responsible for leading all aspects of the program including recruitment, development and delivery of numerous professional development elements, student advising and conflict resolution, and grant submissions.

Associate Director – *Wisconsin Institute for Healthcare Systems Engineering (WIHSE)* (2016-present)

WIHSE is a research initiative which acts as a hub to bring together practitioners and researchers in healthcare and engineering to conduct research, create new knowledge, and design better systems in healthcare. The associate directors take the lead on research initiatives that match her/his expertise e.g. grant applications, focus groups, industry consortia agreements, and publications.

Associate Chair, Graduate Advising and Graduate Program Director - *Biomedical Engineering Department* (2017-present)

Advise all 32 M.S. and 62 PhD students about course and curriculum requirements, organizes and conducts the department PhD qualifying examination, and approves all PhD dissertation committees.

Master Trainer - NIH U45 "*National Research Mentoring Network for a Diverse Biomedical Workforce".* (October 2014 - present).

The University of Wisconsin-Madison serves as a national hub for research mentor and mentee training for the National Research Mentoring Network (NRMN) recently announced by NIH as part of a national Diversity Program Consortium. NRMN is a nationwide consortium to enhance the training and career development of individuals from diverse backgrounds, communities and cultures who are pursuing biomedical, behavioral, clinical and social science research careers through networking and mentorship experiences. A primary goal of NRMN is to address the disparities in the full participation of biomedical research by underrepresented minorities. Master Trainers travel across the U.S. to provide training in effective mentoring strategies and the establishment of mentoring programs.

Co-Director Postdoctoral Program, Morgridge Institute for Research (2018-present)

Provides professional development programming to all 32 Morgridge postdoctoral fellows; Created the curriculum for and offered: seminars on career choices; seminars on leadership and management; and a "Designing Your Life" workshop (per training at Stanford).

Co-Director and Co-PI–Biotechnology predoctoral T32 training program (2018-present)

The NIGMS-funded Biotechnology Training Program (BTP) provides foundational training for a diverse group of pre-doctoral students engaged in cutting-edge research across the interface of the biological, physical, and engineering sciences. BTP fosters an environment that welcomes all scientists. The program believe diversity of all kinds such as underrepresented groups, those with disabilities, and scientific diversity — enhances educational, personal, and scientific outcomes. Having started in 1989, the program is one of the oldest and largest in the United States. The BTP offers an opportunity for doctoral students to obtain training and experience in the ever-growing field

of biotechnology, complete with focused coursework and an industry internship. The Co-Director is responsible for all aspects of program operation including recruitment, curriculum development and implementation, trainee advising and coordination with home departments and programs for the 22 PhD students annually supported by the training program.

Member – University Graduate Faculty Executive Committee (GFEC) (2018-present) This committee exercises the powers of the Graduate Faculty with respect to establishing, reviewing and modifying graduate degree programs, setting standards for admission and degree requirements, and evaluating and recommending graduate school policies.

Leadership: ***PAST***

Chair - *Department of Biomedical Engineering* (July 1, 2010-June 30, 2016)

The Chair is responsible for strategic leadership and administration of the Department which includes 22 primary faculty, 62 Affiliate faculty, and 11 Adjunct faculty, 11 teaching or administrative staff members, 810 undergraduates and 176 graduate students. The Chair works together with the faculty to accomplish the following functions:

Financial Management for the Department

Facilitating budget planning, overseeing and monitoring the department budget, and finding ways to enhance the budget (e.g., advocating for additional funding from the College/University, external fundraising, etc.). Budget tasks are performed with the input and consultation of the department executive committee. (2) Helping faculty manage their time efficiently; balancing teaching loads across the department. (3) Managing and facilitating the production of reports and paperwork (e.g., National accreditation and other department reviews). (4) Supervising faculty and staff, including faculty/staff recruitment, support, and mentoring; Hiring and supporting staff; & managing and mediating conflicts. (5) Encouraging and facilitating development of a shared vision and strategic plan for the department, and working to promote them. Encouraging shared governance. (6) Facilitating the planning, revising, and implementing of changes in the undergraduate and graduate academic programs. (7) Communicating with the college and university on department matters; Representing, promoting, and supporting the faculty and department at all levels, especially to the Dean's and Provost's offices. Advocating and advancing the vision of the department to external audiences. (8) Communicating College and University issues accurately and completely to the department. (9) Working with the director of advancement for the CoE to establish and maintain relationships between the department and and constituents outside the university, including alumni, industrial partners (e.g., Industrial Advisory Board), funding agencies, donors, and the community.

Personnel Responsibilities

Counseling faculty and staff when administrative problems or concerns arise. (2) Encouraging, motivating, and supporting faculty and staff to greater levels of excellence. (3) Mediating conflicts and resolving complaints from faculty, staff, administrators, students, and parents. (4) Creating and fostering a work environment that encourages faculty and staff productivity, satisfaction, and high morale.

Resource Development Responsibilities

Facilitating the recruitment of faculty that accomplish the department's vision and influences the climate of the department in a positive way. (2) Mentoring and supporting faculty in their teaching and professional development goals; Providing advice and information to ensure their retention and professional success. (3) Evaluating faculty for promotion, retention, and tenure; Evaluating hourly and academic staff. (4) Developing and utilizing resources to ensure department

success and removing obstacles: advocating for money, staff, space, equipment, and time; Working with faculty to develop schedules that enhance productivity and satisfaction.

Co-Director - *Clinical Neuroengineering Training Program:* Pre-doctoral National Institutes for Health T32 (2004 –2017)

The objective of this program was to educate a new cadre of scientists and engineers to generate new fundamental understandings of neuroscience and translate these findings to clinical treatment. The training crossed traditional boundaries to develop individuals skilled in clinical, scientific, and engineering approaches to advancing neuroscience. The Chairs provided programmatic direction for all aspects of the program: curriculum, admissions, recruiting, teaching, student evaluation, mentor recruitment and training, grant administration.

Member - Executive Committee, University Faculty Senate (June 1, 2013 - May 31, 2016)

This 6-member university-wide committee, elected by the faculty, serves as the executive committee to the faculty senate. The University Committee considers questions concerning the educational interests or policies of the university; on its own initiative, makes studies and recommendations to the faculty or administration concerning educational policy; gives advice directly to the administration, or refers a matter to the faculty for discussion; advises on procedures that involve the faculty in making decisions on the organization or reorganization of interdepartmental or interdisciplinary programs of instruction, research, and service, or the creation of new colleges, schools, or institutes involving significant educational programs; examines any actions taken relating to the university by the Board of Regents, the Board of Visitors, the various faculties or faculty committees, or by other bodies or individuals related to the university; consults with appropriate administrative officers on budget matters and reports thereon to the faculty; advises on the appointment of faculty members to search and screen committees and on the procedures used by these committees; appoints members of appointed faculty committees after consultation with the chancellor; serves as the faculty's grievance committee except for matters within the jurisdiction of the Committee on Faculty Rights and Responsibilities; Maintains liaison between faculty and other shared governance bodies.

Chair - University Committee (June 1, 2015-May 31, 2016)

The Chair's role is to act as a counselor to the Chancellor and Provost so that they are aware of faculty concerns; determine committee priorities, lead discussion, develop, write and propose legislation to the faculty senate, address faculty grievances, advocate for faculty concerns to the Board of Regents and the State Legislature, and approve all shared governance committee structures and charges.

Member - Executive committee, National Council of Biomedical Engineering Department Chairs (October 1, 2014-June 20, 2016)

The purpose of this 4-member, elected committee is to lead the promotion of excellence in bioengineering and biomedical engineering degree programs across the country. This is accomplished via long-range planning and sharing best practices on topics such as accreditation, time to degree, curricula, and forming strategic partnerships with industry, medical schools and hospitals.

Vice-Chair – Research: *Department of Medical Physics* (2008-2010)

As the chief research officer for the department, the Vice-Chair for Research is responsible for implementation of the research vision for the department which includes 35 faculty members and 5 scientific staff members. Specifically, the Vice-Chair mentors junior faculty participating in research; serves as a resource for grant writing for faculty, staff and graduate students; facilitates research collaborations; and develops and promotes interdisciplinary projects between Medical Physics and the research programs in the basic sciences and engineering disciplines across campus.

Chair - *Medical Physics Graduate Committee* (2004-2010)

The Chair approves course plans, thesis committees and provides general advising to all 100+ graduate students in the Department of Medical Physics

Chair: *Equity and Diversity Committee for the College of Engineering, UW-Madison* (2007-2008)

The Committee advise deans, directors, and unit heads on equity and diversity issues, and reports on an annual basis to the Advisory Committee for the Office for Equity and Diversity, serves as a resource on equity and diversity issues, reviews recruitment practices and policies and proposing amendments to such practices and policies when appropriate, advises search committees on optimum strategies for obtaining diverse candidate pools and provides information on strategies to improve the recruitment and retention of underutilized groups. The Chair runs all meetings, sets goals for the committee and acts as a conduit for information to the University administration.

Chair - *Biological Sciences Executive Committee – Tenure Committee* (fall 2007- summer 2008):

The committee reviews all tenure dossiers for the Schools of Medicine and Public Health, Nursing, Pharmacy, Veterinary, College of Agriculture and Life Sciences and Biological Departments in the College of Letters and Science. Duties of the Chair include: running meetings and communicating tenure recommendations to department chairs, and acting as a resource for information to Deans, Department Chairs and all faculty in the Biological Division.

Past Positions

Associate Professor – *University of Wisconsin, Madison, Dept. of Medical Physics, affiliate appointments in Radiology, and Biomedical Engineering 2004- Apr 2009*

Assistant Professor – *University of Wisconsin, Madison, Dept. of Medical Physics, affiliate appointments in Radiology, and Biomedical Engineering 1998-2003*

Research Assistant Professor – *Dartmouth Medical School, Hanover, NH 1997-1998*

Research Associate – *Radiology Department, Dartmouth Medical School, Hanover, NH 1996-1997*

MEMBERSHIP IN SCIENTIFIC SOCIETIES

American Society for Engineering Education
American Institute for Medical and Biological Engineering
American Association for the Advancement of Women
American Association of University Women
International Society for Magnetic Resonance in Medicine
Organization for Human Brain Mapping
Sigma Xi
Biomedical Engineering Society
Society for Molecular Imaging
Society for Women Engineers
American Association for Physicists in Medicine
Institute of Electrical and Electronics Engineers
Radiological Society of North America
Society for Neural Engineering
Society for Neuroscience

SCIENTIFIC REVIEWER

FUNDING AGENCIES

Alzheimer's Society
Canadian Institutes of Health Research (CIHR)
NIH ZRG1 SRB 54R: "Improvements in imaging methods & technologies" RFA EB03-007 Sep 03
NIH ZRG1 F01 20 "Disorders and Related Neuroscience [Brain Disorders and Clinical Neuroscience (BDCN) Integrated Review Group" Nov 04
NIH ZRG1 F01 20 "Disorders and Related Neuroscience [Brain Disorders and Clinical Neuroscience (BDCN) Integrated Review Group" Jul 05
NIH ZRG1 F01 20 "Disorders and Related Neuroscience [Brain Disorders and Clinical Neuroscience (BDCN) Integrated Review Group" Oct 06
ZRG1 BDCN-K (10) "Clinical neurophysiology, devices and neuroprosthetics" Nov 06
NIH ZMH1 CNF-W(02) R13 mechanism "NIMH Special Emphasis Panel" May 06
NIH NIDA K99 mechanism, NIH Pathway to Independence Award July 07
NIH P41 ZRG1 SBIB-J(40) P P41 mechanism, Biotechnology Resource Grants Sep 07
NIH ZEB1 OSR-B (M1) P R24 mechanism Program Project Review Mar 08
NIH ZEB1 OSR-C (A1) LRP May 08
NIH ZRG1 SBIB-U (40) P P41 Feb 2009
NIH ZEB1 OSR-E A1 S May 2009
NIH BMIT-A Oct 2010-October 2015 (charter member)

JOURNALS/CONFERENCE PROCEEDINGS

Medical Physics
Magnetic Resonance in Medicine
Journal of Magnetic Resonance Imaging
Magnetic Resonance Imaging
Journal of Applied Clinical Medical Physics
International Society for Magnetic Resonance in Medicine
Radiographics
American Journal of Neuroradiology
Journal of Neurosurgery
Neuroscience & Biobehavioral Reviews
Journal of Neuroscience
Magma
Epilepsia
Neuroimage
Human Brain Mapping
IEEE Transactions on Medical Imaging
Cerebral Cortex
Journal of Biomedical Optics

BOOKS

Magnetic Resonance in Chemistry and Medicine by Ray Freeman, Oxford University Press, 2003.
Functional Magnetic Resonance Imaging by Huttel, Song and McCarthy, Sinauer Associates, 2005

HONORS AND AWARDS

Fellow: Committee on Institutional Cooperation (CIC) Academic Leadership Program (ALP) (2008-09)

Fellow: UW-Madison Teaching Academy (April 2009-present)

Fellow: American Institute for Medical and Biological Engineering (AIMBE) (2011-present)

Awarded Vilas Distinguished Achievement Professorship (2012)

UNIVERSITY SERVICE

Past

UW Medical School 2004-2006 Strategic Planning Committee – research subcommittee
Pre-College Enrichment Opportunity Program for Learning Excellence (summer 2000)
Search Committee for UW Associate Vice Chancellor for Faculty and Staff (fall & winter 2003-04) Workshop for Probationary Tenure Track Faculty (March 2, 2004)
Search Committee for Chair of Radiology, University of Wisconsin – Madison (Fall 2004)
Speaker: seminar entitled, "Engaging first-year students – strategies for academic success" University of Wisconsin – Madison (fall 2005)
Search Committee for Chair of Human Oncology, University of Wisconsin – Madison (2006-07)
Search Committee for Faculty Cluster Hire: Minimally Invasive Medicine, University of Wisconsin – Madison (2006 - 07)
Member UW Medical School Faculty Equity and Diversity Committee (2002-2006)
Member - Faculty Division of the Biological Sciences: Executive Committee – Tenure Committee (fall 2005 – summer 2008)
Steering Committee: Institute for Cross-College Biology Education - *appointed by the Provost* (2006-2009)
Graduate School Research Committee (2007-2009)
Member CoE Faculty Equity and Diversity Committee (2003-2008) Co-chair (2007-08)
Member equity and diversity committee for School of Medicine and Public Health (2000-2006 and 2010-2015)
Search committee member: Dean of the School of Pharmacy (fall 2013)
Search committee member: Vice Chancellor for Teaching and Learning (Jan 2014-June 2014)
Search committee member: College of Engineering Assoc. Dean for Research (Jan 2014-Apr 2014)
Search committee member: Dean of the School of Education (fall-spring 2014-15)
Search Committee member: Director of the CoE Grainger Institute (Oct 2014-spring 2015)
Search committee member: Dean of the School of Nursing (fall-spring 2015-16)
Search committee member: Vice Chancellor for Finance and Administration (spring 2016)

Current

Local advisory board, National NMR Facility at Madison – NMRFAM (1998-present)
Trainer for the University of Wisconsin Biotechnology training program (1999-present)
Faculty sponsor for the undergraduate research scholar program (1999-present)
Advisor for UW-Madison undergraduates majoring in biology (2001-present)
Trainer for the University of Wisconsin Surgical Oncology training program (2012-present)
Women's Faculty Mentoring Program Advisory Committee (2004 present)
REU program in Computational Biology and Biostatistics (2003-present)
Summer Institute for Training in Biostatistics (2003-present)
GERS faculty committee for the CoE (2012-present)
Member University Budget Model Development Committee (Jan 2014-present)
Chair: Research Grant Selection Committee, Institute for Clinical and Translational Research (2013-present)
Women in Science and Engineering Leadership Institute (2008-present)
Committee for postdoc and graduate training Morgridge Institute for Research (Sep 2014-present)
Steering committee for the Morgridge Innovative Imaging Initiative (Sep 2014-present)

DEPARTMENT/PROGRAM SERVICE:

MEDICAL PHYSICS DEPARTMENT:

Member qualifying exam committee, Medical Physics Department (1999-2001, 2004-present)

Chair – Medical Physics PR committee (1999-2000)
Capitol exercise committee (2000)

BIOMEDICAL ENGINEERING DEPARTMENT:
Member qualifying exam committee (2004-present)
Member Executive Committee (2005-present)

NEUROSCIENCE TRAINING PROGRAM:
Steering/executive committee for Neuroscience Training Program (2001-2004)
Trainer for the University of Wisconsin Neuroscience training program (1999-present)
Minority affairs committee, Neuroscience training program (1999-2005)
Bioethics committee, Neuroscience training program (spring 2001)
Undergraduate Research Award Committee, Neuroscience training program (2001-2002)
Represented the UW Neuroscience Training Program at the 11th Annual Ronald E. McNair National Research Conference & Graduate School Fair, Delevan, WI, (November 1, 2002)
Admissions Committee (spring 2006-2010)

CLINICAL NEUROENGINEERING TRAINING PROGRAM:
Co-Director (2004-present)
Chair – Admissions Committee (2004-present)

NATIONAL SERVICE:

International Society for Magnetic Resonance in Medicine
Abstract reviewer for annual meeting 1998-present
Moderator: International Society for Magnetic Resonance in Medicine (ISMRM), session entitled "fMRI in neuroscience: language and cognition" (May 2002)
Secretary, Publications Committee (2016-present)

Biomedical Engineering Society
Judge for Biomedical Engineering Society (BMES) local chapter spring symposium (April 4, 2003) Society for Women Engineers
Panel member for Discussion —"Career Diversity in Engineering", Society of Women Engineers, University of Wisconsin - Madison Chapter (October 28, 2002).
Advisory board, abstract reviewer, panel member (2007-present)

Society for Neuroscience
Postdoctoral fellow travel award committee, Society for Neuroscience (May 2002)
Abstract reviewer for annual meeting (2008-present)

Society for Human Brain Mapping
Moderator: session entitled "Modeling and Analysis: Connectivity and multivariate Methods" (June 2007)
Abstract reviewer for annual meeting (2001-present)

American Association of Physicists in Medicine, Magnetic Resonance Subcommittee (2007 present)

American Association of Physicists in Medicine, Magnetic Resonance Imaging Quality Assurance Subcommittee (2012-present)

American Society for Engineering Education
Abstract reviewer for annual meeting 2012-present
Moderator: 2014 Annual Meeting, Indianapolis, IN

Editorial boards:
Medical Physics
Brain Imaging and Behavior

OUTREACH

Met with Women in Science and Engineering (WISE) students to give talk entitled, "Seeing inside the brain with medical imaging" and discussed women's issues related to a career in science or engineering, (April 14, 2004).
Judge, Capitol Science & Engineering Fair, Madison, WI (2011-present)

GRANT SUPPORT

Past

Principal Investigator: Howard Hughes Medical Institute, “The development of fMRI based methods to measure functional connectivity in the human brain” March 1, 1999– February 28, 2001

Principal Investigator: Radiological Society of North America (RSNA), “A fMRI based exam to replace the wada test for the assessment of language and memory function in preoperative evaluations for anterior temporal lobectomy” July 1, 1999 – June 30, 2001

Principal Investigator: University of Wisconsin Comprehensive Cancer Center, “Advanced CNS Imaging Study”
January 1, 2000-December 31, 2002

Principal Investigator: The Whitaker Foundation “Independent component analysis as a method for mapping functional brain connectivity in neocortical epilepsy patients” July 1, 2000 – June 30, 2003

Principal Investigator: Sun Microsystems Inc. “The creation of a Java-based fMRI image viewing network” January 1, 2001 (equipment grant)

Co-Investigator (PI: Grist): NIH P20 “Wisconsin interdisciplinary molecular imaging center” March 1, 2001- February 28, 2004.

Co-Investigator (PI: Hermann): NIH RO1 “Neurobehavioral features and mesial temporal lobe epilepsy” May 1, 2002-April 30, 2006.

Principal Investigator: NIH S10 “4.7T MRI scanner for small imaging applications” January 1, 2005.

Mentor: (PI: McMillan): NIH F31 “Biological mapping of brain tumors using MRI” July 1, 2004 – June 30 2006.

Principal Investigator: NIH RO1 “Independent component analysis optimized for fMRI” March 1, 2002-February 28, 2007.

Principal Investigator: (PI: Meyerand) Vilas Lifecycle Professorship, University of Wisconsin, February 1, 2007- January 31, 2008.

Principal Investigator: (PI: Meyerand) Industrial & Economic Development Research Program Award,University of Wisconsin, “Investigation of Neural Mechanisms in Electrotactile Vestibulo-Cerebellar SensorySubstitution “ July 1, 2007-June 30, 2008.

Co-Investigator (PI: Dove): NIH “Emergent technologies to detect and analyze colon cancer” April 1, 2004- March 31, 2009.

Consultant (PI: Saykin): NIH RO1 “Memory circuitry in MCI and early Alzheimer’s disease: a functional and morphometric study of early detection and longitudinal change” January 1, 2002 – December 31, 2009.

Consultant (PI: Saykin): NIH RO1 “Neural Mechanisms of Chemotherapy-Induced Cognitive Disorder July 1, 2003 – June 30, 2009.

Mentor (PI: Wishart): NIH K23 “Neural mechanisms of cognitive motor symptoms in MS” July 1, 2004 – June 30, 2009.

Co-Investigator (PI: Duncan): National Multiple Sclerosis Society, grant TR 3761-A-10 “Remyelination and neuroprotective strategies for lesions in multiple sclerosis October 1, 2005 – September 30, 2010.

Co-Investigator (PI: Tome): NIH RO1 “Intracranial Conformal Avoidance Radiation Therapy” April 1, 2005- March 31, 2009.

Mentor: (PI: McKinsey) NIH F31 “Development of MRI-based methods for measuring cerebral perfusion” September 1, 2005 – August 31, 2009.

Principal Investigator (PI: Meyerand) Radiological Society of North America (RSNA) “Creation of Web-Based Instructional Module in the Basic Sciences Underlying Medical Imaging” September 1, 2008 - August 30, 2009.

Co-Investigator (PI: Sutula) DoD “Prediction, Detection, and Prevention of Post-Traumatic Epilepsy and PTSD in Genetically Susceptible Rats” July 1, 2009- June 30, 2010

Principal Investigator: (PI: Meyerand) NIH RO1 “Treatment Planning using Physiologic MRI Data” March 1, 2007-February 28, 2011.

Principal Investigator: NIH "Validating resting state fMRI derived brain connectivity" January 1, 2009- December 31, 2012.

Co-I (PI: Hermann) NIH RO1 "Neuropsychological progression in new onset epilepsy" September 30, 2012-August 31, 2017.

Co- PI (Co-PI's: Williams and Pearce): NIH T32 “Clinical Neuroengineering Training Program” April 1, 2012- December 31, 2017.

Current

Co-PI (Co-PI: Jeffrey Binder, MD; Medical College of Wisconsin) NIH U01 "Epilepsy Connectome" September 1, 2015 - August 30, 2020

Co-I (PI: Suzuki) NIH R01 "Muscle stem cells: Monitoring new ALS growth factor therapy and disease model" July 1, 2015 - June 30, 2020.

Co - PI (Drezner PI of parent U01) NIH TL1 – Clinical and Translational Research (CTSA) grant, pre and post-doctoral training program July 1, 2017 – June 30, 2022.

Co - I (PI: Ziegler, Colman) NIH R01- "Dietary Fat Ratio's Influence on Adolescent Depression: A Nonhuman Primate Model" July 1, 2016 – June 30, 2021

TEACHING

CLASSROOM TEACHING

1. Magnetic Resonance Imaging (Medical Physics/BME 568) Sole instructor, 3cr.; Taught
   Spring 1999
   Spring 2000
   Spring 2001
   Spring 2002
   Spring 2003
   Spring 2004
   Spring 2005
   Spring 2006
   Spring 2007
   Spring 2008
   Spring 2009
   Spring 2011
   Spring 2011
   Spring 2012
   Spring 2013
   Spring 2014
   Spring 2018

2. Non-ionizing Radiation (Medical Physics/BME 578) Co-instructor, 3Cr. Taught 16 lectures/year
   Spring 2015
   Spring 2016
   Spring 2017

2. Neurobiology 3cr. (Physiology 675) Taught 3 lectures/year
   Spring 2001
   Spring 2002
   Spring 2003
   Spring 2006
   Spring 2008

3. Bioethics 1cr. (Neuroscience 675) Taught 8 lectures
   Spring 2001
   Spring 2006

4. Cortical Connectivity 3cr. (Neuroscience 900) Sole

instructor; Taught
Fall 2002

5. Medical Imaging of Disease (Freshman Interest Group (F.I.G.) Sole Instructor 3cr.; Taught
Fall 2005
Fall 2007
Fall 2009
Fall 2011
Fall 2013
Fall 2014

6. Neuroscience 675: Neuroimaging of Cognitive Disorders 3cr.
Taught 5 lectures
Fall 2006
Fall 2007
Fall 2008
Fall 2010
Fall 2012

8. Biomedical Engineering 601: Clinical Neuroengineering Seminar
Co-taught 12 lectures
Fall 2007
Spring 2009
Spring 2012
Spring 2013
Spring 2014

9. Biology 261: Entering research
Sole instructor 3cr: Taught
Spring 2011

10. Biomedical Engineering 300: BME Design
Fall 2012
Fall 2013
Fall 2014
Fall 2015
Fall 2017

11. Biomedical Engineering 301: BME Design
Spring 2016
Spring 2017
Spring 2018

12. Inter-Engineering 170: Freshman Engineering Design
Fall 2017

13. Biomedical Engineering 400: BME Senior Design
Fall 2018

14. Biomedical Engineering 401: BME Senior Design
Spring 2019

Participated on the PhD committees for the following students

Student (PhD grad year)	Prelim	Defense	Department
Andrew Barger ‘00		•	Physics
Greg Cron ‘00		•	Medical Physics
Yousef Mazaheri ‘00		•	Physics
Karl Vigan ‘01		•	Medical Physics
Susan Richardson ‘02	•	•	Medical Physics
Konstantinos Arfanakis ‘02	•	•	Medical Physics
Angela Laird ‘02	•	•	Physics
Jiang Du ‘03		•	Medical Physics
Richard Ross ‘03		•	Medical Physics
Boris Barishnikov ‘04	•	•	Medical Physics
Quan Chen ‘04	•	•	Medical Physics
Min Dong ‘04	•	•	Neuroscience
Tianliang Gu .04	•		Medical Physics
Baxter Rogers ‘04	•	•	Medical Physics
Thor Stein ‘04	•	•	Neuroscience
Ralph Suarez ‘04	•	•	Medical Physics
Tim Stiles ‘04	•		Medical Physics
Quan Liu ‘05	•	•	Biomedical Engineering
Guan Koay ‘05	•	•	Physics
Kathryn McMillan ‘05	•	•	Medical Physics
Aimee Arnoldussen ‘06	•	•	Neuroscience
Jee Eun Lee ‘06	•	•	Medical Physics
Yuchien Wu ‘06	•	•	Medical Physics
Catherine Moran ‘09	•	•	Medical Physics
Mark Supanich ‘08	•	•	Medical Physics
Reed Selwyn ‘07	•	•	Medical Physics
Beth Hutchinson ‘09	•	•	Neuroscience
Min Rao ‘09	•	•	Medical Physics
Alan McMillan ‘07	•	•	Biomedical Engineering
Donald McLauren ‘10	•	•	Neuroscience
Ramya Sundaresan ‘08	•	•	Neuroscience
Melissa Harris ‘10	•	•	Neuroscience
Suzanne Witt ‘08	•	•	Medical Physics
Ben Durkee ‘09	•	•	Medical Physics
Eric Peterson ‘10	•	•	Medical Physics
Leo Walton ‘13	•		Neuroscience
Jeffrey Moirano ‘14	•	•	Medical Physics
Matt McCormick ‘12	•	•	Medical Physics
Edward Binder ‘11	•	•	Medical Physics
Melissa Harris ‘12	•	•	Neuroscience
Adam Wilson ‘09	•	•	Biomedical Engineering
Melissa Anderson ‘08		•	Delta certificate
Abha Rajbhandari ‘13	•	•	Neuroscience
Valerie Grant ‘12	•	•	Neuroscience
Amy Shi ‘12	•	•	Neuroscience
Kim Farbota ’12	•	•	Neuroscience

Patric Hernandez '12	•	•	Neuroscience
Ellen Guller '12	•	•	Neuroscience
SanittaThongpang '12	•	•	Biomedical Engineering
Gary Pack '12		•	Computer Science
Ismael Amarreh '13	•	•	Neuroscience
Gabe Heredia '13	•	•	Medical Physics
Athena Heredia '13	•	•	Medical Physics
Kevin Royalty '14	•	•	Biomedical Engineering
Jeremy Gordon '14	•	•	Medical Physics
David Niles '15	•	•	Medical Physics
Christian La'15	•	•	Neuroscience
Remi Patriat'15	•	•	Medical Physics
Courtney Morrison'16	•		Medical Physics
Erika Starks'16	•	•	Neuroscience
Dong-Wook Park'16		•	Electrical and Computer Engineering
Sheida Malekpour'16	•	•	Electrical & Computer Engineering
Larry Hernandez'16	•	•	Medical Physics
Miles Olsen'18	•		Medical Physics
Emily Ehlerding'18	•	•	Medical Physics
Carlton Frost'18	•	•	Neuroscience
Carolina Aguiar Ferreira'19	•	•	Biomedical Engineering
Sarah Bitant'19	•	•	Medical Physics
Sarah Strand'19	•	•	Medical Physics
Abdul Kader Sagar'19	•		Biomedical Engineering
Adib Keikhosravi'19	•		Biomedical Engineering
Sarah Bitant'19	•		Medical Physics
Alexander Remsik'19	•		Kinesiology
Nakul Aggarwal'20	•		Neuroscience
Akshay Kohli'21	•		Neuroscience

CONTINUING MEDICAL EDUCATION

Faculty instructor for "Physician Initiated Continuing Medical Education" program. Provided rotation in clinical fMRI for a psychiatrist in private practice. Summer 2003.

PAST GRADUATE STUDENTS

Konstantinos Arfanakis, PhD in Medical Physics (2002) Thesis title: “Diffusion Tensor Imaging and Applications”. Current position: Professor, Department of Biomedical Engineering, Illinois Institute of Technology.

Angela Laird, PhD in Physics (2002) Thesis title: “Data Acquisition and Analysis Strategies in Functional Magnetic Resonance Imaging”. Current position: Associate Professor, Physics Department, Florida International University.

Baxter Rogers: PhD in Medical Physics (2004) Thesis title: Functional MRI Measurements of Effective Connectivity During Motor Tasks” Current position: Associate Professor, Department of Radiology, Vanderbilt University.

Kathryn McMillan: PhD in Medical Physics (2005) Thesis title: “fMRI in Neuroimaging: Applications in tumor physiology and working memory”. Current position: Healthcare Product Manager, Primex Corporation, Lake Geneva, WI.

Guan Koay: PhD in Physics (2005) Thesis title: “Advances in Data Analysis of Diffusion Tensor Imaging”. Current position: Staff Scientist, Army Research Lab, Bethesda, MD.

John Carew: PhD in Statistics (2006) Thesis title: “The Development of Statistical Methods Applied to DiffusionTensor Imaging”. Current position: Director of Biostatistics, State of North Carolina Health Care System.

Alan McMillan: PhD in Biomedical Engineering (2007) Thesis title: “Projection Reconstruction Methods for Functional Magnetic Resonance Imaging". Current position: Associate Scientist, Department of Radiology, University of Wisconsin Madison.

Jon Stone: M.S. in Medical Physics (2007) Thesis title: “fMRI-guided Diffusion Tensor Study: Cognitive Impairment in Multiple Sclerosis”. Current position: Patent Agent, Law firm of Quarles and Brady, Milwaukee, WI.

Suzanne Witt: PhD. in Medical Physics (2008) Thesis title: “Thesis title: “fMRI Investigation into Voluntary Bimanual Movement” Current position: Clinical Scientist/Research Engineer (Förste Forskningsingenjör) Center for Medical Image Science and Visualization (CMIV), Linköping University, SWEDEN

Beth Hutchinson: PhD in Neuroscience (2009) Thesis title: “Heterogeneous White Matter Alterations Accompany Pediatric Epilepsy as Determined by Diffusion Tensor Imaging” Postdoctoral Fellow, National Institutes for Health.

Joe Wildenberg: PhD in Neuroscience (2009) Thesis title: “fMRI after neural modulation in patients with balance disorders” (MD 2011) Fouth Year Radiology Fellow, University of Pennsylvania.

Rachel McKinsey: PhD Medical Physics (2011) Thesis title: “Improved Methods for Perfusion Imaging in Alzheimer’s Disease” Consultant, AKSM Oncology, Inc providing services for El Camino Hospital in Mountain View, CA

Patric Hernandez (co-advisor Nitschke): PhD in Neuroscience (2012) Thesis title: “DTI in patients with generalized anxiety disorder” (MA Public Affairs 2010) Consultant for Deloitte & Touche with the Federal Advisory and Enterprise Risk Service division, Washington D.C.

Ismael Amarreh: PhD Neuroscience (2013) Thesis title: "fMRI of brain connectivity in pediatric epilepsy" Chief, Research Scientist Development , Program Officer for Global Mental Health, National Institute of Mental Health (NIMH), NIH, Bethesda, MD

Gabe Heredia: PhD in Medical Physics (2013) Thesis title: “Physiological MRI in brain tumor patients” Staff Medical Physicist, Spectrum Medical, Grand Rapids, Michigan.

Athena DeNomes (co-advisor Dr. Bruce Thomadsen): PhD in Medical Physics (2013) Thesis title: “New seeds for accelerated brachytherapy treatment“Staff Medical Physicist, Spectrum Medical, Grand Rapids, Michigan.

Ksenija Bujanovic: (co-advisor Dr. Masatoshi Suzuki): PhD in Biomedical Engineering (2013) Thesis title: “MRI to guide stem cell engineering” Postdoctoral Fellow, University of Wisconsin Comprehensive Cancer Center.

Robert Shirey: M.S. in Medical Physics Thesis title: "Graph theoretical models of human brain connectivity in pediatric epilepsy patients" Medical Physics Resident, Mary Bird Perkins Cancer Center, Shreveport Louisiana.

Christian La (co-advisor Dr. Vivek Prabahakaran): PhD in Neuroscience (2015) Thesis title: "fMRI connectivity analysis in stroke". Postdoctoral Fellow, Stanford University.

Ricardo Pizarro (co-advisor Dr. Justin Williams): PhD in Biomedical Engineering (2016) Thesis title: "Estimating Neural Networks with State-of-the-Art Neuronal Computational Models" Postdoctoral Fellow, Montreal Neurological Institute

Barbara Wendleberger: PhD in Statistics (2016) Thesis title: “Exploiting biology’s structure – function relationship to improve effective connectivity estimates in neuroimaging". Consultant, Barry Biostatistics Consulting, San Antonio, TX

Christina Lewis: PhD in Medical Physics (2016) Thesis title: "Molecular MRI and PET methods for detection of transplanted stem cells and cancer" Assistant Professor, Radiology Department, University of Washington-Seattle.

Carlton Frost: PhD Neuroscience (2018) Thesis title: “Childhood Emotional Abuse and Neuroendocrine Stress Systems in Depression: A Possible Role for Corticomotor Circuitry” Science policy analyst, advanced – Wisconsin Department of Children and Families in the area of Youth Justice.

CURRENT GRADUATE STUDENTS

Cole Cook: PhD in Medical Physics (expected 2020) Thesis title: “Dynamic causal analysis for neuroimaging”

Guy Hwang (co-advisor Vivek Prabhakaran) PhD in Medical Physics (expected 2020) Thesis title: “Novel machine learning derived network models of data from the epilepsy connectome”

Maribel Torres Velazquez (co advisor: Alan McMillan) PhD in Biomedical Engineering (expected 2020) Thesis title: “Deep learning applied to PET-MRI data”

Gengyan Zhao (co-advisor: Rasmus Birn) PhD in Medical Physics (expected 2019) Thesis title: “Machine learning and the epilepsy connectome”

Charlene Rivera-Bonet (co-advisor Heather Abercrombie) PhD in Neuroscience (expected 2020) Thesis title: “Correlation of affective response and imaging findings in temporal lobe epilepsy”

Since May 2001 I have been an advisor to UW undergraduates majoring in Biology. I mentor these students throughout their entire undergraduate career as soon as they declare a major in Biology. This involves meeting one-on-one with the advisee at least once a semester to discuss their course schedule and career plans. I am also available by appointment to answer any questions one of my advisees has at anytime. I have typically been the advisor to 5-10 biology majors at any one time.

BOOK CHAPTERS - WRITTEN

1. Haughton V.M., P.A. Turski, M.E. Meyerand, G. Wendt, C.H. Moritz and J. Ulmer (1999), "The Clinical Applications of Functional MR Imaging" Neuroimaging Clinics of North America, W.B. Saunders Co., Philadelphia, PA, pg. 285-293.
2. Arfanakis K., V. Haughton, J.D. Carew, B.P. Rogers, R. J. Dempsey, M.E. Meyerand (2002) Diffusion tensor MRI in diffuse axonal injury. Year Book of Diagnostic Radiology.
3. Block W.F. A.L. Alexander, J.H. Brittain, S.B. Fain, M.E. Meyerend, C.J.Moran, S.B. Reeder, K.K. Vigen, and O. Wieben (2006) Magnetic Resonance Imaging: Encyclopedia of Medical Devices and Instrumentation, Wiley and Sons. Editor John Webster.

BOOKS CHAPTERS - EDITED

Meyerand, M.E. MR Contrast Mechanisms and Advanced fMRI Techniques, Sinauer Associates Publishing Inc, Sunderland, MA 2003

PATENTS

- U.S. Patent #4,630,440: issued December 23, 1986. Process and Apparatus for Obtaining Electrical Power from Ocean Waves.
- U.S. Patent #5,150,052: issued September 22, 1992. Apparatus and Method for Magnetic Resonance Spectral Imaging
- U.S. Patent #5,469,060: issued November 21, 1995. Time encoded Magnetic Resonance Imaging
- License # P01404US Diffusion Tensor MRI Post Processing Algorithm. Issued January 2001.
- U.S. Patent #7,127,281: issued September 6, 2006. Patient Support System and Method for Studies of Lumbar Vertebra Rotation.
- U.S. Patent #8,633,165: issued January 21, 2014. Methods and Pharmaceutical Compositions For Treating Adverse or Deleterious Sequellae of Traumatic Brain Injury.

PUBLICATIONS

1. **Meyerand**, M.E., E.C. Wong (1995) A time encoding method for single shot imaging, *Magn. Reson. Med*. **34**(4)618-622.
2. **Meyerand**, M.E., Y. Cremillieu, Y. Zaim Wadghiri, A. Azzawi, P.J. Hoopes and J.F. Dunn (1998) In vivo gradient echo microimaging of rodent spinal cord at 7T. *Magn. Reson. Med*. **40**(5) 789-791.
3. **Meyerand**, M.E., C.H. Moritz and E.C. Wong. (1998) Single-shot cardiac imaging on a standard clinical system, *Magn. Reson. Med*. **40**(6) 930-933.
4. **Meyerand**, M.E., J.M. Pipas, A. Mamourian, T. Tosteson and J.F. Dunn (1999) Classification of clinically identified brain tumors using single voxel MR spectroscopy. *Am.J.Neuroradiology AJNR* 20(1): 117-123.
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13. Quigley, M., V. Haughton, D. Cordes, G. Wendt, P. Turski, C. Moritz, K. Arfanakis, M. E. **Meyerand** (2002) A comparison of independent component analysis and student-t analysis for processing clinical functional magnetic resonance images. *AJNR Am. J. Neuradiology* 23**:** 49-58.
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96. Vergun S, Gaggl W, Nair VA, Suhonen JI, Birn RM, Ahmed AS, **Meyerand** ME, Reuss J, DeYoe EA, Prabhakaran V. (2016) Classification and Extraction of Resting State Networks Using Healthy and Epilepsy fMRI Data. *Front Neurosci.* 10:440. PMID: 27729846.
97. Brunnquell CL, Hernandez R, Graves SA, Smit-Oistad I, Nickles RJ, Cai W, **Meyerand** ME, Suzuki M. (2016) Uptake and retention of manganese contrast agents for PET and MRI in the rodent brain. *Contrast Media Mol Imaging* 11(5):371-380. PMID 27396476.
98. George SC, **Meyerand** ME; Council of Chairs of Biomedical Engineering (2017) Challenges and Opportunities: Building a Relationship Between a Department of Biomedical Engineering and a Medical School. *Ann Biomed Eng*. 45(3):521-524. PMID 28070773.
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100. Pizzo ME, Wolak DJ, Kumar NN, Brunette E, Brunnquell CL, Hannocks MJ, Abbott NJ, **Meyerand** ME, Sorokin L, Stanimirovic DB, Thorne RG. (2017) Intrathecal antibody distribution in the rat brain: surface diffusion, perivascular transport, and osmotic enhancement of delivery. *J Physiol.* 10.1113/JP275105. PMID: 29023798
101. Zhao G, Liu F, Oler JA, **Meyerand** ME, Kalin NH, Birn RM Bayesian convolutional neural network based MRI brain extraction on nonhuman primates. *Neuroimage*. 2018 Mar 28;175:32-44. PMID: 29604454
102. Garcia-Ramos C, Dabbs K, **Meyerand** E, Prabhakaran V, Hsu D, Jones J, Seidenberg M, Hermann B. (2018) Psychomotor slowing is associated with anomalies in baseline and prospective large scale neural networks in youth with epilepsy. *Neuroimage Clin*. 19:222-231. PMID: 30035016.
103. Garcia-Ramos C, Dabbs K, Lin JJ, Jones JE, Stafstrom CE, Hsu DA, **Meyerand** ME, Prabhakaran V, Hermann BP. (2018) Progressive dissociation of cortical and subcortical network development in children with new-onset juvenile myoclonic epilepsy *Epilepsia.*59(11):2086-2095. PMID: 30281148.
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105. Frost CP, **Meyerand** ME, Birn RM, Hoks RM, Walsh EC, Abercrombie HC. (2018) Childhood Emotional Abuse Moderates Associations Among Corticomotor White Matter Structure and Stress Neuromodulators in Women With and Without Depression. *Front Neurosci.* Apr 23;12:256. PMID:29740273.
106. Hwang G, Dabbs K, Conant L, Nair VA, Mathis J, Almane DN, Nencka A, Birn R, Humphries C, Raghavan M, DeYoe EA, Struck AF, Maganti R, Binder JR, **Meyerand** E, Prabhakaran V, Hermann B. (2019) Cognitive slowing and its underlying neurobiology in temporal lobe epilepsy. *Cortex*. 5;117:41-52. PMID 30927560.
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INVITED PRESENTATIONS:

1. "FMRI for Clinical Applications" – The President's regional meeting for the society of magnetic resonance technologists (SMRT), Madison, WI, June 30, 2000
2. "FMRI applications and methods" – Medical College of Wisconsin, November 17, 2000
3. "fMRI" - Plenary speaker in session entitled, "MRI for Clinicians" at the International society For Magnetic Resonance in Medicine (ISMRM), Glasgow, Scotland, April 26, 2000.
4. "Molecular imaging in the 21st century: progess and possibilities" - Biological Imaging Conference sponsored by Promega Corporation, Fitchburg, WI, May 25, 2001.
5. "Probing the mechanisms of cancer development using molecular imaging" - 6th International Conference on Dose, Time and Fractionation, Madison, WI, September 23-25, 2001.
6. "Analysis of the instantaneous phase signal of a fMRI time series via the Hilbert transform" – 35th Asilomar Conference on Signals, Systems & Computers" Pacific Grove, CA, November 7, 2001.
7. "Diffusion Tensor MRI Shows Regional White Matter Changes in Temporal Lobe Epilepsy Patients", Neurology Dept. Grand Rounds, University of Wisconsin, March 1, 2002.
8. "Imaging the mind using functional magnetic resonance imaging (fMRI)" UW Madison, April 25, 2002.
9. "fMRI" - Plenary speaker in session entitled, "MRI for Clinicians" at the International society Magnetic Resonance in Medicine (ISMRM), Honolulu, HI May 23, 2002.
10. "Functional magnetic resonance imaging" Summer research program in biostatistics, University of Wisconsin, Biostatistics Department, June 26, 2002.
11. "Functional Magnetic Resonance Imaging: A Window into the mind" University of Wisconsin, Physics Department, November 8, 2002.
12. "A career as a medical physicist" Sherman Middle School Career Day, Jan 13, 2003, Madison, WI.
13. "Engineering and functional magnetic resonance imaging" Madison chapter of the Biomedical Engineering Society, February 12, 2003.
14. "Neuroscience applications of functional magnetic resonance imaging" Neuroscience undergraduate neurobiology seminar, March 4, 2003.
15. "Looking into the mind using brain imaging" Brain Awareness Week Public Lecture, The Waisman Center, Madison, WI, April 10, 2003.
16. "Exploring neurological pathology through the development and application of MRI methods" Brown University, Providence, RI, June 16, 2003.
17. "Statistics and brain imaging" Summer research program in biostatistics, University of Wisconsin, Biostatistics Department, July 8, 2003.
18. "fMRI" - Plenary speaker in session entitled, "MRI for Clinicians" at the International Society Magnetic Resonance in Medicine (ISMRM), Toronto, Ont, Canada, July 15, 2003.
19. "Biological mapping of human brain tumors using MRI" Medical College of Wisconsin, December 12, 2003.
20. "Measuring hypoxia in human brain tumors using magnetic resonance imaging" Gas Club, UW Veterinary School, November 14, 2003.
21. "Statistics and brain imaging" Summer research program in biostatistics, University of Wisconsin,Biostatistics Department, July 10, 2005.
21. "What fMRI and DTI Reveal About Brain Remodeling in the Vicinity of Tumor Growth" Department of Neurological Surgery Grand Rounds, December 14, 2005.
22. "Statistical Analysis and Functional MRI" Summer research program in biostatistics, University of Wisconsin, Biostatistics Department, June 22, 2006.
23. "The role of teaching in retention and promotion" UW Teaching Academy, June 7, 2007.
24. "MRI-guided Radiation Therapy Treatment" Wake Forest University, October, 16, 2007.
25. "Development and Application of Image Processing Methods to Temporal Lobe Epilepsy", University of North Carolina at Chapel Hill, December 11, 2007.
26. "Diffusion Tensor Imaging as a Tool to Explore Temporal Lobe Epilepsy", University of Indiana, February 22, 2008.
27. "MRI-guided Radiation Therapy Treatment of Brain Tumors", Dartmouth College, March 13, 2009.
28. "Changes in Brain Connectivity in Patients with Balance Dysfunction Detected using Dynamic Causal Modeling", Department of Biomedical Engineering, Illinois Institute of Technology, March 30, 2012.
29. "Methods to Measure Human Brain Connectivity", Biophysics Research Institute, Medical College of Wisconsin, April 20, 2012.
30. "Advances in MRI-based Brain Connectivity Mapping", Department of Electrical, Computer and Biomedical Engineering, University of Rhode Island, September 12, 2012.

31. "Mapping Brain Connectivity Using Dynamic Causal Modeling", Department of Biomedical Engineering, Northwestern University, November 2, 2012.
32. "Modeling Brain Networks Using Dynamic Causal Modeling", the Mind Research Institute, Albuquerque, NM, November 14, 2013.
33. "Using Effective Connectivity fMRI to Understand Balance Function", Department of Biomedical Engineering, The University of Virginia, March 28, 2014.
34. “Modeling Human Brain Connectivity Using fMRI” Department of Biomedical Engineering, University of California – Davis, January 7, 2016
35. “The Epilepsy Connectome Project” Bi-Annual Resting-State Conference, University of Vienna, Vienna, Austria, September 20, 2016.
36. “The Epilepsy Connectome” Invited plenary presentation, International Neuropsychological Society, Washington D.C., February 17, 2018.

MILITARY SERVICE

UNITED STATES COAST GUARD RESERVE (Honorable Discharge 2012)
2003- 2005 Petty Officer Third Class – United States Coast Guard
2005 - 2012 Ensign; Lieutenant Junior Grade – United States Coast Guard (entered IRR in 2007)

TRAINING

2003 fall - Reserve Enlisted Basic Indoctrination (REBI), Training Center Cape May, Cape May, NJ.

- Coast Guard Regulations and Policies
- First Aid/CPR
- Survival Swimming
- Emergency Drills
- Incident Command System
- Basic Seamanship
- Small Arms Training

2005 spring – Reserve Officer Candidate Indoctrination (ROCI), Leadership Development Center, U.S. Coast Guard Academy, New London, CT

- Developing leadership skills
- Mentoring skills
- Authority, accountability and responsibility
- Maritime law enforcement
- Military Justice
- Leadership/Followership

HONORS AND AWARDS

Meritorious Unit Commendation
National Defense Service Medal