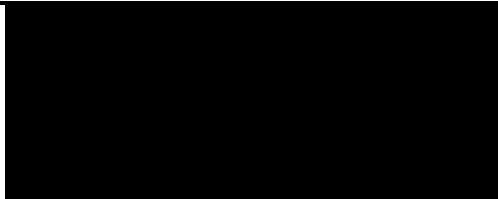


Committee on Energy and Commerce
U.S. House of Representatives
Witness Disclosure Requirement - "Truth in Testimony"
Required by House Rule XI, Clause 2(g)(5)

| | | |
|--|------------|-----------|
| 1. Your Name: | | |
| 2. Your Title: | | |
| 3. The Entity(ies) You are Representing: | | |
| 4. Are you testifying on behalf of the Federal, or a State or local government entity? | Yes | No |
| 5. Please list any Federal grants or contracts, or contracts or payments originating with a foreign government, that you or the entity(ies) you represent have received on or after January 1, 2013. Only grants, contracts, or payments related to the subject matter of the hearing must be listed. | | |
| 6. Please attach your curriculum vitae to your completed disclosure form. | | |

Signature: _____



Date: _____

Kathleen Marie Schmainda
Professor, Radiology & Biophysics
Vice-Chair, Radiology Research
Medical College of Wisconsin



EDUCATION

Marquette University; Milwaukee, Wisconsin
Bachelors Degree in Engineering, 1986
Summa Cum Laude

Massachusetts Institute of Technology
Masters Degree in Electrical Engineering, 1989

Harvard University / Massachusetts Institute of Technology
Division of Health Science and Technology
Doctorate in Medical Engineering, 1993

Massachusetts General Hospital NMR Center
Post-Doctoral Fellowship in MRI, 1994-1996

PROFESSIONAL EXPERIENCE

1984 Co-Op Engineer, General Electric Medical Systems, Waukesha, WI
Co-Op Engineer, Electronics Design Laboratory (1st term), Special Products Design
Engineering Unit (2nd term)

1985-1987 Computer Programmer, Veteran's Administration Medical Center, Milwaukee, WI

1987-1989 Master's Degree Student, MIT / Massachusetts Eye and Ear Institute, Cambridge, MA

1989-1993 Doctoral Student, Harvard-MIT / Beth Israel Deaconess Hospital, Boston, MA

1994-1996 Post-Doctoral Fellow, Massachusetts General Hospital NMR Center, Cambridge, MA

1996-2002 Assistant Professor, Biophysics Research Institute, Medical College of Wisconsin,
Milwaukee, WI

1996-present Adjunct Assistant Professor, Department of Biomedical Engineering, Marquette University,
Milwaukee, WI

1998-2000 Consultant, IGC / Medical Advances, Milwaukee, WI

1998-2002 Assistant Professor (Primary Appointment), Department of Radiology, Medical College of
Wisconsin, Milwaukee, WI

2002-2008 Associate Professor, Department of Radiology, Medical College of Wisconsin, Milwaukee,
WI

2004-present Co-Founder, Prism Clinical Imaging, Inc.

2007-present Founder, Imaging Biometrics LLC.

2008-present Professor, Department of Radiology, Medical College of Wisconsin, Milwaukee, WI

| | |
|--------------|--|
| 2008-2012 | <u>Research Director</u> , Translational Brain Tumor Research Program, Medical College of Wisconsin, Milwaukee, WI |
| 2010-2014 | <u>Director</u> , Cancer Imaging Program, Cancer Center, Medical College of Wisconsin, Milwaukee, WI |
| 2010-present | <u>Vice-Chair</u> , Radiology Research, Department of Radiology, Medical College of Wisconsin, Milwaukee, WI |

HONORS & AWARDS

(* Indicates student or staff under Dr. Schmainda)

| | |
|-----------|---|
| 1981-1986 | <u>Academic Scholarship</u> , Marquette University, Milwaukee, WI. |
| 1981-1986 | <u>Dean's List</u> , all semesters, Marquette University, Milwaukee, WI. |
| 1982-1983 | <u>Outstanding Sophomore in Engineering Award</u> , Marquette University, Milwaukee, WI. |
| 1985-1987 | <u>TAU BETA PI</u> , All Engineering Honor Society, Marquette University, Milwaukee, WI. |
| 1985-1986 | <u>ALPHA ETA MU BETA</u> , Biomedical Engineering Honor Society, Marquette University, Milwaukee, WI. |
| 1986 | <u>High Scholastic Honors in Biomedical Engineering</u> , Marquette University, Milwaukee, WI. |
| 1986 | <u>High Scholastic Honors in Computer Medical Applications</u> , Marquette University, Milwaukee, WI. |
| 1986 | <u>Engineering convocation speaker</u> , Marquette University, Milwaukee, WI. |
| 1986 | <u>Summa Cum Laude Graduate</u> , Marquette University, Milwaukee, WI. |
| 1987-1988 | <u>Outstanding Woman of America</u> . |
| 1996-1998 | <u>Medical Engineering Fellowship</u> , Harvard-MIT Division of Health Sciences and Technology, Cambridge, MA |
| 1989-1990 | <u>Sterling Winthrop Fellowship</u> , Harvard-MIT Division of Health Sciences and Technology, Cambridge, MA |
| 1993-1994 | <u>Gillette Fellowship</u> , Harvard-MIT Division of Health Sciences and Technology, Cambridge, MA |
| 1997 | <u>Finisher</u> , Big Sur International Marathon |
| 1998 | <u>Milwaukee Business Journal's 40 under 40</u> |
| 1998 | <u>Finisher</u> , Milwaukee Lakefront Marathon, <u>Qualifier</u> for Boston Marathon |
| 1999 | <u>Finisher</u> , Boston Marathon |
| 4/1999 | <u>Magna Cum Laude Poster Award</u> , American Society of Neuroradiology Annual Meeting, for "Diffusion Magnetic Resonance Imaging in Stroke: A comparison of spin-echo and FLAIR spin echo diffusion sensitive techniques." Authors: Ulmer JL, *Olson AT, Latour LL, Nordling, Donahue KM. |
| 4/2001 | <u>Scientific Exhibit Gold Medal</u> , 101 st Annual Scientific Meeting at American Roentgen Ray Society, Seattle, Washington, for: "Physiologic magnetic resonance imaging of the brain: a conceptual approach to contrast mechanisms and measureable physiologic parameters." Authors: Ulmer J, Strottman, Prost RW, Schmainda KM , Biswal BB, Mark LP, Daniels DL. |
| 5/2004 | <u>Young Investigator Award</u> to Dr. Schmainda's graduate student, Kevin Bennett. 12 th Annual Meeting of International Society of Magnetic Resonance in Medicine, Kyoto, Japan, for: "Intravoxel distribution of DWI decay rates reveals C6 glioma invasion in rat brain." Authors: *Bennett KM, Hyde J, Rand S, Bennett R, Krouwer H, *Rebro KJ, Schmainda KM . |
| 5/2004 | <u>First Place Poster Award, Cancer and Spectroscopy Category</u> to Dr. Schmainda's graduate student, Christopher C. Quarles, 12 th Annual Meeting of International Society of Magnetic Resonance in Medicine, Kyoto, Japan for: "The anti-angiogenic drug, SU11657 decreases brain tumor size and normalizes perfusion as indicated by DSC-MRI perfusion parameters." Authors: *Quarles CC, *Wu FC, *Darpolor M, Rand SD, Krouwer HGJ, Schmainda KM . |
| 6/2004 | <u>Summa Cum Laude Poster Award</u> , 42 nd Annual Meeting of American Society of Neuroradiology Meeting for: "Lesion-induced neurovascular uncoupling can mimic cortical |

- reorganization by BOLD fMRI.” Authors: Ulmer JL, Hacein-Bey L, Mathews VP, DeYoe EA, Probst RW, **Schmainda KM**, Mueller WM, Krouwer HGJ.
- 10/19/2007 United States Patent (#6,807,441 B2), for “Evaluation of Tumor Angiogenesis Using Magnetic Resonance Imaging.” Inventor: **Kathleen M. Schmainda**.
- 6/2007 Bayer Best Paper Award to Dr. Schmainda’s graduate student, Eric Paulson, at 45th Annual Meeting of American Society of Neuroradiology Meeting, Chicago, for “Correction of confounding leakage and residual susceptibility effects in dynamic susceptibility contrast MR imaging using dual-echo SPIRAL.” Authors: *Paulson ES, *Prah D, **Schmainda KM**.
- 5/2008 3rd Place Poster Award to Dr. Schmainda’s graduate student, Douglas Prah, at 16th Annual Meeting of International Society of Magnetic Resonance in Medicine, Toronto, for “In vitro mitochondrial labeling using mito-carboxy proxyl (Mito-CP) enhanced magnetic resonance imaging.” Authors: *Prah De, *Paulson ES, Zielonka J, Hardy MJ, Joy J, Kalyanaraman B., **Schmainda KM**.
- 5/2009 1st Place Poster Award in Cancer Imaging, to Dr. Schmainda’s post-doctoral fellow, Dr. Ellingson, at 17th Annual Meeting for International Society of Magnetic Resonance in Medicine, Honolulu, for “Cytotoxic and anti-angiogenic treatment responses in gliomas using functional diffusion maps (fDMs) in FLAIR abnormal regions.” Authors: *Ellingson B, Malkin M, Rand SD, Hoyt A, Connelly J, *Bedekar D, Kurpad S, **Schmainda KM**.
- 7/28/2009 United States Patent (#7,567,832 B2), “MRI method for measuring tumor hemodynamic parameters in the presence of contrast agent extravasation.” Inventors: **Schmainda KM**, *Quarles C, Ward BD.
- 8/27/2009 United States Patent (#0214437-A1), “In vivo mitochondrial labeling using positively-charged nitroxide enhanced gadolinium chelate magnetic resonance imaging.” Inventors: Kalyanaraman B, **Schmainda KM**, Joseph J, Lopez M, *Prah D, Hardy M.
- 5/2010 International Society of Magnetic Resonance in Medicine Meeting, Young Investigator Moore Award, awarded for “Validation of Functional Diffusion Maps (fDMs) as a Biomarker for Human Glioma Cellularity.” *BE Ellingson, MG Malkin, SD Rand, JM Connelly, C Quinsey, *PS LaViolette, *DP Bedekar, **KM Schmainda**.
- 5/2012 Merit Award, International Society of Magnetic Resonance in Medicine Meeting, awarded for “Precise ex-vivo histological validation of heightened cellularity in regions of dark ADC in three cases of high-grade glioma.” *PS LaViolette, E Cochran, M *Al-Gizawiy, S Rand, J Connelly, M Malkin, W Mueller, **KM Schmainda**.
- 5/2013 Summa Cum Laude Merit Award ISMRM Summa Cum Laude Merit Award, awarded for “The relationship between short and long diffusion time ADC values in rat brain tumors” *A Cohen, PS LaViolette, **KM Schmainda**, May 2013, p 0446.
- 5/2013 One of five most-cited papers published in *Journal of Magnetic Resonance in Imaging* in 2010. Award announced at International Society of Magnetic Resonance in Medicine Meeting, 2013. The paper, entitled, “Validation of functional diffusion maps (fDMs) as a biomarker for human glioma cellularity”, was authored by *B Ellingson, MG. Malkin, SD Rand, JM Connelly, **KM Schmainda**.
- 10/2013 United States Patent (#12/601,241), “Multiparameter Perfusion Imaging with Leakage Correction”, Inventors: **Schmainda KM**, Eric S. Paulson, Douglas E. Prah Issue Date: October 2, 2013.
- 4/2016 Elected to the American Institute for Medical and Biological Engineering (AIMBE) College of Fellows. Induction ceremony on Monday April 4, 2016 at the National Academy of Sciences, Washington, DC.

RESEARCH GRANTS AND CONTRACTS

Active Grant Awards

- 03/31/00-03/30/17 **NIH/NCI 2R01CA082500**: “MRI Contrast Agent Methods to Assess Tumor Angiogenesis”
Role: Principal Investigator: 3.0CM (25% Effort)
Direct Funds: \$181,636 (total for current year)

The objective of this work is to develop and validate a simultaneous DSC/DCE perfusion approach to predict response to treatment and distinguish treatment effects from residual or recurrent brain tumor.

4th consecutive funding period awarded for this NIH ROI project

- 03/01/14-02/28/19 **NIH/NCI 1U01CA176110:** “Quantitative (Perfusion & Diffusion) MRI Biomarkers Measure Glioma Response”
Role: Principal Investigator: 3.0CM (25% Effort);
Direct Funds: \$318,600
This U01 application proposes the development and validation of a combined perfusion and diffusion MRI (magnetic resonance imaging) methods for use in clinical trials to evaluate the response of brain tumors to targeted therapies. (Received Priority Score of 11)
- 07/01/14-06/30/16 **Rosenberg Award:** “Brain tumor treatment with metalldrugs: studies with cancer stem cells” (PI: Chitambar)
Role: Co-Investigator
Direct Funds: \$40,000
- 03/01/15-02/28/16 **AHW Research and Education Program:** “Susceptibility-based measurements of iron concentrations in brain tumors”
Role: Principal Investigator
Direct Funds: \$50,000

Pending Grant Awards

- 12/01/15-11/30/20 **NIH/NCI R01 CA201064:** “Targeting iron-dependent brain tumor growth with novel metalldrugs”
Role: Co-PI
Direct Funds: \$1,500,000 (total for all years)
- 12/01/15-11/30/16 **NIH/NCI R41:** “Development of a CAD Method to Detect Brain Tumor Invasion” (Imaging Biometrics LLC / Medical College of Wisconsin)
Role: Co-Investigator
Direct Funds: \$150,000
- 12/01/15-11/30/18 **NIH/NINDS 2R44NS076149:** “Automating MRI Delta T1 Methods of the Routine Assessment of Brain Tumor Burden” (Imaging Biometrics LLC / Medical College of Wisconsin)
Role: Co-Investigator
Direct Funds: \$750,000 (total for all years)
- 07/01/15-06/30/16 **Womens Health Research Program** “Development of Advanced MRI Methods to Assess placental structure and function”
Role: Co-PI
Direct Funds: \$50,000
- 07/01/15-06/30/16 **St Baldrick’s Foundation:** “Advanced MRI and proteomic analysis of pediatric brain tumors.”
Role: Co-Investigator; PI (T Kelly)
Direct Funds: \$100,000
- 08/01/15-07/31/17 **The Childhood Brain Tumor Foundation:** “Advanced MRI and proteomic analysis of pediatric brain tumors.”
Role: Co-Investigator; PI (T Kelly)
Direct Funds: \$60,000 (for both years)
- 12/01/15-11/30/17 **NIH/NCI R21:** “A priori identification of response to anti-VEGF therapy in recurrent GBM”

Role: Co-Investigator; PI (S Mirza)
Direct Funds: \$275,000 (total for all years)

04/01/16-03/31/21 **NIH/NINDS R01:** “Proteomic biomarkers to predict resistance to anti-VEGF therapy in recurrent GBM”

Role: Co-Investigator; PI (S Mirza)
Direct Funds: \$1,500,000 (total for all years)

Planned Grant Awards

Submission 11/15 **NIH/NCI R35:** “Integrating advanced imaging for brain tumors.

Role: Principal Investigator
Direct Funds: \$500,000 (for each of 7 years)

Submission 06/16 **NIH/NCI R01:** “Quantitative CT for radiation therapy response assessment”

Role: Co-Investigator; PI (X Allen Li)
Direct Funds: \$250,000 (for each of 4 years)

Prior Grant Awards

1996-1997 **MCW Cancer Center:** Development of Magnetic Resonance Imaging Methods to Measure Tumor Vascular Parameters

Role: Principal Investigator
Direct Funds: \$10,000

1996-1997 **MCW Research Affairs Committee:** “Measurement of Capillary Perfusion Parameters in Humans.” Role: Principal Investigator

Direct Funds: \$15,000

9/1/97-8/31/00 **Whitaker Foundation:** “Modeling of Biophysical Relationships Underlying the Contrast-Enhanced MRI Measurement of Tumor Vascular Parameters”

Role: Principal Investigator
Direct Funds: \$210,000

7/1/98-6/30/00 **MCW Cancer Center:** Role of MRI rCBV Mapping in Gliomas

Role: Principal Investigator
Direct Funds: \$25,000

4/1/99-3/30/04 **NIH/NIMH PO1:** Functional Magnetic Resonance Imaging of the Brain

Role: Co-Investigator (Project 1)
Direct Funds: \$1,271,762 (Project 1 total for all years)

1/1/00-12/31/00 **MCW Research Affairs Committee:** Modeling of Biophysical Relationships Underlying the Contrast-Enhanced MRI Measurement of Tumor Vascular Parameters

Role: Principal Investigator
Direct Funds: \$15,000

3/1/00-3/30/03 **NIH/NCI RO1:** “MRI Contrast Agent Methods to Assess Tumor Angiogenesis”

Role: Principal Investigator
Direct Funds: \$817,759 (total for all years)

1/1/02-12/31/02 **MCW Cancer Center:** Development of Diffusion MRI Methods to Evaluate Glioma Invasion

Role: Principal Investigator
Direct Funds: \$25,000

4/1/02-3/31/03 **NIH/NCRR:** Shared Instrumentation Grant for Bruker Biospec 9.4T/30cm Bore MRI System

Role: Co-Investigator

Direct Funds: \$500,000

7/1/02-6/30/03 **NIH High-End Instrumentation Program:** 3T Whole Body MRI Scanner for Functional Imaging
Role: Co-Investigator
Direct Funds: \$2,000,000

4/1/03-3/30/07 **NIH/NCI RO1:** “MRI Contrast Agent Methods to Assess Tumor Angiogenesis”
Role: Principal Investigator
Direct Funds: \$1,128,000 (total for all years)

6/1/03-4/3/07 **NIH/NIDDK RO1:** “Long-term effects of acute renal failure”
Role: Co-Investigator
Direct Funds: \$1,045,256 (support ended in 2005 since PI moved to another Institution)

7/1/04-6/30/05 **MCW Bioengineering and Biotechnology Center:** “Treatment planning MRI technology for brain tumors”
Role: Principal Investigator
Direct Funds: \$52,432

10/1/04-9/30/06 **Advancing a Healthier Wisconsin:** “Facilitating Discovery with Multi-Parameter Physiologic Imaging of Brain Tumors”
Role: Principal Investigator
Direct Funds: \$250,000

7/1/05-12/31/06 **Berlex Laboratories:** “Analysis of Brain Tumor rCBV Data to Determine the Most Clinically Relevant MRI
Role: Principal Investigator
Direct Funds: \$52,000

7/1/05-6/30/07 **MCW Cancer Center:** “Dynamic susceptibility contrast MRI techniques to evaluate tumor angiogenesis and response to treatment in intracerebral malignant human gliomas xenografts in rats.
Role: Co-Investigator
Direct Funds: \$25,000

6/1/06-5/31/07 **NIH/NCI R41:** “Merit of Perfusion Targets for Radiotherapy Planning”
Role: Principal Investigator Direct Funds: \$107,000

3/1/06-2/28/08 **Wisconsin Breast Cancer Showhouse:** “Development of a MRI method to measure breast tumor blood volume: a sensitive and specific indicator of breast cancer?”
Role: Principal Investigator
Direct Funds: \$150,000

3/1/06-2/28/08 **Wisconsin Breast Cancer Showhouse:** “Mito-Q Attenuates DOX-Induced Cardiotoxicity and Potentiates Anti-tumor Effects: MR imaging and echocardiography studies”
Role: Co-Investigator
Direct Funds: \$150,000

3/31/07-3/30/12 **NIH/NCI 2RO1CA082500:** “MRI Contrast Agent Methods to Assess Tumor Angiogenesis”
Role: Principal Investigator

7/1/07-6/30/08 **Wisconsin State Tax Write-Off Program:** “Effects of Chemotherapy on Cognition and Brain Function in Breast Cancer Patients”
Role: Co-Investigator
Direct Funds: \$70,000

9/1/07-8/31/10 **NIH/NCI R21:** “Diffusion MRI to Detect Glioma Invasion”
Role: Principal Investigator
Direct Funds: \$333,000 (total for all years)

- 6/1/08-5/31/12 **MCW Advancing a Healthier Wisconsin** / Departmental *"Translational Neuro-Oncology Research Program."*
Role: Co-Investigator / Research Director
Direct Funds: \$2,000,000 (total for all years)
- 7/1/08-5/31/13 **NIH/NCI RO1CA125122:** Role of iNOS, Nitric Oxide & Arginase in Statin-Mediated Toxicity in Cancer Cells.
Role: Co-Investigator
Direct Funds: \$207,500 (total for current year)
- 8/1/08-7/30/09 **NIH/NCI R41:** "Development of the Standard for Clinical Breast Perfusion Imaging"
Role: Co-Investigator (Small Business Grant)
Direct Funds: \$107,000
- 8/1/08-7/30/09 **NIH/NCI R41:** "Product Development of a Brain Tumor Perfusion Imaging Technology"
Role: Co-Investigator (Small Business Grant)
Direct Funds: \$107,000
- 9/1/08-8/31/12 **NIH/NCI 2R44CA1340431:** Product Development of a Brain Tumor Perfusion Imaging Technology (Imaging Biometrics LLC / Medical College of Wisconsin)
Role: Co-Investigator
Direct Funds: \$750,000 (total for all years)
- 8/1/09-11/30/11 **NIH/NCI 3RO1CA082500-10S1:** "MRI Contrast Agent Methods to Assess Tumor Angiogenesis", Challenge Grant Administrative Supplement
Role: Principal Investigator
Direct Funds: \$181,492 Total Costs: \$275,868
- 9/30/09-9/29/10 **DOD-CDMRP-Concept Award** "Effects of Breast Cancer Chemotherapy Agents on Brain Activity in Rats: Functional Imaging Studies."
Role: Co-Investigator
Direct Funds: \$75,000 Total Funds: \$114,000
- 3/15/10-10/30/13 **NIH/NINDS RO1NS06091:** Toward Multi-Center MR Brain Perfusion (Harvard University / Massachusetts General Hospital with Medical College of Wisconsin)
Role: Co-Principal Investigator (with Dr. Steven Stufflebeam)
Direct Funds: \$1,250,000 (total for all years)
- 4/1/11-3/13/13 **MCW and American Cancer Society** Effectiveness of Advanced MR Imaging Techniques for Grading Pediatric Brain Tumors: A Comparative Outcomes Study
Role: Co-Investigator
Direct Funds: \$50,000
- 04/01/11-06/31/14 **MCW Cancer Center:** "Effectiveness of Advanced MR Imaging Techniques for Gradient Pediatric Brain Tumors"
Role: Co-Investigator (0.6 CM, cost-shared); Principal Investigator (T Kelly)
Direct Funds: \$20,000
The goal of this pilot study is to translate and determine the feasibility of advanced MRI diffusion and perfusion technologies proven for use in adult brain tumor patients to the pediatric population.
- 11/01/12-03/31/14 **NIH/NINDS 1R41NS076149:** "Automating MRI Delta T1 Methods for the Routine Assessment of Brain Tumor Burden"
Role: Principal Investigator: 1.2CM (15% Effort); Co-PI (SD Rand)
Direct Funds: \$100,000
The goal of this Phase I STTR is the development of MRI analysis tools for the robust determination of brain tumor burden. The development and validation of these tools will be performed in collaboration with Imaging Biometrics LLC, a small business concern, with a proven record of translating promising medical image analysis software into clinical tools.

07/01/12-06/30/17 **MCW Advancing a Healthier Wisconsin** “Cancer Imaging Program”

Role: Co-Leader: 1.2CM (PI: Dr Ming You)

Direct Funds:

This award provides funding support for the development of the Cancer Center's Cancer Imaging Program under the leadership of Drs Kathleen M. Schmainda.

PROFESSIONAL SOCIETIES

| | |
|--------------|---|
| 1997 | Society of Biomedical Engineering |
| 1990-present | International Society of Magnetic Resonance in Medicine |
| 1998-2001 | Peter Favre Forum for Catholic Professionals |
| 1999-2012 | Wisconsin MIT Alumni Club |
| 2009-present | Society of Neuro-Oncology |

SERVICES AND COMMITTEES

Intramural

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|--------------|---|
| 1996 | Poster Judge, Graduate Student Day |
| 1996 | Member, Technical Standards Committee |
| 1996-1998 | Supervisor, 3T MRI Technologist |
| 1997-2007 | Chair, MR Research Safety Committee |
| 1997-1999 | Member, Faculty Library Committee |
| 1998-present | <u>Designated MCW Representative, Speaker and Tour Guide for:</u> <ul style="list-style-type: none">• Roger Fitzsimonds, Chairman, CEO & Director of Firstar Bank, (5/14/1998)• Dr Nancy Zimpher, UWM Chancellor, (11/10/1998)• Beijing visitors (International Journal of Medical Devices, Chinese Publishing House) (12/1999)• Emil Soika, President and CEO, Criticare Systems, Waukesha, WI (1/21/2000)• U.S. President, George W. Bush (2/2002) (<i>The tour was cancelled at the last minute due to national security concerns regarding a liquid nitrogen tank near tour area.</i>)• Wisconsin State Senator Green Bay, Wisconsin (9/2002).• Joseph Hogan, President & CEO, General Electric Medical Systems (10/30/2003)• Invited Speaker for Cancer Media Day Program at MCW (11/4/2003)• Invited Speaker for Visiting Russian Scientists (Special American Business Internship Training Program and the U.S. Department of Commerce) held at MCW, (8/2005)• Various potential philanthropists for MCW (2000-present) |
| 11/1999 | Presenter, MCW Research Foundation Board of Directors Meeting |
| 1999-2004 | Chair, Keck Research MRI Pilot Studies Committee |
| 2000-2004 | Member, Graduate Studies Council |
| 2003 | Member, Ad Hoc Advisory Committee – Imaging Center |
| 2003-present | Member, Cancer Center Grants Review Committee |
| 2004-2006 | Member, Biomedical and Biotechnology Center Grant Awards Committee |
| 2005-2007 | Member, Advancing a Healthier Wisconsin Research Grants Review Committee |
| 2007-2009 | Member, Institutional Animal Care and Use Committee |
| 2007-2008 | Member, Search Committee, FIRC (Functional Imaging Research Center) Director |
| 2008-2012 | Member, Search Committee, vanDeuren Breast Cancer Chair |
| 2011-2014 | Program Co-Leader, Cancer Imaging Program, Cancer Center |
| 2012- | Faculty Mentor, Medical Students for Life Club |

| | |
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| 2013- | Member, Women's Faculty Council |
| 2014-2015 | Member, MCW Working Group to Develop Inter Institutional Biomedical Engineering Program with other engineering programs in Southeast Wisconsin. |
| 2014-2015 | Member, Search Committee, Chair, Department of Neurology |
| 2015 | Member, Marquette – MCW Biomedical Engineering Advisory Committee |
| 2015 | Member, Marquette – MCW Biomedical Engineering Faculty Recruitment Subcommittee |

Extramural

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|--------------|---|
| 1996-present | <u>Editorial Assignments</u> Circulation, Doody Book Publishers, Journal of Magnetic Resonance Imaging, Journal of Physiology, Magnetic Resonance in Medicine, Medical Physics (Associate Editor) NMR in Biomedicine, Radiographics, Radiology |
| 10/1998 | <u>Session organizer</u> , Chair, Biomedical Engineering Society Annual Meeting, Cleveland, OH |
| 2000-present | <u>Abstract Referee</u> , International Society of Magnetic Resonance in Medicine Annual Meetings |
| 4/2000 | <u>Session moderator</u> “Quantitative relaxation techniques”, International Society of Magnetic Resonance in Medicine, 8 th Annual Meeting, Denver |
| 2001-2005 | <u>NIH Grant Referee</u> , NIH/NCI Study Section, “Development of In Vivo Imaging and Bioengineering Research”, Washington, D.C. |
| 4/2001 | <u>Invited Panelist</u> , NCI: “High Field MR (1.5T and up) in Oncology: Strategic frontiers in cancer diagnosis”, Glasgow, Scotland |
| 7/2001 | <u>Invited Panelist</u> , NCI SBIR review meeting: “Development of novel imaging technologies (R21/SBIR)”, Washington, DC |
| 2001, 2002 | <u>Ad Hoc Grant Referee</u> , Massachusetts Prostate Cancer Research Grants Program |
| 5/2002 | <u>Session Moderator</u> , International Society of Magnetic Resonance in Medicine, 10 th Annual Meeting, Honolulu. |
| 8/2003 | <u>NIH Invited Working Group Participant</u> , NIH/NIBIB: “Biomedical entrepreneurial science working group”, Washington, D.C. |
| 2004-2008 | <u>NIH Grant Referee</u> , NIH / MABS (Modeling and analysis of biological systems) Study Section, Washington, D.C. |
| 2004-present | <u>Advisory Committee Member</u> , Head and Neck Subcommittee, ACRIN (American College of Radiology Imaging Network), Washington, D.C. <i>The committee's role is to develop and recommend imaging studies for multi-center clinical trials.</i> |
| 5/2007 | <u>Session Moderator</u> , International Society of Magnetic Resonance in Medicine, 15 th Annual Meeting, Berlin. |
| 2007, 2008 | <u>Grant Referee</u> , NIH/NCI Clinical Studies Special Emphasis Panel, NCI PO1 Program, Washington, D.C. |
| 8/2007 | <u>Technical Advisory Committee Member</u> , ACRIN (American College of Radiology Imaging Network) Neuroimaging Core Lab, Washington, D.C. <i>The purpose of this committee is to serve as a repository of expertise in helping to define and implement the core lab functions that can help to further ACRIN multi-center clinical trials.</i> |
| 2008 | <u>Member, Technical Advisory Committee</u> , STIR (Stroke Imaging Repository Consortium) <i>The purpose of STIR is to create an international consortium of investigators and a repository of source MRI and CT images toward the objectives of standardization and validation of acquisition, analytic, and clinical research methods of image-based stroke research.</i> |
| 2/2009 | <u>NIH Grant Referee</u> , NIH/NCI, Tumor Biology Study Section, Washington D.C. |
| 3/2009 | <u>NIH Grant Referee</u> , NIH/NCI, In Vivo Imaging and Bioengineering Research Review Panel, San Diego, CA |
| 2009-2013 | <u>NIH Grant Referee – Charter Member</u> of NIH/NCI Developmental Therapeutics Study Section. |
| 2009 | <u>External Advisor</u> , University of Michigan Program Project Grant External Advisory Committee, Ann Arbor, MI. |
| 1/2011 | <u>NIH Diffusion Imaging Workshop</u> , Invited speaker and Chair for “Technical Breakout: Image Processing and Analysis Section” Washington, D.C. |

| | |
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| 2013 | <u>Member, Search Committee for Chair of Biomedical Engineering</u> , Marquette University, Milwaukee, WI |
| 2/2014 | <u>NIH Grant Referee</u> , NIH/NCI Image-Guided Drug Delivery in Cancer, Teleconference Review. |
| 2014-present | <u>Tomography</u> , Editorial Board Member, |
| 2015-present | <u>QIBA (Quantitative Imaging Biomarker Alliance)</u> , MRI Biomarker Committee: DSC-MRI Subcommittee |
| 2015-present | <u>Imaging Standardization Committee, National Brain Tumor Society</u> , Member |
| 2015-present | <u>RSNA QIBA (Quantitative Imaging Biomarker Alliance)</u> , Member |
| 2015-present | <u>Alliance NeuroOncology Imaging Subcommittee</u> , Member |

INVITED LECTURES / WORKSHOPS / PRESENTATIONS

International

| | |
|--------|---|
| 4/2001 | <u>Panelist</u> , National Cancer Institute Workshop on “Higher Field MR (1.5T and up) in Oncology, Glasgow, Scotland |
| 5/2007 | <u>Lecturer for Weekend Educational Course</u> , International Society of Magnetic Resonance in Medicine, Berlin, Germany |
| 7/2007 | <u>Lecturer for Workshop</u> , “Current status of DSC-MRI quantification with BBB leakage”, for International Society of Magnetic Resonance in Medicine Perfusion/Diffusion Workshop, Salvador, Brazil |
| 5/2010 | <u>Lecturer for Weekend Educational Course</u> , “Advanced MRI Perfusion Methods” for International Society of Magnetic Resonance in Medicine, Stockholm, Sweden |
| 2/2013 | <u>Invited Speaker</u> , ISMRM Scientific Workshop: Magnetic Resonance of Cancer Gone Multimodal. “Perfusion and Diffusion Biomarkers for the Evaluation of Brain Cancer Diagnosis & Treatment” Valencia, Spain , 19-22 February 2013. |
| 5/2014 | <u>Invited Course Speaker</u> : Quantitative Imaging and Modeling Course to be offered at the 2014 ISMRM Annual Meeting, Milan, Italy . |

National

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| 1998 | <u>Course Lecturer</u> , “Functional Regional Perfusion using MRI”, SPIE Imaging Meeting , San Diego, CA |
| 1999 | <u>Panelist</u> , NIH/NCI Conference of the Joint Working Group on Quantitative In Vivo Functional Imaging in Oncology, Washington, D.C. |
| 3/2000 | <u>Seminar Speaker</u> “Role of Functional MRI in the Evaluation of Disease”, Invited Speaker, Howard Hughes Institute , University of Iowa, Iowa City, IA |
| 6/2000 | <u>Seminar Speaker</u> , “Utility of Simultaneous GE/SE MRI for the Evaluation of Brain Tumor Angiogenesis”, Beth Israel – Deaconess Hospital, Harvard University , Boston, MA |
| 2/2004 | <u>Seminar Speaker</u> , “The role of MRI perfusion imaging for the evaluation of brain cancer”, 12th Annual Rachidian Society Meeting , Kona, Hawaii |
| 7/2004 | <u>Seminar Speaker</u> , “Contrast-agent perfusion imaging”, Gordon Conference , Lewiston, ME |
| 7/2005 | <u>Seminar Speaker</u> , “rCBV Imaging”, Johns Hopkins University , Baltimore, MD |
| 4/2006 | <u>Lecturer for Morning Categorical Course</u> , “Steady-state and first-pass contrast agent methods to evaluate cerebral blood volume (CBV), vascular morphology and permeability”, International Society of Magnetic Resonance in Medicine , Seattle, WA |
| 9/25/2007 | <u>Course Lecturer</u> , “DSC MRI Quantification of CBV in Presence of BBB Leakage”, Massachusetts General Hospital / Harvard Medical School “Advanced in Neuroimaging Course” Boston, MA |
| 9/28/2007 | <u>Speaker</u> , “Measurement of rCBV in normal brain and brain tumor depends on the choice of DSC acquisition and analysis method”, ACRIN (American College of Radiology Imaging Network) Annual Meeting , Washington D.C. |

- 3/13/2008 Speaker, "New Directions for MR Imaging of Brain Cancer." **Arizona State University** Phoenix, AZ
- 3/14/2008 Speaker, "Current Status and Future Directions for MRI Perfusion Imaging in Primary Brain Tumors." **Barrows Neurological Institute**, Phoenix, AZ
- 2/2011 Speaker, "Diffusion Image Processing and Analysis", **NIH Diffusion Imaging Workshop**, Washington D.C.
- 7/2011 Speaker, "MR DSC Perfusion Imaging in Brain Tumors" **University of Alabama**, Birmingham, AL
- 8/2011 Speaker, "Development of Perfusion and Diffusion MRI Biomarkers for the Evaluation of Brain Tumors" **Northwestern University**, Chicago, IL.
- 11/2011 Invited Lecturer, "Perfusion MRI in Glioma" for Sunrise Educational Session, **Society of Neuro-Oncology** Annual Meeting, San Jose, CA.
- 05/2013 Invited Debate Panelist, "Multimodality/Multiparametric MR of Cancer", **ISMRM MR in Cancer Study Group**, Salt Lake City, Utah.
- 10/2013 Seminar Speaker, "Role of Advanced Physiologic MRI for the Evaluation of Brain Tumor Response to Therapies: Part I" St. Louis NMR Discussion Group, **Washington University**, St. Louis, MO.
- 12/2013 Seminar Speaker, "Perfusion & Diffusion MRI for Brain tumors: current Status, Promise & Challenges: Part II" St. Louis NMR Discussion Group, **Washington University**, St. Louis, MO.
- 5/27/2014 Invited Workshop Speaker, Human Placenta Project: Placental Structure and Function in Real Time, "Utero-placental perfusion", **National Institute of Child Health and Development**, Washington DC.
- 7/14/2014 Invited Speaker, Workshop on standards for quantitative MRI, "Dynamic susceptibility contrast", **National Institute of Standards (NIST)**, Boulder, CO.
- 10/12/2014 Invited Visit / Speaker, **Barrow Neurological Institute**, Phoenix, AZ.
- 4/9/2015 Invited Speaker, Frye-Halloran (Brain Tumor) Symposium, Hosted by Neurosurgical Oncology, **Massachusetts General Hospital**, Boston, MA.
- 9/14/2015 Visiting Professor, **Mayo Clinic**, Phoenix, AZ.

Regional

- 1996 Speaker at Research Meeting, "fMRI in Muscle Perfusion", **General Electric Medical Systems**, Waukesha, WI
- 1997 Seminar Speaker, "Characterization of fMRI contrast mechanisms", **Department of Biomedical Engineering, Marquette University**, Milwaukee, WI
- 1998 Speaker at Meeting of Entrepreneurs, "Functional MRI: How it Works", **Milwaukee Exchange Club**, Milwaukee, WI
- 1999 Interview, Tip-TV Educational Video Series, "Applications of Echo Planar Imaging to Disease Evaluation", **General Electric Medical Systems**, Waukesha, WI
- 1999 Seminar Speaker, "Utility of simultaneously-acquired gradient-echo and spin-echo cerebral blood volume and morphology maps for the evaluation of brain tumors", **University of Wisconsin, Department of Medical Physics**, Madison, WI
- 2/2001 Seminar Speaker for Undergraduate Seminar Series, "What Does an Assistant Professor Do?" **Department of Biomedical Engineering, Marquette University**, Milwaukee, WI
- 8/2003 Seminar, "New directions for MR imaging of brain cancer", Seminar, **General Electric Medical Systems**, Waukesha, WI
- 8/2004 Lecturer for Tip-TV Educational Video Series, "Understanding functional magnetic resonance imaging (fMRI)", **General Electric Medical Systems**, Waukesha, WI
- 3/2006 Invited Live-Interview, **WITI-Channel 6 Wake-Up News** "Breast Cancer Research at MCW"
- 2/2007 Seminar Speaker "Introduction to MRI", Graduate Seminar Series, **Department of Physics, University of Wisconsin, Milwaukee**, WI .

- 3/2009 Invited Speaker, for **Women Entrepreneur’s Dinner, Conference for Women Leaders**, University Club, Milwaukee, WI.
- 6/2011 Invited Speaker, for **Wisconsin Women in Science Luncheon Series**, Wisconsin Club, Milwaukee, WI.
- 8/2012 Invited Speaker for Legatus, Catholic Business Professionals, “Challenges of a Pro-Life Scientist”, Milwaukee, WI.
- 2/20/2015 Seminar Speaker, Biomedical Engineering Seminar, “Strategies in translational imaging research: working at the interface of tumors and technology”, **Joint Biomedical Engineering Seminar Series (MU, MCW, UWM)**, Milwaukee, Wisconsin.
- 1/24/2015 Seminar Speaker, Petawa Professional Women Speaker Series, “The Joy of Insight”, **Petawa Residence and Cultural Center**, Milwaukee, Wisconsin

Local

- 2/1996 Seminar Speaker, “MRI in Cardiac Perfusion Imaging”, Graduate Seminar Series, **Biophysics Research Institute**, MCW, Milwaukee, WI.
- 1997 Scientific Fundraising Presentation, “Functional MRI: How it Works”, **MCW Council Meeting**, University Club, Milwaukee, WI.
- 1999 Seminar Speaker, “Functional MRI evaluation of tumor angiogenesis”, Seminar Series, **Department of Pharmacology**, MCW, Milwaukee, WI.
- 1999 “Functional MRI: How it works”, **Young Presidents Organization**, hosted by MCW, Milwaukee, WI.
- 1999 Speaker, “Diagnostic Functional MRI”, **M-2 Medical Engineering Interest Group**, MCW, Milwaukee, WI.
- 2000 Speaker at Research Meeting, “Using Functional MRI for the evaluation of therapies in mice”, **Pediatric Hematology & Oncology Research Meeting**, MCW, Milwaukee, WI.
- 5/2000 Seminar Speaker, “Evaluation of brain tumor angiogenesis using MRI”, **Functional Imaging Research Center**, MCW, Milwaukee, WI.
- 6/2000 Speaker, “The role of MRI in targeted gene therapy”, Focus meeting to explore the future imaging possibilities in the area of molecular and genetic imaging”, meeting with **GE Medical Systems** held at MCW, Milwaukee, WI.
- 5/2001 Seminar Speaker, “Diffusion MRI: Fundamentals and Applications”, **Functional Imaging Research Center**, MCW, Milwaukee, WI.
- 8/2001 Speaker, “Using MRI for the evaluation of brain tumor angiogenesis”, **Grand Rounds, Department of Neurosurgery**, MCW, Milwaukee, WI.
- 6/2002 Speaker, “Functional MRI of Brain Tumor Angiogenesis”, **MCW Board Meeting**, MCW, Milwaukee, WI.
- 10/2002 “Using MRI for the evaluation of brain tumor angiogenesis”, Grand Rounds, **Department of Neurology**, MCW, Milwaukee, WI.
- 10/2002 Seminar Speaker, “Using MRI for the evaluation of brain tumor angiogenesis”, **Biophysics Research Institute**, MCW, Milwaukee, WI.
- 2/2003 Speaker, “Tumor and Molecular Imaging”, **External Advisory Meeting, MCW Cancer Center**, MCW, Milwaukee, WI.
- 4/2003 Speaker, “Imaging of tumor angiogenesis”, Seminar Series, **Multidisciplinary Breast Cancer Research Group**, MCW, Milwaukee, WI.
- 11/4/2003 Speaker, “Innovative Imaging Tracks Brain Tumors”, **Cancer Media Day Program** at MCW
- 12/2003 Speaker for 7th grade girls, “What does a scientist do?” **American Association of University Women (AAUW)** – Menomonee Falls Branch.
- 1/2004 “New Directions for MR Imaging of Brain Cancer”, Seminar Series, **Department of Biophysics**, MCW, Milwaukee, WI.
- 8/2005 Speaker, “Image-guided therapy: an emerging technology”, Invited Speaker for **Visiting Russian Scientists** at MCW, Milwaukee, WI.
- 2/2006 Speaker, “Making MRI ‘Real’ in the Clinic”, Seminar Series, **Department of Biophysics**, MCW, Milwaukee, WI.

- 12/14/2007 Speaker, “Brain MRI Perfusion Imaging: Current Status and Future Goals.” **Grand Rounds, Department of Neurosurgery**, MCW, Milwaukee, WI.
- 7/25/2008 Speaker, “The Latest and Greatest in MRI Perfusion Imaging of Brain Tumors.” **Department of Radiology**, MCW, Milwaukee, WI.
- 10/15/2015 Speaker, “DSC-MRI Perfusion Imaging in Brain Tumors: Current Status & Future Trends at MCW and Nationally”, **Department of Radiology Research Seminar Series**, MCW, Milwaukee, WI
- 10/30/2015 Speaker, “MRI Guided Treatment and Surveillance of Brain Tumors”, requested presentation to Dr Berger, Larson Grand Rounds, Visiting Professor, **Department of Neurosurgery**, MCW, Milwaukee, WI

TEACHING ACTIVITIES

Graduate Student Teaching-Assistant Experience

- Fall 1986 Teaching Assistant for “Introduction to Electronics”, MIT, Department of Electrical Engineering and Computer Science; conducted labs, graded problem sets, had office hours, gave quiz reviews
- Fall 1989 Head Teaching Assistant for Dr. Bose, “Acoustics” MIT, Department of Electrical Engineering and Computer Science; supervised six other teaching assistants, lectured 4 hours per week, conducted demonstrations, graded problem sets, wrote exams, held office hours
- Spring 1990 Teaching Assistant for “Circuits and Electronics” MIT, Department of Electrical Engineering and Computer Science; taught group tutorials (four 1 hour lectures per week), wrote and graded problem sets and supervised laboratory sessions
- Spring 1992 Teaching Assistant for “Magnetic Resonance” Harvard-MIT, Division of Health Science and Technology; assisted at lectures, graded problem sets

Graduate Student Education

- 1997-2012 Course Director, Biophysics 239: “fMRI Contrast Mechanisms and Applications”; Developed an advanced level graduate course for students undertaking MRI research
- 1999-2007 Lecturer, “Advanced Neurosystems” Department of Cell Biology and Anatomy, present a lecture discussing the basis of fMRI each time the course is offered.

Medical Student, Resident & Fellow Education

- 1998-present Lecturer presenting “MR Physics” for the Radiology Resident course offered each summer.
- 1998-present Lecturer presenting “MR Fundamentals” and “MR Imaging” for the Basic Science in Radiology course offered each summer.
- 2/4/2014 Speaker to Radiology Residents, “Today’s Research is Tomorrow’s Clinical Practice”, **Department of Radiology**, MCW, Milwaukee, WI.
- 2/10/2014 Lecturer, “Perfusion MRI” for “Introduction to Medical Imaging” course offered to M4 medical students, MCW, Milwaukee, WI.

Continuing Medical Education

- 1997-2008 Lecturer for “Fundamentals of fMRI” which is part of the MCW *Functional Magnetic Resonance Imaging Course* which is an ongoing course, given each Fall and Spring, to train neuroscientists from around the world to understand and perform fMRI research.
- 1998-ongoing Radiology Clinical Service, Implemented and educated radiologists and MR technologists about diffusion and perfusion MRI, analyzed clinical image data on a per-call basis

Extramural Course Lectures

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| 10/1998 | <u>Invited Course Lecturer</u> , “Functional Regional Perfusion using MRI”, SPIE Imaging Meeting , San Diego, CA. |
| 3/1999 | <u>Video Educational Interview</u> entitled “Applications of echo planar imaging to disease evaluation”, given as an interview for the Tip-TV, GE Medical Systems educational video series. |
| 2001-2004 | <u>Invited Lecture</u> , “Introduction to FMRI”, GE Medical Systems , Waukesha, WI. Gave a two part series on the “Introduction to FMRI” as part of a continuing education course for GE employees, which was part of a teaching collaboration with Marquette University. |
| 10/2004 | <u>Invited Video Lecture</u> entitled “Understanding functional magnetic resonance imaging (fMRI)”, for the Tip-TV, GE Medical Systems educational video series. |
| 4/2006 | <u>Lecture for Morning Categorical Course</u> , “Steady-state and first-pass contrast agent methods to evaluate cerebral blood volume (CBV), vascular morphology and permeability”, International Society of Magnetic Resonance in Medicine, Seattle, WA |
| 5/2007 | <u>Lecture for Weekend Educational Course</u> , International Society of Magnetic Resonance in Medicine , Berlin, Germany |
| 7/2007 | <u>Lecture for Workshop</u> , “Current status of DSC-MRI quantification with BBB leakage”, for International Society of Magnetic Resonance in Medicine Perfusion/Diffusion Workshop , Salvador, Brazil |
| 9/2007 | <u>Course Lecturer</u> , “DSC MRI Quantification of CBV in Presence of BBB Leakage”, Massachusetts General Hospital / Harvard Medical School “Advanced in Neuroimaging Course” Boston, MA. |
| 5/2010 | <u>Lecture for Weekend Educational Course</u> , “Advanced MRI Perfusion Methods” for International Society of Magnetic Resonance in Medicine , Stockholm, Sweden. |
| 5/2014 | <u>Invited Course Speaker</u> : Quantitative Imaging and Modeling Course to be offered at the 2014 ISMRM Annual Meeting, Milan, Italy . |

TEACHING MENTORSHIPS

Faculty

Scientific Advisor to RSNA Research Scholar, **Dr. Alex Guimaraes, M.D., Ph.D.**, Staff Radiologist, Harvard Medical School, Massachusetts General Hospital for his research entitled: “Evaluation of Magnetic Nanoparticle Enhanced Magnetic Resonance Imaging in Clinical Autoimmune Diabetes” 2008-2009

Scientific Advisor to RSNA Research Scholar, **Dr. Sarah White, M.D.**, Staff Radiologist, Medical College of Wisconsin:

Post-Doctoral Fellows

Benjamin Ellingson Ph.D., MCW / Marquette University Functional Imaging Program Ph.D. February 2009
Current Position: Assistant Professor, UCLA, Los Angeles, CA

Kimberly Pechman Ph.D., MCW / Department of Physiology Ph.D. August 2007
Postdoctoral Fellowship: under Drs Schmainda and Kurpad, 2007-2009.
Current Position: Research Scientist, Vanderbilt University, Nashville, TN

Graduate Students

Aaron Olson, Marquette University Department of Biomedical Engineering M.S.E., May, 2000
Current (known) Position: Graduate of MCW Medical School

Young Ro Kim, Ph.D., Biophysics Research Institute Ph.D., May, 2001
Current Position: Assistant Professor, Center for Molecular Imaging, Harvard University – Massachusetts General Hospital, Charlestown, MA

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| Arvind Pathak , MCW / Marquette University Functional Imaging Program. <u>Current Position:</u> Associate Professor, Johns Hopkins University, Baltimore, MD. | Ph.D. December, 2001 |
| Kevin Bennett , MCW, Department of Biophysics <u>Current Position:</u> Dean, University of Hawaii, Honolulu, HI. | Ph.D. June, 2003 |
| Christopher C. Quarles , MCW, Department of Biophysics <u>Current Position:</u> Associate Professor, Vanderbilt University, Nashville, TN. | Ph.D. August, 2004 |
| Todd Jensen , MCW / Marquette University Functional Imaging Program. <u>Current Position:</u> Founder, Jensen Informatics, LLC. | Ph.D. June, 2006 |
| Moses Darpolor , MCW / Marquette University Functional Imaging Program. <u>Current Position:</u> Staff Scientist, University of Pennsylvania. | Ph.D. August, 2006 |
| Eric Paulson , MCW, Department of Biophysics <u>Current Position:</u> Assistant Professor, MCW, Department of Radiation Oncology | Ph.D. July, 2008 |
| Douglas Prah , MCW, Department of Biophysics <u>Current Position:</u> Medical Physicist, MCW, Department of Radiation Oncology | Ph.D. August, 2008 |
| Peter LaViolette , MCW, Department of Biophysics <u>Current Position:</u> Assistant Professor, MCW, Department of Radiology | Ph.D. August, 2011 |
| Alex Cohen , MCW, Department of Biophysics <u>PhD Title:</u> MRI and Diffusion Imaging in Liver Cirrhosis <u>Current Position:</u> Research Scientist, MCW < Department of Radiology | Ph.D., May, 2014 |
| Casey Anderson , MCW, Department of Biophysics <u>PhD Topic:</u> Imaging Brain Iron Concentrations | Expected. May, 2016 |

Undergraduate Students

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| Rebecca Hanson , Marquette University, Department of Biomedical Engineering | 06/2000-08/2001 |
| Allen Joseph , Marquette University, Department of Biomedical Engineering | 06-12/2001 |
| Michael Piche , University of Wisconsin, Madison, Department of Biomedical Engineering | 06-08/2002 |
| Kevin Kvasnica , University of Wisconsin, Madison, Department of Nuclear Engineering | 06-09/2006 |
| Many summer undergraduate students | ongoing |

Medical Students

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| Fred Dawson , MCW Medical Student | Summer 2004 |
| Matthew Fishman , MCW Medical Student | Summer 2006 |
| Jessica Stratton , MCW Medical School | Summer 2008 |
| Brandon Bodager , MCW Medical School | Summer 2009 |
| Many rotating residents and fellows | ongoing |

Graduate Student Dissertation Committees

(Does not include students directly mentored by Dr. Schmainda)

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| Kelly Karau , MCW / Marquette University Functional Imaging Program | Ph.D., 2001 |
| Michael Ellingson , MCW / Marquette University Functional Imaging Program | Ph.D. 2004 |
| Ritobrata Datta , MCW Department of Biophysics. | Ph.D. 2006 |
| Joan Forder , MCW Department of Physiology | Ph.D. 2006 |

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| Rachael Kirchoff MCW / Marquette University Functional Imaging Program | Ph.D. 2006 |
| Ben Ellingson Marquette University | Ph.D. 2008 |
| Christopher Pawela MCW Department of Biophysics | Ph.D. 2008 |
| Andrew Nenka MCW Department of Biophysics | Ph.D. 2009 |
| Andrew Hahn , MCW Department of Biophysics | Ph.D. 2010 |
| Ben Stangel , MCW Department of Biophysics | Ph.D. 2012 |
| Jain Mangalathu , MCW / Marquette University Functional Imaging Program | Ph.D. Summer 2012 |

PUBLICATIONS

(* indicates student or staff of Dr (Donahue) Schmainda)

1. Sarna SK, Soergel K, Harig J, Loo F, Wood C, **Donahue KM**, Ryan R, Arndorfer R. "Spatial and temporal patterns of human jejunal contractions". *Am. J. Physiol.* **257**, G423-32 (1989).
2. Rosowski JJ, Davis P, Merchant SN, **Donahue KM**, Coltrera MD. "Cadaver middle ears as models for living ears: comparisons of middle ear input immittance". *Ann. Otol. Rhinol. Laryngol.* **99**, 403-412 (1990).
3. **Donahue KM**, Burstein D, Manning W, Gray M. "Studies of Gd-DTPA relaxivity and proton exchange rates in tissue". *Magnetic Resonance in Medicine.* **32**, 66-76 (1994).
4. Kwong KK, Wanke I, **Donahue KM**, Davis T, Rosen BR. "EPI imaging of global increase of brain MR signal with breathhold preceded by breathing O₂". *Magnetic Resonance in Medicine*, **33**, 448-452 (1995).
5. Kwong KK, Chesler DA, Weisskoff, RM **Donahue KM**, Davis TL, Campbell TA, Rosen BR. "MR perfusion studies with T1-weighted echo-planar imaging". *Magnetic Resonance in Medicine.* **34**, 878-887 (1995).
6. **Donahue KM**, Weisskoff RM, Parmelee DJ, Mandeville JB, Rosen BR. "Dynamic Gd-DTPA enhanced MRI measurement of tissue cell volume fraction". *Magnetic Resonance in Medicine* **34**, 423-432 (1995).
7. **Donahue KM**, Weisskoff RM, Chesler DA, Kwong KK, Bogdanov AA, Jr., Mandeville JB, Rosen BR. "Improving MR quantification of regional blood volume with intravascular T1 contrast agents: accuracy, precision, and water exchange". *Magnetic Resonance in Medicine.* **36**, 858-867, (1996).
8. **Donahue KM**, Weisskoff RM, Burstein D. "Water diffusion and exchange as they influence contrast enhancement". *J. Magn. Reson. Imaging* **7**, 102-110 (1997).
9. **Donahue KM**, *VanKlyen J, Guven, El-Bershawi A, Luh WM Bandettini PA, Cox RW, Hyde JS, Kissebah AH. "Simultaneous gradient-echo/spin-echo EPI of graded ischemia in human skeletal muscle". *J. Magn. Reson. Imaging* **8(5)**:1106-1113 (1998).
10. Kerschner JE, Cruz MJ, Beste DJ, **Donahue KM**, Kehl KS. "CT vs. MR Imaging of Acute Bacterial Sinusitis: A Rabbit Model". *Am. J. Otolaryngology*, **21(5)**:298-305 (2000).
11. Allamand V, **Donahue KM**, Straub V, Davisson RL, Davidson BL, Campbell KP. "Early adenoviral-mediated gene transfer effectively prevents muscular dystrophy in alpha-sarcoglycan-deficient mice." *Gene Therapy* **7(16)**, 1385-1391 (2000).
12. **Donahue KM**, Krouwer HG, Rand SD, *Pathak A, Marszalkowski C, Censky S, Prost RW. "Utility of simultaneously-acquired gradient-echo and spin-echo cerebral blood volume and morphology maps in brain tumor patients". *Magnetic Resonance in Medicine.* **43(6)**, 845-853, (2000).
13. Straub S, **Donahue KM**, Allamand V, Davisson RL, *Kim YR, Campbell KP. "Contrast-agent enhanced magnetic resonance imaging of skeletal muscle damage in animal models of muscular dystrophy." *Magnetic Resonance in Medicine* **44(4)**, 655-659, (2000).
14. Butzen J, Prost R, Chetty V, **Donahue K**, Nepl R, Bowen W, Li SJ, Haughton V, Mark L, Kim T, Mueller W, Meyer G, Krouwer H, Rand S. "Discrimination between neoplastic and nonneoplastic brain lesions by use of Proton MR spectroscopy: the limits of accuracy with a logistic regression model". *Am. Journal of Neuroradiology* **21(7)**, 1213-1219 (2000).
15. Garcia GH, **Donahue KM**, Ulmer JL, Harris GJ. "Qualitative Perfusion Imaging of the Human Optic Nerve". *Ophthalmic Plastic & Reconstructive Surgery.* 18(2):107-113, (2002) Mar.
16. *Pathak AP, **Schmainda KM**, Ward BD, Linderman JR, *Rebro KJ, Greene AS. "MR-derived cerebral blood volume maps: Issues regarding histological validation and assessment of tumor angiogenesis" *Magnetic Resonance in Medicine* **46**:735-747 (2001).

17. *Kim YR, Rebro KJ, **Schmainda KM**. “Water Exchange and Inflow Affect the Accuracy of T_1 -GRE Blood Volume Measurements: Implications for the Evaluation of Tumor Angiogenesis.” *Magnetic Resonance in Medicine* 47:1110-1120 (2002).
18. Abu-Hajir M, Rand SD, Krouwer HGJ, **Schmainda KM**. “In vivo assessment of neoplastic angiogenesis: role of magnetic resonance imaging.” *Seminars of Thrombosis and Hemostasis*. 29(3): 309-315 (2003).
19. Badruddoja MA, Krouwer HGJ, Rand SD, *Rebro KJ, *Pathak AP, **Schmainda KM**. “Anti-angiogenic effects of dexamethasone in 9L gliosarcoma assessed by MRI cerebral blood volume maps.” *Neuro-Oncology* 5(4):235-243 (2003).
20. *Pathak AP, Rand SD, **Schmainda KM**. The effect of brain tumor angiogenesis on the *In Vivo* relationship between the gradient echo relaxation rate change (ΔR_2) and contrast agent (MION) dose. *Journal of Magnetic Resonance Imaging* 18:397-403 (2003).
21. Durbeej *, Sawatzki SM, Barresi R, **Schmainda KM**, Michele DE, Campbell KP. “Gene transfer establishes primacy of striated versus smooth muscle sarcoglycan complex in limb girdle muscular dystrophy.” *Proceedings of the National Academy of Science*, 100:8910-8915 (2003).
22. Bennett KM, **Schmainda KM**, Rowe DB, Lu H, Hyde JS. “Characterization of continuously distributed cortical diffusion with a stretched-exponential model.” *Magnetic Resonance in Medicine* 50:727-734 (2003).
23. Ulmer JL, Hacein-Bey L, Mathews V, Mueller WM, Deyoe EA, Prost R, Meyer G, Krouwer HG, **Schmainda KM**, Lowe M. “Lesion-induced pseudolateralization of eloquent cortex in fMRI: implications for pre-operative assessments” *Neurosurgery* 55(3):569-79 (2004).
24. **Schmainda KM**, Rand DS, Joseph AM, Lund R, Ward BD, Pathak AP, Ulmer JL, Baddrudjoja MA, Krouwer HGJ. “Characterization of a first-pass gradient-echo spin-echo method to predict brain tumor grade and angiogenesis” *Am J Neuroradiol* 25:1524-1532 (2004).
25. *Bennett KM, Hyde JS, Rand SD, Bennett R, Krouwer HGJ, *Rebro KJ, **Schmainda KM**. “Intravoxel distribution of DWI decay rates reveals C6 glioma invasion in rat brain.” *Magnetic Resonance in Medicine* 52(5):994-1004 (2004).
26. *Quarles CC, Ward BD, **Schmainda KM**. “Improving the reliability of obtaining tumor hemodynamic parameters in the presence of contrast agent extravasation.” *Magnetic Resonance in Medicine* 53:1307-1316 (2005).
27. *Quarles CC, Krouwer HGJ, Rand SD, **Schmainda KM**. “Dexamethasone normalizes brain tumor hemodynamics as indicated by dynamic susceptibility contrast MRI perfusion parameters.” *Technol Cancer Res Treat*. 4(3):245-249 (2005).
28. Boxerman JL, **Schmainda KM**, Weisskoff RM. “Relative cerebral blood volume maps corrected for contrast agent extravasation significantly correlate with glioma tumor grade whereas uncorrected maps do not.” *Am J Neuroradiol* 27:859-67 (2006).
29. *Bennett KM, Hyde JS, Schmainda KM. “Heterogeneity in sub-voxel apparent water diffusion rates in the human brain is insensitive to the direction of applied magnetic field gradients.” *Magnetic Resonance in Medicine* 56:235-239 (2006).
30. *Quarles CC, **Schmainda KM**. “Assessment of the morphological and functional effects of the anti-angiogenic agent SU11657 on 9L gliosarcoma vasculature using dynamic susceptibility contrast MRI.” *Magnetic Resonance in Medicine* 57(4):680-687 (2007).
31. *Pathak AP, Ward BD, **Schmainda KM**. “A novel technique for modeling susceptibility-based contrast mechanisms for arbitrary microvascular geometries: the finite perturber model.” *Neuroimage* 40:1130-1143 (2008).
32. *Paulson ES, **Schmainda KM**. “Comparison of dynamic susceptibility-weighted contrast-enhanced MR methods: recommendations for measuring relative cerebral blood volume in brain tumors” *Radiology* 249(2):601-13 (2008). PMID: 18780827.
33. *Jensen TR, **Schmainda KM**, “Computer-aided detection of brain tumor invasion using multiparametric MRI” *J Magn Reson Imag* 30(3):481-9 (2009).
34. *Ellingson BM, Schmit BD, Gourab K, Sieber-Blum M, Hu YF, **Schmainda KM**. “Diffusion heterogeneity tensor MRI (alpha-DTI): mathematics and initial applications in spinal cord regeneration after trauma – biomed 2009. *Biomed Sci Instrum* 45:167-72 (2009). PMID: 19369758.
35. Hu LS, Baxter LC, Pinnaduwage DS, Paine TL, Karis JP, Feuerstein BG, **Schmainda KM**, Dueck AC, Debbins J, Smith KA, Nakaji P, Eschbacher JM, Coons SW, Heiserman JE. “Optimized Preload Leakage Correction Methods to Improve the Diagnostic Accuracy of Dynamic Susceptibility-Weighted Contrast

- Enhanced Perfusion MRI in Post-Treatment Gliomas". *Am J Neuroradiol* 31(1):40-8 (2010). PMID 19749223
36. *Ellingson BM, Rand SD, Malkin MG, **Schminda KM**. "Utility of functional diffusion maps to monitor a patient diagnosed with gliomatosis cerebri." *J Neurooncol* 97(3):419-23 (2010). PMID: 19813078.
 37. *Ellingson BM, Malkin MG, Rand SD, Connelly JM, **Schminda KM**. "Validation of functional diffusion maps (fDMs) as a biomarker for human glioma cellularity". *J Magn Reson Imag* 31(3):538-48 (2010).
 38. *Bedekar D, Jensen TR, **Schminda KM**. "Standardization of relative cerebral blood volume (rCBV) image maps for ease of both inter and intra-patient comparisons." *Magn Reson Med*. 64(3):907-913 (2010). PMID 20806381.
 39. *Prah DE, *Paulson ES, Nencka AS, **Schminda KM**. "Phase-corrected real data reconstruction: effects on diffusion weighted imaging parameter estimation." *Mag. Reson. Med*. 64(2):418-429 (2010).
 40. *Ellingson BM, Malkin MG, Rand SD, *LaViolette PS, Connelly JM, Mueller WM, **Schminda KM**. "Volumetric analysis of functional diffusion maps is a predictive imaging biomarker for cytotoxic and anti-angiogenic treatments in malignant gliomas." *J Neurooncol* 102(1):95-103 (2010).
 41. *LaViolette PS, Rand SD, Raghavan M, *Ellingson BM, **Schminda KM**, Mueller WM. "3D visualization of subdural electrodes for presurgical planning." *Neurosurgery*, 68(1 Suppl Operative):152-60 (2011).
 42. *Darpolor MM, Molthen RC, **Schminda KM**. "Multimodality imaging of abnormal vascular perfusion and morphology in preclinical 9L gliosarcoma model." *PLoS ONE* 6(1):e16621 (2011). PMID: PMC3031600.
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