

E. MARK HAACKE, PHD

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Nmrimaging@aol.com**PERSONAL INFORMATION**

- Sex: Male
- Birth Date: January 24, 1951
- Birth Place: Toronto, Ontario, Canada
- Languages: English, French, German
- Citizenship: Naturalized American Citizen and Canadian

PRESENT POSITIONS

1993-Present	Adjunct Professor, Dept. of Physics, Case Western Reserve University, Cleveland, OH, USA
1994-Present	President, Magnetic Resonance Innovations, Inc., Bingham Farms, MI, USA
1999-Present	Director, The Magnetic Resonance Imaging Inst for Biomedical Research, Bingham Farms, MI, USA
2002-Present	Professor, Department of Radiology, Wayne State University, Detroit, MI, USA
2002-Present	Director, Wayne State University, Magnetic Resonance Imaging Core Facility, Detroit, MI, USA
2002-Present	Professor, Department of Biomedical Engineering, Wayne State University, Detroit, MI, USA
2002-Present	Adjunct Professor, Loma Linda University, Loma Linda, CA, USA
2011-Present	President, MR Medical Imaging Innovations India Private Limited, INDIA
2012-Present	Adjunct Professor, Department of Physics, Wayne State University, Detroit, MI, USA
2013-Present	Adjunct Prof, Dept of Med Imaging, Univ of Saskatchewan, Saskatoon, Saskatchewan, CANADA
2014-Present	President, The Magnetic Resonance Imaging Institute for Biomedical Research, Ontario, CANADA
2017-Present	Chief Scientific Officer, SpinTech Inc., Bingham Farms, MI, USA
2019-Present	Professor, Department of Neurology, Wayne State University, Detroit, MI, USA

EDUCATION

- Undergraduate - June 1973, B. Sc., University of Toronto, Mathematics and Physics
- Graduate - February 1975, M. Sc., University of Toronto, Theoretical Physics
- Postgraduate - June 1978, Ph.D., University of Toronto, Theoretical High Energy Physics
- **Doctoral Thesis-1**
"SU(4) and Higher Symmetries in Inclusive Lepton-Hadron Scattering"
University of Toronto, Department of Physics
Supervisor: Professor J.W. Moffat
External Examiner: Professor G. Karl

ACADEMIC POSITIONS/EMPLOYMENT

Post-Doctoral Fellow April 1978 to September 1978	Department of Physics University of Toronto, Toronto, Ontario, CANADA
Research Associate September 1978 to August 1980	Department of Physics Case Western Reserve University, Cleveland, OH, USA
Research Geophysicist October 1981 to June 1983	Gulf Research and Development Pittsburgh, PA, USA
Senior Research Scientist July 1983 to October 1985	Picker International Cleveland, OH, USA
Senior Research Associate and Instructor Sept 1980-Jun 1984, Jul 1984-Oct 1985	Department of Medicine and Physics Case Western Reserve University, Cleveland, OH, USA
Assistant Professor / Head of MR Physics and Basic Science August 1985 to June 1989	Department of Radiology and joint appointments in the Department of Physics Case Western Reserve University, Cleveland, OH, USA

Associate Professor July 1989 to June 1993	Department of Radiology and joint appointments in the Department of Physics and Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH, USA
Professor August 1993 to 1999	Department of Radiology, Mallinckrodt Institute of Radiology Electrical Engineering Courtesy Appointment Washington University, St. Louis, MO, USA
Adjunct Professor July 1993 to present	Department of Physics Case Western Reserve University, Cleveland, OH, USA
President 1994 to present	Magnetic Resonance Innovations, Inc. Bingham Farms, MI, USA
Visiting Professor 1999	The Roentgen Professor of Physics Wuerzburg, GERMANY
Director July 1999 to present	The Magnetic Resonance Imaging Institute for Biomedical Research Bingham Farms, MI, USA
Professor 2002 to present	Department of Radiology Wayne State University, Detroit, MI, USA
Director 2002 to present	Magnetic Resonance Imaging Core Facility Wayne State University, Detroit, MI, USA
Professor 2002 to present	Department of Biomedical Engineering Wayne State University, Detroit, MI, USA
Adjunct Professor 2002 to present	Department of Physics Loma Linda University, Loma Linda, CA, USA
Adjunct Professor 2005 to June 2017	Department of Electrical and Computer Engineering at McMaster University and the Brain-Body Institute at St Joseph's Healthcare Hamilton, Ontario, CANADA
Director 2010 to present	Program in Traumatic Brain Injury Research Wayne State University, Detroit, MI, USA
Adjunct Professor 2012 to present	Department of Physics Wayne State University, Detroit, MI, USA
Visiting Professor June 2012 to May 2017	Northeastern University Shenyang, CHINA
Adjunct Professor 2013 to present	Department of Medical Imaging, University of Saskatchewan, Saskatoon, Saskatchewan, CANADA
Visiting Professor 2014 to 2016	"Zijiang Visiting Scholar (Professor)" and Distinguished Professor East China Normal University, Shanghai, CHINA
Visiting Professor 2014 to 2018	East China Normal University Shanghai, CHINA
Visiting Professor 2014 to 2015	The Copernicus Professor of Physics University of Ferrara, Ferrara, ITALY
Director 2014 to 2018	Joint MRI program between East China Normal University, Shanghai, CHINA and Wayne State University, Detroit, MI, USA
Professor 2019 to Present	Department of Neurology, Wayne State University Detroit, MI, USA

UNIVERSITY AND HOSPITAL APPOINTMENTS AND COMMITTEES

- Education Committee, Department of Radiology, 1989 -1993
CORE Academic Program Advisor for 1989 -1991
- Committee on the formation of an imaging institute at CWRU. To evaluate the present and future direction of imaging in medicine and science at CWRU. This effort culminated in the submission of an NSF center grant on imaging in 1988
- Search Committee for physics faculty position in optics, 1989
- Physics Imaging Committee. To prepare imaging curriculum, graduate brochure material and organize participation in NSF center grant on imaging. There is a new section entitled "Imaging and Inverse Problems" in physics, 1988
- University Hospital's representative to Edison Biotechnology Center's Board for one year, 1989-1990
- Basic Research Committee member MIR, 1994 – 1998

- Clinical Research Committee member MIR, 1994 - 1998
- Promotion and Tenure Committee 2002 to present, Dept. of Radiology, WSU
- Translational Neuroscience Program (TNP) Advisory Committee 2007 to present, Dept of Psychiatry & Behavioral Neurosciences, WSU

HONORS AND AWARDS

- 2017 - Honored the title of "Expert with Outstanding Contributions" for the distinguished achievements in the Chinese Radiology field and outstanding contributions to MRI by the Chinese Radiology Society.
- 2016 - Gold Medal Award for Academic Excellence, at the 6th Annual International Society for Neurovascular Disease (ISNVD) Scientific Meeting.
- 2015 - T. David Sisk Award for Best Original Research Paper: "Is There Chronic Brain Damage in Retired NFL Players? Neuroradiology, Neuropsychology, and Neurology Examinations of 45 Retired Players." Casson IR, Viano DC, **Haacke** EM, Kou Z, LeStrange DG. Sports Health. 2014 Sep;6(5):384-95.
- 2015 - Summa cum laude merit Award for abstract #0945: "Gestational Age Dependent Increase in Placental Perfusion Quantified Using MRI." Presented at the ISMRM 23rd Annual Meeting, Toronto, Ontario, Canada, May 2015. Yadav BK, Neelavalli J, Krishnamurthy U, Shen Y, Szalai G, Wang B, Chaiworapongsa T, Hernandez-Andrade E, Than NG, **Haacke** EM, Hassan SS, Romero R.
- 2015 - Magna cum laude Merit Award: for the abstract #0638: "Non-Contrast Magnetic Resonance Angiography of the Fetal Head and Neck Vessels". Presented at the ISMRM 23rd Annual Meeting, Toronto, Ontario, Canada, May 2015.
- 2014 - Honored the title of "High End Foreign Expert" at East China Normal University, Shanghai, China.
- 2014 - Top 1000 Talent Foreign Scholar Award, East China Normal University, China.
- 2014 - Award for recognition of Susceptibility Weighted Imaging MRM 2004 as one of the Top 30 papers published in Magnetic Resonance in Medicine in the last 30 years.
- 2014 - Awarded the Konrad Roentgen Professor of Physics at University of Ferrara, Italy.
- 2013 - Poster Award at the 4th International Congress on Fetal MRI. U. Krishnamurthy, J. Neelavalli, S. Mody, L. Yeo, P. Jella, S. Saleem, S.J. Korzeniewski, S. Ehterami, M.D. Cabrera, R.O. Bahado-Singh, S.S. Hassan, **Haacke**, R. Romero. Vienna, Austria.
- 2012 - Distinguished Foreign Professor Award at Northeastern University, Shenyang, China.
- 2009 - Regional Scholarship for Asia "Imaging the Vessel Wall in Major Peripheral Arteries using Susceptibility Weighted Imaging: Visualizing Calcifications" at the 12th Annual Society of Cardiovascular Magnetic Resonance (SCMR). Qi Yang, Kuncheng Li, Jiangtao Liu, S. Barnes, Z. Wu, J. Neelavalli, J. Hu, **Haacke**.
- 2008 - Best Abstract Award "Improving the detection of diffuse axonal injury by complementary use of advanced MRI" at the 6th North American Brain Injury (NABIS) Annual Conference. Z. Kou, R. Benson, R. Gattu, M. **Haacke**. The abstract presented our breakthrough on a complementary use of SWI and DTI techniques for injury detection.
- 2006 - RSNA Educational Exhibit Award LL-NR4709 entitled "Susceptibility Weighted Imaging (SWI) of the Brain: Pictorial Review of the Technique, Anatomy, and Pathology" T. Hirai, MD, Kumamoto JAPAN; M. Akter; M. Kitajima, MD; T. Okuda, MD; **Haacke**, PhD; Y. Yamashita, MD.
- 2006 - Wayne State University, Office of the Vice President for Research, Research Mentors Award Program for New Faculty for mentoring of Dr. Yu-Chung Norman Cheng.
- 2004 - Gold Medal Award, International Society of Magnetic Resonance in Medicine.
- 2004 - Outstanding Faculty Award from Wayne State University, Dept of Biomedical Engineering.
- 2002 - Scientific Exhibition Award ECR 2002 Cum Laude. J.R. Reichenbach, C. Fitzek, L. Jonetz-Mentzel, D. Sauner, H-J. Mentzel, **Haacke**, W.A. Kaiser. European Congress of Radiology.
- 2000 - Poster Prize of the XXVI Congress of the European Society of Neuroradiology 2000. J.R. Reichenbach, L. Jonetz-Mentzel, C. Fitzek, H.-J. Mentzel, **Haacke**, W.A. Kaiser.
- 1999 - Awarded the Visiting Professorship as the Roentgen Professor of Physics in Wuerzburg, Germany.
- 1998 - Marie-Sklodowska-Curie Prize for Visualization of Cerebral Venous Structures Using High Resolution MRI by J.R. Reichenbach, L.R. Schad, M. Essig, **Haacke**, W.A. Kaiser.
- 1997 - Poster Award at the 14th Annual Meeting, European Society for Magnetic Resonance in Medicine and Biology. J.R. Reichenbach, **Haacke**, B.C.P. Lee, Ch. Przetak, W.A. Kaiser.
- 1994 - Silver Medal of the Society of Magnetic Resonance.
- 1992 - Fellow of the Society of Magnetic Resonance Imaging.
- 1989 - Sylvia Soroken Greenfield Award for the best paper in Medical Physics: Constrained Reconstruction: A Superresolution Optimal Signal-to Noise Alternative to the Fourier Transform in Magnetic Resonance Imaging by **Haacke**, Z.-P. Liang, and S.H. Izen.
- 1977 - E.F. Burton Fellowship.
- 1976 - Ontario Graduate Scholarship.
- 1975 - Ontario Graduate Scholarship.
- 1974 - E.C. Stevens Fellowship.

1970 - Victoria College Fellowship.
1969 - Ontario Scholar.
1969 - R.C.I. Mathematics Award.
1969 - Ontario Senior Math Contest.
1967 - Ontario Junior Math Contest.

EDITORIAL RESPONSIBILITIES

- Editorial Board Member of Veins and Lymphatics Online Journal – Present.
- Editorial Board of Quantitative Imaging in Medicine and surgery Journal 2016 – Present.
- Section Editor for Phlebological Review 2014 - Present.
- Editor for Current Protocols in MRI, John Wiley and Sons 2001 - Present.
- Editorial Board Member of Concepts in Magnetic Resonance 2001 - Present.
- Editorial Board Member of the Journal of Magnetic Resonance 1998-Present.
- Editorial Board Member (2014), Quantitative Imaging in Medicine and Surgery (QIMS) journal.
- Associate Editor of Journal of Magnetic Resonance Imaging 1991-2016.
- Associate Editor of Magnetic Resonance Imaging, 1990-Present.
- Assistant Editor of Newsletter Echoes, 1990-1991.
- IEEE, Associate Editor, Transactions on Medical Physics, 1992-1993.

REVIEWER EXPERIENCE

- Special Study Sections for NIH - 1989-Present
- Whitaker Foundation – 1993
- Reviewer for Radiology, Medical Physics, Journal of Magnetic Resonance in Medicine and Journal of Magnetic Resonance Imaging, IEEE, ASSP and MI, Journal of Magnetic Resonance
- Reviewer of Conference Abstracts for SMRI, SMRM, ISMRM, ISNVD 1988 – Present

PROFESSIONAL SOCIETIES AND ORGANIZATIONS

The International Society for NeuroVascular Diseases (ISNVD): June 2010 to Present

- Founding President of the Society
- Co-Chairman of the Annual Meeting Program Committee 2011-2012
- Newsletter Editor 2011-2012
- Event Chairman ISNVD 2012 – Orlando, FL
- Publication Committee 2012-2013
- President 2017-2018

The International Society of Magnetic Resonance (ISMRM):

- 1994 President of the ISMRM
- 1996-1997 Study Group Review Committee Member
- 2001-02 Ad Hoc Committee on Historical Archives Member
- 2002-03 Ad Hoc Committee on Historical Archives Member
- 2003-04 Ad Hoc Committee on Historical Archives Member
- 2004-05 Ad Hoc Committee on Historical Archives Member
- 2008-2009 Susceptibility Weighted Imaging Study Group Governance Committee Member
- 2008-2009 Workshop & Study Group Review Committee Member
- 2009-2010 Susceptibility Weighted Imaging Study Group Governance Committee Member
- 2009-2010 Workshop & Study Group Review Committee Member

Society for Magnetic Resonance Imaging:

- Chairman, Publications Committee, 1992-1994
- Past-President, 1992
- President 1991
- Co-founder, Joint Merger Evaluation Committee, 1990-1992, for SMRI/SMRM
- President-Elect 1990
- Chairman, Basic Science Council – 1990
- Member of the Board, 1989

- Member of the Editorial Board MRI - 1988-Present
- Assistant Editor of Newsletter Echoes, 1990-1991
- Associate Editor of Journal of Magnetic Resonance Imaging 1991-Present
- Associate Editor of Magnetic Resonance Imaging
- Moderator of numerous conference sessions
- American Association of Physicists in Medicine

Institute of Electrical and Electronics Engineers (IEEE):

- Associate Editor, 1992-1993 for Transactions on Medical Physics

Society of Magnetic Resonance in Medicine:

- Student Award Committee - 1989-1991
- Reviewer Conference Abstracts 1987-Present
- Moderator of numerous conference sessions

Society of Exploration Geophysicists:

- Life Member

American Physical Society:

- Life Member

Ontario Genealogical Society:

- Life Member

MAJOR INVITED PROFESSORSHIPS AND LECTURESHIPS

The Konrad Roentgen Professor of Physics, Wuerzburg, October/November 2000

RESEARCH SUPPORT (Role, Title, Duration, Amount)**IN PROGRESS**

1R56AG060822-01A1 (Haacke / Ge)	09/30/2018 – 08/31/2020 (1 year no-cost ext)	0.00 calendar
National Institutes of Health/NIA	\$580,507	
<i>The next generation of vascular imaging using contrast-enhanced MICRO MRI</i>		
The goal of this proposal is to provide the Radiology and scientific community with the next generation of microvascular imaging, which we refer to as microvascular <i>in-vivo</i> contrast revealed origins (MICRO), it will make it possible to study the brain's microvascular network including morphological and architectural changes at the arteriole and venule levels. If successful, this innovative technology is expected to change how clinical diagnosis is made and how microvascular pathophysiology is detected and interpreted <i>in vivo</i> .		
Role: Co-PI		
R01 AG011230-16 (Raz)	06/01/2010 – 05/31/2021	0.12 calendar
National Institutes of Health/NIA	\$484,251	
<i>Neural Correlates and Modifiers of Cognitive Aging</i>		
The major goals of this project are continuation and expansion of the research activities of the past 16 years to describe course of differential brain aging, mechanisms of differential brain shrinkage, age-related brain changes and approach to study of the biological and cognitive change.		
Role: Co-Investigator		
P30AG053760 (Paulson)	08/15/2016 – 06/30/2021	0.36 calendar
National Institutes of Health/NIA	\$34,500	
<i>Michigan Alzheimer's Disease Core Center</i>		
The "Michigan Alzheimer's Disease Core Center (Michigan ADCC)," aims to build a regional center that formally links efforts at the three major research universities in Michigan (the University of Michigan (UM), Wayne State University (WSU) and Michigan State University (MSU)). Wayne State University Institute of Gerontology (IOG) activities involved in this application include Michigan ADCC Clinical Core: <i>E. Mark Haacke, PhD</i> will serve as Clinical Core Investigator. Dr. Haacke works on analyzing microbleeds that already show the ability to detect pathological features of vascular dementia in the form of cerebral amyloid angiopathy well before patients become demented. He is involved in helping to establish the imaging protocols, image evaluation, and biomarker determination in research subjects evaluated by the Michigan ADCC.		

Role: Co-Investigator

- 81801652 (He)** **01/01/2019 – 12/31/2021** **0.30 calendar**
National Natural Science Foundation of China \$25,000
Evaluating patient outcomes after DBS implantation using radiomics analysis of MRI iron and neuromelanin measures.
Role: Co-Investigator
- 4R44HL145826-02 (Haacke)** **02/01/2020 – 01/31/2022** **3.00 calendar**
National Institutes of Health/NHLBI \$992,655 (Phase II)
Automatic Quantification and Labeling of Cerebral Microbleeds, Oxygen Saturation and Sources of Abnormal Susceptibility
The approach is to combine susceptibility weighted imaging (SWI), quantitative susceptibility mapping (QSM) and perfusion weighted imaging (PWI) in one, comprehensive and quantitative software (qSPIN) that will identify, localize and quantify the presence of cerebral microbleeds as well as the changes in oxygen saturation representing the source of venous abnormalities. Role: Principal Investigator
- 8172010821 (Wang)** **01/01/2018 – 12/31/2022** **0.30 calendar**
National Natural Science Foundation of China \$70,000
Molecular Typing and Tissue Heterogeneity of Gliomas Based on Multimodal MRI
Role: Co-Investigator
- HHSN275201300006C (Romero)** **02/01/2013 – 01/31/2023** **0.60 calendar**
Eunice Kennedy Shriver \$180,000 (renewed annually)
National Institute of Child Health and Human Development (NICHD)
Contract issued to Wayne State University in support of the Perinatology Research Branch, Eunice Kennedy Shriver National Institute of Child Health and Human Development.
The goal is to conduct clinical and basic research in perinatal medicine and related disciplines with the goal of developing novel diagnostic, therapeutic and preventive strategies to reduce adverse pregnancy outcome, infant mortality and handicap.
Role: Co-Investigator
- R01EB027103 (Allen)** **06/01/2019 – 05/31/2023** **0.48 calendar (YR1-2)**
National Institutes of Health \$900,000 **0.60 calendar (YR3-4)**
Library Synthesis and Screening of Eu (II) - Based Contrast Agents
The goal of the grant is to assemble a library of ligands for divalent europium and screen them for binding using MRI to learn structure-function relationships that will enable the design of future redox-active contrast agents for MRI.
Role: Collaborator
- 1R01 NS108491-01 (Ge / Haacke)** **09/15/2018 – 06/30/2023** **3.00 calendar**
National Institutes of Health/NIA \$214,321
In vivo insights of small vessel changes with age using USPIO-enhanced MRI
In this proposal, we will develop a new imaging tool using an ultra-small-superparamagnetic-iron-oxide (USPIO) contrast agent to characterize age-related microvascular changes on both 3T and 7T MRI and better understand the source and basis of brain aging. If successful, this innovative technology is expected to provide fundamental insights on how age-related microvascular alteration is detected and interpreted with in vivo brain imaging.
Role: Co-PI

COMPLETED

- R44HL145826-01A1 (**Haacke**) Phase I **08/01/2019 – 01/31/2020**
National Institutes of Health/NHLBI \$155,364 (direct) \$59,146 (indirect)
Automatic Quantification and Labeling of Cerebral Microbleeds, Oxygen Saturation and Sources of Abnormal Susceptibility
The approach is to combine susceptibility weighted imaging (SWI), quantitative susceptibility mapping (QSM) and perfusion weighted imaging (PWI) in one, comprehensive and quantitative software (qSPIN) that will identify, localize and quantify the presence of cerebral microbleeds as well as the changes in oxygen saturation representing the source of venous abnormalities.
Role: Principal Investigator
- R21 NS090153-01 (**Haacke/Kou**) **09/01/2015 – 08/31/2017 (no cost extension to 08/31/2018)**
National Institutes of Health/NINDS \$275,000 (direct) \$125,871 (indirect)

Assessing Brain Tissue Viability after TBI: A Susceptibility Mapping Approach

The major goal of this project is to set non-invasive techniques for assessing brain viability after TBI.

Role: Principal Investigator

- Distinguished Foreign Professor Award
Northeastern University, Shenyang, China
Role: Co-Principal Investigator
10/01/2012 –09/30/2017
200,000 RMB (annual direct costs)
- W81XWH-12-1-0522 (Cheng)
Department of Defense
Development and Testing of Iron Based Phantoms as Standards for the Diagnosis of Microbleeds and Oxygen Saturation with Applications to Dementia, Stroke and Traumatic Brain Injury.
The goal of this project is to build prototype phantoms with various geometries and sources of susceptibility to evaluate the iron content measured with MRI to that measured with other techniques such as mass spectroscopy and SQUID-based Magnetometer and compare the different MR methods in order to choose that which provides the best accuracy and precision to build a commercial level prototype phantom and test it across field strengths and manufacturers at a variety of different sites.
Role: Co- Investigator
10/01/2012 – 09/30/2016 (no cost ext to 09/29/2017)
\$438,957
- DI-2014-007 (**Haacke**)
Bayer HealthCare Pharmaceuticals Inc.
Comparing Lesion Contrast with both Dotarem and Gadavist and Understanding the Cerebral Perfusion Patterns of Patients with Multiple Sclerosis (MS) using Magnetic Resonance Imaging (MRI)
The major goal of this study is to evaluate the efficacy of two macrocyclic contrast agents in studying cerebral perfusion and lesion detection of MS patients using MRI.
Role: Principal Investigator
06/15/2015 – 06/14/2017
\$113,500
- 5R21CA184682-02 (Hu)
NIH
Using MR phase to detect ferritin tagged breast cancer cells that are of sub-voxel size
The major goal of this project is to further on the development of a MRI technique but also involves in stem cell related techniques.
Role: Co-Investigator
05/15/2014 – 04/30/2017
\$275,000
- 996SC001 (Swerdlow/**Haacke**)
Biogen Idec MA, Inc.
A Study of Noninvasive Methodologies to Measure Blood Flow and Oxygenation as Potential Biomarkers in Adult Sickle cell Disease Patients
The major goal of this project is to (1) To determine whether MRI, Near Infrared Spectroscopy (NIRS), Laser Speckle Contrast Imaging (LSCI) and Intravital Microscopy (IVM) can detect a difference in blood flow in the brain, kidneys, muscle, skin and eyes of sickle cell disease patients compared to healthy controls, and ultimately determine the hemodynamic parameters that can serve as pharmacodynamic biomarkers in future therapeutic trials for sickle cell patients and (2) To determine the test re-test reliability of measuring blood flow using ASL-MRI, NIRS, LSCI and IVM in the brain, kidneys, skeletal muscle, skin and eyes of SCD patients and health controls.
Role: Co-Principal Investigator
03/16/2015 – 12/31/2016
\$819,420
- R37 AG011230-16 (Raz)
National Institutes of Health/NIA
Neural Correlates and Modifiers of Cognitive Aging
The major goals of this project are continuation and expansion of the research activities of the past 16 years to describe course of differential brain aging, mechanisms of differential brain shrinkage, age-related brain changes and approach to study of the biological and cognitive change.
Role: Co-Investigator
06/01/2010 – 11/30/2016
\$2,000,000
- 1R42HL112580-01A1 (**Haacke**)
National Institutes of Health
Development of flow and vascular quantification software for the assessment of MR
The major goals of this project are to develop and optimize an image and signal processing software for vascular assessment and flow quantification.
Role: Principal Investigator
08/15/2012 – 01/31/2015
\$787,867

- W81XWH-12-1-0522 (Cheng) 10/01/2013 – 09/30/2014
 Department of Defense \$222,403
Development and Testing of Iron Based Phantoms as Standards for the Diagnosis of Microbleeds and Oxygen Saturation with Applications to Dementia, Stroke and Traumatic Brain Injury
 The goal of this project is to build prototype phantoms with various geometries and sources of susceptibility to evaluate the iron content measured with MRI to that measured with other techniques such as mass spectroscopy and SQUID-based Magnetometer and compare the different MR methods in order to choose that which provides the best accuracy and precision to build a commercial level prototype phantom and test it across field strengths and manufacturers at a variety of different sites.
 Role: Co-Investigator
- FRN-99472 Univ of Saskatchewan (Nichol) 10/01/2009 – 03/31/2015
 Canadian Institutes of Health Research (CIHR) \$387,300
Team in Synchrotron Medical Imaging
 The major goals of this project are: 1) map iron in fixed human brains to see changes in metal distribution associated with stroke and 2) Compare DCE MRI with SWI to better understand the etiology of vascular damage prior to the appearance of bleeds and quantify changes in elemental distribution associated with vascular permeability.
 Role: Co-Investigator
- DI-2011-33 (**Haacke**) 01/02/2012 – 01/03/2014
 Bayer Pharmaceuticals, Inc. \$141,750
Comparing Lesion Contrast with both Magnevist and Gadavist and Understanding the Cerebral Perfusion Patterns of Patients with Multiple Sclerosis (MS) using Magnetic Resonance Imaging (MRI)
 The major goals of this project are to test the efficacy of two contrast agents, Magnevist and Gadavist in detecting MS lesions and evaluate the changes in cerebral blood flow in MS patients compared to healthy controls.
 Role: Principal Investigator
- R01 NS041922 (Juhasz) 07/01/2008 – 04/30/2013
 National Institutes of Health/NINDS \$1,489,950
Longitudinal neuroimaging in Sturge-Weber syndrome
 The major goals of this project are to study the effects of Sturge-Weber syndrome on the brain over time.
 Role: Co-Investigator
- 1R13NS079016-01A1 (**Haacke/Ge**) 09/26/2012 – 09/25/2013
 NIH \$20,000
International Workshop on MRI Phase Contrast and Quantitative Susceptibility Mapping
 Role: Co-Principal Investigator
- CIHR Team 11/01/2009 – 07/31/2014
 Synchrotron Medical Imaging \$337,300 (direct and total costs), \$0 (indirect costs)
 Role: Map iron in fixed human brains to see changes in metal distribution associated with Stroke and Compare DCE MRI with SWI to better understand the etiology of vascular damage prior to the appearance of bleeds and quantify changes in elemental distribution associated with vascular permeability
 Role: Co-Investigator
- W81XWH-11-1-0493 (**Haacke**) 06/02/2011– 06/01/2013
 Department of Defense \$432,697 (direct) \$127,303 (indirect), \$560,000 (total costs)
Development of Magnetic Resonance Imaging Biomarkers for Traumatic Brain Injury
 The major goals of this project are to study the medullary veins and microbleeds in mild traumatic brain injury. This will involve the application of quantitative susceptibility mapping methods to follow CMB changes in time.
 Role: Principal Investigator
- K08 MH079176A 09/03/2007 – 07/31/2012
 NIH \$680,483 (direct), \$52,926 (indirect), \$733,409 (total costs)
Structural and Functional Neural Correlates of Early Postnatal Deprivation
 Role: Co-Investigator (PI: Behen)
- Siemens Master Research Agreement 07/01/2009 – 06/30/2012
Susceptibility Weighted Imaging \$300,000 (direct and total costs)

Role: Principal Investigator

- PI: Ming Dong 06/01/2008 – 05/31/2011
 NSF \$260,538(direct), \$10,284 (indirect), \$270,822 (total costs)
CRI: IAD Acquisition of Research Infrastructure for Knowledge-enhanced, Large-scale Learning of Multimodality Visual Data
 Role: Co-Investigator
- H133G080064 (PI: Robin Hanks) 10/01/2008 – 09/30/2010
 NIH \$593,022(direct), \$154,186 (indirect), \$747,209 (total costs)
Neural Correlates and Modifiers of Cognitive Aging. Neuroanatomical Correlates of Positive Psychology Among People with Traumatic Brain Injury: A Biopsychosocial Model. A Field Initiated Grant
 Role: Co-Investigator
- R01 AG011230-11 (PI: Naftali Raz) 04/01/2005 – 03/31/2010
 NIH \$2,090,389 (direct), \$995,873 (indirect) \$3,086,262 (total costs)
Neural Correlates and Modifiers of Cognitive Aging
 Role: Co-Investigator
- NIH 07/01/2005 – 06/30/2008
Improved Characterization of Tumors in MRI using SWI \$1,300,000
 Role: Principal Investigator
- R01 HL062983-04A2 09/01/2008 – 05/31/2011
 NIH \$1,560,829
Susceptibility Weighted Imaging (SWI)
 Role: Principal Investigator
- 07-006 (PI: Cynthia Bir) 09/01/2007 – 08/31/2009
 BAA \$669,078 (direct), \$337,884 (indirect), \$1,006,962 (total costs)
Blast Induced Neurotrauma
 Role: Co- Investigator
- National Football League 11/01/2007 – 11/30/2009
Neuro-imaging of NFL retired players \$320,807 (direct), \$32,080 (indirect), \$352,887 (total costs)
 Role: Principal Investigator
- R01 NS048349 (PI: Quan Jiang) 12/01/2004 – 11/30/2009
 NIH \$167,500
 Role: Co- Investigator
- 06-1-P1-0193 (PI: Ming Dong) 12/20/2006 – 12/31/2009
 MEDC \$725,013 (direct), \$80,888 (indirect), \$805,901 (total costs)
HyperEye: Susceptibility Weighted Imaging-based Informatics Tools for Brain Tumor Studies
 Role: Co- Investigator
- Sanofi-Aventis Pharmaceuticals, Inc. 12/01/2002 – 12/31/2008
Analysis of MRI Data for Clinical Trials AVE8062A \$56,832(direct) \$19,968 (indirect), \$76,800(total costs)
 Role: Principal Investigator
- 085P5200251 09/01/2005 – 08/31/2008
 MTTC \$1,721,926 (direct) \$320,385 (indirect), \$2,042,311 (total costs)
A National Center of Excellence in Magnetic Resonance Imaging
 Role: Principal Investigator
- R01 (PI: Quan Jiang) 07/01/2004 – 06/30/2008
 NIH \$20,000/yr.
MRI and SVZ Cell Therapy for Severe Stroke
 Role: Co-Investigator

- 1S10 RR023061-01 06/01/2007 – 05/31/2008
 NIH \$1,959,120 (direct and total costs), \$0 (indirect)
High End Instrumentation Equipment Grant (Evaluation of New Imaging Methodologies at 7T)
 Role: Principal Investigator
- R33 (PI: Wolff Kirsch) 09/01/2002 – 08/31/2007
 NIH \$75,000/yr.
Iron metabolism alterations in Alzheimer's disease
 Half of this grant is based on the use of SWI (susceptibility weighted imaging) as developed by Prof. **Haacke** for the study of Alzheimer's disease.
 Role: Co-Principal Investigator
- Siemens Medical Solutions 07/01/2001 – 06/30/2006
 Role: Principal Investigator \$750,000
- EISAI Medical Research 06/29/2004 – 08/31/2005
Phase I and Pharmacokinetic Study E7820 \$57,794 (direct) \$20,306 (indirect), \$78,100 (total costs)
(LIFE) after Oral Administration to Patients with Malignancy
 Role: Principal Investigator
- R01 06/16/2001 – 05/31/2004
 NIH \$750,000 (direct costs)
High Resolution BOLD Venographic Imaging
 Role: Principal Investigator
- NIH 12/01/1999 – 11/30/2002
 PI: Weili Lin \$200,000 (direct costs)
Quantitative Measurement of Brain Oximetry using MRI
 Role: Consultant Time 10%
- NIH 2000-2003
 PI: Debiao Li
Coronary Artery Imaging
 Role: Consultant
- Siemens 12/2000 – 7/31/2002
 Clinical Evaluation of AVID BOLD and implementation within MRease-Software
 \$50,000
 Role: Principal Investigator
- Janssen Research Foundation 10/1999 – 10/2000
3D Imaging of the Brain \$93,200 (direct costs)
 Role: Principal Investigator
- EPIX Medical, Inc. 04/10/1999 – 04/09/2000
 Vascular Visible Human Project
 Role: Consultant
- R01 12/01/1996 – 11/30/1999
 NIH \$834,188 (direct), \$435,812 (indirect), \$1,270,280 (total costs)
MRI of Coronary Artery Disease
 Role: Principal Investigator
- R01 04/01/1996 – 03/31/2000
 NIH \$597,889 (direct costs)
Tissue Water Measurements of Brain Edema with MRI
 Role: Co-investigator

- 5 P01 NS06783 (PI Marcus E. Raichle) 12/1994 – 11/1999
NIH \$673,386 (total costs)
The Brain and Its Vasculature
Role: Co-Investigator

- RSNA 07/1996 – 06/1998
PI: Pamela Woodard \$70,000 (total costs)
Identification of Proximal Coronary Artery Stenoses with 3D MR Retrospective Respiratory Gating
Role: Advisor

- R01HL38698-01A3 08/01/1990 – 07/31/1995
NIH \$747,789 (direct), \$360,595 (indirect), \$1,108,384 (total costs)
MRI of the central cardiovascular system
Role: Principal Investigator

- Joe Ackerman 1995
Instrumentation Grant \$400,000 (direct costs)
Role: Co-investigator

- R01 12/01/1989 – 11/30/1994
NIH \$694,478 (direct), \$572,181 (indirect), \$1,266,659 (total costs)
MR flow techniques for cerebrovascular disease
Role: Consultant

- NASA 12/05/1991 – 12/04/1992
Phase Shifting Interferometry to Measure Object Displacement V \$47,355 (direct costs)
Role: Principal Investigator

- NASA 12/05/1990 – 12/04/1991
Phase Shifting Interferometry to Measure Object Displacement IV \$47,355 (direct costs)
Role: Principal Investigator

- NASA 12/05/1989 – 12/04/1990
Phase Shifting Interferometry to Measure Object Displacement III \$45,940 (direct costs)
Role: Principal Investigator

- NASA 12/05/1988 – 12/04/1989
Phase Shifting Interferometry to Measure Object Displacement II \$40,221 (direct costs)
Role: Principal Investigator

- NASA 12/05/1987 – 12/04/1988
Phase Shifting Interferometry to Measure Object Displacement I \$21,922 (direct costs)
Role: Principal Investigator

- Whitaker Foundation 10/01/1988 – 09/30/1991
RF penetration in MRI \$180,000 (direct costs)
Role: Principal Investigator

- American Heart Association 01/01/1989 – 12/31/1989
Oxygen-17 as a contrast agent in cerebral ischemia and stroke \$18,043.75 (direct costs)
Role: Co-investigator

- American Heart Association Grant 01/01/1987 – 12/31/1987
Oxygen-17 water as an MRI myocardial contrast agent \$10,750 (direct costs)
Role: Co-investigator

- CWRU research initiation 01/01/1987 – 11/30/1987
Role: Principal Investigator \$5,000 (direct costs)

INDUSTRIAL GRANTS

- Siemens Medical Solutions
Susceptibility Weighted Imaging
Role: Principal Investigator
2009-2012
\$100,000
- Siemens Medical Solutions
Susceptibility Weighted Imaging
Role: Principal Investigator
2006-2009
\$100,000
- Siemens AG
Susceptibility Weighted Imaging
Role: Principal Investigator
2001-2005
\$150,000
- Siemens Medical Systems
Partial Fourier Imaging
Role: Co-Principal Investigator
2001-2003
\$50,000
- Siemens Medical Systems
AVID BOLD Imaging
Role: Principal Investigator
2001-2003
\$50,000
- Arbor Consulting Resources
Vessel Segmentation
Role: Principal Investigator
10/1996 – 09/1997
\$150,000
- Siemens Medical Systems
fMRI and Cardiovascular MRI Research
Role: Principal Investigator
07/01/1994 – 06/30/1999
\$600,000
- EPIX/MMI
Separating Arteries and Veins in Contrast Enhanced MRI
Role: Principal Investigator
05/1997 – 10/1999
\$225,000 (direct costs)
- Mallinckrodt Medical Inc
Mallinckrodt Inst. of Radiology Research Program
Role: Co-Investigator. Time 5%
07/01/1995 – 06/30/1996
\$65,000 (direct costs)
- Metasyn
MR of Coronary Arteries with MS - 325
Role: Co-investigator
1995 - 1996
\$90,000 (direct costs)
- Edison Biotechnology Center Grant
Superresolution Imaging
Role: Principal Investigator
09/01/1990 – 08/31/1991
\$76,000 (direct costs)
- Edison Biotechnology Center Grant
Superresolution Imaging
Role: Principal Investigator
10/01/1989 – 09/30/1990
\$45,000 (direct costs)
- Pfizer Research Grant
The use of Magnetic Resonance Imaging to evaluate the efficacy of anti-inflammatory and analgesic therapy on osteoarthritic articular cartilage
Role: Co-investigator
1989-1990
\$60,000 (direct costs)
- Edison Biotechnology Center Grant
In Vivo Biomicroscopy with Ultrasound
Role: Co-investigator
1988-1989
\$38,000 (direct costs)

- Discretionary Imaging Grant. 1985-1988
CWRU \$100,000
Support for students from several sources have been channeled through two discretionary accounts
- Technicare for student support 1986
MRI reconstruction techniques \$5,000 (direct costs)
Role: Principal Investigator

GRANTS PARTICIPATING IN AS ADVISOR, CONSULTANT, MENTOR, OR INVESTIGATOR

- GE-AUR Award (PI: Karen A. Tong) 2001
Loma Linda University
Imaging Traumatic Brain Imaging with MuF (short title)
- PI: Weili Lin 12/01/1998 – 11/03/2003
NIH - R01 \$1,793,109 (total costs)
Quantitative Brain Oximetry Using MRI
Role: Consultant, PI
- R01 PI: Weili Lin 04/01/1996 – 03/30/2000
NIH \$791,233
Tissue Water Measurement of Brain Edema with MRI
Role: Consultant; PI
- NIH - R01 (PI: Debiao Li) 12/01/1996 – 11/30/1999
MRI of Coronary Artery Disease \$749,546
PI of Subcontract: Mark **Haacke**
- RSNA (PI: Pamela Woodard) 07/1996 – 06/1998
Identification of Proximal Coronary Artery Stenoses with 3D MR Retrospective Respiratory Gating \$70,000
Role: Advisor
- NIH, 5 P01 NS06783 (PI: Marcus E. Raichle) 12/1994 – 11/1999
The Brain and Its Vasculature \$670,000
Role: Co-Investigator
- R01 NS24724 (PI: Daniel Kido) 09/1993 – 08/1994
NIH 7 \$100,000 (total costs)
Efficacy of MRI Angiography in Cerebrovascular Diseases
Role: Co-Investigator
- Siemens Medical Systems (PI: P. Woodard) 07/1996 – 06/1998
Radiological Society of North America \$75,000 (total costs)
Identification of proximal coronary artery stenoses with 3D MR retrospective respiratory gating
Role: Mentor: Mark **Haacke**
- PI: Colin Derdyn
MR of cerebral oxygenation in ischemia
Advisors: William Powers, MD and Mark **Haacke**, PhD

PATENTS

AWARDED

- **Application-Specific Optimization of Echo Time in MR Pulse Sequences for Investigating Materials with Susceptibilities Different from that of the Background in which they are Embedded**
Patent #: US 6,501,272 B1
Inventor(s): E. Mark **Haacke**, Juergen Reichenbach, Yi Wang
December 21, 2002

- **Method of MRI Image Reconstruction from Partially Acquired data in Two or More Dimensions Using a Multidimensional Inverse Transform Technique**
Patent #: US 6,560,353 B1
Inventor(s): E. Mark **Haacke** and Yingbiao Xu
May 06, 2003
- **Susceptibility Weighted Imaging**
Patent #: US 6,658,280 B1
Inventor(s): E. Mark **Haacke**
December 02, 2003
- **Iterative Method for Correction of Geometric Distortion resulting from Phase Evolution during Segmented Echo Planar Nuclear Magnetic Resonance Imaging and Apparatus therefore**
Patent #: US 7,154,269 B1
Inventor(s): Yingbiao Xu and E. Mark **Haacke**
December 26, 2006
- **Complex Threshold Method for Reducing Noise in Nuclear Magnetic Resonance Images**
Patent #: US 7,573,265 B2
Inventor(s): E. Mark **Haacke**
August 11, 2009
- **Method of and Software Application for Quantifying Objects in Magnetic Resonance Images via Multiple Complex Summations**
Patent #: US 7,692,424 B2
Inventor(s): Yu-Chung Norman Cheng, Ching-Yi Hsieh and E. Mark **Haacke**
April 06, 2010
- **Geometry Based Field Prediction Method for Susceptibility Mapping and Phase Artifact Removal**
Patent #: US 7,782,051 B2;
Inventor(s): E. Mark **Haacke**, Jaladhar Neelavalli and Yu-Chung Norman Cheng
August 24, 2010
- **Susceptibility Weighted Imaging (CHINA)**
Patent #: China ZL 200810094962.2
Inventor(s): E. Mark **Haacke**
October 24, 2012
- **Susceptibility Weighted Imaging (CHINA)**
Patent #: China ZL03810532.2
Inventor(s): E. Mark **Haacke**
- **Susceptibility Weighted Imaging (CHINA)**
Patent #: China ZL200810094962.2
Inventor(s): E. Mark **Haacke**
- **Susceptibility Weighted Imaging (CHINA)**
Patent #: China ZL200810094961.8
Inventor(s): E. Mark **Haacke**
- **A Method of Generating Nuclear Magnetic Resonance Images Using Susceptibility Weighted Imaging and Susceptibility Mapping (SWIM)**
Patent #: US 8,422,756 B2
Inventor(s): E. Mark **Haacke** and Jaladhar Neelavalli
April 16, 2013
- **A Method of Generating Nuclear Magnetic Resonance Images Using Susceptibility Weighted Imaging and Susceptibility Mapping (SWIM)**
Patent #: US 8,693,761 B2
Inventor(s): E. Mark **Haacke** and Jaladhar Neelavalli

April 08, 2014

- **Tissue Similarity Maps (TSM): A Method of Improving Contrast in Dynamic Contrast Enhanced Imaging**
Patent #: US 9,008,396 B2
Inventor(s): E. Mark **Haacke**
April 14, 2015
- **A Method of Phase Unwrapping from Multi-Echo Gradient Data: Catalytic Multi-Echo Phase Unwrapping Scheme (CAMPUS)**
Patent #: US 9,097,782 B2
Inventor(s): E. Mark **Haacke** and Wei Feng
August 04, 2015
- **A Method of Generating Nuclear Magnetic Resonance Images Using Susceptibility Weighted Imaging and Susceptibility Mapping (SWIM) (CHINA)**
Patent #: Chinese ZL201180029050.7
Inventor(s): E. Mark **Haacke** and Jaladhar Neelavalli
October 14, 2015
- **Tissue Similarity Maps (TSM): A Method of Improving Contrast in Dynamic Contrast Enhanced Imaging (CHINA)**
Patent #: Chinese ZL201280031494.9
Inventor(s): E. Mark **Haacke**
May 25, 2016
- **Tissue Similarity Maps (TSM): A Method of Improving Contrast in Dynamic Contrast Enhanced Imaging (SOUTH KOREA)**
Patent #: 10-1627394
Inventor(s): E. Mark **Haacke** and Jaladhar Neelavalli
May 30, 2016
- **A Method of Phase Unwrapping from Multi-Echo Gradient Data: Catalytic Multi-echo Phase Unwrapping Scheme (CAMPUS) (CHINA)**
Patent #: Chinese CN 103649782 B
Inventor(s): E. Mark **Haacke** and Wei Feng
December 28, 2016
- **Method and apparatus for magnetic resonance imaging with radio frequency pulses generated according to phase criteria (Multi-dimensional Susceptibility Conditioned RF Pulse (SCOPE))**
Patent #: US 9,977,110
Inventor(s): E. Mark **Haacke** and Wei Feng
May 22, 2018
- **Systems and Methods for Strategically Acquired Gradient Echo Imaging (STAGE)**
Patent App #: 15/659,353
Patent Filing Date: July 25, 2017
Inventor(s): E. Mark Haacke
Licensed: N/A
Category: Software
- **Systems and Methods for Strategically Acquired Gradient Echo Imaging (STAGE) PCT**
Patent PCT App #: PCT/US2017/043991
Patent Filing Date: July 26, 2017
Inventor(s): E. Mark Haacke
Licensed: N/A
Category: Software

FUTURE PATENTS

- **DIVE MRA**
Inventor(s): E. Mark **Haacke**

TEACHING TITLE AND RESPONSIBILITIES: TEACHING IN SCIENCE

During the last twenty-two years, I have taught and tutored over ten courses in physics, mathematics and statistics. These courses ranged in level from freshman to senior as well as several graduate level courses and include: relativistic quantum mechanics, thermodynamics optics, statistical physics statistics, calculus general physics, and imaging physics.

In 1984, I introduced a new course at Case on the Physics of Imaging: Applications in Industry and Medicine. In 1988, this course was supplemented by a second NMR course CHM 460. In 1990/1991, this course was extended to a second semester as CHM 460. An off shoot of this course on the Mathematics of Imaging is currently being offered in the Dept. of Mathematics as MAT 457. Recent courses given at Case include (PHY 431) and optics (PHY 425). Guest lectures have been given for the last several years for two EBME undergraduate courses including EBME 105. This MRI course has been offered at Washington University through the Electrical Engineering Department from 1993 to 1999 and at Wayne State University from 2002 to present (offered in the Winter semester every other year).

Medical School and Radiology-Related Teaching

- Coordinator, MR Physics Conferences, Dept. of Radiology 1986-1993.
- Radiology MR Research conference: Weekly seminars on MR imaging methods & Annual MRI course each Fall semester.
- Numerous education lectures to residents and faculty at Mallinckrodt Institute of Radiology from 1994-1999.
- Numerous education lectures to residents and faculty at Wayne State University from 2002 to present.

EXTERNAL EXAMINER

University of Western Australia. Ph.D. Thesis entitled "Non-invasive measurement and imaging of liver iron concentrations using proton magnetic resonance" by Mr. Paul Clark. June 2005.

CASE REPORT PUBLICATIONS

1. Zivadinov R, Ramasamy DP, Benedict RR, Polak P, Hagemeyer J, Magnano C, Dwyer MG, Bergsland N, Bertolino N, Weinstock-Guttman B, Kolb C, Hojnacki D, Utraiainen D, **Haacke** EM, Schweser F. Cerebral Microbleeds in Multiple Sclerosis Evaluated on Susceptibilityweighted Images and QuantitativeSusceptibility Maps: A Case-Control Study. *Radiology*. 2016;281(3):884-895. PMID: 27308776. CASE REPORT.
2. Gattu R, Akin F, Cacace AT, Hall C, Murnane O, & **Haacke** EM. Vestibular, balance, microvascular and white matter neuroimaging characteristics of blast injuries and mild traumatic brain injury: Four case reports. *Brain Injury*. 2016;30(12):1501-1514. PMID: 27834534. CASE REPORT. Bellon EM, **Haacke** EM, Coleman PE, Sacco DC, Steiger DA, Gangarosa RE. MR artifacts: a review. *AJR Am J Roentgenol*. 1986 Dec;147(6):1271-81. PMID: 3490763. CASE REPORT.

REVIEW PUBLICATIONS

3. Bellon EM, **Haacke** EM, Coleman PE, Sacco DC, Steiger DA, Gangarosa RE. MR artifacts: a review. *AJR Am J Roentgenol*. 1986 Dec;147(6):1271-81. PMID: 3490763. REVIEW ARTICLE.
4. **Haacke** EM, Tkach JA. Fast MR imaging: techniques and clinical applications. *AJR Am J Roentgenol*. 1990 Nov;155(5):951-64. Review. PMID: 2120964. REVIEW ARTICLE.
5. **Haacke** EM, Smith AS, Lin W, Lewin JS, Finelli DA, Duerk JL. Velocity quantification in magnetic resonance imaging. *Top Magn Reson Imaging*. 1991 Jun;3(3):34-49. Review. PMID: 2054197. REVIEW ARTICLE.
6. Anderson CM, **Haacke** EM. Approaches to diagnostic magnetic resonance carotid angiography. *Semin Ultrasound CT MR*. 1992 Aug;13(4):246-55. Review. PMID: 1503793. REVIEW ARTICLE.
7. Hendrick RE, **Haacke** EM. Basic physics of MR contrast agents and maximization of image contrast. *J Magn Reson Imaging*. 1993 Jan-Feb;3(1):137-48. Review. PMID: 8428081. REVIEW ARTICLE.
8. Wasserman BA, **Haacke** EM, Li D. Carotid plaque formation and its evaluation with angiography, ultrasound, and MR angiography. *J Magn Reson Imaging*. 1994 Jul-Aug;4(4):515-27. Review. PMID: 7949676. REVIEW ARTICLE.
9. Li D, **Haacke** EM, Shelton ME, Kaushikkar S. Magnetic resonance imaging of coronary arteries. *Coron Artery Dis*. 1995 May;6(5):368-76. Review. PMID: 7655723. REVIEW ARTICLE.
10. **Haacke** EM, Li D, Kaushikkar S. Cardiac MR imaging: principles and techniques. *Top Magn Reson Imaging*. 1995 Fall;7(4):200-17. Review. PMID: 8534492. REVIEW ARTICLE.
11. Reichenbach JR, Venkatesan R, Yablonskiy DA, Thompson MR, Lai S, **Haacke** EM. Theory and application of static field inhomogeneity effects in gradient-echo imaging. *J Magn Reson Imaging*. 1997 Mar-Apr;7(2):266-79. Review. PMID: 9090577. REVIEW ARTICLE.
12. Li D, Zheng J, Bae KT, Woodard PK, **Haacke** EM. Contrast-enhanced magnetic resonance imaging of the coronary arteries A review. *Invest Radiol*. 1998 Sep;33(9):578-86. Review. PMID: 9766043. REVIEW ARTICLE.

13. Woodard PK, Li D, Zheng J, **Haacke EM**, Gropler RJ. Coronary MR angiography. *Magn Reson Imaging Clin N Am*. 1999 May;7(2):365-78. Review. PMID: 10382167. [REVIEW ARTICLE](#).
14. Woodard PK, Li D, Zheng J, **Haacke EM**, Gropler RJ. Current developments in and future direction of coronary magnetic resonance angiography. *Coron Artery Dis*. 1999 May;10(3):135-40. Review. PMID: 10352891. [REVIEW ARTICLE](#).
15. **Haacke EM**, Liang ZP. Challenges of imaging structure and function with MRI. *IEEE Eng Med Biol Mag*. 2000 Sep-Oct;19(5):55-62. Review. PMID: 11016030. [REVIEW ARTICLE](#).
16. Haddar D, **Haacke E**, Sehgal V, Delproposto Z, Salamon G, Seror O, Sellier N. [Susceptibility weighted imaging Theory and applications]. *J Radiol*. 2004 Nov;85(11):1901-8. Review. PMID: 15602412. [REVIEW ARTICLE](#).
17. **Haacke EM**, Cheng NY, House MJ, Liu Q, Neelavalli J, Ogg RJ, Khan A, Ayaz M, Kirsch W, Obenaus A. Imaging iron stores in the brain using magnetic resonance imaging. *Magn Reson Imaging*. 2005 Jan;23(1):1-25. Review. PMID: 15733784. [REVIEW ARTICLE](#).
18. Sehgal V, Delproposto Z, **Haacke EM**, Tong KA, Wycliffe N, Kido DK, Xu Y, Neelavalli J, Haddar D, Reichenbach JR. Clinical applications of neuroimaging with susceptibility-weighted imaging. *J Magn Reson Imaging*. 2005 Oct;22(4):439-50. Review. PMID: 16163700. [REVIEW ARTICLE](#).
19. Raz N, Rodrigue KM, **Haacke EM**. Brain aging and its modifiers: insights from in vivo neuromorphometry and susceptibility weighted imaging. *Ann N Y Acad Sci*. 2007 Feb;1097:84-93. Review. PMID: 17413014; NIHMSID: NIHMS77486; Central PMCID: PMC2630248. [REVIEW ARTICLE](#).
20. Tong KA, Ashwal S, Obenaus A, Nickerson JP, Kido D, **Haacke EM**. Susceptibility-weighted MR imaging: a review of clinical applications in children. *AJNR Am J Neuroradiol*. 2008 Jan;29(1):9-17. Review. PMID: 17925363. [REVIEW ARTICLE](#).
21. Van Boven RW, Harrington GS, Hackney DB, Ebel A, Gauger G, Bremner JD, D'Esposito M, Detre JA, **Haacke EM**, Jack CR Jr, Jagust WJ, Le Bihan D, Mathis CA, Mueller S, Mukherjee P, Schuff N, Chen A, Weiner MW. Advances in neuroimaging of traumatic brain injury and posttraumatic stress disorder. *J Rehabil Res Dev*. 2009;46(6):717-57. Review. PMID: 20104401; NIHMSID: NIHMS340159; Central PMCID: PMC3233771. [REVIEW ARTICLE](#).
22. **Haacke EM**, Mittal S, Wu Z, Neelavalli J, Cheng YC. Susceptibility-weighted imaging: technical aspects and clinical applications, part 1. *AJNR Am J Neuroradiol*. 2009 Jan;30(1):19-30. Review. PMID: 19039041; NIHMSID: NIHMS507993; Central PMCID: PMC3805391. Selected as "Must-Read AJNR Articles for Neuroradiology Fellows" in AJNR Special Collection. [REVIEW ARTICLE](#).
23. Barnes SR, **Haacke EM**. Susceptibility-weighted imaging: clinical angiographic applications. *Magn Reson Imaging Clin N Am*. 2009 Feb;17(1):47-61. Review. PMID: 19364599. [REVIEW ARTICLE](#).
24. Mittal S, Wu Z, Neelavalli J, **Haacke EM**. Susceptibility-weighted imaging: technical aspects and clinical applications, part 2. *AJNR Am J Neuroradiol*. 2009 Feb;30(2):232-52. Review. PMID: 19131406. Selected as "Must-Read AJNR Articles for Neuroradiology Fellows" in AJNR Special Collection. [REVIEW ARTICLE](#).
25. Chavhan GB, Babyn PS, Thomas B, Shroff MM, **Haacke EM**. Principles, techniques, and applications of T2*-based MR imaging and its special applications. *Radiographics*. 2009 Sep-Oct;29(5):1433-49. Review. PMID: 19755604; Central PMCID: PMC2799958. [REVIEW ARTICLE](#).
26. Kou Z, Wu Z, Tong KA, Holshouser B, Benson RR, Hu J, **Haacke EM**. The role of advanced MR imaging findings as biomarkers of traumatic brain injury. *J Head Trauma Rehabil*. 2010 Jul-Aug;25(4):267-82. Review. PMID: 20611045. [REVIEW ARTICLE](#).
27. **Haacke EM**, Duhaime AC, Gean AD, Riedy G, Wintermark M, Mukherjee P, Brody DL, DeGraba T, Duncan TD, Elovic E, Hurley R, Latour L, Smirniotopoulos JG, Smith DH. Common data elements in radiologic imaging of traumatic brain injury. *J Magn Reson Imaging*. 2010 Sep;32(3):516-43. Review. PMID: 20815050. [REVIEW ARTICLE](#).
28. Siskin GP, Haskal ZJ, McLennan G, Dake MD, **Haacke EM**, McDonald S, Royal W 3rd, Vedantham S, Hubbard D, Sclafani SJ, Andrews RT, Sauder H. Development of a research agenda for evaluation of interventional therapies for chronic cerebrospinal venous insufficiency: proceedings from a multidisciplinary research consensus panel. *J Vasc Interv Radiol*. 2011 May;22(5):587-93. PMID: 21514515. [REVIEW ARTICLE](#).
29. Poloni G, Minagar A, **Haacke EM**, Zivadinov R. Recent developments in imaging of multiple sclerosis. *Neurologist*. 2011 Jul;17(4):185-204. PMID: 21712664. [REVIEW ARTICLE](#).
30. Feng W, Utriainen D, Trifan G, Sethi S, Hubbard D, **Haacke EM**. Quantitative flow measurements in the internal jugular veins of multiple sclerosis patients using magnetic resonance imaging. *Rev Recent Clin Trials*. 2012 May;7(2):117-26. Review. PMID: 22356242. [REVIEW ARTICLE](#).
31. **Haacke EM**, Beggs CB, Habib C. The role of venous abnormalities in neurological disease. *Rev Recent Clin Trials*. 2012 May;7(2):100-16. Review. PMID: 22338620. [REVIEW ARTICLE](#).
32. **Haacke EM**, Ye Y. The role of susceptibility weighted imaging in functional MRI. *Neuroimage*. 2012 Aug 15;62(2):923-9. Review. PMID: 22245649. [REVIEW ARTICLE](#).
33. Utriainen D, Trifan G, Sethi S, Elias S, Hewett J, Feng W, **Haacke EM**. Magnetic resonance imaging signatures of vascular pathology in multiple sclerosis. *Neurol Res*. 2012 Oct;34(8):780-92. Review. PMID: 22971468. [REVIEW ARTICLE](#).

34. Wu LM, Xu JR, Gu HY, Hua J, **Haacke EM**, Hu J. Predictive value of T2-weighted imaging and contrast-enhanced MR imaging in assessing myometrial invasion in endometrial cancer: a pooled analysis of prospective studies. *Eur Radiol.* 2013 Feb;23(2):435-49. Review. PMID: 22865275. [REVIEW ARTICLE.](#)
35. **Haacke EM**, Liu S, Buch S, Zheng W, Wu D, Ye Y. Quantitative susceptibility mapping: current status and future directions. *Magn Reson Imaging.* 2015 Jan;33(1):1-25. Review. PMID: 25267705. [REVIEW ARTICLE.](#)
36. Kou Z, Wiseman N, Lu H, **Haacke EM**. Magnetic Resonance Imaging of brain hemodynamics and oxygen metabolism after traumatic brain injury. *Proc Neurosci.* 2016; 1(1):35-45. Review. [REVIEW ARTICLE.](#)
37. Chen Y, Haacke EM, Li J. Peripheral nerve magnetic resonance imaging. *F1000Res.* 2019 Oct 28;8. pii: F1000 Faculty Rev-1803. doi: 10.12688/f1000research.19695.1. eCollection 2019. Review. PMID: 31700612. [REVIEW ARTICLE.](#)
38. Chen Y, **Haacke EM**, Li J. Peripheral nerve magnetic resonance imaging. *F1000Res.* 2019 Oct 28;8. pii: F1000 Faculty Rev-1803. doi: 10.12688/f1000research.19695.1. eCollection 2019. PMID: 31700612. [REVIEW ARTICLE.](#)

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39. **Haacke EM**, Moffat JW, Savaria P. A Calculation of SU (4) Clebsch-Gordan Coefficients. *J. of Mathematical Physics* 1976; 17:2041-2066.
40. **Haacke EM**, Moffat JW, Savaria P. A Calculation of SU (4) Clebsch-Gordan Coefficients. *J. of Mathematical Physics* 1976; 17:2041-2066.
41. Graham RH, **Haacke EM**, Savaria P. New Quark Flavors and Scaling in Inclusive Charged Current Neutrino Scattering. *Nuovo Cimento Letters* 1977; 20:57-64.
42. Savaria P, Graham RH, **Haacke EM**. A Simple Description of Electroproduction and Muoproduction in Asymptotically-Free Gauge Theories. *Phys. Rev. D* 1979; 19:112-128
43. **Haacke EM**, Moffat JW. Scaling Violations and the Proton-Neutron Mass Difference. *Canadian Journal of Physics*, 1979; 57:1565-1567.
44. Brown RW, **Haacke EM**, Stroughair JD. From Charge-Conjugation Asymmetries to the Trilinear Gluon Coupling. *Physical Review Letters* 1980; 45:1060-1063.
45. **Haacke EM**. Toward an Understanding of the Electroproduction R Ratio. *Physics Letters*, 1980; 97B:427- 430.
46. **Haacke EM**, Foldy LL. Multiple Scattering of scalar waves by point scatters in One Dimension I. *Physical Review C*, 1981; 23:1320-1329.
47. **Haacke EM**, Foldy LL. Multiple Scattering of scalar waves by point scatters in One Dimension II. *Physical Review C* 1981; 23:1330-1339.
48. **Haacke EM**, Goldman MD. Parameter estimation in linear functional relationships. *Am J Physiol.* 1983 Aug;245(2):R135-42. PMID: 6881370.
49. **Haacke EM**, Patrick JL. Reducing motion artifacts in two-dimensional Fourier transform imaging. *Magn Reson Imaging.* 1986;4(4):359-76. PMID: 3669950.
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CONFERENCES CHAIRED AND ORGANIZED

- March 2017, 3rd Annual MRI Workshop on Stroke and Traumatic Brain Injury (TBI). March 10, 2017. Tianjin, China.
- October 2014, 3rd International Workshop on MRI Phase Contrast & Quantitative Susceptibility Mapping. Co-chair of the steering committee. October 6-8, 2014, Duke University, Durham, NC USA

- February 2014, International Society for Neurovascular Disease (ISNVD). Chairman of the Annual Program Committee. February 7- 9, 2014. San Francisco, California, USA.
- July 2013, 2nd Workshop on MRI Phase Contrast & Quantitative Susceptibility Mapping (QSM). Co-Chair of the Annual Program Committee. July 25-27, 2013, Cornell University, Ithaca New York, USA
- February 2012, International Society for Neurovascular Disease (ISNVD). Chairman of the Annual Program Committee. February 18-22, 2012. Orlando, Florida, USA.
- April 2009, Susceptibility Weighted Imaging (SWI) Study Session at the International Society of Magnetic Resonance in Medicine (ISMRM) conference. Wednesday, April 22, 2009. Honolulu, Hawaii.
- May 2008, Susceptibility Weighted Imaging (SWI) Study Session at the International Society of Magnetic Resonance in Medicine (ISMRM) conference. Monday, May 5, 2008. Toronto, Canada.
- May 2007, Seventh Annual Workshop on Susceptibility Weighted Imaging (SWI). Wednesday, May 23, 2007, Berlin, Germany.
- June 2006, Second Annual Wayne State University Imaging Retreat. Tuesday, June 6, 2006, Grosse Pointe War Memorial, Grosse Pointe Farms, Michigan.
- May 2006, Sixth Annual Workshop on Susceptibility Weighted Imaging (SWI). Wednesday, May 10, 2006, Seattle, Washington.
- October 2005, Michigan Technology Tri-Corridor "A National Center of Excellence in Magnetic Resonance Imaging". Thursday, October 6, 2005, Grosse Pointe War Memorial, Grosse Pointe Farms, Michigan.
- June 2005, First Annual Wayne State University Imaging Retreat. Wednesday, June 1, 2005, Grosse Pointe War Memorial, Grosse Pointe Farms, Michigan.
- May 2005, Fifth Annual Workshop on Susceptibility Weighted Imaging (SWI). Wednesday, May 11, 2005, Miami Beach, Florida.
- October 2004, Fourth Annual Workshop on Susceptibility Weighted Imaging (SWI). Friday, October 23, 2004, Jacksonville, Florida.
- November 2003, High Field Workshop. Thursday, November 6, 2003. Detroit, MI.
- July 2003, Third Annual Workshop on Susceptibility Weighted Imaging (SWI). Monday, July 14, 2003, Toronto, Canada.
- April 2001, Chairman of "The First Annual Workshop on AVID BOLD Imaging", Tuesday, April 24, 2001, Glasgow, Scotland.
- October 2000, Co-Chairman of the Workshop on "The Basic Mechanisms of Functional Brain Imaging", Chapel Hill, North Carolina.
- January 1999, Co-Chairman of the International Symposium on Ultrafast Magnetic Resonance Imaging in Medicine (ISUM '99), Kyoto International Conference Hall, Kyoto, Japan, January 27, 1999.
- October 1996, Workshop on MR Signal Processing, The Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign, Organizer.
- June 1995, Quantitative Imaging Workshop, St. Louis, Missouri, SMR Workshop.
- October 1992, Fourth Annual Conference on MRA, East Lansing, Michigan, Program Board Member.
- October 1991, L'Aquila Conference on MRA, L'Aquila, Italy, Program Board Member.
- February 1990, Society of Magnetic Resonance Imaging, Eighth Annual Meeting, Washington, D.C., Program Co-chairman.
- February 1989, Society of Magnetic Resonance Imaging, Seventh Annual Meeting, Los Angeles, CA, Scientific Chairman.
- February 1988, Society of Magnetic Resonance Imaging, Sixth Annual Meeting: Topical Conference on Flow Imaging, Organizer.
- May 15-17, 1987, Topical Conference on Fast Magnetic Resonance Imaging, Techniques, Cleveland, Ohio, Chairman and Organizer.

INVITED TALKS, PRESENTATIONS, AND CHAIRED SESSIONS

1. Advances in NMR Imaging. NMR Summer Institute. Waterloo, Ontario. June 10, 1985. Invited talk.
2. Moderator, Fast Imaging Techniques. SMRM, Montreal. August 1986.
3. Invited one-day course on Image Reconstruction in MRI. University of Toronto and Ontario Cancer Institute. January 10, 1987.
4. SMRI. Motion Artifacts in MRI. Chaired the session and presented the closing talk. March 1987.
5. Rapid Data Acquisition in MRI: Techniques, Limitations and Clinical Utility, AAPM. Presidential Symposium Plenary Session. AAPM July 1987, Detroit.
6. Chairman, MR Physics Session: Fast Imaging, RSNA, 1987.
7. Contrast and signal-to-noise in fast imaging: expectation and reality. Sixth Annual Society for Magnetic Resonance Imaging. February 29, 1988. Boston.
8. Chairman, MR Fast Imaging Session, SMR 1988.
9. MRA: Fundamentals and Techniques, XIIIth International Conference on MR in Biological Systems, Madison, Wisconsin, August 14-19, 1988.

10. Optimizing 3D Fast Flow Imaging Plenary talk at the 7th Annual SMRI, Los Angeles, Feb 1989.
11. Improving resolution in MR angiography. Invited talk at the MR Imaging of Blood Flow Conference, March 13-14, 1989 in Philadelphia.
12. Image reconstruction techniques. 17th Annual FACSS. October 1990, Cleveland, Ohio.
13. SNR and spatial resolution in MRA. 2nd Annual MRA Workshop, October 1990, Lansing, MI.
14. Moderator, Fast imaging poster walking tour, Ninth Annual SMRM, August 1990, New York.
15. Fast MR imaging: Present applications and future directions, Moderator of the RSNA/AAPM Symposium, 77th Annual RSNA Conference, November 1991.
16. High resolution MRA. Invited talk, L'Aquila Conference on MRA, October 1991.
17. Fast MRI and high resolution in MRI. Seoul Conference. July 1991, Seoul, Korea.
18. Fast MRI. World Congress of Medical Physics. July 1991, Kyoto, Japan.
19. High resolution MR Angiography. ASNR, June 1991, Washington, D.C.
20. Principles of partial flip angle imaging. Society of Magnetic Resonance Imaging. Ninth Annual Meeting, April 1991, Chicago.
21. Cardiopulmonary MR imaging, 3rd MRA Conference, Oct. 1992
22. Co-Chair of Mini-Categorical Course on Fast Imaging, Society of Magnetic Resonance in Medicine, 11th Annual Meeting, August 1992, Berlin, Germany.
23. Future directions in MRA, invited talk. 10th Annual SMRI, April 1992.
24. Carotid Artery Imaging, BBI Conference, San Diego, May 1993.
25. Cardiovascular MRI, First Annual Japanese MRA Meeting, Osaka, Japan, May 1993.
26. Understanding the mechanisms of BOLD fMRI: Measuring the flow and oxygenation levels. University of Düsseldorf, Spring 1994.
27. Understanding the mechanisms of BOLD fMRI: Measuring the flow and oxygenation levels. Max Planck Institute of Göttingen, Spring 1994.
28. Understanding the mechanisms of BOLD fMRI: Measuring the flow and oxygenation levels. University of Freiburg, Spring 1994.
29. Understanding the mechanisms of BOLD fMRI: Measuring the flow and oxygenation levels. Tel Aviv Workshop on fMRI, Spring 1994.
30. Understanding the mechanisms of BOLD fMRI: Measuring the flow and oxygenation levels. Munster, Spring 1994.
31. High Resolution MRA, MRA Club Meeting. Munster, Spring 1994.
32. Low Flip-angle Methods for MRI Functional Brain Mapping. Second Meeting of the SMR, Functional Imaging and Spectroscopy: A "How To" Course. San Francisco, CA, August 6-12, 1994.
33. In vivo verification of intravascular BOLD effect. European Seminars on Diagnostic and Interventional Radiology. Rome, October 1995.
34. Functional Brain MRI. Neurology and Neurosurgery, Sept 1995.
35. Understanding the mechanisms of BOLD fMRI: Measuring the flow and oxygenation levels. Monsanto and Chemistry Department, Spring 1995.
36. Department of Chemistry and St. Louis NMR Group, 1995.
37. Department of Anesthesiology, Grand Rounds, May 15, 1996.
38. Limitations on Resolution and SNR. Constrained Image Reconstruction. Workshop on MR Signal Processing. The Beckman Institute for Advanced Science and Technology, Univ of Illinois at Urbana-Champaign, October 19, 1996.
39. 3D-MRT-Koronarangiographie. MR '97 - Internationales Kernspintomographie Symposium, Garmisch-Partenkirchen, January 25, 1997.
40. Forum on Vessel Segmentation and Visualization, invited talk. EPIX Medical Inc., Cambridge, Massachusetts, May 1, 1997.
41. Fast MR Imaging of the Body. The Society for Pediatric Radiology 40th Annual Meeting, Adam's Mark Hotel, St. Louis, Missouri, May 16, 1997.
42. BOLD Mechanisms, Perfusion and Vascular Measurements, Perfusion based fMRI. Minnesota Workshops on Principles and Applications of High Field Magnetic Resonance Imaging and Spectroscopy Techniques, University of Minnesota, March 7 -8, 1997.
43. Cerebral Blood Volume Measurements. Advances in Neuroradiology: Diagnosis and Intervention, Maastricht, The Netherlands, June 12, 1997.
44. MR Angiography: Imaging Blood, Blood Vessels and Blood Oxygenation. Advances in Magnetic Resonance Imaging Second International Magnetom Vision Conference, Rotterdam, June 14, 1997.
45. MRI Project. FutuRis (RIS-INT-35) Risperidone in Early Psychosis Investigators' Meeting, Monaco, June 22, 1997.
46. Introduction to Magnetic Resonance Imaging. 4th International Conference on Magnetic Resonance Microscopy and Macroscopy, Heidelberg Conference, Albuquerque, New Mexico, September 20, 1997.
47. High Resolution Venography with BOLD Imaging, IX International Workshop on Magnetic Resonance Angiography, Valencia, Spain, Oct. 1997.
48. 3D and High Resolution FLASH with Applications. International Society for Magnetic Resonance in Medicine: FAST MRI Workshop, Asilomar Conference Center in Pacific Grove, Monterey, California, October 27-29, 1997.

49. Oxygen Saturation Measurements using MRI. Program in Neural Sciences, Department of Neurology/Neurological Surgery Research Seminars, Washington University Schwarz Auditorium, November 17, 1997.
50. Coronary Artery Imaging. The New Frontiers in MRI Meeting, St. Moritz, Switzerland, January 15, 1998.
51. Diffusion and Stroke Imaging. Siemens Medical Engineering, Nuremberg, Germany, January 19-20, 1998.
52. Imaging the MR Desert. Siemens Medical Systems, Erlangen, Germany, January 20, 1998.
53. Venographic Applications to fMRI. Yale University, New Haven, Connecticut, February 3, 1998.
54. High Resolution Diffusion-Weighted Imaging. St. Jude Children's Research Hospital, Memphis, Tennessee, February 17, 1998.
55. fMRI Research. University of Auckland, Auckland, New Zealand, April 15, 1998.
56. Chairman, Rapid Imaging I - Echo Planar Imaging, ISMRM, April 23, 1998.
57. MR: Brain Oxygenation. 21st Princeton Conference on Cerebrovascular Disease, St. Louis, Missouri, May 9, 1998.
58. High Resolution EPI fMRI using a Head Gradient Coil Insert. 4th International Conference on Functional Mapping of the Human Brain. Montreal, Quebec, Canada, June 11, 1998.
59. Applications of 3D gradient echo imaging in observing lesion vascularity. International Workshop on MRA, In at Prospector Square, Park City, Utah, Sept. 28, 1998.
60. Functional Brain Mapping. International Conference on Image Processing, Chicago, Illinois, Oct. 5, 1998.
61. Understanding fMRI: Its Origins and Its Implications. Baylor College of Medicine, Houston, Texas, Nov. 17, 1998.
62. Gradient Echo Imaging Principles. International Symposium on Ultrafast Magnetic Resonance Imaging in Medicine (ISUM '99), Kyoto International Conference Hall, Kyoto, Japan, January 27, 1999.
63. High-Resolution 3D, Gradient Echo, T1 Weighted Imaging. Janssen Pharmaceutical Meeting. Santa Fe, New Mexico, Spring 1999.
64. Coronary Artery Imaging: Which Sequence is Best? Workshop on Cardiac Flow and Motion at the Imperial College in London, England, June 28-30, 1999.
65. Separating Arteries from Veins using the BOLD Phenomena. XI International Workshop on Magnetic Resonance Angiography, Lund, Sweden, September 1999.
66. Establishing an International Web Site for the Vascular Visible Human Project, XI International Workshop on Magnetic Resonance Angiography. Lund, Sweden, September 1999.
67. Moderator, 8th International Society for Magnetic Resonance in Medicine, Denver, CO, April 2000.
68. Moderator, 9th International Society for Magnetic Resonance in Medicine, Denver, CO, April 2000. Moderated the session on image reconstruction.
69. Roentgen Lecture, Wuerzburg, Germany, "Susceptibility Imaging", November 2000.
70. Susceptibility Weighted Imaging (SWI). 2nd Annual SWI Meeting in Honolulu, Hawaii, May 22, 2002.
71. Magnetic resonance susceptibility weighted imaging (SWI). Wayne State University, Dept of Psychiatry and Behavioral Neurosciences. November 2002.
72. Magnetic Resonance Susceptibility Weighted Imaging. University of Michigan, Ann Arbor, November 2002.
73. Advances in Probing the Blood Vessels of the Human Brain using MRI. Henry Ford Hospital, Detroit, MI, January 2003.
74. HEP - High Enthusiasm Physics or the Art of MR Imaging? University of Waterloo, Waterloo, Canada, May 2003.
75. An Overview of the Research & Clinical Progress of SWI. 3rd Annual SWI Meeting in Toronto, Canada, July 14, 2003.
76. Moderator, 11th International Society for Magnetic Resonance in Medicine, Toronto, Canada, July 2003. Moderated the session on Artifact Reduction in Rapid Imaging.
77. Susceptibility Weighted Imaging: Creating New Contrast Mechanisms Using Complex Images. McMaster University, Hamilton, Canada, July 2003.
78. Magnetic Resonance Imaging. Wayne State University, Biomed Engineering Department. Detroit, MI, January 2004.
79. The Art of MR Imaging. University of Toronto, Canada, January 2004.
80. Basics of MRI. Braza Rehabilitation Institute of Michigan. Detroit, MI, February 2004
81. A National Center of Excellence for Magnetic Resonance Imaging. National Institutes of Health (NIH). Bethesda, MD, March 2004.
82. Recent Advances in Neuro-Vascular Imaging. Wayne State University, Institute of Gerontology 3rd Annual Symposium. Detroit, MI, April 2004.
83. Susceptibility Weighted Imaging (SWI): Creating New Contrast Mechanisms. Massachusetts General Hospital, Brain Map Seminar. Boston, MA, April 2004.
84. Susceptibility Weighted Imaging (SWI): Creating New Contrast Mechanisms. Wayne State University, Electrical and Computer Engineering Department. Detroit, MI, April 2004.
85. Basics in High Resolution MRI. Wayne State University, Computer Assisted Surgery (CAS) Research Annual Meeting. Detroit, MI, June 2004.
86. Enhanced Lesion Contrast Using Susceptibility Weighted MRI. Wayne State University Neuro Oncology Meeting. Detroit, MI, July 14, 2004.
87. A National Center of Excellence for Magnetic Resonance Imaging. National Institutes of Health (NIH). Bethesda, MD, July 29, 2004.
88. Susceptibility Weighted Imaging: Creating New Contrast Mechanisms. University of San Francisco VA Medical Center. San Francisco, CA, August 26, 2004.

89. Advances in Susceptibility Weighted Imaging. The 16th Annual MRA Angio Club Meeting. London, Ontario, October 6-8, 2004.
90. Through the Looking Glass: New Directions in Magnetic Resonance Imaging. McMaster University. Hamilton, Canada, November 8-9, 2004.
91. Advances in Susceptibility Weighted Imaging: Imaging the veins, venules and capillary content. The 4T Bruker Meeting at the RSNA 2004. Chicago, IL, November 27, 2004.
92. Susceptibility Weighted Imaging (SWI): Creating New Contrast Mechanisms. Case Western Reserve University, Colloquium. Cleveland, OH, January 20, 2005.
93. Imaging iron in the brain using MRI. Loma Linda University. Loma Linda, CA, February 7, 2005.
94. Susceptibility Weighted Imaging: Applications in Neurovascular Disease and the Detection of Iron. The 34th Annual Meeting of the Japanese Society of Neuroradiology. Nagoya, Japan, February 8-14, 2005.
95. Cardiac MRI - Current and Future Indications. New Frontiers in Cardiology presented by Wayne State University and Harper University Hospital. Dearborn, MI. April 16, 2005.
96. Current approaches to imaging tumor vasculature in MRI. Seminar Gershenson Radiation Oncology Center at Harper University Hospital. Detroit, MI. May 19, 2005.
97. High Resolution Imaging at High Fields: Its importance for T1 weighted imaging, MRA and SWI? The 13th Annual International Society of Magnetic Resonance in Medicine MRS & MRI at High Field Miami Morning Course on May 11, 2005. Miami, FL. May 6-13, 2005.
98. High Resolution Imaging at High Fields: Its importance for T1 weighted imaging, MRA and SWI? The Annual International Society of Magnetic Resonance in Medicine (ISMRM) and Chinese Radiological Society Workshop. Beijing, China. September 20, 2005.
99. Imaging Capillary Density and Iron Content Using MRI. The 17th Annual MR Angio Club Meeting on September 21, 2005. Beijing, China. September 20-24, 2005.
100. High Resolution Imaging at High Fields: Its importance for T1 weighted imaging, MRA and SWI. Chinese Academy of Sciences, Institute of Automation "CASIA". Beijing, China. September 21, 2005.
101. High Resolution Imaging at High Fields: Its importance for T1 weighted imaging, MRA and SWI? The 4th Annual Minnesota Workshop at University of Minnesota on October 13, 2005. Minneapolis, Minnesota. October 10-15, 2005.
102. Clinical Applications of Susceptibility Weighted Imaging. William Beaumont Hospital. Royal Oak, Michigan. February 8, 2006.
103. Breakthroughs in MR Imaging: New applications of SWI. Beijing, China – April 22, 2006.
104. Breakthroughs in MR Imaging: New applications of SWI. Siemens - Asahi Medical Technologies, Ltd. Tokyo, Japan. April 26, 2006.
105. Recent Advances in SWI. The Sixth Annual Susceptibility Weighted Imaging Meeting. Seattle, Washington. May 10, 2006.
106. High Resolution Imaging at High Fields: Its importance for T1 weighted imaging, MRA and SWI. International Society for Magnetic Resonance in Medicine High Field Meeting. Seattle, Washington. May 11, 2006.
107. An Introduction to MR Imaging: Anatomy and Clinical Applications. Wayne State University Medical School. Detroit, Michigan. May 12, 2006.
108. Clinical Applications of Susceptibility Weighted Imaging. Radiology Research Seminar at New York University. New York, New York. May 31, 2006.
109. Gradient Echo Imaging Concepts. NMR Summer School Program at University of Waterloo. Toronto, Canada. June 3, 2006.
110. Clinical Applications of SWI. General Electric Healthcare. Waukesha, Wisconsin. July 9, 2006.
111. Clinical Applications of SWI. Children's Hospital at Wayne State University. Detroit, Michigan. July 21, 2006.
112. Dynamic Contrast Enhanced Imaging using MR to Evaluate Tumor Vasculature. DCE Perfusion Seminar sponsored by Pfizer Pharmaceuticals at Harper University Hospital at Wayne State University. Detroit, Michigan. August 9, 2006.
113. SWI Technical Aspects and Clinical Applications at Mid and High Fields. University of Alberta, Edmonton, Alberta, Canada. September 18, 2006.
114. Clinical Applications of Susceptibility Weighted Imaging (SWI). Northwestern University, Chicago, Illinois, September 21, 2006.
115. High Resolution Magnetic Resonance Neuro-Imaging: New Approaches to Anatomy, Neuro-Vascular Imaging and Physiology in Disease. Children's Hospital at Wayne State University. Detroit, Michigan. October 10, 2006.
116. The Computer Science Graduate Seminar Series. Prudy-Kresge Library at Wayne State University. Detroit, Michigan. October 24, 2006.
117. Clinical Applications of Susceptibility Weighted Imaging (SWI). Pfizer, Inc. Ann Arbor, Michigan. November 3, 2006.
118. A New MRI Protocol for Acquired Brain Injury: Perfusion Weighted Imaging (PWI), Susceptibility Weighted Imaging (SWI) and Diffusion Tensor Imaging (DTI). Honolulu, Hawaii. December 9, 2006.
119. Dynamic Contrast Enhanced Imaging using MRI to Evaluate Tumor Vasculature, Applications of Susceptibility Weighted Imaging, Establishing a Neuro-Vascular Imaging Center. Sanofi-Aventis. Roissy, France. December 11, 2006.
120. Dynamic Contrast Enhanced Imaging using MRI to Evaluate Tumor Vasculature, Applications of Susceptibility Weighted Imaging, Establishing a Neuro-Vascular Imaging Center. Sanofi-Aventis. Antony, France. December 13, 2006.

121. Clinical and Research Applications of Susceptibility Weighted Imaging (SWI). Medical College of Wisconsin. Milwaukee, Wisconsin. January 18, 2007.
122. Susceptibility Weighted Imaging. Wayne State University, Detroit, Michigan. March 1, 2007.
123. SWI Imaging of Ferritin: A Biomarker of Neurovascular Processes. The Seventh Annual Susceptibility Weighted Imaging Meeting. Berlin, Germany. May 23, 2007.
124. Clinical in Research Applications in Susceptibility Weighted Imaging. PET Seminar Series at Children's Hospital. Detroit, Michigan. August 21, 2007.
125. Clinical Advantages for Susceptibility Weighted Imaging. The 8th Annual Siemens CT Symposium. Vancouver, British Columbia. September 6-9, 2007.
126. Visualizing Tissue Damage in Traumatic Brain Imaging Using MRI with Dr. Randall Benson. The 27th Annual Brain Injury Association of Michigan's Annual Conference. Lansing, Michigan. September 27-28, 2007.
127. Susceptibility Weighted Imaging (SWI) Study Session at the 15th International Society of Magnetic Resonance in Medicine (ISMRM) conference. Monday, May 5, 2008. Toronto, Canada.
128. Susceptibility Weighted Imaging: Recent Advances and Clinical Applications. Thomas Jefferson University. Philadelphia, Pennsylvania. April 15-16, 2008.
129. Susceptibility Weighted Imaging: Recent Advances and Clinical Applications. Advanced Diagnostic Imaging and Therapy Center Research Working Group. University of Saskatchewan, Canada. June 19, 2008.
130. NICE: A Collaborative Imaging Program for Database Mining in China and Around the World. Medical Imaging Informatics Research at McMaster University. June 23, 2008.
131. Clinical Applications of SWI: Current Status and Future Directions. Siemens CT/MRI Symposium 2008. Delta Chelsea Hotel, Montreal, Canada. September 20-21, 2008.
132. Standardized MR Imaging of the Brain: A Global Approach to Study Disease. Smarter Health Seminar Series at the University of Waterloo. Waterloo, Canada. September 24, 2008.
133. SWI: Concepts, Clinical Applications and Functional Brain Imaging. State Key Laboratory of Brain and Cognitive Science. China. December 4, 2008.
134. Magnetic Resonance Imaging (MRI): A Brief Introduction to the Basics and to Susceptibility Weighted Imaging (SWI). RAD 6710 PHYSICS IN MEDICINE students at Wayne State University. Detroit, Michigan. March 4, 2009.
135. Susceptibility Weighted Imaging (SWI). Study Session at the 16th Annual International Society of Magnetic Resonance in Medicine (ISMRM) conference. Honolulu, Hawaii. April 22, 2009.
136. Removing Background Phase Variations in Susceptibility Weighted Imaging Using a Fast, Forward-Field Calculation. The ISMRM. Honolulu, Hawaii. April 22, 2009.
137. Susceptibility Weighted Imaging. Mt. Sinai Hospital, New York, NY. June 5, 2009.
138. Cerebral veins and iron deposits explored by advanced MRI-SWI. World Congress on Venous Disease (union international de phlebologie). Monte Carlo, Monaco. September 2, 2009.
139. SWI in MS. International Scientific Coterie Venous Function and Multiple Sclerosis, Bologna, Italy. September 7, 2009.
140. CCSVI and SWI measure in MS. International Scientific Coterie Venous Function and Multiple Sclerosis, Bologna, Italy. September 8, 2009.
141. High Resolution Perfusion Susceptibility Weighted Imaging. 21st Annual MR Angio Club Conference. Lansing, MI. September 30, 2009.
142. Susceptibility Mapping As a Means to Image Veins. 21st Annual MR Angio Club Conference. Lansing, MI. October 1, 2009.
143. Imaging iron in MS using susceptibility weighted imaging (SWI): Is the basic etiology of multiple sclerosis vascular in origin? Medical University of Vienna. Vienna, Austria. November 18, 2009.
144. Susceptibility Mapping and Iron Quantification in MS. MAGNIMS Workshop. Graz, Austria. November 19, 2009.
145. Imaging Sunitinib-Induced Vascular Changes by DCE-MRI to Schedule Radiotherapy for Kidney Tumors. Hudson Webber Cancer Center. Detroit, Michigan. November 25, 2009.
146. Is the basic etiology of multiple sclerosis vascular in origin? Department Pharmaceutical Sciences Seminar at Wayne State University. Detroit, Michigan. January 27, 2010.
147. Is the basic etiology of multiple sclerosis vascular in origin? Suny Downstate Medical Center, New York, New York. February 2, 2010.
148. The Role of Susceptibility Weighted Imaging, Perfusion Weighted Imaging and Diffusion Tensor Imaging as a Means to Characterize Tumors. The Southeast Chapter of the American Association of Physicists in Medicine (SEAAPM) Symposium. Augusta, Georgia. March 5, 2010.
149. Neurovascular Magnetic Resonance Imaging Applications. Imaging in the 21st Century at McMaster University. Hamilton, Ontario, Canada. March 26, 2010.
150. Measuring iron, oxygen saturation and veins with SWI and SWIM: The clinical importance of vascular and hemodynamic information in studying neurovascular diseases. The 26th International Congress of Radiology. Shanghai, China. April 11, 2010.
151. Measuring iron, oxygen saturation and veins with SWI and SWIM: The clinical importance of vascular and hemodynamic information in studying neurodegenerative diseases. Max Planck Institute for Human Cognitive and Brain Sciences. Leipzig, Germany. April 28, 2010.

152. Measuring iron, oxygen saturation and veins with SWI and SWIM: The clinical importance of vascular and hemodynamic information in studying neurodegenerative diseases. Klinikum und Fachbereich Medizin der Johann Wolfgang Goethe-Universität Frankfurt am Main. Frankfurt, Germany. May 5, 2010.
153. Measuring iron, oxygen saturation and veins with SWI and SWIM: The clinical importance of vascular and hemodynamic information in studying neurodegenerative diseases. William Beaumont Hospital. Troy, Michigan, USA. May 14, 2010.
154. Characterizing the Manifestation of CCSVI with MR Venography and Flow Quantification. The role of MRI in treatment planning. State University of New York Downstate Medical Center. Brooklyn, New York, USA. July 26, 2010.
155. Measuring iron, oxygen saturation and veins with SWI and SWIM: The clinical importance of vascular and hemodynamic information in studying neurodegenerative diseases. UC San Diego. San Diego, California, USA. September 21, 2010.
156. The Role of Magnetic Resonance Venography in the Diagnosis of CCSVI. Presented at MS RCP / Society of Interventional Radiology Foundation, October 18, 2010, Washington, DC.
157. Imaging as a Treatment Planning Tool for CCSVI. 1st International Medical Conference "Venous Endovascular Forum". Katowice, Poland, March 4, 2011 09:30 am.
158. MRI in treatment planning. 1st Annual ISNVD Scientific Meeting, 15 March 2011. Ferrara & Bologna, Italy.
159. Diagnosis of CCSVI: MR Venography. Presented at Society of Interventional Radiology Foundation (SIR) / CMRR External Advisory Board, March 28, 2011, Chicago, IL / Minneapolis, MN.
160. MS as a vascular disease: current evidence for CCSVI. 2011 CCSVI Conference. May 14th, 2011 – 12:50 pm. San Diego, CA, USA.
161. The project PI, Dr. E Mark **Haacke**, was invited by the Human Brain Mapping society to give a presentation on SWIM on June 29th, 2011, Quebec City, Canada.
162. CCSVI MRV and Research MRI. Presented at 2nd Annual CCSVI Update Symposium. July 14, 2011. New York, NY, USA.
163. MRI Flow Quantification. Presented at 2nd Annual CCSVI Update Symposium. July 16, 2011. New York, NY, USA.
164. Dr. **Haacke** also met with members of Senator Harry Reid's office in Las Vegas regarding his research on August 30th, 2011.
165. Current state-of-the-art of MRI/MRV of blood flow and iron in the brain. 1st Annual Canadian CCSVI forum, September 10, 2011. Victoria, British Columbia, CANADA.
166. Dr. Zhifeng Kou gave a plenary presentation on brain trauma in 2011 NABIS meeting. Degrees obtained that are supported by this award on September 15th, 2011, New Orleans, Louisiana.
167. Dr. **Haacke** organized and held a TBI Workshop on November 18, 2011 from 8:00am – 4:00pm at Wayne State University. There were four topic sessions with five speakers in each section for around twenty short talks. Dr. **Haacke** spoke about the new venous concepts and Dr. Kou about progress in mild TBI.
168. The Role of the Vasculature in Neurodegenerative Disease with a focus on CCSVI. 2011 CCSVI Expo WebEx Event. November 20th, 2011 – 11:00 am.
169. The Role of Abnormal Venous Vasculature in CCSVI. 2011 CCSVI Expo WebEx Event. November 20th, 2011 – 7:00 pm EST.
170. WSU Program in Traumatic Brain Injury Research (PTBIR). Wayne State University. December 8th, 2011.
171. The role of the vasculature in neurodegenerative disease with a focus on TBI and CCSVI. Henry Ford Hospital. January 5th, 2012.
172. Moderator at the 2nd Annual International Society for Neurovascular Disease (ISNVD) Scientific Meeting. Orlando, FL, USA. February 18-22, 2012.
173. Moderator at the American Society of Functional Neuroradiology (ASFNR) 6th Annual Scientific Meeting. Case Based SWI and Advanced Imaging. March 8th, 2012. Orlando, FL, USA.
174. Advances in Vascular Imaging for the Study of Neurodegenerative Disease. CCSVI in MS, Parkinson's and other Neurological Diseases. April 23rd, 2012. Gluskin Sheff & Associates, Toronto, Canada.
175. Susceptibility weighted imaging at the 19th Annual Audiology Conference at the VA Hospital in Johnson City, Tennessee, on June 21st, 2012.
176. Role of SWI in Neurodegenerative Disease. Presented in Center for Neuroscience and Regenerative Medicine (CNRM) Seminar, Nov 29, 2012, Washington DC.
177. Imaging Neurovascular Disease from the Fetus to Dementia. Presented at Advanced Image Analysis Symposium University of Birmingham, AL. April 1, 2013.
178. Co-moderate an oral scientific session "Translational Scientific Session: Susceptibility Image in the Brain. The 21st ISMRM Annual Meeting and Exhibition, Salt Lake City, Utah, USA, April 22, 2013.
179. Development of MRI Biomarkers for Improved Diagnosis of TBI. Presented at the 10th Annual World Congress of the Society for Brain Mapping & Therapeutics on Brain, Spinal Cord Mapping & Image Guided Therapy, May 13, 2013, Baltimore, Maryland.
180. The role of SWI in neurodegenerative disease: From the fetus to dementia. Presented in University of Federico II, July 2013, Naples. Italy.
181. Applications of Short Echo QSM. Presented at 2nd Workshop on MRI Phase Contrast & Quantitative Susceptibility Mapping (QSM) at July 26, 2013. Ithaca, New York.

182. The role of SWI in neurodegenerative disease: From perinatal to aging applications. 3rd International Neural Regeneration Symposium / 5th International Spinal Cord Injury Treatments and Trials Symposium. October 10-15, 2013. Shenyang, China.
183. Measuring venous oxygen saturation using magnetic resonance imaging. Hemodyn 2013. November 7-9, 2013. Naples, Italy.
184. Wayne State University. WSU Program in Traumatic Brain Injury Research (PTBIR). November 20, 2013. Detroit, Michigan, USA.
185. Keynote Lecture: New Directions in the Applications of Magnetic Susceptibility in Magnetic Resonance. 37th Annual American Society of Neuroimaging (ASN). January 16-19, 2014. Sarasota, Florida, USA.
186. Gradient echo imaging and its clinical applications. 37th Annual American Society of Neuroimaging (ASN). January 16-19, 2014. Sarasota, Florida, USA.
187. Flow and its applications in neurodegenerative disease. 37th Annual American Society of Neuroimaging (ASN). January 16-19, 2014. Sarasota, Florida, USA.
188. Theory and Applications of SWI, SWIM and Flow Measurements in Neurodegenerative Disease. 37th Annual American Society of Neuroimaging (ASN). January 16-19, 2014. Sarasota, Florida, USA.
189. CCSVI and Parkinsons Disease. 4th Annual International Society for Neurovascular Disease (ISNVD). February 7-9, 2014. San Francisco, California, USA.
190. Traumatic Brain Injury (TBI) and Vascular Consequences. 4th Annual International Society for Neurovascular Disease (ISNVD). February 7-9, 2014. San Francisco, California, USA.
191. Moderator at the 4th Annual International Society for Neurovascular Disease (ISNVD). February 7-9, 2014. San Francisco, California, USA.
192. Lecture on MR physics. Detroit Receiving Hospital, Department of Radiology. February 12, 2014. Detroit, Michigan, USA.
193. Quantitative SWI applied to neurodegenerative diseases. 8th Annual American Society of Functional Neuroradiology (ASFNR). February 17-19, 2014. Miami Beach, Florida, USA.
194. Applications of susceptibility weighted imaging and mapping: From fetus to dementia. Cedars-Sinai Medical Center. February 21, 2014. 37th Annual MidWinter Meeting Association for Research in Otolaryngology (ARO), San Diego, CA.
195. The role of vascular damage in blast induced TBI. The 37th Annual Mid Winter meeting of the Association for Research in Otolaryngology (ARO). February 22-26, 2014. San Diego, California, USA.
196. Imaging neurovascular disease from the fetus to dementia. Detroit Receiving Hospital, Department of Emergency Medicine Grand Rounds. March 6, 2014. Detroit, Michigan, USA.
197. Applications of Susceptibility Weighted Imaging. University of Washington, Department of Radiology Imaging Sciences Grand Rounds Lecture. March 13, 2014. Seattle, Washington, USA.
198. Gradient Echo of T2* Weighted Imaging: An Introduction and Some Clinical Applications. University of Washington, Department of Radiology, Medical Residents Lecture. March 14, 2014. Seattle, Washington, USA.
199. Gradient Echo Imaging in MRI. North Eastern University, Department of Biomedical Engineering. March 24, 2014. Shenyang, CHINA.
200. Flow imaging in MRI. North Eastern University, Department of Biomedical Engineering. March 25, 2014. Shenyang, CHINA.
201. The theory of SWI and SWIM (QSM) and their neurological applications. Peking University. March 28, 2014. Beijing, CHINA.
202. Neurovascular imaging from the fetus to dementia. Wayne State University, Department of Engineering. BME Doctoral Seminar Series. April 10, 2014. Detroit, Michigan, USA.
203. An introduction to MRI and gradient echo imaging. Azienda Ospedaliero-Universitaria Arcispedale
204. Copernicus Visiting Scientists - ADVANCED COURSE IN MR imaging in the Teaching Center. S. Anna, Cona, April 29, 2014. Ferrara, Italy.
205. Susceptibility Weighted Imaging. Azienda Ospedaliero-Universitaria Arcispedale S. Anna, Cona, April 30, 2014. Ferrara, Italy. Copernicus Visiting Scientists - ADVANCED COURSE IN MR imaging in the Teaching Center.
206. Flow Imaging. Azienda Ospedaliero-Universitaria Arcispedale S. Anna, Cona, May 5, 2014. Ferrara, Italy. Copernicus Visiting Scientists - ADVANCED COURSE IN MR imaging in the Teaching Center.
207. Clinical Applications of SWI and SWIM. Azienda Ospedaliero-Universitaria Arcispedale S. Anna, Cona, May 6, 2014. Ferrara, Italy. Copernicus Visiting Scientists - ADVANCED COURSE IN MR imaging in the Teaching Center.
208. Advances in Quantitative MRI. Azienda Ospedaliero-Universitaria Arcispedale S. Anna, Cona, May 8, 2014. Ferrara, Italy. Copernicus Visiting Scientists - ADVANCED COURSE IN MR imaging in the Teaching Center.
209. Cerebral venous return in Parkinson Disease (Il ritorno venoso cerebrale nel morbo di Parkinson) at the Veinland conference at Albarella Island, May 16, 2014.
210. The Role of SWI in Neurodegenerative Disease: From the Fetus to Dementia. Presented on ASNR 52nd Annual Meeting. May 20, 2014. Montreal, Quebec, Canada.
211. Mapping Brain Venous Oxygenation Using Susceptibility Methods. Presented at ISMRM Workshop Series 2014 SMRT 23rd Annual Meeting, JUNE 24, 2014, Charleston, SC.

212. Moderator of Session 5: OEF & CMR01: T2 methods at the ISMRM Workshop Series 2014 SMRT 23RD Annual Meeting, June 24, 2014, Charleston, SC.
213. The Role of SWI in Neurodegenerative Disease: From the Fetus to Dementia. Presented at June 25, 2014, Auburn University, AL.
214. Advances in Imaging Neurodegenerative Disease Using SWI. Presented at the Keck School of Medicine of the University of Southern California (USC). July 1, 2014. Neurotrauma 32nd Annual Symposium San Francisco, CA.
215. Quantitative Susceptibility Mapping. National Institute of Standards and Technology (NIST). Workshop on Standards for Quantitative MRI, July 14. 2014, Boulder, CO.
216. The Role of abnormal flow in neurodegenerative diseases. Auburn University, July 18-20, 2014.
217. Moderator of Session 4: Diagnosis and Treatment of Traumatic Brain Injury at WSU BME 75 years of excellence in injury research: Biomechanics, prevention, diagnosis and treatment from August 15, 2014 at the Detroit Marriott at the Renaissance Center 400 Renaissance Drive, Detroit, Michigan.
218. The Role of Susceptibility Imaging and Mapping in TBI WSU BME 75 years of excellence in injury research: Biomechanics, prevention, diagnosis and treatment from August 15, 2014 at the Detroit Marriott at the Renaissance Center 400 Renaissance Drive, Detroit, Michigan.
219. Robust retrobulbar MRA using a BORR pulse for fat suppression. MRA Club, Rome, Italy, Sept. 18. 2014.
220. Cerebral venous anatomy with susceptibility weighted imaging at 7T. MRA Club, Rome, Italy, Sept 18, 2014.
221. Visualizing the arterial supply to the globes using a new fat suppression MRI Sequence. MRA Club, Rome, Italy, Sept 18, 2014.
222. Applications of susceptibility weighted imaging and mapping: From the fetus to dementia. National CCSVI Society (NCS), Saskatoon, Saskatchewan, Canada. Oct 4, 2014.
223. Integrating perfusion and SWI in the evaluation of stroke. First Annual Siemens Users Stroke Meeting, November 19, 2014, Shenyang, China.
224. Creating an integrated stroke protocol and a future database. First Annual Siemens Users Stroke Meeting, November 19, 2014, Shenyang, China.
225. Imaging veins, oxygen extraction fraction, arteries, vessel wall and macromolecular transport using susceptibility weighted imaging (SWI) and mapping (SWIM). Institute of Advanced Integration Technology, November 24, 2014, Shenzhen, China.
226. Advance Quantitative MR on Brain Diseases, General Army Hospital, February 10, 2015, Shenyang, China.
227. Imaging Veins, Oxygen Extraction Fraction, Arteries, Vessel Wall & Macromolecular Transport Using Susceptibility Weighted Imaging (SWI) & Mapping (SWIM), ISMRM Workshop on Non-contrast Cardiovascular MRI, March 08, 2015, Log Beach, CA, USA.
228. Moderator at Session 5: NCE MRV & Other Applications of NCE MR, at ISMRM Workshop on Non-contrast Cardiovascular MRI, March 08, 2015, Log Beach, CA, USA.
229. Chaired Session 1: Hemodynamics of the brain at the 5th International Society for Neurovascular Disease (ISNVD) Meeting on March 28, 2015 Naples, Italy.
230. Imaging of the microvasculature. 5th International Society for Neurovascular Disease (ISNVD) Meeting on March 28, 2015 Naples, Italy.
231. Chaired the MRI course at the 5th International Society for Neurovascular Disease (ISNVD) Meeting on March 29, 2015 Naples, Italy.
232. Advances in Susceptibility Weighted Imaging of the Brain: From Fetus to Dementia. 5th International Society for Neurovascular Disease (ISNVD) Meeting on March 29, Naples, Italy.
233. Seminar on applications of susceptibility weighted imaging in neurodegenerative disorders and safety monitoring at Abbvie, Chicago, Illinois, April 24th, 2015.
234. Phase Sensitive Image Reconstruction. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 31, 2015.
235. The Role of the Vasculature in Neurodegenerative Disease. Presented to Google Life Science Group. Mountain View, CA, July 1, 2015.
236. Imaging the blood vessels and their flow in the head and neck using MRI. August 11, 2015. ICIAM, Beijing, China.
237. The MRI Stroke Team's Goals from Imaging Methodology to Databases. Presented at 2nd Annual MRI Workshop on Stroke and Traumatic Brain Injury (TBI), August 15, 2015, Shanghai, China.
238. The Role of the Vasculature in Neurodegenerative Disease. October 15, 2015. Presented at Samsung, Beijing, China.
239. Research Insights in Neurovascular Imaging. October 21, 2015. Tianjin, China.
240. Research Insights in MRI and Their Application to Neurovascular Imaging. University of California Los Angeles. Brain Mapping Center Seminar Series. January 13, 2016.
241. SAGE Imaging: A new rapid 3D GRE approach for Brain Imaging. January 21, 2016. Shanghai, China.
242. Neurovascular Imaging using MR Angiography (MRA) and Susceptibility Weighted Imaging (SWI). Beaumont Hospital. March 29, 2016. Royal Oak, Michigan.
243. Chaired Session 3: Imaging the Microvasculature at the 6th International Society for Neurovascular Disease (ISNVD) Meeting on April 29, 2016. New York, USA.

244. Imaging the Microvasculature using MRI. 6th International Society for Neurovascular Disease (ISNVD) Meeting on April 29, 2016. New York, USA.
245. Susceptibility Weighted Imaging and Mapping in Traumatic Brain Injury. Presented at the National Neurotrauma Society (NNS) Symposium. June 29, 2016. Lexington, Kentucky, USA.
246. Susceptibility Weighted MRI. Presented at the 4th International Workshop on MRI Phase Contrast and Quantitative Susceptibility Mapping (QSM). September 22, 2016. Graz, Austria.
247. The application of SWI and SWIM in imaging stroke, traumatic brain injury and tumors. Karmanos Cancer Institute. July 18, 2016. Detroit, Michigan.
248. An academic life in imaging: teaching, insight and research. Wayne State University. September 29, 2016. Detroit, Michigan.
249. Using MRI to demonstrate venous flow abnormalities and iron deposition in Parkinson's Disease. Presented at the Canadian Neurovascular Health Society (CNHS). October 16, 2016. Ottawa, Canada.
250. The role of SWI and SWIM in imaging neurodegenerative and neurovascular disease. October 17 & 19, 2016. Zhengzhou, China.
251. The role of SWI and SWIM in imaging neurodegenerative and neurovascular disease. October 20, 2016. Wuhan, China.
252. The role of SWI in detecting abnormal oxygen saturation and microbleeds in stroke. December 09, 2016. Zhengzhou, China.
253. Fetal Magnetic Resonance Imaging. Wayne State University. January 20, 2017. Detroit, Michigan.
254. The use of SWI in studying neurological disease. Biomedical Engineering Department Seminar Series (BME 8070) at Wayne State University. Detroit, Michigan. February 08, 2017.
255. Susceptibility Weighted Imaging. Wayne State University. February 22, 2017. Detroit, Michigan
256. Strategically Acquired Gradient Echo (STAGE) Imaging for Rapid 3D Brain Imaging. Presented at the 3rd Annual MRI Workshop on Stroke and Traumatic Brain Injury (TBI). March 10, 2017. Tianjin, China.
257. An introduction to NeuSPIN. Presented at the 3rd Annual MRI Workshop on Stroke and Traumatic Brain Injury (TBI). March 10, 2017. Tianjin, China.
258. Strategically Acquired Gradient Echo (STAGE) Imaging for Rapid 3D Brain Imaging. Shanghai First Hospital. March 16, 2017. Shanghai, China.
259. An Introduction to STAGE imaging and Its Application to Imaging Stroke" on May 2nd at Fondazione Don Carlo Gnocchi Onlus. Milan, ITALY. May 2, 2018
260. STAGE Imaging, a new rapid protocol for stroke imaging. Presented at the 7th International Society for Neurovascular Disease (ISNVD). Meeting on May 05, 2017. Taormina City, Sicily, Italy.
261. Chaired Session 8: Brain hypoperfusion and neurodegeneration, at the 7th International Society for Neurovascular Disease (ISNVD). Meeting on May 05, 2017. Taormina City, Sicily, Italy.
262. Chaired Session 9: Latest Researches, at the 7th International Society for Neurovascular Disease (ISNVD). Meeting on May 05, 2017. Taormina City, Sicily, Italy.
263. An update of the presence of CCSVI in Parkinson's disease. Presented at the 7th International Society for Neurovascular Disease (ISNVD). Meeting on May 05, 2017. Taormina City, Sicily, Italy.
264. Magnetic Resonance Research Facility. Presented for the Interdisciplinary Research Committee (IRC). Wayne State University. May 24, 2017. Detroit, Michigan.
265. STAGE Imaging: A Rapid, Comprehensive, Quantitative Approach to Imaging Neurodegenerative Disease. 17th National Conference of Magnetic Resonance Imaging of Chinese Society of Radiology. June 30, 2017. Taiyuan, China.
266. The potential of vascular imaging in the adult and fetal brain. Presented for the PRB Research Rounds. Hutzel Women's Hospital. July 28, 2017. Detroit, Michigan.
267. Evaluating neurodegenerative disease with STAGE: A rapid protocol for imaging the brain. Presented at the Chinese Congress of Radiology 2017 (CCR2017). Shanghai Expo Center. October 13th, 2017. Shanghai, China.
268. STAGE at 3T for a Siemens Scanner. October 24th, 2017. Ruijin. China.
269. Using STAGE imaging to help establish a rapid standardized imaging protocol for assessing Parkinson's Disease. Presented at Parkinson's Disease Imaging Consortium of China (PDICC) meeting at the National Clinical Research Center for Geriatric Disorders, Xuanwu Hospital of Capital Medical University and Mindsgo Lift Science, Shenzhen Ltd. December 23rd, 2017. Shenzhen, China.
270. Evaluating Parkinson's Disease with STAGE. Presented at the University of Michigan Movement Disorder Conference. January 10, 2018. Ann Arbor, Michigan.
271. Susceptibility Weighted Imaging (SWI) and Susceptibility Weighted Imaging and Mapping (SWIM) and their applications. Presented at PYC 7140 AT Department of Radiology and Department of Biomedical Engineering, Wayne State University, February 26th, 2018. Detroit, USA.
272. Fetal Magnetic Resonance Imaging: Breaking New Ground. Presented at the Shanghai Maternal and Fetal Hospital. March 15, 2018. Shanghai, China.
273. Evaluating Parkinson's Disease with STAGE. Presented at Zhejiang University. March 28, 2018 Hangzhou, China.
274. Establishing a Standard Imaging Protocol for Parkinson's Disease. Presented at Capital Medical University. April 4, 2018. Tianjin, China.

275. Evaluating Parkinson's Disease with STAGE: Establishing a Standard Imaging Protocol that Addresses Multiple Imaging Biomarkers. Emory University, School of Medicine. April 26, 2018. Atlanta, Georgia.
276. Evaluating Neurodegenerative Disease using SWI, SWIM and STAGE Imaging. University of Mississippi Medical Center, Department of Radiology/Radiation Oncology, 8th Annual Research Scholars Day. May 4, 2018. Jackson, Mississippi.
277. Evaluating Neurodegenerative Disease Using SWI, SWIM and STAGE Imaging. Presented at the Department of Neurology, Ruijin Hospital. May 15, 2018 Shanghai, China.
278. Evaluating Neurodegenerative Disease with STAGE and Neurovascular Aspects of Parkinson Disease with Quantitative Flow Imaging. ISNVD Conference. June 1, 2018 Zhengzhou, China.
279. Moderated Session at the ISNVD Conference in Zhengzhou, China on June 1, 2018 titled Advancement and Transformation of Brain Imaging Session.
280. Introducing the International Society for Neuro Vascular Disease. ISNVD Conference. June 2, 2018 Zhengzhou, China.
281. High resolution MRI of the brain and cardiovascular system: Applications in neurodegenerative & CV disease. University of Mississippi Medical Center, Department of Radiology/Radiation Oncology, Grand Rounds. August 30, 2018. Jackson, Mississippi.
282. High Contrast, High Resolution MR Imaging of the Habenula and Deep Grey Matter. Eastern DBS Think Tank Planning Meeting, Shanghai, China. October 10, 2018.
283. Susceptibility Weighted Imaging (SWI) and Susceptibility Weighted Imaging and Mapping (SWIM) and Their Applications. Shanghai Jiao Tong University, Shanghai, China, lecture and talk to school of medicine MD/PhD students. October 15, 2018.
284. High Resolution MRI of the Brain: Applications in Neurodegenerative Disease. The 10th conference on the clinical applications and innovations of magnetic resonance imaging in Henan Province, Zhengzhou, China. October 28, 2018.
285. STAGE: Application to Parkinson's disease. Chinese Congress of Radiology 2018. Beijing, China. November 9, 2018.
286. STAGE: Application to Parkinson's Disease and other Neurodegenerative Diseases. Grand Rounds. Wuhan, China. December 27, 2018.
287. STAGE: Application to Parkinson's Disease and other Neurodegenerative Diseases. Imaging of neurovascular disease and clinical applications. Tianjin, China. January 4, 2019.
288. Optimized Imaging of the Swallowtail Sign at 3T. Department of Neurology Ruijin Hospital, Shanghai, China. February 3, 2019.
289. Imaging Neurodegenerative and Neurovascular Disease using STAGE. Robarts Research Institute, Ontario, Canada. February 25th, 2019.
290. Advances in understanding Neurovascular and Neurodegenerative Diseases using STAGE Imaging. Nanjing, China. March 22, 2019.
291. Advances in understanding Neurovascular and Neurodegenerative Diseases using STAGE Imaging. Chongqing, China. March 25, 2019.
292. Mapping Asymmetrically Prominent Cortical Veins & Microbleeds Using SWI, QSM and STAGE. Shanghai, China. April 13, 2019.
293. Advances in understanding Neurovascular and Neurodegenerative Diseases using STAGE Imaging. Hangzhou, China. April 19, 2019.
294. Overview of STAGE: The Future of Rapid, Quantitative, Standardized Brain Imaging. 19 May 2019. ASNR 57th Annual Meeting, Boston, MA, USA. May 18-23, 2019.
295. Imaging Neurodegenerative and Neurovascular Disease using STAGE. Northwestern Feinberg School of Medicine Radiology Grand Rounds. 26 June 2019.
296. New Imaging Biomarkers for Parkinson's Disease. Loma Linda University, Neuroscience Grand Rounds. 06 November 2019.
297. High resolution STAGE Imaging: Applications to Neurodegenerative and Neurovascular Diseases. Cedars-Sinai Medical Center Grand Rounds. 08 November 2019.
298. High Resolution STAGE Imaging and Vascular Imaging: Clinical and Research Applications at High Field. 2019 Minnesota Workshop on High and Ultra-High Field Imaging. 16 November 2019.
299. Rapid, multi-contrast STAGE and vascular imaging: Clinical and research applications. University of Illinois at Chicago, Neurology and Rehabilitation Grand Rounds. 05 December 2019.
300. Rapid, multi-contrast STAGE and vascular imaging: Clinical and research applications. Wayne State University, Department of Neurology, Grand Rounds. 13 December 2019.
301. Rapid, multi-contrast STAGE structural and vascular imaging: Applications to Neurodegenerative and Neurovascular Diseases. Shanghai Fourth People's Hospital Affiliated to Tongji University School of Medicine. 03 January 2020.

CONFERENCE ABSTRACTS – (PRESENTED)

1. **Haacke** and J.W. Moffat. Scaling Violations and the Proton-Neutron Mass Difference, presented at the XIVth International Conference on High Energy Physics, Japan, 1979.
2. **Haacke**. Multiple Scattering in One Dimension, presented at the APS Conference, Washington, 1980.

3. **Haacke**. Understanding the Electroproduction R Ratio, presented at the APS Conference, Washington, 1980.
4. **Haacke**, E.N. Bruce, M.D. Goldman and H. Gribbon. Maximum Likelihood Estimates of changes in Lung Volume, abstract accepted for the 39th ACEMB Conference, September 1981, Houston.
5. **Haacke**, et al. Data Collection Techniques for NMR Image Reconstruction, AAMI 19th Annual Mtg, 31, Apr 1984.
6. **Haacke**. A Discussion of Periodic Motion and Flow in NMR Imaging. Abstract presented at the Association of University Radiologists, May 1984, Los Angeles.
7. **Haacke**, J.R. Clayton, D.A. Lampman and N.R. Linga. Artifacts in Two-Dimensional Fourier Transform Imaging. Presented at the 3rd SMRM conference, August 1984, New York.
8. **Haacke**. A Generalized Fast Scan Technique for Two-Dimensional Fourier Transform Imaging. Presented at the 3rd Annual Society of Magnetic Resonance in Medicine, August 1984, New York.
9. **Haacke**, J.R. Clayton, N.R. Linga and F.H. Bearden. Demonstration of a Flexible Fast Scan Technique, Radiology 153:(p)244, 1984.
10. **Haacke**, J.L. Patrick, C.K. Kershaw, and D.M. Blakely. Correction for Motion Artifacts Based on a Linear Expansion Model, presented at the 4th Annual SMRM in London, August 1985.
11. **Haacke**, F.H. Bearden and J.R. Clayton. Implementation of Low Frequency Hybrid Fast Scan Imaging, presented at the 4th Annual SMRM in London, August 1985.
12. **Haacke**. Applications of a Generalized Transform to Image Reconstruction in MRI, presented at the 4th Annual SMRM in London, August 1985.
13. **Haacke**. The Effects of Finite Sampling on Image Quality in MRI, SMRM Abstract, 1986.
14. **Haacke**, G. Lenz, M.T. Modic, R. Bachus, and E. Reinhardt. Quantification of CSF Flow and Diffusion Techniques. SMRM Abstract, 1986.
15. **Haacke**, G. Lenz, M.T. Modic, A. Antunez. Evaluation of The Lumbar Vertebral Bodies Utilizing Water-lipid Separation Techniques, RSNA Abstract, 1986.
16. **Haacke** and G. Lenz. Submillimeter Flow Imaging, RSNA Abstract, 1986.
17. **Haacke**, G.W. Lenz, B. Fletcher, M. Jacobstein. Pulmonary Vessel Identification with Magnetic Resonance Imaging, SMRI Abstract, 1987.
18. **Haacke**, Z-P. Liang and J.A. Tkach. Improving Resolution in Spectroscopy through T2-Deconvolution, SMRI Abstract, 1987.
19. **Haacke**. The Need for Very Short Echo Times in Fast MRI, 1987 Topical Conference on Fast MRI, Cleveland, Ohio, May 1987.
20. **Haacke**. High Resolution, Limited View Reconstructions, Topical Conf on Fast MRI, Cleveland, Ohio, May 1987.
21. **Haacke**, G.W. Lenz, and J.A. Tkach. Applications of Very Short Echo Times in MRI, SMRM, New York, August 1987.
22. **Haacke** and G.W. Lenz. Short Echo Time, Fast Gradient-Echo Imaging, RSNA, 1987.
23. **Haacke** and Z.P. Liang. Infinite Resolution Reconstruction Techniques, RSNA, 1987.
24. **Haacke**, G.W. Lenz, J.A. Tkach, F.R. Zypman, T.J. Masaryk and Z.P. Liang. 3D Flow Enhancement for MR Angiography, RSNA, 1988.
25. T.B. Parrish and **Haacke**. The Contribution to T2 from Ferrite microspheres and local field inhomogeneities. Oral presentation, Sixth Annual SMRI Conference, Boston, February 1988.
26. **Haacke**, P.A. Wielopolski, and J.A. Tkach. Contrast Enhancement of CSF Using Steady State Imaging 7th Annual SMRI, Los Angeles, Feb. 1989.
27. **Haacke**, J. Mitchell, and D. Lee. Enhancing T2 weighted Contrast Using Half-Fourier Imaging. 7th Annual SMRI, Los Angeles, Feb. 1989.
28. **Haacke**, Lindskog, **Haacke**, J.D. Mitchell, and Z.-P. Liang. Half-Fourier Imaging: A Partially Phase Constrained Iterative Reconstruction Scheme and an Evaluation of Several Fast Reconstruction Schemes. Presented at the 8th Annual SMRM in Amsterdam, Aug. 1989.
29. **Haacke**, W. Lin, S. Amartur, E. Lindskog, and T.J. Masaryk. Half Fourier Imaging in Magnetic Resonance Angiography, 75th Annual RSNA, Chicago, 26 Nov.-1 December 1989.
30. **Haacke**, F. Boada, Z.W. Rong, and Z.P. Liang. Improved Parametric Imaging In The Presence of Objects Less Than One Pixel In Length. 8th Annual SMRI, Washington, D.C., Feb. 1990.
31. P.A. Wielopolski, **Haacke** and C.B. Paschal. 3D Cine Cardiac Imaging. 9th Annual SMRI, Chicago, April 1991.
32. **Haacke**, F.W. Wehri, M.T. Modic, and B.R. Rosen. Fast MR Imaging: Present applications and future directions. 77th Annual RSNA Meeting, Chicago November 1991.
33. M.J. Sanz and **Haacke**. Extraction of noise spikes in MRI. 9th Annual SMRI, New York, April 1992.
34. D.Li, C.B. Paschal, **Haacke**, R.D. White, and L.P. Adler. Three-dimensional MR Imaging of the Coronary Arteries with Fat Saturation. SMRI Eleventh Annual Meeting, San Francisco, CA March 28-31, 1993.
35. **Haacke**, A.T. Huynh, M. Diemling, J.T. Goldfarb and M. Thompson. Direct Correction of RF Coil Inhomogeneity. Society of Magnetic Resonance & European Society for Magnetic Resonance in Medicine and Biology Exhibition, Nice, France, August 19-25, 1995.
36. R. Venkatesan and **Haacke**. Improved Arbitrary Angle MIP's Using the Fourier Shift Theorem. Society of Magnetic Resonance & European Society for Magnetic Resonance in Medicine and Biology Exhibition. Nice, France, August 19-25, 1995.

37. R. Venkatesan **Haacke**, D. Miller and W. Lin. Extraction of T1 Using FLASH Imaging in the Presence of Spatially Variable RF Fields: Application of a New Estimation Method. Society of Magnetic Resonance & European Society for Magnetic Resonance in Medicine and Biology Exhibition, Nice, France, August 19-25, 1995.
38. **Haacke**. High Resolution EPI fMRI using a head gradient coil insert. 4th International Conference on Functional Mapping of the Human Brain, Montreal, Quebec, Canada, June 7- 12, 1998.
39. **Haacke**, W. Lin, P. Mukherjee, D. Kido, B. Lee, K. Vo, H. An, Y. Yu, and Y. Wang. Applications of 3D Gradient Echo Imaging in Observing Lesion Vascularity. Xth Annual International Workshop on Magnetic Resonance Angiography: Coming of Age, Inn at Prospector Square, Park City, Utah, September 29 - October 3, 1998.
40. **Haacke**, Y. Wang, and Y. Yu. Separating Arteries from Veins Using the BOLD Phenomenon. XI International Workshop on Magnetic Resonance Angiography, Lund University Hospital, Lund, Sweden, September 22-25, 1999.
41. **Haacke**. Creating an International Website for the Vascular Visible Human Project. Ibid.
42. W. Kong and **Haacke**. Estimation of Cross Sectional Accuracy as a Function of Resolution, Signal-to-Noise and Vessel Diameter. Eighth International Society for Magnetic Resonance in Medicine, Denver, CO, April 1-7, 2000.
43. Y. Yu, **Haacke**, and J.R. Reichenbach. Improved Phase Processing for Enhanced Visualization of Veins in the Brain Using HRBV Imaging. Ibid.
44. **Haacke** and W. Kong. Inherent Errors in Measuring Cross Sectional Area of Blood Vessels. XII International Workshop on Magnetic Resonance Angiography, Lyon, France, October 4-7, 2000.
45. **Haacke**. Understanding the Physiologic Basis of BOLD Signal Changes: Current Understanding and Technical Developments. The Human Brain Project/Neuroinformatics Conference, NIMH, Bethesda, MD, May 21-22, 2001.
46. **Haacke**, R. Ogg, J.R. Reichenbach, K. Gurleyik, Y. Xu, and G. Hergault. Susceptibility Weighted Imaging (SWI): A new means to enhance image contrast. The International Society for Magnetic Resonance in Medicine (ISMRM) 10th Annual Scientific Meeting and Exhibition. Honolulu, Hawaii. May 18-24, 2002.
47. **Haacke**, L. Feng, C. Hu, T. Parrish, and Y. Xu. Enhancing Contrast in Susceptibility Weighted Imaging. The International Society for Magnetic Resonance in Medicine (ISMRM) 11th Annual Scientific Meeting and Exhibition. Toronto, Canada. July 10-16, 2003.
48. Y. Xu and **Haacke**. Susceptibility Weighted Imaging: Why is the negative phase mask so successful in highlighting veins independent of their orientation? The International Society for Magnetic Resonance in Medicine (ISMRM) 12th Annual Scientific Meeting and Exhibition. Kyoto, Japan. May 15-21, 2004.
49. **Haacke**, K. Prabhakaran, I. Elangovan, J. Hu, Y. Xuan, and P. Morton. Verification of the Susceptibility Value of De-Oxy-Hemoglobin in the Blood Using Susceptibility Weighted Imaging (SWI). Abstract #1557. The International Society for Magnetic Resonance in Medicine (ISMRM) 13th Annual Scientific Meeting and Exhibition. Miami, Florida. May 7 – 13, 2005.
50. **Haacke**, A. Khan, M. Ayaz, and W. Kirsch. Imaging Capillary Density Using Susceptibility Weighted Imaging. Abstract #148. The American Society of Neuroradiology (ASNR) 43rd Annual Meeting. Toronto, Canada. May 21 – 27, 2005.
51. **Haacke**, L. Gollapalli, D. Rosas, and K. Kwong. Using SWI as a Means to Better Visualize the Caudate Nucleus in Huntington's Disease (Poster). The International Society for Magnetic Resonance in Medicine (ISMRM) 14th Annual Scientific Meeting and Exhibition. Seattle, Washington. May 6 – 12, 2006.
52. Z. Kou, Y. Shen, N. Zakaria, S. Kallak, J. Cavanaugh, Y. Yu, J. Hu, and **Haacke**. Correlation of Fractional Anisotropy with Histology for Diffuse Axonal Injury in a Rat Model. Abstract # 824 (Oral Presentation). The International Society for Magnetic Resonance in Medicine (ISMRM) 15th Annual Scientific Meeting and Exhibition. Berlin, Germany. May 19 – 25, 2007.
53. **Haacke**, J. Neelavalli, S. Barnes, and Z. Latif. Observing the settling of blood in the supine resting condition in the peripheral vascular system using SWI. (Oral Presentation). Abstract # 822. The International Society for Magnetic Resonance in Medicine (ISMRM) 16th Annual Scientific Meeting and Exhibition. Toronto, Canada. May 3 – 9, 2008.
54. **Haacke**, Y.C.N. Cheng, J. Neelavalli, and Y. Xu. Mathematical Models for Susceptibility Contrast. (Oral Presentation). Abstract # 6089. The International Society for Magnetic Resonance in Medicine (ISMRM) 16th Annual Scientific Meeting and Exhibition. Toronto, Canada. May 3 – 9, 2008.
55. **Haacke**, M. Makki, Y. Ge, M. Maheshwari, J. Garbern, O. Khan, J. Hu, M. Selvan, and L. Zahid. Correlating Iron with T2 Signal Intensity in Multiple Sclerosis Lesions using Susceptibility Weighted Imaging. Abstract # 3436 (E-Poster). The International Society for Magnetic Resonance in Medicine (ISMRM) 16th Annual Scientific Meeting and Exhibition. Toronto, Canada. May 3 – 9, 2008.
56. **Haacke**, Q. Yang, S. Barnes, J. Liu, and Z. Wu. Imaging vessel wall using high resolution SWI. (Oral Presentation). The 20th Annual International Conference on Magnetic Resonance Angiography. Graz, Austria. October 15-18, 2008.
57. S. Barnes, Y. Ge, and **Haacke**. MR Angiography and Venography in a Single Acquisition using SWI. (Oral Presentation). The 20th Annual International Conference on Magnetic Resonance Angiography. Graz, Austria. October 15-18, 2008.
58. J. Neelavalli, Y-C.N. Cheng, J. Jiang, and **Haacke**. Removing Phase Artifacts Using Fourier Transform Based Field Estimation Can Lead to Significant Improvement in Phase Unwrapping Based SWI Processing. Abstract # 2808 (Poster). The International Society for Magnetic Resonance in Medicine (ISMRM) 17th Annual Scientific Meeting and Exhibition. Honolulu, Hawaii, USA. April 18 –24, 2009.
59. J. Neelavalli, Y-C.N. Cheng, J. Jiang, and **Haacke**. Removing Background Phase Variations in Susceptibility Weighted Imaging Using a Fast, Forward-Field Calculation. Abstract # 468 (Oral Presentation). The International Society for

- Magnetic Resonance in Medicine (ISMRM) 17th Annual Scientific Meeting and Exhibition. Honolulu, Hawaii, USA. April 18–24, 2009.
60. A.K. Al Bashir, G.G. Hillman and **Haacke**. DCE-MRI Evaluation of the Effect of the Anti-angiogenic Drug Sunitinib on Murine Renal Cell Carcinoma. Abstract # P40 (Poster). The Graduate Student Research Day at Wayne State University 13th Annual Meeting. Detroit, Michigan. September 17, 2009.
 61. **Haacke**. Chronic Cerebrospinal Venous Insufficiency: What's the Evidence? What's Coming Up? The 45th Annual Canadian Neurological Sciences Federation Congress. Quebec City, Quebec, Canada. June 9, 2010.
 62. K. Agarwal, A. Agarwal, Y. Katukuri and **E. M. Haacke**. Evaluating the presence of abnormal venous vasculature in a non – MS population. 1st Annual ISNVD Scientific Meeting, 13-15 March 2011. Ferrara & Bologna, Italy
 63. **Haacke**. Multiple Sclerosis as a Vascular Disease: Current Evidence for CCSVI (Chronic Cerebrospinal Venous Insufficiency) Ontario Association of Medical Radiation Sciences Annual Conference. Huntsville, Ontario, Canada. April 29-May 1, 2011
 64. **Haacke**. Diagnosis of CCSVI: MR Venography. Society of International Radiology meeting. Chicago, Illinois, USA, March 28, 2011.
 65. **Haacke**. Imaging of Chronic Cerebrospinal Venous Insufficiency. Radiological Society of North America (RSNA), Chicago, IL, USA, November 30th, 2011.
 66. J. Neelavalli, L. Yeo, S. Mody, M. Thomason, B.S. O'Ray, **Haacke**, and R. Romero. Magnetic Resonance Venography of the Fetal Brain using Susceptibility Weighted Imaging (SWI) at 1.5T and 3.0T: Preliminary Results. Wayne State University. Farmington Hills, MI, January 2012.
 67. **Haacke**. CCSVI: Abnormal Venous Flow and Neurodegenerative Disease. Society for Cardiovascular Magnetic Resonance (SCMR) 15th Annual Scientific Meeting. SCMR/ISMRM Workshop "Exploring New Dimensions of Cardiovascular Flow and Motion". Orlando, FL, USA. February 2, 2012.
 68. **Haacke**. The Society for Cardiovascular Magnetic Resonance. CCSVI: Abnormal Venous Flow and Neurodegenerative Disease. February 5th, 2012.
 69. W. Zheng and **E.M Haacke**. Brain Iron in Stroke. 2012 95th Canadian Chemistry Conference. February 15, 2012.
 70. **Haacke**. Establishing CCSVI Protocols: MRI. The 2nd Annual International Society for Neurovascular Disease (ISNVD) Scientific Meeting. Orlando, FL, USA. MS Patient Day. February 18, 2012.
 71. **Haacke**. MS, MRI Database. The 2nd Annual International Society for Neurovascular Disease (ISNVD) Scientific Meeting. Orlando, FL, USA. February 18, 2012.
 72. **Haacke**. MRV Consensus. The 2nd Annual International Society for Neurovascular Disease (ISNVD) Scientific Meeting. Orlando, FL, USA. February 20, 2012.
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95. D. Li, R. D. White, L.P. Adler, E.M. Tuzcu and **Haacke**. Three-Dimensional Cardiovascular MR Imaging: Initial Clinical Experience. Twelfth Annual Scientific Meeting, SMRM, New York, New York, August 14-20, 1993.
96. W. Lin, J.A. Tkach, T.J. Masaryk and **Haacke**. Enhanced 3D TOF High Resolution MRA with variable TR and variable TE. Twelfth Annual Scientific Meeting, SMRM, New York, New York, August 14-20, 1993.
97. J.W. Goldfarb and **Haacke**. The Use of Convex Constraints for Artifact Removal with Constrained Reconstruction Methods. Twelfth Annual Scientific Meeting, SMRM, New York, New York, August 14-20, 1993.
98. D.A. Yablonsky and **Haacke**. Theory of NMR Signal Dephasing in Heterogeneous Systems. Twelfth Annual Scientific Meeting, SMRM, New York, New York, August 14-20, 1993.
99. D. Li, T.N. Khimji and **Haacke**. Three-Dimensional MR Imaging of the Pancreas within a Breath-Hold. Twelfth Annual Scientific Meeting, SMRM, New York, New York, August 14-20, 1993.
100. D. Li, **Haacke**, and C.B. Paschal. Anatomic MR Imaging of the Cardiovascular System with 3D Black Blood Acquisition. SMRI Eleventh Annual Meeting March 28-31, 1993.
101. D. Li, C.B. Paschal, **Haacke**, R.D. White, and L.P. Adler. Three-dimensional MR Imaging of the Coronary Arteries with Fat Saturation. SMRI Eleventh Annual Meeting March 28-31, 1993.
102. D. Li, **Haacke**, L.P. Adler, and S. Kaushikkar. Fast 3D Cardiac Imaging with MTC to Enhance Contrast for Ventricular Volume Calculation. SMRI Eleventh Annual Meeting, March 28-31, 1993.
103. J.A. Tkach, W. Lin, **Haacke**, T.J. Masaryk, and J.D. Dillinger. Temporary Variable TR/Excitation Flip Angle 3D Time-of-Flight MR Angiography of the Intracranial Vasculature SMRI Eleventh Annual Meeting March 28-31, 1993.
104. M.F. Boada, and **Haacke**. Superparamagnetic Contrast Agents: Predicting Signal Loss in Gradient-Echo Imaging. SMRI Eleventh Annual Meeting March 28-31, 1993.
105. W. Lin and **Haacke**. 3D Time-of-Flight MR Angiography with Variable Echo Time for Fat Reduction. SMRI Eleventh Annual Meeting March 28-31, 1993.
106. D. Wu and **Haacke**. Simulating Signal Response in MR Angiography for Stenotic and Laminar Flow. SMRI Eleventh Annual Meeting. March 28-31, 1993.
107. C.B. Paschal, D. Li and **Haacke**. Improved Segmented 2D Breath-Hold MR Imaging of the Coronary Arteries. SMRI Eleventh Annual Meeting. March 28-31, 1993.
108. M.B. Hofman, C.B. Paschal, D. Li and **Haacke**. 3D MR Imaging of the Coronary Arteries with Retrospective Respiratory Gating. Eleventh Annual Meeting. March 28-31, 1993.
109. P. Hedera, S. Lai, **Haacke**, A.L. Hopkins, and R.P. Fieldnad. High Resolution GRE Functional Imaging of Visual Cortex. 79th Annual RSNA Meeting Chicago, IL. Nov 28-Dec 13, 1993.
110. D. Li, **Haacke**, T.N. Khimji, D. Miller. MR Angiography of the Renal Arteries with IR and Fat Saturation Techniques. 79th Annual RSNA Meeting Chicago, IL. Nov 28-Dec 13, 1993.
111. S. Li, P. Hedera, **Haacke**, A.J. Lerner, A.L. Hopkins, J.S. Lewin, and R.P. Friedland. Functional MRI: Promising Approach for the Evaluation of Visual Pathway Abnormalities Associated with Albinism. Society of Magnetic Resonance Meeting, Dallas, TX March 5-9, 1994.

112. D.A. Yablonsky and **Haacke**. Theory of Superparamagnetic Contrast Agent Dose Optimization for T2* MRI. Society of Magnetic Resonance Second Meeting, San Francisco, CA, August 6-12, 1994.
113. D. Li, Y. Wang and **Haacke**. Spatially and Temporally Variable Flip Angles in Syncopated 3D Coronary Artery Imaging. Society of Magnetic Resonance Second Meeting, San Francisco, CA, August 6-12, 1994.
114. W. Lin, F.M. Miezin, M.E. Raichle, **Haacke**, and S. Lai. Functional MRI with BOLD and STAR methods on a conventional imager. Society of Magnetic Resonance Second Meeting, San Francisco, CA, August 6-12, 1994.
115. S. Lai, P. Hedera, **Haacke**, J. Lewin, D. Wu, and R. Friedland. Effects of Acetazolamide on Cerebral Blood Flow in Normal Humans as Assessed with T2*-weighted MR Imaging at 1.5T: Preliminary Results. Society of Magnetic Resonance Second Meeting, San Francisco, CA, August 6-12, 1994.
116. R. Venkatesan, **Haacke** and D. Li. Simultaneous T2 Estimates and Field maps using Steady-State Imaging Methods. Society of Magnetic Resonance Second Meeting, San Francisco, CA, August 6-12, 1994.
117. E. Stillman, N. Wilke, D. Li, **Haacke**, and S.J. McLachlan. MRA of Renal and Coronary Arteries Using an Intravascular Contrast Agent. 2nd Society of Magnetic Resonance Meeting, San Francisco, CA, August 6-12, 1994.
118. D. Li, Y. Wang, and **Haacke**. Spatially and Temporally Variable Flip Angels in Syncopated 3D Coronary Artery Imaging. Twelfth Annual Scientific Meeting SMRM, New York, New York, August 14-20, 1994.
119. W. Lin, F.M. Miegin, M.E. Raiche, **Haacke**, and S. Lai. Functional MRI with BOLD and STAR Methods on a Conventional Imager. Twelfth Annual Scientific Meeting SMRM, New York, New York, August 14-20, 1994.
120. S. Lai, P. Hedera, E. M. **Haacke**, J. Lewis, D. Wu, and R. Friedland. Effects of Acetazolamide on Cerebral Blood Flow in Normal Humans as Assessed with T2-weighted MR imaging at 1.5T: Preliminary Results. Twelfth Annual Scientific Meeting SMRM, New York, New York, August 14-20, 1994.
121. R. Venkatesan, E. M. **Haacke**, and D. Li. Simultaneous T2 Estimates and Field maps using steady-state imaging methods. Twelfth Annual Scientific Meeting SMRM, New York, New York, August 14-20, 1994.
122. E. Stillman, N. Wilke, D. Li, **Haacke**, and S.J. McLachlan. MRA of Renal and Coronary Arteries using an Intravascular contrast agent. Twelfth Annual Scientific Meeting SMRM, New York, New York, August 14-20, 1994.
123. W. Lin, E. M. **Haacke**, C. Spiedel, D. Abendschein, and D. Kido. High Resolution MRA, validated in an animal model and applied to patients. VI International Workshop on Magnetic Resonance Angiography, October 6 - 9, 1994.
124. K. Kuppusamy, W. Lin, and **Haacke**. Increase in Signal Intensity Change and Reduction of Physiologic Noise at Electrocardiogram-gated Functional MR Imaging of Human Motor Cortex. Eighty-first Annual Meeting RSNA, Chicago, Illinois, November 25 - December 1, 1995.
125. D. Li, P.J. Dhawale, **Haacke**, P.J. Rubin, and R.J. Gropler. Blood Oxygen Level Dependent Effect on Myocardial Signal Response to Dipyridamole and Dobutamine. Eighty-first Annual Meeting RSNA, Chicago, Illinois, November 25 - December 1, 1995.
126. D. Li, S.V. Kaushikkar, and **Haacke**. Coronary Artery Flow Quantification with Use of a Segmented Phase-Contrast Sequence with Retrospective Respiratory Gating. 81st Annual RSNA Mtg, Chicago, Illinois, Nov 25 - Dec 1, 1995.
127. Y. Wang, D. Li, and **Haacke**. Phase-unwrapping Method for Water and Fat Separation in Inhomogeneous Fields. Eighty-first Annual Meeting RSNA, Chicago, Illinois, November 25 - December 1, 1995.
128. J.A. Borrello, D. Li. T. Vesely, E.P. Vining, J.J. Brown, and **Haacke**. Comparison of ECG-Triggered 3D SIR-RAGE with Fat Saturation to Standard 3D Time-of-Flight MR Angiography with and without TONE for the Renal Arteries. Society of Magnetic Resonance & European Society for Magnetic Resonance in Medicine and Biology Exhibition, Nice, France, August 19-25, 1995.
129. D. Li, S. Kaushikkar, **Haacke** and P. Dhawale. Coronary Artery Flow Quantification Using Segmented Phase Contrast Sequence with Retrospective Gating. Society of Magnetic Resonance & European Society for Magnetic Resonance in Medicine and Biology Exhibition, Nice, France, August 19-25, 1995.
130. D. Li, P. Dhawale, **Haacke**, P.J. Rubin and R.J. Gropler. Myocardial BOLD Effects of Dipyridamole and Dobutamine Using a Segmented Double-Echo Interleaved Sequence. Society of Magnetic Resonance & European Society for Magnetic Resonance in Medicine and Biology Exhibition, Nice, France, August 19-25, 1995.
131. Y. Wang, D. Li and **Haacke**. A New Phase Unwrapping Method for Water and Fat Separation in Inhomogeneous Fields. Society of Magnetic Resonance & European Society for Magnetic Resonance in Medicine and Biology Exhibition, Nice, France, August 19-25, 1995.
132. S. Kaushikkar, D. Li, P. Dhawale and **Haacke**. Statistical Analysis of Automated Segmentation Technique for Calculation with Left Ventricular Blood Volumes. Society of Magnetic Resonance & European Society for Magnetic Resonance in Medicine and Biology Exhibition, Nice, France, August 19-25, 1995.
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134. S. Lai, **Haacke** and D. Yablonskiy. Heterogeneous Susceptibility-Induced MR Contrast: Time-Domain Image Simulations and Applications to fMRI. Society of Magnetic Resonance & European Society for Magnetic Resonance in Medicine and Biology Exhibition, Nice, France, August 19-25, 1995.
135. S. Lai, **Haacke**, W. Lin, D. Chien and D. Levin. In vivo Measurement of Cerebral Venous Blood Oxygenation with MRI. Society of Magnetic Resonance & European Society for Magnetic Resonance in Medicine and Biology Exhibition, Nice, France, August 19-25, 1995.

136. D. Li, Y. Wang, J. Borrello, **Haacke**, D. Martin, S. Miller and S. Kaushikkar. Kidney Perfusion Imaging Using a Double-Echo Gradient-Echo. Society of Magnetic Resonance & European Society for Magnetic Resonance in Medicine and Biology Exhibition, Nice, France, August 19-25, 1995.
137. P.F. Buckley, L. Friedman, D. Wu, S. Lai, H.Y. Meltzer, **Haacke**, D. Miller and J.S. Lewin. Functional Magnetic Resonance Imaging in Schizophrenia. Society of Magnetic Resonance & European Society for Magnetic Resonance in Medicine and Biology Exhibition, Nice, France, August 19-25, 1995.
138. W. Lin, R. Pacynski, R. Venkatesan, C. Hsu, W. Powers and **Haacke**. Diffusion-Weighted Imaging in Global Brain Ischemia: Influences of Hyperglycemia. Society of Magnetic Resonance & European Society for Magnetic Resonance in Medicine and Biology Exhibition, Nice, France, August 19-25, 1995.
139. P.K. Woodward, D. Li, P. Dhawale, S. Kaushikkar, **Haacke**, F.R. Gutierrez, B. Barzilai, A.N. Weiss, and A.C. Braverman. Proximal Coronary Artery Stenoses: Examination with 3D MR Retrospective Respiratory Gating. Scientific Conference on Current and Future Application of Magnetic Resonance in Cardiovascular Disease, San Francisco, CA, January 14-16, 1996.
140. K. Kuppusamy, W. Lin, G. Cizek, and **Haacke**. In vivo Measurement of Regional Cerebral Blood Volume Using Pre- and Post-Contrast High Resolution 3D T1-Weighted Imaging. Fourth Scientific Meeting and Exhibition ISMRM, New York, New York, April 27 - May 3, 1996.
141. W. Lin, D.R. Abendschein, and **Haacke**. Contrast-Enhanced Magnetic Resonance Angiography of Carotid Artery Wall in Pigs. Fourth Scientific Meeting and Exhibition ISMRM, New York, New York, April 27 - May 3, 1996.
142. W. Lin, K. Kuppusamy, A. Celik, **Haacke**. Simultaneous and Quantitative Separation of R1 and R2* Changes in vivo Functional MRI Using Single Shot Echo-Planar Imaging. Fourth Scientific Meeting and Exhibition ISMRM, New York, New York, April 27 - May 3, 1996.
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144. K. Kuppusamy, W. Lin, G. Cizek, R. Venkatesan, and E. M. **Haacke**. Applications of a Maximum Intensity Projection Cerebral Blood Volume Map to Obtain an MR Venogram. Fourth Scientific Meeting and Exhibition ISMRM, New York, New York, April 27 - May 3, 1996.
145. D.A. Yablonskiy, W.R. Reinius, and **Haacke**. Effect of Anisotropic Relaxation on Bone Mineral Density Measurement. Fourth Scientific Meeting and Exhibition ISMRM, New York, New York, April 27 - May 3, 1996.
146. W. Lin, **Haacke**, D.J. Abendschein, A. Celik, R.P. Dolan, R.B. Laufer, and R.C. Walovitch. High Resolution Carotid Imaging with an Intravascular Contrast Agent: Evaluation in an Atherosclerotic Pig Model. Fourth Scientific Meeting and Exhibition ISMRM, New York, New York, April 27 - May 3, 1996.
147. H.A. Stark and **Haacke**. Helmet and Cylindrical Shaped CP Array Coils for Brain Imaging: A Comparison of Signal-to-Noise Characteristics. Fourth Scientific Meeting and Exhibition ISMRM, New York, New York, April 27 - May 3, 1996.
148. D.A. Yablonskiy and **Haacke**. A Robust MRI Method for Mapping T2 in the Presence of RF and Static Field Inhomogeneities. Fourth Scientific Meeting and Exhibition ISMRM, New York, New York, April 27 - May 3, 1996.
149. Y. Wang, **Haacke**, D. Yablonskiy, and D. Li. Water and Fat Separation Using Chemical Shifting Imaging. Fourth Scientific Meeting and Exhibition ISMRM, New York, New York, April 27 - May 3, 1996.
150. S. Lai, **Haacke**, J.R. Reichenbach, K. Kuppusamy, F. Hoogenraad, H. Takeichi, and W. Lin. In vivo Quantification of Brain Activation-Induced Change in Cerebral Blood Oxygen Saturation Using MRI. Fourth Scientific Meeting and Exhibition ISMRM, New York, New York, April 27 - May 3, 1996.
151. S. Lai and **Haacke**. Commutator Filter: A Novel Technique for the Identification of Structures Producing Significant Susceptibility Inhomogeneities and its Application to Functional MRI. Fourth Scientific Meeting and Exhibition ISMRM, New York, New York, April 27 - May 3, 1996.
152. J-H. Gao, J. Xiong, S. Lai, **Haacke**, M.G. Woldorff, J. Li, and P.T. Fox. Analytical Comparison of Keyhole, Full k-Space, and Zero-Padding Approaches to Functional MRI. Fourth Scientific Meeting and Exhibition ISMRM, New York, New York, April 27 - May 3, 1996.
153. P. Woodard, D. Li, P. Dhawale, S. Kaushikkar, **Haacke**, F.R. Gutierrez, B. Barzilai, A.N Weiss, and A. C. Braverman. Identification of coronary artery stenoses with 3D MR retrospective respiratory gating. American Roentgen Ray Society 1996 Annual Meeting, San Diego, May 5-10, 1996.
154. W. Lin and **Haacke**. Cerebral Blood Volume. Perfusion and Functional MRI. VIII International Workshop on Magnetic Resonance Angiography. Advances in 3D Vascular Imaging, Rome, Italy, October 19, 1996.
155. G. Beck, D. Li, **Haacke**, T.G. Noll, and L.R. Schad. Phase Encoding Schemes for MR Angiography Using Segmented EPI. Fifth Scientific Meeting and Exhibition ISMRM, Vancouver, B.C., Canada, April 12-18, 1997.
156. J.R. Reichenbach, R. Venkatesan, D.J. Schillinger, and **Haacke**. High-Resolution MR Venography. Fifth Scientific Meeting and Exhibition ISMRM, Vancouver, B.C., Canada, April 12-18, 1997.
157. D. Li, W.F. Oellerich, G. Beck, **Haacke**, and R.J. Gropler. Assessment of Myocardial Venous Blood Oxygenation Using an Improved MRI Technique. Fifth Scientific Meeting and Exhibition ISMRM, Vancouver, B.C., Canada, April 12-18, 1997.

158. K. Kuppusamy, B.C.P. Lee, O. Elghazzawy, R. Grueneich, R. Gordon, W. Lin, and **Haacke**. Pediatric fMRI Study of Hemispheric Language Dominance. Fifth Scientific Meeting and Exhibition ISMRM, Vancouver, B.C., Canada, April 12-18, 1997.
159. F.G.C. Hoogenraad, **Haacke**, J.R. Reichenbach, S.A.R.B. Rombouts, M. Sprenger, and R.M. Heethaar. Validation of High Resolution Functional MRI: Improved Localization Combined with Increased Signal Intensity Change. Fifth Scientific Meeting and Exhibition ISMRM, Vancouver, B.C., Canada, April 12-18, 1997.
160. M. Barth, F.C.G. Hoogenraad, **Haacke**, and E. Moser. Separation of In-Flow Effects in Multi-Gradient Echo fMRI of the Human Visual Cortex using Fuzzy Cluster Analysis and a Two-compartment fMRI Model. Fifth Scientific Meeting and Exhibition ISMRM, Vancouver, B.C., Canada, April 12-18, 1997.
161. F.G.C. Hoogenraad, J.R. Reichenbach, **Haacke**, S. Lai, K. Kuppusamy, and M. Sprenger. In vivo Quantification of the Cerebral Blood Oxygenation Change during Activation using MRI at 1 Tesla. Fifth Scientific Meeting and Exhibition ISMRM, Vancouver, B.C., Canada, April 12-18, 1997.
162. Y. Wang, D. Li, D. Waight, **Haacke**, and R. Gropler. Non-Invasive Hemoglobin Oxygen Saturation Assessment Using MRI. Fifth Scientific Meeting and Exhibition ISMRM, Vancouver, B.C., Canada, April 12-18, 1997.
163. P.K. Woodard, D. Li, **Haacke**, P.J. Dhawale, S. Kaushikkar, B. Barzilai, A.C. Braverman, P.A. Ludbrook, A.N. Weiss, J.J. Brown, S.A. Mirowitz and F.R. Gutierrez. Detection of Coronary Artery Stenoses with 3D MR Angiography with Retrospective Respiratory Gating; Blinded Assessment of Individual Partitions and Projection Images. Fifth Scientific Meeting and Exhibition ISMRM, Vancouver, B.C., Canada, April 12-18, 1997.
164. B.C.P. Lee, A. Celik, K. Kuppusamy, W. Lin, and **Haacke**. Regional Cerebral Blood Volume in Children. Fifth Scientific Meeting and Exhibition ISMRM, Vancouver, B.C., Canada, April 12-18, 1997.
165. W. Lin, R.P. Pacyznski, K. Kuppusamy, C.Y. Hsu, and **Haacke**. Quantitative Measurements of Regional Cerebral Blood Volume Using MRI in Rats: Effects of Arterial Carbon Dioxide Tension and Mannitol. Fifth Scientific Meeting and Exhibition ISMRM, Vancouver, B.C., Canada, April 12-18, 1997.
166. R. Venkatesan, W. Lin, and **Haacke**. Accurate Spin Density and T1 Estimation in the Presence of RF Field Nonuniformities. April 14-16, 1997.
167. J.R. Reichenbach, **Haacke**, B.C.P. Lee, Ch. Przetak, and W.A. Kaiser. High-Resolution Venography of the Brain Using Magnetic Resonance Imaging. European Society for Magnetic Resonance in Medicine and Biology 16th Annual Meeting, Brussels, Sept. 18-21, 1997.
168. K. Kuppusamy, M. Thompson, W. Lin, M. **Haacke**, B. Lee, D. Kido. Improvement of White Matter Contrast-To-Noise Ratio Using High-Resolution Diffusion-Weighted Inversion-Recovery SE-EPI. 83rd Scientific Assembly and Annual Meeting of the Radiological Society of North America, "Critical Pathways to Tomorrow's Radiology", McCormick Place, Chicago Illinois, Nov. 30 - Dec. 5, 1997.
169. R.P. Pacyznski, W. Lin, A. Celik, **Haacke**, C.Y. Hsu. Effects of Isovolemic Hemodilution on T2*-Weighted Magnetic Resonance Images of Rat Brain, American Heart Association's 23rd International Joint Conference on Stroke and Cerebral Circulation, Omni Rosen Hotel, Orlando, Florida, Feb. 5-7, 1998.
170. M. Barth, J.R. Reichenbach, R. Venkatesan, E. Moser, and **Haacke**. Differentiation of Vascular Environment in Human Motor Cortex by Using Multi-Gradient Echo fMRI and Fuzzy Cluster Analysis. Sixth Scientific Meeting and Exhibition ISMRM, Sydney, Australia, April 12-18, 1998.
171. W. Lin, R.P. Pacyznski, A. Celik, C.Y. Hsu, W.J. Powers, and **Haacke**. Effects of Acute Normovolemic Hemodilution on T2*-Weighted Images of Rat Brain. Sixth Scientific Meeting and Exhibition ISMRM, Sydney, Australia, April 12-18, 1998.
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173. J.R. Reichenbach, L.R. Schad, M. Essig, Ch. Przetak, **Haacke**, G. van Kaick, and W.A. Kaiser. Cerebral Venography Using High-Resolution BOLD Imaging. Sixth Scientific Meeting and Exhibition ISMRM, Sydney, Australia, April 12-18, 1998.
174. K.T. Bae, J.P. Heiken, D. Li, J. Zheng, and **Haacke**. Pharmacokinetic Analysis of Aortic Contrast Enhancement Timing in Gd-Enhanced MRA. Sixth Scientific Meeting and Exhibition ISMRM, Sydney, Australia, April 12-18, 1998.
175. Y. Wang, E. M. **Haacke**, D. Li, and K.T. Bae. Differentiating Arteries and Veins Using Phase in Contrast Enhanced MRA. Sixth Scientific Meeting and Exhibition ISMRM, Sydney, Australia, April 12-18, 1998.
176. J. Zheng, D. Li, K.T. Bae, **Haacke**, and P.K. Woodard. 3D Gadolinium Enhanced Coronary MRA: Initial Experience. Sixth Scientific Meeting and Exhibition ISMRM, Sydney, Australia, April 12-18, 1998.
177. S.A.R. Kannengiesser, Y. Wang, and **Haacke**. Geometric Distortion Correction of Gradient Echo Images Using Dynamic Time Warping. Sixth Scientific Meeting and Exhibition ISMRM, Sydney, Australia, April 12-18, 1998.
178. G.M. Beck, D. Li, J. Zheng, **Haacke**, T.G. Noll, and L.R. Schad. Three-Dimensional MR Coronary Angiography with a Segmented Echo Planar Imaging Sequence and Retrospective Respiratory Gating. Sixth Scientific Meeting and Exhibition ISMRM, Sydney, Australia, April 12-18, 1998.
179. W. Lin, R. P. Pacyznski, A. Celik, C. Y. Hsu, W. J. Powers, E. M. **Haacke**. Experimental Hypoxic Hypoxia: Effects of Variation in Hematocrit on MR T2*-Weighted Brain Images. Sixth Scientific Meeting and Exhibition ISMRM, Sydney, Australia, April 12-18, 1998.

180. D. Li, J. Zheng, H.-J. Weinmann, K. T. Bae, P. K. Woodard, T. Li, E. M. **Haacke**. Comparison of Intravascular and Extravascular Contrast Agents in Coronary Artery Imaging. Sixth Scientific Meeting and Exhibition ISMRM, Sydney, Australia, April 12-18, 1998.
181. Y. Wang, Y. Yu, T. Bae, D. Li, W. Lin, E. M. **Haacke**. Eliminating Veins and Fat to Enhance MRA Using Phase Information. Xth Annual International Workshop on Magnetic Resonance Angiography: Coming of Age, Inn@Prospector Square, Park City, Utah, September 29 - October 3, 1998.
182. D. Li, J. Zheng, H.-J. Weinmann, E. M. **Haacke**. Comparison of Intravascular and Extravascular Contrast Agents for Coronary Artery Imaging. Xth Annual International Workshop on Magnetic Resonance Angiography: Coming of Age, Inn at Prospector Square, Park City, Utah, September 29 - October 3, 1998.
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184. P. Woodard, D. Li, J. Zheng, P. Malcolm, V. Narra, E. M. **Haacke**. Coronary MR angiography with MS-345, and intravascular contrast agent. RSNA 84th Scientific Assembly and Annual Meeting, Chicago, Illinois, November 29 - December 5, 1998.
185. F.G.C. Hoogenraad, M. B. M. Hofman, P. J. W. Pouwels, M. Sprenger, E. M. **Haacke**. In Vivo Quantitative Tissue Volume Fraction Analysis in the Brain using IR-SE-EPI. Seventh Scientific Meeting and Exhibition ISMRM, Philadelphia, Pennsylvania, May 22-28, 1999.
186. F.G.C. Hoogenraad, P. J. W. Pouwels, M. B. M. Hofman, J. R. Reichenbach, M. Sprenger, E. M. **Haacke**. Activated Areas in fMRI Correlate with Venous Structures in an MR Venogram. Seventh Scientific Meeting and Exhibition ISMRM, Philadelphia, Pennsylvania, May 22-28, 1999.
187. F.G.C. Hoogenraad, P. J. W. Pouwels, M. B. M. Hofman, J. R. Reichenbach, M. Sprenger, E. M. **Haacke**. Extra-Vascular BOLD fMRI: a Single Vessel is More Important than a Capillaries Network in Gray Matter. Seventh Scientific Meeting and Exhibition ISMRM, Philadelphia, Pennsylvania, May 22-28, 1999.
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189. J. Zheng, D. Li, K. T. Bae, P. Woodard, E. M. **Haacke**. Gadolinium Enhanced MR Coronary Artery Imaging: Mode of Slow Infusion. Seventh Scientific Meeting and Exhibition ISMRM, Philadelphia, Pennsylvania, May 22-28, 1999.
190. D. Li, T. Munger, J. Zheng, R. Kroeker, R. J. Kim, O. P. Simonetti, E. M. **Haacke**, J. P. Finn. 3D Breath-hold, First-pass Contrast-Enhanced Coronary Artery Imaging Using MR Fluoroscopy Triggering, Partial k-space Acquisition, and Inversion Recovery. Seventh Scientific Meeting and Exhibition ISMRM, Philadelphia, Pennsylvania, May 22-28, 1999.
191. P. K. Woodard, D. Li, J. Zheng, V. Narra, J. Lasala, A. Braverman, E. M. **Haacke**, R. J. Gropler. Three-Dimensional Coronary MR Angiography with AngioMARK & trade; (MS-325). Seventh Scientific Meeting and Exhibition ISMRM, Philadelphia, Pennsylvania, May 22-28, 1999.
192. P. K. Woodard, D. Li, J. Zheng, D. Abendschein, E. M. **Haacke**, J. Mintorovitch, H. J. Weinmann, R. J. Gropler. Stenosis Detection using Gadomer-17 Enhanced Coronary MR Angiography. Seventh Scientific Meeting and Exhibition ISMRM, Philadelphia, Pennsylvania, May 22-28, 1999.
193. J. R. Reichenbach, M. Barth, E. M. **Haacke**, M. Klarhfer, E. Moser, W. A. Kaiser. High-Resolution MR Venography at 3 Tesla. Seventh Scientific Meeting and Exhibition ISMRM, Philadelphia, Pennsylvania, May 22-28, 1999.
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195. Y. Yu, Y. Wang, E. M. **Haacke**, D. Li. Static Field Inhomogeneity Correction Using a 3D High Pass Filter. Seventh Scientific Meeting and Exhibition ISMRM, Philadelphia, Pennsylvania, May 22-28, 1999.
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 285. **Haacke**, E.M., Khan, O., Makki, M., Hreha, S., Selvan, M., Latif, Z., Ge, Y. Visualization and quantification of iron in multiple sclerosis lesions using susceptibility-weighted imaging. Abstract # P264. World Congress on Treatment and Research in MS at the Palais Des Congres De Montreal, CANADA. September 17-20, 2008.
 286. Z. Kou, R. Benson, R. Gattu, M. **Haacke**. Best Abstract Award. Improving the detection of diffuse axonal injury by complementary use of advanced MRI. Abstract # 0037. The 6th North American Brain Injury (NABIS) Annual Conference. New Orleans, Louisiana, USA. October 2-4, 2008.
 287. Q. Yang, K. Li, J. Liu, S. Barnes, Z. Wu, J. Neelavalli, J. Hu, **Haacke**. Imaging the Vessel Wall in Major Peripheral Arteries using Susceptibility Weighted Imaging: Visualizing Calcifications. Abstract # 08-A-229-SCMR. The 12th Annual Scientific Sessions of the Society for Cardiovascular Magnetic Resonance (SCMR). Orlando, Florida, USA. January 29 - February 1, 2009.
 288. G.G. Hillman, V. Singh-Gupta, H. Zhang, C. Yunker, **Haacke**, F.H. Sarkar. Anti-tumor activity of sunitinib and radiation is enhanced by soy isoflavones in murine renal cell carcinoma. Abstract # LB-202 (Poster). The 100th Annual American Association for Cancer Research Conference. Denver, Colorado, USA. April 18 – 22, 2009.
 289. J. Lei, Z. Wu, M. Liu, T. Han **Haacke**. Identification of Traumatic Subarachnoid Hemorrhage Using Susceptibility Weighted Imaging. Abstract # 941 (Poster). The International Society for Magnetic Resonance in Medicine (ISMRM) 17th Annual Scientific Meeting and Exhibition. Honolulu, Hawaii, USA. April 18 –24, 2009.
 290. S. Barnes and **Haacke**. Single Echo Simultaneous Angiography and Venography (MRAV) Techniques at 3T. Abstract # 1861 (Poster). The International Society for Magnetic Resonance in Medicine (ISMRM) 17th Annual Scientific Meeting and Exhibition. Honolulu, Hawaii, USA. April 18 –24, 2009.
 291. D.B. Rowe and **Haacke**. Complex-Valued Voxel Thresholding Increases Image Contrast in SWI. Abstract # 2923 (Poster). The International Society for Magnetic Resonance in Medicine (ISMRM) 17th Annual Scientific Meeting and Exhibition. Honolulu, Hawaii, USA. April 18 –24, 2009.
 292. Z. Kou, Y. Shen, N. Zakaria, S. Kallak, J. Cavanaugh, **Haacke**. Histological Validation of Hemorrhage and Temporal Blood Transformation Detected by Susceptibility Weighted Imaging in Traumatic Brain Injury. Abstract # 946 (Poster). The International Society for Magnetic Resonance in Medicine (ISMRM) 17th Annual Scientific Meeting and Exhibition. Honolulu, Hawaii, USA. April 18 –24, 2009.
 293. R. Gattu, Z. Latif, Z. Kou, **Haacke**, R.R. Benson. Effect of Voxel Size on DTI Fractional Anisotropy Abstract #3579 (E-Poster). The International Society for Magnetic Resonance in Medicine (ISMRM) 17th Annual Scientific Meeting and Exhibition. Honolulu, Hawaii, USA. April 18 –24, 2009.
 294. R.R. Benson, Randall R.; Gattu, Ramtilak; Myrtheunjayan, Balaji; Kou, Zhifeng; **Haacke**, Ewart Mark. Semi-Automated Segmentation of Microhemorrhages Revealed by SWI. Abstract # 3205 (E-Poster). The International Society for Magnetic Resonance in Medicine (ISMRM) 17th Annual Scientific Meeting and Exhibition. Honolulu, Hawaii, USA. April 18 –24, 2009.
 295. R.R. Benson, R. Gattu, N. Raz; K.M. Kennedy, Z. Kou, **Haacke**. Variation in DTI-FA as a Function of Age and Brain Region: Setting the Stage for Mild TBI. Abstract # 3331 (E-Poster). The International Society for Magnetic Resonance in Medicine (ISMRM) 17th Annual Scientific Meeting and Exhibition. Honolulu, Hawaii, USA. April 18 –24, 2009.

296. Q. Yang, J. Liu, S. Barnes, Z. Wu, K. Li, J. Neelavalli, J. Hu, Jiani; **Haacke**. Imaging the Vessel Wall in Major Peripheral Arteries Using Susceptibility Weighted Imaging: Visualizing Calcifications. Abstract# 608 (Oral Presentation). The International Society for Magnetic Resonance in Medicine (ISMRM) 17th Annual Scientific Meeting and Exhibition. Honolulu, Hawaii, USA. April 18 –24, 2009.
297. R.R. Benson, R. Gattu, S. Kou, E.M. Haacke. The Use of Advanced MR Imaging Methods in Traumatic Brain Injury: Development of Imaging Biomarkers for Improving Diagnosis, Outcome Prediction and Treatment. Abstract # 1677AAN09D1. The 61st Annual American Academy of Neurology (AAN) Meeting at the Washington State Convention and Trade Center. Seattle, WA, USA. April 25 – May 2, 2009.
298. C.A. Habib, M. Liu, J. Garbern, **Haacke**. Abnormal Iron Content in Deep Grey Matter Structures of MS Patients as a Function of Age Compared to Normal Volunteers. Abstract # P17 (Poster). The Annual Wayne State Graduate Student Research Day. Detroit, MI, USA. September 18, 2009.
299. A.K. Al Bashir, G.G. Hillman, **Haacke**. DCE-MRI Evaluation of the Effect of the Anti-angiogenic Drug Sunitinib on Murine Renal Cell Carcinoma. Abstract # P40 (Poster). The Annual Wayne State Graduate Student Research Day. Detroit, MI, USA. September 18, 2009.
300. B.G. Sood, Y. Shen, Z. Latif, R. Galli, E.J. Dawe, **Haacke**. MRI Validation of Effective Aerosol Delivery in a High Frequency Oscillator Circuit in Neonatal Pigs. Abstract # 28 (Poster). The Annual Meeting of the Midwest Society for Pediatric Research (MWSPR). Chicago, IL, USA. October 8-9, 2009.
301. M. Dwyer, P. Zamboni, M. **Haacke**, E. Menegatti, B. Weinstock-Guttman, C. Schirda, A. Malagoni, D. Hojnacki, C. Kennedy, E. Carl, N. Bergsland, S. Hussein, M. Heininen-Brown, I. Bartolomei, F. Salvi, R. Zivadinov. Chronic Cerebrospinal Venous Insufficiency and Iron Deposition on Susceptibility-Weighted Imaging in Patients with Multiple Sclerosis. Abstract # P03.126 (Poster). The American Academy of Neurology (AAN) 62nd Annual Meeting. Toronto, Ontario, Canada. April 10 - April 17, 2010.
302. G. Poloni, P. Zamboni, M. **Haacke**, S. Bastianello, M. Dwyer, N. Bergsland, C. Schirda, D. Wack, C. Magnano, B. Weinstock-Guttman, F. Salvi, D. Hojnacki, R. Zivadinov. Quantitative Venous Vasculature Assessment on Susceptibility-Weighted Imaging Reflects Presence of Severe Chronic Venous Insufficiency in the Brain Parenchyma of Multiple Sclerosis Patients. A Case-Control Study. Abstract # IN7-1.003 (Oral). The American Academy of Neurology (AAN) 62nd Annual Meeting. Toronto, Ontario, Canada. April 10 - April 17, 2010.
303. A. Sattar, C. Juhasz, J. Garbern, M. **Haacke**, J. Hu. Balo's Concentric Sclerosis: Clinical progression and Imaging Findings. Abstract # 1170 (Oral). The American Society of Neuroradiology (ASNR) 48th Annual Meeting. Boston, MA, USA. May 15 – 20, 2010.
304. Y. Wang, W. Zhang, B. Wu. Accuracy of MSCT perfusion imaging in grading astrocytic tumors. Abstract # PO-067. International Congress of Radiology (ICR) 26th Annual Meeting. Shanghai, CHINA. April 8-12, 2010.
305. W. Yuhui, Y. Dai, E. M. **Haacke**, H. Haiwei, H. Xu. High Iron Percentage in Human Brain-Idiopathic Parkinson's, Multiple System Atrophy, Parkinsonism and Healthy Cases. Abstract # PO-066. International Congress of Radiology (ICR) 26th Annual Meeting. Shanghai, CHINA. April 8-12, 2010.
306. H. Sun, X. Feng. The mapping of the whole brain motor related cortex with functional MRI in simple movements of limbs. Abstract # PO-064. International Congress of Radiology (ICR) 26th Annual Meeting. Shanghai, CHINA. April 8-12, 2010.
307. A. Majos, M. Olszycki, P. Grelak, M. Kaczmarska, L. Stefbioanczyk. Susceptibility-weighted imaging in 1.5 T scanner in the diagnosis of neurodegenerative disorders – two cases study. Abstract # PO-061. International Congress of Radiology (ICR) 26th Annual Meeting. Shanghai, CHINA. April 8-12, 2010.
308. L. Yuehua. Relation between size of traverse sinus by CE-MRV and pressure of eyes. Abstract # OR-53. International Congress of Radiology (ICR) 26th Annual Meeting. Shanghai, CHINA. April 8-12, 2010.
309. M. Yanwei, C. Zhaocheng, W. Jianlin, H. Jian, **Haacke**. Evaluation and Monitoring of cerebral blood flow by using Perfusion Weighted Imaging in Sturge-Weber Syndrome. Abstract # OR-36. International Congress of Radiology (ICR) 26th Annual Meeting. Shanghai, CHINA. April 8-12, 2010.
310. M. Yanwei, C. Zhaocheng, Z. Jingwen, H. Jiani, **Haacke**. Phase values measurement in the deep gray nuclei of multiple sclerosis a biomarker of iron deposition. Abstract # OR-031. International Congress of Radiology (ICR) 26th Annual Meeting. Shanghai, CHINA. April 8-12, 2010.
311. Z. Chen, J. Tao, Q. Lu, J. Xu. Imaging iron deposition of substantia nigra in Parkinson's disease using susceptibility weighted imaging: A preliminary study. Abstract # PO-063. International Congress of Radiology (ICR) 26th Annual Meeting. Shanghai, CHINA. April 8-12, 2010.
312. H. Zhao, N. Liu, Z. Chen. Postmortem Susceptibility Weighted MRI: a Useful Tool for Investigation of Cerebral Microbleeds? Abstract # PO-065. International Congress of Radiology (ICR) 26th Annual Meeting. Shanghai, CHINA. April 8-12, 2010.
313. C. Yuan, Z. Zhang, Z. Wang, G. LU, G. Chen. MRI study of the basal ganglia in medial temporal lobe epilepsy using susceptibility weighted imaging. Abstract # PO-068. International Congress of Radiology (ICR) 26th Annual Meeting. Shanghai, CHINA. April 8-12, 2010.
314. R. Zivadinov, P. Zamboni, **Haacke**, E. Menegatti, B. Weinstock-Guttman, C. Schirda, A. Malagoni, D. Hojnacki, C. Kennedy, E. Carl, N. Bergsland, S. Hussein, M. Heininen-Brown, I. Bartolomei, F. Salvi, M. Dwyer. Chronic Cerebrospinal Venous Insufficiency and Iron Deposition on Susceptibility-Weighted Imaging in Patients with

- Multiple Sclerosis. Abstract # 2111. The International Society for Magnetic Resonance in Medicine (ISMRM) 18th Annual Scientific Meeting and Exhibition. Stockholm, SWEDEN. May 1-7, 2010.
315. A. Fatemi, **Haacke**, M.D. Noseworthy. Classification of Calcium Salts: Correlation of Magnetic Susceptibility with Susceptibility Weighted Imaging (SWI). Abstract # 5112. The International Society for Magnetic Resonance in Medicine (ISMRM) 18th Annual Scientific Meeting and Exhibition. Stockholm, SWEDEN. May 1-7, 2010.
 316. Y. Dai, D. Gen, W. Cheng, **Haacke**. Clinical Application for Cirrhosis with Susceptibility Weighted Imaging. Abstract # 2609. The International Society for Magnetic Resonance in Medicine (ISMRM) 18th Annual Scientific Meeting and Exhibition. Stockholm, SWEDEN. May 1-7, 2010.
 317. M. Liu, **Haacke**, C. Habib, Y. Miao, Y. Katkuri. Correlation of Change in Phase and R2* with Putative Iron Content in Deep Gray Matter of Healthy Adults. Abstract # 611. The International Society for Magnetic Resonance in Medicine (ISMRM) 18th Annual Scientific Meeting and Exhibition. Stockholm, SWEDEN. May 1-7, 2010.
 318. Q. Liu, Z. Fan, Q.X. Yang, **Haacke**, D. Li. Femoral Artery Vessel Wall Imaging Using Contrast-Enhanced, Susceptibility Weighted Imaging. Abstract # 1275. The International Society for Magnetic Resonance in Medicine (ISMRM) 18th Annual Scientific Meeting and Exhibition. Stockholm, SWEDEN. May 1-7, 2010.
 319. Z. Kou, R. Hanks, S. Millis, R. Benson, R. Gattu, **Haacke**. Improving Characterization of Traumatic Brain Injury by Synergistic Use of Multi-MRI Techniques. Abstract # 2347. The International Society for Magnetic Resonance in Medicine (ISMRM) 18th Annual Scientific Meeting and Exhibition. Stockholm, SWEDEN. May 1-7, 2010.
 320. Y. Dai, D. Gen, J. Hu, **Haacke**. Investigating Iron Deposition in Hepatic Diseases Using Susceptibility Weighted Imaging - Initial Experiment. Abstract # 2606. The International Society for Magnetic Resonance in Medicine (ISMRM) 18th Annual Scientific Meeting and Exhibition. Stockholm, SWEDEN. May 1-7, 2010.
 321. Y. Ge, T. Lin, D.K. Sodickson, E. Lin, J. Yang, **Haacke**, M.J. de Leon, R.I. Grossman, T. Wisniewski. Optimization of Susceptibility Weighted Imaging at 7T for Improved Detection of Alzheimer's Amyloid Plaques Associated with Iron in Human Postmortem Brain. Abstract # 14. The International Society for Magnetic Resonance in Medicine (ISMRM) 18th Annual Scientific Meeting and Exhibition. Stockholm, SWEDEN. May 1-7, 2010.
 322. G.U. Poloni, P. Zamboni, **Haacke**, S. Bastianello, M.G. Dwyer, N. Bergsland, C. Schirda, D. Wack, C. Magnano, B. Weinstock-Guttman, F. Salvi, D. Hojnacki, R. Zivadinov. Quantitative Venous Vasculature Assessment on Susceptibility-Weighted Imaging Reflects Presence of Severe Chronic Venous Insufficiency in the Brain Parenchyma of Multiple Sclerosis Patients. A Case-Control Study. Abstract # 2109. The International Society for Magnetic Resonance in Medicine (ISMRM) 18th Annual Scientific Meeting and Exhibition. Stockholm, SWEDEN. May 1-7, 2010.
 323. S. Barnes, **Haacke**. Semi-Automated Microbleed Identification on Susceptibility Weighted Images. Abstract # 3122. The International Society for Magnetic Resonance in Medicine (ISMRM) 18th Annual Scientific Meeting and Exhibition. Stockholm, SWEDEN. May 1-7, 2010.
 324. **Haacke**, J. Tang, Y.N. Cheng, J. Neelavalli. Susceptibility Weighted Imaging and Susceptibility Mapping (SWIM): A New Means to Visualize Veins and Quantify Susceptibility. Abstract # 5122. The International Society for Magnetic Resonance in Medicine (ISMRM) 18th Annual Scientific Meeting and Exhibition. Stockholm, SWEDEN. May 1-7, 2010.
 325. M. Wang, Y. Dai, Q. Lin, Y. Han, M. Wang, **Haacke**, Z. Wu, D. Shi. Susceptibility Weighted Imaging: A New Tool in Detecting Hemorrhage in Spinal Cord Injury. Abstract # 4239. The International Society for Magnetic Resonance in Medicine (ISMRM) 18th Annual Scientific Meeting and Exhibition. Stockholm, SWEDEN. May 1-7, 2010.
 326. C.A. Habib, J. Garbern, M. Liu, **Haacke**. Abnormal Iron Content in Deep Grey Matter Structures of MS Patients as a Function of Age. Abstract # 4325. The International Society for Magnetic Resonance in Medicine (ISMRM) 18th Annual Scientific Meeting and Exhibition. Stockholm, SWEDEN. May 1-7, 2010.
 327. C.A. Habib, W. Zheng, **Haacke**, S. Webb, H. Nichol. Visualizing Iron Deposition in Multiple Sclerosis Cadaver Brain. The 6th International Conference on Medical Applications of Synchrotron Radiation. 1266:78-83. July 23, 2010.
 328. W. Feng, J. Neelavalli, and E. **Haacke**. CAMPUS: A Catalytic Multiecho Phase Unwrapping Scheme. Abstract #2666. The 19th International Society for Magnetic Resonance in Medicine (ISMRM) annual meeting. Montréal, QC, CANADA. May 7-13, 2011.
 329. W. Zheng, E. M. **Haacke**, and H. Nichol. Correlation between Elemental Distribution and Susceptibility Change in Intracerebral Hemorrhagic Stroke. Abstract # 580. The 19th International Society for Magnetic Resonance in Medicine (ISMRM) annual meeting. Montréal, QC, CANADA. May 7-13, 2011.
 330. J. Neelavalli, S. Liu, Y. N. Cheng, E. M. **Haacke**, and Z. Kou. Effect of Orientation of 2D Phase High-Pass Filter on Susceptibility Mapping of Veins and Microbleeds. Abstract #4517. The 19th International Society for Magnetic Resonance in Medicine (ISMRM) annual meeting. Montréal, QC, CANADA. May 7-13, 2011.
 331. S. Liu, J. Neelavalli, W. Zheng, and E. M. **Haacke**. Improved forward calculation for phase artifacts removal in susceptibility mapping. Abstract # 2663. The 19th International Society for Magnetic Resonance in Medicine (ISMRM) annual meeting. Montréal, QC, CANADA. May 7-13, 2011.
 332. S. Liu, J. Neelavalli, J. Tang, and E. M. **Haacke**. Improved susceptibility quantification with effective magnetic moment. Abstract # 2587. The 19th International Society for Magnetic Resonance in Medicine (ISMRM) annual meeting. Montréal, QC, CANADA. May 7-13, 2011.

333. J. Tang, S. Liu, J. Neelavalli, and E. M. **Haacke**. Improving Susceptibility Mapping of Veins Using a K-space Iterative Approach. Abstract # 4476. The 19th International Society for Magnetic Resonance in Medicine (ISMRM) annual meeting. Montréal, QC, CANADA. May 7-13, 2011.
334. M. Li, J. Wu, Y. Miao, Z. Yang, W. Raza, Y. Wang, E. M. **Haacke**, and J. Hu. In Vivo Measurement of Oxygenation changes after Stroke using Susceptibility Weighted Imaging. Abstract # 4062. The 19th International Society for Magnetic Resonance in Medicine (ISMRM) annual meeting. Montréal, QC, CANADA. May 7-13, 2011.
335. Z. Kou, R. Benson, R. Gattu, J. Yang, V. Mika, R. Welch, S. Millis, and E. **Haacke**. Neuroimaging of Mild Traumatic Brain injury at Acute Stage. Abstract # 2449. The 19th International Society for Magnetic Resonance in Medicine (ISMRM) annual meeting. Montréal, QC, CANADA. May 7-13, 2011.
336. W. Zheng, E. M. **Haacke**, S. Liu, J. Neelavalli, and H. Nichol. Quantification of Susceptibility Mapping with Synchrotron X-ray Fluorescence Iron Mapping. Abstract # 579. The 19th International Society for Magnetic Resonance in Medicine (ISMRM) annual meeting. Montréal, QC, CANADA. May 7-13, 2011.
337. Y. Yu, Q. Jiang, H. Wang, S. Bao, E. M. **Haacke**, and J. Hu. Quantitative Perfusion and Permeability Analysis of Animal Brain Using Dual echo DCE-MRI. Abstract # 2060. The 19th International Society for Magnetic Resonance in Medicine (ISMRM) annual meeting. Montréal, QC, CANADA. May 7-13, 2011.
338. Y. Ye, J. Hu, J. Yang, and M. **Haacke**. Sensitivity and Specificity of MHASte Bold fMRI on MT/V5 Activation. Abstract # 1628. The 19th International Society for Magnetic Resonance in Medicine (ISMRM) annual meeting. Montréal, QC, CANADA. May 7-13, 2011.
339. E. M. **Haacke**, M. Li, and F. Juvvignata. Tissue Similarity Map of Perfusion Weighted MR Imaging in the Study of Multiple Sclerosis. Abstract # 3924. The 19th International Society for Magnetic Resonance in Medicine (ISMRM) annual meeting. Montréal, QC, CANADA. May 7-13, 2011.
340. Y. Shen, W. Zheng, Y-C. N. Cheng, Y. Ding, J. S. Raynaud, and E. M. **Haacke**. USPIO high resolution neurovascular imaging of rat middle cerebral artery occlusion stroke model. Abstract # 4073. The 19th International Society for Magnetic Resonance in Medicine (ISMRM) annual meeting. Montréal, QC, CANADA. May 7-13, 2011.
341. K. Agarwal, E. M. **Haacke**, A. Agarwal, Y. Katkuri, BEng, W. L. Smith Jr. Evaluating the Presence of Abnormal Venous Vasculature in a Non-MS Population Using CT Angiography. Wednesday November 30th, 2011. The 97th Annual Radiological Society for North America (RSNA) meeting in Chicago, IL. USA. November 27 – December 2, 2011.
342. W. Feng, E. M. **Haacke**, G. Trifan, D. Utriainen and J. Hewett. Venous flow characteristics in the neck for patients with multiple sclerosis. 23rd International MR Angiography Workshop. September 28 2011, Banff, Alberta, Canada - Oral presentation
343. M.M. Lagana, D. Balagurunathan, A. Chaudhary, D. Utriainen, D. Hubbard, **Haacke**. Evaluation of Cerebrospinal Fluid Flow in Multiple Sclerosis with Phase Contrast MRI. ORAL PRESENTATION. The 2nd Annual International Society for Neurovascular Disease (ISNVD) Scientific Meeting. Orlando, FL, USA. February 18-22, 2012.
344. Y. Ye, J. Hu, D. Wu, **Haacke**. A non-linear subtraction method for MRA. POSTER. The 2nd Annual International Society for Neurovascular Disease (ISNVD) Scientific Meeting. Orlando, FL, USA. February 18-22, 2012.
345. Y. Zhong, D. Utriainen, W. Feng, D. Hubbard, **Haacke**. The Cerebral Perfusion of Patients with Multiple Sclerosis (MS) using MRI. ORAL PRESENTATION. The 2nd Annual International Society for Neurovascular Disease (ISNVD) Scientific Meeting. Orlando, FL, USA. February 18-22, 2012.
346. W. Feng, D. Utriainen, Z. Wu, D. Hubbard, **Haacke**. Flow through the Internal Jugular Vein in Reduced for Multiple Sclerosis Patients with Stenoses Compared to those Without Observed by MRI. ORAL PRESENTATION. The 2nd Annual International Society for Neurovascular Disease (ISNVD) Scientific Meeting. Orlando, FL, USA. February 18-22, 2012.
347. A. Tai, P. Kokeny, D. Utriainen, S. Sethi, W. Feng, D. Hubbard, **Haacke**. Measurement of Azygos Venous Blood Flow in Patients with Multiple Sclerosis Using MRI. ORAL PRESENTATION. The 2nd Annual International Society for Neurovascular Disease (ISNVD) Scientific Meeting. Orlando, FL, USA. February 18-22, 2012.
348. Y. Ye. Enhanced imaging of simultaneous TOF-MRA and SWI. ORAL PRESENTATION. The 2nd Annual International Society for Neurovascular Disease (ISNVD) Scientific Meeting. Orlando, FL, USA. February 18-22, 2012.
349. C. Habib, M. Liu, N. Bawany, J. Garbern, I. Krumbein, H-J Mentrzel, J. Reichenbach, C. Magnano, R. Zivadinov, **Haacke**. Assessing Abnormal Iron Content in Deep Gray Matter of Patients with Multiple Sclerosis versus Healthy Subjects. ORAL PRESENTATION. The 2nd Annual International Society for Neurovascular Disease (ISNVD) Scientific Meeting. Orlando, FL, USA. February 18-22, 2012.
350. Weili Zheng, PhD1, Yimin Shen, PhD1, E. Mark **Haacke**, PhD1 and Helen Nichol, PhD. Edema in T2: a possible precursor of spontaneous intracerebral hemorrhage in stroke-prone spontaneously hypertensive rats? POSTER PRESENTATION. ABSTRACT #50. The 3rd ISNVD Annual Meeting. Krakow, Poland. February 24, 2013.
351. Siamak Salari Sharif, PhD, E. Mark **Haacke**, PhD, J. Joseph Hewett, MD and Michael Arata, MD. Comparison between contrast enhanced mri angiography (CE-MRA) and digital subtraction xray angiography (DSA). POSTER PRESENTATION. Abstract #47. The 3rd ISNVD Annual Meeting. Krakow, Poland. February 25, 2013.
352. Md. Rahman Tamizur, MS, Sean Sethi Kumar, MS, David T. Utriainen, BS, J. Joseph Hewett, MD and E. Mark **Haacke**, PhD. A comparative study of MR venography techniques for the evaluation of the internal jugular veins in

- MS patients. POSTER PRESENTATION. Abstract #20. The 3rd ISNVD Annual Meeting. Krakow, Poland. February 25, 2013
353. Ramtilak Gattu, Zhifeng Kou, Robert Welch, Valerie Mika, Hardik Doshi, E. Mark **Haacke**, and Randall Benson. Improving the reliability of between group analyses in DTI-FA analyses by detecting and removing anatomical anomalies. ELECTRONIC POSTER. Abstract #2897. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 22, 2013.
 354. Paul Kokeny, Jing Jiang and E. Mark **Haacke**. Assessing the Effects of Vessel Segmentation Boundary Size on Flow Quantification Error and Comparing Multiple Automatic Segmentation Algorithms. Traditional Poster. Abstract #5034. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 22, 2013.
 355. Yongquan Ye and E. Mark **Haacke**. Flip Angle Effects on Resting State fMRI Studies. ELECTRONIC POSTER. Abstract #3804. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 22, 2013.
 356. Jaladhar Neelavallai, E. Mark **Haacke**, Swati Mody, Lami Yeo, Sheena Saleem, Yashwanth Katkuri, Pavan Jella, Ray O Bahado-Singh, Sonia Hassan, Roberto Romero and Moriah Thomason. Magnetic resonance venography of the fetal brain using susceptibility weighted imaging (SWI). ORAL PRESENTATION. Abstract #4476. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 22, 2013.
 357. Yongquan Ye and E. Mark **Haacke**. Reducing Physiological Effects in Resting State fMRI by Dephasing Blood and CSF Signals. ELECTRONIC POSTER. Abstract #3789. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 22, 2013.
 358. Yongquan Ye, Jie Yang, E. Mark **Haacke**, and Shuang Xia. Initial Study on Functional Connectivity of Children with Profound Bilateral Prelingual Hearing Loss. ELECTRONIC POSTER. Abstract #3814. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 22, 2013.
 359. Jie Yang, Zhifeng Kou, Robert Dean Welch, Randall Benson, Ramtilak Gattu, Valerie Mika, and E. Mark **Haacke**. Neuroimaging biomarkers of mild traumatic brain injury (mTBI) and its recovery: A preliminary study in acute setting. ELECTRONIC POSTER. Abstract #
 360. Wei Feng, Yang Xuan, Jiani Hu, and E. Mark **Haacke**. Real-Time, Self-Gated Spiral Flow Imaging Using Sliding-Window Phase Matching Reconstruction. Traditional Poster. Abstract #296. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 22, 2013.
 361. Armin Iraj, Valerie Mika, Jie Yang, Annalise Rahman, Grace Ma, Robert Welch, Randall Benson, Scott Millis, Hamid Soltanian-Zadeh, E. Mark **Haacke** and Zhifeng Kou. Functional connectivity in posterior cingulate cortex alters in brain concussion patients at the acute stage. TRADITIONAL POSTER. Abstract #1052. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 23, 2013.
 362. Uday Krishnamurthy, Yimin Shen, Jaladhar Neelavalli, Gabor Szalai, Bing Wang, Tinnakorn Chaiworapongsa, Edgar Hernandez-Andrade, Nandor Gabor Than, E. Mark **Haacke**, and Roberto Romero. Placental T2 relaxation parameters at different gestational ages in mouse pregnancy. TRADITIONAL POSTER. Abstract #1131. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 23, 2013.
 363. Jie Chen, Jiule Ding, Changping Wu, Wei Xing, Jingting Jiang, Tongbing Chen, Jun Sun, Yongming Dai, E. Mark **Haacke**, and Jiani Hu. Preoperatively evaluating the correlation between pathological grades and blood oxygenation level- dependent MRI in clear cell renal cell carcinomas. TRADITIONAL POSTER. Abstract #1715. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 23, 2013.
 364. Hong Li, Jianjun Wang, Qianqian Li, Mengfan Yan, Guojun Wu, Yimin Shen, E. Mark **Haacke**, and Jiani Hu. Tracking 4T1-piPSCs homing to primary and metastatic tumor with MRI. ORAL PRESENTATION. Abstract #1789. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 24, 2013.
 365. Jin Tang, Thomas S. Denney, Nouha Salibi, Sagar Buch, Yongquan Ye, and E. Mark **Haacke**. Investigating the effect of image resolution on susceptibility values inside the vessels for venous oxygen saturation quantification. ELECTRONIC POSTER. Abstract #2435. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 24, 2013.
 366. Saifeng Liu, Sagar Buch, and E. Mark **Haacke**. Background field removal based on local complex phase unwrapping and spherical mean value property. TRADITIONAL POSTER. Abstract #2775. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 23, 2013.
 367. Pavan Jella, Jaladhar Neelavalli, Uday Krishnamurthy, Swati Mody, Lami Yao, Yashwanth Katkuri, Ray O Bahado-Singh, Sonia Hassan, E. Mark **Haacke**, Roberto Romero, and Moriah Thomson. Measuring Venous Blood Oxygenation in Fetal Brain Using Susceptibility Weighted Imaging. ELECTRONIC POSTER. Abstract #4294. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 24, 2013.
 368. Uday Krishnamurthy, Yimin Shen, Gabor Szalai, Jaladhar Neelavalli, Bing Wang, Tinnakorn Chaiworapongsa, Edgar Hernandez-Andrade, Nandor Gabor Than, E. Mark **Haacke**, and Roberto Romero. Quantitative phase imaging in mouse pregnancy. ELECTRONIC POSTER. Abstract #4370. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 24, 2013.
 369. M. Ayaz Khan, Jie Liu, Jaladhar Neelavalli, Saifeng Liu, E. Mark **Haacke**, and Rong Zhang. Measurement of brain oxygen saturation using near infrared spectroscopy and susceptibility maps. TRADITIONAL POSTER. Abstract #5140. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 25, 2013.

370. Siamak Salari Sharif, E. Mark **Haacke**, Joseph J. Hewett, and Michael Arata. Application of PLS-DA method in separation of venous and arterial phase in 4D CE-MRA data. ELECTRONIC POSTER. Abstract #5830. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 25, 2013.
371. Jeam Haroldo Oliveria Barbosa, Saifeng Liu, Jin Tang, Manju Liu, Weili Zheng, E. Mark **Haacke**, and Carlos Ernersto Garrido Salmon. Correlation of R2 and R2* with quantitative susceptibility maps in health elderly controls. TRADITIONAL POSTER. Abstract #6050. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 23, 2013.
372. Sagar Buch, Saifeng Liu, Yu-Chung Norman Cheng, and E. Mark **Haacke**. Susceptibility mapping of the sinuses in the brain by preserving phase information in the skull using short echo times. TRADITIONAL POSTER. Abstract #6363. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 23, 2013.
373. Wei Feng, Yang Xuan, and E. Mark **Haacke**. Expansion of the GESFIDE sequence for simultaneous SWI, T1W imaging and MR Angiography. TRADITIONAL POSTER. Abstract #6447. The 21st ISMRM Annual Meeting and Exhibition. Salt Lake City Utah, USA. April 23, 2013.
374. Liu M. Investigating venous abnormalities and white matter hyperintensities in idiopathic Parkinson's patients using magnetic resonance imaging. ORAL PRESENTATION. The 11th International Conference on Alzheimer's & Parkinson's Disease. Florence, Italy. March 6-10, 2013.
375. R. Hamtaei, S. Meesters, B.M. ter Haar Romeny, **Haacke**. 3D Model of the Optic Radiation using Susceptibility Weighted Imaging. The 2nd international workshop on QSM at Cornell University. Ithaca, New York. July 25-27, 2013.
376. W. Feng, Y. Xuan, E. M. **Haacke**. Three-Dimensional selective MR imaging with a 2D spatially selective pulse and a 3D radial stack of EPI trajectory. ORAL PRESENTATION. 25th International Workshop on Magnetic Resonance Angiography. Hunter College, Manhattan, New York, USA, August 21, 2013.
377. Sethi S. Further evidence for venous structural and flow abnormalities in patients with multiple sclerosis. ORAL PRESENTATION. The 3rd Annual National CCSVI Society Voice of Progress Conference, Sherbrooke, Quebec, Canada. September 29, 2013.
378. Sethi S, Utraiainen D, Loman R, Saqib I, **Haacke** EM. Classification of venous outflow in the extracranial vessels in a large cohort of MS patients. ORAL PRESENTATION. Abstract #31. 4th Annual International Society for Neurovascular Disease (ISNVD). San Francisco, California, USA. February 7-9, 2014.
379. Doshi H, Wang W, Welch R, O'Neil B, Ma G, Benson R, **Haacke** EM. Cerebral hemodynamic changes in mild traumatic brain injury at the acute stage. ORAL PRESENTATION. Abstract #35. 4th Annual International Society for Neurovascular Disease (ISNVD). San Francisco, California, USA. February 7-9, 2014.
380. Doshi H, Liud J, Hanks R, **Haacke** EM, Kou Z. Hemorrhagic lesions based on venous and arterial damage and its clinical correlation in traumatic brain injury. ORAL PRESENTATION. Abstract #36. 4th Annual International Society for Neurovascular Disease (ISNVD). San Francisco, California, USA. February 7-9, 2014.
381. Ramtilak Gattu, Randall R Benson, Zhifeng Kou, Gabriela Trifan, and Ewart Mark **Haacke**. Regional analysis of DTI-FA in Milder TBI. Abstract #3422. The 23rd ISMRM Annual Meeting. 10-16 MAY 2014, Milan, Italy.
382. Gabriela Trifan, Ramtilak Gattu, Zhifeng Kou, Ewart Mark **Haacke**, Randall R. Benson. Relative Sensitivities of CT, FLAIR and SWI in TBI with Persistent Symptoms. Abstract #8163. The 23rd ISMRM Annual Meeting. 10-16 MAY 2014, Milan, Italy.
383. Manju Liu, Saifeng Liu, Dane Diccico, Charbel Habib, Yanwei Miao, and E. Mark **Haacke**. Establishing a reference of iron deposition in human brain deep grey matter nuclei using susceptibility mapping. Abstract #2654. The 23rd ISMRM Annual Meeting. 10-16 MAY 2014, Milan, Italy.
384. Wei Feng, Yang Xuan, and E. Mark **Haacke**. Multi-dimensional Susceptibility Conditioned RF Pulse (SCOPE) Design: A Spokes Approach. Abstract #6625. The 23rd ISMRM Annual Meeting. 10-16 MAY 2014, Milan, Italy.
385. S Buch, Y Ye2, S McDonald3, EM **Haacke**1,2,4. Volumetric imaging of grey and white matter in the human brain. POSTER PRESENTATION. Abstract #P465. 2014 Joint ACTRIMS-ECTRIMS Meeting. Boston, Massachusetts, USA 10-13 September 2014.
386. S. Kampondeni, G.L. Birbeck, D. Milner, **Haacke**, S. Sinyangwe, M. Mwenechanya, K. Seydel, E. Zeli, C. Hammond, D. Utraiainen, T.E. Taylor, M.J. Potchen. Susceptibility Weighted Imaging In Pediatric Cerebral Malaria At 1.5T. ORAL PRESENTATION. Abstract #20. The American Society of Tropical Medicine and Hygiene (ASTMH) 63rd Annual Meeting, New Orleans, LA, USA, November 2-6, 2014.
387. S. Krishnamurthy, J. Li, Y. Shen, **Haacke**. SWI monitoring iron tagged dextran transportation in normal and hydrocephalus rat brains via intrathecal delivery. ORAL PRESENTATION. Abstract #0237. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 30 – June 5, 2015.
388. U. Krishnamurthy, J. Neelavalli, P.K. Jella, E. Hamtaei, S. Mody, B.K. Yadav, E. Hernandez-Andrade, L. Yeo, M.D. Cabrera, **Haacke**, S.S. Hassan, R. Romero. Non-contrast Magnetic Resonance Angiography of the fetal head and neck vessels. ORAL PRESENTATION. Abstract # 0638. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 30 – June 5, 2015.
389. N.M. Wiseman, M. Li, M. Zeydabadi-zhad, J. Mouannes-Srouf, Y. Ye, **Haacke**, Z. Kou. Validation of dual-injection dynamic susceptibility contrast perfusion weighted imaging against pseudo-continuous arterial spin labeling: a pilot

- study. ORAL PRESENTATION. Abstract # 0796. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 30 – June 5, 2015.
390. S. Chawla, I. Kister, J. Wuerfel, **Haacke**, T. Sinnecker, J.C. Brisset, P. Friedemann, and Y. Ge. Iron and Non-iron Related Pathological Features of Multiple Sclerosis Lesions using Multiparametric 7T MRI. Abstract # 0903. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 30 – June 5, 2015.
391. B.K. Yadav, J. Neelavalli, U. Krishnamurthy, Y. Shen, G. Szalai, B. Wang, T. Chaiworapongsa, E. Hernandez-Andrade, N.G. Than, **Haacke**, R. Romero. Gestational age dependent increase in placental perfusion quantified using MRI. ORAL PRESENTATION. Abstract # 0945. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 30 – June 5, 2015.
392. Hsieh C, Cheng Y, Xie H, Kokeny P, Jella P, Latif Z, Xuan Y, **Haacke** EM. SU-D-303-06: Evaluations of Quantified Magnetic Moments from Different MRI Hardware. *Med Phys.* 2015 Jun;42(6):3216. doi: 10.1118/1.4923893. Review. PMID: 26127202.
393. A. Iraj, N. Wiseman, R. Welch, B. O'Neil, A. Kulek, S.I. Ayaz, **Haacke**, Z. Kou. Longitudinal Analysis of Structural and Functional Connectivity of the Thalamus and Anterior Cingulate Cortex in Mild Traumatic Brain Injury. TRADITIONAL POSTER. Abstract # 0945. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 30 – June 5, 2015.
394. A. Iraj, H. Chen, N. Wiseman, T. Zhang, R. Welch, B. O'Neil, A. Kulek, S.I. Ayaz, X. Wang, C. Zuk, **Haacke**, T. Liu, Z. Kou. Connectome-scale Assessment of Structural and Functional Connectivity in Mild Traumatic Brain Injury at the Acute Stage. TRADITIONAL POSTER. Abstract # 1420. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 30 – June 5, 2015.
395. C-Y. Hsieh, Y-C.N. Cheng, J. Neelavalli, **Haacke**. Susceptibility and cross-sectional area quantifications of small veins in human brain. TRADITIONAL POSTER. Abstract # 1704. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 30 – June 5, 2015.
396. P. Kokeny, X. He, S. Liu, C-Y. Hsieh, Q. Jiang, Y-C.N. Cheng, **Haacke**. Quantification of Labeled Cell Clusters in a Rat Brain In Vivo Using MRI. TRADITIONAL POSTER. Abstract # 1722. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 30 – June 5, 2015.
397. H. Xie, Y-C.N. Cheng, C-Y. Hsieh, P. Kokeny, **Haacke**. Susceptibility quantification for ferritin and Fe₃O₄ nanoparticles: Observation of hyperfine shift in phase images and comparison between phase measurement and CISSCO. TRADITIONAL POSTER. Abstract # 1724. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 30 – June 5, 2015.
398. D. Wu, S. Buch, S. Liu, **Haacke**. A Fully Flow Compensated Dual Echo Sequence: The Role of Acceleration and Background Gradient Effects on Flow Compensation. TRADITIONAL POSTER. Abstract # 1726. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 30 – June 5 2015.
399. E. Hamtaei, S. Liu, Y. Ye, D. Wu, **Haacke**. Improved Partial Fourier Reconstruction Using Two Reverse Polarity Echoes in a Single GRE Acquisition. TRADITIONAL POSTER. Abstract #2460. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 30 – June 5 2015.
400. Y. Wang, J. Jiang, P. Kokeny, Y. Zhong, **Haacke**. One step toward automating vessel detection and labeling in the neck for flow quantification. TRADITIONAL POSTER. Abstract #2719. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 30 – June 5 2015.
401. S. Liu, Y. Ye, S. Buch, **Haacke**. Multi-channel data combination with linear phase baseline correction. ELECTRONIC POSTER. Abstract #3309. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 30 – June 5 2015.
402. U. Krishnamurthy, R. Gattu, P.K. Jella, J. Neelavalli, **Haacke**. Piecewise diffusion tensor estimation for fetal imaging application. ELECTRONIC POSTER. Abstract #3432. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 30 – June 5 2015.
403. R. Gattu, R. Welch, B. O'Neil, A. Chaudhary, **Haacke**, Z. Kou. DTI parametric lesion load is a better surrogate marker when regional analysis is insensitive to distinguish between control and TBI population. ELECTRONIC POSTER. Abstract #4421. The 23rd ISMRM Annual Meeting and Exhibition. Toronto, ON, Canada, May 30 – June 5 2015.
404. S. Sethi. Effects of internal jugular vein stenosis on venous collateral flow using magnetic resonance imaging. Abstract # BRAIN-0868. XXVIIth International Symposium on Cerebral Blood Flow, Metabolism and Function & XIIIth International Conference, Vancouver, Canada. June 27 – June 30 2015.
405. J.C. Brisset, S. Liu, Z. Demir, **Haacke**, Y. Ge. Next generation of microvascular imaging with USPIO-enhanced MRV. Oral Presentation. 6th Annual International Society for Neurovascular Disease (ISNVD), 7 World Trade Center, New York. April 29-30, 2016.
406. M. Fawaz, G. Spitz, D. Utriainen, **Haacke**. Traumatic Brain Injury (TBI) Severity Quantification and Outcome Prediction Using MRI. Oral Presentation. 6th Annual International Society for Neurovascular Disease (ISNVD), 7 World Trade Center, New York. April 29-30, 2016.
407. M.M. Laganà, F. Baglio, L. Pelizzari, O. Dipasquale, I. Costantini, G. Baselli, N. Bergsland, P. Cecconi, M. Clerici, **Haacke**, L. Mendozzi, R. Nemni. Combined study of neurodegeneration, cerebrovascular reactivity and

- venous drainage impairments in Parkinson's Disease and Multiple Sclerosis. Oral Presentation. 6th Annual International Society for Neurovascular Disease (ISNVD), 7 World Trade Center, New York. April 29-30, 2016.
408. D. Utriainen, K. Subramanian, D.P. Ramasamy, S. Sethi, F. Schweser, S. Liu, P. Kokeny, J. Beaver, J. Hagemeyer, R. Rajagovindan, **Haacke**, R. Zivadinov. Longitudinal Magnetic Resonance Imaging of Cerebral Microbleeds in Multiple Sclerosis Patients. Oral Presentation. 6th Annual International Society for Neurovascular Disease (ISNVD), 7 World Trade Center, New York. April 29-30, 2016.
 409. S.K. Sethi, S. Kisch, M. Fawaz, S. Liu, **Haacke**, A.H. Rajput, A. Rajput, P. Babyn, P. Szkup. Venous flow abnormalities associated with Parkinson's disease using MRI: Pilot Study. Poster. 6th Annual International Society for Neurovascular Disease (ISNVD). 7 World Trade Center. New York. April 29-30, 2016.
 410. S.K. Sethi, A.M. Daugherty, G. Gadda, D.T. Utriainen, J. Jiang, N. Raz, **Haacke**. Using MRI to Observe Increased Venous Flow Collateralization in Subjects with Anomalous Jugular Veins. Electronic Poster. ISMRM 24th Annual Meeting and Exhibition. Suntec Singapore Convention and Exhibition Center. Singapore. May 07 – 13, 2016.
 411. S. Liu, C. Wang, X. Zhang, H. Ni, P. Zuo, J. Hu, **Haacke**. Quantification of Liver Iron Concentration using the Apparent Susceptibility of Vessels. Electronic Poster. ISMRM 24th Annual Meeting and Exhibition. Suntec Singapore Convention and Exhibition Center. Singapore. May 07 – 13, 2016.
 412. K. Subramanian, D. Utriainen, **Haacke**, C. Habib, W. Buck, J. Beaver, R. Rajagovindan. Sensitivity and specificity of susceptibility weighted imaging to cerebral microbleeds: A radiologic-neuropathologic correlation study. Electronic Poster. ISMRM 24th Annual Meeting and Exhibition. Suntec Singapore Convention and Exhibition Center. Singapore. May 07 – 13, 2016.
 413. JC. Brisset, P. Storey, S. Liu, **Haacke**, Y. Ge. Magnetic Saturation and Field Dependency on Magnetic Susceptibility of Ferumoxytol. Electronic Poster. ISMRM 24th Annual Meeting and Exhibition. Suntec Singapore Convention and Exhibition Center. Singapore. May 07 – 13, 2016.
 414. C. Chai, L. Fan, C. Zuo, M. Zhang, L. Liu, Z. Chu, T. Qian, **Haacke**, S. Xia, W. Shen. Evaluation of Cerebral Venous Oxygen Saturation in Patients with Long-Term Haemodialysis using Susceptibility Mapping. Electronic Poster. ISMRM 24th Annual Meeting and Exhibition. Suntec Singapore Convention and Exhibition Center. Singapore. May 07 – 13, 2016.
 415. A. Iraj, N. Wiseman, R. Welch, B. O'Neil, **Haacke**, Z. Kou. Connectivity Domain Analysis of the Default Mode Network in Mild Traumatic Brain Injury at the Acute Stage. Oral Presentation. ISMRM 24th Annual Meeting and Exhibition. Suntec Singapore Convention and Exhibition Center. Singapore. May 07 – 13, 2016.
 416. C. Wang, S. Liu, S. Buch, H.S. Choi, E.J. Hwang, Z. Fan, **Haacke**. Quantitative Susceptibility Mapping of Atherosclerosis in Carotid Arteries. Traditional Poster. ISMRM 24th Annual Meeting and Exhibition. Suntec Singapore Convention and Exhibition Center. Singapore. May 07 – 13, 2016.
 417. K. Subramanian, D. Utriainen, D.P. Ramasamy, J. Beaver, S. Sethi, F. Schweser, M. Fawaz, J. Hagemeyer, R. Rajagovindan, R. Zivadinov, **Haacke**. Quantitative Susceptibility Mapping of Multiple Sclerosis Lesions in a Longitudinal Cohort using Magnetic Resonance Imaging. Poster presentation. 32nd Congress of the European Committee for Treatment and Research in Multiple Sclerosis. London. September 14 – 17, 2016.
 418. S. Buch, Y. Chen, and **Haacke**. Recovering Phase Information and Reconstructing Susceptibility Distributions to Quantify O₂-sat Levels of Dural Sinuses. Poster Presentation. 4th International Workshop on MRI Phase Contrast and Quantitative Susceptibility Mapping (QSM), Medical University of Graz, Graz, Austria. September 26 – 28, 2016.
 419. A. Iraj, J. Zhou, N. Wiseman, A.R. Mohammadi-Nejad, R. Gullapalli, Z. Kou, **Haacke**. Connectivity Domain Analysis of Mild Traumatic Injury: A Multi-Center Study to Extract Robust Imaging Biomarkers. Oral Presentation. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
 420. U. Krishnamurthy, B. Yadav, P. Jella, S. Mody, E. Hernandez-Andrade, F. Qu, A. Trifan, **Haacke**, S. Hassan, R. Romero and J. Neelavalli. In-Utero Non-Contrast MR Angiography of the Fetal Vasculature using a double-echo radial sampling scheme. Oral Presentation. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
 421. Y. Ge, JC. Brisset, S. Liu, **Haacke**. Enhanced detection of Cerebral Arterial System with USPIO-Enhanced MRI. Oral Presentation. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
 422. B. Sagar, Y. Chen, **Haacke**. Susceptibility Mapping of the dural sinuses and other Major veins in the Brain. E-Poster. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
 423. S. Liu, JC. Brisset, S. Buch, J. Jiang, **Haacke**, Y. Ge. Imaging cerebral arteries and veins using susceptibility weighted imaging with Ferumoxytol. E-Poster. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
 424. Y. Shen, Q. Jiang, G. Ding, N. Guys, **Haacke**, J. Hu. Investigation of the role of the venous system and the lymphatic system in Brain waste clearance. Oral Presentation. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
 425. N. Wiseman, A. Iraj, **Haacke**, Z. Kou. Changes in cerebral blood flow and default mode network connectivity following MTBI observed with pulsed Arterial Spin labeling. E-Poster. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.

426. K. Ghassaban, SK. Sethi, S. Xia, **Haacke**. A two-region approach to assess brain iron changes as a function of age in basal ganglia, midbrain and dentate nuclei of healthy subjects using quantitative susceptibility mapping. E-Poster. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
427. C. Chai, C. Zuo, L. Fan, T. Qian, **Haacke**, S. Xia, W. Shen. Increased regional cerebral venous oxygen saturation in mild traumatic brain injury is correlated with neurophysiological function: A magnetic susceptibility mapping study. E-Poster. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
428. S. Yang, E. Hamtaei, G. Yang, H. Xie, **Haacke**. Constrained Data Extrapolation (CODE): A new approach for high resolution MR Angiographic image reconstruction. E-Poster. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
429. S. Xia, C. Chai, Q. Yang, T. Qian, **Haacke**, W. Shen. A quantitative analysis using susceptibility mapping of unilateral middle cerebral artery thrombosis in patients with acute cerebral infarction. E-Poster. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
430. F. Qu, U. Krishnamurthy, B. Yadav, **Haacke**, J. Neelavalli. Free-breathing Cardiovascular imaging: Comparing central K-space amplitude Vs. phase based self-gating approaches. E-Poster. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
431. B. Yadav, U. Krishnamurthy, P. Jella, E. Hernandez-Andrade, S. Mody, F. Qu, A. Trifan, S. Hassan, R. Romero, **Haacke**, J. Neelavalli. Radial segmented echo-planar readout for fast angiography-feasibility study. E-Poster. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
432. B. Yadav, U. Krishnamurthy, P. Jella, E. Hernandez-Andrade, S. Mody, F. Qu, A. Trifan, S. Hassan, R. Romero, **Haacke**, J. Neelavalli. Radial-SWI in human fetal imaging. E-Poster. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
433. Y. Chen, Y. Song, J. Hu, Y. Ye, Y. Wang, BA. Berkowitz, Y. Kang, G. Yang, **Haacke**. Ultra-High spatial resolution imaging in vivo of human retina at 3T. Traditional Poster. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
434. S. Xia, C. Chai, Q. Yang, S. Hu, T. Qian, **Haacke**, W. Shen. Evaluating the clinical outcomes of patients with occlusion of the middle cerebral artery using susceptibility-weighted imaging. Traditional Poster. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
435. S. Sethi, S. Kisch, K. Ghassaban, S. Liu, M. Fawaz, A. Raiput, A. Raiput, P. Babyn, P. Szakup, **Haacke**. Preliminary findings of elevated iron deposition in the substantia nigra in patients with idiopathic parkinson's disease using a high iron content evaluation of quantitative susceptibility mapping. Traditional Poster. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
436. Y. Chen, S. Liu, Y. Kang, **Haacke**. An interleaved sequence for simultaneous MRA, SWI and QSM. Oral Presentation. ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawai'i, USA. April 22 – 27, 2017.
437. B. Chen, K. Ghassaban, S. Patel, T. Jin, S. Sethi, D. Utriainen, **Haacke**, A. Hurria. Prospective assessment of brain iron deposition and cognitive performance in older women with breast cancer receiving adjuvant chemotherapy. Abstract # 23 (Electronic Poster). ASNR 55th Annual Meeting, Long Beach, California, USA. April 22 – 27, 2017.
438. Y. Chen, S. Liu, Y. Kang and **Haacke**. A rapid, robust multi-echo phase unwrapping method for quantitative susceptibility mapping (QSM) using strategically acquired gradient echo (STAGE) data acquisition. Physics of Medical Imaging Conference. Abstract #10573. SPIE Medical Imaging. Poster Presentation. Houston, Texas. February 14, 2018.
439. Y. Chen, S. Xia, L. Wang, S. Sethi, M. Fawaz, S. Liu, **Haacke**. Automatic Detection of Cerebral Microbleeds (CMBs) using STRategically Acquired Gradient Echo (STAGE) imaging. Oral presentation. ASNR 56th Annual Meeting. Vancouver, BC, Canada. June 4 – 7, 2018.
440. P. Huang, J. Lyu, H. Li, Y. Chen, S. Liu, C. Zhang, U. Nakarmi, **Haacke**, L. Ying. Highly Accelerated 3D MR Angiography Using Multi-Channel Blind Deconvolution. E-POSTER. ISMRM 26th Annual Meeting and Exhibition, Paris, France. June 16 – 21, 2018.
441. C. Chai, S. Liu, H. Wang, J. Li, T. Qian, E. M. **Haacke**, S. Xia, W. Shen. Increased Deposition of Iron in Deep Cerebral Gray Matter Structures in Hemodialysis Patients: A Longitudinal, Susceptibility-Weighted Image Mapping Study. E-POSTER. ISMRM 26th Annual Meeting and Exhibition, Paris, France. June 16 – 21, 2018.
442. C. Wang, S. Liu, Y. Chen, S. Buch, Z. Fan, **Haacke**, Q. Yang. Magnetic resonance angiography and venography was not useful for correcting underestimated susceptibility measurements of sub-voxel objects on quantitative susceptibility maps. POSTER. ISMRM 26th Annual Meeting and Exhibition, Paris, France. June 16 – 21, 2018.
443. W. Xu, Y. Wang, F. Huang, T. Li, H. Guo, Y. Chen, **Haacke**. A rapid scan for simultaneous MRAV, MRA, tSWI, and QSM on 1.5T. POSTER. ISMRM 26th Annual Meeting and Exhibition, Paris, France. June 16 – 21, 2018.
444. N. Wiseman, S. Buch, Y. Chen, **Haacke**, Z. Kou. Magnetic resonance angiography and venography was not useful for correcting underestimated susceptibility measurements of sub-voxel objects on quantitative susceptibility maps. POSTER. ISMRM 26th Annual Meeting and Exhibition, Paris, France. June 16 – 21, 2018.
445. B. Yadav, S. Buch, U. Krishnamurthy, P. Jella, E. Hernandez-Andrade, A. Trifan, L. Yeo, S. Hassan, **Haacke**, R. Romero, J. Neelavalli. Estimating global cerebral venous oxygenation in the human fetus using QSM. E-POSTER. ISMRM 26th Annual Meeting and Exhibition, Paris, France. June 16 – 21, 2018.

446. Y. Luo, L. Meng, Y. Zhou, S. Xia, **Haacke**. Can susceptibility weighted imaging indicate the ischemic penumbra in patients with acute infarction in middle cerebral artery? E-POSTER. ISMRM 26th Annual Meeting and Exhibition, Paris, France. June 16 – 21, 2018.
447. R. Gattu, R. Benson, E. **Haacke**. CNR comparison to identify the detectability rate and FA histogram analysis of FLAIR lesions in DTI metrics. E-POSTER. ISMRM 26th Annual Meeting and Exhibition, Paris, France. June 16 – 21, 2018.
448. U. Krishnamurthy, S. Mody, B. Yadav, P. Jella, E. Hernandez-Andrade, A. Trifan, E. **Haacke**, R. Romero, J. Neelavalli. Fetal non-contrast MR angiography in second and early third trimester. POSTER. ISMRM 26th Annual Meeting and Exhibition, Paris, France. June 16 – 21, 2018.
449. C. Chai, H. Wang, J. Li, J. Zhu, X. Zhang, E.M. **Haacke**, S. Xia, W. Shen. Reduced Regional Cerebral Venous Oxygen Saturation is a Risk Factor for Cognitive Impairment in Hemodialysis Patients: A Susceptibility-weighted Image Mapping Study. Power Pitch. Program #0248. 13 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
450. C. Chai, H. Wang, J. Li, J. Zhu, X. Zhang, E.M. **Haacke**, S. Xia, W. Shen. Reduced Regional Cerebral Venous Oxygen Saturation is a Risk Factor for Cognitive Impairment in Hemodialysis Patients: A Susceptibility-weighted Image Mapping Study. Power Pitch Poster. Program #0248. 13 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
451. K. Ghassaban, N. He, S. Sethi, P. Huang, S. Chen, F. Yan, E. **Haacke**. Differentiating Parkinson's Disease Patients from Healthy Controls Through High Iron Content Deposition in the Substantia Nigra. Digital Poster. Program # 2585. 14 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
452. Y. Li, N. He, E. **Haacke**, F. Yan. Localization of the Habenula and Stimulating Electrodes in Pre/Post-DBS Surgery Using MRI. Digital Poster. Program # 2639. 14 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
453. M. Fawaz, M.G. Park, L. Yu, E.M. **Haacke**. Using Perfusion Weighted Imaging to Aid in Drawing Prominent Veins on Quantitative Susceptibility Mapping. Digital Poster. 14 May 2019. Program # 2560. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
454. S. Hartono, S. Tan, A. Chu Ning, S.L. Lim, T.S. Koh, M.C. Wen, H. Li, F. Setiawan, S. Ng, N. Chia, S. Liu, M. **Haacke**, K. Eng, L. Tan, L.L. Chan. Utility of Quantitative Susceptibility Mapping & Diffusion Kurtosis Imaging in the Diagnosis of Early Idiopathic Parkinson's Disease. Digital Poster. Program # 2578. 14 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
455. N. He, S. Sethi, C. Zhang, Y. Li, Y. Chen, B. Sun, F. Yan, E. **Haacke**. Visualizing and Characterizing the Habenula with Magnetic Resonance Imaging. Digital Poster. Program # 2638. 14 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
456. Y. Chen, Y. Ge, S. Liu, J. Hu, E.M. **Haacke**. Imaging the Cerebral Vasculature Using Ferumoxytol Enhanced Susceptibility Weighted Imaging and Quantitative Susceptibility Mapping at 3T. Digital Poster. Program # 2658. 14 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
457. B. Yadav, N. Currier, G. Dent, P. Swerdlow, I. Woldie, M. Shahid, S. Sethi, W. Wang, K. Ghassaban, W. Birkhoff, J. Burggraaf, J. de Vries, J. Neelavalli, Jaladhar, W. Hobbs, E. **Haacke**, A. Verma. Skin Blood Flow Functions as a Potential Proxy for Cerebral Blood Flow in Adults with Sickle Cell Disease. Digital Poster. Program # 2936. 14 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
458. Y. Chen, Y. Xuan, C. Juhasz, J. Hu, E.M. **Haacke**. Strategically Acquired Gradient Echo (STAGE) Imaging as a Means for Multi-Contrast Quantitative Pediatric Neuroimaging with Minimized Sedation: A Pilot Study in Sturge-Weber Syndrome. Digital Poster. Program # 3021. 14 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
459. C. Chai, H. Wang, J. Li, J. Zhu, X. Zhang, E.M. **Haacke**, S. Xia, W. Shen. Interactive Correlation between Iron Deposition and Cerebral Blood Flow in the Deep Cerebral Gray Matter Structures of Hemodialysis Patients. Digital Poster. Program # 3252. 14 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
460. Z. Jin, S. Sethi, B. Li, N. He, W. Chen, E. **Haacke**, F. Yan. Susceptibility and Volume Changes of the Mammillary Bodies as a Function of Age for Healthy Individuals and Early Stage Dementia. Digital Poster. Program # 3175. 14 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
461. M.M. Laganà, Y. Chen, L. Pelizzari, P. Cecconi, F. Baglio, E. **Haacke**. Rapid Protocol for T1 and T2* Mapping: Strategically Acquired Gradient Echo (STAGE) at 1.5 T MRI. Power Pitch. Program # 0815. 15 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
462. M.M. Laganà, Y. Chen, L. Pelizzari, P. Cecconi, F. Baglio, E. **Haacke**. Rapid Protocol for T1 and T2* Mapping: Strategically Acquired Gradient Echo (STAGE) at 1.5 T MRI. Power Pitch Poster. Program # 0815. 15 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
463. F. Qu, T. Sun, Y. Chen, B. Yadav, L. Jiang, Z. Qian, E. **Haacke**. Fetal Brain Tissue Characterization at 1.5 T using STAGE. Digital Poster. Program # 4071. 15 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.

464. J. Zheng, Y. Chen, S. Gharabaghi, M. **Haacke**, R. Li, M. Edalati, M. Hastings, M. Zayed. Contrast Free Methods for Vascular Assessment in Lower Extremities of Diabetes. Oral. Program # 0981. 15 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
465. Y. Chen, M.M. Lagana, S. Xia, E.M. **Haacke**. STrategically Acquired Gradient Echo (STAGE) Imaging for Standardized Multi-Contrast and Quantitative Brain Data Acquisition: Validating T1 mapping and Preliminary Clinical Results. Oral. Program # 1040. 16 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
466. S. Gharabaghi, S. Liu, Y. Wang, Y. Chen, T. Wischgoll, N. Kashou, E. **Haacke**. Structurally Constrained Quantitative Susceptibility Mapping. Digital Poster. Program # 4928. 16 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
467. B. Yadav, E. Andrade, U.B. Krishnamurthy, S. Buch, J. Pavan, A. Trifan, Y. Lami, S. Hassan, E. **Haacke**, R. Romero, J. Neelavalli. Dual-Imaging Modality Approach to Evaluate Cerebral Hemodynamics in Growth-Restricted Fetuses: Oxygenation and Perfusion. Oral. Program #1073. 16 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
468. R. Tang, **M. Haacke**, Q. Wang, N. He, K.M. Chen, F. Yan. Nasopharyngeal Irradiation Can Increase Signal Intensity on T1-Weighted MRI of the Dentate Nucleus in Patients with Nasopharyngeal Malignancies. Oral. Program # 1248. 16 May 2019. ISMRM 27th Annual Meeting and Exhibition, Montreal, Quebec, Canada. May 10-16, 2019.
469. **M. Haacke**. STAGE: New rapid multi-contrast imaging method for neuroimaging standardization. Oral. 27 September 2019. The 5th Annual QSM workshop, Seoul, S. Korea. Sept 25-28, 2019.