

CURRICULUM VITAE

DATE PREPARED: January 4, 2018

General Information

Name: Ron Kikinis

Office Address: Brigham and Women's Hospital
SPL, Radiology
1249 Boylston St., Ste. 352
Boston, MA 02215, United States

Home Address: 160 Beverly Rd.
Brookline, MA 02467

Work Phone: (617) 732-7389

Work Email: kikinis@bwh.harvard.edu

Work Fax: (617) 582-6033

Place of Birth: Haifa, Israel

Education:

1982 M.D., University of Zurich, Switzerland

Postdoctoral Training:

1980 Research Fellow in Radiation Biology, University Hospital
1983-1984 Intern in Radio-oncology, University Hospital
1984-1986 Resident in Radiology, Institute of Radiology, University
Hospital
1986 Research Fellow in Image Processing in Radiology, Institute
of Radiology, University Hospital
1986 Research Fellow in Image Processing in Radiology, Institute
of Communications Technology of the Swiss Federal Institute
of Technology
1986-1987 Resident in MR Unit, Children's Hospital, University of
Zurich
1987-1988 Research Fellow in Image Processing in Radiology, Institute
of Radiology, University Hospital
1987-1988 Research Fellow in Image Processing in Radiology, Institute
of Communications Technology of the Swiss Federal Institute
of Technology

1988-1989 Research Fellow in Neuro MR, Harvard Medical School and Brigham and Women's Hospital

Licensure and Certification:

1988 Education Commission for Foreign Medical Graduates

Faculty Academic Appointments:

1988-1989 Research Fellow, Radiology, Harvard Medical School, Boston, MA
1989-1992 Instructor of Radiology, Harvard Medical School, Boston, MA
1992-1997 Adjunct Assistant Professor, Boston University, Boston, MA
1992-1997 Assistant Professor of Radiology, Harvard Medical School, Boston, MA
1997-2004 Associate Professor of Radiology, Harvard Medical School, Boston, MA
2004-present Professor of Radiology, Harvard Medical School, Boston, MA
2014-present Professor of Medical Image Computing, University of Bremen, Germany

Other Professional Positions:

2003, 2008 ISRACAS International Advisory Board, Technion - Israel Institute of Technology, Tel Aviv, Israel
2003-2011 NIH CFNT External Advisory Board, Massachusetts General Hospital, Boston, MA
2004-2012 Scientific Advisory Board, LONI Resource P41, UCLA
2005 Scientific Advisory Board, 4th SNSF Research Networking Workshop: Computer Aided & Image Guided Medical Interventions, Switzerland
2005-present NIH CIBC External Advisory Board, Salt Lake City, UT
2006 Advisory Board, ECCV Workshop: Computer Vision for Biomedical Image Applications, Graz, Austria
2007-2013 CO-ME Scientific Advisory Board, Zurich, Switzerland
2009-2013 Fraunhofer MEVIS Scientific Advisory Board, Bremen, Germany
2010-present External Advisory Board, NIH Center for Biomedical OCT Research and Translation (CBORT), Massachusetts General Hospital, Boston, MA
2011 Scientific Advisory Board, VPH-FET, London, UK
2011 External Advisory Board, National Resource for Biomedical Supercomputing (NRBSC), Pittsburgh Supercomputing, PA
2011-2015 Scientific Advisory Board, Ontario Consortium for Adaptive Interventions in Radiation Oncology (OCAIRO), Toronto, Canada

2012-2014	External Advisory Committee Meeting for MGH/Harvard/MIT Advanced Multimodal Neuroimaging Training Program (PI: Bruce Rosen), MGH, Charlestown, MA
2012-2013	External Advisory Board, Euro-BioImaging, Heidelberg, Germany
2014-	Scientific Advisory Board, Virtual Physiological Human: Dementia Research Enabled by IT (VPH-DARE@IT), The University of Sheffield, UK
2014-2016	SFB/Transregio 125 Cognition-Guided Surgery - Wissens- und modellbasierte Chirurgie, Heidelberg, Germany
2014-2016	External Advisory Committee for Clinical Trials and Biomarker Research, Radiation Oncology, Massachusetts General Hospital, Boston, MA
2016-present	Therapy Imaging Program (TIP) External Advisory Board, MGH, Boston, MA
2016	Scientific Review Panel for user applications, Euro-BioImaging, Heidelberg, Germany

Major Administrative Leadership Positions:

1990-present	Director, Surgical Planning Laboratory, Department of Radiology, Brigham and Women's Hospital, Boston, MA
2010-present	Robert Greenes Distinguished Director of Biomedical Informatics, Department of Radiology, Brigham and Women's Hospital, Boston, MA
2014	Director, Fraunhofer Institute for Medical Image Computing MEVIS, Bremen, Germany

Committee Service:

Regional

1998	Co-General Chair, Medical Image Computing and Computer-Assisted Intervention- MICCAI'98, First International Conference, Cambridge, MA
1999	Co-Chair, Joint U.S. Public Health Services Office on Women's Health and National Institute Report
2000	Session Chair, MICCAI Third International Conference, Pittsburgh, PA
2005	Biomedical Informatics/Image Processing/Visualization Council, Brigham and Women's Hospital
2005	Airway and Emphysema Phenotypes of the COPD Syndrome: Genetics and Pathogenesis, SCCOR, Brigham and Women's Hospital, Boston, MA
2005-2009	IIC Executive Steering Committee, Harvard University, Cambridge, MA
2006	Program Committee, SIGGRAPH: 5th Workshop on Volume Graphics, Boston, MA

- 2007 Program Committee, IEEE 7th International Bioinformatics & Bioengineering conference (BIBE), Cambridge, MA
- 2008-2010 Member, Research Oversight Committee, Brigham and Women's Hospital, Boston, MA
- 2008-present Co-Chair, Neuroscience Working Group, Brigham and Women's Hospital, Boston, MA
- 2010-2011 Member, Pre-Clinical Strategic Planning Task Force, Brigham and Women's Hospital, Boston, MA
- 2011-present Member, Research IT Steering Committee, Brigham and Women's Hospital, Boston, MA
- 2012 Chair, Musculoskeletal Session, 9th Interventional MRI Symposium, Boston, MA
- 2017 Member, BWH Precision Medicine Program Working Group, Brigham and Women's Hospital, Boston, MA

National

- 1992 Program Committee, Society for Magnetic Resonance Imaging Annual Meeting
- 1993 Technical Evaluator, National Institutes of Health, Bethesda, MD
- 1994 Program Committee, First International Symposium on Medical Robotics and Computer Assisted Surgery, Pittsburgh, PA
- 1994 Program Committee, Third Conference on Visualization in Biomedical Computing (VBC '94), Rochester, MN
- 1995 Program Co-Chair, Second International Symposium on Medical Robotics and Computer Assisted Surgery, Baltimore, MD
- 1995 Program Committee, Frontiers in Biomedical Visualization Symposium (BioMedVis95), Atlanta, GA
- 1996 Program Committee, Visualization 96 (Vis96), San Francisco, CA
- 1998 Program Committee on Volume, Research Triangle Park, North Carolina
- 1999 Program Committee, IEEE Visualization, San Francisco, CA
- 2003 Program Committee, Visualization 2003, Seattle, WA
- 2004 Program Committee, International Symposium on Biomedical Imaging (ISBI 2004), Arlington, VA
- 2004 Program Committee, Volume Visualization and Graphics Symposium 2004 (VolVis 2004), Austin, TX
- 2005 Program Committee, 2005 Volume Graphics Workshop (VG'05)
- 2006 Program Committee, IEEE Workshop on Mathematical Methods in Biomedical Image Analysis (MMBIA), New York, NY
- 2006 Program Committee, 2006 IEEE International Symposium on Biomedical Imaging (ISBI), Arlington, VA
- 2007-2008 MMBIA'08 Program Committee, CVPR'08 , Anchorage, AK
- 2008 Program Committee, MIAMS 2008: MICCAI Workshop on "Medical Image Analysis on Multiple Sclerosis (Validation and Methodological Issues), New York, NY

- 2008 Program Committee, "Medical imaging on grids: achievements and perspectives," MICCAI Workshop, New York, NY
- 2009-present Ad Hoc Committee on Web-Based Services, International Society for Magnetic Resonance in Medicine, Berkeley, CA
- 2010 Program Committee, 11th IEEE workshop on Mathematical Methods in Biomedical Image Analysis (MMBIA), with CVPR'10, San Francisco, CA
- 2010 Web Services Committee, ISMRM, Berkeley, CA
- 2014 Program Committee, MICCAI 2014, Boston, MA
- 2017 Imaging Workshop Committee, SC17, Denver, CO

International

- 1995 Program Committee, Computer Assisted Radiology (CAR '95), Berlin, Germany
- 1996 Program Chair and Editor of Proceedings, Visualization in Biomedical Computing, 4th International Conference (VCB '96), Hamburg, Germany
- 1996 Program Committee, Computer Assisted Orthopedic Surgery, University of Bern, Switzerland
- 1997 General Co-Chair, First Joint Conference of CVRMed II and MRCAS III, Grenoble, France
- 1999 Program Committee, 4th International Symposium on Computer Assisted Orthopedic Surgery, Switzerland
- 2000 International Program Committee Member, Society for Minimally Invasive Therapy
- 2001 Member, Scientific Board, Center of Advanced European Studies and Research, Cologne, Germany
- 2001 Program Committee Member, Medical Image Computing and Computer-Assisted Intervention, 4th International Conference, Utrecht, Netherlands
- 2001 Session Chair, Medical Image Computing and Computer-Assisted Intervention, Utrecht, Netherlands
- 2002 Program Chairman, MICCAI Fifth International Conference, Tokyo, Japan
- 2002 Program Committee, MICCAI, Utrecht, Netherlands
- 2004 Program Committee, MIAR 2004: International Workshop on Medical Imaging and Augmented Reality
- 2004 Program Committee, International Workshop on Medical Imaging and Augmented Reality (MIAR 2004), Beijing
- 2008 European Conference on Computer Vision (ECCV) 2008 Program Committee, INRIA
- 2012 Program Committee, Medical Image Computing and Computer Assisted Intervention, Nice, France
- 2012 Session Chair, Workshop on Cognitive Robotics in Surgery, German

- Cancer Research Center, Heidelberg, Germany
- 2012 Ad hoc participant, NIGMS Council Meeting, Bethesda, MD
- 2012 Review panel, Germany's Excellence Initiative, Deutsche Forschungsgemeinschaft (DFG) , Berlin, Germany
- 2012 Reviewer, Bildverarbeitung fur die Medizin (BVM) 2012
- 2012 Reviewer, ISBI 2012
- 2012 Session Chair: Clinical Integration 2, 1st International Symposium on Deep Brain Connectomics, Clermont-Ferrand, France
- 2013 Session Chair, "Medical Image Computing," 6th Sixth National Image-Guided Therapy workshop, Crystal City, VA
- 2013 Program Committee, Medical Image Computing and Computer Assisted Intervention, Nagoya, Japan
- 2013 Interview Panelist for the Regius Chair in Engineering, University of Edinburgh, Edinburgh, UK
- 2013 Reviewer, IEEE International Symposium on Biomedical Imaging
- 2015 Chair, "Bremen" Session, MICCAI, Munich, Germany
- 2015 Program Committee, Medical Computer Vision Workshop (MCV), MICCAI 2015, Munich, Germany
- 2016 Reviewer, Canadian Institutes of Health Research (CIHR) Spring 2016 Project Grant competition
- 2016 Review Committee, MICCAI 2016
- 2016-2017 Reviewer, Bildverarbeitung fur die Medizin (BVM) 2017, Heidelberg, Germany
- 2016-2017 Program Committee, Computer Assisted Radiology and Surgery (CARS)
- 2017 Referee, IEEE International Symposium on Biomedical Imaging (ISBI) 2017, Melbourne, Australia
- 2017 Reviewer, Augmented Environments for Computer-Assisted Interventions (AE-CAI) Workshop, Quebec City, Canada
- 2017 CURAC Program Committee and Scientific Advisory Board
- 2017-2018 Program Committee, 14th International Conference Beyond Databases, Architectures and Structures (BDAS 2018), Poznan, Poland
- 2018 Informatics Subcommittee, Programme for Anatomical Terminology (FIPAT) of the International Federation of Associations of Anatomists (IFAA)

Professional Societies:

- 1984-1999 Ausserordentliches Mitglied of the Foederatio Medicinorum Helveticorum (FMH), Member
- 1986 American Association for the Advancement of Science (AAAS), Member
- 1986-1988 Officer of SGRNM: Representative of Junior Members, Officer
- 1986-1999 Juniormitglied of the Schweizerische Gesellschaft fuer Radiologie und Nuklearmedizin (SGRNM), Member
- 1986-present Radiological Society of North America, Member

1989-1999 Schweizerische Neuroradiologische Gesellschaft (SNRG), Member
 1992 Junior Member of American Society of Neuroradiology
 2004-present MICCAI Society, Member
 2009 – MICCAI Society, Fellow
 present
 2012 Harvard Club of Australia, Australia-Harvard Fellowship
 2013-present CURAC Society, Innaugural Honorary Membership

Editorial Activities:

1999-present Editorial Board Member, Journal of Engineering in Medicine
 2003 Reviewer, Medical Image Analysis Journal
 2004-2005 Referee, IMIA Yearbook of Medical Informatics
 2005-present Executive Editorial Board Member, Medical Image Analysis Journal
 2005-2014 Editorial Advisory Board Member, Biomedical Computation Review
 2005-present Member, International Journal of Computer Assisted Radiology and Surgery (CARS)
 2007 Founding Member, Brain Imaging and Behavior Journal
 2009-present Editorial Board, Professional Engineering Publishing Ltd.
 2012 Ad hoc reviewer, Radiology
 2013 Ad hoc reviewer, Journal of Biomedical Informatics
 2013 Ad hoc reviewer, Computational and Mathematical Methods in Medicine (CMMM)
 2013 Ad hoc reviewer, Computers & Electrical Engineering (CEE)
 2016 Reviewer, Medical Image Analysis (MEDIA)
 2016 Reviewer, Magnetic Resonance in Medicine (MRM)
 2016 Reviewer, International Journal of Computer Assisted Radiology and Surgery (JCAS)
 2016 Reviewer, Journal of Neurology, Neurosurgery & Psychiatry (JNNP)

Awards and Honors:

1988-1990 Nachwuchsfoerderungsstipendium, Swiss National Foundation 81ZH-20561
 1990-1991 Habilitationstipendium, University of Zurich, Switzerland
 1990-1993 Research Award for Computer Aided Image Analysis of Magnetic Resonance Brain Scans in Schizophrenia, Scottish Rite Foundation
 1991-1992 Analysis of Morphometric Information from MR Brain Images in Schizophrenia Using Newly Developed Tec, William F. Milton Award
 1992-1994 Stanley Foundation Research Award of the National Alliance for the Mentally Ill, Stanley Foundation Research Award
 1992-1995 Development of computerized image processing methods for the quantitative analysis of brain magnetic resonance images for the diagnosis of schizophrenia, Whitaker Foundation Young Investigator grant
 2002 Partner's Radiology Research Award, Brigham and Women's Hospital

2003	Computer World Honors Award in Medicine
2004	Honorary Masters degree granted by Harvard Medical School
2006	Group Leader, Kennedy Award: CIMIT Image Guided Therapy Team, CIMIT
2008	IBMISPS Pioneer In Medicine Award: Excellence in Research, Discovery and Education
2009	MICCAI Society “Enduring Impact Award”
2013	Academy of Radiology Research “Distinguished Investigator Award”
2014	Research Leadership Pillar Award, Brigham and Women’s Hospital Center for Faculty Development and Diversity

Funding Information

1988-1998	Co-Investigator, Grant, CA45743-08, MRI of Thermally Induced Surgical Interventions
1988-2003	Co-Investigator, Grant, CA46627-08, High Temperature Ultrasound Therapy Guided by MRI
1992-1995	PI, Grant from the Whitaker Foundation, Development of Computerized Image Processing Methods for the Quantitative Analysis of Brain Magnetic Resonance Images for the Diagnosis of Schizophrenia
1995-1996	Co-Investigator, U.S. Army, Virtual Inner Endoscopy
1995-2005	Project PI, NIH/NCI, P01 CA67165, MR Guided Therapy
1996-1997	PI, NSF, BES-9631710, Core Segmentation for Computer Assisted Surgery
1996-1997	Co-Investigator, NIH, MH5-50379-03, Prospective MRI Study of Hippocampus after Mental Trauma
1996-1997	PI, Mitsubishi Electric Information Technology Corporate Research Project, Joint R & D Project to Produce a Prototype of a Surgical Simulator
1996-1998	Co-Investigator, Advanced Research Projects Agency, F41624-96-2-0001, Virtual Endoscopy
1997-2000	PI, NCI, P01CA067165, Surgical Planning Simulation and Intraoperative Guidance
1997-2002	Co-Investigator, NIH/MGH, AG04953, Age-Related Changes of Cognition in Health and Diseases
1998-2003	Consultant, VA Merit Review, MRI Anatomy of Schizophrenia
1998-2003	PI, NCCR, R01 RR011747, Core Segmentation Tools for Computer Assisted Surgery
1998-2003	PI, NSF, 8810-27498, Engineering Research Center for Computer Integrated Surgical Systems and Technology
1998-2008	Site PI, NSF/John Hopkins University, EEC-973178, Engineering Research Center for Computer Integrated Surgical Systems and Technology
1998-2008	PI, NCCR, P41RR13218, Neuroimaging Analysis Center
1999-2001	Co-Investigator, NIH, CA80945, Virtual Cystoscopy for Detection of

- Small Bladder Tumors
- 1999-2002 PI, NLM, N01-LM-9-3531, Visible Human Project Imaging Processing Tools
- 2000-2003 Co-Investigator, NIH, NS37922, Adaptive Functional MRI
- 2000-2003 Consultant, VA Merit Review, MR Brain Diffusion Tensor Imaging in Schizophrenia
- 2004-2009 Program Co-Leader, CIMIT, Image Guided Technology
- 2004-2009 Site PI, NIH, U24 RR021382, Morphometry Biomedical Informatics Research Network
- 2004-2015 PI, NIH/NIBIB, U54 EB005149, National Alliance for Medical Imaging Computing (NA-MIC)
- 2005-2011 Site PI, NIH, U24 RR021992, Functional Biomedical Informatics Research Network
- 2005-present Research Director, NIH, P41 RR019703, Image Guided Therapy Center
- 2008-2009 Program Co-Leader, CIMIT, Image Guided Technology/Program Leadership Funding
- 2008-2011 Imaging Specialist, NIH/NCRR, UL1 RR025758, Harvard Clinical and Translational Science Center
- 2008-2013 Lead Investigator, DoD, W81XWH-08-2-0159, CC-CCA, Post-Traumatic Stress Disorder (PTSD) and Traumatic Brain Injury (TBI) Clinical Consortium
- 2008-present PI, NIBIB, P41 EB015902, Neuroimaging Analysis Center
- 2009 PI, NIH, 2P41RR013218-12S1, Image Analysis of Personalized Medicine/NAC ARRA Supplement
- 2009-2011 Site PI, NIH, R21EB009900, Robust Cerebrum and Cerebellum Segmentation for Neuroimage Analysis
- 2009-2013 Neuroimaging Leadership Core PI, DoD, W81XWH-08-2-0159, Neuroimaging Leadership for the 10 PTSD/TBI Clinical Consortium Sites (Other PIs: Drs. Martha Shenton and Bruce Rosen) (NCE to 09/30/16)
- 2011-2013 PI, DoD, W81XWH-08-2-0159, Post-Processing of Images for Clinical Consortium (Other PIs: Drs. Martha Shenton and Bruce Rosen) (NCE to 09/30/15)
- 2009-2015 PI, NIH, 3U54EB005149-05S3, National Alliance for Medical Image Computing/ARRA Administrative Supplement
- 2010-2011 Program Co-Leader, CIMIT
Image Guided Technology/Program Leadership Funding
- 2013-present Co-PI, NCI, U24CA180918, Quantitative Image Informatics for Cancer Research (QIICR) (Other PI: Dr. Andriy Fedorov)

Report of Teaching

Local contributions

- 2005 3D Modeling for Medical Applications, MIT, Cambridge, MA
- 2005 Trends Shaping the Future of Healthcare, CIMIT, Boston, MA

- 2006 Percutaneous Tumor Ablation: Current Status and Future Direction, Brigham & Women's Hospital, Massachusetts General Hospital, Harvard Medical School, Boston, MA
- 2006 Medical Visualization in the Real World, Boston Park Plaza, Boston, MA
- 2007 Computerized Image Analysis, BWH-BRI Imaging Program Seminar Series, Boston, MA
- 2009 Guest Lecture, 6.872J/HST950 Biomedical Computing, MIT, Cambridge, MA
- 2010 Introduction into the 3D Slicer Software, HMS Research Tutorial Course, Dana Farber Cancer Institut, Boston, MA
- 2011 3D Slicer, BWH/DFCI Radiology Core Clerkship, Boston, MA
- 2013 Guest Lecture, HST582: Biomedical Signal and Image Processing, MIT, Cambridge, MA
- 2014 Guest Lecture, 6.872 Biomedical Computing, MIT, Cambridge, MA
- 2015 Anatomie Fuer Informatiker, September 29 – October 13, 2015, University of Bremen, Germany
- 2016 Anatomy for Engineers and Computer Scientists, February 8 – 12, 2016, University of Bremen, Germany

Advisees/Trainees

<i>Training Duration</i>	<i>Name</i>	<i>Current Position</i>
1991-1994	P. Langham Gleason, MD	Other
1994-1996	Dan Iosifescu, MD	Other
1994-1997	Shin Nakajima, MD	Other
1994-1998	Simon Warfield, PhD	Assistant Professor of Radiology, Harvard Medical School
1995-2000	Nobuhiko Hata, PhD	Associate Professor of Radiology, Harvard Medical School
1996	Jeffrey Tsao, PhD	Other
1996-1997	Carl-Fredrik Westin, PhD	Associate Professor of Radiology, Harvard Medical School
1996-1997	Abhir Bharlero, PhD	Other
1996-1998	Joachim Kettenbach, MD	Assistant Professor of Radiology
1996-1998	Fatma Olzen, MD	Other
1996-1998	Terrie Inder, MD	Associate Professor
1996-1998	Jens Richolt, MD	Other
1996-1998	Petra Huppi, MD	Director, Child Development Unit
1996-1998	Seppo Koskinen, MD, PhD	Radiologist-In-Chief
1996-1999	Erwin Keeve, MD	Other
1996-2001	Polina Golland, PhD	Assistant Professor, MIT

1997-	Lennox Hoyte, MD	Other
1997	Hideki Atsumi, MD	Other
1997-1998	Alexandra Chaberie	Other
1997-1998	Peter Bogner, MD,	Other
	PhD	
1997-1998	Matthias Teschner	Other
1997-2000	Michael Kaus, PhD	Research Scientist
1998-	Neil Wiesenfeld,	Fellow, Children's Hospital Boston
	MSc	
1998-1999	Gabor Bajzik, MD	Other
1998-2000	Besam Khidhir	Other
1998-2000	Arya Nabavi, MD	Other
1998-2003	Atul Malhotra, MD	Department of Pulmonary and Critical Care Unit, Massachusetts General Hospital, Boston, MA
1999	Alexander Lind	Other
1999	Oliver Schorr	Other
1999-2000	Carl Kolvenbach	Other
1999-2000	Marco Das, MD	Other
1999-2000	Juergen-Volker Anton, MD	Other
1999-2000	Charles Mamisch,	Senior Researcher
	MD	
1999-2001	Lore Schierlitz, MD	Other
1999-2002	Delphine Nain, MS	Other
1999-2003	Juan Ruiz-Alzola, PhD	Associate Professor, Dept. of Signals and Communications, University of Las Palmas, Spain
1999-2003	Lauren O'Donnell, PhD	Postdoctoral Fellow, Department of Radiology, Brigham and Women's Hospital
2000-present	Ion-Florin Talos, MD	Instructor of Radiology, Harvard Medical School
2000	Lutz Ritter	Other
2000-2003	Samson Timoner, PhD	Other
2000-2003	James Ellsmere, MD, MSc	Resident, Dept. of Surgery, Dalhousie University, Halifax, NS, Canada
2001, 2009-2010	Sylvain Jaume	Wentworth Institute of Technology
2001	Krishna Yeshwant, BS	Other
2001-2005	Karl Krissian, MS, PhD	Departamento de Informatica y Sistemas, Universidad de Las Palmas de Gran Canaria, Campus de Tafira 35017, Las Palmas, Spain
2001-2007	Arne Hans, MS, PhD	Patent Agent, Cesari and McKenna LLP
2001-2003	Janko Verhey, PhD	Abteilung Medizinische Informatik, Postfach

2001-2003	Kiyoyuki Chinzei, PhD	3742, D-37070 Göttingen, Germany Surgical Assist Technology, AIST Tsukuba East, 1-2-1 Namiki, Tsukuba, Ibaraki, 305-8654, Japan
2002-2003	Lars Hofmann, MD	Medical School: Universitaet Leipzig Herzzentrum, Personalabteilung, Struempellstrasse 39, 04289 Leipzig, Germany
2002-2003	Christian Zentai, MD	Other
2002-2003	Vicente Grau-Colomer, Ph.D.	Louisiana State University Health Sciences Center (LSUHSC), New Orleans, LA 70112
2002-2003	Daniel Worku	Other
2002-2003	Kersten Peldschus	Abteilung Neuroradiologie/Department of Neuroradiology, Medizinische Hochschule Hannover/Medical School Hanover, Carl-Neuberg-Strasse 1
2002-present	Raul San Jose Estepar, Ph.D.	Instructor, Department of Radiology, Brigham and Women's Hospital
2003-	Florian Kipfmueller	Other
2004-2007	Simon DiMaio, BSc, MASC; PhD	Intuitive Surgical Inc., 950 Kifer Rd., Sunnyvale, CA 94086
2004-2007	Raimundo Sierra, PhD	Other
2005-2007	Ralf Rosenberger, MD	Dept. of Trauma Surgery and Sports Medicine, Innsbruck Medical University, Austria
2005-2008	Kilian Pohl, BS, MS, PhD	Program Director, Image Analysis, Center for Health Sciences, SRI International, CA
2003, 2007	Philip Mewes, BS	Other
2007-2008	Anja Groch, BS	Received PhD, Kuka Robotics Co., Germany
2007-2008	Kerstin Kessel, BS	Institute for Medical Computer Science, University of Heidelberg
2008-2009	Bjoern Menze, PhD	Assistant Professor of Computer Science, TU Munich, Germany
2008	Bernhard Pflug	Android Development, Austria
2008-present	Andriy Fedorov, PhD	Assistant Professor of Radiology, Department of Radiology, Brigham and Women's Hospital
2009-2010	Juhana Froesen, MD, PhD	Practicing neurosurgeon, Kuopio University Hospital, Finland
2010	Krzysztof Gorgolewski	Engineering Research Associate, Psychology, Stanford, CA
2010	Seda Nilgun Dumlu	Other
2010-2013	Demian Wassermann, PhD	Research Associate, INRIA, France
2010-2011	Samira Farough,	Research Fellow in Radiology, MGH, Boston,

2010-2011	MD Suares Tamekue Tatuebu	MA Senior Software Developer at CVS Health (Corporate)
2011	Karl Fritscher, MD, PhD	Assistant Professor, UMIT, Germany; Head of Methods of Statistical Modeling in Medical Imaging (MSMI)
2011-2012	Xiaojun Chen, Ph.D.	Associate Professor, Shanghai Jiao Tong University, China
2012-2014	Tobias Penzkofer, MD	Radiologist, Charite Universitatsmedizin Berlin, Germany
2014	Luiz Otavio Murta, PhD	Associate Professor at University of São Paulo, Brazil
2014-2016	Wenyao Zhang, Ph.D.	Associate Professor at School of Computer Science, Beijing Institute of Technology, China
2014-2015	Yang Gao	Other
2015	Weidong Cai, Ph.D.	Associate Professor and Director of Multimedia Laboratory at School of Information Technologies, The University of Sydney, Australia
2015-2016	Catherine Hutchinson	Research Trainee, Department of Radiology, Brigham and Women's Hospital
2015	Emily Lindemer	PhD Student, Harvard-MIT HST Program
2015 - present	Scheherazade Kraß	Medical Image Computing Group, University of Bremen
2015 - present	Jennifer Nitsch	Medical Image Computing Group, University of Bremen
2015 - present	Hans Meine	Medical Image Computing Group, University of Bremen

Regional, national, or international contributions

Invited Presentations

Regional

- 1990 "MRI Studies of the Human Brain: From 2D to 3D Reconstructions," Intelligent Systems Laboratory, Department of Biomedical Engineering, Boston University [*Natural Computation Seminar*]
- 1990 "The Impact of MRI on Neurosurgical Planning," Electronic Imaging International Exposition and Conference, Boston, MA [*Invited Lecture*]
- 1992 "Morphometric and Morphological Analysis of MR Images," Special Topics in NMR and MRI, American Association of Physicists in Medicine, New England Chapter, Boston, MA [*Invited Lecture*]

- 1992 "The Potential Use of MRI Guidance for Computerized Surgical Procedures," Brigham and Women's Hospital, Boston, MA [*Invited Lecture*]
- 1992 "3D Reconstruction from CT and MRI," Brigham and Women's Hospital, Boston, MA [*Invited Lecture*]
- 1992 "3D Morphometric and Morphologic Analysis from MRI," Brain Imaging Group, Brockton V.A. Hospital, Brockton, MA [*Invited Lecture*]
- 1993 "Quantitative and Qualitative Analysis of Digital Diagnostic Data," Dunster House Seminar on Computer-Assisted Research, Harvard University, Cambridge, MA [*Invited Lecture*]
- 1993 "Morphometric and Morphological Analysis of Brain MRI," Brigham and Women's Hospital, Boston, MA [*Course Instructor*]
- 1993 "Computerized Image Processing of MRI for Quantitative Analysis and Surgical Planning," Digital Image Processing Seminar, Center for Imaging and Pharmaceutical Research, Massachusetts General Hospital, Boston, MA [*Invited Lecture*]
- 1994 "Virtual Reality in MRI," Electro International, Boston, MA [*Invited Lecture*]
- 1996 Workshop, CT/MRI Update, Brigham & Women's Hospital/Harvard Medical School, Cambridge, MA [*Course Instructor*]
- 1998 Working Group on Digital Mammography: Computer-Aided Diagnosis and 3D Image Analysis and Display, National Cancer Institute and U.S. Public Health Service, Bethesda, MD [*Invited Lecture*]
- 2002- "High Performance Computing for Image Guided Therapy," CenSSIS Research and Industrial Collaboration Project, Boston, MA [*Keynote Speaker*]
- 2003 "Registration: How good do we need to be?" Second International Workshop on Biomedical Image Registration, Philadelphia, PA [*Invited Lecture*]
- 2007 "Image Analysis for Conservative Follow-up of Meningiomas," IBMISPS'07, Washington, DC [*Invited Lecture*]
- 2007 Medical Image Computing: From Data to Information, ISBI, Washington, DC [*Plenary Presentation*]

- 2008 Imaging Session, AIMBE-Military Collaboration: Bioengineering Challenges of Brain, Washington, DC *[Panelist]*
- 2008 “How I-Do-It Session II: Meningioma Imaging – Automated Segmentation,” 6th International Congress on Meningiomas and Cerebral Venous System (MCVS), Boston, MA *[Invited Lecture]*
- 2009 “Open Source Software as an Enabler of Research,” CAOS 2009, Boston, MA *[Presidential Guest Lecture]*
- 2010 “3D Slicer, an Open Source Research Platform,” International WS Workshop/ Advisory Board Meeting for Medical Eye Corporation (Japan), Harvard Club, Cambridge, MA *[Invited Lecture]*
- 2011 “3D Slicer as a Tool for Interactive Brain Tumor Segmentation,” IEEE EMBC, Boston, MA *[Invited Minisymposia Session Paper]*
- 2012 “3D Slicer: An Open Source Platform for Image Guided Therapy,” Technology: Visualization, Navigation and Robotics Session, Invited Speaker, 9th Interventional MRI Symposium, Boston, MA *[Invited Lecture]*
- 2013 “Surgical Planning: Role of Image Processing beyond PACS,” Radiology Centennial Homecoming, Brigham and Women's Hospital, Boston, MA *[Invited Lecture]*

National

- 1987 “Improved Spatial Resolution Allows Detection of Perichondral Details,” Department of Radiology, Hershey Medical School, University of Pennsylvania, Philadelphia, PA *[Invited Lecture]*
- 1989 “Segmentation of Multispectral Magnetic Resonance Volume Images,” Department of Computer Science, University of North Carolina, Chapel Hill, NC *[Invited Lecture]*
- 1990 “3D Reconstructions from MRI and CT for the Planning and Simulation of Surgical Procedures,” Department of Computer Science, University of North Carolina, Chapel Hill, NC *[Invited Lecture]*
- 1990 “Virtual Surgery for the Planning of Corrective Surgery in Patients with Craniofacial Malformations,” Department of Radiology, Johns Hopkins Medical Institution, Baltimore, MD *[Invited Lecture]*
- 1990 “Segmentation and 3D Display of MR Images,” 3D Medical Imaging Display Analysis for Cancer Treatment Planning, Washington, DC *[DIRB/NCI Workshop]*

- 1991 "The Potential Use of MRI Guidance for Computerized Surgical Procedures," Society for Magnetic Resonance Imaging Annual Meeting, NCRR/NIH Workshop, Bethesda, MD [*Session Moderator*]
- 1991 "Segmentation and Image Processing of 3-D Data," Computational Atlas of the Human Brain Workshop, Santa Fe, NM [*Invited Lecture*]
- 1991 "MRI Surgical Planning Using Ultrafast Imaging," USF Workshop on Medical Image Segmentation, Tampa, FL [*Workshop*]
- 1991 "Computerized Planning of Tumor Surgical Procedures," NCI/NIH Workshop, Washington, DC [*Invited Lecture*]
- 1992 "Image Segmentation, Quantitation and 3-D Display," American Society of Neuroradiology, St. Louis, MO [*Invited Lecture*]
- 1992 "MR Imaging of Schizophrenia," Neuroimaging and Electrophysiology: State-of-the-Art 1992 Conference, NIMH, Washington, DC [*Conference*]
- 1992 3-D Medical and Biological Imaging, Center for Creative Imaging, Camden, ME [*Course Instructor*]
- 1993 "Interactive Visualization and Manipulation of 3-D Reconstructions for the Planning of Surgical Procedures," Department of Biomedical Engineering, University of Virginia Health Sciences Center, Charlottesville, NC [*Seminar*]
- 1994 "Imaging Fusion and Methods of Obtaining Surface Contours," NCI 3D-CRT Workshop, Bethesda, MD [*Workshop*]
- 1994 "Correction of MRI Intensity Inhomogeneities by Using Tissue Properties," Society of Magnetic Resonance, Dallas, TX [*Invited Lecture*]
- 1994 "3D Warping of Digital Anatomical Atlas Onto Patient's Data Sets," Society of Magnetic Resonance, Dallas, TX [*Invited Lecture*]
- 1994 "Pre and Intraoperative Tumor Localization Using 3D MRI," Society of Magnetic Resonance, Dallas, TX [*Invited Lecture*]
- 1994 "Virtual Reality in MRI," Interventional MRI, Marina del Rey, CA [*Invited Lecture*]
- 1994 "Visualization in Biomedical Computing," Rochester, MN [*Course Instructor, Session Chair*]
- 1995 "Virtual Reality and MRI," SMRT Third Annual Meeting, Dallas, TX

[Invited Lecture]

- 1995 "Interventional MR," Society of Magnetic Resonance, Dallas, TX
[Session Moderator]
- 1995 The Power and Potential of Brain Imaging: Visualizing Its Present and Future. "Computer-Assistance Image Guidance," The National Foundation for Brain Research and The University of Minnesota, Minneapolis, MN *[Invited Lecture]*
- 1995 Technology Transfer in Image-Guided Therapy Workshop: "Workstation Design," National Cancer Institute (NCI), National Aeronautics and Space Administration (NASA), Ballistic Missile Defense Organization (BMDO), and Society for Cardiovascular and Interventional Radiologists (SCVIR), Bethesda, MD *[Team Leader]*
- 1995 Minimally Invasive Techniques in Neurosurgery and Otolaryngology. "The Virtual Otoscope," Joint International Congress, Pittsburgh, PA *[Invited Lecture]*
- 1995 "Interactive Image Guided Interventions in an Open-Configuration MR Imaging System," IMAGE Society and Advanced Research Projects Agency Workshop, Scottsdale, AZ *[Invited Lecture]*
- 1995 "Image Guidance Techniques for Neurosurgery." Visualization in Biomedical Computing 1994, Rochester, MN *[Invited Lecture]*
- 1995 "Computer Assisted Three-Dimensional Planning in Surgery." American College of Surgeons Clinical Congress, New Orleans, LA *[Invited Lecture]*
- 1995 "Image-Guided Therapy." American Society for Therapeutic Radiology and Oncology (ASTRO), 37th Annual Meeting, Miami Beach, FL *[Seminar]*
- 1995 "The Operating Room of the Future." Brown University, Providence, RI *[Seminar]*
- 1996 Current and Emerging Technologies in Monitoring Brain Structure and Function. "3D Reconstructed MRI Data for Neurosurgery," National Institute of Mental Health, Bethesda, MD *[Invited Lecture]*
- 1996 "Virtual Otoscopy," IMAGE Society *[Image Conference]*
- 1996 "3D Medical Imaging: Virtual Reality." American Association of Physicists in Medicine, Philadelphia, PA *[Invited Lecture]*

- 1996 38th Annual Meeting and Exhibition, American Association of Physicists in Medicine, Philadelphia, PA [*Refresher Course Coordinator*]
- 1996 Capital Hill Briefing on New Frontiers in Breast Cancer and Early Detection. "3D/Virtual Reality." National Institute of Health, Bethesda, MD [*Briefing*]
- 1996 IEEE Visualization, IEEE Visualization, San Francisco, CA [*Session Chair*]
- 1996 InfoRad Session, Radiologic Society of North America, Chicago, IL [*Instructor*]
- 1998 SPIE-The International Society of Optical Engineering , SPIE-The International Society of Optical Engineering, San Jose, CA [*Course Instructor*]
- 1999 "Computer Assisted Neurosurgery," Columbia University Biomedical Engineering [*Invited Lecture*]
- 1999 7th Scientific Meeting, ISMRM, Philadelphia PA [*Scientific Session Moderator*]
- 2000 "The Role of Surgical Planning," Harvard MRI 2000, Maui, HI [*Teaching Course*]
- 2000 8th Scientific Meeting, ISMRM, Denver, CO [*Scientific Session Moderator*]
- 2000 National Advisory Research Resources Council's Bioinformatics Working Group, National Institutes of Health, Bethesda, MD [*Invited Lecture*]
- 2000 CARS 2000 14th International Congress, CARS, San Francisco, CA [*Workshop participant*]
- 2000 "Image Guided Therapy," SIGGRAPH, New Orleans, LA [*Teaching Course*]
- 2000 Medical Image Analysis and Visualization, Medical Image Computing and Computer-Assisted Intervention (MICCAI), Pittsburgh, PA [*Session Moderator*]
- 2001 Allen S. Lichter Series Lecture: "Image Guided Therapy," University of Michigan, Ann Arbor, MI [*Invited Lecture*]
- 2001 Evans & Sutherland Distinguished Lecture Series, "High Performance Computing for Image Guided Therapy," University of Utah School of Computing, Salt Lake City, UT [*Invited Lecture*]

- 2002 "High Performance Computing for Medical Image Processing," Stony Brook Bioengineering Seminar Series, Stony Brook, NY [*Invited Speaker*]
- 2002 "Surgical Planning Laboratory at Brigham and Women's Hospital," SPIE Medical Imaging, San Diego, CA [*Keynote Speaker*]
- 2002 "High Performance Computing in Image Guided Therapy," Dartmouth College, Dartmouth, NH [*Invited Speaker*]
- 2002 "High Performance Computing for Image Guided Therapy," SuperComputing 2002, Baltimore, MD [*Invited Speaker*]
- 2002 "Medical Image Computing," RSNA 2002, Chicago, IL [*Keynote Speaker*]
- 2003 "High Performance Computing for Image Guided Therapy," SIAM Conference on Computational Science and Engineering, San Diego, CA [*Invited Speaker*]
- 2003 "3D Imaging and Image Processing," MRI 2003: Clinical Update and Practical Applications course, Maui, HI [*Invited Speaker*]
- 2003 Human Brain Project, Center for Scientific Review Special Emphasis Panel, Bethesda, MD [*Member*]
- 2004 BECON-BISTI Symposium, National Institutes of Health, Bethesda, MD [*Invited Speaker*]
- 2005 Image Guided Surgery, NCCR/NIBIB [*P41 Principal Investigator Meeting*]
- 2005 Force 10 Visit, Sun Microsystems Visit, Computational Systems Bioinformatics, Palo Alto, CA [*Invited Lecture*]
- 2005 National Centers for Biomedical Computing, National Library of Medicine Board of Regents, Bethesda, MD [*Invited Lecture*]
- 2005 "National Centers for Biomedical Computing: Informatics Enabling Biomedical Research," AMIA 2005, Austin, TX [*Annual Symposium*]
- 2005 Image-Guided Cancer Therapy Research Symposium, RSNA 2005, Chicago, IL [*Lecture*]
- 2006 Advanced 3D Techniques in Neuro MR Imaging, MRI [*Invited Lecture*]
- 2006 Advancing Technology for Patient Care and Safety: "Surgical Planning Lab (SPL): Lessons Learned," Johns Hopkins School of Medicine, Whiting School of Engineering, Baltimore, MD [*Plenary Presentation*]

- 2006 Third Annual Meeting International Brain Mapping and Intra Operative Surgical Planning Society (IBMISPS), Washington, DC *[Invited Lecture]*
- 2006 "Big Science" and Schizophrenia, ISBI 2006 *[Invited Lecture]*
- 2006 Scientific Visualization Symposium, The Neuro-Physical-Computational Sciences Graduate Training Program, University of Minnesota, Minneapolis, MN *[Invited Lecture]*
- 2006 Supporting Connectivity for Biomedical Research, The National Center for Research Resources, National Institutes of Health, Bethesda, MD *[Workshop]*
- 2006 Workshop on MR Compatible Robotics, ICRA 2006, Orlando, FL *[Invited Lecture]*
- 2007 Medical Image Computing: Tool Development for Neuroscience Research and Image Guided Therapy, Indiana University School of Medicine, Indianapolis, IN *[Invited Lecture]*
- 2007 "Image Computing for Advanced Neuroimaging and Image Guided Therapy," Indiana University School of Medicine, Indianapolis, IN *[Invited Lecture]*
- 2007 Imaging Session: The Global Impact of Medical and Biological Engineering, AIMBE-Military Collaboration: Bioengineering Challenges of Brain Trauma, Washington, DC *[Panelist]*
- 2007 "The Surgical Planning Laboratory," Mayo Clinic College of Medicine, Rochester, NY *[Invited Lecture]*
- 2007 "State of the Art in Image-Guided Neurosurgery," MEXCAS'07, Philadelphia, PA *[Keynote Presentatoin]*
- 2008 Translational Bioinformatics Enabled by the NIH National Centers for Biomedical Computing (NCBCs), AMIA Translational Bioinformatics Meeting, San Francisco, CA *[Panelist]*
- 2008 Medical Image Computing using the NA-MIC Kit, The Allen Institute, Seattle, WA *[Invited Lecture]*
- 2008 Medical Image Computing: From Data to Understanding Biomedical Computation at Stanford (BCATS) Symposium, Stanford University, Stanford, CA *[Keynote Speaker]*
- 2008 "The Role of Software in Image Guided Therapy," IBMISPS, Los

Angeles, CA *[Keynote Speaker]*

- 2010 "3D Slicer," Workshop on Software Tools for Clinical Trials, Dartmouth College, Dartmouth, NH *[Invited Lecture]*
- 2010 "Image Analysis of the Brain," Tenth Anniversary of the Insight Toolkit Workshop, Bethesda, MD *[Invited Lecture]*
- 2010 "3D Slicer as a Research Platform for Medical Image Computing," AMIA, San Francisco, CA *[Invited Lecture]*
- 2010 "Magnetic Resonance Imaging," MemBis 2010, Memphis, TN *[Invited Lecture]*
- 2011 "3D Slicer and the NA-MIC Kit," iDash Workshop, San Diego, CA *[Invited Lecture]*
- 2011 "3D Slicer," AAGL, Hollywood, FL *[Invited Lecture]*
- 2012 Slicer Training, Electronic and Physical Classroom 1245SC, U Iowa, Iowa City *[Teaching Presentation]*
- 2012 "Quantitative Medical Imaging for Clinical Research and Practice" course, RSNA 2012, Chicago, IL *[Teaching Presentation]*
- 2012 "3D Interactive Visualization of DICOM Images for Radiology Applications" course, RSNA 2012, Chicago, IL *[Teaching Presentation]*
- 2012 "Open Source Image Processing Software for Translational Clinical Research," UNC-BRIC, Chapel Hill, NC *[Invited Lecture]*
- 2012 "3D Slicer," Visualization Symposium at Experimental Biology 2012, San Diego, CA *[Invited Lecture]*
- 2012 Larger Scale Funding : A Case Study," Yale Bioimaging Sciences (BIS) Retreat, Southbury, CT *[Invited Lecture]*
- 2012 "Biomedical Imaging under the NCBC Program," ISMB2012, Long Beach, FL *[Invited Lecture]*
- 2013 NLM Board of Regents, Bethesda, MD *[Invited Lecture]*
- 2013 "Medical Image Computing for Translational Biomedical Research," BVM, Heidelberg, Germany *[Invited Lecture]*
- 2013 Radboud University, Nijmegen, the Netherlands *[Invited Lecture]*

- 2013 Special Section MICCAI, Nagoya, Japan *[Invited Lecture]*
- 2013 “Medical Image Computing in the Procedure Room,” Medical University of South Carolina, Charleston, SC *[Invited Lecture]*
- 2013 Quantitative Medical Imaging for Clinical Research and Practice: Hands-on Workshop, RSNA 2013, Chicago, IL *[Teaching Presentation]*
- 2013 ICIA32 - 3D Interactive Visualization of DICOM Images for Radiology Applications, RSNA 2013, Chicago, IL *[Teaching Presentation]*
- 2015 “From Bench to Bedside, Translation in Medical Image Computing,” BISTI, NIH, Bethesda, MD *[Invited Lecture]*
- 2015 3D Slicer Exhibit: Quantitative Imaging Reading Room, RSNA 2015, Chicago, IL *[Teaching Presentation]*
- 2015 “AMIGO, a Laboratory for Translational Research in Image Guided Interventions,” University of Chicago Medical Center, Chicago, IL *[Invited Lecture]*
- 2015 “Medical Image Computing,” Emory University, Atlanta, GA *[2 Invited Lectures: “Grand Rounds,” “Research in Progress (RIPS)”]*
- 2015 “State of the Slicer World and Strategic Plans for Slicer,” 2016 Winter Project Week, MIT CSAIL, Cambridge, MA *[Teaching Presentation]*
- 2016 “Medical Image Computing (MIC): We are living in interesting times,” University of Utah, Salt Lake City, Utah *[Invited Lecture]*

International

- 1983-1984 Lecturer for radiation treatment, radiation biology, and radiation chemistry in the course for radiation oncology of the Zurich Medical School *[Invited Lecture]*
- 1987 “An Introduction to MRI of the Spine,” Schweizerische Paraplegikerzentrum, Basel, Switzerland *[Invited Lecture]*
- 1988 “Analysis and Visualization of Medical Volume Data,” Institut für Biomedizinische Technik of the University of Zurich and the Eidgenössische Technische Hochschule, Zurich, Switzerland *[Invited Lecture]*
- 1990 “3D Rekonstruktionen und Analysen,” Department of Radiology, University Hospital, Zurich, Switzerland *[Invited Lecture]*

- 1990 "3D Reconstruction for Planning and Simulation of Surgical Procedures," Zurich Symposium on Picture Communication and Image Processing, Zurich, Switzerland [*Invited Lecture*]
- 1990 "3D Morphometric and Morphologic Information Derived from Clinical Brain MR Images," Children's Hospital, Zurich, Switzerland [*Invited Lecture*]
- 1991 "Computerized Planning of Neurosurgical Procedures," Department of Neurosurgery, Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland [*Invited Lecture*]
- 1991 "Computerized Planning of Neurosurgical Procedures," Institute of Radiology, German Cancer Research Center, Heidelberg, Germany [*Invited Lecture*]
- 1992 "Morphometric and Morphologic Analysis of Brain MRI Using Computerized Image Processing," Department of Neuroradiology, Universite D'Aix-Marseille, Marseille, France [*Invited Lecture*]
- 1992 "Morphometric and Morphologic Analysis of MRI Using Computerized Image Processing," Institute fur Diagnostische Radiologie Abt. Neuroradiologie, Hospital universitaire de Berne, Berne, Switzerland [*Invited Lecture*]
- 1992 "Computer Aided Analysis of Digital Imaging Data," Computer Vision Laboratory, ETH, Zurich, Switzerland [*Invited Lecture*]
- 1992 "Morphometric and Morphologic Analysis of Digital Imaging Data Using Computerized Image Processing," Department of Radiology, INRIA, Nice, France [*Invited Lecture*]
- 1993 "Computerized Image Processing of Digital Imaging Data for Quantitative Analysis and 3D Reconstructions," Kolloquium Biomathematik und Medizinische Informatik, Institute fur Mathematik und Datenverarbeitung, Erlangen, Germany [*Invited Lecture*]
- 1993 "Computerized Image Processing of Digital Imaging Data for Quantitative Analysis and 3D Reconstructions," Forschungsgruppe "Scientific Visualization," GMD-HLRZ.VIS, Bonn, Germany [*Invited Lecture*]
- 1993 "Computerized Image Processing of Brain MRI for Quantitative Analysis and 3D Reconstructions," McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Canada [*Invited Lecture*]

- 1994 "New Virtual Reality Imaging Methods in Radiology and Its Use in Surgical Planning," International Diagnostic Course on Musculoskeletal Diseases, Davos, Switzerland [*Invited Lecture*]
- 1994 "3-D Digital Anatomical Atlas of the Brain," University of New South Wales School of Computer Science and Engineering Colloquium, Kensington, New [*Invited Lecture*]
- 1995 "Surgical Planning from MR and CT: Segmentation and Visualization," National Cancer Center Research Institute, Tokyo Japan [*Invited Lecture*]
- 1995 "Brigham & Women's Hospital Pioneering Virtual Reality for Surgical Use," Karolinska Hospital and Karolinska Institute, Stockholm, Sweden [*Seminar*]
- 1995 "Case Study: The Operating Room of the Future.," The 1995 Pan Asia Multimedia Convergence & Exhibition, Hong Kong [*Other*]
- 1996 "Image Guided Therapy.," The 30th International Convention of the Information Technology Associate of Israel. Jerusalem, Israel [*Invited Lecture*]
- 1996 "Image Guided Therapy," Digitaalisen Kuvantamisen Hyodyt and Sun Microsystems, Jeruselem, Israel [*Invited Lecture*]
- 1996 "Image Guided Therapy," Sun Microsystems, Cortex Gruppen. Stockholm, Sweden [*Invited Lecture*]
- 1997 "3D Imaging in Neurosurgery and Neuroradiology," Montreal Neurological Institute and Hospital, Montreal, Quebec, Canada [*Invited Lecture*]
- 1997 "High Performance Computing Application and HPC Medical Application," Hong Kong [*Seminar*]
- 1998 "Intraoperative Image Guidance for Neurosurgery," ISMRM, Toronto, Canada [*Plenary Lecture*]
- 1998 "Analysis and Visualization of Medical Volume Data," Children's Hospital, University of Zurich, Switzerland [*Research Seminar*]
- 1999 Joint Meeting mit ker Schweizerischen Anatomie und Funktion, Deutsche Gesellschaft Fur Neurochirurgie, Munich, Germany [*Moderator*]
- 1999 Anatomie and Funktion: Lokalisation von Sensomotorik, Deutsche Gesellschaft Fur Neurochirurgie, Munich, Germany [*Session Moderator*]

- 1999 Second International Conference, Medical Image Computing and Computer-Assisted Intervention (MICCAI), London, England [*Session Moderator*]
- 2001 "High Performance Computing in Image Guided Therapy, Computer Assisted 3D Planning & Real-time Navigation for Neurosurgical Procedures," Institute for Medizinische Informatik Medizinische Universität zu Lubeck, Lubeck, Germany [*Invited Lecture*]
- 2001 Navigierte Hirnchirurgie Workshop, Internationales Symposium, "Interoperative MRI State of the Art Science and Economy," Klinik für Neurochirurgie im Universitätsklinikum Kiel, Kiel, Germany [*Invited Speaker*]
- 2001 3rd Caesarium on Computer Aided Medicine, "Scaffolds for Tissue Engineering Applications Fabricated by 3D Plotting," Bonn-Roettgen, Germany [*Invited Speaker*]
- 2002 "High Performance Computing and Image Guided Therapy," Computer-Aided and Image Guided Medical Interventions (CO-ME), Zurich, Switzerland [*Invited Speaker*]
- 2002 "Medical Robotics: A Challenge to the Radiologist?" German Roentgen Congress, Wiesbaden, Germany [*Invited Speaker*]
- 2002 ISRACAS, ISRACAS, Tel-Aviv, Israel [*Invited Speaker*]
- 2002 "High Performance Computing for Image Guided Therapy," Sun/CUMS Seminar on High Performance Computing for Image Guided Therapy, Beijing, P.R. China [*Keynote Speaker*]
- 2002 "High Performance Computing for Image Guided Therapy," Keio University (hosted by GEYMS and Keio Univ.), Tokyo, Japan [*Invited Seminar*]
- 2002 "High Performance Computing for Image Guided Therapy," Shiga University, Oksu, Japan [*Invited Seminar*]
- 2002 "High Performance Computing for Image Guided Therapy," Osaka University, Oksu, Japan [*Invited Seminar*]
- 2002 Medical School of YanMeng University, Medical School of YanMeng University, Taipei, Taiwan [*Invited Teaching Presentation*]
- 2002 Medical School of National Cheng Kung University, Medical School of National Cheng Kung University, Taipai, Taiwan [*Invited Teaching*]

Presentation]

- 2002 "DTI and Neuronavigationavigierte Hirnchirurgie," Leipzig, Germany
[Invited Speaker]
- 2003 "Image Fusion and Reconstruction- What Makes Sense, What is Possible?" Congress German Society of Internal Medicine, Weisbaden, Germany *[Invited Plenary Speaker]*
- 2003 Second Annual Meeting of the German Society for Computer and Robotic Assisted Surgery (CURAC), Second Annual Meeting of the German Society for Computer and Robotic Assisted Surgery (CURAC), Nuremberg, Germany *[Guest Lecturer]*
- 2005 Image Processing at the Surgical Planning Lab, Academia Eurasiana Neurochirurgica, Bamberg, Germany *[Invited Lecture]*
- 2005 Dissemination: EPFL Workshop 2005, NA-MIC, Signal Processing Institute (ITS) of the Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland *[ITK Intensive Course]*
- 2006 Logarithm Odds Maps for Shape Representation, MICCAI, Copenhagen, Denmark *[Invited Lecture]*
- 2006 "Image Guided Therapy," CARS, Osaka, Japan *[Plenary Lecture]*
- 2007 "The Application of Open Source Concepts to Image Guided Therapy," CURAC, Karlsruhe, Germany *[Invited Lecture, Session Chair]*
- 2007 The Application of Open Source Concepts to Image Guided Therapy, 2007 School of Mechanical Engineering Seminars, The University of Western Australia, Crawley, Australia *[Invited Lecture]*
- 2007 Open Source Software as an Enabler of Research, MICCAI Interaction Workshop, Brisbane, Australia *[Invited Lecture]*
- 2007 "Open Source Software in NA-MIC and NCIGT," AIST, Tokyo, Japan *[Invited Lecture]*
- 2008 Segmentation and Localization Session, ISMRM, Berlin, Germany *[Co-Moderator]*
- 2008 Medical Image Computing using the NA-MIC Kit, McMaster University, Toronto, Canada *[Invited Seminar]*
- 2008 The NIH Roadmap for Bioinformatics and Computational Biology, IT Symposium DKFZ, Heidelberg, Germany *[Invited Lecture]*

- 2008 Open Source Software and Hardware as Enablers of Research, Deutsche Forschungsgemeinschaft (DFG), Bonn, Germany *[Invited Lecture]*
- 2009 Neuro-Surgical Planning, Clinical Update and Practical Applications Course, Cancun, Mexico *[Invited Lecture]*
- 2010 3D Slicer as a Research Platform for Medical Imaging Computing, AZE Workshop, University of Tokyo, Tokyo, Japan *[Invited Lecture]*
- 2011 3D Slicer, an Open Source Research Platform, 50th Annual Conference of Japanese Society for Medical and Biological Engineering, Tokyo, Japan *[Keynote Lecture]*
- 2011 Invited Presentation and Slicer Tutorial, Robarts Research Institute, London, Ontario, Canada *[Invited Lecture, Tutorial]*
- 2011 3D Slicer, Thematic Year on the Mathematics of Medical Imaging, Vancouver, BC, Canada *[Invited Lecture]*
- 2011 “3D Slicer,” Spanish Society of Biomedical Engineering Annual Congress, Madrid, Spain *[Keynote Speaker]*
- 2012 “Medical Robotics in the United States,” German Cancer Research Center, Heidelberg, Germany *[Invited Lecture]*
- 2012 “3D Slicer for Translational Clinical Research,” Health Informatics Society of Australia (HISA), Melbourne, Australia *[Invited Lectures]*
- 2012 “Creating Tools for Medical Image Computing,” St. Vincent’s Hospital, Fitzroy VIC, Australia *[Invited Lecture]*
- 2012 “Patient Specific Image Analysis for Translational Clinical Research,” Monash Medical Center, Clayton VIC, Australia *[Invited Lecture]*
- 2012 “The Medicine-Engineering Interface,” The University Club of Western Australia, Perth, Australia *[Invited Lecture]*
- 2012 “Creating Tools for Medical Image Computing,” The University Club of Western Australia, Perth, Australia *[Invited Lecture]*
- 2012 “Open Source Image Processing Software for Translational Clinical Research,” Masterclass, Institute of Advanced Studies, UWA, Sydney, Australia *[Teaching Presentation]*
- 2012 “3D Slicer,” Sir Charles Gairdiner Hospital, Perth, Australia *[Invited Lecture]*

- 2012 "3D Slicer," M+Vision, Madrid, Spain *[Invited Lecture]*
- 2012 "Revolution in the Surgical Theater" Session, IMIHEALTH Congress, Institut Guttmann Neurorehabilitation Hospital, Barcelona, Spain *[Invited Lecture]*
- 2012 "Innovations in Image Guided Therapy," Duesseldorf, Germany *[Plenary Lecture]*
- 2012 Geometry of Anisotropy Workshop, Manchester, UK *[Teaching Presentation]*
- 2012 "Subject Specific Exploration of Connectivity," 1st International Symposium on Deep Brain Connectomics, Clermont-Ferrand, France *[Invited Lecture]*
- 2012 DTI Validation Challenge Workshop, MICCAI 2012, Nice, France *[Teaching Presentation]*
- 2013 "Medical Image Computing for Translational Biomedical Research," BVM, Heidelberg, Germany *[Invited Lecture]*
- 2013 "Von der Forschung in die Klinik," BVM, Heidelberg, Germany *[Session Moderator with Hans-Peter Meinzer]*
- 2013 "NA-MIC and 3D Slicer," AZE, Tokyo, Japan *[Invited Lecture]*
- 2013 Slicer Workshop, AZE, Tokyo, Japan *[Teaching Presentation]*
- 2013 Slicer Workshop, Japanese RSNA, Tokohama, Japan *[Teaching Presentation]*
- 2013 "3D Slicer, Platform for Research," Iwate Medical University, Iwate, Japan *[Invited Special Lecture]*
- 2013 "General Topics on Medical Image Processing and Open Source Software" (Ron Kikinis/Nobuhiko Hata), Iwate Medical University, Iwate, Japan *[Invited Special Lecture]*
- 2013 Data Challenges and Skills Needed: Imaging. BD2K Training Workshop, Rockville, MD *[Invited Lecture]*
- 2013 "Medical Image Computing in the Procedure Room," GMDS, Lübeck, Germany *[Invited Keynote Lecture]*
- 2013 "Medical Image Computing in the Procedure Room," SMIT 2013 conference, Baden-Baden, Germany *[Invited Keynote Lecture]*

- 2013 Slicer Ultrasound Workshop, Iwate Medical University, Iwate, Japan
[Teaching Presentation]
- 2013 "Medical Image Computing and Image Guided Therapy," University of
Edinburgh, Edinburgh, UK *[Invited Lecture]*
- 2013 "Medical Image Computing and Image Guided Therapy," University of
Dundee, Dundee, UK *[Invited Lecture]*
- 2013 DTI Challenge, MICCAI, Nagoya, Japan *[Teaching Presentation]*
- 2013 "Supervised Algorithms, the Stepchildren of the MIC community,"
Medical Computer Vision Workshop, MICCAI, Nagoya, Japan *[Teaching
Presentation]*
- 2013 "Introduction to NA-MIC and the Slicer community," Slicer2013
Beijing workshop, Chinese PLA General Hospital, Beijing, China
[Keynote Speaker & Teaching Presentation]
- 2013 "AMIGO Operating Suite," The First Hospital of Jilin University,
Changchun, China *[Keynote Speaker]*
- 2014 "Medical Image Computing and Therapeutic Procedures," GSDM,
Tokyo, Japan *[Keynote Speaker]*
- 2014 "Medical Image Computing in the Procedure Room," Queen's
University, Kingston, Ontario, Canada *[Invited Lecture]*
- 2015 "3D Slicer as a IGS research platform," Rennes University, France
[Invited Lecture]
- 2015 "Medical Image Computing," Changzheng Hospital, Shanghai, China
[Invited Lecture]
- 2015 "Introduction to NA-MIC and the Slicer community," Zhejiang
University of Technology, Hangzhou, China *[Invited Lecture]*
- 2015 "Introduction to NA-MIC and the Slicer community," Fudan University,
Shanghai, China *[Invited Lecture]*
- 2015 "Medical Image Computing," Brain and Spine Institute (ICM), Paris,
France *[Invited Lecture]*
- 2015 "Introduction to the SPL and Slicer," Szeged, Hungary *[Invited Lecture]*

- 2015 “Tsunami in the Procedure Room: The Growing Challenge of Managing Data in Image Guided Interventions and Surgery,” Kaposvar, Hungary
[Invited Lecture]
- 2015 “Medical Image Computing Meets Biomechanics,” MICCAI conference, Munich, Germany *[Invited Lecture]*
- 2015 “Interactive Analysis of Clinical dMRI Data,” MICCAI, Munich, Germany *[Invited Lecture]*
- 2015 “Perspektiven der universitären Radiologie,” Konferenzraum des Universitätsklinikums Regensburg, Regensburg, Germany *[Invited Lecture]*
- 2015 “Tsunami in the Procedure Room: The Growing Challenge of Managing Data in Image Guided Interventions and Surgery,” School of Mechanical Engineering, Shanghai Jiao Tong University (SJTU), Shanghai, China *[Invited Lecture]*
- 2016 “Interactive Analysis of Clinical dMRI Data,” Diffusion Workshop 2016, Backaskog Castle, Skane, Sweden *[Invited Lecture]*
- 2016 “Tsunami in the Procedure Room: The Growing Challenge of Managing Data in Image Guided Interventions and Surgery,” Instituto de Astrofísica de Canarias (IAC), Canary Islands, Spain *[Invited Lecture]*
- 2016 “Medical Image Computing Meets Biomechanics,” University of Luxembourg, Luxembourg *[Invited Lecture]*
- 2016 “Digital Operating Room,” ICCAS Leipzig, Germany *[Invited Lecture]*
- 2016 “Medical Image Computing (MIC): We are living in interesting times,” Computational Sciences for Medicine, Luxembourg *[Invited Lecture]*
- 2016 “The New World of Medical Imaging,” Diagnostic Imaging Hoshin Kanri Workshop, Bamberg, Germany
- 2017 “Precision Medicine and Medical Image Computing,” Beijing Advanced Innovation Center for Imaging Technology, China *[Invited Lecture]*
- 2017 “The SPL: A Quarter Century of Research and Translation in Technology and Biomedicine,” University College London, UK *[Invited Lecture]*
- 2017 “Medical Image Computing (MIC): We Are Living in Interesting Times,” Poznan Medical Image Computing Forum 2017, Poznan,

Report of Technological and Other Scientific Innovations

1. Grimson WEL, White SJ, Ettinger GJ, Wells III WM, Lozano-Perez T, **Kikinis R**. United States Patent: System and method of registration of three-dimensional data sets. US patent 5,999,840. 1995 Aug 30.
2. Grimson EL, White SJ, Ettinger GJ, Wells WM, Lozano-Perez T, Kikinis R. United States Patent: System and method of registration of three-dimensional data sets including anatomical body data. US patent 5,531,520. 1996 Jul 2.
3. Wells WM, Kikinis R. United States Patent: Correction of Magnetic Resonance imager intensity inhomogeneities using tissue properties. US patent 5,551,431. 1996 Sep 3.
4. Lorensen, WE, Jolesz FA, Kikinis R. United States Patent: Virtual internal cavity inspection system. US patent 5,611,025. 1997 Mar 11.
5. Nafts CA, Kelleher TP, Lorensen WE, Cline HE, Altobelli DE, Kikinis R, Darrow RD, Cumoulin CL. United States Patent: Computer graphic and live video system enhancing visualization of body structures during surgery. US patent 5,740,802. 1998 Apr 21.
6. Berger JW, Leventon M, and Kikinis R. United States Patent: Technique for creating an ophthalmic augmented reality environment. US patent 5,912,720. 1999 Jun 15.
7. Gibson SFF, Grimson WEL, Kanade T, and Kikinis R. United States Patent: Personal patient simulation. US patent 6,077,082. 1999 Jun 20.
8. Estepar RSJ, Washko GG, Silverman EK, Reilly J, Kikinis R, Westin CF. International Application Published Under the Patent Cooperation Treaty (PCT), World Intellectual Property Organization International Bureau. Measurement of Thin-layered Structures in X-ray Computer Tomography. International Publication Number WO 2008/042934 A1. 10 April 2008.

Bibliography

Original Articles

1. Wolfensberger M, **Kikinis R**, Schmid S, Wichmann W. [Computerized tomography in the classification of hypo pharyngeal and laryngeal cancers]. *Laryngol Rhinol Otol (Stuttg)*. 1987 Feb;66(2):84-7. German. PMID: 3573895.
2. Wolfensberger M, Jecklin A, Franze I, **Kikinis R**. [Computed tomography for the preoperative classification of oral cavity and oropharyngeal carcinomas]. *Laryngol Rhinol Otol (Stuttg)*. 1987 Jun;66(6):324-8. German. PMID: 3626715.
3. **Kikinis R**, von Schulthess GK, Jäger P, Dürr R, Bino M, Kuoni W, Kübler O. Normal and hydronephrotic kidney: evaluation of renal function with contrast-enhanced MR imaging. *Radiology*. 1987 Dec;165(3):837-42. PMID: 3685363.
4. Martin E, Boesch C, Grütter R, **Kikinis R**, Kewitz G, Boltshauser E, Werner B, Eich G. [Magnetic resonance in pediatric research and clinical practice. II. Studies on the

- development and pathology of the brain in neonates, infants and young children]. *Helv Paediatr Acta*. 1988 Aug;43(1-2):75-86. German. PMID: 3170248.
5. Martin E, **Kikinis R**, Zuerrer M, Boesch C, Briner J, Kewitz G, Kaelin P. Developmental stages of human brain: an MR study. *J Comput Assist Tomogr*. 1988 Nov-Dec;12(6):917-22. PMID: 3183125.
 6. Boesch C, Issakainen J, Kewitz G, **Kikinis R**, Martin E, Boltshauser E. Magnetic resonance imaging of the brain in congenital cytomegalovirus infection. *Pediatr Radiol*. 1989;19(2):91-3. PMID: 2537944.
 7. Kikinis R, Wolfensberger M, Boesch C, Martin E. Larynx: MR imaging at 25T. *Radiology*. 1989 Apr;171(1):165-9. PMID: 2928521.
 8. Martin E, Boesch C, Zuerrer M, **Kikinis R**, Molinari L, Kaelin P, Boltshauser E, Duc G. MR imaging of brain maturation in normal and developmentally handicapped children. *J Comput Assist Tomogr*. 1990 Sep-Oct;14(5):685-92. PMID: 1697866.
 9. Cline HE, Lorensen WE, **Kikinis R**, Jolesz FA. Three-dimensional segmentation of MR images of the head using probability and connectivity. *J Comput Assist Tomogr*. 1990 Nov-Dec;14(6):1037-45. PMID: 2229557.
 10. Cline HE, Lorensen WE, Souza SP, Jolesz FA, **Kikinis R**, Gerig G, Kennedy TE. 3D surface rendered MR images of the brain and its vasculature. *J Comput Assist Tomogr*. 1991 Mar-Apr;15(2):344-51. PMID: 2002124.
 11. Shenton ME, **Kikinis R**, McCarley RW, Metcalf D, Tieman J, Jolesz FA. Application of automated MRI volumetric measurement techniques to the ventricular system in schizophrenics and normal controls. *Schizophr Res*. 1991 Sep;5(2):103-13. PMID: 1931803.
 12. Gerig G, **Kikinis R**, Kuoni W, von Schulthess GK, Kübler O. Semi automated ROI analysis in dynamic MR studies. Part I: Image analysis tools for automatic correction of organ displacements. *J Comput Assist Tomogr*. 1991 Sep-Oct;15(5):725-32. PMID: 1885789.
 13. Gerig G, Kubler O, **Kikinis R**, Jolesz FA. Nonlinear anisotropic filtering of MRI data. *IEEE Trans Med Imaging*. 1992;11(2):221-32. PMID: 18218376.
 14. Sandor T, Jolesz FA, Tieman J, **Kikinis R**, Jones K, Albert M. Comparative analysis of computed tomographic and magnetic resonance imaging scans in Alzheimer patients and controls. *Arch Neurol*. 1992 Apr;49(4):381-4. PMID: 1558519.
 15. Shenton ME, **Kikinis R**, Jolesz FA, Pollak SD, LeMay M, Wible CG, Hokama H, Martin J, Metcalf D, Coleman M, et al. Abnormalities of the left temporal lobe and thought disorder in schizophrenia. A quantitative magnetic resonance imaging study. *N Engl J Med*. 1992 Aug 27;327(9):604-12. PMID: 1640954.
 16. Schwartz RB, Jones KM, Chernoff DM, Mukherji SK, Khorasani R, Tice HM, **Kikinis R**, Hooton SM, Stieg PE, Polak JF. Common carotid artery bifurcation: evaluation with spiral CT. Work in progress. *Radiology*. 1992 Nov; 185(2):513-9. PMID: 1410365.
 17. **Kikinis R**, Shenton ME, Gerig G, Martin J, Anderson M, Metcalf D, Guttmann CR, McCarley RW, Lorensen W, Cline H, et al. Routine quantitative analysis of brain and cerebrospinal fluid spaces with MR imaging. *J Magn Reson Imaging*. 1992 Nov-Dec;2(6):619-29. PMID: 1446105.
 18. McCarley RW, Shenton ME, O'Donnell BF, Faux SF, **Kikinis R**, Nestor PG, Jolesz FA. Auditory P300 abnormalities and left posterior superior temporal gyrus volume reduction in schizophrenia. *Arch Gen Psychiatry*. 1993 Mar;50(3):190-7. PMID: 8439239.
 19. Shenton ME, O'Donnell BF, Nestor PG, Wible CG, **Kikinis R**, Faux SF, Pollak SD, Jolesz FA, McCarley RW. Temporal lobe abnormalities in a patient with schizophrenia who has

- word-finding difficulty: use of high-resolution magnetic resonance imaging and auditory P300 event-related potentials. *Harv Rev Psychiatry*. 1993 Jul-Aug;1(2):110-7. PMID: 9384837.
20. O'Donnell BF, Shenton ME, McCarley RW, Faux SF, Smith RS, Salisbury DF, Nestor PG, Pollak SD, **Kikinis R**, Jolesz FA. The auditory N2 component in schizophrenia: relationship to MRI temporal lobe gray matter and to other ERP abnormalities. *Biol Psychiatry*. 1993 Jul 1-15;34(1-2):26-40. PMID: 8373937.
 21. Altobelli DE, **Kikinis R**, Mulliken JB, Cline H, Lorensen W, Jolesz FA. Computer-assisted three-dimensional planning in craniofacial surgery. *Plast Reconstr Surg*. 1993 Sep;92(4):576-85; discussion 586-7. PMID: 8356120.
 22. Nestor PG, Shenton ME, McCarley RW, Haimson J, Smith RS, O'Donnell B, Kimble M, **Kikinis R**, Jolesz FA. Neuropsychological correlates of MRI temporal lobe abnormalities in schizophrenia. *Am J Psychiatry*. 1993 Dec;150(12):1849-55. PMID: 8238641.
 23. Chernoff DM, Silverman SG, **Kikinis R**, Adams DF, Seltzer SE, Richie JP, Loughlin KR. Three-dimensional imaging and display of renal tumors using spiral CT: a potential aid to partial nephrectomy. *Urology*. 1994 Jan;43(1):125-9. PMID: 8284875.
 24. Gleason PL, **Kikinis R**, Altobelli D, Wells WM, Alexander E 3rd, Black PM, Jolesz FA. Video registration virtual reality for no linkage stereotactic surgery. *Stereotact Funct Neurosurg*. 1994;63(1-4):139-43. PMID: 7624624.
 25. Reimold SC, Maier SE, Fleischmann KE, Khatri M, Piwnica-Worms D, **Kikinis R**, Lee RT. Dynamic nature of the aortic regurgitant orifice area during diastole in patients with chronic aortic regurgitation. *Circulation*. 1994 May;89(5):2085-92. PMID: 8181132.
 26. Khoury SJ, Guttmann CR, Orav EJ, Hohol MJ, Ahn SS, Hsu L, **Kikinis R**, Mackin GA, Jolesz FA, Weiner HL. Longitudinal MRI in multiple sclerosis: correlation between disability and lesion burden. *Neurology*. 1994 Nov;44(11):2120-4. PMID: 7969970.
 27. **Kikinis R**, Shenton ME, Gerig G, Hokama H, Haimson J, O'Donnell BF, Wible CG, McCarley RW, Jolesz FA. Temporal lobe sulco-gyral pattern anomalies in schizophrenia: an in vivo MR three-dimensional surface rendering study. *Neurosci Lett*. 1994 Nov 21;182(1):7-12. PMID: 7891892.
 28. Vaina LM, Grzywacz NM, **Kikinis R**. Segregation of computations underlying perception of motion discontinuity and coherence. *Neuroreport*. 1994 Nov 21;5(17):2289-94. PMID: 7881048.
 29. Warfield S, Dengler J, Zaers J, Guttmann CR, Wells WM, Ettinger GJ, Hiller J, **Kikinis R**. Automatic identification of gray matter structures from MRI to improve the segmentation of white matter lesions. *J Image Guid Surg*. 1995;1(6):326-38. PMID: 9080353.
 30. O'Donnell BF, Shenton ME, McCarley RW, Faux SF, **Kikinis R**, Nestor PG, Jolesz FA. Conjoint left asymmetry of auditory P300 voltage and MRI volume of posterior superior temporal gyrus in schizophrenia: a quantitative evaluation. *Electroencephalogr Clin Neurophysiol Suppl*. 1995;44:387-94. PMID: 7649048.
 31. Wible CG, Shenton ME, Hokama H, **Kikinis R**, Jolesz FA, Metcalf D, McCarley RW. Prefrontal cortex and schizophrenia. A quantitative magnetic resonance imaging study. *Arch Gen Psychiatry*. 1995 Apr;52(4):279-88. PMID: 7702444.
 32. Schenck JF, Jolesz FA, Roemer PB, Cline HE, Lorensen WE, **Kikinis R**, Silverman SG, Hardy CJ, Barber WD, Laskaris ET, et al. Superconducting open-configuration MR imaging system for image-guided therapy. *Radiology*. 1995 Jun; 195(3):805-14. PMID: 7754014.
 33. O'Donnell BF, Faux SF, McCarley RW, Kimble MO, Salisbury DF, Nestor PG, **Kikinis R**,

- Jolesz FA, Shenton ME. Increased rate of P300 latency prolongation with age in schizophrenia. Electrophysiological evidence for a neurodegenerative process. *Arch Gen Psychiatry*. 1995 Jul;52(7):544-9. PMID: 7598630.
34. Guttmann CR, Ahn SS, Hsu L, **Kikinis R**, Jolesz FA. The evolution of multiple sclerosis lesions on serial MR. *AJNR Am J Neuroradiol*. 1995 Aug;16(7):1481-91. PMID: 7484637.
 35. Seltzer SE, Judy PF, Adams DF, Jacobson FL, Stark P, **Kikinis R**, Swensson RG, Hooton S, Head B, Feldman U. Spiral CT of the chest: comparison of cine and film-based viewing. *Radiology*. 1995 Oct;197(1):73-8. PMID: 7568857.
 36. Hokama H, Shenton ME, Nestor PG, **Kikinis R**, Levitt JJ, Metcalf D, Wible CG, O'Donnell BF, Jolesz FA, McCarley RW. Caudate, putamen, and globus pallidus volume in schizophrenia: a quantitative MRI study. *Psychiatry Res*. 1995 Nov10;61(4):209-29. PMID: 8748466.
 37. Grimson WL, Ettinger GJ, White SJ, Lozano-Perez T, Wells WM, **Kikinis R**. An automatic registration method for frameless stereotaxy, image guided surgery, and enhanced reality visualization. *IEEE Trans Med Imaging*. 1996;15(2):129-40. PMID: 18215896.
 38. Wells WM, Grimson WL, **Kikinis R**, Jolesz FA. Adaptive segmentation of MRI data. *IEEE Trans Med Imaging*. 1996;15(4):429-42. PMID: 18215925.
 39. Wells WM, Viola P, Atsumi H, Nakajima S, **Kikinis R**. Multi-modal volume registration by maximization of mutual information. *Med Image Anal*. 1996 Mar;1(1):35-51. PMID: 9873920.
 40. **Kikinis R**, Gleason PL, Moriarty TM, Moore MR, Alexander E 3rd, Stieg PE, Matsumae M, Lorensen WE, Cline HE, Black PM, Jolesz FA. Computer-assisted interactive three-dimensional planning for neurosurgical procedures. *Neurosurgery*. 1996 Apr;38(4):640-9; discussion 649-51. PMID: 8692380.
 41. Moriarty TM, **Kikinis R**, Jolesz FA, Black PM, Alexander E 3rd. Magnetic resonance imaging therapy. Intraoperative MR imaging. *Neurosurg Clin N Am*. 1996Apr;7(2):323-31. PMID: 8726445.
 42. Kapur T, Grimson WE, Wells WM, **Kikinis R**. Segmentation of brain tissue from magnetic resonance images. *Med Image Anal*. 1996 Jun;1(2):109-27. PMID: 9873924.
 43. Matsumae M, **Kikinis R**, Mórocz I, Lorenzo AV, Albert MS, Black PM, Jolesz FA. Intracranial compartment volumes in patients with enlarged ventricles assessed by magnetic resonance-based image processing. *J Neurosurg*. 1996 Jun;84(6):972-81. PMID: 8847592.
 44. Matsumae M, **Kikinis R**, Mórocz IA, Lorenzo AV, Sándor T, Albert MS, Black PM, Jolesz FA. Age-related changes in intracranial compartment volumes in normal adults assessed by magnetic resonance imaging. *J Neurosurg*. 1996Jun;84(6):982-91. PMID: 8847593.
 45. Reimold SC, Maier SE, Aggarwal K, Fleischmann KE, Piwnica-Worms D, **Kikinis R**, Lee RT. Aortic flow velocity patterns in chronic aortic regurgitation: implications for Doppler echocardiography. *J Am Soc Echocardiogr*. 1996Sep-Oct;9(5):675-83. PMID: 8887871.
 46. Gurvits TV, Shenton ME, Hokama H, Ohta H, Lasko NB, Gilbertson MW, Orr SP, **Kikinis R**, Jolesz FA, McCarley RW, Pitman RK. Magnetic resonance imaging study of hippocampal volume in chronic, combat-related posttraumatic stress disorder. *BiolPsychiatry*. 1996 Dec 1;40(11):1091-9. PMID: 8931911; PMC2910907.
 47. Alexander E 3rd, Moriarty TM, **Kikinis R**, Black P, Jolesz FM. The present and future role of intraoperative MRI in neurosurgical procedures. *Stereotact FunctNeurosurg*. 1997;68(1-4 Pt 1):10-7. PMID: 9711689.
 48. Yoo SS, Guttmann CR, Ives JR, Panych LP, **Kikinis R**, Schomer DL, Jolesz FA. 3D

- localization of surface 10-20 EEG electrodes on high-resolution anatomical MR images. *Electroencephalogr Clin Neurophysiol*. 1997 Apr;102(4):335-9. PMID: 9146495.
49. Nakajima S, Atsumi H, **Kikinis R**, Moriarty TM, Metcalf DC, Jolesz FA, Black PM. Use of cortical surface vessel registration for image-guided neurosurgery. *Neurosurgery*. 1997 Jun;40(6):1201-8; discussion 1208-10. PMID: 9179893.
 50. Silverman SG, Jolesz FA, Newman RW, Morrison PR, Kanan AR, **Kikinis R**, Schwartz RB, Hsu L, Koran SJ, Topulos GP. Design and implementation of an interventional MR imaging suite. *AJR Am J Roentgenol*. 1997 Jun;168(6):1465-71. PMID: 9168709.
 51. Iosifescu DV, Shenton ME, Warfield SK, **Kikinis R**, Dengler J, Jolesz FA, McCarley RW. An automated registration algorithm for measuring MRI subcortical brain structures. *Neuroimage*. 1997 Jul;6(1):13-25. PMID: 9245652.
 52. Nakajima S, Atsumi H, Bhalerao AH, Jolesz FA, **Kikinis R**, Yoshimine T, Moriarty TM, Stieg PE. Computer-assisted surgical planning for cerebrovascular neurosurgery. *Neurosurgery*. 1997 Aug;41(2):403-9; discussion 409-10. PMID: 9257308.
 53. Hohol MJ, Guttmann CR, Orav J, Mackin GA, **Kikinis R**, Khoury SJ, Jolesz FA, Weiner HL. Serial neuropsychological assessment and magnetic resonance imaging analysis in multiple sclerosis. *Arch Neurol*. 1997 Aug;54(8):1018-25. PMID: 9267977.
 54. Black PM, Moriarty T, Alexander E 3rd, Stieg P, Woodard EJ, Gleason PL, Martin CH, **Kikinis R**, Schwartz RB, Jolesz FA. Development and implementation of intraoperative magnetic resonance imaging and its neurosurgical applications. *Neurosurgery*. 1997 Oct;41(4):831-42; discussion 842-5. PMID: 9316044.
 55. Jolesz FA, Lorensen WE, Shinmoto H, Atsumi H, Nakajima S, Kavanaugh P, Saiviroonporn P, Seltzer SE, Silverman SG, Phillips M, **Kikinis R**. Interactive virtual endoscopy. *AJR Am J Roentgenol*. 1997 Nov;169(5):1229-35. PMID: 9353433.
 56. Wible CG, Shenton ME, Fischer IA, Allard JE, **Kikinis R**, Jolesz FA, Iosifescu DV, McCarley RW. Parcellation of the human prefrontal cortex using MRI. *Psychiatry Res*. 1997 Nov 28;76(1):29-40. PMID: 9498307.
 57. Chabrierie A, Ozlen F, Nakajima S, Leventon ME, Atsumi H, Grimson E, Keeve E, Helmers S, Riviello J Jr, Holmes G, Duffy F, Jolesz FA, **Kikinis R**, Black PM. Three-dimensional reconstruction and surgical navigation in pediatric epilepsy surgery. *Pediatr Neurosurg*. 1997 Dec;27(6):304-10. PMID: 9655145.
 58. Held K, Rota Kops E, Krause BJ, Wells WM, **Kikinis R**, Müller-Gärtner HW. Markov random field segmentation of brain MR images. *IEEE Trans Med Imaging*. 1997 Dec;16(6):878-86. PMID: 9533587.
 59. Shimizu K, Mulkern RV, Oshio K, Panych LP, Yoo SS, **Kikinis R**, Jolesz FA. Rapid tip tracking with MRI by a limited projection reconstruction technique. *J Magn Reson Imaging*. 1998 Jan-Feb;8(1):262-4. PMID: 9500292.
 60. Keeve E, Girod S, **Kikinis R**, Girod B. Deformable modeling of facial tissue for craniofacial surgery simulation. *Comput Aided Surg*. 1998;3(5):228-38. PMID: 10207647.
 61. Nakagohri T, Jolesz FA, Okuda S, Asano T, Kenmochi T, Kainuma O, Tokoro Y, Aoyama H, Lorensen WE, **Kikinis R**. Virtual pancreatoscopy of mucin-producing pancreatic tumors. *Comput Aided Surg*. 1998;3(5):264-8. PMID: 10207651.
 62. Saiviroonporn P, Robatino A, Zahajszky J, **Kikinis R**, Jolesz FA. Real-time interactive three-dimensional segmentation. *Acad Radiol*. 1998 Jan;5(1):49-56. PMID: 9442207.
 63. Peled S, Gudbjartsson H, Westin CF, **Kikinis R**, Jolesz FA. Magnetic resonance imaging shows orientation and asymmetry of white matter fiber tracts. *Brain Res*. 1998 Jan

- 5;780(1):27-33. PMID: 9473573.
64. Young GS, Silverman SG, Kettenbach J, Hata N, Golland P, Jolesz FA, LoughlinKR, **Kikinis R**. Three-dimensional computed tomography for planning urologic surgery. *Urol Clin North Am*. 1998 Feb;25(1):103-11. PMID: 9529541.
 65. Hüppi PS, Warfield S, **Kikinis R**, Barnes PD, Zientara GP, Jolesz FA, Tsuji MK, Volpe JJ. Quantitative magnetic resonance imaging of brain development in premature and mature newborns. *Ann Neurol*. 1998 Feb;43(2):224-35. PMID: 9485064.
 66. Frankenthaler RP, Moharir V, **Kikinis R**, van Kipshagen P, Jolesz FA, Umans C, Fried MP. Virtual otoscopy. *Otolaryngol Clin North Am*. 1998 Apr;31(2):383-92. PMID: 9518445.
 67. Guttman CR, Jolesz FA, **Kikinis R**, Killiany RJ, Moss MB, Sandor T, Albert MS. White matter changes with normal aging. *Neurology*. 1998 Apr;50(4):972-8. PMID: 9566381.
 68. Kwon JS, Shenton ME, Hirayasu Y, Salisbury DF, Fischer IA, Dickey CC, Yurgelun-Todd D, Tohen M, **Kikinis R**, Jolesz FA, McCarley RW. MRI study of cavum septi pellucidi in schizophrenia, affective disorder, and schizotypal personality disorder. *Am J Psychiatry*. 1998 Apr;155(4):509-15. PMID: 9545997; PMC2826366.
 69. Chabrierie A, Ozlen F, Nakajima S, Leventon ME, Atsumi H, Grimson E, Jolesz FA, **Kikinis R**, Black PM. Three-dimensional image reconstruction for low-grade glioma surgery. *Neurosurg Focus*. 1998 Apr 15;4(4):e7. PMID: 17168507.
 70. Portas CM, Goldstein JM, Shenton ME, Hokama HH, Wible CG, Fischer I, **Kikinis R**, Donnino R, Jolesz FA, McCarley RW. Volumetric evaluation of the thalamus in schizophrenic male patients using magnetic resonance imaging. *Biol Psychiatry*. 1998 May 1;43(9):649-59. PMID: 9582998.
 71. Gibson S, Fyock C, Grimson E, Kanade T, **Kikinis R**, Lauer H, McKenzie N, Mor A, Nakajima S, Ohkami H, Osborne R, Samosky J, Sawada A. Volumetric object modeling for surgical simulation. *Med Image Anal*. 1998 Jun;2(2):121-32. PMID: 10646758.
 72. Ettinger GJ, Leventon ME, Grimson WE, **Kikinis R**, Gugino L, Cote W, Sprung L, Aglio L, Shenton ME, Potts G, Hernandez VL, Alexander E. Experimentation with a transcranial magnetic stimulation system for functional brain mapping. *Med Image Anal*. 1998 Jun;2(2):133-42. PMID: 10646759.
 73. Sato Y, Nakajima S, Shiraga N, Atsumi H, Yoshida S, Koller T, Gerig G, Kikinis R. Three-dimensional multi-scale line filter for segmentation and visualization of curvilinear structures in medical images. *Med Image Anal*. 1998Jun;2(2):143-68. PMID: 10646760.
 74. Kettenbach J, Silverman SG, Hata N, Kuroda K, Saiviroonporn P, Zientara GP, Morrison PR, Hushek SG, Black PM, **Kikinis R**, Jolesz FA. Monitoring and visualization techniques for MR-guided laser ablations in an open MR system. *J Magn Reson Imaging*. 1998 Jul-Aug;8(4):933-43. PMID: 9702896.
 75. Tsao J, Chiodo CP, Williamson DS, Wilson MG, **Kikinis R**. Computer-assisted quantification of periaxial bone rotation from X-ray CT. *J Comput Assist Tomogr*. 1998 Jul-Aug;22(4):615-20. PMID: 9676455.
 76. Potts GF, Gugino LD, Leventon ME, Grimson WE, **Kikinis R**, Cote W, Alexander E, Anderson JE, Ettinger GJ, Aglio LS, Shenton ME. Visual hemi field mapping using transcranial magnetic stimulation coregistered with cortical surfaces derived from magnetic resonance images. *J Clin Neurophysiol*. 1998 Jul;15(4):344-50. PMID: 9736468.
 77. Hata N, Morrison PR, Kettenbach J, Black PM, **Kikinis R**, Jolesz FA. Computer-assisted intra-operative magnetic resonance imaging monitoring of interstitial laser therapy in the brain: a case report. *J Biomed Opt*. 1998Jul;3(3):304-11. PMID: 23015084.

78. Moharir VM, Fried MP, Vernick DM, Janecka IP, Zahajsky J, Hsu L, Lorensen WE, Anderson M, Wells WM, Morrison P, **Kikinis R**. Computer-assisted three-dimensional reconstruction of head and neck tumors. *Laryngoscope*. 1998 Nov;108(11 Pt 1):1592-8. PMID: 9818811.
79. Zientara GP, Saiviroonporn P, Morrison PR, Fried MP, Hushek SG, **Kikinis R**, Jolesz FA. MRI monitoring of laser ablation using optical flow. *J Magn Reson Imaging*. 1998 Nov-Dec;8(6):1306-18. PMID: 9848743.
80. Sato Y, Shiraga N, Nakajima S, Tamura S, **Kikinis R**. Local maximum intensity projection (LMIP): a new rendering method for vascular visualization. *J Comput Assist Tomogr*. 1998 Nov-Dec;22(6):912-7. PMID: 9843232.
81. Nakajima S, Atsumi H, Metcalf DC, Yoshimine T, Jolesz FA, Black PM, **Kikinis R**. A simple method of scalp localization using multiplanar reconstruction of MR images. *Surg Neurol*. 1998 Dec;50(6):597-9. PMID: 9870823.
82. Ozlen F, Nakajima S, Chabrierie A, Leventon ME, Grimson E, Jolesz FA, Black PM. Excision of cortical dysplasia in the language area with use of a surgical navigator: a case report. *Epilepsia*. 1998 Dec;39(12):1361-6. PMID: 9860075.
83. Golland P, ; , Halle M, Umans C, Grimson WE, Shenton ME, Richolt JA. *AnatomyBrowser*: A novel approach to visualization and integration of medical information. *Comput Aided Surg*. 1999;4(3):129-43. PMID: 10528270.
84. Richolt JA, Teschner M, Everett PC, Millis MB, ; . Impingement simulation of the hip in SCFE using 3D models. *Comput Aided Surg*. 1999;4(3):144-51. PMID: 10528271.
85. Richolt JA, Teschner M, Everett PC, Millis MB, **Kikinis R**. Abstracts from the 4th symposium on computer assisted orthopaedic surgery (CAOS'99), held in Davos, Switzerland on March 18 and 19, 1999. *Comput Aided Surg*. 1999;4(3):152-67. PMID: 10528272.
86. Richolt JA, Teschner M, Everett PC, Millis MB, **Kikinis R**. First announcement and call for papers, 5th international symposium on CAOS, computer assisted orthopaedics surgery, February 17-19, 2000, Davos, Switzerland. *Comput Aided Surg*. 1999;4(3):168. PMID: 10528273.
87. Kwon JS, McCarley RW, Hirayasu Y, Anderson JE, Fischer IA, **Kikinis R**, Jolesz FA, Shenton ME. Left planum temporale volume reduction in schizophrenia. *Arch Gen Psychiatry*. 1999 Feb;56(2):142-8. PMID: 10025438.
88. Fried MP, Moharir VM, Shinmoto H, Alyassin AM, Lorensen WE, Hsu L, **Kikinis R**. Virtual laryngoscopy. *Ann Otol Rhinol Laryngol*. 1999 Mar;108(3):221-6. PMID: 10086612.
89. Guttmann CR, **Kikinis R**, Anderson MC, Jakab M, Warfield SK, Killiany RJ, Weiner HL, Jolesz FA. Quantitative follow-up of patients with multiple sclerosis using MRI: reproducibility. *J Magn Reson Imaging*. 1999 Apr;9(4):509-18. PMID: 10232508.
90. **Kikinis R**, Guttmann CR, Metcalf D, Wells WM, Ettinger GJ, Weiner HL, Jolesz FA. Quantitative follow-up of patients with multiple sclerosis using MRI: technical aspects. *J Magn Reson Imaging*. 1999 Apr;9(4):519-30. PMID: 10232509.
91. Shimizu K, Panych LP, Mulkern RV, Yoo SS, Schwartz RB, **Kikinis R**, Jolesz FA. Partial wavelet encoding: a new approach for accelerating temporal resolution in contrast-enhanced MR imaging. *J Magn Reson Imaging*. 1999 May;9(5):717-24. PMID: 10331769.
92. Grimson WE, **Kikinis R**, Jolesz FA, Black PM. Image-guided surgery. *Sci Am*. 1999 Jun;280(6):62-9. PMID: 10349732.

93. Dickey CC, McCarley RW, Voglmaier MM, Niznikiewicz MA, Seidman LJ, Hirayasu Y, Fischer I, Teh EK, Van Rhoads R, Jakab M, **Kikinis R**, Jolesz FA, Shenton ME. Schizotypal personality disorder and MRI abnormalities of temporal lobe gray matter. *Biol Psychiatry*. 1999 Jun 1;45(11):1393-402. PMID: 10356620;PMC2832794.
94. Hirayasu Y, Shenton ME, Salisbury DF, Kwon JS, Wible CG, Fischer IA, Yurgelun-Todd D, Zarate C, **Kikinis R**, Jolesz FA, McCarley RW. Subgenual cingulate cortex volume in first-episode psychosis. *Am J Psychiatry*. 1999Jul;156(7):1091-3. PMID: 10401458; PMC2845843.
95. Levitt JJ, McCarley RW, Nestor PG, Petrescu C, Donnino R, Hirayasu Y, **Kikinis R**, Jolesz FA, Shenton ME. Quantitative volumetric MRI study of the cerebellum and vermis in schizophrenia: clinical and cognitive correlates. *Am J Psychiatry*. 1999 Jul;156(7):1105-7. PMID: 10401463; PMC2845842.
96. Angenent S, Haker S, Tannenbaum A, **Kikinis R**. On the Laplace-Beltrami operator and brain surface flattening. *IEEE Trans Med Imaging*. 1999Aug;18(8):700-11. PMID: 10534052.
97. Kettenbach J, Wong T, Kacher D, Hata N, Schwartz RB, Black PM, **Kikinis R**, Jolesz FA. Computer-based imaging and interventional MRI: applications for neurosurgery. *Comput Med Imaging Graph*. 1999 Sep-Oct;23(5):245-58. PMID: 10638655.
98. Khoury SJ, Orav EJ, Guttmann CR, **Kikinis R**, Jolesz FA, Weiner HL. Changes in serum levels of ICAM and TNF-R correlate with disease activity in multiple sclerosis. *Neurology*. 1999 Sep 11;53(4):758-64. PMID: 10489037.
99. Inder TE, Huppi PS, Warfield S, **Kikinis R**, Zientara GP, Barnes PD, Jolesz FA, Volpe JJ. Periventricular white matter injury in the premature infant is followed by reduced cerebral cortical gray matter volume at term. *Ann Neurol*. 1999Nov;46(5):755-60. PMID: 10553993.
100. Holinger DP, Shenton ME, Wible CG, Donnino R, **Kikinis R**, Jolesz FA, McCarley RW. Superior temporal gyrus volume abnormalities and thought disorder in left-handed schizophrenic men. *Am J Psychiatry*. 1999 Nov;156(11):1730-5. PMID: 10553736; PMC2845841.
101. Kordelle J, Mamisch C, **Kikinis R**, Seibel R, Richolt JA. Anatomical analysis and preoperative planning of correctional osteotomies: slipped capital femoral epiphysis (SCFE). *Minim Invasive Ther Allied Technol*. 2000;9(3-4):269-76. PMID: 20156024.
102. Daffner KR, Mesulam MM, Holcomb PJ, Calvo V, Acar D, Chabrierie A, **Kikinis R**, Jolesz FA, Rentz DM, Scinto LF. Disruption of attention to novel events after frontal lobe injury in humans. *J Neurol Neurosurg Psychiatry*. 2000Jan;68(1):18-24. PMID: 10601395; PMC1760636.
103. Warfield SK, Kaus M, Jolesz FA, **Kikinis R**. Adaptive, template moderated, spatially varying statistical classification. *Med Image Anal*. 2000Mar;4(1):43-55. PMID: 10972320.
104. Fielding JR, Dumanli H, Schreyer AG, Okuda S, Gering DT, Zou KH, **Kikinis R**, Jolesz FA. MR-based three-dimensional modeling of the normal pelvic floor in women: quantification of muscle mass. *AJR Am J Roentgenol*. 2000 Mar;174(3):657-60. PMID: 10701604.
105. Killiany RJ, Gomez-Isla T, Moss M, **Kikinis R**, Sandor T, Jolesz FA, Tanzi R, Jones K, Hyman BT, Albert MS. Use of structural magnetic resonance imaging to predict who will get Alzheimer's disease. *Ann Neurol*. 2000 Apr;47(4):430-9. PMID: 10762153.
106. Weiner HL, Guttmann CR, Khoury SJ, Orav EJ, Hohol MJ, **Kikinis R**, Jolesz FA. Serial magnetic resonance imaging in multiple sclerosis: correlation with attacks, disability, and

- disease stage. *J Neuroimmunol.* 2000 May 1;104(2):164-73. PMID: 10713356.
107. Warfield SK, Mulkern RV, Winalski CS, Jolesz FA, **Kikinis R**. An image processing strategy for the quantification and visualization of exercise-induced muscle MRI signal enhancement. *J Magn Reson Imaging.* 2000 May;11(5):525-31. PMID: 10813862.
 108. Schreyer AG, Fielding JR, Warfield SK, Lee JH, Loughlin KR, Dumanli H, Jolesz FA, **Kikinis R**. Virtual CT cystoscopy: color mapping of bladder wall thickness. *Invest Radiol.* 2000 May;35(5):331-4. PMID: 10803675.
 109. Westin CF, Richolt J, Moharir V, **Kikinis R**. Affine adaptive filtering of CT data. *Med Image Anal.* 2000 Jun;4(2):161-77. PMID: 10972328.
 110. Richolt JA, Everett P, Teschner M, **Kikinis R**, Millis MB. [Computer-assisted planning of corrective osteotomies in cases of epiphysiolysis capitis femoris]. *Orthopade.* 2000 Jul;29(7):599-604. German. PMID: 10986704.
 111. Hata N, Nabavi A, Wells WM, Warfield SK, **Kikinis R**, Black PM, Jolesz FA. Three-dimensional optical flow method for measurement of volumetric brain deformation from intraoperative MR images. *J Comput Assist Tomogr.* 2000 Jul-Aug;24(4):531-8. PMID: 10966182.
 112. Haker S, Angenent S, Tannenbaum A, **Kikinis R**. Nondistorting flattening maps and the 3-D visualization of colon CT images. *IEEE Trans Med Imaging.* 2000 Jul;19(7):665-70. Erratum in: *IEEE Trans Med Imaging* 2000 Dec;19(12):1267. PMID: 11055781.
 113. Hirayasu Y, McCarley RW, Salisbury DF, Tanaka S, Kwon JS, Frumin M, Snyderman D, Yurgelun-Todd D, **Kikinis R**, Jolesz FA, Shenton ME. Planum temporale and Heschl gyrus volume reduction in schizophrenia: a magnetic resonance imaging study of first-episode patients. *Arch Gen Psychiatry.* 2000 Jul;57(7):692-9. PMID: 10891040; PMC2850271.
 114. Dumanli H, Fielding JR, Gering DT, **Kikinis R**. Volume assessment of the normal female cervix with MR imaging: comparison of the segmentation technique and two geometric formula. *Acad Radiol.* 2000 Jul;7(7):502-5. PMID: 10902958.
 115. Okuda S, **Kikinis R**, Geva T, Chung T, Dumanil H, Powell AJ. 3D-shaded surface rendering of gadolinium-enhanced MR angiography in congenital heart disease. *Pediatr Radiol.* 2000 Aug;30(8):540-5. PMID: 10993538.
 116. Khoury SJ, Guttmann CR, Orav EJ, **Kikinis R**, Jolesz FA, Weiner HL. Changes inactivated T cells in the blood correlate with disease activity in multiple sclerosis. *Arch Neurol.* 2000 Aug;57(8):1183-9. PMID: 10927799.
 117. Bhalerao A, Pfister H, Halle M, **Kikinis R**. Fast re-rendering of volume and surface graphics by depth, color, and opacity buffering. *Med Image Anal.* 2000 Sep;4(3):235-51. PMID: 11145311.
 118. Jolesz FA, Nabavi A, **Kikinis R**. Integration of interventional MRI with computer-assisted surgery. *J Magn Reson Imaging.* 2001 Jan;13(1):69-77. PMID: 11169806.
 119. Mamata Y, Mamata H, Nabavi A, Kacher DF, Pergolizzi RS Jr, Schwartz RB, **Kikinis R**, Jolesz FA, Maier SE. Intraoperative diffusion imaging on a 0.5 Tesla interventional scanner. *J Magn Reson Imaging.* 2001 Jan;13(1):115-9. PMID: 11169812.
 120. Shahidi R, Clarke L, Bucholz RD, Fuchs H, **Kikinis R**, Robb RA, Vannier MW. White paper: challenges and opportunities in computer-assisted interventions. January 2001. *Comput Aided Surg.* 2001;6(3):176-81. PMID: 11747136.
 121. Sperling RA, Guttmann CR, Hohol MJ, Warfield SK, Jakab M, Parente M, Diamond EL, Daffner KR, Olek MJ, Orav EJ, **Kikinis R**, Jolesz FA, Weiner HL. Regional magnetic resonance imaging lesion burden and cognitive function in multiple sclerosis: a longitudinal

- study. *Arch Neurol*. 2001 Jan;58(1):115-21. PMID: 11176944.
122. Zahajszky J, Dickey CC, McCarley RW, Fischer IA, Nestor P, **Kikinis R**, Shenton ME. A quantitative MR measure of the fornix in schizophrenia. *Schizophr Res*. 2001 Jan 15;47(1):87-97. PMID: 11163548; PMC2845160.
 123. Kaus MR, Warfield SK, Nabavi A, Black PM, Jolesz FA, **Kikinis R**. Automated segmentation of MR images of brain tumors. *Radiology*. 2001 Feb;218(2):586-91. PMID: 11161183.
 124. Murphy BP, Inder TE, Huppi PS, Warfield S, Zientara GP, **Kikinis R**, Jolesz FA, Volpe JJ. Impaired cerebral cortical gray matter growth after treatment with dexamethasone for neonatal chronic lung disease. *Pediatrics*. 2001Feb;107(2):217-21. PMID: 11158449.
 125. Hüppi PS, Murphy B, Maier SE, Zientara GP, Inder TE, Barnes PD, **Kikinis R**, Jolesz FA, Volpe JJ. Microstructural brain development after perinatal cerebral white matter injury assessed by diffusion tensor magnetic resonance imaging. *Pediatrics*. 2001 Mar;107(3):455-60. PMID: 11230582.
 126. Kordelle J, Richolt JA, Millis M, Jolesz FA, **Kikinis R**. Development of the acetabulum in patients with slipped capital femoral epiphysis: a three-dimensional analysis based on computed tomography. *J Pediatr Orthop*. 2001Mar-Apr;21(2):174-8. PMID: 11242245.
 127. Kordelle J, Millis M, Jolesz FA, **Kikinis R**, Richolt JA. Three-dimensional analysis of the proximal femur in patients with slipped capital femoral epiphysis based on computed tomography. *J Pediatr Orthop*. 2001 Mar-Apr;21(2):179-82. PMID: 11242246.
 128. Mórocz IA, Zientara GP, Gudbjartsson H, Muza S, Lyons T, Rock PB, **Kikinis R**, Jolesz FA. Volumetric quantification of brain swelling after hypobaric hypoxia exposure. *Exp Neurol*. 2001 Mar;168(1):96-104. PMID: 11170724.
 129. Nabavi A, Black PM, Gering DT, Westin CF, Mehta V, Pergolizzi RS Jr, FerrantM, Warfield SK, Hata N, Schwartz RB, Wells WM, **Kikinis R**, Jolesz FA. Serial intraoperative magnetic resonance imaging of brain shift. *Neurosurgery*. 2001 Apr;48(4):787-97; discussion 797-8. PMID: 11322439.
 130. Hirayasu Y, Tanaka S, Shenton ME, Salisbury DF, DeSantis MA, Levitt JJ, Wible C, Yurgelun-Todd D, **Kikinis R**, Jolesz FA, McCarley RW. Prefrontal gray matter volume reduction in first episode schizophrenia. *Cereb Cortex*. 2001Apr;11(4):374-81. PMID: 11278200.
 131. Schierlitz L, Dumanli H, Robinson JN, Burrows PE, Schreyer AG, **Kikinis R**, Jolesz FA, Tempany CM. Three-dimensional magnetic resonance imaging of fetal brains. *Lancet*. 2001 Apr 14;357(9263):1177-8. PMID: 11323047.
 132. Gering DT, Nabavi A, **Kikinis R**, Hata N, O'Donnell LJ, Grimson WE, Jolesz FA, Black PM, Wells WM. An integrated visualization system for surgical planning and guidance using image fusion and an open MR. *J Magn Reson Imaging*. 2001Jun;13(6):967-75. PMID: 11382961.
 133. Wible CG, Kubicki M, Yoo SS, Kacher DF, Salisbury DF, Anderson MC, Shenton ME, Hirayasu Y, **Kikinis R**, Jolesz FA, McCarley RW. A functional magnetic resonance imaging study of auditory mismatch in schizophrenia. *Am J Psychiatry*. 2001 Jun;158(6):938-43. PMID: 11384903; PMC2845157.
 134. Hata N, Jinzaki M, Kacher D, Cormak R, Gering D, Nabavi A, Silverman SG, D'Amico AV, **Kikinis R**, Jolesz FA, Tempany CM. MR imaging-guided prostate biopsy with surgical navigation software: device validation and feasibility. *Radiology*. 2001 Jul;220(1):263-8. PMID: 11426008.

135. Westin CF, Wigström L, Loock T, Sjöqvist L, **Kikinis R**, Knutsson H. Three-dimensional adaptive filtering in magnetic resonance angiography. *J Magn Reson Imaging*. 2001 Jul;14(1):63-71. PMID: 11436216.
136. Hoyte L, Fielding JR, Versi E, Mamisch C, Kolvenbach C, **Kikinis R**. Variations in levator ani volume and geometry in women: the application of Massed 3D reconstruction in evaluating pelvic floor dysfunction. *Arch Esp Urol*. 2001 Jul-Aug;54(6):532-9. PMID: 11512397.
137. Lorigo LM, Faugeras OD, Grimson WE, Keriven R, **Kikinis R**, Nabavi A, Westin CF. CURVES: curve evolution for vessel segmentation. *Med Image Anal*. 2001 Sep;5(3):195-206. PMID: 11524226.
138. Ruiz-Alzola J, **Kikinis R**, Westin CF. Detection of point landmarks in multidimensional tensor data. *Signal Processing*. 2001 Oct;81(10):2243-2247. PMID: 26005233; PMC4438315.
139. Gugino LD, Romero JR, Aglio L, Titone D, Ramirez M, Pascual-Leone A, Grimson E, Weisenfeld N, **Kikinis R**, Shenton ME. Transcranial magnetic stimulation coregistered with MRI: a comparison of a guided versus blind stimulation technique and its effect on evoked compound muscle action potentials. *Clin Neurophysiol*. 2001 Oct;112(10):1781-92. PMID: 11595135; PMC2845153.
140. Wible CG, Anderson J, Shenton ME, Kricun A, Hirayasu Y, Tanaka S, Levitt JJ, O'Donnell BF, **Kikinis R**, Jolesz FA, McCarley RW. Prefrontal cortex, negative symptoms, and schizophrenia: an MRI study. *Psychiatry Res*. 2001 Nov 30;108(2):65-78. PMID: 11738541; PMC2845854.
141. Bharatha A, Hirose M, Hata N, Warfield SK, Ferrant M, Zou KH, Suarez-Santana E, Ruiz-Alzola J, D'Amico A, Cormack RA, **Kikinis R**, Jolesz FA, Tempany CM. Evaluation of three-dimensional finite element-based deformable registration for pre- and intraoperative prostate imaging. *Med Phys*. 2001 Dec;28(12):2551-60. PMID: 11797960.
142. Ferrant M, Nabavi A, Macq B, Jolesz FA, **Kikinis R**, Warfield SK. Registration of 3-D intraoperative MR images of the brain using a finite-element biomechanical model. *IEEE Trans Med Imaging*. 2001 Dec;20(12):1384-97. PMID: 11811838.
143. Mamata H, Mamata Y, Westin CF, Shenton ME, **Kikinis R**, Jolesz FA, Maier SE. High-resolution line scan diffusion tensor MR imaging of white matter fiber tract anatomy. *AJNR Am J Neuroradiol*. 2002 Jan;23(1):67-75. PMID: 11827877; PMC2845164.
144. Benson RR, Guttmann CR, Wei X, Warfield SK, Hall C, Schmidt JA, **Kikinis R**, Wolfson LI. Older people with impaired mobility have specific loci of periventricular abnormality on MRI. *Neurology*. 2002 Jan 8;58(1):48-55. PMID: 11781405.
145. Fielding JR, Hoyte L, Okon SA, Schreyer A, Lee J, Zou KH, Warfield S, Richie JP, Loughlin KR, O'Leary MP, Doyle CJ, **Kikinis R**. Tumor detection by virtual cystoscopy with color mapping of bladder wall thickness. *J Urol*. 2002 Feb;167(2Pt 1):559-62. PMID: 11792918.
146. McCarley RW, Salisbury DF, Hirayasu Y, Yurgelun-Todd DA, Tohen M, Zarate C, **Kikinis R**, Jolesz FA, Shenton ME. Association between smaller left posterior superior temporal gyrus volume on magnetic resonance imaging and smaller left temporal P300 amplitude in first-episode schizophrenia. *Arch Gen Psychiatry*. 2002 Apr;59(4):321-31. PMID: 11926932.
147. Killiany RJ, Hyman BT, Gomez-Isla T, Moss MB, **Kikinis R**, Jolesz FA, Tanzi R, Jones K, Albert MS. MRI measures of entorhinal cortex vs. hippocampus in preclinical AD. *Neurology*. 2002 Apr 23;58(8):1188-96. PMID: 11971085.

148. Kubicki M, Westin CF, Maier SE, Frumin M, Nestor PG, Salisbury DF, **Kikinis R**, Jolesz FA, McCarley RW, Shenton ME. Uncinate fasciculus findings in schizophrenia: a magnetic resonance diffusion tensor imaging study. *Am J Psychiatry*. 2002 May;159(5):813-20. PMID: 11986136; PMC2803760.
149. Frumin M, Golland P, **Kikinis R**, Hirayasu Y, Salisbury DF, Hennen J, Dickey CC, Anderson M, Jolesz FA, Grimson WE, McCarley RW, Shenton ME. Shape differences in the corpus callosum in first-episode schizophrenia and first-episode psychotic affective disorder. *Am J Psychiatry*. 2002 May;159(5):866-8. PMID: 11986146; PMC2845853.
150. Ruiz-Alzola J, Westin CF, Warfield SK, Alberola C, Maier S, **Kikinis R**. Nonrigid registration of 3D tensor medical data. *Med Image Anal*. 2002 Jun;6(2):143-61. PMID: 12045001.
151. Levitt JJ, McCarley RW, Dickey CC, Voglmaier MM, Niznikiewicz MA, Seidman LJ, Hirayasu Y, Ciszewski AA, **Kikinis R**, Jolesz FA, Shenton ME. MRI study of caudate nucleus volume and its cognitive correlates in neuroleptic-naive patients with schizotypal personality disorder. *Am J Psychiatry*. 2002 Jul;159(7):1190-7. PMID: 12091198; PMC2826363.
152. Troulis MJ, Everett P, Seldin EB, **Kikinis R**, Kaban LB. Development of a three-dimensional treatment planning system based on computed tomographic data. *Int J Oral Maxillofac Surg*. 2002 Aug;31(4):349-57. PMID: 12361065.
153. Hirose M, Bharatha A, Hata N, Zou KH, Warfield SK, Cormack RA, D'Amico A, **Kikinis R**, Jolesz FA, Tempny CM. Quantitative MR imaging assessment of prostate gland deformation before and during MR imaging-guided brachytherapy. *Acad Radiol*. 2002 Aug;9(8):906-12. PMID: 12186439.
154. Shenton ME, Gerig G, McCarley RW, Székely G, **Kikinis R**. Amygdala-hippocampal shape differences in schizophrenia: the application of 3D shape models to volumetric MR data. *Psychiatry Res*. 2002 Aug 20;115(1-2):15-35. PMID: 12165365; PMC2824647.
155. Rodt T, Ratiu P, Becker H, Bartling S, Kacher DF, Anderson M, Jolesz FA, **Kikinis R**. 3D visualization of the middle ear and adjacent structures using reconstructed multi-slice CT datasets, correlating 3D images and virtual endoscopy to the 2D cross-sectional images. *Neuroradiology*. 2002 Sep;44(9):783-90. PMID: 12221454.
156. Schreyer AG, Herfarth H, **Kikinis R**, Seitz J, Schölmerich J, Geissler A, Feuerbach S. 3D modeling and virtual endoscopy of the small bowel based nonmagnetic resonance imaging in patients with inflammatory bowel disease. *Invest Radiol*. 2002 Sep;37(9):528-33. PMID: 12218449.
157. Vaina LM, Cowey A, LeMay M, Bienfang DC, **Kikinis R**. Visual deficits in patient with 'kaleidoscopic disintegration of the visual world'. *Eur J Neurol*. 2002 Sep;9(5):463-77. PMID: 12220377.
158. Lee CU, Shenton ME, Salisbury DF, Kasai K, Onitsuka T, Dickey CC, Yurgelun-Todd D, **Kikinis R**, Jolesz FA, McCarley RW. Fusiform gyrus volume reduction in first-episode schizophrenia: a magnetic resonance imaging study. *Arch Gen Psychiatry*. 2002 Sep;59(9):775-81. PMID: 12215076.
159. Malhotra A, Huang Y, Fogel RB, Pillar G, Edwards JK, **Kikinis R**, Loring SH, White DP. The male predisposition to pharyngeal collapse: importance of airway length. *Am J Respir Crit Care Med*. 2002 Nov 15;166(10):1388-95. PMID: 12421747.
160. Kubicki M, Shenton ME, Salisbury DF, Hirayasu Y, Kasai K, **Kikinis R**, Jolesz FA, McCarley RW. Voxel-based morphometric analysis of gray matter in first episode

- schizophrenia. *Neuroimage*. 2002 Dec;17(4):1711-9. PMID: 12498745; PMC2845166.
161. Ferrant M, Nabavi A, Macq B, Black PM, Jolesz FA, **Kikinis R**, Warfield SK. Serial registration of intraoperative MR images of the brain. *Med Image Anal*. 2002 Dec;6(4):337-59. PMID: 12426109.
 162. Welsch G, Mamisch TC, **Kikinis R**, Schmidt R, Lang P, Forst R, Fitz W. CT-based preoperative analysis of scapula morphology and glenohumeral joint geometry. *Comput Aided Surg*. 2003;8(5):264-8. PMID: 15529956.
 163. Kasai K, Shenton ME, Salisbury DF, Hirayasu Y, Lee CU, Ciszewski AA, Yurgelun-Todd D, **Kikinis R**, Jolesz FA, McCarley RW. Progressive decrease of left superior temporal gyrus gray matter volume in patients with first-episode schizophrenia. *Am J Psychiatry*. 2003 Jan;160(1):156-64. PMID: 12505815; PMC2845847.
 164. Nabavi A, Gering DT, Kacher DF, Talos IF, Wells WM, **Kikinis R**, Black PM, Jolesz FA. Surgical navigation in the open MRI. *Acta Neurochir Suppl*. 2003;85:121-5. PMID: 12570147.
 165. Jaume S, Ferrant M, Macq B, Hoyte L, Fielding JR, Schreyer A, **Kikinis R**, Warfield SK. Tumor detection in the bladder wall with a measurement of abnormal thickness in CT scans. *IEEE Trans Biomed Eng*. 2003 Mar;50(3):383-90. PMID: 12669995.
 166. Fogel RB, Malhotra A, Dalagiorgou G, Robinson MK, Jakab M, **Kikinis R**, Pittman SD, White DP. Anatomic and physiologic predictors of apnea severity in morbidly obese subjects. *Sleep*. 2003 Mar 15;26(2):150-5. Retraction in: *Sleep*. 2009 Apr;32(4):445. PMID: 12683472.
 167. Onitsuka T, Shenton ME, Kasai K, Nestor PG, Toner SK, **Kikinis R**, Jolesz FA, McCarley RW. Fusiform gyrus volume reduction and facial recognition in chronic schizophrenia. *Arch Gen Psychiatry*. 2003 Apr;60(4):349-55. PMID: 12695311.
 168. Kasai K, Shenton ME, Salisbury DF, Hirayasu Y, Onitsuka T, Spencer MH, Yurgelun-Todd DA, **Kikinis R**, Jolesz FA, McCarley RW. Progressive decrease of left Heschl gyrus and planum temporale gray matter volume in first-episode schizophrenia: a longitudinal magnetic resonance imaging study. *Arch Gen Psychiatry*. 2003 Aug;60(8):766-75. PMID: 12912760; PMC2901861.
 169. Kasai K, Shenton ME, Salisbury DF, Onitsuka T, Toner SK, Yurgelun-Todd D, **Kikinis R**, Jolesz FA, McCarley RW. Differences and similarities in insular and temporal pole MRI gray matter volume abnormalities in first-episode schizophrenia and affective psychosis. *Arch Gen Psychiatry*. 2003 Nov;60(11):1069-77. PMID: 14609882.
 170. Kubicki M, McCarley RW, Nestor PG, Huh T, **Kikinis R**, Shenton ME, Wible CG. An fMRI study of semantic processing in men with schizophrenia. *Neuroimage*. 2003 Dec;20(4):1923-33. PMID: 14683698; PMC2806220.
 171. Park HJ, Kubicki M, Shenton ME, Guimond A, McCarley RW, Maier SE, **Kikinis R**, Jolesz FA, Westin CF. Spatial normalization of diffusion tensor MRI using multiple channels. *Neuroimage*. 2003 Dec;20(4):1995-2009. PMID: 14683705; PMC2811885.
 172. Kubicki M, Westin CF, Nestor PG, Wible CG, Frumin M, Maier SE, **Kikinis R**, Jolesz FA, McCarley RW, Shenton ME. Cingulate fasciculus integrity disruption in schizophrenia: a magnetic resonance diffusion tensor imaging study. *Biol Psychiatry*. 2003 Dec 1;54(11):1171-80. Erratum in: *Biol Psychiatry*. 2004 Mar 15;55(6):661. PMID: 14643084; PMC2806222.
 173. Zou KH, Warfield SK, Fielding JR, Tempany CM, William MW, Kaus MR, Jolesz FA, **Kikinis R**. Statistical validation based on parametric receiver operating characteristic

- analysis of continuous classification data. *Acad Radiol*.2003 Dec;10(12):1359-68. PMID: 14697004; PMC1409756.
174. Watanabe M, **Kikinis R**, Westin CF. Level set-based integration of segmentation and computational fluid dynamics for flow correction in phase contrast angiography. *Acad Radiol*. 2003 Dec;10(12):1416-23. PMID: 14697009.
 175. Dickhaus CF, Burghart C, Tempany CM, D'Amico A, Haker S, **Kikinis R**, Woern H. Workflow modeling and analysis of computer guided prostate brachytherapy under MR imaging control. *Stud Health Technol Inform*. 2004;98:72-4. PMID: 15544246.
 176. Wiegand LC, Warfield SK, Levitt JJ, Hirayasu Y, Salisbury DF, Heckers S, Dickey CC, **Kikinis R**, Jolesz FA, McCarley RW, Shenton ME. Prefrontal cortical thickness in first-episode psychosis: a magnetic resonance imaging study. *BiolPsychiatry*. 2004 Jan 15;55(2):131-40. PMID: 14732592; PMC2794421.
 177. Levitt JJ, Westin CF, Nestor PG, Estepar RS, Dickey CC, Voglmaier MM, Seidman LJ, **Kikinis R**, Jolesz FA, McCarley RW, Shenton ME. Shape of caudate nucleus and its cognitive correlates in neuroleptic-naive schizotypal personality disorder. *Biol Psychiatry*. 2004 Jan 15;55(2):177-84. PMID: 14732598; PMC2793335.
 178. Zou KH, Warfield SK, Bharatha A, Tempany CM, Kaus MR, Haker SJ, Wells WM, Jolesz FA, **Kikinis R**. Statistical validation of image segmentation quality based on a spatial overlap index. *Acad Radiol*. 2004 Feb;11(2):178-89. PMID: 14974593; PMC1415224.
 179. Kubicki M, Maier SE, Westin CF, Mamata H, Ersner-Hershfield H, Estepar R, **Kikinis R**, Jolesz FA, McCarley RW, Shenton ME. Comparison of single-shot echo-planar and line scan protocols for diffusion tensor imaging. *Acad Radiol*.2004 Feb;11(2):224-32. PMID: 14974598; PMC2793336.
 180. Grau V, Mewes AU, Alcañiz M, **Kikinis R**, Warfield SK. Improved watershed transform for medical image segmentation using prior information. *IEEE Trans Med Imaging*. 2004 Apr;23(4):447-58. PMID: 15084070.
 181. Zou KH, Wells WM, **Kikinis R**, Warfield SK. Three validation metrics for automated probabilistic image segmentation of brain tumours. *Stat Med*. 2004 Apr30;23(8):1259-82. PMID: 15083482; PMC1463246.
 182. Mocanu D, Kettenbach J, Sweeney MO, **Kikinis R**, Kenknight BH, Eisenberg SR. Comparison of biventricular and conventional transvenous defibrillation: a computational study using patient derived models. *Pacing Clin Electrophysiol*.2004 May;27(5):586-93. PMID: 15125713.
 183. Mocanu D, Kettenbach J, Sweeney MO, **Kikinis R**, Kenknight BH, Eisenberg SR. Patient-specific computational analysis of transvenous defibrillation: comparison to clinical metrics in humans. *Ann Biomed Eng*. 2004 Jun;32(6):775-83. PMID: 15255208.
 184. Ellsmere J, Stoll J, Wells WM, **Kikinis R**, Vosburgh K, Kane R, Brooks D, Rattner D. A new visualization technique for laparoscopic ultrasonography. *Surgery*. 2004 Jul;136(1):84-92. PMID: 15232543.
 185. Park HJ, Levitt J, Shenton ME, Salisbury DF, Kubicki M, **Kikinis R**, Jolesz FA, McCarley RW. An MRI study of spatial probability brain map differences between first-episode schizophrenia and normal controls. *Neuroimage*. 2004Jul;22(3):1231-46. PMID: 15219595; PMC2789267.
 186. Rodt T, Burmeister HP, Bartling S, Kaminsky J, Schwab B, **Kikinis R**, BeckerH. [3D-Visualisation of the middle ear by computer-assisted post-processing of helical multi-slice CT data]. *Laryngorhinootologie*. 2004 Jul;83(7):438-44. German. PMID: 15257492.

187. Park HJ, Westin CF, Kubicki M, Maier SE, Niznikiewicz M, Baer A, Frumin M, **Kikinis R**, Jolesz FA, McCarley RW, Shenton ME. White matter hemisphere asymmetries in healthy subjects and in schizophrenia: a diffusion tensor MRI study. *Neuroimage*. 2004 Sep;23(1):213-23. PMID: 15325368; PMC2794419.
188. Pichon E, Tannenbaum A, **Kikinis R**. A statistically based flow for image segmentation. *Med Image Anal*. 2004 Sep;8(3):267-74. PMID: 15450221; PMC3652279.
189. Schreyer AG, Fürst A, Agha A, **Kikinis R**, Scheibl K, Schölmerich J, Feuerbach S, Herfarth H, Seitz J. Magnetic resonance imaging based colonography for diagnosis and assessment of diverticulosis and diverticulitis. *Int J Colorectal Dis*. 2004 Sep;19(5):474-80. PMID: 15088109.
190. Onitsuka T, Shenton ME, Salisbury DF, Dickey CC, Kasai K, Toner SK, Frumin M, **Kikinis R**, Jolesz FA, McCarley RW. Middle and inferior temporal gyrus gray matter volume abnormalities in chronic schizophrenia: an MRI study. *Am J Psychiatry*. 2004 Sep;161(9):1603-11. PMID: 15337650; PMC2793337.
191. Park HJ, Kubicki M, Westin CF, Talos IF, Brun A, Peiper S, **Kikinis R**, Jolesz FA, McCarley RW, Shenton ME. Method for combining information from white matter fiber tracking and gray matter parcellation. *AJNR Am J Neuroradiol*. 2004 Sep;25(8):1318-24. PMID: 15466325; PMC2813857.
192. Kasai K, McCarley RW, Salisbury DF, Onitsuka T, Demeo S, Yurgelun-Todd D, **Kikinis R**, Jolesz FA, Shenton ME. Cavum septi pellucidi in first-episode schizophrenia and first-episode affective psychosis: an MRI study. *Schizophr Res*. 2004 Nov 1;71(1):65-76. PMID: 15374574; PMC2811876.
193. McArdle JJ, Hamgami F, Jones K, Jolesz FA, **Kikinis R**, Spiro A 3rd, Albert MS. Structural modeling of dynamic changes in memory and brain structure using longitudinal data from the normative aging study. *J Gerontol B Psychol Sci Soc Sci*. 2004 Nov;59(6):P294-304. PMID: 15576857.
194. Luboz V, Wu X, Krissian K, Westin CF, **Kikinis R**, Cotin S, Dawson S. Segmentation and reconstruction technique for 3D vascular structures. *Med Image Comput Comput Assist Interv*. 2005;8(Pt 1):43-50. PMID: 16685827.
195. Pohl KM, Fisher J, Levitt JJ, Shenton ME, **Kikinis R**, Grimson WE, Wells WM. Unifying approach to registration, segmentation, and intensity correction. *Med Image Comput Comput Assist Interv*. 2005;8(Pt 1):310-8. PMID: 16685860; PMC2784666.
196. Clatz O, Delingette H, Talos IF, Golby AJ, **Kikinis R**, Jolesz FA, Ayache N, Warfield SK. Hybrid formulation of the model-based non-rigid registration problem to improve accuracy and robustness. *Med Image Comput Comput Assist Interv*. 2005;8(Pt 2):295-302. PMID: 16685972.
197. Wittek A, **Kikinis R**, Warfield SK, Miller K. Brain shift computation using a fully nonlinear biomechanical model. *Med Image Comput Comput Assist Interv*. 2005;8(Pt 2):583-90. PMID: 16686007.
198. Wiegand LC, Warfield SK, Levitt JJ, Hirayasu Y, Salisbury DF, Heckers S, Bouix S, Schwartz D, Spencer M, Dickey CC, **Kikinis R**, Jolesz FA, McCarley RW, Shenton ME. An in vivo MRI study of prefrontal cortical complexity in first-episode psychosis. *Am J Psychiatry*. 2005 Jan;162(1):65-70. PMID: 15625203; PMC2768063.
199. Golland P, Grimson WE, Shenton ME, **Kikinis R**. Detection and analysis of statistical differences in anatomical shape. *Med Image Anal*. 2005 Feb;9(1):69-86. PMID: 15581813; PMC2768070.

200. Schreyer AG, Rath HC, **Kikinis R**, Völk M, Schölmerich J, Feuerbach S, Rogler G, Seitz J, Herfarth H. Comparison of magnetic resonance imaging colonography with conventional colonoscopy for the assessment of intestinal inflammation in patients with inflammatory bowel disease: a feasibility study. *Gut*. 2005 Feb;54(2):250-6. PMID: 15647190; PMC1774854.
201. Yeshwant K, Seldin EB, Gateno J, Everett P, White CL, **Kikinis R**, Kaban LB, Troulis MJ. Analysis of skeletal movements in mandibularis traction osteogenesis. *J Oral Maxillofac Surg*. 2005 Mar;63(3):335-40. PMID: 15742283.
202. Yeshwant KC, Seldin EB, **Kikinis R**, Kaban LB. A computer-assisted approach to planning multidimensional distraction osteogenesis. *Atlas Oral Maxillofac Surg Clin North Am*. 2005 Mar;13(1):1-12. PMID: 15820426.
203. Verhey JF, Wisser J, Warfield SK, Rexilius J, **Kikinis R**. Non-rigid registration of a 3D ultrasound and a MR image data set of the female pelvic floor using a biomechanical model. *Biomed Eng Online*. 2005 Mar 18;4:19. PMID: 15777475; PMC1079899.
204. Bartling SH, Peldschus K, Rodt T, Kral F, Matthies H, **Kikinis R**, Becker H. Registration and fusion of CT and MRI of the temporal bone. *J Comput Assist Tomogr*. 2005 May-Jun;29(3):305-10. PMID: 15891495.
205. Verhey JF, Wisser J, Keller T, Westin CF, **Kikinis R**. Rigid overlay of volume sonography and MR image data of the female pelvic floor using a fiducial based alignment--feasibility due to a case series. *Comput Med Imaging Graph*. 2005 Jun;29(4):243-9. PMID: 15890251.
206. Kubicki M, Park H, Westin CF, Nestor PG, Mulkern RV, Maier SE, Niznikiewicz M, Connor EE, Levitt JJ, Frumin M, **Kikinis R**, Jolesz FA, McCarley RW, Shenton ME. DTI and MTR abnormalities in schizophrenia: analysis of white matter integrity. *Neuroimage*. 2005 Jul 15;26(4):1109-18. PMID: 15878290; PMC2768051.
207. Vaina LM, Cowey A, Jakab M, **Kikinis R**. Deficits of motion integration and segregation in patients with unilateral extra striate lesions. *Brain*. 2005 Sep;128(Pt 9):2134-45. PMID: 15975945.
208. Nakamura M, McCarley RW, Kubicki M, Dickey CC, Niznikiewicz MA, Voglmaier MM, Seidman LJ, Maier SE, Westin CF, **Kikinis R**, Shenton ME. Fronto-temporal disconnectivity in schizotypal personality disorder: a diffusion tensor imaging study. *Biol Psychiatry*. 2005 Sep 15;58(6):468-78. PMID: 15978550; PMC2768055.
209. Zou KH, Resnic FS, Talos IF, Goldberg-Zimring D, Bhagwat JG, Haker SJ, **Kikinis R**, Jolesz FA, Ohno-Machado L. A global goodness-of-fit test for receiver operating characteristic curve analysis via the bootstrap method. *J Biomed Inform*. 2005 Oct;38(5):395-403. PMID: 16198998.
210. Davison BD, Yeshwant K, **Kikinis R**, Rolnick J, Zou K, Chung B, Yucel EK. Development and testing of a cross-sectional area measurement tool for evaluating vein size. *Comput Biol Med*. 2005 Oct;35(7):617-26. PMID: 15809099.
211. Clatz O, Delingette H, Talos IF, Golby AJ, Kikinis R, Jolesz FA, Ayache N, Warfield SK. Robust nonrigid registration to capture brain shift from intraoperative MRI. *IEEE Trans Med Imaging*. 2005 Nov;24(11):1417-27. PMID: 16279079; PMC2042023.
212. Zou KH, Greve DN, Wang M, Pieper SD, Warfield SK, White NS, Manandhar S, Brown GG, Vangel MG, **Kikinis R**, Wells WM, FIRST BIRN Research Group. Reproducibility of functional MR imaging: preliminary results of prospective multi-institutional study performed by Biomedical Informatics Research Network. *Radiology*. 2005 Dec;237(3):781-9. PMID: 16304101; PMC1351264.

213. DiMaio SP, Kacher DF, Ellis RE, Fichtinger G, Hata N, Zientara GP, Panych LP, **Kikinis R**, Jolesz FA. Needle artifact localization in 3T MR images. *StudHealth Technol Inform*. 2006;119:120-5. PMID: 16404029.
214. DiMaio SP, Pieper S, Chinzei K, Hata N, Balogh E, Fichtinger G, Tempany CM, **Kikinis R**. Robot-assisted needle placement in open-MRI: system architecture, integration and validation. *Stud Health Technol Inform*. 2006;119:126-31. PMID: 16404030.
215. Estépar RS, Washko GG, Silverman EK, Reilly JJ, **Kikinis R**, Westin CF. Accurate airway wall estimation using phase congruency. *Med Image Comput Comput Assist Interv*. 2006;9(Pt 2):125-34. PMID: 17354764.
216. Pohl KM, Fisher J, Shenton ME, McCarley RW, Grimson WE, **Kikinis R**, Wells WM. Logarithm odds maps for shape representation. *Med Image Comput Comput Assist Interv*. 2006;9(Pt 2):955-63. PMID: 17354865; PMC2994060.
217. Schreyer AG, **Kikinis R**. Combined PET/CT colonography: is this the way forward? *Gut*. 2006 Jan;55(1):10-2. PMID: 16344572; PMC1856362.
218. Malhotra A, Huang Y, Fogel R, Lasic S, Pillar G, Jakab M, **Kikinis R**, White DP. Aging influences on pharyngeal anatomy and physiology: the predisposition to pharyngeal collapse. *Am J Med*. 2006 Jan;119(1):72.e9-14. PMID: 16431197; PMC2287192.
219. Ritter L, Yeshwant K, Seldin EB, Kaban LB, Gateno J, Keeve E, **Kikinis R**, Troulis MJ. Range of curvilinear distraction devices required for treatment of mandibular deformities. *J Oral Maxillofac Surg*. 2006 Feb;64(2):259-64. PMID: 16413898.
220. Verhey JF, Nathan NS, Rienhoff O, **Kikinis R**, Rakebrandt F, D'Ambra MN. Finite-element-method (FEM) model generation of time-resolved 3Dechocardiographic geometry data for mitral-valve volumetry. *Biomed Eng Online*. 2006 Mar 3;5:17. PMID: 16512925; PMC1421418.
221. Talos IF, Zou KH, Ohno-Machado L, Bhagwat JG, **Kikinis R**, Black PM, Jolesz FA. Supratentorial low-grade glioma resectability: statistical predictive analysis based on anatomic MR features and tumor characteristics. *Radiology*. 2006May;239(2):506-13. PMID: 16641355; PMC1475754.
222. Pohl KM, Fisher J, Grimson WE, **Kikinis R**, Wells WM. A Bayesian model for joint segmentation and registration. *Neuroimage*. 2006 May 15;31(1):228-39. PMID: 16466677.
223. Das M, Sauer F, Schoepf UJ, Khamene A, Vogt SK, Schaller S, **Kikinis R**, vanSonnenberg E, Silverman SG. Augmented reality visualization for CT-guided interventions: system description, feasibility, and initial evaluation in an abdominal phantom. *Radiology*. 2006 Jul;240(1):230-5. PMID: 16720866.
224. MacFall JR, Taylor WD, Rex DE, Pieper S, Payne ME, McQuoid DR, Steffens DC, **Kikinis R**, Toga AW, Krishnan KR. Lobar distribution of lesion volumes in late-life depression: the Biomedical Informatics Research Network (BIRN). *Neuropsychopharmacology*. 2006 Jul;31(7):1500-7. PMID: 16341022.
225. DiMaio SP, Archip N, Hata N, Talos IF, Warfield SK, Majumdar A, McDannold N, Hynynen K, Morrison PR, Wells WM, Kacher DF, Ellis RE, Golby AJ, Black PM, Jolesz FA, **Kikinis R**. Image-guided neurosurgery at Brigham and Women's Hospital. *IEEE Eng Med Biol Mag*. 2006 Sep-Oct;25(5):67-73. PMID: 17020201.
226. Bricault I, **Kikinis R**, Morrison PR, Vansonnenberg E, Tuncali K, Silverman SG. Liver metastases: 3D shape-based analysis of CT scans for detection of local recurrence after radiofrequency ablation. *Radiology*. 2006 Oct;241(1):243-50. PMID: 16928977.
227. Kuroki N, Shenton ME, Salisbury DF, Hirayasu Y, Onitsuka T, Ersner-Hershfield H,

- Yurgelun-Todd D, **Kikinis R**, Jolesz FA, McCarley RW. Middle and inferior temporal gyrus gray matter volume abnormalities in first-episode schizophrenia: an MRI study. *Am J Psychiatry*. 2006 Dec;163(12):2103-10. PMID: 17151161;PMC2766919.
228. Sierra R, DiMaio S, Wada J, Hata N, Székely G, **Kikinis R**, Jolesz FA. Patient specific simulation and navigation of ventriculoscopic interventions. *Stud Health Technol Inform*. 2007;125:433-5. PMID: 17377318.
229. Von Spiczak J, Samset E, DiMaio S, Reitmayr G, Schmalstieg D, Burghart C, **Kikinis R**. Device connectivity for image-guided medical applications. *Stud Health Technol Inform*. 2007;125:482-4. PMID: 17377332.
230. DiMaio S, Kapur T, Cleary K, Aylward S, Kazanzides P, Vosburgh K, Ellis R, Duncan J, Farahani K, Lemke H, Peters T, Lorensen WB, Gobbi D, Haller J, Clarke LL, Pizer S, Taylor R, Galloway R Jr, Fichtinger G, Hata N, Lawson K, Tempany CM, **Kikinis R**, Jolesz FA. Challenges in image-guided therapy system design. *Neuroimage*. 2007;37 Suppl 1:S144-51. PMID: 17644360;PMC3780776.
231. Pohl KM, Bouix S, Shenton ME, Grimson WE, **Kikinis R**. Automatic Segmentation Using Non-Rigid Registration. *Med Image Comput Comput Assist Interv*. 2007;26(9):1201-1212. PMID: 20407623; PMC2856350.
232. Hata N, Piper S, Jolesz FA, Tempany CM, Black PM, Morikawa S, Iseki H, Hashizume M, **Kikinis R**. Application of open source image guided therapy software in MR-guided therapies. *Med Image Comput Comput Assist Interv*. 2007;10(Pt1):491-8. PMID: 18051095.
233. Wittek A, Miller K, **Kikinis R**, Warfield SK. Patient-specific model of brain deformation: application to medical image registration. *J Biomech*. 2007;40(4):919-29. PMID: 16678834.
234. Pohl KM, **Kikinis R**, Wells WM. Active mean fields: solving the mean field approximation in the level set framework. *Inf Process Med Imaging*. 2007;20:26-37. PMID: 17633686; PMC3265334.
235. DiMaio S, Pieper S, Chinzei K, Hata N, Haker SJ, Kacher DF, Fichtinger G, Tempany CM, **Kikinis R**. Robot-assisted needle placement in open MRI: system architecture, integration and validation. *Comput Aided Surg*. 2007Jan;12(1):15-24. PMID: 17364655.
236. Pujol S, Frerichs K, Norbash A, **Kikinis R**, Westin CF. Preliminary results of non-fluoroscopy-based 3D navigation for neuro interventional procedures. *J Vasc Interv Radiol*. 2007 Feb;18(2):289-98. PMID: 17327564.
237. Messmer P, Matthews F, Jacob AL, **Kikinis R**, Regazzoni P, Noser H. A CT database for research, development and education: concept and potential. *J Digit Imaging*. 2007 Mar;20(1):17-22. PMID: 16897321; PMC3043884.
238. Matthews F, Trentz O, Jacob AL, **Kikinis R**, Jupiter JB, Messmer P. Protrusion of hardware impairs forearm rotation after olecranon fixation. A report of two cases. *J Bone Joint Surg Am*. 2007 Mar;89(3):638-42. PMID: 17332114.
239. Brem MH, Pauser J, Yoshioka H, Brenning A, Stratmann J, Hennig FF, **Kikinis R**, Duryea J, Winalski CS, Lang P. Longitudinal in vivo reproducibility of cartilage volume and surface in osteoarthritis of the knee. *Skeletal Radiol*. 2007Apr;36(4):315-20. PMID: 17219231.
240. Talos IF, Zou KH, **Kikinis R**, Jolesz FA. Volumetric assessment of tumor infiltration of adjacent white matter based on anatomic MRI and diffusion tensor tractography. *Acad Radiol*. 2007 Apr;14(4):431-6. PMID: 17368212; PMC2397554.
241. Onitsuka T, McCarley RW, Kuroki N, Dickey CC, Kubicki M, Demeo SS, Frumin M, **Kikinis R**, Jolesz FA, Shenton ME. Occipital lobe gray matter volume in male patients with chronic schizophrenia: A quantitative MRI study. *Schizophr Res*. 2007 May;92(1-3):197-

206. PMID: 17350226; Central PMCID: PMC2396445.
242. Krissian K, Westin CF, **Kikinis R**, Vosburgh KG. Oriented speckle reducing anisotropic diffusion. *IEEE Trans Image Process.* 2007 May;16(5):1412-24. PMID: 17491469.
243. Brem MH, Zamani AA, Riva R, Zou KH, Rumboldt Z, Hennig FF, **Kikinis R**, NorbashAM, Schoepf UJ. Multidetector CT of the Para nasal sinus: potential for radiation dose reduction. *Radiology.* 2007 Jun;243(3):847-52. PMID: 17517938.
244. Larsen S, **Kikinis R**, Talos IF, Weinstein D, Wells WM, Golby A. Quantitative comparison of functional MRI and direct electrocortical stimulation for functional mapping. *Int J Med Robot.* 2007 Sep;3(3):262-70. PMID: 17763497;PMC3733359.
245. Pohl KM, Bouix S, Nakamura M, Rohlfing T, McCarley RW, **Kikinis R**, Grimson WE, Shenton ME, Wells WM. A hierarchical algorithm for MR brain image parcellation. *IEEE Trans Med Imaging.* 2007 Sep;26(9):1201-12. PMID: 17896593; PMC2768067.
246. Pohl KM, Fisher J, Bouix S, Shenton ME, McCarley RW, Grimson WE, **Kikinis R**, Wells WM. Using the logarithm of odds to define a vector space on probabilistic atlases. *Med Image Anal.* 2007 Oct;11(5):465-77. PMID: 17698403; PMC2423493.
247. Lesniak J, Tokuda J, **Kikinis R**, Burghart C, Hata N. A device guidance method for organ motion compensation in MRI-guided therapy. *Phys Med Biol.* 2007 Nov7;52(21):6427-38. PMID: 17951853.
248. Pujol S, **Kikinis R**, Gollub R. Lowering the barriers inherent in translating advances in neuroimage analysis to clinical research applications. *Acad Radiol.* 2008 Jan;15(1):114-8. PMID: 18078914; PMC2234595.
249. Luebbers HT, Messmer P, Obwegeser JA, Zwahlen RA, **Kikinis R**, Graetz KW, Matthews F. Comparison of different registration methods for surgical navigation in cranio-maxillofacial surgery. *J Craniomaxillofac Surg.* 2008 Mar;36(2):109-16. PMID: 18280173.
250. Richolt JA, Hata N, **Kikinis R**, Scale D, Millis MB. Quantitative evaluation of angular measurements on plain radiographs in patients with slipped capital femoral epiphysis: a 3-dimensional analysis of computed tomography-based computer models of 46 femora. *J Pediatr Orthop.* 2008 Apr-May;28(3):291-6. PMID: 18362792.
251. Talos IF, Rubin DL, Halle M, Musen M, **Kikinis R**. A prototype symbolic model of canonical functional neuroanatomy of the motor system. *J Biomed Inform.* 2008Apr;41(2):251-63. PMID: 18164666; PMC2376098.
252. Dinov ID, Rubin D, Lorensen W, Dugan J, Ma J, Murphy S, Kirschner B, Bug W, Sherman M, Floratos A, Kennedy D, Jagadish HV, Schmidt J, Athey B, Califano A, Musen M, Altman R, **Kikinis R**, Kohane I, Delp S, Parker DS, Toga AW. iTools: aframework for classification, categorization and integration of computational biology resources. *PLoS One.* 2008 May 28;3(5):e2265. PMID: 18509477; PMC2386255.
253. Rosenberger G, Kubicki M, Nestor PG, Connor E, Bushell GB, Markant D, Niznikiewicz M, Westin CF, **Kikinis R**, J Saykin A, McCarley RW, Shenton ME. Age-related deficits in fronto-temporal connections in schizophrenia: a diffusion tensor imaging study. *Schizophr Res.* 2008 Jul;102(1-3):181-8. PMID: 18504117; PMC2684860.
254. Kubicki M, Styner M, Bouix S, Gerig G, Markant D, Smith K, **Kikinis R**, McCarley RW, Shenton ME. Reduced interhemispheric connectivity inschizophrenia-tractography based segmentation of the corpus callosum. *SchizophrRes.* 2008 Dec;106(2-3):125-31. PMID: 18829262; PMC2630535.
255. 62: Fitzsimmons J, Kubicki M, Smith K, Bushell G, Estepar RS, Westin CF, NestorPG, Niznikiewicz MA, **Kikinis R**, McCarley RW, Shenton ME. Diffusion tractography of the

- fornix in schizophrenia. *Schizophr Res.* 2009 Jan;107(1):39-46. PMID: 19046624; PMC2646850.
256. Ross JC, Estépar RS, Díaz A, Westin CF, **Kikinis R**, Silverman EK, Washko GR. Lung extraction, lobe segmentation and hierarchical region assessment for quantitative analysis on high resolution computed tomography images. *Med Image Comput Comput Assist Interv.* 2009;12(Pt 2):690-8. PMID: 20426172; PMC3061233.
 257. Lindig TM, Kumar V, **Kikinis R**, Pieper S, Schrödl F, Neuhuber WL, Brehmer A. Spiny versus stubby: 3D reconstruction of human myenteric (type I) neurons. *Histochem Cell Biol.* 2009 Jan;131(1):1-12. PMID: 18807064; PMC2756529.
 258. Rubin DL, Talos IF, Halle M, Musen MA, **Kikinis R**. Computational neuroanatomy: ontology-based representation of neural components and connectivity. *BMC Bioinformatics.* 2009 Feb 5;10 Suppl 2:S3. PMID: 19208191; PMC2646240.
 259. Levitt JJ, Styner M, Niethammer M, Bouix S, Koo MS, Voglmaier MM, Dickey CC, Niznikiewicz MA, **Kikinis R**, McCarley RW, Shenton ME. Shape abnormalities of caudate nucleus in schizotypal personality disorder. *Schizophr Res.* 2009 May;110(1-3):127-39. PMID: 19328654; PMC2756791.
 260. Kaban LB, Seldin EB, **Kikinis R**, Yeshwant K, Padwa BL, Troulis MJ. Clinical application of curvilinear distraction osteogenesis for correction of mandibular deformities. *J Oral Maxillofac Surg.* 2009 May;67(5):996-1008. PMID: 19375009; PMC2690634.
 261. Mamisich TC, Kim YJ, Richolt J, Zilkens C, **Kikinis R**, Millis M, Kordelle J. Range of motion after computed tomography-based simulation of intertrochanteric corrective osteotomy in cases of slipped capital femoral epiphysis: comparison of uniplanar flexion osteotomy and multiplanar flexion, valgisation, and rotational osteotomies. *J Pediatr Orthop.* 2009 Jun;29(4):336-40. PMID: 19461373; PMC2699433.
 262. Kubicki M, Niznikiewicz M, Connor E, Ungar L, Nestor P, Bouix S, Dreusicke M, **Kikinis R**, McCarley R, Shenton ME. Relationship Between White Matter Integrity, Attention, and Memory in Schizophrenia: A Diffusion Tensor Imaging Study. *Brain Imaging Behav.* 2009 Jun 1;3(2):191-201. PMID: 20556231; PMC2885800.
 263. Oguro S, Tokuda J, Elhawary H, Haker S, **Kikinis R**, Tempany CM, Hata N. MRI signal intensity based B-spline nonrigid registration for pre- and intraoperative imaging during prostate brachytherapy. *J Magn Reson Imaging.* 2009 Nov;30(5):1052-8. PMID: 19856437; Central PMCID: PMC2801562.
 264. Scully M, Anderson B, Lane T, Gasparovic C, Magnotta V, Sibbitt W, Roldan C, **Kikinis R**, Bockholt HJ. An Automated Method for Segmenting White Matter Lesions through Multi-Level Morphometric Feature Classification with Application to Lupus. *Front Hum Neurosci.* 2010 Apr 19;4:27. PMID: 20428508; PMC2859868.
 265. Lee JW, Wen PY, Hurwitz S, Black P, Kesari S, Drappatz J, Golby AJ, Wells WM, Warfield SK, **Kikinis R**, Bromfield EB. Morphological characteristics of brain tumors causing seizures. *Arch Neurol.* 2010 Mar;67(3):336-42. PMID: 20212231; PMC2995444.
 266. Kikinis Z, Fallon JH, Niznikiewicz M, Nestor P, Davidson C, Bobrow L, Pelavin PE, Fischl B, Yendiki A, McCarley RW, **Kikinis R**, Kubicki M, Shenton ME. Gray matter volume reduction in rostral middle frontal gyrus in patients with chronic schizophrenia. *Schizophr Res.* 2010 Nov;123(2-3):153-9. PMID: 20822884; PMC2975427.
 267. Levitt JJ, Kubicki M, Nestor PG, Ersner-Hershfield H, Westin CF, Alvarado JL, **Kikinis R**, Jolesz FA, McCarley RW, Shenton ME. A diffusion tensor imaging study of the anterior limb of the internal capsule in schizophrenia. *Psychiatry Res.* 2010 Dec 30;184(3):143-50.

- PMID: 21055906; PMC4043632.
268. Fedorov A, Li X, Pohl KM, Bouix S, Styner M, Addicott M, Wyatt C, Daunais JB, Wells WM, **Kikinis R**. Atlas-guided segmentation of vervet monkey brain MRI. *OpenNeuroimag J*. 2011;5:186-97. PMID: 22253661; PMC3256578.
 269. Dalca A, Danagoulian G, **Kikinis R**, Schmidt E, Golland P. Segmentation of nerve bundles and ganglia in spine MRI using particle filters. *Med Image Comput Assist Interv*. 2011;14(Pt 3):537-45. PMID: 22003741; PMC3232745.
 270. Wassermann D, Rathi Y, Bouix S, Kubicki M, **Kikinis R**, Shenton ME, Westin CF. White matter bundle registration and population analysis based on Gaussian processes. *Inf Process Med Imaging*. 2011;22:320-32. PMID: 21761667; PMC3140022.
 271. **Kikinis R**, Pieper S. 3D Slicer as a tool for interactive brain tumor segmentation. *Conf Proc IEEE Eng Med Biol Soc*. 2011;2011:6982-4. PMID: 22255945; PMC3991434.
 272. Golby AJ, Kindlmann G, Norton I, Yarmarkovich A, Pieper S, **Kikinis R**. Interactive diffusion tensor tractography visualization for neurosurgical planning. *Neurosurgery*. 2011 Feb;68(2):496-505. PMID: 21135713; PMC3112275.
 273. Pohl KM, Konukoglu E, Novellas S, Ayache N, Fedorov A, Talos IF, Golby A, Wells WM, **Kikinis R**, Black PM. A new metric for detecting change in slowly evolving brain tumors: validation in meningioma patients. *Neurosurgery*. 2011 Mar;68(1 Suppl Operative):225-33. PMID: 21206318; PMC3099129.
 274. Tokuda J, Mamata H, Gill RR, Hata N, **Kikinis R**, Padera RF Jr, Lenkinski RE, Sugarbaker DJ, Hatabu H. Impact of nonrigid motion correction technique on pixel-wise pharmacokinetic analysis of free-breathing pulmonary dynamic contrast-enhanced MR imaging. *J Magn Reson Imaging*. 2011 Apr;33(4):968-73. PMID: 21448965; PMC3069717.
 275. Kubicki M, Alvarado JL, Westin CF, Tate DF, Markant D, Terry DP, Whitford TJ, De Siebenthal J, Bouix S, McCarley RW, **Kikinis R**, Shenton ME. Stochastic tractography study of Inferior Frontal Gyrus anatomical connectivity in schizophrenia. *Neuroimage*. 2011 Apr 15;55(4):1657-64. PMID: 21256966; PMC3073419.
 276. A, Chambers MC, Alger JR, Filippou M, Prastawa MW, Wang B, Hovda DA, Gerig G, Toga AW, **Kikinis R**, Vespa PM, Van Horn JD. Comparison of acute and chronic traumatic brain injury using semi-automatic multimodal segmentation of MR volumes. *J Neurotrauma*. 2011 Nov;28(11):2287-306. PMID: 21787171; PMC3218448.
 277. Estépar RS, Ross JC, Kindlmann GL, Diaz A, Okajima Y, **Kikinis R**, Westin CF, Silverman EK, Washko GG. AUTOMATIC AIRWAY ANALYSIS FOR GENOME-WIDE ASSOCIATION STUDIES IN COPD. *Proc IEEE Int Symp Biomed Imaging*. 2012:1467-70. PMID: 23744052; PMC3670103.
 278. Van Horn JD, Irimia A, Torgerson CM, Chambers MC, **Kikinis R**, Toga AW. Mapping connectivity damage in the case of Phineas Gage. *PLoS One*. 2012;7(5):e37454. PMID: 22616011; PMC3353935.
 279. Egger J, Kapur T, Nimsky C, **Kikinis R**. Pituitary adenoma volumetry with 3DSlicer. *PLoS One*. 2012;7(12):e51788. PMID: 23240062; PMC3519899.
 280. Irimia A, Chambers MC, Torgerson CM, Filippou M, Hovda DA, Alger JR, Gerig G, Toga AW, Vespa PM, **Kikinis R**, Van Horn JD. Patient-tailored connectomics visualization for the assessment of white matter atrophy in traumatic brain injury. *Front Neurol*. 2012 Feb 6;3:10. PMID: 22363313; PMC3275792.
 281. Kapur T, Pieper S, Whitaker R, Aylward S, Jakab M, Schroeder W, **Kikinis R**. The National Alliance for Medical Image Computing, a roadmap initiative to build a free and open source

- software infrastructure for translational research in medical image analysis. *J Am Med Inform Assoc.* 2012 Mar-Apr;19(2):176-80. PMID: 22081219; PMC3277624.
282. Steinert-Threlkeld S, Ardekani S, Mejino JL, Detwiler LT, Brinkley JF, Halle M, **Kikinis R**, Winslow RL, Miller MI, Ratnanather JT. Ontological labels for automated location of anatomical shape differences. *J Biomed Inform.* 2012 Jun;45(3):522-7. PMID: 22490168; PMC3371096.
283. Gao Y, **Kikinis R**, Bouix S, Shenton ME, Tannenbaum A. A 3D interactive multi-object segmentation tool using local robust statistics driven active contours. *Med Image Anal.* 2012 Aug;16(6):1216-27. PMID: 22831773; PMC3443290.
284. Rosenberger G, Nestor PG, Oh JS, Levitt JJ, Kindleman G, Bouix S, Fitzsimmons J, Niznikiewicz M, Westin CF, **Kikinis R**, McCarley RW, Shenton ME, Kubicki M. Anterior limb of the internal capsule in schizophrenia: a diffusion tensor tractography study. *Brain Imaging Behav.* 2012 Sep;6(3):417-25. PMID: 22415192; PMC4128025.
285. Kikinis Z, Asami T, Bouix S, Finn CT, Ballinger T, Tworog-Dube E, Kucherlapati R, **Kikinis R**, Shenton ME, Kubicki M. Reduced fractional anisotropy and axial diffusivity in white matter in 22q11.2 deletion syndrome: a pilot study. *Schizophr Res.* 2012 Oct;141(1):35-9. PMID: 22863550; PMC3462006.
286. Fedorov A, Tuncali K, Fennessy FM, Tokuda J, Hata N, Wells WM, **Kikinis R**, Tempany CM. Image registration for targeted MRI-guided transperineal prostate biopsy. *J Magn Reson Imaging.* 2012 Oct;36(4):987-92. PMID: 22645031; PMC3434292.
287. Fedorov A, Beichel R, Kalpathy-Cramer J, Finet J, Fillion-Robin JC, Pujol S, Bauer C, Jennings D, Fennessy F, Sonka M, Buatti J, Aylward S, Miller JV, Pieper S, **Kikinis R**. 3D Slicer as an image computing platform for the Quantitative Imaging Network. *Magn Reson Imaging.* 2012 Nov;30(9):1323-41. PMID: 22770690; PMC3466397.
288. Pasternak O, Westin CF, Bouix S, Seidman LJ, Goldstein JM, Woo TU, Petryshen TL, Meshulam-Gately RI, McCarley RW, **Kikinis R**, Shenton ME, Kubicki M. Excessive extracellular volume reveals a neurodegenerative pattern in schizophrenia onset. *J Neurosci.* 2012 Nov 28;32(48):17365-72. PMID: 23197727; PMC3549332.
289. Egger J, Kapur T, Fedorov A, Pieper S, Miller JV, Veeraraghavan H, Freisleben B, Golby AJ, Nimsy C, **Kikinis R**. GBM volumetry using the 3D Slicer medical image computing platform. *Sci Rep.* 2013;3:1364. PMID: 23455483; PMC3586703.
290. Wassermann D, Makris N, Rathi Y, Shenton ME, **Kikinis R**, Kubicki M, Westin CF. On describing human white matter anatomy: the white matter query language. *Med Image Comput Assist Interv.* 2013;16(Pt 1):647-54. PMID: 24505722; PMC4029160.
291. Liu S, Song Y, Cai W, Pujol S, **Kikinis R**, Wang X, Feng D. Multifold Bayesian kernelization in Alzheimer's diagnosis. *Med Image Comput Assist Interv.* 2013;16(Pt 2):303-10. PMID: 24579154; PMC4017205.
292. Liu S, Cai W, Song Y, Pujol S, **Kikinis R**, Wen L, Feng DD. Localized Sparse Code Gradient in Alzheimer's disease staging. *Conf Proc IEEE Eng Med Biol Soc.* 2013;2013:5398-401. PMID: 24110956.
293. Lemaire JJ, Golby A, Wells WM, Pujol S, Tie Y, Rigolo L, Yarmarkovich A, Pieper S, Westin CF, Jolesz FA, **Kikinis R**. Extended Broca's area in the functional connectome of language in adults: combined cortical and subcortical single-subject analysis using fMRI and DTI tractography. *Brain Topogr.* 2013 Jul;26(3):428-41. PMID: 23001727; PMC3966184.
294. Estépar RS, Kinney GL, Black-Shinn JL, Bowler RP, Kindlmann GL, Ross JC, **Kikinis R**, Han MK, Come CE, Diaz AA, Cho MH, Hersh CP, Schroeder JD, Reilly JJ, Lynch DA,

- Crapo JD, Wells JM, Dransfield MT, Hokanson JE, Washko GR; COPDGeneStudy. Computed tomographic measures of pulmonary vascular morphology in smokers and their clinical implications. *Am J Respir Crit Care Med*. 2013 Jul 15;188(2):231-9. PMID: 23656466; PMC3778757.
295. Kikinis Z, Makris N, Finn CT, Bouix S, Lucia D, Coleman MJ, Tworog-Dube E, **Kikinis R**, Kucherlapati R, Shenton ME, Kubicki M. Genetic contributions to changes of fiber tracts of ventral visual stream in 22q1 deletion syndrome. *Brain Imaging Behav*. 2013 Sep;7(3):316-25. PMID: 23612843; PMC3796180.
 296. Oyama R, Jakab M, Kikuchi A, Sugiyama T, **Kikinis R**, Pujol S. Towards improved ultrasound-based analysis and 3D visualization of the fetal brain using the 3D Slicer. *Ultrasound Obstet Gynecol*. 2013 Nov;42(5):609-10. PMID: 23576282; PMC4032474.
 297. Irimia A, Goh SY, Torgerson CM, Chambers MC, **Kikinis R**, Van Horn JD. Forward and inverse electroencephalographic modeling in health and in acute traumatic brain injury. *Clin Neurophysiol*. 2013 Nov;124(11):2129-45. PMID: 23746499; PMC3805748.
 298. Mostayed A, Garlapati RR, Joldes GR, Wittek A, Roy A, **Kikinis R**, Warfield SK, Miller K. Biomechanical model as a registration tool for image-guided neurosurgery: evaluation against BSpline registration. *Ann Biomed Eng*. 2013 Nov;41(11):2409-25. PMID: 23771299; PMC3939696.
 299. Velazquez ER, Parmar C, Jermoumi M, Mak RH, van Baardwijk A, Fennessy FM, Lewis JH, De Ruyscher D, **Kikinis R**, Lambin P, Aerts HJ. Volumetric CT-based segmentation of NSCLC using 3D-Slicer. *Sci Rep*. 2013 Dec 18;3:3529. PMID: 24346241; PMC3866632.
 300. Parmar C, Rios Velazquez E, Leijenaar R, Jermoumi M, Carvalho S, Mak RH, Mitra S, Shankar BU, **Kikinis R**, Haibe-Kains B, Lambin P, Aerts HJ. Robust Radiomics feature quantification using semiautomatic volumetric segmentation. *PLoS One*. 2014 Jul 15;9(7):e102107. PMID: 25025374; PMC4098900.
 301. Chenevert TL, Malyarenko DI, Newitt D, Li X, Jayatilake M, Tudorica A, Fedorov A, **Kikinis R**, Liu TT, Muzi M, Oborski MJ, Laymon CM, Li X, Thomas Y, Jayashree KC, Mountz JM, Kinahan PE, Rubin DL, Fennessy F, Huang W, Hylton N, Ross BD. Errors in Quantitative Image Analysis due to Platform-Dependent Image Scaling. *Transl Oncol*. 2014 Feb 1;7(1):65-71. PMID: 24772209; PMC3998685.
 302. Huang W, Li X, Chen Y, Li X, Chang MC, Oborski MJ, Malyarenko DI, Muzi M, Jajamovich GH, Fedorov A, Tudorica A, Gupta SN, Laymon CM, Marro KI, Dyvorne HA, Miller JV, Barbodiak DP, Chenevert TL, Yankeelov TE, Mountz JM, Kinahan PE, **Kikinis R**, Taouli B, Fennessy F, Kalpathy-Cramer J. Variations of dynamic contrast-enhanced magnetic resonance imaging in evaluation of breast cancer therapy response: a multicenter data analysis challenge. *Transl Oncol*. 2014 Feb 1;7(1):153-66. PMID: 24772219; PMC3998693.
 303. Nakhmani A, **Kikinis R**, Tannenbaum A. MRI Brain Tumor Segmentation and Necrosis Detection Using Adaptive Sobolev Snakes. *Proc SPIE Int Soc Opt Eng*. 2014 Mar 21;9034:903442. PMID: 25302005; PMC4187387.
 304. Crabb MG, Davidson JL, Little R, Wright P, Morgan AR, Miller CA, Naish JH, Parker GJ, **Kikinis R**, McCann H, Lionheart WR. Mutual information as a measure of image quality for 3D dynamic lung imaging with EIT. *Physiol Meas*. 2014 May;35(5):863-79. PMID: 24710978; PMC4059506.
 305. Garlapati RR, Roy A, Joldes GR, Wittek A, Mostayed A, Doyle B, Warfield SK, **Kikinis R**, Knuckey N, Bunt S, Miller K. More accurate neuro navigation data provided by

- biomechanical modeling instead of rigid registration. *J Neurosurg.* 2014 Jun;120(6):1477-83. PMID: 24460486; PMC4386882.
306. Fitzsimmons J, Hamoda HM, Swisher T, Terry D, Rosenberger G, Seidman LJ, Goldstein J, Meshulam-Gately R, Petryshen T, Wojcik J, **Kikinis R**, Kubicki M. Diffusion tensor imaging study of the fornix in first episode schizophrenia and in healthy controls. *Schizophr Res.* 2014 Jul;156(2-3):157-60. PMID: 24837684; PMC4080801.
 307. Fedorov A, Wells WM, **Kikinis R**, Tempany CM, Vangel MG. Application of tolerance limits to the characterization of image registration performance. *IEEE Trans Med Imaging.* 2014 Jul;33(7):1541-50. PMID: 24759985; PMC4096345.
 308. Liu S, Cai W, Wen L, Feng DD, Pujol S, **Kikinis R**, Fulham MJ, Eberl S; ADNI. Multi-Channel neurodegenerative pattern analysis and its application in Alzheimer's disease characterization. *Comput Med Imaging Graph.* 2014 Sep;38(6):436-44. PMID: 24933011; PMC4135007.
 309. Horky LL, Gerbaudo VH, Zaitsev A, Plesniak W, Hainer J, Govindarajulu U, **Kikinis R**, Dietrich J. Systemic chemotherapy decreases brain glucose metabolism. *Ann Clin Transl Neurol.* 2014 Oct;1(10):788-98. PMID: 25493270; PMC4241806.
 310. Liu S, Liu S, Cai W, Che H, Pujol S, **Kikinis R**, Feng D, Fulham MJ; ADNI. Multimodal neuroimaging feature learning for multiclass diagnosis of Alzheimer's disease. *IEEE Trans Biomed Eng.* 2015 Apr;62(4):1132-40. PMID: 25423647; PMC4394860.
 311. Li M, Miller K, Joldes GR, Doyle B, Garlapati RR, **Kikinis R**, Wittek A. Patient-specific biomechanical model as whole-body CT image registration tool. *Med Image Anal.* 2015 May;22(1):22-34. PMID: 25721296; PMC4405489.
 312. Maier-Hein KH, Westin CF, Shenton ME, Weiner MW, Raj A, Thomann P, **Kikinis R**, Stieltjes B, Pasternak O. Widespread white matter degeneration preceding the onset of dementia. *Alzheimers Dement.* 2015 May;11(5):485-493.e2. PMID: 25035154; PMC4295016.
 313. Zhang F, Song Y, Cai W, Liu S, Liu S, Pujol S, **Kikinis R**, Xia Y, Fulham M, Feng D. Pairwise Latent Semantic Association for Similarity Computation in Medical Imaging. *IEEE Trans Biomed Eng.* 2015 Sep 10. PMID: 26372117.
 314. Pujol S, Wells WM, Pierpaoli C, Brun C, Gee J, Cheng G, Vemuri B, Commowick O, Prima S, Stamm A, Goubran M, Khan A, Peters T, Neher P, Maier-Hein KH, Shi Y, Tristan-Vega A, Veni G, Whitaker R, Styner M, Westin CF, Gouttard S, Norton I, Chauvin L, Mamata H, Gerig G, Nabavi A, Golby A, **Kikinis R**. The DTI Challenge: Toward Standardized Evaluation of Diffusion Tensor Imaging Tractography for Neurosurgery. *J Neuroimaging.* 2015 Nov;25(6):875-82. PMID: 26259925.
 315. Wassermann D, Makris N, Rathi Y, Shenton M, **Kikinis R**, Kubicki M, Westin CF. The white matter query language: a novel approach for describing human white matter anatomy. [Epub ahead of print] *Brain Struct Funct.* 2016 Jan 11. PMID: 26754839; PMC4940319.
 316. Li M, Miller K, Joldes GR, **Kikinis R**, Wittek A. Biomechanical model for computing deformations for whole-body image registration: A meshless approach. *Int J Numer Method Biomed Eng.* 2016 Jan 21. doi: 10.1002/cnm.2771. [Epub ahead of print] PMID: 26791945; PMC4956599.
 317. Liu S, Cai W, Liu S, Zhang F, Fulham M, Feng D, Pujol S, **Kikinis R**. Multimodal neuroimaging computing: a review of the applications in neuropsychiatric disorders. *Brain Inform.* 2015;2:167-180. Epub 2015 Aug 29. Review. PMID: 26870629; PMC4737664
 318. Liu S, Cai W, Liu S, Zhang F, Fulham M, Feng D, Pujol S, **Kikinis R**. Multimodal

- neuroimaging computing: the workflows, methods, and platforms. *Brain Inform.* 2015;2:181-195. Epub 2015 Sep 4. Review. PMID: 26870630; PMC4737665.
319. Pujol S, Baldwin M, Nassiri J, **Kikinis R**, Shaffer K. Using 3D Modeling Techniques to Enhance Teaching of Difficult Anatomical Concepts. *Acad Radiol.* 2016 Apr;23(4):507-16. doi: 10.1016/j.acra.2015.12.012. Epub 2016 Feb 17. PMID: 26897601; PMC4808571.
320. Liu S, Cai W, Pujol S, **Kikinis R**, Feng DD; Alzheimer's Disease Neuroimaging Initiative. Cross-View Neuroimage Pattern Analysis in Alzheimer's Disease Staging. *Front Aging Neurosci.* 2016 Feb 23;8:23. doi: 10.3389/fnagi.2016.00023. eCollection 2016. PMID: 26941639, PMC4763344.
321. Mehrtash A, Gupta SN, Shanbhag D, Miller JV, Kapur T, Fennessy FM, **Kikinis R**, Fedorov A. Bolus arrival time and its effect on tissue characterization with dynamic contrast-enhanced magnetic resonance imaging. *J Med Imaging (Bellingham).* 2016 Jan;3(1):014503. doi: 10.1117/1.JMI.3.1.014503. Epub 2016 Mar 1. PMID: 26989759; PMC4773735.
322. Fedorov A, Clunie D, Ulrich E, Bauer C, Wahle A, Brown B, Onken M, Riesmeier J, Pieper S, **Kikinis R**, Buatti J, Beichel RR. DICOM for quantitative imaging biomarker development: a standards based approach to sharing clinical data and structured PET/CT analysis results in head and neck cancer research. *PeerJ.* 2016 May 24;4:e2057. doi: 10.7717/peerj.2057. eCollection 2016. PMID: 27257542; PMC4888317.
323. Kapur T, Pieper S, Fedorov A, Fillion-Robin JC, Halle M, O'Donnell L, Lasso A, Ungi T, Pinter C, Finet J, Pujol S, Jagadeesan J, Tokuda J, Norton I, Estepar RS, Gering D, Aerts HJ, Jakab M, Hata N, Ibanez L, Blezek D, Miller J, Aylward S, Grimson WE, Fichtinger G, Wells WM, Lorensen WE, Schroeder W, **Kikinis R**. Increasing the impact of medical image computing using community-based open-access hackathons: The NA-MIC and 3D Slicer experience. *Med Image Anal.* 2016 Oct;33:176-80. doi: 10.1016/j.media.2016.06.035. PMID: 27498015. PMCID: PMC5003088.
324. Zhang F, Song Y, Cai W, Hauptmann AG, Liu S, Pujol S, **Kikinis R**, Fulham MJ, Feng DD, Chen M. Dictionary Pruning with Visual Word Significance for Medical Image Retrieval. *Neurocomputing.* 2016 Feb 12;177:75-88. PMID: 27688597. PMCID: PMC5036942.
325. Liu S, Cai W, Liu S, Zhang F, Fulham M, Feng D, Pujol S, **Kikinis R**. Multimodal neuroimaging computing: a review of the applications in neuropsychiatric disorders. *Brain Inform.* 2015 Sep;2(3):167-180. Review. PMID: 27747507.
326. Liu S, Cai W, Liu S, Zhang F, Fulham M, Feng D, Pujol S, **Kikinis R**. Multimodal neuroimaging computing: the workflows, methods, and platforms. *Brain Inform.* 2015 Sep;2(3):181-195. Review. PMID: 27747508.
327. Pujol S, Cabeen R, Sébille SB, Yelnik J, François C, Fernandez Vidal S, Karachi C, Zhao Y, Cosgrove GR, Jannin P, **Kikinis R**, Bardinet E. *In vivo* Exploration of the Connectivity between the Subthalamic Nucleus and the Globus Pallidus in the Human Brain Using Multi-Fiber Tractography. *Front Neuroanat.* 2017 Jan 19;10:119. doi: 10.3389/fnana.2016.00119. PMID: 28154527. PMCID: PMC5243825.
328. Halle M, Demeusy V, **Kikinis R**. The Open Anatomy Browser: A Collaborative Web-Based Viewer for Interoperable Anatomy Atlases. *Front Neuroinform.* 2017 Mar 27;11:22. doi: 10.3389/fninf.2017.00022. eCollection 2017. PubMed PMID: 28396633; PubMed Central PMCID: PMC5366788.
329. Chen X, Xu L, Wang H, Wang F, Wang Q, **Kikinis R**. Development of a surgical navigation system based on 3D Slicer for intraoperative implant placement surgery. *Med Eng Phys.* 2017 Mar;41:81-89. doi: 10.1016/j.medengphy.2017.01.005. Epub 2017 Jan 18. PubMed

- PMID: 28109564; PubMed Central PMCID: PMC5549678.
330. Black D, Hettig J, Luz M, Hansen C, **Kikinis R**, Hahn H. Auditory feedback to support image-guided medical needle placement. *Int J Comput Assist Radiol Surg.* 2017 Sep;12(9):1655-1663. doi: 10.1007/s11548-017-1537-1. Epub 2017 Feb 17. PubMed PMID: 28213646; PubMed Central PMCID: PMC5561528.
 331. Herrlich M, Tavakol P, Black D, Wenig D, Rieder C, Malaka R, **Kikinis R**. Instrument-mounted displays for reducing cognitive load during surgical navigation. *Int J Comput Assist Radiol Surg.* 2017 Sep;12(9):1599-1605. doi: 10.1007/s11548-017-1540-6. Epub 2017 Feb 23. PubMed PMID: 28233166; PubMed Central PMCID: PMC5568989.
 332. Black D, Hansen C, Nabavi A, **Kikinis R**, Hahn H. A Survey of auditory display in image-guided interventions. *Int J Comput Assist Radiol Surg.* 2017 Oct;12(10):1665-1676. doi: 10.1007/s11548-017-1547-z. Epub 2017 Mar 8. Review. PubMed PMID: 28275890; PubMed Central PMCID: PMC5591070.
 333. Herz C, Fillion-Robin JC, Onken M, Riesmeier J, Lasso A, Pinter C, Fichtinger G, Pieper S, Clunie D, **Kikinis R**, Fedorov A. dcmqi: An Open Source Library for Standardized Communication of Quantitative Image Analysis Results Using DICOM. *Cancer Res.* 2017 Nov 1;77(21):e87-e90. doi: 10.1158/0008-5472.CAN-17-0336. PubMed PMID: 29092948; PubMed Central PMCID: PMC5675033.
 334. Norton I, Essayed W, Zhang F, Pujol S, Yarmarkovich A, Golby AJ, Kindlmann G, Wassermann D, Estepar RSJ, Rathi Y, Pieper S, **Kikinis R**, Johnson HJ, Westin CF, O'Donnell LJ. SlicerDMRI: Open Source Diffusion MRI Software for Brain Cancer Research. *Cancer Res.* 2017 Nov 1;77(21):e101-e103. doi: 10.1158/0008-5472.CAN17-0332. PubMed PMID: 29092950; PubMed Central PMCID: PMC5679308.

Proceedings of Meetings

1. Gerig G, Kuoni W, **Kikinis R**, Kuebler O. Medical imaging and computer vision: an integrated approach for diagnosis and planning. In: 11th DAGM Symposium Mustererkennung 1989; Oct 2-4, 1989; Hamburg, FRG. Fachberichte IFB 219. 1989. p. 425-43.
2. **Kikinis R**, Jolesz FA, Gerig G, Sandor T, Cline HE, Lorensen WE, Halle M, Benton SA. 3D morphometric and morphologic information derived from clinical brain MR images. In: Proceedings of the NATO Advanced Workshop; June 1990; Travemuende, Germany. NATO ASI Series. 1990. p. 441-54.
3. Sandor T, Jolesz FA, Tieman J, **Kikinis R**, LeMay M, Albert M. Extraction of morphometric information from dual echo magnetic resonance brain images. In: SPIE Proceedings of the Conference on Visual Communications and Image Processing; Oct 1-4, 1990; Lausanne, Switzerland. SPIE. 1990. p. 665-75.
4. Gerig G, **Kikinis R**, Jolesz FA. Image processing of routine spin-echo MR images to enhance vascular structures: comparison with MR angiography. In: Proceedings of the NATO Advanced Workshop; June 1990; Travemuende, Germany. NATO ASI Series. 1990. p. 121-32.

5. Gerig G, **Kikinis R**. Segmentation of 3D magnetic resonance data. In: Proceedings of the 5th International Conference on Image Analysis and Processing; Sept 20-22, 1990; Positano, Italy. 1990. p. 602-9.
6. Gerig G, Kuoni W, **Kikinis R**, Kuebler O. Medical imaging and computer vision: an integrated approach for diagnosis and planning. In: 11th DAGM Symposium Mustererkennung 1989; Oct 2-4, 1989; Hamburg, FRG. Fachberichte IFB 219. 1989. p. 425-43.
7. **Kikinis R**, Jolesz FA, Gerig G, Sandor T, Cline HE, Lorensen WE, Halle M, Benton SA. 3D morphometric and morphologic information derived from clinical brain MR images. In: Proceedings of the NATO Advanced Workshop; June 1990; Travemuende, Germany. NATO ASI Series. 1990. p. 441-54.
8. Sandor T, Jolesz FA, Tieman J, **Kikinis R**, LeMay M, Albert M. Extraction of morphometric information from dual echo magnetic resonance brain images. In: SPIE Proceedings of the Conference on Visual Communications and Image Processing; Oct 1-4, 1990; Lausanne, Switzerland. SPIE. 1990. p. 665-75.
11. Gerig G, Martin J, **Kikinis R**, Kubler O, Shenton ME, Jolesz FA. Automated segmentation of dual-echo MR head data. In: IPMI'91; July 1991; England.
12. Gerig G, Martin J, **Kikinis R**, Kuebler O. Segmentation of dual-echo MR head data. In: Proceedings of the International Symposium CAR'91; Jul 3-6, 1991; Berlin, Germany. 1991. p. 606-11.
13. **Kikinis R**, Cline H, Altobelli D, Halle M, Lorensen W, Jolesz FA. Interactive visualization and manipulation of 3D reconstructions for the planning of surgical procedures. In: Proceedings of SPIE Visualization in Biomedical Computing; Oct 13-16, 1992. Chapel Hill, NC, USA. 1992. p. 559-63.
14. Grimson WEL, Lozano-Perez T, Wells WM, Ettinger GJ, White SJ, **Kikinis R**. An automatic registration method for frameless stereotaxy, image guided surgery, and enhanced reality visualization. In: Proceedings of IEEE Computer Society Conference on Computer Vision and Pattern Recognition; 1994; Seattle, WA, USA. 1994. p. 430-36.
15. Ettinger G, Grimson E, Lozano-Perez T, Wells W, White S, **Kikinis R**. Automatic registration for multiple sclerosis change detection. In: Proceedings of the IEEE Workshop on Biomedical Image Analysis; Jun 24-25, 1994; Seattle, WA, USA. 1994. p. 297-306.
16. **Kikinis R**, Gleason PL, Lorensen W, Wells W, Grimson WE, Lozano-Perez T, Ettinger G, White S, Jolesz FA. Image guidance techniques for neurosurgery. In: Proceedings of the Third Conference on Visualization in Biomedical Computing; Oct 4-7, 1994; Rochester, MN, USA. SPIE. 1994. p. 537-40.
18. Wells W, **Kikinis R**, Grimson W, Jolesz FA. Statistical intensity correction and segmentation of magnetic resonance image data. In: Proceedings of the Third Conference on Visualization in Biomedical Computing; Oct 4-7, 1994; Rochester, MN, USA. SPIE. 1994. p. 13-24.
19. Szekely G, **Kikinis R**, Koller T, Gerig G. Structural description and combined 3-D display for superior analysis of cerebral vascularity from MRA. In: Proceedings of the Third Conference on Visualization in Biomedical Computing; Oct 4-7, 1994;

- Rochester, MN, USA. SPIE. 1994. p. 272-81.
20. Wells WM, Grimson WEL, **Kikinis R**, Jolesz FA. Adaptive segmentation of MRI data. In: Proceedings of Computer Vision, Virtual Reality and Robotics in Medicine; Apr 1995; Nice, France. 1995. p. 59-69.
 21. Warfield S, Dengler J, Zaers J, Guttman CRG, Wells WM, Ettinger GJ, Hiller J, **Kikinis R**. Automatic identification of grey matter structures from MRI to improve the segmentation of white matter lesions. In: Proceedings of Medical Robotics and Computer Assisted Surgery (MR CAS); Nov 4-7, 1995; Baltimore, MD, USA. 1995. p. 140-47.
 22. Grimson WEL, Ettinger GJ, White SJ, Gleason PL, Lozano-Perez T, Wells WM, **Kikinis R**. Evaluating and validating an automated registration system for enhanced reality visualization in surgery. In: Proceedings of Computer Vision, Virtual Reality and Robotics in Medicine; Apr 1995; Nice, France. 1995. p. 3-12.
 23. Wells WM, Viola P, **Kikinis R**. Multi-modal volume registration by maximization of mutual information. In: Proceedings of Medical Robotics and Computer Assisted Surgery (MR CAS); Nov 4-7, 1995; Baltimore, MD, USA. 1995. p. 55-62.
 24. Kapur T, Grimson WEL, **Kikinis R**. Segmentation of brain tissue from MR images. In: Proceedings of Computer Vision, Virtual Reality and Robotics in Medicine; Apr 1995; Nice, France. 1995. p. 429-33.
 25. Geiger B, **Kikinis R**. Simulation of endoscopy. In: Proceedings of Computer Vision, Virtual Reality and Robotics in Medicine; Apr 1995; Nice, France. 1995. p. 277-81.
 26. Hata N, Wells WM, Halle M, Nakajima S, Viola P, **Kikinis R**, Jolesz FA. Image guided microscopic surgery system using mutual-information based registration. In: Proceedings of Visualization in Biomedical Computing, 4th International Conference; Sept 1996; Hamburg, Germany. 1996. p. 317-26.
 27. Sato Y, Nakajima S, Atsumi H, Koller T, Gerig G, Yoshida S, **Kikinis R**. 3D multi-scale line filter for segmentation and visualization of curvilinear structures in medical images. In: Proceedings of the First Joint Conference Computer Vision, Virtual Reality and Robotics in Medicine / Medical Robotics and Computer-Assisted Surgery; Mar 1997; Grenoble, France. 1997. p. 211-22.
 28. Berger JW, Leventon ME, Hata N, Wells W, **Kikinis R**. Design considerations for a computer vision-enabled ophthalmic augmented reality environment. In: Proceedings of the First Joint Conference: Computer Vision, Virtual Reality and Robotics in Medicine / Medical Robotics and Computer-Assisted Surgery; March 1997; Grenoble, France. 1997. p. 397-408.
 30. Ettinger GJ, Leventon ME, Grimson WEL, **Kikinis R**, Gugino V, Cote W, Sprung L, Aglio L, Shenton ME, Potts G, Alexander E. Experimentation with a transcranial magnetic stimulation system for functional brain mapping. In: Proceedings of the First Joint Conference Computer Vision, Virtual Reality and Robotics in Medicine / Medical Robotics and Computer-Assisted Surgery; Mar 1997; Grenoble, France. 1997. p. 477-86.
 31. Gibson S, Samosky J, Mor A, Fyock C, Grimson E, Kanade T, **Kikinis R**, Lauer H, McKenzie N, Nakajima S, Ohkami H, Osborne R, Sawada A. Simulating

- arthroscopic knee surgery using volumetric object representations, real-time volume rendering and haptic feedback. In: Proceedings of the First Joint Conference: Computer Vision, Virtual Reality and Robotics in Medicine / Medical Robotics and Computer Assisted Surgery; March 1997; Grenoble, France. 1997. p. 369-78.
33. Bhalerao A, Westin CF, **Kikinis R**. Unwrapping phase in 3D MR phase contrast angiograms. In: Proceedings of the First Joint Conference Computer Vision, Virtual Reality and Robotics in Medicine/Medical Robotics and Computer-Assisted Surgery; Mar 1997; Grenoble, France. 1997. p. 194-202.
 34. Westin CF, Bhalerao A, Knutsson H, **Kikinis R**. Using local 3D structure for segmentation of bone from computer tomography images. In: Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition; June 17-June 19, 1997; San Juan, Puerto Rico. 1997. p. 794-800.
 35. Kapur T, Grimson WEL, **Kikinis R**, Wells WM. Enhanced spatial priors for segmentation of magnetic resonance imagery. In: Proceedings of the 1st International Conference on Medical Image Computing and Computer-Assisted Intervention. October 10-13, 1998; Boston, MA. 1998. p. 457-68.
 36. Hata N, Dohi T, Warfield S, Wells W, **Kikinis R**, Jolesz FA. Multimodality deformable registration of pre and intraoperative images for MRI-guided brain surgery. In: Proceedings of the 1st International Conference on Medical Image Computing and Computer-Assisted Intervention. October 10-13, 1998; Boston, MA. 1998. p. 1067-74.
 37. Lorigo L, Faugeras O, Grimson WEL, Keriven R, **Kikinis R**. Segmentation of bone in clinical knee MRI using texture-based geodesic active contours. In: Proceedings of the 1st International Conference on Medical Image Computing and Computer-Assisted Intervention. October 10-13, 1998; Boston, MA. 1998. p. 1195-204.
 38. Hata N, Nabavi A, Warfield S, Wells WM, **Kikinis R**, Jolesz FA. A volumetric optical flow method for measurement of brain deformation from intraoperative magnetic resonance images. In: Proceedings of the 2nd International Conference on Medical Image Computing and Computer-Assisted Intervention. 1999; Cambridge, U.K. 1999. p. 928-35.
 39. Fielding JR, Schreyer AG, Tempany CM, D'Amico AV, Zou KH, Kumar S, Juliano K, **Kikinis R**. MRI based volume measurements of the periurethral zone of the prostate: correlation with bladder wall thickness and obstructive symptoms. In: Proceedings of ISMRM; 1999. p.
 40. Ferrant M, Warfield SK, Nabavi A, Jolesz FA, **Kikinis R**. Registration of 3D intraoperative MR images of the brain using a finite element biomechanical model. In: Proceedings of the 3rd International Conference on Medical Image Computing and Computer-Assisted Intervention. October 11-14, 2000; Pittsburgh, Pa. 2000. p. 19-28.
 41. Everett PC, Seldin EB, Troulis M, Kaban LB, **Kikinis R**. A 3-D system for planning and simulating minimally invasive distraction osteogenesis of the facial skeleton. In: Proceedings of the 3rd International Conference on Medical Image Computing and Computer-Assisted Intervention. October 11-14, 2000; Pittsburgh,

Pa. 2000. p. 1029-39.

42. Bzostek A, Kumar R, Hata N, Schorr O, **Kikinis R**, Taylor RH. Distributed modular computer-integrated surgical robotic systems: implementation using modular software and networked systems. In: Proceedings of the 3rd International Conference on Medical Image Computing and Computer-Assisted Intervention. October 11-14, 2000. Pittsburgh, PA. 2000. p. 969-78.
43. Schorr O, Hata N, Bzostek A, Kumar R, Burghart C, Taylor RH, **Kikinis R**. Distributed modular computer-integrated surgical robotic systems: architecture for intelligent object distribution. In: Proceedings of the 3rd International Conference on Medical Image Computing and Computer-Assisted Intervention. October 11-14, 2000; Pittsburgh, PA. 2000. p. 979-87.
44. Warfield SK, Nabavi A, Butz T, Tuncali K, Silverman SG, Black PM, Jolesz FA, **Kikinis R**. Intraoperative segmentation and nonrigid registration of image guided therapy. In: Proceedings of the 3rd International Conference on Medical Image Computing and Computer-Assisted Intervention. October 11-14, 2000; Pittsburgh, PA. 2000. p. 176-85.
45. Chinzei K, Hata N, Jolesz FA, **Kikinis R**. MR compatible surgical assist robot: system integration and preliminary feasibility study. In: Proceedings of the 3rd International Conference on Medical Image Computing and Computer-Assisted Intervention. October 11-14, 2000; Pittsburgh, PA. 2000. p. 921-30.
46. Haker S, Angenent S, Tannenbaum A, **Kikinis R**. Nondistorting flattening for virtual colonoscopy. In: Proceedings of the 3rd International Conference on Medical Image Computing and Computer-Assisted Intervention. October 11-14, 2000; Pittsburgh, PA. 2000. p. 358-66.
47. Ruiz-Alzola J, Westin CF, Warfield SK, Nabavi A, **Kikinis R**. Nonrigid registration of 3D scalar, vector and tensor medical data. In: Proceedings of the 3rd International Conference on Medical Image Computing and Computer-Assisted Intervention. October 11-14, 2000; Pittsburgh, PA. 2000. p. 541-50.
48. Butz T, Warfield SK, Tuncali K, Silverman SG, van Sonnenberg E, Jolesz FA, **Kikinis R**. Pre- and intra-operative planning and simulation of percutaneous tumor ablation. In: Proceedings of the 3rd International Conference on Medical Image Computing and Computer-Assisted Intervention. October 11-14, 2000; Pittsburgh, PA. 2000. p. 317-26.
49. Westin CF, Lorigo LM, Faugeras O, Grimson WEL, Dawson S, Norbash A, **Kikinis R**. Segmentation by adaptive geodesic active contours. In: Proceedings of the 3rd International Conference on Medical Image Computing and Computer-Assisted Intervention. October 11-14, 2000; Pittsburgh, PA. 2000. p. 266-75.
50. Kaus MR, Nabavi A, Mamisch CT, Wells WH, Jolesz FA, **Kikinis R**, Warfield SK. Simulation of corticospinal tract displacement in patients with brain tumors. In: Proceedings of the 3rd International Conference on Medical Image Computing and Computer-Assisted Intervention. October 11-14, 2000; Pittsburgh, PA. 2000. p. 9-18.
51. Golland P, Grimson WEL, Shneton ME, **Kikinis R**. Small sample size learning for shape analysis of anatomical structures. In: Proceedings of the 3rd International

- Conference on Medical Image Computing and Computer-Assisted Intervention. October 11-14, 2000; Pittsburgh, PA. 2000. p. 78-82.
52. Warfield SK, Rexilius J, Huppi PS, Inder TE, Miller EG, Wells III WM, Zientara GP, Jolesz FA, **Kikinis R**. A binary entropy measure to assess nonrigid registration algorithms. In: Proceedings of the 4th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 14-17, 2001; Utrecht, The Netherlands. 2001. p. 266-74.
 53. Rexilius J, Warfield SK, Guttmann CRG, Wei X, Benson R, Wolfson L, Shenton ME, Handels H, **Kikinis R**. A novel nonrigid registration algorithm and applications. In: Proceedings of the 4th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 14-17, 2001; Utrecht, The Netherlands. 2001. p. 923-31.
 54. Timoner SJ, Grimson WEL, **Kikinis R**, Wells III WM. Fast linear elastic matching without landmarks. In: Proceedings of the 4th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 14-17, 2001; Utrecht, The Netherlands. 2001. p. 1358-60.
 55. Haker S, Tannenbaum A, **Kikinis R**. Mass preserving mappings and image registration. In: Proceedings of the 4th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 14-17, 2001; Utrecht, The Netherlands. 2001. p. 120-27.
 56. Jaume S, Ferrant M, Schreyer, Hoyte L, Macq B, **Kikinis R**, Warfield SK. Multiresolution signal processing on meshes for automatic pathological shape characterization. In: Proceedings of the 4th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 14-17, 2001; Utrecht, The Netherlands. 2001. p. 1398-1400.
 57. Mocanu D, Kettenback J, Sweeney MO, KenKnight BH, **Kikinis R**, Eisenberg SR. Patient-specific simulation of internal defibrillation. In: Proceedings of the 4th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 14-17, 2001; Utrecht, The Netherlands. 2001. p. 983-90.
 58. O'Donnell L, Westin CF, Grimson WEL, Ruiz-Alzola J, Shenton ME, **Kikinis R**. Phase-based user-steered image segmentation. In: Proceedings of the 4th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 14-17, 2001; Utrecht, The Netherlands. 2001. p. 1022-1030.
 59. Haber I, **Kikinis R**, Westin CF. Phase-driven finite element model for spatio-temporal tracking in tagged cardiac MRI. In: Proceedings of the 4th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 14-17, 2001; Utrecht, The Netherlands. 2001. p. 1332-1335.
 60. Ferrant M, Cuisenaire O, Macq B, Thiran JP, Shenton ME, **Kikinis R**, Warfield SK. Surface based atlas matching of the brain using deformable surfaces and volumetric finite elements. In: Proceedings of the 4th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 14-17, 2001; Utrecht, The Netherlands. 2001. p. 1352-3.
 61. Pachai C, Zhu YM, Guttmann CRG, **Kikinis R**, Jolesz FA, Gimenez G, Froment JC, Confavreux C, Warfield SK. Unsupervised and adaptive segmentation of

- multispectral 3D magnetic resonance images of human brain: a generic approach. In: Proceedings of the 4th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 14-17, 2001; Utrecht, The Netherlands. 2001. p. 1067-74.
62. Shahidi R, Clarke L, Bucholz RD, Fuchs H, **Kikinis R**, Robb RA, Vannier MW. White paper: challenges and opportunities in computer-assisted interventions January 2001. In: Comput Aided Surg. 2001. p. 176-81.
63. Golland P, Fischl B, Spiridon M, Kanwisher N, Buckner RL, Shenton ME, **Kikinis R**, Dale A, Grimson WEL. Discriminative analysis for image-based studies. In: Proceedings of the 5th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 2002; Tokyo, Japan. 2002. p. Part I; 508-15.
64. Kohl KM, Wells WM, Guimond A, Kasai K, Shenton ME, **Kikinis R**, Grimson WEL, Warfield SK. Incorporating non-rigid registration into expectation maximization algorithm to segment MR images. In: Proceedings of the 5th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 2002; Tokyo, Japan. 2002. Part I: 564-71.
65. Nain D, Haker S, Grimson WEL, Cosman Jr E, Wells WW, Ji H, **Kikinis R**, Westin CF. Intra-patient prone to supine colon registration for synchronized virtual colonoscopy. In: Proceedings of the 5th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 2002; Tokyo, Japan. 2002. Part II: 573-80.
66. Watanabe M, **Kikinis R**, Westin CF. Level set based integration of segmentation and computational fluid dynamics for flow correction in phase contrast angiography. In: Proceedings of the 5th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 2002; Tokyo, Japan. 2002. Part II: 405-12.
67. Timoner SJ, Golland P, **Kikinis R**, Shenton ME, Grimson WEL, Wells III WM. Performance issues in shape classification. In: Proceedings of the 5th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 2002; Tokyo, Japan. 2002. Part I: 355-362.
68. Gering DT, Grimson WEL, **Kikinis R**. Recognizing deviations from normalcy for brain tumor segmentation. In: Proceedings of the 5th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 2002; Tokyo, Japan. 2002. Part I: 388-95.
69. Bjornemo M, Brun A, **Kikinis R**, Westin CF. Regularized stochastic white matter tractography using diffusion tensor MRI. In: Proceedings of the 5th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 2002; Tokyo, Japan. 2002. Part I: 435-42.
70. Zou KH, Wells III WM, Kaus MR, **Kikinis R**, Jolesz FA, Warfield SK. Statistical validation of automated probabilistic segmentation against composite latent expert ground truth in MR Imaging of brain tumors. In: Proceedings of the 5th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 2002; Tokyo, Japan. 2002. Part I: 315-22.

71. Ellsmere J, Stoll J, Rattner D, Brooks D, Kane R, Wells W III, **Kikinis R**, Vosburgh K. A Navigation System for Augmenting Laparoscopic Ultrasound. In: Proceedings of the 6th International Conference on Medical Image Computing and Computer-Assisted Intervention. November 15-18 2003; Montreal, Canada. 2003. p. 184-91.
72. Grau V, **Kikinis R**, Alcaniz M, Warfield S. Cortical Gray Matter Segmentation using an Improved Watershed Transform. In: Proceedings of the 25th Annual International Conference of the IEEE Engineering in Medicine and Biology Society; September 17-21, 2003. Cancun, Mexico. 2003.
73. Talos IF, O'Donnell L, Westin CF, Warfield SK, Wells WM, Yoo SS, Panych L, Golby A, Mamata H, Maier SE, Ratiu P, Guttman CG, Black PML, Jolesz FA, **Kikinis R**. Diffusion tensor and functional MRI fusion with anatomical mri for image guided neurosurgery. In: Proceedings of the 6th International Conference on Medical Image Computing and Computer-Assisted Intervention. Montreal, Canada. 2003. p. 407-15.
74. San-Jose R, Martin-Fernandez M, Alberola-Lopez C, Ellsmere J, **Kikinis R**, Westin CF. Freehand ultrasound reconstruction based on roi prior modeling and normalized convolution. In: RE Ellis, TM Peters, Eds. In: Proceedings of the 6th International Conference on Medical Image Computing and Computer-Assisted Intervention. November 15-18; Montreal, Canada. Springer Verlag. 2003. p. 382-90.
75. Krissian K, Ellsmere J, Vosburgh K, **Kikinis R**, Westin CF. Multiscale segmentation of the aorta in 3d ultrasound images. In: 25th Annual Int. Conf. of the IEEE Engineering in Medicine and Biology Society (EMBS); September 17-21, 2003; Cancun, Mexico. 2003. p. 638-41.
76. Bricault I, **Kikinis R**, vanSonnenberg E, Tuncali K, Silverman S. 3D Analysis of Radiofrequency-Ablated Tumors in Liver: A Computer-Aided Diagnosis Tool for Early Detection of Local Recurrences. In: Proceedings of the 7th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 26-29, 2004; Saint-Malo, France. 2004. p. 1042-43.
77. Pieper S, Halle M, **Kikinis R**. 3D Slicer. In: Proceedings of IEEE International Symposium on Biomedical Imaging: From Nano to Macro 2004. p. 632-35.
78. Zou K, Greve D, Wang M, Pieper S, Warfield S, White N, Vangel M, Kikinis R, Wells W III, FIRST BIRN. A Prospective Multi-Institutional Study of the Reproducibility of fMRI: A Preliminary Report from the Biomedical Informatics Research Network. In: Proceedings of the 7th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 26-29, 2004; Saint-Malo, France. 2004. p. 769-76.
79. Kemper C, Talos IF, Golby A, Black P, **Kikinis R**, Grimson EW, Warfield S. An Anisotropic Material Model for Image Guided Neurosurgery. In: Proceedings of the 7th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 26-29, 2004; Saint-Malo, France. 2004. p. 267-75.
80. Pohl K, Bouix S, **Kikinis R**, Grimson EW. Anatomical Guided Segmentation with

Non-stationary Tissue Class Distributions in an Expectation-Maximization Framework. In: Proceedings of IEEE International Symposium on Biomedical Imaging: From Nano to Macro 2004. p. 81-4.

81. Maddah M, Zou K, Wells W, **Kikinis R**, Warfield S. Automatic Optimization of Segmentation Algorithms Through Simultaneous Truth and Performance Level Estimation (STAPLE). In: Proceedings of the 7th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 26-29, 2004; Saint-Malo, France. 2004. p. 274-82.
82. Nakamura R, Tuncali K, Morrison P, Hata N, Silverman S, **Kikinis R**, Jolesz FA, Zientara G. Control System for MR-Guided Cryotherapy Short-Term Prediction of Therapy Boundary Using Automatic Segmentation and 3D Optical Flow. In: Proceedings of the 7th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 26-29, 2004. Saint-Malo, France. 2004. p. 542-50.
83. Pohl K, Warfield S, **Kikinis R**, Grimson EW, Wells W. Coupling Statistical Segmentation and PCA Shape Modeling. In: Proceedings of the 7th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 26-29, 2004; Saint-Malo, France. 2004. p. 151-9.
84. Liu Y, Teverovskiy L, Carmichael O, **Kikinis R**, Shenton ME, Carter C, Stenger AV, Davis S, Alzenstein H, Becker J, Lopez O, Meltzer C. Discriminative MR Image Feature Analysis for Automatic Schizophrenia and Alzheimer's Disease Classification. In: Proceedings of the 7th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 26-29, 2004; Saint-Malo, France. 2004. p. 393-400.
85. Koseki Y, **Kikinis R**, Jolesz FA, Chinzei K. Precise Evaluation of Positioning Repeatability of MR-Compatible Manipulator Inside MRI. In: Proceedings of the 7th International Conference on Medical Image Computing and Computer-Assisted Intervention. September 26-29, 2004; Saint-Malo, France. 2004. p. 192-9.
87. Luboz V, Wu X, Krissian K, Westin CF, **Kikinis R**, Cotin S, Dawson S. A segmentation and reconstruction technique for 3D vascular structures. In: Proceedings of the 8th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 26-29, 2005. Palm Springs, CA. 2005. Part I: 43-50.
89. Pohl KM, Fisher J, Levitt JJ, Shenton ME, **Kikinis R**, Grimson WE, Wells WM. A unifying approach to registration, segmentation, and intensity correction. In: Proceedings of the 8th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 26-29, 2005. Palm Springs, CA. 2005. Part I: 310-8.
92. Wittek A, **Kikinis R**, Warfield S, Miller K. Brain Shift Computation Using a Fully Nonlinear Biomechanical Model. In: Proceedings of the 8th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 26-29, 2005. Palm Springs, CA. 2005. Part II: 583-90.
93. Clatz O, Delingette H, Talos IF, Golby AJ, **Kikinis R**, Jolesz FA, Ayache N, Warfield SK. Hybrid formulation of the model-based non-rigid registration

- problem to improve accuracy and robustness. In: Proceedings of the 8th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 26-29, 2005. Palm Springs, CA. 2005. Part II: 295-302.
94. Clatz O, Delingette H, Talos IF, Golby A, **Kikinis R**, Jolesz FA, Ayache N, Warfield S. Hybrid Formulation of the Model-Based Non-rigid Registration Problem to Improve Accuracy and Robustness. In: Proceedings of the 8th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 26-29, 2005. Palm Springs, CA. 2005. p. 295-302.
 95. Kuroki N, Shenton ME, Salisbury DF, Hirayasu Y, Onitsuka T, Ersner-Hershfield H, Yurgelun-Todd D, **Kikinis R**, Jolesz FA, McCarley RW. Middle and Inferior Temporal Gyrus Gray Matter Volume in First-Episode Schizophrenia: An MRI Study. In: Am J Psychiatry. 2005.
 96. Pohl K, Fisher J, **Kikinis R**, Grimson EW, Wells W. Shape Based Segmentation of Anatomical Structures in Magnetic Resonance Images. In: Proceeding of ICCV 2005: Computer Vision for Biomedical Image Applications: Current Techniques and Future Trend, An International Conference on Computer Vision Workshop. Beijing, China. Springer-Verlag. 2005.
 97. San Jose Estepar R, Washko G, Silverman E, Reilly J, **Kikinis R**, Carl-Fredrik W. Accurate Airway Wall Estimation Using Phase Congruency. In: Proceedings of the 9th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 2006; Copenhagen, Denmark. Germany: Springer-Verlag. 2006. p. 125-34.
 98. Fedorov A, Chrisochoides N, **Kikinis R**, Warfield S. An evaluation of three approaches to tetrahedral mesh generation for deformable registration of brain MR images. In: Proceedings of IEEE International Symposium on Biomedical Imaging: From Nano to Macro 2006. p. 658-61.
 99. Pohl K, Fisher J, Shenton ME, McCarley R, Grimson EW, **Kikinis R**, Wells W. Logarithm Odds Maps for Shape Restoration. In: Proceedings of the 9th International Conference on Medical Image Computing and Computer-Assisted Intervention. October 2006; Copenhagen, Denmark. Germany: Springer-Verlag. 2006. p. 955-63.
 100. Pieper S, Lorensen B, Schroeder W, **Kikinis R**. The NA-MIC Kit: ITK, VTK, Pipelines, Grids and 3D Slicer as An Open Platform for the Medical Image Computing Community. In: Proceedings of IEEE International Symposium on Biomedical Imaging: From Nano to Macro. 2006. p. 698-701.

Reviews/Chapters/Editorials

1. Jolesz FA, **Kikinis R**, Cline HE, Lorensen WE, Gerig G. 3-D view of the brain using MRI: computerized image processing. *Hospimedica*. 1990;8(1):20-26.
2. Gerig G, Martin J, **Kikinis R**, Kuebler O, Shenton ME, Jolesz FA. Automated segmentation of dual-echo MR head data. In: Colchester ACF, and Hawkes DJ (eds.) December 1991. Lecture Notes in Computer Science Series. Heidelberg: Verlag-Springer. 1991. p. 175-85.

3. Jolesz FA, **Kikinis R**. The role of imaging in the operating room of the future. *Administrative Radiology*. 1992. 43-6.
4. **Kikinis R**, Altobelli D, Jolesz FA. The use of computerized image processing for the planning and simulation of craniofacial surgery. In: Zinreich SJ, ed. *Problems in Radiology*. Philadelphia: J.B. Lippincott Company. 1992. 1(2):210-26.
5. Gerig G, Martin J, **Kikinis R**, Kuebler O, Shenton ME, Jolesz FA. Unsupervised segmentation of 3-D dual-echo MR head data. *Butterworth, Special Edition of Image and Vision Computing*. 1992:349-60.
6. Jolesz FA, **Kikinis R**, Cline HE, Lorensen WE. The use of computerized imaging and image processing for neurosurgical planning. In: Black PMcL, Lampson LA, Eds. *Astrocytomas*. Cambridge: Blackwell Scientific Publications, Inc. 1993. p. 50-6.
7. Jolesz FA, **Kikinis R**, Shtern F. The vision of image-guided computerized surgery: the high tech operating room. In: Taylor R, Lavalley S, Burdea G, Mosges R., eds. *Computer Assisted Surgery*. MIT Press. 1994.
8. **Kikinis R**, Jolesz FA, Cline HE, Matsumae M, Moore MR, Lorensen WE, Stieg PE, Black PM. Use of three-dimensional reconstructed magnetic resonance imaging data for neurosurgical planning. In: Stevens J, ed. *Three-Dimensional Confocal Microscopy: Volume Investigation of Biological Specimens*. Academic Press, Inc. 1994. p. 469-91.
9. Jolesz FA, **Kikinis R**. Intraoperative imaging revolutionizes therapy. *Diagn Imaging (San Franc)*. 1995 Sep;17(9):62-8. **Review**. PMID: 10155622.
10. Alexander E 3rd, Moriarty TM, **Kikinis R**, Jolesz FA. Innovations in minimalism: intraoperative MRI. *Clin Neurosurg*. 1996;43:338-52. **Review**. PMID: 9247815.
11. Moriarty TM, **Kikinis R**, Jolesz FA, Black PMcL, Alexander E. In: *Magnetic Resonance Imaging Therapy*. Neurosurgery Clinics of North America. W.B. Saunders. 1996. p. 7(2):323-31.
12. Kettenbach J, Silverman SG, Schwartz RB, Hsu L, Koskinen SK, **Kikinis R**, Black PM, Jolesz FA. [Design, clinical suitability and future aspects of a 0.5 T MRI special system for interventional use]. *Radiologe*. 1997 Oct;37(10):825-34. **Review**. German. PMID: 9454276.
13. Nakajima S, **Kikinis R**, Black PM, Atsumi H, Leventon ME, Hata N, Metcalf DC, Moriarty TM, Alexander E, Jolesz FA. Image-Guided Neurosurgery at Brigham and Women's Hospital. In: *Computer Assisted Neurosurgery*, eds. Tamaki N, Ehara K. Tokyo: Springer-Verlag. 1997. p. 144-62.
14. Alexander E, Moriarty TM, **Kikinis R**, Black P, Jolesz FA. The Present and Futuer Role of Intraoperative MRI in Neurosurgical Procedures. In: *Stereotactic and Functional Neurosurgery*. Lyon. 1997. p. 68:10-7.
15. Young GS, Silverman SG, Kettenbach J, Hata N, Golland P, Jolesz FA, Loughlin KR, **Kikinis R**. Three Dimensional Computed Tomography for Planning Urologic Surgery. In: *Urologic Clinics of North America*. W.B. Saunders. 1998. p. 25(1):103-11.

16. Frankenthaler R, Moharir V, **Kikinis R**, vanKipshagen P, Jolesz FA, Umans C, Fried MP. Virtual Otoscopy. In: Otolaryngologic Clinics of North America. W.B. Saunders. 1998. 31(2):383-92.
17. Schwartz RB, Hsu L, Wong TZ, Kacher DF, Zamani AA, Black PM, Alexander E 3rd, Stieg PE, Moriarty TM, Martin CA, Kikinis R, Jolesz FA. Intraoperative MR imaging guidance for intracranial neurosurgery: experience with the first 200 cases. *Radiology*. 1999 May;211(2):477-88. PMID: 10228532.
18. Grimson WEL, **Kikinis R**, Jolesz FA, Black PM. Image-guided surgery. *Scientific American*. 1999. 280(6):62-9.
19. Shenton ME, Frumin M, McCarley RW, Maier S, Westin CF, Fischer IA, Dickey C, **Kikinis R**. Morphometric MR Findings in Schizophrenia. *Psychiatric Neuroimaging Strategies: Research and Clinical Applications*. 1999.
20. Warfield S, Robatino A, Dengler J, Jolesz FA, **Kikinis R**. Nonlinear Registration and Template-Driven Segmentation. In: *Brain Warping*. Academic Press; 1999. p. 67-84.
21. Nabavi A, Mamisch CT, Gering DT, Kacher DF, Pergolizzi RS, Wells WM 3rd, **Kikinis R**, Black PM, Jolesz FA. Image-guided therapy and intraoperative MRI in neurosurgery. *Minim Invasive Ther Allied Technol*. 2000;9(3-4):277-86. **Review**. PMID: 20156025.
22. Kettenbach J, Kacher DF, Koskinen SK, Silverman SG, Nabavi A, Gering D, Tempny CM, Schwartz RB, **Kikinis R**, Black PM, Jolesz FA. Interventional and intraoperative magnetic resonance imaging. *Annu Rev Biomed Eng*. 2000;2:661-90. **Review**. PMID: 11701527.
23. Jolesz FA, **Kikinis R**, Talos IF. Neuronavigation in interventional MR imaging. Frameless stereotaxy. *Neuroimaging Clin N Am*. 2001 Nov;11(4):685-93. **Review**. PMID: 11995423.
24. Westin CF, Maier SE, Mamata H, Nabavi A, Jolesz FA, **Kikinis R**. Processing and visualization for diffusion tensor MRI. *Med Image Anal*. 2002 Jun;6(2):93-108. **Review**. PMID: 12044998.
25. Kubicki M, Westin CF, Maier SE, Mamata H, Frumin M, Ersner-Hershfield H, **Kikinis R**, Jolesz FA, McCarley R, Shenton ME. Diffusion tensor imaging and its application to neuropsychiatric disorders. *Harv Rev Psychiatry*. 2002 Nov-Dec;10(6):324-36. **Review**. PMID: 12485979; PMC2853779.
26. Luboz V, Wu X, Krissian K, Westin CF, **Kikinis R**, Cotin S, Dawson S. A Segmentation and Reconstruction Technique for 3D Vascular Structures. In: Duncan JS, Gerig G, Editors. *Vascular Image Segmentation*. Springer-Verlag; 2005. p. 43.
27. Warfield SK, Haker SJ, Talos IF, Kemper CA, Weisenfeld N, Mewes AU, Goldberg-Zimring D, Zou KH, Westin CF, Wells WM, Tempny CM, Golby A, Black PM, Jolesz FA, Kikinis R. Capturing intraoperative deformations: research experience at Brigham and Women's Hospital. *Med Image Anal*. 2005 Apr;9(2):145-62. **Review**. PMID: 15721230.
28. Pohl K, Fisher J, Levitt J, Shenton ME, **Kikinis R**, Grimson W, Wells W. A Unifying Approach to Registration, Segmentation, and Intensity Corection. In:

- Duncan J, Gerig G, Editors. Image Segmentation and Analysis I. Springer-Verlag. 2005. p. 310.
29. Kubicki M, McCarley R, Westin CF, Park HJ, Maier S, **Kikinis R**, Jolesz FA, Shenton ME. A review of diffusion tensor imaging studies in schizophrenia. *J Psychiatr Res.* 2007 Jan-Feb;41(1-2):15-30. **Review.** PMID: 16023676; PMC2768134.
 30. Irimia A, Wang B, Aylward SR, Prastawa MW, Pace DF, Gerig G, Hovda DA, **Kikinis R**, Vespa PM, Van Horn JD. Neuroimaging of structural pathology and connectomics in traumatic brain injury: Toward personalized outcome prediction. *Neuroimage Clin.* 2012 Aug 24;1(1):1-17. **Review.** PMID: 24179732; PMC3757727.
 31. Shenton ME, Hamoda HM, Schneiderman JS, Bouix S, Pasternak O, Rathi Y, Vu MA, Purohit MP, Helmer K, Koerte I, Lin AP, Westin CF, **Kikinis R**, Kubicki M, Stern RA, Zafonte R. A review of magnetic resonance imaging and diffusion tensor imaging findings in mild traumatic brain injury. *Brain Imaging Behav.* 2012 Jun;6(2):137-92. **Review.** PMID: 22438191; PMC3803157.
 32. **Kikinis R**, Pieper SD, Vosburgh KG. 3D Slicer: A Platform fo Subject-Specific Anlysis, Visualization, and Clinical Support. In: Jolesz, F.A., Editor. *Intraoperative Imaging and Image-Guided Therapy.* Springer. 2014. p. 277-90.
 33. Hata N, Morrison PR, Cselik Z, **Kikinis R**, Black PMJ, Jolesz FA. MRI-Guided and Controlled Laser-Induced Interstitial Thermal Therapy of Brain Tumors Using Integrated Navigation and Thermal Mapping. In: Jolesz, F.A., Editor. *Intraoperative Imaging and Image-Guided Therapy.* Springer. 2014. p. 567-74.

Books, Monographs, and Textbooks

1. Hohne KH and **Ron Kikinis** (Eds.). *Visualization in Biomedical Computing: 4th International Conference, VBC '96, Hamburg, Germany, September 22-25, 1996: Proceedings (Lecture Notes In).* Berlin: Springer Verlag; 1996.
2. Dohi T and **Ron Kikinis** (Eds.). *Medical Image Computing and Computer-Assisted Intervention- MICCAI 2002, 5th International Conference, Tokyo, Japan, September 2002 Proceedings (Parts 1 and 2).* New York: Springer; 2002.

Narrative Report of Research, Teaching, and Clinical Contributions

Scientific Activities:

The fundamental question driving the research of this investigator is how to increase the amount and quality of information gleaned from diagnostic imaging data. He started this quest within a few years of graduating from medical school during his residency in radiology in Zurich, Switzerland during the early 80's. Ever since, he has been building bridges between biomedical research, clinical translational research, and different branches of computer science, including computer vision, computer graphics and high performance computing. He is the principal investigator for the 3D Slicer image

computing platform, which is used for image processing in biomedical research in the brain, head and neck, musculo skeletal system, cardio-vascular, respiratory, gastrointestinal, genitourinary and for image guided interventions. This work is funded through a variety of grants, including several center grants in which he has leadership functions, including the Neuroimage Analysis Center, a National Resource Center. Furthermore, he serves as the scientific director for the National Center for Image Guided Therapy.