

**The Faculty of Medicine of Harvard University  
Curriculum Vitae**

**Date Prepared:** January 25, 2024  
**Name:** Ron Kikinis  
**Office Address:** SPL, Radiology; ASBI, L1-050  
Brigham and Women's Hospital  
75 Francis Street  
Boston, MA 02115  
United States  
**Work Phone:** +1 (617) 732-7389  
**Work Email:** kikinis@bwh.harvard.edu

**Education:**

1982	M.D.	Medicine	University of Zurich, Switzerland
1988	Licensure and Certification	Education Commission for Foreign Medical Graduates	

**Postdoctoral Training:**

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

			Technology of the Swiss Federal Institute of Technology, Switzerland
1988-1989	Research Fellow	Neuro MR, Radiology	Brigham and Women's Hospital & Harvard Medical School, Boston, MA USA

**Faculty Academic Appointments:**

1989-1992	Instructor	Radiology	Harvard Medical School
1992-1997	Adjunct Assistant Professor		Boston University
1992-1997	Assistant Professor	Radiology	Harvard Medical School
1997-2004	Associate Professor	Radiology	Harvard Medical School
2004-2014	Full Professor	Radiology	Harvard Medical School
2014-2020	Professor, Part-time	Radiology	Harvard Medical School
2014-2020	Honorary Professor of Medical Image Computing (with full Professorial rights)	Computer Science	University of Bremen
2020-	B. Leonard Holman Professor of Radiology	Radiology	Harvard Medical School

**Appointments at Hospitals/Affiliated Institutions:**

1988-	Investigator	Radiology (MRI)	Brigham and Women's Hospital
	Research Affiliate	Medical Vision Group, CSAIL	Massachusetts Institute of Technology (MIT)
2020-	Vice-Chair for Biomedical Informatics Research	Department of Radiology	Brigham and Women's Hospital

**Other Professional Positions:**

2001	Scientific Board	Center of Advanced European Studies and Research, Cologne, Germany	
2003, 2008	International Advisory Board	ISRACAS, Technion - Israel Institute of Technology, Tel Aviv, Israel	
2003-2011	External Advisory Board	NIH CFNT, Massachusetts General Hospital, Boston, MA	

2004-2012	Scientific Advisory Board	NIH LONI P41 NCBC, University of California, Los Angeles	
2005	Scientific Advisory Board	4th SNSF Research Networking Workshop: Computer Aided & Image Guided Medical Interventions, Switzerland	
2005-2010	External Advisory Board	NIH CIBC, Salt Lake City, UT	
2006	Advisory Board	ECCV Workshop: Computer Vision for Biomedical Image Applications, Graz, Austria	
2007-2013	Scientific Advisory Board	CO-ME, Zurich, Switzerland	
2009-2013	Scientific Advisory Board	Fraunhofer MEVIS, Bremen, Germany	
2010-2015	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	MGH/Harvard/MIT Advanced Multimodal Neuroimaging Training Program (PI: Bruce Rosen), Massachusetts General Hospital, Boston, MA	
2012-	External Advisory Board	Euro-BioImaging, Heidelberg, Germany	4 days per calendar year
2014	Scientific Advisory Board	Virtual Physiological Human: Dementia Research Enabled by IT	

		(VPH-DARE@IT), The University of Sheffield, UK
2014-2016	Scientific Advisory Board	SFB/Transregio 125 Cognition-Guided Surgery - Wissens- und modellbasierte Chirurgie, Heidelberg, Germany
2014-2016	External Advisory Committee	Clinical Trials and Biomarker Research, Radiation Oncology, Massachusetts General Hospital, Boston, MA
2016	External Advisory Board	Therapy Imaging Program (TIP), Massachusetts General Hospital, Boston, MA
2016	Scientific Review Panel	User Applications, Euro-BioImaging, Heidelberg, Germany
2017	Scientific Advisory Board	CURAC 2017, Hanover, Germany

### Local

1990-	Director, Surgical Planning Laboratory	Department of Radiology, Brigham and Women's Hospital
2010-2020	Robert Greenes Distinguished Director of Biomedical Informatics	Department of Radiology, Brigham and Women's Hospital
2020-	Vice-Chair for Biomedical Informatics Research	Department of Radiology, Brigham and Women's Hospital

### National

PI of NIH Research Center	Neuroimaging Analysis Center, NIH P41 National Center for Biomedical Computing (NCBC)
PI	National Alliance for Medical Imaging Computing (NA-MIC), NIH Roadmap Initiative, NIH U54

### International

2014-2020	Institute Director	Fraunhofer Institute for Medical Image Computing MEVIS, Bremen, Germany
-----------	--------------------	---

### Committee Service:

**Local**

2020-	Promotions Committee	Harvard Medical School
2005	Biomedical Informatics/Image Processing/Visualization Council	Brigham and Women's Hospital
2005	2005	Council Member
2005	Airway and Emphysema Phenotypes of the COPD Syndrome: Genetics and Pathogenesis, SCCOR	Brigham and Women's Hospital
2005	2005	Committee Member
2005-2009	IIC Executive Steering Committee	Harvard University
2005-2009	2005-2009	Committee Member
2005	Biomedical Informatics/Image Processing/Visualization Council	Brigham and Women's Hospital
2005	2005	Committee Member
2005	Scientific Committee	Airway and Emphysema Phenotypes of the COPD Syndrome: Genetics and Pathogenesis, SCCOR
2005	2005	Committee Member
2008-2010	Research Oversight Committee	Brigham and Women's Hospital
2008-2010	2008-2010	Committee Member
2008-2014	Neuroscience Working Group	Brigham and Women's Hospital
2008-2014	2008-2014	Co-Chair
2010-2011	Pre-Clinical Strategic Planning Task Force	Brigham and Women's Hospital
2010-2011	2010-2011	Member
2011-2021	Research IT Steering Committee	Brigham and Women's Hospital
2011-	2011-	Committee Member
2017-2021	BWH Precision Medicine Program Working Group	Brigham and Women's Hospital
2017-	2017-	Member
2018-	Radiology Research Executive Board Committee	Brigham and Women's Hospital
2018-	2018-	Committee Member
2020-2022	BWH Center for Clinical Data Science (CCDS) Task Force	Brigham and Women's Hospital
2020-	2020-	Director
2021-	MGB Medical Imaging Informatics Research Scientific Advisory Committee	Mass General Brigham
2021-	2021-	SAC Member

**Regional**

1998		Medical Image Computing and Computer-Assisted Intervention- MICCAI'98, First International Conference, Boston, MA
	1998	Co-General Chair
2006	Program Committee	SIGGRAPH: 5th Workshop on Volume Graphics, Boston, MA
	2006	Committee Member
2007	Program Committee	IEEE 7th International Bioinformatics & Bioengineering conference (BIBE), Cambridge, MA
	2007	Committee Member
2012	Musculoskeletal Session	9th Interventional MRI Symposium, Boston, MA
	2012	Chair
2014	Program Committee	MICCAI 2014, Boston, MA
	2014	Committee Member
<b>National</b>		
1992	Program Committee	Society for Magnetic Resonance Imaging Annual Meeting, New York City, NY
	1992	Committee Member
1993	Technical Evaluation Committee	National Institutes of Health, Bethesda, MD
	1993	Committee Member
1994	Program Committee	First International Symposium on Medical Robotics and Computer Assisted Surgery, Pittsburgh, PA
	1994	Committee Member
1994	Program Committee	Third Conference on Visualization in Biomedical Computing (VBC '94), Rochester, MN
	1994	Committee Member
1995	Program Committee	Second International Symposium on Medical Robotics and Computer Assisted Surgery, Baltimore, MD
	1995	Program Co-Chair
1995	Program Committee	Frontiers in Biomedical Visualization Symposium (BioMedVis95), Atlanta, GA
	1995	Committee Member

1996	Program Committee	Visualization 96 (Vis96), San Francisco, CA
	1996	Committee Member
1998	Program Committee on Volume Visualization	IEEE Symposium, Research Triangle Park, North Carolina
	1998	Committee Member
1999	Program Committee	IEEE Visualization, San Francisco, CA
	1999	Committee Member
1999	Scientific Committee	Joint U.S. Public Health Services Office on Women's Health, NIH
	1999	Co-Chair
2000		MICCAI Third International Conference, Pittsburgh, PA
	2000	Session Chair
2003	Program Committee	Visualization 2003, Seattle, WA
	2003	Committee Member
2004	Program Committee	International Symposium on Biomedical Imaging (ISBI 2004), Arlington, VA
	2004	Committee Member
2004	Program Committee	Volume Visualization and Graphics Symposium 2004 (VolVis 2004), Austin, TX
	2004	Committee Member
2005	Program Committee	Volume Graphics Workshop (VG'05), Stony Brook, NY
	2005	Committee Member
2006	Program Committee	IEEE Workshop on Mathematical Methods in Biomedical Image Analysis (MMBIA), New York, NY
	2006	Committee Member
2006	Program Committee	2006 IEEE International Symposium on Biomedical Imaging (ISBI), Arlington, VA
	2006	Committee Member
2007-2008	Program Committee	MMBIA'08/ CVPR'08, Anchorage, AK
	2007-2008	Committee Member
2008	Program Committee	MIAMS 2008: MICCAI Workshop on "Medical Image Analysis on Multiple Sclerosis (Validation and Methodological Issues), New York, NY

	2008	Committee Member
2009	Web Services Committee	International Society for Magnetic Resonance in Medicine, Berkeley, CA
	2009-	Committee Member
2010	Program Committee	11th IEEE workshop on Mathematical Methods in Biomedical Image Analysis (MMBIA), with CVPR'10, San Francisco, CA
	2010	Committee Member
2017	Imaging Workshop Committee	SC17, Denver, CO
	2017	Committee Member
<b>International</b>		
1995	Program Committee	Computer Assisted Radiology (CAR '95), Berlin, Germany
	1995	Committee Member
1996		Visualization in Biomedical Computing, 4th International Conference (VCB '96), Hamburg, Germany
	1996	Program Chair
	1996	Editor of Proceedings
1996	Program Committee	Computer Assisted Orthopedic Surgery, University of Bern, Switzerland
	1996	Committee Member
1997	Organizing Committee	First Joint Conference of CVRMed II and MRCAS III, Grenoble, France
	1997	General Co-Chair
1999	Program Committee	4th International Symposium on Computer Assisted Orthopedic Surgery, Davos, Switzerland
	1999	Committee Member
2000	Program Committee	International Society for Minimally Invasive Therapy
	2000	Committee Member
2001	Organizing Committee	Medical Image Computing and Computer-Assisted Intervention, 4th International Conference, Utrecht, Netherlands
	2001	Program Committee Member
	2001	Session Chair



2002	Program Committee	MICCAI Fifth International Conference, Tokyo, Japan
	2002	Program Chairman
2004	Program Committee	MIAR 2004: International Workshop on Medical Imaging and Augmented Reality Beijing, China
	2004	Committee Member
2004	Program Committee	International Workshop on Medical Imaging and Augmented Reality (MIAR 2004), Beijing, China
	2004	Committee Member
2008	Program Committee	European Conference on Computer Vision (ECCV)
	2008	Committee Member
2012	Program Committee	Medical Image Computing and Computer Assisted Intervention, Nice, France
	2012	Committee Member
2012		Workshop on Cognitive Robotics in Surgery, German Cancer Research Center, Heidelberg, Germany
	2012	Session Chair
2012	Advisory Council	NIGMS Council Meeting, Bethesda, MD
	2012	Special Consultant
2012	Review panel	Germany's Excellence Initiative, Deutsche Forschungsgemeinschaft (DFG), Berlin, Germany
	2012	Reviewer
2012	Review panel	Bildverarbeitung für die Medizin (BVM) 2012
	2012	Reviewer
2012	Review panel	ISBI 2012
	2012	Reviewer
2012	Session Chair	1st International Symposium on Deep Brain Connectomics, Clermont-Ferrand, France
	2012	Session Chair: Clinical Integration 2
2013	Session Chair	6th Sixth National Image-Guided Therapy workshop, Crystal City, VA
	2013	Session Chair, "Medical Image Computing"

2013	Program Committee	Medical Image Computing and Computer Assisted Intervention, Nagoya, Japan
	2013	Committee Member
2013	Interview Panel	Regius Chair in Engineering, University of Edinburgh, Edinburgh, UK
	2013	Interview Panelist
2013	Review Panel	IEEE International Symposium on Biomedical Imaging
	2013	Reviewer
2015	Session Chair	MICCAI, Munich, Germany
	2015	Chair: "Bremen" Session
2015	Program Committee	Medical Computer Vision Workshop (MCV), MICCAI 2015, Munich, Germany
	2015	Committee Member
2016	Review Panel	Canadian Institutes of Health Research (CIHR) Spring 2016 Project Grant competition
	2016	Reviewer
2016	Review Committee	MICCAI 2016, Athens, Greece
	2016	Reviewer
2016-2017	Review Panel	Bildverarbeitung für die Medizin (BVM) 2017, Heidelberg, Germany
	2016-2017	Reviewer
2016-2017	Program Committee	Computer Assisted Radiology and Surgery (CARS), Barcelona, Spain
	2016-2017	Committee Member
2017	Review Panel	IEEE International Symposium on Biomedical Imaging (ISBI) 2017, Melbourne, Australia
	2017	Referee
2017	Review Panel	Augmented Environments for Computer-Assisted Interventions (AE-CAI) Workshop, Quebec City, Canada
	2017	Reviewer
2017	Program Committee	CURAC 2017, Hanover, Germany
	2017	Committee Member
2017-2018	Program Committee	14 <sup>th</sup> International Conference Beyond Databases, Architectures and Structures (BDAS 2018), Poznan, Poland

	2017-2018	Committee Member
2018-	Informatics Subcommittee	Programme for Anatomical Terminology (FIPAT) of the International Federation of Associations of Anatomists (IFAA)
	2018	Committee Member
2018-	Scientific Committee	Mannheim Molecular Intervention Environment (M <sup>2</sup> OLIE), Universitätsmedizin Mannheim, Germany
	2018	Committee Member
2018-2019	Review Panel	ISBI 2019, Venice, Italy
	2018-2019	Referee

### Professional Societies:

1984-1999	Ausserordentliches Mitglied of the Foederatio Medicinorum Helveticorum (FMH)	Member
1986	American Association for the Advancement of Science (AAAS)	Member
1986-1999	Schweizerische Gesellschaft fuer Radiologie und Nuklearmedizin (SGRNM)	
	1986-1988	Officer: Representative of Junior Members
	1986-1999	Member
1986-	Radiological Society of North America (RSNA)	Member
1989-1999	Schweizerische Neuroradiologische Gesellschaft (SNRG)	Member
1992	American Society of Neuroradiology	Junior Member
2003-	International Society for Magnetic Resonance in Medicine (ISMRM)	
	2003-2004	Member, Subcommittee on the Young Investigator Awards
	2009-2010	Member, Web-Based Services Committee
	2010-2012	Member, Ad Hoc Committee on Web-Based Services
	2019-	Fellow
2004-	MICCAI Society	
	2004-	Member
	2009-	Fellow
2012	Harvard Club of Australia, Australia-Harvard Fellowship	Fellow
2013-	CURAC Society	Inaugural Honorary Membership

	Institute of Electrical and Electronics Engineers (IEEE) Professional Association	Member
	Computer Assisted Radiology and Surgery (CARS) Journal and Congress	Member
2023-	Precision Neurosurgery Society of the Chinese Research Hospital Association (CRHA)	International Counselor of the society

### Grant Review Activities:

2000	National Advisory Research Resources Council's Bioinformatics Working Group	NIH [Ad hoc member]
2003	Special Emphasis Panel	Human Brain Project, Center for Scientific Review, NIH [Ad hoc member]
2018	Review Committee	Centers of Biomedical Research Excellence (COBRE) (P20) Applications ZGM1 RCB-4 (C1) [Ad hoc member]

### Editorial Activities:

- **Ad hoc Reviewer**

Journal of Engineering in Medicine, Medical Image Analysis Journal, Biomedical Computation Review, International Journal of Computer Assisted Radiology and Surgery (CARS), Radiology, Journal of Biomedical Informatics, Computational and Mathematical Methods in Medicine (CMMM), Computers & Electrical Engineering (CEE), Medical Image Analysis (MEDIA), Magnetic Resonance in Medicine (MRM), International Journal of Computer Assisted Radiology and Surgery (JCAS), Journal of Neurology, Neurosurgery & Psychiatry (JNNP), Neuroimage, Journal of Magnetic Resonance Imaging (JMRI), PLOSOne, IEEE International Symposium on Biomedical Imaging (ISBI), Human Brain Mapping, International Conference Beyond Databases, Architectures and Structures (BDAS), Radiology: Artificial Intelligence, American Journal of Neuroradiology, Oncology, Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, Journal of Healthcare Engineering, Journal of 3D Printing in Medicine, International Conference on Information Processing in Computer-Assisted Interventions, MICCAI Conference and Proceedings, ASE, JBI, AMIA

- **Other Editorial Roles**

1996	Editor (book)	Hohne KH and <b>Ron Kikinis</b> (Eds.). Visualization in Biomedical Computing: 4th International Conference, VBC '96, Hamburg, Germany, September 22-25,
------	---------------	---

		1996: Proceedings (Lecture Notes In). Berlin: Springer Verlag; 1996.
1999-	Editorial Board Member	Journal of Engineering in Medicine
2002	Editor (book)	Dohi T and <b>Ron Kikinis</b> (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.
2004-2005	Referee	IMIA Yearbook of Medical Informatics
2005-	Executive Editorial Board Member	Medical Image Analysis Journal
2005-2014	Editorial Advisory Board Member	Biomedical Computation Review
2007	Founding Member	Brain Imaging and Behavior Journal
2009-	Editorial Board	Professional Engineering Publishing Ltd.
2016	Review Editor in Neuroprosthetics	Frontiers in Neuroscience and Neurology
2020-	Editorial Board	International Journal of CARS
	Associate Editor	MEDIA
	Editorial Board	Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine

### Honors and Prizes:

1988-1990	Nachwuchsfoerderungs stipendium	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	William F. Milton Award		Analysis of Morphometric Information from MR Brain Images in Schizophrenia Using Newly Developed Tech
1992-1994	Stanley Foundation Research Award of the National Alliance for the Mentally Ill	Stanley Foundation	
1992-1995	Young Investigator grant	Whitaker Foundation	Development of computerized image processing methods for the

			quantitative analysis of brain magnetic resonance images for the diagnosis of schizophrenia
2002	Partner's Radiology Research Award	Brigham and Women's Hospital	
2003	21 <sup>st</sup> Century Achievement Award: Medicine	Computer World Honors	
2004	Honorary Master's degree	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	International Brain Mapping & Intra-operative Surgical Planning Society (IBMISPS)	
2009	Enduring Impact Award	MICCAI Society	Inaugural recipient
2009	Fellow	MICCAI Society	
2013	Distinguished Investigator Award	Academy of Radiology Research	
2013	Ehrenmitglied	The German-Language Society for Computer- and Robot-Assisted Surgery (CURAC)	Inaugural honorary member
2014	Research Leadership Pillar Award	Brigham and Women's Hospital Center for Faculty Development and Diversity	
2019	Fellow	International Society for Magnetic Resonance in Medicine (ISMRM)	Senior Fellow
2019	Clifford Barger Excellence in Mentoring Award	Harvard Medical School	
2023	Award for Outstanding Research Achievement	Japanese Society of Medical Imaging Technology (JAMIT)	Achievement title: Establishment of methods for multiscale local structure analysis in 3D medical images

## **Report of Funded and Unfunded Projects**

### **Past**

1988-1998 MRI of Thermally Induced Surgical Interventions  
CA45743-08  
Co-Investigator

1988-2003 High Temperature Ultrasound Therapy Guided by MRI  
CA46627-08  
Co-Investigator

1992-1995 Development of Computerized Image Processing Methods for the Quantitative Analysis  
of Brain Magnetic Resonance Images for the Diagnosis of Schizophrenia  
Whitaker Foundation  
PI

1995-1996 Virtual Inner Endoscopy  
U.S. Army  
Co-Investigator

1995-2005 MR Guided Therapy  
NIH/NCI, P01 CA67165  
PI

1996-1997 Core Segmentation for Computer Assisted Surgery  
NSF, BES-9631710  
PI

1996-1997 Prospective MRI Study of Hippocampus after Mental Trauma  
NIH, MH5-50379-03  
Co-Investigator

1996-1997 Joint R & D Project to Produce a Prototype of a Surgical Simulator  
Mitsubishi Electric Information Technology Corporate Research Project  
PI

1996-1998 Virtual Endoscopy  
Advanced Research Projects Agency, F41624-96-2-0001  
Co-Investigator

1997-2000 Surgical Planning Simulation and Intraoperative Guidance  
NCI, P01CA067165  
PI

1997-2002 Age-Related Changes of Cognition in Health and Diseases  
NIH/MGH, AG04953  
Co-Investigator

1998-2003 MRI Anatomy of Schizophrenia  
VA Merit Review  
Consultant

1998-2003 Core Segmentation Tools for Computer Assisted Surgery  
NCRR, R01 RR011747

PI

1998-2008 Engineering Research Center for Computer Integrated Surgical Systems and Technology  
NSF, 8810-27498/ EEC-973178  
PI/Site PI

1999-2001 Virtual Cystoscopy for Detection of Small Bladder Tumors  
NIH, CA80945  
Co-Investigator

1999-2002 Visible Human Project Imaging Processing Tools  
NLM, N01-LM-9-3531  
PI

2000-2003 Adaptive Functional MRI  
NIH, NS37922  
Co-Investigator

2000-2003 MR Brain Diffusion Tensor Imaging in Schizophrenia  
VA Merit Review  
Consultant

2004-2011 Image Guided Technology  
CIMIT  
Program Co-Leader

2004-2009 Morphometry Biomedical Informatics Research Network (mBIRN)  
NIH, U24 RR021382  
Site PI

2004-2015 National Alliance for Medical Imaging Computing (NA-MIC)  
NIH/NIBIB, U54 EB005149  
PI

2005-2011 Functional Biomedical Informatics Research Network (fBIRN)  
NIH, U24 RR021992  
Site PI

2008-2011 Harvard Clinical and Translational Science Center  
NIH/NCRR, UL1 RR025758  
Imaging Specialist

2008-2013 Post-Traumatic Stress Disorder (PTSD) and Traumatic Brain Injury (TBI) Clinical  
Consortium  
DoD, W81XWH-08-2-0159, CC-CCA  
Lead Investigator

2009 Image Analysis of Personalized Medicine/  
2P41RR013218-12S1 (NAC ARRA Supplement)  
PI



- 2009-2011 Robust Cerebrum and Cerebellum Segmentation for Neuroimage Analysis  
NIH R21EB009900  
Site PI
- 2019-2016 Neuroimaging Leadership for the 10 PTSD/TBI Clinical Consortium Sites  
DoD, W81XWH-08-2-0159  
Core PI
- 2011-2013 Post-Processing of Images for Clinical Consortium  
DoD, W81XWH-08-2-0159  
PI
- 2013-2019 Quantitative Image Informatics for Cancer Research (QIICR)  
NCI, U24CA180918  
Multi-PI (with Andrey Fedorov)

### **Current**

- 1998- Neuroimaging Analysis Center (NAC)  
P41RR13218 (1998-2008)/ NIBIB, P41 EB015902 (2009-present)  
PI/ multi-PI (with Carl-Fredrik Westin)
- 2005- Image Guided Therapy Center (NCIGT)  
NIH, P41 RR019703  
Research Director/ Director of Collaborations
- 2019- Integrative Cancer Imaging Data Commons (IDC)  
Leidos Biomedical Research Inc. HHSN261200800001E  
PI
- 2019- Lymph Node Quantification System for Multisite Clinical Trials (LNQ)  
NIH/NCI 1R01CA235589  
Multi-PI (with Gordon Harris)

### **Report of Local Teaching and Training**

#### **Teaching of Students in Courses:**

- |            |  |                       |
|------------|--|-----------------------|
| 1983-1984  | Radiation Oncology   | Zurich Medical School |
| 2005       | 3D Modeling for Medical Applications                             | MIT                   |
| 2006       | Percutaneous Tumor Ablation: Current Status and Future Direction | MGB/HMS               |
| 2009, 2014 | 6.872J/HST950 Biomedical Computing                               | MIT                   |

		Guest Lectures
2010	Introduction into the 3D Slicer Software, HMS Research Tutorial Course	DFCI
2011	3D Slicer, BWH/DFCI Radiology Core Clerkship	BWH/DFCI
2013	HST582: Biomedical Signal and Image Processing	MIT Guest Lecture
2015-2019	Anatomy for Engineers and Computer Scientists	University of Bremen, Germany 5 day intensive course, 40 hours
2021, 2022	IT in oncology and radiation oncology: patient perspective	Healthcare IT Lecture Series, University of Bremen 2 hour lectures
2023	A Patient's View of the EMR	Healthcare IT Lecture Series, University of Bremen 2 hour lecture

**Mentored Trainees and Faculty:**

- 1991-1994 P. Langham Gleason, M.D./ Neurosurgeon, Neurosurgery of Corpus Christi  
*Mentoring role:* research supervisor. *Accomplishments:* 2 peer-reviewed publications.
- 1993- Tina Kapur, Ph.D./ Assistant Professor of Radiology, HMS  
*Mentoring role:* research supervisor. *Accomplishments:* 14 peer-reviewed publications;  
numerous grants; continued collaboration.
- 1994-1996 Dan Iosifescu, M.D., M.Sc./ Director of Clinical Research, Nathan Kline Institute and  
Associate Professor of Psychiatry, New York University School of Medicine  
*Mentoring role:* research supervisor. *Accomplishments:* 2 peer-reviewed publications.
- 1994-1997 Shin Nakajima, M.D./ Neurosurgeon, Osaka National Hospital  
*Mentoring role:* research supervisor. *Accomplishments:* 11 peer-reviewed publications.
- 1994-1998 Simon Warfield, Ph.D./ Thorne Griscom Professor of Radiology, HMS  
*Mentoring role:* research supervisor. *Accomplishments:* 42 peer-reviewed publications,  
numerous grants.
- 1994-1998 Gil Ettinger, Ph.D./ Vice President, Systems and Technology Research  
*Mentoring role:* research supervisor. *Accomplishments:* 5 peer-reviewed publications.
- 1995- Nobuhiko Hata, Ph.D./ Professor of Radiology, HMS

*Mentoring role:* research supervisor. *Accomplishments:* 23 peer viewed publications to date, numerous grant applications and collaboration.

1996 Jeffrey Tsao, Ph.D./ Distinguished Member of Technical Staff at Sandia National Laboratories, Albuquerque, and Chief Scientist of its Energy Frontier Research Center for Solid-State Lighting Science

*Mentoring role:* research supervisor. *Accomplishments:* 1 peer-reviewed publication.

1996- Carl-Fredrik Westin, Ph.D./ Professor of Radiology, HMS

*Mentoring role:* research supervisor. *Accomplishments:* 44 peer-reviewed publications, numerous grants written and executed, mPIs on an NIH P41 NCBC.

1996-1997 Abhir Bharleru, Ph.D./ Professor in Computer Science, University of Warwick

*Mentoring role:* research supervisor. *Accomplishments:* 2 peer-reviewed publications.

1996-1998 Joachim Kettenbach, M.D./ Deceased 2023, former Associate Professor of Radiology and Chief Physician, Interventional Radiology, University Hospital of Berne

*Mentoring role:* research supervisor. *Accomplishments:* 8 peer-reviewed publications.

1996-1998 Michael E. Leventon, Ph.D.

*Mentoring role:* research supervisor. *Accomplishments:* 5 peer-reviewed publications.

1996-1998 Terrie Inder, M.D./ Mary Ellen Avery Professor of Pediatrics in the Field of Newborn Medicine, Harvard Medical School

*Mentoring role:* research supervisor. *Accomplishments:* 3 peer-reviewed publications.

1996-1998 Jens Richolt, M.D.

*Mentoring role:* research supervisor. *Accomplishments:* 11 peer-reviewed publications.

1996-1998 Petra Huppi, M.D./ Professor of Pediatrics and Newborn Medicine, University of Geneva, Switzerland

*Mentoring role:* research supervisor. *Accomplishments:* 4 peer-reviewed publications.

1996-1998 Seppo Koskinen, M.D., Ph.D./ Professor in Medical Radiology, Department of Clinical Science, Intervention and Technology, Karolinska Institutet, Sweden

*Mentoring role:* research supervisor. *Accomplishments:* 2 peer-reviewed publications.

1996-1999 Erwin Keeve, M.D.

*Mentoring role:* research supervisor. *Accomplishments:* 3 peer-reviewed publications.

1996- Polina Golland, Ph.D./ Henry Ellis Warren Professor of Electrical Engineering and Computer Science (EECS), MIT

*Mentoring role:* research supervisor. *Accomplishments:* 5 peer-reviewed publications.

1997 Lennox Hoyte, M.D., MSEECS/ Managing Partner at The Pelvic Floor Institute in Tampa and Sarasota

*Mentoring role:* research supervisor. *Accomplishments:* 3 peer-reviewed publications.

1997 Hideki Atsumi, M.D.

*Mentoring role:* research supervisor. *Accomplishments:* 8 peer-reviewed publications.

1997-1998 Matthias Teschner

- Mentoring role:* research supervisor. *Accomplishments:* 4 peer-reviewed publications.
- 1997-2000 Michael Kaus, Ph.D./ Vice President, Product Definition at Siemens Healthineers, Nürnberg Area, Germany
- Mentoring role:* research supervisor. *Accomplishments:* 4 peer-reviewed publications.
- 1997-2000 Neil Weisenfeld, M.Sc., Ph.D./ Director of Image Analysis, 10xGenomics, CA
- Mentoring role:* research supervisor. *Accomplishments:* 2 peer-reviewed publications.
- 1998-2000 Arya Nabavi, M.D.
- Mentoring role:* research supervisor. *Accomplishments:* 19 peer-reviewed publications.
- 1998-2003 Atul Malhotra, M.D./ Kenneth M. Moser Professor, Department of Medicine, Vice Chief of Research, Pulmonary, Critical Care and Sleep Medicine, Director of Sleep Medicine, UC San Diego
- Mentoring role:* research supervisor. *Accomplishments:* 3 peer-reviewed publications.
- 1999-2000 Carl Kolvenbach
- Mentoring role:* research supervisor. *Accomplishments:* 1 peer-reviewed publications.
- 1999-2000 Marco Das, M.D.
- Mentoring role:* research supervisor. *Accomplishments:* 1 peer-reviewed publications.
- 1999-2000 Charles Mamisch, M.D.
- Mentoring role:* research supervisor. *Accomplishments:* 3 peer-reviewed publications.
- 1999-2000 Liana Lorigo, Ph.D.
- Mentoring role:* research supervisor. *Accomplishments:* 1 peer-reviewed publications.
- 1999-2001 Lore Schierlitz, M.D.
- Mentoring role:* research supervisor. *Accomplishments:* 1 peer-reviewed publications.
- 1999-2003 Juan Ruiz-Alzola, Ph.D./ Imaging Technologies Full Professor in the knowledge area of Signal Processing and Communications, at the University of Las Palmas de Gran Canaria (ULPGC), Spain
- Mentoring role:* research supervisor. *Accomplishments:* 5 peer-reviewed publications.
- 1999- Lauren O'Donnell, Ph.D./ Associate Professor of Radiology, HMS
- Mentoring role:* research supervisor. *Accomplishments:* 11 peer-reviewed publications.
- 2000-2010 Ion-Florin Talos, M.D./ Deceased 2019, former faculty at HMS
- Mentoring role:* research supervisor. *Accomplishments:* 15 peer-reviewed publications.
- 2000 Lutz Ritter
- Mentoring role:* research supervisor. *Accomplishments:* 1 peer-reviewed publications.
- 2000-2003 James Ellsmere, M.D., M.Sc./ Resident, Dept. of Surgery, Dalhousie University, Halifax, NS, Canada
- Mentoring role:* research supervisor. *Accomplishments:* 1 peer-reviewed publications.
- 2001, 2009-2010 Sylvain Jaume, Ph.D.

- 2001 Krishna Yeshwant, B.S.  
*Mentoring role:* research supervisor. *Accomplishments:* 1 peer-reviewed publications.
- 2001-2005 Karl Krissian, M.S., Ph.D./ Senior Software Engineer, GoPro, France  
*Mentoring role:* research supervisor. *Accomplishments:* 5 peer-reviewed publications.
- 2001-2003 Janko Verhey, Ph.D./ Abteilung Medizinische Informatik, Göttingen, Germany  
*Mentoring role:* research supervisor. *Accomplishments:* 2 peer-reviewed publications.
- 2001-2003 Kiyoyuki Chinzei, Ph.D./ Prime Senior Researcher, National Institute of Advanced Industrial Science and Technology (AIST); Visiting Professor, ICCRC, Kobe University, Japan  
*Mentoring role:* research supervisor. *Accomplishments:* 2 peer-reviewed publications.
- 2002-2003 Kersten Peldschus/ Senior physician/ Medical Specialist in Radiology, UKE Hamburg, Germany  
*Mentoring role:* research supervisor. *Accomplishments:* 1 peer-reviewed publications.
- 2002- Raul San Jose Estepar, Ph.D./ Associate Professor of Radiology, HMS  
*Mentoring role:* research supervisor. *Accomplishments:* 10 peer-reviewed publications.
- 2004-2007 Simon DiMaio, B.Sc., MAsc; Ph.D./ Director of Research, Intuitive Surgical Inc., CA  
*Mentoring role:* research supervisor. *Accomplishments:* 7 peer-reviewed publications.
- 2004-2007 Raimundo Sierra, Ph.D.  
*Mentoring role:* research supervisor. *Accomplishments:* 1 peer-reviewed publications.
- 2005-2008 Kilian Pohl, B.S., M.S., Ph.D./ Associate Professor, Stanford University/ Program Director, Image Analysis, Center for Health Sciences, SRI International, CA  
*Mentoring role:* research supervisor. *Accomplishments:* 14 peer-reviewed publications.
- 2008- Andriy Fedorov, Ph.D./ Associate Professor of Radiology, HMS  
*Mentoring role:* research supervisor. *Accomplishments:* 28 peer-reviewed publications.
- 2010-2013 Demian Wassermann, Ph.D./ Research Professor, INRIA, Saclay Île-de-France  
*Mentoring role:* research supervisor. *Accomplishments:* 5 peer-reviewed publications.
- 2011-2012 Xiaojun Chen, Ph.D./ Associate Professor, Institute of Biomedical Manufacturing and Life Quality Engineering, School of Mechanical Engineering, Shanghai Jiao Tong University, China  
*Mentoring role:* research supervisor. *Accomplishments:* 2 peer-reviewed publications.
- 2011-2014, 2020-2021 Alireza Mehrtash/ Software Engineer, Amazon Web Services (AWS)  
*Mentoring role:* research supervisor. *Accomplishments:* 5 peer-reviewed publications.
- 2014-2015 Yang Gao/ Beihang University, Beijing, China  
*Mentoring role:* research supervisor. *Accomplishments:* 4 peer-reviewed publications.
- 2015 Weidong Cai, Ph.D./ Associate Professor and Director of Multimedia Laboratory at School of Information Technologies, The University of Sydney, Australia

- 2015-2020 Jennifer Nitsch, M.S./ Medical Image Computing Group, University of Bremen  
*Mentoring role:* research supervisor. *Accomplishments:* 10 peer-reviewed publications.
- 2015-2020 Hans Meine, M.S./ Medical Image Computing Group, University of Bremen  
*Mentoring role:* research supervisor. *Accomplishments:* 3 peer-reviewed publications.
- 2018-2019 Henning Höfener, Ph.D./ Fraunhofer MEVIS  
*Mentoring role:* research supervisor. *Accomplishments:* 2 peer-reviewed publications.
- 2018-2020 Luca Canalini, Ph.D./ Fraunhofer MEVIS  
*Mentoring role:* research supervisor. *Accomplishments:* 2 peer-reviewed publications.
- 2019 André Homeyer, Ph.D./ Fraunhofer MEVIS  
*Mentoring role:* research supervisor. *Accomplishments:* 3 peer-reviewed publications.

### Local Invited Presentations:

- No presentations below were sponsored by 3<sup>rd</sup> parties/outside entities*
- Those presentations below sponsored by outside entities are so noted and the sponsor(s) is (are) identified.*

- 1990 MRI Studies of the Human Brain: From 2D to 3D Reconstructions/ natural computation seminar  
 Intelligent Systems Laboratory, Department of Biomedical Engineering, Boston University  
 Boston, MA
- 1992 The Potential Use of MRI Guidance for Computerized Surgical Procedures/ invited lecture  
 Brigham and Women's Hospital  
 Boston, MA
- 1992 3D Reconstruction from CT and MRI/ invited lecture  
 Brigham and Women's Hospital  
 Boston, MA
- 1992 3D Morphometric and Morphologic Analysis from MRI/ invited lecture  
 Brain Imaging Group, Brockton V.A. Hospital  
 Brockton, MA
- 1993 Quantitative and Qualitative Analysis of Digital Diagnostic Data/ invited lecture  
 Dunster House Seminar on Computer-Assisted Research, Harvard University  
 Cambridge, MA
- 1993 Morphometric and Morphological Analysis of Brain MRI/ course instructor  
 Brigham and Women's Hospital

- Boston, MA
- 1993 Computerized Image Processing of MRI for Quantitative Analysis and Surgical Planning/  
invited lecture  
Digital Image Processing Seminar, Center for Imaging and Pharmaceutical Research,  
Massachusetts General Hospital  
Boston, MA
- 1996 Workshop, CT/MRI Update/ course instructor  
Brigham and Women's Hospital/ Harvard Medical School  
Cambridge, MA
- 2002 High Performance Computing for Image Guided Therapy/ keynote speaker  
CenSSIS Research and Industrial Collaboration Project  
Boston, MA
- 2006 Percutaneous Tumor Ablation: Current Status and Future Direction  
Brigham and Women's Hospital, Massachusetts General Hospital, Harvard Medical  
School/ invited lecture  
Boston, MA
- 2007 Computerized Image Analysis/ invited lecture  
BRI Imaging Program Seminar Series, Brigham and Women's Hospital  
Boston, MA
- 2013 Surgical Planning: Role of Image Processing beyond PACS/ invited lecture  
Radiology Centennial Homecoming, Brigham and Women's Hospital  
Boston, MA
- 2020 AI in Medicine: A Technology with Staying Power/ keynote lecture  
4th Annual Morris Simon, MD, Memorial Lecture, Beth Israel Deaconess Medical Center  
Boston, MA
- 2020 AI in Medicine: A Technology with Staying Power/ invited lecture  
Ferenc A. Jolesz Seminar, Department of Radiology, Brigham and Women's Hospital  
Boston, MA
- 2022 Data Science and Image Processing/ invited lecture  
Department of Radiology, Brigham and Women's Hospital  
Boston, MA

**Report of Regional, National and International Invited Teaching and Presentations**

- No presentations below were sponsored by 3<sup>rd</sup> parties/outside entities*
- Those presentations below sponsored by outside entities are so noted and the sponsor(s) is (are) identified.*

**Regional**

- 1990 The Impact of MRI on Neurosurgical Planning/ invited lecture  
Electronic Imaging International Exposition and Conference  
Boston, MA
- 1992 Morphometric and Morphological Analysis of MR Images/ invited lecture  
Special Topics in NMR and MRI, American Association of Physicists in Medicine, New  
England Chapter  
Boston, MA
- 1992 3D Medical and Biological Imaging/ course instructor  
Center for Creative Imaging  
Camden, ME
- 1994 Virtual Reality in MRI/ invited lecture  
Electro International  
Boston, MA
- 1995 The Operating Room of the Future/ invited lecture  
Brown University  
Providence, RI
- 1998 Working Group on Digital Mammography: Computer-Aided Diagnosis and 3D Image  
Analysis and Display/ invited lecture  
National Cancer Institute and U.S. Public Health Service  
Bethesda, MD
- 2002 High Performance Computing in Image Guided Therapy/ invited lecture  
Dartmouth College  
Dartmouth, NH
- 2003 Registration: How good do we need to be?/ invited lecture  
Second International Workshop on Biomedical Image Registration  
Philadelphia, PA
- 2006 Medical Visualization in the Real World/ capstone lecture  
Volume Graphics 2006  
Boston, MA
- 2007 Image Analysis for Conservative Follow-up of Meningiomas/ invited lecture  
IBMISPS'07  
Washington, DC
- 2007 Medical Image Computing: From Data to Information/ plenary lecture  
ISBI  
Washington, DC



- 2008 Imaging Session/ panelist  
AIMBE-Military Collaboration: Bioengineering Challenges of Brain  
Washington, DC
- 2008 How I-Do-It Session II: Meningioma Imaging – Automated Segmentation/ invited lecture  
6<sup>th</sup> International Congress on Meningiomas and Cerebral Venous System (MCVS)  
Boston, MA
- 2009 Open-Source Software as an Enabler of Research/ Presidential guest lecture  
CAOS 2009  
Boston, MA
- 2010 3D Slicer, an Open Source Research Platform/ invited lecture  
International WS Workshop/ Advisory Board Meeting for Medical Eye Corporation  
(Japan), Harvard Club  
Cambridge, MA
- 2011 3D Slicer as a Tool for Interactive Brain Tumor Segmentation/ invited mini symposia  
session  
IEEE EMBC  
Boston, MA
- 2012 3D Slicer: An Open Source Platform for Image Guided Therapy/ invited lecture  
Technology: Visualization, Navigation and Robotics Session, 9th Interventional MRI  
Symposium  
Boston, MA

## **National**

- 1987 Improved Spatial Resolution Allows Detection of Perichondral Details/ invited lecture  
Department of Radiology, Hershey Medical School, University of Pennsylvania  
Philadelphia, PA
- 1989 Segmentation of Multispectral Magnetic Resonance Volume Images/ invited lecture  
Department of Computer Science, University of North Carolina  
Chapel Hill, NC
- 1990 3D Reconstructions from MRI and CT for the Planning and Simulation of Surgical  
Procedures/ invited lecture  
Department of Computer Science, University of North Carolina  
Chapel Hill, NC
- 1990 Virtual Surgery for the Planning of Corrective Surgery in Patients with Craniofacial  
Malformations/ invited lecture  
Department of Radiology, Johns Hopkins Medical Institution  
Baltimore, MD

- 1990 3D Medical Imaging Display Analysis for Cancer Treatment Planning Segmentation and 3D Display of MR Images/ DIRB/NCI Workshop  
Segmentation and 3D Display of MR Images/ DIRB/NCI Workshop  
Washington, DC
- 1991 The Potential Use of MRI Guidance for Computerized Surgical Procedures/ session moderator  
Society for Magnetic Resonance Imaging Annual Meeting, NCRR/NIH Workshop  
Bethesda, MD
- 1991 Segmentation and Image Processing of 3D Data/ invited lecture  
Computational Atlas of the Human Brain Workshop  
Santa Fe, NM
- 1991 MRI Surgical Planning Using Ultrafast Imaging/ invited lecture  
USF Workshop on Medical Image Segmentation  
Tampa, F
- 1991 Computerized Planning of Tumor Surgical Procedures/ invited lecture  
NCI/NIH Workshop  
Washington, DC
- 1992 Image Segmentation, Quantitation, and 3D Display/ invited lecture  
American Society of Neuroradiology  
St. Louis, MO
- 1992 MR Imaging of Schizophrenia/ invited lecture  
Neuroimaging and Electrophysiology: State-of-the-Art 1992 Conference, NIMH  
Washington, DC
- 1993 Interactive Visualization and Manipulation of 3-D Reconstructions for the Planning of Surgical Procedures/ invited lecture  
Department of Biomedical Engineering, University of Virginia Health Sciences Center  
Charlottesville, NC
- 1994 Imaging Fusion and Methods of Obtaining Surface Contours/ invited lecture  
NCI 3D-CRT Workshop  
Bethesda, MD
- 1994 Correction of MRI Intensity Inhomogeneities by Using Tissue Properties/ invited lecture  
Society of Magnetic Resonance  
Dallas, TX
- 1994 3D Warping of Digital Anatomical Atlas Onto Patient's Data Sets/ invited lecture  
Society of Magnetic Resonance  
Dallas, TX
- 1994 Pre and Intraoperative Tumor Localization Using 3D MRI/ invited lecture

- Society of Magnetic Resonance  
Dallas, TX
- 1994 Virtual Reality in MRI/ invited lecture  
Interventional MRI  
Marina del Rey, CA
- 1994 Visualization in the Neurosurgical OR/ course instructor & session chair  
Visualization in Biomedical Computing  
Rochester, MN
- 1995 Virtual Reality and MRI/ invited lecture  
SMRT Third Annual Meeting  
Dallas, TX
- 1995 Interventional MR/ session moderator  
Society of Magnetic Resonance  
Dallas, TX
- 1995 Computer-Assistance Image Guidance/ invited lecture  
The Power and Potential of Brain Imaging: Visualizing Its Present and Future, The National Foundation for Brain Research and the University of Minnesota  
Minneapolis, MN
- 1995 Workstation Design/ team leader  
Technology Transfer in Image-Guided Therapy Workshop, 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
- 1995 The Virtual Otoscope/ invited lecture  
Joint International Congress: Minimally Invasive Techniques in Neurosurgery and Otolaryngology  
Pittsburgh, PA
- 1995 Interactive Image Guided Interventions in an Open-Configuration MR Imaging System/  
invited lecture  
IMAGE Society and Advanced Research Projects Agency Workshop  
Scottsdale, AZ
- 1995 Image Guidance Techniques for Neurosurgery/ invited lecture  
Visualization in Biomedical Computing  
Rochester, MN
- 1995 Computer Assisted Three-Dimensional Planning in Surgery/ invited lecture  
American College of Surgeons Clinical Congress  
New Orleans, LA

- 1995 Image-Guided Therapy/ invited lecture  
American Society for Therapeutic Radiology and Oncology (ASTRO), 37th Annual Meeting  
Miami Beach, FL
- 1996 3D Reconstructed MRI Data for Neurosurgery/ invited lecture  
Current and Emerging Technologies in Monitoring Brain Structure and Function, National Institute of Mental Health  
Bethesda, MD
- 1996 3D Medical Imaging: Virtual Reality/ invited lecture  
American Association of Physicists in Medicine  
Philadelphia, PA
- 1996 Refresher course/ course coordinator  
38th Annual Meeting and Exhibition, American Association of Physicists in Medicine  
Philadelphia, PA
- 1996 3D/Virtual Reality/ invited briefing  
Capital Hill Briefing on New Frontiers in Breast Cancer and Early Detection, NIH  
Bethesda, MD
- 1996 Surface Rendering versus Volume Rendering in Medical Imaging: Techniques and Applications (Panel)/ Panelist  
IEEE Visualization  
San Francisco, CA
- 1996 InfoRad Session/ instructor  
Radiologic Society of North America (RSNA)  
Chicago, IL
- 1998 Course instructor  
SPIE-The International Society of Optical Engineering  
San Jose, CA
- 1999 Computer Assisted Neurosurgery/ invited lecture  
Columbia University Biomedical Engineering  
New York, NY
- 1999 Segmentation and Registration of the Brain/ session chair  
7th Scientific Meeting of the ISMRM  
Philadelphia PA
- 2000 The Role of Surgical Planning/ teaching course  
Harvard MRI 2000  
Maui, HI
- 2000 Image Processing/ session chair

8th Scientific Meeting of the ISMRM  
 Denver, CO

2000 Image Guided Therapy/ teaching course  
 SIGGRAPH  
 New Orleans, LA

2000 Medical Image Analysis and Visualization/ scientific session moderator  
 Medical Image Computing and Computer-Assisted Intervention (MICCAI)  
 Pittsburgh, PA

2001 Image Guided Therapy/ invited lecture  
 Allen S. Lichter Series Lecture, University of Michigan  
 Ann Arbor, MI

2001 High Performance Computing for Image Guided Therapy/ invited lecture  
 University of Utah School of Computing  
 Salt Lake City, UT

2002 High Performance Computing for Medical Image Processing/ invited lecture  
 Stony Brook Bioengineering Seminar Series  
 Stony Brook, NY

2002 Surgical Planning Laboratory at Brigham and Women's Hospital/ keynote lecture  
 SPIE Medical Imaging  
 San Diego, CA

2002 High Performance Computing for Image Guided Therapy/ invited lecture  
 SuperComputing  
 Baltimore, MD

2002 Medical Image Computing/ keynote lecture  
 RSNA  
 Chicago, IL

2003 High Performance Computing for Image Guided Therapy/ invited lecture  
 SIAM Conference on Computational Science and Engineering  
 San Diego, CA

2003 3D Imaging and Image Processing/ invited lecture  
 MRI 2003: Clinical Update and Practical Applications course  
 Maui, HI

2003 Image Guided Surgery/ invited lecture  
 P41 Principal Investigator Meeting, NCRR/NIBIB  
 Bethesda, MD

- 2004 Databases as Required for Assessment and Application of Software Tools/ invited breakout panelist and presenter  
BECON-BISTI Symposium: Biomedical Informatics for Clinical Decision Support: A Vision for the 21st Century, National Institutes of Health  
Bethesda, MD
- 2005 Invited lecture  
Force 10 Visit, Sun Microsystems Visit, Computational Systems Bioinformatics  
Palo Alto, CA
- 2005 National Centers for Biomedical Computing: Informatics Enabling Biomedical Research/ invited lecture  
AMIA  
Austin, TX
- 2005 Image Registration in Neurosurgery/ invited lecture  
Interventional Oncology Symposium/ RSNA  
Chicago, IL
- 2006 Advancing Technology for Patient Care and Safety: "Surgical Planning Lab (SPL): Lessons Learned/ plenary lecture  
Johns Hopkins School of Medicine, Whiting School of Engineering  
Baltimore, MD
- 2006 "Big Science" and Schizophrenia/ invited lecture  
ISBI 2006  
Arlington, VA
- 2006 3D Slicer: an Open Source Tool for Subject Specific Data Analysis/ invited lecture  
Scientific Visualization Symposium, The Neuro-Physical-Computational Sciences Graduate Training Program, University of Minnesota  
Minneapolis, MN
- 2006 The NA-MIC Kit  
Supporting Connectivity for Biomedical Research, Human Brain Project/ invited lecture  
The National Center for Research Resources, National Institutes of Health,  
Bethesda, MD
- 2006 State of the art in clinical applications of interventional MRI/ invited lecture  
Workshop on MR Compatible Robotics, ICRA 2006  
Orlando, FL
- 2007 Medical Image Computing: Tool Development for Neuroscience Research and Image Guided Therapy/ invited lecture  
Indiana University School of Medicine  
Indianapolis, IN
- 2007 Imaging Session: The Global Impact of Medical and Biological Engineering/ panelist  
AIMBE-Military Collaboration: Bioengineering Challenges of Brain Trauma

- Washington, DC
- 2007 The Surgical Planning Laboratory/ invited lecture  
Mayo Clinic College of Medicine  
Rochester, NY
- 2007 State of the Art in Image-Guided Neurosurgery/ keynote lecture  
MEXCAS'07  
Philadelphia, PA
- 2008 Translational Bioinformatics Enabled by the NIH National Centers for Biomedical  
Computing (NCBCs)/ panelist  
AMIA Translational Bioinformatics Meeting  
San Francisco, CA
- 2008 Medical Image Computing using the NA-MIC Kit/ invited lecture  
The Allen Institute  
Seattle, WA
- 2008 Medical Image Computing: From Data to Understanding/ keynote lecture  
Biomedical Computation at Stanford (BCATS) Symposium, Stanford University  
Stanford, CA
- 2008 The Role of Software in Image Guided Therapy/ keynote lecture  
IBMISPS  
Los Angeles, CA
- 2010 3D Slicer/ invited lecture  
Workshop on Software Tools for Clinical Trials, Dartmouth College  
Dartmouth, NH
- 2010 Image Analysis of the Brain/ invited lecture  
Tenth Anniversary of the Insight Toolkit Workshop  
Bethesda, MD
- 2010 3D Slicer as a Research Platform for Medical Image Computing/ invited lecture  
AMIA  
San Francisco, CA
- 2010 Magnetic Resonance Imaging/ invited lecture  
MemBis 2010  
Memphis, TN
- 2011 3D Slicer and the NA-MIC Kit/ invited lecture  
iDash Workshop  
San Diego, CA

2011 3D Slicer/ invited lecture  
AAGL  
Hollywood, FL

2012 Slicer Training/ teaching presentation  
Electronic and Physical Classroom 1245SC, U Iowa  
Iowa City, IA

2012 Quantitative Medical Imaging for Clinical Research and Practice/ teaching presentation  
RSNA  
Chicago, IL

2012 3D Interactive Visualization of DICOM Images for Radiology Applications  
RSNA  
Chicago, IL

2012 Open Source Image Processing Software for Translational Clinical Research/ invited lecture  
UNC-BRIC  
Chapel Hill, NC

2012 3D Slicer  
Visualization Symposium at Experimental Biology 2012  
San Diego, CA

2012 Larger Scale Funding: A Case Study/ invited lecture  
Yale Bioimaging Sciences (BIS) Retreat  
Southbury, CT

2012 Biomedical Imaging under the NCBC Program/ invited lecture  
ISMB2012  
Long Beach, FL

2012 ITK/ invited lecture  
NLM Board of Regents  
Bethesda, MD

2013 Medical Image Computing in the Procedure Room/ invited lecture  
Medical University of South Carolina  
Charleston, SC

2013 Quantitative Medical Imaging for Clinical Research and Practice: Hands-on Workshop/  
teaching presentation  
RNSA  
Chicago, IL

2013 ICIA32 - 3D Interactive Visualization of DICOM Images for Radiology Applications.  
teaching presentation



- RSNA  
Chicago, IL
- 2015 From Bench to Bedside, Translation in Medical Image Computing/ invited lecture  
BISTI  
Bethesda, MD
- 2015 3D Slicer Exhibit: Quantitative Imaging Reading Room/ teaching presentation  
RSNA  
Chicago, IL
- 2015 AMIGO, a Laboratory for Translational Research in Image Guided Interventions/ invited lecture  
University of Chicago Medical Center  
Chicago, IL
- 2015 Medical Image Computing/ 2 invited lectures: “Grand Rounds,” “Research in Progress (RIPS)”  
Emory University  
Atlanta, GA
- 2016 Medical Image Computing (MIC): We are living in interesting times/ invited lecture  
Stony Brook University  
Stony Brook, NY
- 2016 Medical Image Computing (MIC): We are living in interesting times/ invited lecture  
University of Utah  
Salt Lake City, Utah
- 2020 Evolving health care from an artisanal organization into an industrial enterprise/ invited lecture  
Stanford University  
Stanford, CA

## **International**

- 1987 An Introduction to MRI of the Spine/ invited lecture  
Schweizerische Paraplegikerzentrum  
Basel, Switzerland
- 1988 Analysis and Visualization of Medical Volume Data/ invited lecture  
Institut für Biomedizinische Technik of the University of Zurich and the Eidgenössische Technische Hochschule  
Zurich, Switzerland
- 1990 3D Rekonstruktionen und Analysen/ invited lecture  
Department of Radiology, University Hospital

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

- 1993 Computerized Image Processing of Brain MRI for Quantitative Analysis and 3D Reconstructions/ invited lecture  
McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University  
Montreal, Canada
- 1994 New Virtual Reality Imaging Methods in Radiology and Its Use in Surgical Planning/ invited lecture  
International Diagnostic Course on Musculoskeletal Diseases  
Davos, Switzerland
- 1994 3D Digital Anatomical Atlas of the Brain/ invited lecture  
University of New South Wales School of Computer Science and Engineering  
Colloquium  
Kensington, New South Wales
- 1995 Surgical Planning from MR and CT: Segmentation and Visualization/ invited lecture  
National Cancer Center Research Institute  
Tokyo Japan
- 1995 Brigham & Women's Hospital Pioneering Virtual Reality for Surgical Use/ invited lecture  
Karolinska Hospital and Karolinska Institute  
Stockholm, Sweden
- 1995 Case Study: The Operating Room of the Future  
Pan Asia Multimedia Conference & Exhibition  
Hong Kong
- 1996 Image Guided Therapy/ invited lecture  
The 30th International Convention of the Information Technology Associate of Israel  
Jerusalem, Israel
- 1996 Image Guided Therapy/ invited lecture  
Digitaalisen Kuvantamisen Hyodyt and Sun Microsystems  
Jerusalem, Israel
- 1996 Image Guided Therapy/ invited lecture  
Sun Microsystems, Cortex Gruppen  
Stockholm, Sweden
- 1996 Virtual Otoscopy/ invited lecture  
IMAGE Society  
Lausanne, Switzerland
- 1997 3D Imaging in Neurosurgery and Neuroradiology/ invited lecture  
Montreal Neurological Institute and Hospital  
Montreal, Canada
- 1997 High Performance Computing Application and HPC Medical Application

- Hong Kong
- 1998 Intraoperative Image Guidance for Neurosurgery/ plenary lecture  
ISMRM  
Toronto, Canada
- 1998 Analysis and Visualization of Medical Volume Data/ seminar  
Children's Hospital, University of Zurich  
Zurich, Switzerland
- 1999 Joint Meeting mit ker Schweizerischen Anatomie und Funktion/ moderator  
Deutsche Gesellschaft Fur Neurochirurgie  
Munich, Germany
- 1999 Anatomie and Funktion: Lokalisation von Sensomotorik/ session moderator  
Deutsche Gesellschaft Fur Neurochirurgie  
Munich, Germany
- 1999 Session moderator  
MICCAI  
London, England
- 2001 High Performance Computing in Image Guided Therapy, Computer Assisted 3D Planning  
& Real-time Navigation for Neurosurgical Procedures/ invited lecture  
Institute for Medizinische Informatik Medizinische Universitat zu Lubeck  
Lubeck, Germany
- 2001 Interoperative MRI State of the Art Science and Economy/ invited lecture  
Navigierte Hirnchirurgie Workshop, Internationales Symposium, Klinik fur  
Neurochirurgie im Universitatsklinikum Kiel  
Kiel, Germany
- 2001 Scaffolds for Tissue Engineering Applications Fabricated by 3D Plotting/ invited lecture  
3rd Caesarium on Computer Aided Medicine  
Bonn-Roettgen, Germany
- 2002 High Performance Computing and Image Guided Therapy/ invited speaker  
Computer-Aided and Image Guided Medical Interventions (CO-ME)  
Zurich, Switzerland
- 2002 Medical Robotics: A Challenge to the Radiologist?"/ invited lecture  
German Roentgen Congress  
Wiesbaden, Germany
- 2002 Invited lecture  
ISRACAS  
Tel-Aviv, Israel

- 2002 High Performance Computing for Image Guided Therapy/ keynote lecture  
Sun/CUMS Seminar on High Performance Computing for Image Guided Therapy  
Beijing, P.R. China
- 2002 High Performance Computing for Image Guided Therapy/ invited lecture  
Keio University (hosted by GEYMS and Keio Univ.)  
Tokyo, Japan
- 2002 High Performance Computing for Image Guided Therapy/ invited lecture  
Shiga University  
Oksu, Japan
- 2002 High Performance Computing for Image Guided Therapy/ invited lecture  
Osaka University  
Oksu, Japan
- 2002 Invited teaching presentation  
Medical School of YanMeng University  
Taipei, Taiwan
- 2002 Invited teaching presentation  
Medical School of National Cheng Kung University  
Taipai, Taiwan
- 2002 DTI and Neuronavigationavigierte Hirnchirurgie/ invited lecture  
Leipzig, Germany
- 2003 Image Fusion and Reconstruction- What Makes Sense, What is Possible?/ plenary lecture  
Congress German Society of Internal Medicine  
Weisbaden, Germany
- 2003 Criteria for a scientific interdisciplinary society: the view of a computer scientist and radiologist/ invited lecture and chair of International Main Session  
Second Annual Meeting of the German Society for Computer and Robotic Assisted Surgery (CURAC)  
Nuremberg, Germany
- 2005 Image Processing at the Surgical Planning Lab/ invited lecture  
Academia Eurasiana Neurochirurgica  
Bamberg, Germany
- 2005 Dissemination: EPFL Workshop 2005, NA-MIC/ ITK intensive course  
Signal Processing Institute (ITS) of the Swiss Federal Institute of Technology (EPFL)  
Lausanne, Switzerland
- 2006 Open Source Software for Image Guided Therapy/ invited lecture  
Third Annual Meeting International Brain Mapping and Intra Operative Surgical Planning Society (IBMISPS)

- Clermont-Ferrand, France
- 2006 Logarithm Odds Maps for Shape Representation/ invited lecture  
MICCAI  
Copenhagen, Denmark
- 2006 Image Guided Therapy/ plenary lecture  
CARS  
Osaka, Japan
- 2007 The Application of Open Source Concepts to Image Guided Therapy/ invited lecture and session chair  
CURAC  
Karlsruhe, Germany
- 2007 The Application of Open Source Concepts to Image Guided Therapy/ invited lecture  
2007 School of Mechanical Engineering Seminars, The University of Western Australia  
Crawley, Australia
- 2007 Open Source Software as an Enabler of Research/ invited lecture  
MICCAI Interaction Workshop  
Brisbane, Australia
- 2007 Open Source Software in NA-MIC and NCIGT/ invited lecture  
AIST  
Tokyo, Japan
- 2008 Segmentation and Localization Session/ co-moderator  
ISMIRM  
Berlin, Germany
- 2008 Medical Image Computing using the NA-MIC Kit/ invited lecture  
McMaster University  
Toronto, Canada
- 2008 The NIH Roadmap for Bioinformatics and Computational Biology/ invited lecture  
IT Symposium DKFZ  
Heidelberg, Germany
- 2008 Open Source Software and Hardware as Enablers of Research/ invited lecture  
Deutsche Forschungsgemeinschaft (DFG)  
Bonn, Germany
- 2009 Neuro-Surgical Planning/ invited lecture  
Clinical Update and Practical Applications Course  
Cancun, Mexico

- 2010 3D Slicer as a Research Platform for Medical Imaging Computing/ invited lecture  
AZE Workshop, University of Tokyo  
Tokyo, Japan
- 2011 3D Slicer, an Open Source Research Platform/ keynote lecture  
50th Annual Conference of Japanese Society for Medical and Biological Engineering  
Tokyo, Japan
- 2011 Invited Presentation and Slicer Tutorial/ invited lecture and tutorial  
Robarts Research Institute  
London, Ontario, Canada
- 2011 3D Slicer/ invited lecture  
Thematic Year on the Mathematics of Medical Imaging  
Vancouver, British Columbia, Canada
- 2011 3D Slicer/ keynote lecture  
Spanish Society of Biomedical Engineering Annual Congress  
Madrid, Spain
- 2012 Medical Robotics in the United States/ invited lecture  
German Cancer Research Center  
Heidelberg, Germany
- 2012 3D Slicer for Translational Clinical Research/ invited lecture  
Health Informatics Society of Australia (HISA)  
Melbourne, Australia
- 2012 Creating Tools for Medical Image Computing/ invited lecture  
St. Vincent's Hospital  
Fitzroy VIC, Australia
- 2012 Patient Specific Image Analysis for Translational Clinical Research/ invited lecture  
Monash Medical Center  
Clayton VIC, Australia
- 2012 The Medicine-Engineering Interface/ invited lecture  
The University Club of Western Australia  
Perth, Australia
- 2012 Creating Tools for Medical Image Computing/ invited lecture  
The University Club of Western Australia  
Perth, Australia
- 2012 Open Source Image Processing Software for Translational Clinical Research/ teaching presentation

- Masterclass, Institute of Advanced Studies, UWA  
Sydney, Australia
- 2012 3D Slicer/ invited lecture  
Sir Charles Gairdiner Hospital  
Perth, Australia
- 2012 3D Slicer/ invited lecture  
M+Vision  
Madrid, Spain
- 2012 Revolution in the Surgical Theater/ invited lecture  
IMIHEALTH Congress, Institut Guttmann Neurorehabilitation Hospital  
Barcelona, Spain
- 2012 Innovations in Image Guided Therapy/ plenary lecture  
CURAC  
Duesseldorf, Germany
- 2012 Subject Specific Exploration of Connectivity in the Brain/ invited lecture  
Geometry of Anisotropy Workshop  
Manchester, UK
- 2012 Subject Specific Exploration of Connectivity/ invited lecture  
1st International Symposium on Deep Brain Connectomics  
Clermont-Ferrand, France
- 2012 DTI Validation Challenge Workshop/ teaching presentation  
MICCAI  
Nice, France
- 2013 Medical Image Computing for Translational Biomedical Research/ invited lecture  
BVM  
Heidelberg, Germany
- 2013 Von der Forschung in die Klinik/ session moderator  
BVM  
Heidelberg, Germany
- 2013 Invited lecture  
Radboud University  
Nijmegen, the Netherlands
- 2013 NA-MIC and 3D Slicer/ invited lecture  
AZE  
Tokyo, Japan



- 2013 Slicer Workshop/ teaching presentation  
AZE  
Tokyo, Japan
- 2013 Slicer Workshop/ teaching presentation  
Japanese RSNA  
Tokohama, Japan
- 2013 Slicer Ultrasound Workshop/ teaching presentation  
Iwate Medical University  
Iwate, Japan
- 2013 3D Slicer, Platform for Research/ invited lecture  
Iwate Medical University  
Iwate, Japan
- 2013 General Topics on Medical Image Processing and Open Source Software (Ron Kikinis/Nobuhiko Hata)/ invited lecture  
Iwate Medical University  
Iwate, Japan
- 2013 Data Challenges and Skills Needed: Imaging/ invited lecture  
BD2K Training Workshop  
Rockville, MD
- 2013 Medical Image Computing in the Procedure Room/ keynote lecture  
GMDS  
Lübeck, Germany
- 2013 Medical Image Computing in the Procedure Room/ keynote lecture  
SMIT 2013 conference  
Baden-Baden, Germany
- 2013 Medical Image Computing and Image Guided Therapy/ invited lecture  
University of Edinburgh  
Edinburgh, UK
- 2013 Medical Image Computing and Image Guided Therapy/ invited lecture  
University of Dundee  
Dundee, UK
- 2013 DTI Challenge/ teaching presentation  
MICCAI  
Nagoya, Japan
- 2013 Supervised Algorithms, the Stepchildren of the MIC community/ teaching presentation

- Medical Computer Vision Workshop, MICCAI  
Nagoya, Japan
- 2013 Introduction to NA-MIC and the Slicer community/ keynote lecture and teaching presentation  
Slicer2013 Beijing workshop, Chinese PLA General Hospital  
Beijing, China
- 2013 AMIGO Operating Suite/ keynote lecture  
The First Hospital of Jilin University  
Changchun, China
- 2014 Medical Image Computing and Therapeutic Procedures/ keynote speaker  
GSDM  
Tokyo, Japan
- 2014 Medical Image Computing in the Procedure Room/ invited lecture  
Queen's University  
Kingston, Ontario, Canada
- 2015 3D Slicer as a IGS research platform/ invited lecture  
Rennes University  
Rennes, France
- 2015 Medical Image Computing/ invited lecture  
Changzheng Hospital  
Shanghai, China
- 2015 Introduction to NA-MIC and the Slicer community/ invited lecture  
Zhejiang University of Technology  
Hangzhou, China
- 2015 Introduction to NA-MIC and the Slicer community/ invited lecture  
Fudan University  
Shanghai, China
- 2015 Medical Image Computing/ invited lecture  
Brain and Spine Institute (ICM)  
Paris, France
- 2015 Introduction to the SPL and Slicer/ invited lecture  
Hungarian Academy of Sciences  
Szeged, Hungary
- 2015 Tsunami in the Procedure Room: The Growing Challenge of Managing Data in Image Guided Interventions and Surgery/ invited lecture  
Kaposvar University

- Kaposvar, Hungary
- 2015 Medical Image Computing Meets Biomechanics/ invited lecture  
MICCAI  
Munich, Germany
- 2015 Interactive Analysis of Clinical dMRI Data/ invited lecture  
MICCAI  
Munich, Germany
- 2015 Perspektiven der universitären Radiologie/ invited lecture  
Konferenzraum des Universitätsklinikums Regensburg  
Regensburg, Germany
- 2015 Tsunami in the Procedure Room: The Growing Challenge of Managing Data in Image  
Guided Interventions and Surgery/ invited lecture  
School of Mechanical Engineering, Shanghai Jiao Tong University (SJTU)  
Shanghai, China
- 2016 Interactive Analysis of Clinical dMRI Data/ invited lecture  
Diffusion Workshop 2016, Backaskog Castle  
Skane, Sweden
- 2016 Tsunami in the Procedure Room: The Growing Challenge of Managing Data in Image  
Guided Interventions and Surgery/ invited lecture  
Instituto de Astrofísica de Canarias (IAC)  
Canary Islands, Spain
- 2016 Medical Image Computing Meets Biomechanics/ invited lecture  
University of Luxembourg  
Esch-sur-Alzette, Luxembourg
- 2016 Medical Image Computing (MIC): We are living in interesting times/ invited lecture  
Computational Sciences for Medicine  
City, Luxembourg
- 2016 Digital Operating Room/ invited lecture  
ICCAS  
Leipzig, Germany
- 2016 The New World of Medical Imaging/ invited lecture  
Diagnostic Imaging Hoshin Kanri Workshop  
Bamberg, Germany
- 2017 Precision Medicine and Medical Image Computing/ invited lecture  
Beijing Advanced Innovation Center for Imaging Technology  
Beijing, China

- 2017 The SPL: A Quarter Century of Research and Translation in Technology and Biomedicine/ invited lecture  
University College London  
London, UK
- 2017 Quantitative Bildgebung/ invited lecture  
Forscher für die Zukunft, Klinik für Radiologie und Nuklearmedizin - Campus Lübeck  
Lübeck, Germany
- 2017 Medicine: A New World Emerges/ invited lecture  
IOIS  
Hannover, Germany
- 2017 Radiogenomics: the Role of Imaging in Precision Medicine/ invited lecture  
ECR 2017  
Vienna, Austria
- 2017 Roundtable Practice Confrontations/ invited lecture  
imagINE surgery workshop, Charité University Hospital  
Berlin, Germany
- 2017 A Technical Introduction to the Slicer Ecosystem/ invited lecture  
MACbioIDi Workshop, University Institute for Biomedical and Health Research (IUIBS), ULPGC  
Las Palmas, Gran Canaria, Spain
- 2017 Roundtable: Integrating Everything into Slicer and the NA-MIC Kit/ invited lecture and roundtable discussion  
MACbioIDi Worksho, University Institute for Biomedical and Health Research (IUIBS), ULPGC  
Las Palmas, Gran Canaria, Spain
- 2017 Sessions on Education (Atlases, Slicer/NA-MIC Kit)/ invited lecture  
University Institute for Biomedical and Health Research (IUIBS), MACbioIDi Workshop, ULPGC  
Las Palmas, Gran Canaria, Spain
- 2017 Translational Biomedial Research: the Experience at the National Center for Image Guided Therapy/ invited lecture  
MACbioIDi, Workshop University Institute for Biomedical and Health Research (IUIBS), ULPGC  
Las Palmas, Gran Canaria, Spain
- 2017 Medical Image Computing (MIC): We are living in interesting times/ invited lecture  
Poznan Medical Image Computing Forum  
Poznan, Poland
- 2017 Medical Image Computing (MIC): We are living in interesting times/ invited lecture  
Laboratory of Molecular Neurobiology, Nencki Institute of Experimental Biology

- Warsaw, Poland
- 2019 The Transformation of Neurosurgery/ invited lecture  
Symposium mit Abendveranstaltung für Prof. Nimsky, Universitätsklinikum Marburg  
Marburg, Germany
- 2019 3D Slicer: An Open Source Platform for Image Guided Therapy/ invited lecture  
Murdoch University  
Perth, Australia
- 2019 Medical Image Computing (MIC): we are living in interesting times/ invited lecture  
University of Western Australia  
Perth, Australia
- 2019 Masterclass: Anatomy Above the Shoulders/ invited class lecture  
Half-day Masterclass Lecture, University of Western Australia  
Perth, Australia
- 2020 Artificial intelligence in medicine - come to stay!/  
invited lecture  
Interdisziplinäres Symposium: Kontroversen in der Uro-Onkologie, Messe  
Magdeburg, Germany
- 2020 A quand la Neuro- navigation gratuite? exemple de 3D Slicer/  
invited lecture  
Journées de Neuroradiologie Informatique, Université de Nouakchott Al Aasryia, Faculté  
de Médecine de Nouakchott  
Nouakchott, Mauritanie
- 2020 3D Slicer: An Open Source Platform for Medical Image Computing/  
invited lecture  
Jornada de Neuro-Ingeniería, Universidad de La Laguna  
Tenerife, Spain
- 2020 Strategic View: Open source and medical technology. The 3D Slicer platform and NA-  
MIC experience/ invited lecture  
Casa Africa  
Las Palmas de Gran Canaria, Spain
- 2021 IT in Oncology and Radiation Oncology from the Patient's Perspective/  
invited lecture  
Bremen University  
Bremen, Germany (Virtual)
- 2021 Translation of IGT Technologies to Low and Middle Income Countries/  
keynote lecture  
Hamlyn Symposium 2021, The Hamlyn Centre for Robotic Surgery Institute of Global  
Health Innovation  
Imperial College, London, UK (Virtual)
- 2021 The Quest for FAIR Data in Medicine/  
keynote lecture  
The First Israeli Conference of Medical Informatics (ICMI), Ariel University  
Ariel, Israel (Virtual)

- 2021 Radiology and AI through the looking glass – Prognosis for the next 10 Years/ invited lecture  
102nd German Röntgen Congress  
Berlin, Germany (Virtual)
- 2021 Navigation for the Rest of the World/ keynote lecture  
Translational Brain Imaging Training Network (TRABIT)  
Copenhagen, Denmark (Virtual)
- 2022 History and Evolution of Machine Vision in Medical Imaging/ keynote lecture  
Second Zurich Machine Intelligence in Clinical Neuroscience Symposium  
Zurich, Switzerland (Virtual)
- 2022 The Impact of Artificial Intelligence on iMRI/ invited lecture  
Jolesz Memorial Lecture, iMRI Conference  
Leipzig, Germany
- 2023 3D Slicer/ invited lecture  
1<sup>st</sup> International Winter Course and Workshop on Neuroimaging: Brain Conenctivity and Mental Health  
Tenerife, Spain
- 2023 The Use of 3D Slicer for Surgical Planning Research/ invited lecture  
Kantonsspital Graubünden  
Chur, Switzerland
- 2023 Ringvorlesung/ invited lecture  
University of Bremen  
Bremen, Germany
- 2023 Let's talk Science - News and applications for 3D Slicer/ invited lecture  
ACMIT  
Vienna, Austria

### **Report of Technological and Other Scientific Innovations**

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.

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.

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.

Lorensen, WE, Jolesz FA, **Kikinis R.** United States Patent: Virtual internal cavity inspection system. US patent 5,611,025. 1997 Mar 11.

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.

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.

Gibson SFF, Grimson WEL, Kanade T, and **Kikinis R**. United States Patent: Personal patient simulation. US patent 6,077,082. 1999 Jun 20.

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

## Report of Scholarship

ORCID ID: 0000-0001-7227-7058

### Peer-Reviewed Scholarship in print or other media:

#### Research Investigations

1. Wolfensberger M, **Kikinis R**, Schmid S, Wichmann W. Der Beitrag der Computertomographie zur Klassifikation von Hypopharynx- und Larynxkarzinomen [Computerized tomography in the classification of hypopharyngeal 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**. Der Beitrag der Computertomographie zur präoperativen Klassifikation von Mundhöhlen- und Oropharynxkarzinomen [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. doi: 10.1148/radiology.165.3.3685363. PMID: 3685363.
4. Martin E, Boesch C, Grütter R, **Kikinis R**, Kewitz G, Boltshauser E, Werner B, Eich G. Magnetresonanz in der pädiatrischen Forschung und Klinik. II. Teil: Untersuchungen zur Entwicklung und Pathologie des Gehirns bei Neugeborenen, Säuglingen und Kleinkindern [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. doi: 10.1097/00004728-198811000-00002. 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. doi: 10.1007/BF02387893. PMID: 2537944.
7. **Kikinis R**, Wolfensberger M, Boesch C, Martin E. Larynx: MR imaging at 2.35 T. *Radiology*. 1989 Apr;171(1):165-9. doi: 10.1148/radiology.171.1.2928521. 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. doi: 10.1097/00004728-199009000-00001. PMID: 1697866.

9. Cline HE, Lorensen WE, **Kikinis R**, Jolesz F. Three-dimensional segmentation of MR images of the head using probability and connectivity. *J Comput Assist Tomogr.* 1990 Nov-Dec;14(6):1037-45. doi: 10.1097/00004728-199011000-00041. 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. doi: 10.1097/00004728-199103000-00035. PMID: 2002124.
11. Gerig G, **Kikinis R**, Kuoni W, von Schulthess GK, Kübler O. Semiautomated 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. doi: 10.1097/00004728-199109000-00001. PMID: 1885789.
12. 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. doi: 10.1016/0920-9964(91)90037-r. PMID: 1931803.
13. Gerig G, Kubler O, **Kikinis R**, Jolesz FA. Nonlinear anisotropic filtering of MRI data. *IEEE Trans Med Imaging.* 1992;11(2):221-32. doi: 10.1109/42.141646. PMID: 18218376.
14. Buchwald D, Cheney PR, Peterson DL, Henry B, Wormsley SB, Geiger A, Ablashi DV, Salahuddin SZ, Saxinger C, Biddle R, **Kikinis R**, Jolesz FA, Folks T, Balachandran N, Peter JB, Gallo RC, Komaroff AL. A chronic illness characterized by fatigue, neurologic and immunologic disorders, and active human herpesvirus type 6 infection. *Ann Intern Med.* 1992 Jan 15;116(2):103-13. doi: 10.7326/0003-4819-116-2-103. PMID: 1309285.
15. Sandor T, Jolesz F, 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. doi: 10.1001/archneur.1992.00530280069024. PMID: 1558519.
16. 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. doi: 10.1056/NEJM199208273270905. PMID: 1640954.
17. 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. doi: 10.1148/radiology.185.2.1410365. PMID: 1410365.
18. **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. doi: 10.1002/jmri.1880020603. PMID: 1446105.
19. 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. doi: 10.1001/archpsyc.1993.01820150036003. PMID: 8439239.
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. doi: 10.1016/0006-3223(93)90253-a. PMID: 8373937.
21. 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. doi: 10.3109/10673229309017066. PMID: 9384837.



22. Altobelli DE, **Kikinis R**, Mulliken JB, Cline H, Lorensen W, Jolesz F. Computer-assisted three-dimensional planning in craniofacial surgery. *Plast Reconstr Surg*. 1993 Sep;92(4):576-85; discussion 586-7. PMID: 8356120.
23. 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. doi: 10.1176/ajp.150.12.1849. PMID: 8238641.
24. Gleason PL, **Kikinis R**, Altobelli D, Wells W, Alexander E 3rd, Black PM, Jolesz F. Video registration virtual reality for nonlinkage stereotactic surgery. *Stereotact Funct Neurosurg*. 1994;63(1-4):139-43. doi: 10.1159/000100305. PMID: 7624624.
25. 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. doi: 10.1016/s0090-4295(94)80285-8. PMID: 8284875.
26. 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. doi: 10.1161/01.cir.89.5.2085. PMID: 8181132.
27. 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. doi: 10.1212/wnl.44.11.2120. PMID: 7969970.
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. doi: 10.1097/00001756-199411000-00021. PMID: 7881048.
29. **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. doi: 10.1016/0304-3940(94)90192-9. PMID: 7891892.
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. Warfield S, Dengler J, Zaers J, Guttmann CR, Wells WM 3rd, 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. doi: 10.1002/(SICI)1522-712X(1995)1:6<326::AID-IGS4>3.0.CO;2-C. PMID: 9080353.
32. 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. doi: 10.1001/archpsyc.1995.03950160029007. PMID: 7702444.
33. Schenk 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. doi: 10.1148/radiology.195.3.7754014. PMID: 7754014.
34. 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. doi: 10.1001/archpsyc.1995.03950190026004. PMID: 7598630.

35. 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; PMCID: PMC8338072.
36. Jolesz FA, **Kikinis R**. Intraoperative imaging revolutionizes therapy. *Diagn Imaging (San Franc)*. 1995 Sep;17(9):62-8. PMID: 10155622.
37. 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. doi: 10.1148/radiology.197.1.7568857. PMID: 7568857.
38. 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 Nov 10;61(4):209-29. doi: 10.1016/0925-4927(95)02729-h. PMID: 8748466.
39. Alexander E 3rd, Moriarty TM, **Kikinis R**, Jolesz FA. Innovations in minimalism: intraoperative MRI. *Clin Neurosurg*. 1996;43:338-52. PMID: 9247815.
40. 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. doi: 10.1109/42.491415. PMID: 18215896.
41. Wells WM, Grimson WL, **Kikinis R**, Jolesz FA. Adaptive segmentation of MRI data. *IEEE Trans Med Imaging*. 1996;15(4):429-42. doi: 10.1109/42.511747. PMID: 18215925.
42. Wells WM 3rd, 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. doi: 10.1016/s1361-8415(01)80004-9. PMID: 9873920.
43. **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.
44. Moriarty TM, **Kikinis R**, Jolesz FA, Black PM, Alexander E 3rd. Magnetic resonance imaging therapy. Intraoperative MR imaging. *Neurosurg Clin N Am*. 1996 Apr;7(2):323-31. PMID: 8726445.
45. 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. doi: 10.3171/jns.1996.84.6.0972. PMID: 8847592.
46. 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*. 1996 Jun;84(6):982-91. doi: 10.3171/jns.1996.84.6.0982. PMID: 8847593.
47. Kapur T, Grimson WE, Wells WM 3rd, **Kikinis R**. Segmentation of brain tissue from magnetic resonance images. *Med Image Anal*. 1996 Jun;1(2):109-27. doi: 10.1016/S1361-8415(96)80008-9. PMID: 9873924.
48. Reimold SC, Maier SE, Aggarwal K, Fleischmann KE, Piwnicka-Worms D, **Kikinis R**, Lee RT. Aortic flow velocity patterns in chronic aortic regurgitation: implications for Doppler echocardiography. *J Am Soc Echocardiogr*. 1996 Sep- Oct;9(5):675-83. doi: 10.1016/s0894-7317(96)90064-4. PMID: 8887871.
49. 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. *Biol Psychiatry*. 1996 Dec 1;40(11):1091-9. doi: 10.1016/S0006-3223(96)00229-6. PMID: 8931911; PMCID: PMC2910907.

50. Alexander E 3rd, Moriarty TM, **Kikinis R**, Black P, Jolesz FM. The present and future role of intraoperative MRI in neurosurgical procedures. *Stereotact Funct Neurosurg.* 1997;68(1-4 Pt 1):10-7. doi: 10.1159/000099896. PMID: 9711689.
51. 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. doi: 10.1016/s0013-4694(96)95088-9. PMID: 9146495.
52. 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. doi: 10.2214/ajr.168.6.9168709. PMID: 9168709.
53. 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. doi: 10.1097/00006123-199706000-00018. PMID: 9179893.
54. 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. doi: 10.1006/nimg.1997.0274. PMID: 9245652.
55. 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. doi: 10.1097/00006123-199708000-00013. PMID: 9257308.
56. 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. doi: 10.1001/archneur.1997.00550200074013. PMID: 9267977.
57. 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. doi: 10.1097/00006123-199710000-00013. PMID: 9316044.
58. Kettenbach J, Silverman SG, Schwartz RB, Hsu L, Koskinen SK, **Kikinis R**, Black PM, Jolesz FA. Aufbau, klinische Eignung und Zukunftsaspekte eines 0,5-T-MR-Spezialsystems für den interventionellen Einsatz [Design, clinical suitability and future aspects of a 0.5 T MRI special system for interventional use]. *Radiologe.* 1997 Oct;37(10):825-34. German. doi: 10.1007/s001170050289. PMID: 9454276.
59. 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. doi: 10.2214/ajr.169.5.9353433. PMID: 9353433.
60. 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. doi: 10.1016/s0925-4927(97)00060-7. PMID: 9498307.
61. Held K, Rota Kops E, Krause BJ, Wells WM 3rd, **Kikinis R**, Müller-Gärtner HW. Markov random field segmentation of brain MR images. *IEEE Trans Med Imaging.* 1997 Dec;16(6):878-86. doi: 10.1109/42.650883. PMID: 9533587.
62. Chabrierie A, Ozlen F, Nakajima S, Leventon ME, Atsumi H, Grimson E, Keeve E, Helmers S, Riviello J Jr, Holmes G, Duffy F, Jolesz F, **Kikinis R**, Black PM. Three-dimensional reconstruction and surgical navigation in pediatric epilepsy surgery. *Pediatr Neurosurg.* 1997 Dec;27(6):304-10. doi: 10.1159/000121275. PMID: 9655145.

63. Saiviroonporn P, Robatino A, Zahajszky J, **Kikinis R**, Jolesz FA. Real-time interactive three-dimensional segmentation. *Acad Radiol*. 1998 Jan;5(1):49-56. doi: 10.1016/s1076-6332(98)80011-1. PMID: 9442207.
64. 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. doi: 10.1002/jmri.1880080145. PMID: 9500292.
65. 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. doi: 10.1002/(SICI)1097-0150(1998)3:5<228::AID-IGS2>3.0.CO;2-I. PMID: 10207647.
66. Nakagohri T, Jolesz FA, Okuda S, Asano T, Kenmochi T, Kainuma O, Tokoro Y, Aoyama H, Lorensen WE, **Kikinis R**. Virtual pancretoscopy of mucin-producing pancreatic tumors. *Comput Aided Surg*. 1998;3(5):264-8. doi: 10.1002/(SICI)1097-0150(1998)3:5<264::AID-IGS6>3.0.CO;2-E. PMID: 10207651.
67. 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. doi: 10.1016/s0006-8993(97)00635-5. PMID: 9473573.
68. 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. doi: 10.1002/ana.410430213. PMID: 9485064.
69. Young GS, Silverman SG, Kettenbach J, Hata N, Golland P, Jolesz FA, Loughlin KR, **Kikinis R**. Three-dimensional computed tomography for planning urologic surgery. *Urol Clin North Am*. 1998 Feb;25(1):103-11. doi: 10.1016/s0094-0143(05)70437-7. PMID: 9529541.
70. Frankenthaler RP, Moharir V, **Kikinis R**, van Kipshagen P, Jolesz F, Umans C, Fried MP. Virtual otoscopy. *Otolaryngol Clin North Am*. 1998 Apr;31(2):383-92. doi: 10.1016/s0030-6665(05)70056-6. PMID: 9518445.
71. 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. doi: 10.1176/ajp.155.4.509. PMID: 9545997; PMCID: PMC2826366.
72. Guttmann 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. doi: 10.1212/wnl.50.4.972. PMID: 9566381.
73. Chabrierie A, Ozlen F, Nakajima S, Leventon ME, Atsumi H, Grimson E, Jolesz F, **Kikinis R**, Black PM. Three-dimensional image reconstruction for low-grade glioma surgery. *Neurosurg Focus*. 1998 Apr 15;4(4):e7. doi: 10.3171/foc.1998.4.4.10. PMID: 17168507.
74. 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. doi: 10.1016/s0006-3223(97)00339-9. PMID: 9582998.
75. 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. doi: 10.1016/s1361-8415(98)80007-8. PMID: 10646758.
76. 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. doi: 10.1016/s1361-8415(98)80008-x. PMID: 10646759.
77. 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*. 1998 Jun;2(2):143-68. doi: 10.1016/s1361-8415(98)80009-1. PMID: 10646760.

78. 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. doi: 10.1097/00004728-199807000-00020. PMID: 9676455.
79. 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. doi: 10.1002/jmri.1880080424. PMID: 9702896.
80. Potts GF, Gugino LD, Leventon ME, Grimson WE, **Kikinis R**, Cote W, Alexander E, Anderson JE, Ettinger GJ, Aglio LS, Shenton ME. Visual hemifield mapping using transcranial magnetic stimulation coregistered with cortical surfaces derived from magnetic resonance images. *J Clin Neurophysiol*. 1998 Jul;15(4):344-50. doi: 10.1097/00004691-199807000-00006. PMID: 9736468.
81. 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*. 1998 Jul;3(3):304-11. doi: 10.1117/1.429857. PMID: 23015084.
82. 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. doi: 10.1097/00005537-199811000-00002. PMID: 9818811.
83. 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. doi: 10.1097/00004728-199811000-00014. PMID: 9843232.
84. 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. doi: 10.1002/jmri.1880080618. PMID: 9848743.
85. Ozlen F, Nakajima S, Chabrierie A, Leventon ME, Grimson E, **Kikinis R**, Jolesz F, 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. doi: 10.1111/j.1528-1157.1998.tb01338.x. PMID: 9860075.
86. 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. doi: 10.1016/s0090-3019(97)00436-9. PMID: 9870823.
87. Golland P, **Kikinis R**, 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. doi: 10.1002/(SICI)1097-0150(1999)4:3<129::AID-IGS2>3.0.CO;2-I. PMID: 10528270.
88. Richolt JA, Teschner M, Everett PC, Millis MB, **Kikinis R**. Impingement simulation of the hip in SCFE using 3D models. *Comput Aided Surg*. 1999;4(3):144-51. doi: 10.1002/(SICI)1097-0150(1999)4:3<144::AID-IGS3>3.0.CO;2-S. PMID: 10528271.
89. Richolt JA, Teschner M, Everett PC, Millis MB, **Kikinis R**. Abstracts from the 4(th) symposium on computer assisted orthopaedic surgery (CAOS'99), held in davos, switzerland on march 18(th) and 19(th), 1999\*. *Comput Aided Surg*. 1999;4(3):152-67. PMID: 10528272.
90. 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.
91. 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. doi: 10.1001/archpsyc.56.2.142. PMID: 10025438.

92. 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. doi: 10.1177/000348949910800301. PMID: 10086612.
93. 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. doi: 10.1002/(sici)1522-2586(199904)9:4<509::aid-jmri2>[3.0.co](#);2-s. PMID: 10232508.
94. **Kikinis R**, Guttmann CR, Metcalf D, Wells WM 3rd, 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. doi: 10.1002/(sici)1522-2586(199904)9:4<519::aid-jmri3>[3.0.co](#);2-m. PMID: 10232509.
95. 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. doi: 10.1148/radiology.211.2.r99ma26477. PMID: 10228532.
96. 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. doi: 10.1002/(sici)1522-2586(199905)9:5<717::aid-jmri15>[3.0.co](#);2-j. PMID: 10331769.
97. Grimson WE, **Kikinis R**, Jolesz FA, Black PM. Image-guided surgery. *Sci Am*. 1999 Jun;280(6):62-9. doi: 10.1038/scientificamerican0699-62. PMID: 10349732.
98. 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. doi: 10.1016/s0006-3223(99)00030-x. PMID: 10356620; PMCID: PMC2832794.
99. 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*. 1999 Jul;156(7):1091-3. doi: 10.1176/ajp.156.7.1091. PMID: 10401458; PMCID: PMC2845843.
100. 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. doi: 10.1176/ajp.156.7.1105. PMID: 10401463; PMCID: PMC2845842.
101. Angenent S, Haker S, Tannenbaum A, **Kikinis R**. On the Laplace-Beltrami operator and brain surface flattening. *IEEE Trans Med Imaging*. 1999 Aug;18(8):700-11. doi: 10.1109/42.796283. PMID: 10534052.
102. 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. doi: 10.1016/s0895-6111(99)00022-1. PMID: 10638655.
103. 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. doi: 10.1212/wnl.53.4.758. PMID: 10489037.
104. 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. doi: 10.1176/ajp.156.11.1730. PMID: 10553736; PMCID: PMC2845841.
105. Inder TE, Huppi PS, Warfield S, **Kikinis R**, Zientara GP, Barnes PD, Jolesz F, Volpe JJ. Periventricular white matter injury in the premature infant is followed by reduced cerebral

- cortical gray matter volume at term. *Ann Neurol.* 1999 Nov;46(5):755-60. doi: 10.1002/1531-8249(199911)46:5<755::aid-ana11>[3.0.co](#);2-0. PMID: 10553993.
106. 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.* 2000 Jan;68(1):18-24. doi: 10.1136/jnnp.68.1.18. PMID: 10601395; PMCID: PMC1760636.
  107. Kettenbach J, Kacher DF, Koskinen SK, Silverman SG, Nabavi A, Gering D, Tempany CM, Schwartz RB, **Kikinis R**, Black PM, Jolesz FA. Interventional and intraoperative magnetic resonance imaging. *Annu Rev Biomed Eng.* 2000;2:661-90. doi: 10.1146/annurev.bioeng.2.1.661. PMID: 11701527.
  108. 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. doi: 10.1080/13645700009169657. PMID: 20156024.
  109. 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. doi: 10.1080/13645700009169658. PMID: 20156025.
  110. 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. doi: 10.2214/ajr.174.3.1740657. PMID: 10701604.
  111. Warfield SK, Kaus M, Jolesz FA, **Kikinis R**. Adaptive, template moderated, spatially varying statistical classification. *Med Image Anal.* 2000 Mar;4(1):43-55. doi: 10.1016/s1361-8415(00)00003-7. PMID: 10972320.
  112. Killiany RJ, Gomez-Isla T, Moss M, **Kikinis R**, Sandor T, Jolesz F, 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.
  113. 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. doi: 10.1016/s0165-5728(99)00273-8. PMID: 10713356.
  114. 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. doi: 10.1097/00004424-200005000-00008. PMID: 10803675.
  115. 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. doi: 10.1002/(sici)1522-2586(200005)11:5<525::aid-jmri8>[3.0.co](#);2-2. PMID: 10813862.
  116. Westin CF, Richolt J, Moharir V, **Kikinis R**. Affine adaptive filtering of CT data. *Med Image Anal.* 2000 Jun;4(2):161-77. doi: 10.1016/s1361-8415(00)00011-6. PMID: 10972328.
  117. 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. doi: 10.1001/archpsyc.57.7.692. PMID: 10891040; PMCID: PMC2850271.
  118. 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. doi: 10.1016/s1076-6332(00)80322-0. PMID: 10902958.

119. Hata N, Nabavi A, Wells WM 3rd, 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. doi: 10.1097/00004728-200007000-00004. PMID: 10966182.
120. Richolt JA, Everett P, Teschner M, **Kikinis R**, Millis MB. Computerassistierte Planung von Umstellungsosteotomien in Fällen von Epiphysiolyse capitis femoris] [Computer-assisted planning of corrective osteotomies in cases of epiphysiolyse capitis femoris]. *Orthopade*. 2000 Jul;29(7):599-604. German. doi: 10.1007/s001320050500. PMID: 10986704.
121. 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. doi: 10.1109/42.875181. Erratum in: *IEEE Trans Med Imaging* 2000 Dec;19(12):1267. PMID: 11055781.
122. Khoury SJ, Guttmann CR, Orav EJ, **Kikinis R**, Jolesz FA, Weiner HL. Changes in activated T cells in the blood correlate with disease activity in multiple sclerosis. *Arch Neurol*. 2000 Aug;57(8):1183-9. doi: 10.1001/archneur.57.8.1183. PMID: 10927799.
123. 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. doi: 10.1007/s002470000243. PMID: 10993538.
124. 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. doi: 10.1016/s1361-8415(00)00017-7. PMID: 11145311.
125. Jolesz FA, Nabavi A, **Kikinis R**. Integration of interventional MRI with computer-assisted surgery. *J Magn Reson Imaging*. 2001 Jan;13(1):69-77. doi: 10.1002/1522-2586(200101)13:1<69::aid-jmri1011>3.0.co;2-2. PMID: 11169806.
126. 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. doi: 10.1002/1522-2586(200101)13:1<115::aid-jmri1017>3.0.co;2-x. PMID: 11169812.
127. 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. doi: 10.1001/archneur.58.1.115. PMID: 11176944.
128. Shahidi R, Clarke L, Buchholz 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. doi: 10.1002/igs.1021. PMID: 11747136.
129. 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. doi: 10.1016/s0920-9964(00)00051-7. PMID: 11163548; PMCID: PMC2845160.
130. 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*. 2001 Feb;107(2):217-21. doi: 10.1542/peds.107.2.217. PMID: 11158449.
131. 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. doi: 10.1148/radiology.218.2.r01fe44586. PMID: 11161183.
132. 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. doi: 10.1006/exnr.2000.7596. PMID: 11170724.
133. 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. doi: 10.1542/peds.107.3.455. PMID: 11230582.
134. 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*. 2001 Mar-Apr;21(2):174-8. PMID: 11242245.
  135. 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.
  136. 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*. 2001 Apr;11(4):374-81. doi: 10.1093/cercor/11.4.374. PMID: 11278200.
  137. Nabavi A, Black PM, Gering DT, Westin CF, Mehta V, Pergolizzi RS Jr, Ferrant M, Warfield SK, Hata N, Schwartz RB, Wells WM 3rd, **Kikinis R**, Jolesz FA. Serial intraoperative magnetic resonance imaging of brain shift. *Neurosurgery*. 2001 Apr;48(4):787-97; discussion 797-8. doi: 10.1097/00006123-200104000-00019. PMID: 11322439.
  138. Schierlitz L, Dumanli H, Robinson JN, Burrows PE, Schreyer AG, **Kikinis R**, Jolesz FA, Tempny CM. Three-dimensional magnetic resonance imaging of fetal brains. *Lancet*. 2001 Apr 14;357(9263):1177-8. doi: 10.1016/S0140-6736(00)04375-0. PMID: 11323047.
  139. Gering DT, Nabavi A, **Kikinis R**, Hata N, O'Donnell LJ, Grimson WE, Jolesz FA, Black PM, Wells WM 3rd. An integrated visualization system for surgical planning and guidance using image fusion and an open MR. *J Magn Reson Imaging*. 2001 Jun;13(6):967-75. doi: 10.1002/jmri.1139. PMID: 11382961.
  140. 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. doi: 10.1176/appi.ajp.158.6.938. PMID: 11384903; PMCID: PMC2845157.
  141. Hata N, Jinzaki M, Kacher D, Cormak R, Gering D, Nabavi A, Silverman SG, D'Amico AV, **Kikinis R**, Jolesz FA, Tempny CM. MR imaging-guided prostate biopsy with surgical navigation software: device validation and feasibility. *Radiology*. 2001 Jul;220(1):263-8. doi: 10.1148/radiology.220.1.r01jl44263. PMID: 11426008.
  142. Westin CF, Wigström L, Looock 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. doi: 10.1002/jmri.1152. PMID: 11436216.
  143. Hoyte L, Fielding JR, Versi E, Mamisch C, Kolvenbach C, **Kikinis R**. Variations in levator ani volume and geometry in women: the application of MR based 3D reconstruction in evaluating pelvic floor dysfunction. *Arch Esp Urol*. 2001 Jul-Aug;54(6):532-9. PMID: 11512397.
  144. 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. doi: 10.1016/s1361-8415(01)00040-8. PMID: 11524226.
  145. 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. doi: 10.1016/s1388-2457(01)00633-2. PMID: 11595135; PMCID: PMC2845153.
  146. Ruiz-Alzola J, **Kikinis R**, Westin CF. Detection of point landmarks in multidimensional tensor data. *Signal Processing*. 2001 Oct;81(10):2243-2247. doi: 10.1016/S0165-1684(01)00100-1. PMID: 26005233; PMCID: PMC4438315.
  147. Jolesz FA, **Kikinis R**, Talos IF. Neuronavigation in interventional MR imaging. Frameless stereotaxy. *Neuroimaging Clin N Am*. 2001 Nov;11(4):685-93, ix. PMID: 11995423.

148. 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. doi: 10.1016/s0925-4927(01)00109-3. PMID: 11738541; PMCID: PMC2845854.
149. 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 of pre- and intraoperative prostate imaging. *Med Phys.* 2001 Dec;28(12):2551-60. doi: 10.1118/1.1414009. PMID: 11797960.
150. 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. doi: 10.1109/42.974933. PMID: 11811838.
151. 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; PMCID: PMC2845164.
152. 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. doi: 10.1212/wnl.58.1.48. PMID: 11781405.
153. 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(2 Pt 1):559-62. doi: 10.1016/S0022-5347(01)69085-2. PMID: 11792918.
154. 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. doi: 10.1001/archpsyc.59.4.321. PMID: 11926932.
155. Killiany RJ, Hyman BT, Gomez-Isla T, Moss MB, **Kikinis R**, Jolesz F, Tanzi R, Jones K, Albert MS. MRI measures of entorhinal cortex vs hippocampus in preclinical AD. *Neurology.* 2002 Apr 23;58(8):1188-96. doi: 10.1212/wnl.58.8.1188. PMID: 11971085.
156. 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. doi: 10.1176/appi.ajp.159.5.813. PMID: 11986136; PMCID: PMC2803760.
157. 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. doi: 10.1176/appi.ajp.159.5.866. PMID: 11986146; PMCID: PMC2845853.
158. 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. doi: 10.1016/s1361-8415(02)00053-1. PMID: 12044998.
159. 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. doi: 10.1016/s1361-8415(02)00055-5. PMID: 12045001.
160. 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. doi: 10.1176/appi.ajp.159.7.1190. PMID: 12091198; PMCID: PMC2826363.
161. Hirose M, Bharatha A, Hata N, Zou KH, Warfield SK, Cormack RA, D'Amico A, **Kikinis R**, Jolesz FA, Tempany CM. Quantitative MR imaging assessment of prostate gland deformation

- before and during MR imaging-guided brachytherapy. *Acad Radiol.* 2002 Aug;9(8):906-12. doi: 10.1016/s1076-6332(03)80460-9. PMID: 12186439.
162. 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. doi: 10.1054/ijom.2002.0278. PMID: 12361065.
  163. 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. doi: 10.1016/s0925-4927(02)00025-2. PMID: 12165365; PMCID: PMC2824647.
  164. 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. doi: 10.1001/archpsyc.59.9.775. PMID: 12215076.
  165. Schreyer AG, Herfarth H, **Kikinis R**, Seitz J, Schölmerich J, Geissler A, Feuerbach S. 3D modeling and virtual endoscopy of the small bowel based on magnetic resonance imaging in patients with inflammatory bowel disease. *Invest Radiol.* 2002 Sep;37(9):528-33. doi: 10.1097/00004424-200209000-00008. PMID: 12218449.
  166. Vaina LM, Cowey A, LeMay M, Bienfang DC, **Kikinis R**. Visual deficits in a patient with 'kaleidoscopic disintegration of the visual world'. *Eur J Neurol.* 2002 Sep;9(5):463-77. doi: 10.1046/j.1468-1331.2002.00435.x. PMID: 12220377.
  167. Rodt T, Ratiu P, Becker H, Bartling S, Kacher DF, Anderson M, Jolesz FA, **Kikinis R**. 3D visualisation 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. doi: 10.1007/s00234-002-0784-0. Epub 2002 Aug 7. PMID: 12221454.
  168. Pohl 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. *Med Image Comput Comput Assist Interv.* 2002 Sep;2488:564-571. doi: 10.1007/3-540-45786-0\_70. Epub 2002 Oct 10. PMID: 28626841; PMCID: PMC5470604.
  169. 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. doi: 10.1080/10673220216231. PMID: 12485979; PMCID: PMC2853779.
  170. 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. doi: 10.1164/rccm.2112072. PMID: 12421747.
  171. 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. doi: 10.1016/s1361-8415(02)00060-9. PMID: 12426109.
  172. 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. doi: 10.1006/nimg.2002.1296. PMID: 12498745; PMCID: PMC2845166.
  173. 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. doi: 10.1176/appi.ajp.160.1.156. PMID: 12505815; PMCID: PMC2845847.
  174. 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. doi: 10.1007/978-3-7091-6043-5\_17. PMID: 12570147.

175. 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. doi: 10.3109/10929080309146062. PMID: 15529956.
176. Jaime 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. doi: 10.1109/TBME.2003.808828. PMID: 12669995.
177. 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. doi: 10.1093/sleep/26.2.150. Retraction in: *Sleep.* 2009 Apr;32(4):445. PMID: 12683472.
178. 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. doi: 10.1001/archpsyc.60.4.349. PMID: 12695311.
179. 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. doi: 10.1001/archpsyc.60.8.766. PMID: 12912760; PMCID: PMC2901861.
180. 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. doi: 10.1001/archpsyc.60.11.1069. PMID: 14609882.
181. 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. doi: 10.1016/s0006-3223(03)00419-0. Erratum in: *Biol Psychiatry.* 2004 Mar 15;55(6):661. PMID: 14643084; PMCID: PMC2806222.
182. 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. doi: 10.1016/s1053-8119(03)00383-5. PMID: 14683698; PMCID: PMC2806220.
183. 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. doi: 10.1016/j.neuroimage.2003.08.008. PMID: 14683705; PMCID: PMC2811885.
184. Zou KH, Warfield SK, Fielding JR, Tempany CM, William MW 3rd, 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. doi: 10.1016/s1076-6332(03)00538-5. PMID: 14697004; PMCID: PMC1409756.
185. 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. doi: 10.1016/s1076-6332(03)00509-9. PMID: 14697009.
186. Dickhaus CF, Burghart C, Tempany C, 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.
187. 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. *Biol Psychiatry.* 2004 Jan 15;55(2):131-40. doi: 10.1016/j.biopsych.2003.07.009. PMID: 14732592; PMCID: PMC2794421.

188. 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. doi: 10.1016/j.biopsych.2003.08.005. PMID: 14732598; PMCID: PMC2793335.
189. Zou KH, Warfield SK, Bharatha A, Tempany CM, Kaus MR, Haker SJ, Wells WM 3rd, Jolesz FA, **Kikinis R**. Statistical validation of image segmentation quality based on a spatial overlap index. *Acad Radiol*. 2004 Feb;11(2):178-89. doi: 10.1016/s1076-6332(03)00671-8. PMID: 14974593; PMCID: PMC1415224.
190. 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. doi: 10.1016/s1076-6332(03)00563-4. PMID: 14974598; PMCID: PMC2793336.
191. 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. doi: 10.1109/TMI.2004.824224. PMID: 15084070.
192. Pohl KM, Bouix S, **Kikinis R**, Grimson WEL. Anatomical guided segmentation with non-stationary tissue class distributions in an expectation-maximization framework. *Proc IEEE Int Symp Biomed Imaging*. 2004 Apr;2004:81-84. doi: 10.1109/ISBI.2004.1398479. Epub 2005 Mar 7. PMID: 28593029; PMCID: PMC5459362.
193. Zou KH, Wells WM 3rd, **Kikinis R**, Warfield SK. Three validation metrics for automated probabilistic image segmentation of brain tumours. *Stat Med*. 2004 Apr 30;23(8):1259-82. doi: 10.1002/sim.1723. PMID: 15083482; PMCID: PMC1463246.
194. Mocanu D, Kettenbach J, Sweeney MO, **Kikinis R**, Kenknight BH, Eisenberg SR. A comparison of biventricular and conventional transvenous defibrillation: a computational study using patient derived models. *Pacing Clin Electrophysiol*. 2004 May;27(5):586-93. doi: 10.1111/j.1540-8159.2004.00491.x. PMID: 15125713.
195. Mocanu D, Kettenbach J, Sweeney MO, **Kikinis R**, Kenknight BH, Eisenberg SR. Patient-specific computational analysis of transvenous defibrillation: a comparison to clinical metrics in humans. *Ann Biomed Eng*. 2004 Jun;32(6):775-83. doi: 10.1023/b:abme.0000030253.95538.80. PMID: 15255208.
196. 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*. 2004 Jul;22(3):1231-46. doi: 10.1016/j.neuroimage.2004.03.009. PMID: 15219595; PMCID: PMC2789267.
197. Ellsmere J, Stoll J, Wells W 3rd, **Kikinis R**, Vosburgh K, Kane R, Brooks D, Rattner D. A new visualization technique for laparoscopic ultrasonography. *Surgery*. 2004 Jul;136(1):84-92. doi: 10.1016/j.surg.2004.03.005. PMID: 15232543.
198. Rodt T, Burmeister HP, Bartling S, Kaminsky J, Schwab B, **Kikinis R**, Becker H. 3D-Darstellung des Mittelohres mittels computergestützter Nachverarbeitung helikaler Mehrschicht-CT-Daten [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. doi: 10.1055/s-2004-814370. PMID: 15257492.
199. 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. doi: 10.1007/s00384-004-0587-3. Epub 2004 Apr 15. PMID: 15088109.
200. 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. doi: 10.1016/j.neuroimage.2004.04.036. PMID: 15325368; PMCID: PMC2794419.

201. 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. doi: 10.1176/appi.ajp.161.9.1603. PMID: 15337650; PMCID: PMC2793337.
202. Pichon E, Tannenbaum A, **Kikinis R**. A statistically based flow for image segmentation. *Med Image Anal*. 2004 Sep;8(3):267-74. doi: 10.1016/j.media.2004.06.006. PMID: 15450221; PMCID: PMC3652279.
203. 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; PMCID: PMC2813857.
204. Pohl KM, Warfield SK, **Kikinis R**, Grimson WEL, Wells WM. Coupling Statistical Segmentation and PCA Shape Modeling. *Med Image Comput Comput Assist Interv*. 2004 Sep;3216:151-159. doi: 10.1007/978-3-540-30135-6\_19. PMID: 28603793; PMCID: PMC5464761.
205. 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. doi: 10.1016/j.schres.2003.12.010. PMID: 15374574; PMCID: PMC2811876.
206. McArdle JJ, Hamgami F, Jones K, Jolesz F, **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. doi: 10.1093/geronb/59.6.p294. PMID: 15576857.
207. 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. doi: 10.1176/appi.ajp.162.1.65. PMID: 15625203; PMCID: PMC2768063.
208. Luboz V, Wu X, Krissian K, Westin CF, **Kikinis R**, Cotin S, Dawson S. A segmentation and reconstruction technique for 3D vascular structures. *Med Image Comput Comput Assist Interv*. 2005;8(Pt 1):43-50. doi: 10.1007/11566465\_6. PMID: 16685827.
209. Pohl KM, Fisher J, Levitt JJ, Shenton ME, **Kikinis R**, Grimson WE, Wells WM. A unifying approach to registration, segmentation, and intensity correction. *Med Image Comput Comput Assist Interv*. 2005;8(Pt 1):310-8. doi: 10.1007/11566465\_39. PMID: 16685860; PMCID: PMC2784666.
210. 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. doi: 10.1007/11566489\_37. PMID: 16685972.
211. 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. doi: 10.1007/11566489\_72. PMID: 16686007.
212. 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. doi: 10.1016/j.media.2004.07.003. PMID: 15581813; PMCID: PMC2768070.
213. 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. doi: 10.1136/gut.2003.037390. PMID: 15647190; PMCID: PMC1774854.

214. Yeshwant K, Seldin EB, Gateno J, Everett P, White CL, **Kikinis R**, Kaban LB, Troulis MJ. Analysis of skeletal movements in mandibular distraction osteogenesis. *J Oral Maxillofac Surg*. 2005 Mar;63(3):335-40. doi: 10.1016/j.joms.2004.06.057. PMID: 15742283.
215. 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. doi: 10.1016/j.cxom.2004.10.001. PMID: 15820426.
216. 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. doi: 10.1186/1475-925X-4-19. PMID: 15777475; PMCID: PMC1079899.
217. Warfield SK, Haker SJ, Talos IF, Kemper CA, Weisenfeld N, Mewes AU, Goldberg-Zimring D, Zou KH, Westin CF, Wells WM, Tempany 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. doi: 10.1016/j.media.2004.11.005. Epub 2004 Dec 30. PMID: 15721230.
218. 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. doi: 10.1097/01.rct.0000160425.63884.5b. PMID: 15891495.
219. 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. doi: 10.1016/j.compmedimag.2004.10.006. PMID: 15890251.
220. 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. doi: 10.1016/j.neuroimage.2005.03.026. PMID: 15878290; PMCID: PMC2768051.
221. Vaina LM, Cowey A, Jakab M, **Kikinis R**. Deficits of motion integration and segregation in patients with unilateral extrastriate lesions. *Brain*. 2005 Sep;128(Pt 9):2134-45. doi: 10.1093/brain/awh573. Epub 2005 Jun 23. PMID: 15975945.
222. 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. doi: 10.1016/j.biopsych.2005.04.016. Epub 2005 Jun 22. PMID: 15978550; PMCID: PMC2768055.
223. 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. doi: 10.1016/j.compbimed.2004.04.006. PMID: 15809099.
224. 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. doi: 10.1016/j.jbi.2005.02.004. Epub 2005 Mar 9. PMID: 16198998.
225. Pohl KM, Fisher J, **Kikinis R**, Grimson WEL, Wells WM. Shape Based Segmentation of Anatomical Structures in Magnetic Resonance Images. *Comput Vis Biomed Image Appl (2005)*. 2005 Oct;3765:489-498. doi: 10.1007/11569541\_49. PMID: 28664197; PMCID: PMC5486153.
226. 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. doi: 10.1109/TMI.2005.856734. PMID: 16279079; PMCID: PMC2042023.

227. Zou KH, Greve DN, Wang M, Pieper SD, Warfield SK, White NS, Manandhar S, Brown GG, Vangel MG, **Kikinis R**, Wells WM 3rd; 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. doi: 10.1148/radiol.2373041630. PMID: 16304101; PMCID: PMC1351264.
228. Schreyer AG, **Kikinis R**. Combined PET/CT colonography: is this the way forward? *Gut*. 2006 Jan;55(1):10-2. doi: 10.1136/gut.2005.070870. PMID: 16344572; PMCID: PMC1856362.
229. 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. *Stud Health Technol Inform*. 2006;119:120-5. PMID: 16404029.
230. DiMaio SP, Pieper S, Chinzei K, Hata N, Balogh E, Fichtinger G, Tempny 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.
231. Malhotra A, Huang Y, Fogel R, Lazic 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. doi: 10.1016/j.amjmed.2005.01.077. PMID: 16431197; PMCID: PMC2287192.
232. 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. doi: 10.1007/11866763\_16. PMID: 17354764.
233. Pohl KM, Fisher J, Shenton M, 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. doi: 10.1007/11866763\_117. PMID: 17354865; PMCID: PMC2994060.
234. 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. doi: 10.1016/j.joms.2005.10.015. PMID: 16413898.
235. Verhey JF, Nathan NS, Rienhoff O, **Kikinis R**, Rakebrandt F, D'Ambra MN. Finite-element-method (FEM) model generation of time-resolved 3D echocardiographic geometry data for mitral-valve volumetry. *Biomed Eng Online*. 2006 Mar 3;5:17. doi: 10.1186/1475-925X-5-17. PMID: 16512925; PMCID: PMC1421418.
236. 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*. 2006 May;239(2):506-13. doi: 10.1148/radiol.2392050661. PMID: 16641355; PMCID: PMC1475754.
237. 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. doi: 10.1016/j.neuroimage.2005.11.044. Epub 2006 Feb 7. PMID: 16466677.
238. 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. doi: 10.1038/sj.npp.1300986. Epub 2005 Dec 7. PMID: 16341022.
239. 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. doi: 10.1148/radiol.2401040018. Epub 2006 May 23. PMID: 16720866.
240. DiMaio SP, Archip N, Hata N, Talos IF, Warfield SK, Majumdar A, McDannold N, Hynynen K, Morrison PR, Wells WM 3rd, 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. doi: 10.1109/memb.2006.1705749. PMID: 17020201.
241. 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. doi: 10.1148/radiol.2411050987. Epub 2006 Aug 23. PMID: 16928977.
242. 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. doi: 10.1176/ajp.2006.163.12.2103. PMID: 17151161; PMCID: PMC2766919.
  243. 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. doi: 10.1016/j.jpsychires.2005.05.005. Epub 2005 Jul 14. PMID: 16023676; PMCID: PMC2768134.
  244. 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. doi: 10.1016/j.jbiomech.2006.02.021. Epub 2006 May 6. PMID: 16678834.
  245. DiMaio SP, 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*. 2007 Jan;12(1):15-24. doi: 10.3109/10929080601168254. PMID: 17364655.
  246. Sierra R, Dimaio SP, Wada J, Hata N, Székely G, **Kikinis R**, Jolesz F. Patient specific simulation and navigation of ventriculosopic interventions. *Stud Health Technol Inform*. 2007;125:433-5. PMID: 17377318.
  247. 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.
  248. 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. doi: 10.1007/978-3-540-73273-0\_3. PMID: 17633686; PMCID: PMC3265334.
  249. 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 C, **Kikinis R**, Jolesz F. Challenges in image-guided therapy system design. *Neuroimage*. 2007;37 Suppl 1(0 1):S144-51. doi: 10.1016/j.neuroimage.2007.04.026. Epub 2007 Apr 24. PMID: 17644360; PMCID: PMC3780776.
  250. 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(Pt 1):491-8. doi: 10.1007/978-3-540-75757-3\_60. PMID: 18051095.
  251. Pujol S, Frerichs K, Norbash A, **Kikinis R**, Westin CF. Preliminary results of nonfluoroscopy-based 3D navigation for neurointerventional procedures. *J Vasc Interv Radiol*. 2007 Feb;18(2):289-98. doi: 10.1016/j.jvir.2006.12.005. PMID: 17327564.
  252. 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. doi: 10.1007/s10278-006-0771-9. PMID: 16897321; PMCID: PMC3043884.
  253. 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. doi: 10.2106/JBJS.E.01238. PMID: 17332114.
  254. 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*. 2007 Apr;36(4):315-20. doi: 10.1007/s00256-006-0208-z. Epub 2007 Jan 12. PMID: 17219231.

255. 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. doi: 10.1016/j.acra.2007.01.033. PMID: 17368212; PMCID: PMC2397554.
256. 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. doi: 10.1016/j.schres.2007.01.027. Epub 2007 Mar 9. PMID: 17350226; PMCID: PMC2396445.
257. Krissian K, Westin CF, **Kikinis R**, Vosburgh KG. Oriented speckle reducing anisotropic diffusion. *IEEE Trans Image Process.* 2007 May;16(5):1412-24. doi: 10.1109/tip.2007.891803. PMID: 17491469.
258. Brem MH, Zamani AA, Riva R, Zou KH, Rumboldt Z, Hennig FF, **Kikinis R**, Norbash AM, Schoepf UJ. Multidetector CT of the paranasal sinus: potential for radiation dose reduction. *Radiology.* 2007 Jun;243(3):847-52. doi: 10.1148/radiol.2433050207. PMID: 17517938.
259. Larsen S, **Kikinis R**, Talos IF, Weinstein D, Wells W, Golby A. Quantitative comparison of functional MRI and direct electrocortical stimulation for functional mapping. *Int J Med Robot.* 2007 Sep;3(3):262-70. doi: 10.1002/rcs.149. PMID: 17763497; PMCID: PMC3733359.
260. 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. doi: 10.1109/TMI.2007.901433. PMID: 17896593; PMCID: PMC2768067.
261. Pohl KM, Fisher J, Bouix S, Shenton M, 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. doi: 10.1016/j.media.2007.06.003. Epub 2007 Jun 22. PMID: 17698403; PMCID: PMC2423493.
262. 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 Nov 7;52(21):6427-38. doi: 10.1088/0031-9155/52/21/006. Epub 2007 Oct 11. PMID: 17951853.
263. 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. doi: 10.1016/j.acra.2007.08.002. PMID: 18078914; PMCID: PMC2234595.
264. 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. doi: 10.1016/j.jcms.2007.09.002. Epub 2008 Feb 14. PMID: 18280173.
265. 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.* 2008 Apr;41(2):251-63. doi: 10.1016/j.jbi.2007.11.003. Epub 2007 Nov 22. PMID: 18164666; PMCID: PMC2376098.
266. 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. doi: 10.1097/BPO.0b013e318168c7b0. PMID: 18362792.
267. Konukoglu E, Wells WM, Novellas S, Ayache N, **Kikinis R**, Black PM, Pohl KM. MONITORING SLOWLY EVOLVING TUMORS. *Proc IEEE Int Symp Biomed Imaging.* 2008 May;2008:812-815. doi: 10.1109/ISBI.2008.4541120. Epub 2008 Jun 13. PMID: 28593030; PMCID: PMC5459366.
268. 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: a framework for classification, categorization and integration of computational biology resources. *PLoS One.* 2008 May 28;3(5):e2265. doi: 10.1371/journal.pone.0002265. PMID: 18509477; PMCID: PMC2386255.

269. 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. doi: 10.1016/j.schres.2008.04.019. Epub 2008 May 27. PMID: 18504117; PMCID: PMC2684860.
270. Rehman T, Haber E, Pohl KM, Haker S, Halle M, Talos F, Wald LL, **Kikinis R**, Tannenbaum A. Multimodal Registration of White Matter Brain Data via Optimal Mass Transport. *Midas J*. 2008 Sep;2008:27-35. PMID: 28626844; PMCID: PMC5470595.
271. Kubicki M, Styner M, Bouix S, Gerig G, Markant D, Smith K, **Kikinis R**, McCarley RW, Shenton ME. Reduced interhemispheric connectivity in schizophrenia- tractography based segmentation of the corpus callosum. *Schizophr Res*. 2008 Dec;106(2-3):125-31. doi: 10.1016/j.schres.2008.08.027. Epub 2008 Sep 30. PMID: 18829262; PMCID: PMC2630535.
272. 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. doi: 10.1007/s00418-008-0505-9. Epub 2008 Sep 20. PMID: 18807064; PMCID: PMC2756529.
273. Fitzsimmons J, Kubicki M, Smith K, Bushell G, Estepar RS, Westin CF, Nestor PG, Niznikiewicz MA, **Kikinis R**, McCarley RW, Shenton ME. Diffusion tractography of the fornix in schizophrenia. *Schizophr Res*. 2009 Jan;107(1):39-46. doi: 10.1016/j.schres.2008.10.022. Epub 2008 Nov 30. PMID: 19046624; PMCID: PMC2646850.
274. 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. doi: 10.1007/978-3-642-04271-3\_84. PMID: 20426172; PMCID: PMC3061233.
275. 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(Suppl 2):S3. doi: 10.1186/1471-2105-10-S2-S3. PMID: 19208191; PMCID: PMC2646240.
276. 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. doi: 10.1016/j.schres.2008.11.012. Epub 2009 Mar 27. PMID: 19328654; PMCID: PMC2756791.
277. 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. doi: 10.1016/j.joms.2009.01.010. PMID: 19375009; PMCID: PMC2690634.
278. Mamisch 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. doi: 10.1097/BPO.0b013e3181a539da. PMID: 19461373; PMCID: PMC2699433.
279. Kubicki M, Niznikiewicz M, Connor E, Ungar L, Nestor P, Bouix S, Dreusicke M, **Kikinis R**, McCarley R, Shenton M. 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. doi: 10.1007/s11682-009-9061-8. PMID: 20556231; PMCID: PMC2885800.
280. 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. doi: 10.1002/jmri.21955. PMID: 19856437; PMCID: PMC2801562.

281. Lee JW, Wen PY, Hurwitz S, Black P, Kesari S, Drappatz J, Golby AJ, Wells WM 3rd, Warfield SK, **Kikinis R**, Bromfield EB. Morphological characteristics of brain tumors causing seizures. *Arch Neurol.* 2010 Mar;67(3):336-42. doi: 10.1001/archneurol.2010.2. PMID: 20212231; PMCID: PMC2995444.
282. 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. doi: 10.3389/fnhum.2010.00027. PMID: 20428508; PMCID: PMC2859868.
283. 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. doi: 10.1016/j.schres.2010.07.027. Epub 2010 Sep 6. PMID: 20822884; PMCID: PMC2975427.
284. Levitt JJ, Kubicki M, Nestor PG, Ersner-Hersfield 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. doi: 10.1016/j.psychres.2010.08.004. Epub 2010 Nov 5. PMID: 21055906; PMCID: PMC4043632.
285. Wassermann D, Rathi Y, Bouix S, Kubicki M, **Kikinis R**, Shenton M, Westin CF. White matter bundle registration and population analysis based on Gaussian processes. *Inf Process Med Imaging.* 2011;22:320-32. doi: 10.1007/978-3-642-22092-0\_27. PMID: 21761667; PMCID: PMC3140022.
286. 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 Comput Assist Interv.* 2011;14(Pt 3):537-45. doi: 10.1007/978-3-642-23626-6\_66. PMID: 22003741; PMCID: PMC3232745.
287. 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. *Open Neuroimag J.* 2011;5:186-97. doi: 10.2174/1874440001105010186. Epub 2011 Nov 18. PMID: 22253661; PMCID: PMC3256578.
288. **Kikinis R**, Pieper S. 3D Slicer as a tool for interactive brain tumor segmentation. *Annu Int Conf IEEE Eng Med Biol Soc.* 2011;2011:6982-4. doi: 10.1109/IEMBS.2011.6091765. PMID: 22255945; PMCID: PMC3991434.
289. 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. doi: 10.1227/NEU.0b013e3182061ebb. PMID: 21135713; PMCID: PMC3112275.
290. 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. doi: 10.1227/NEU.0b013e31820783d5. PMID: 21206318; PMCID: PMC3099129.
291. 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. doi: 10.1002/jmri.22490. PMID: 21448965; PMCID: PMC3069717.
292. 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. doi: 10.1016/j.neuroimage.2011.01.047. Epub 2011 Jan 21. PMID: 21256966; PMCID: PMC3073419.

293. Irimia 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. doi: 10.1089/neu.2011.1920. Epub 2011 Sep 21. PMID: 21787171; PMCID: PMC3218448.
294. 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. doi: 10.1371/journal.pone.0037454. Epub 2012 May 16. PMID: 22616011; PMCID: PMC3353935.
295. Egger J, Kapur T, Nimsy C, **Kikinis R**. Pituitary adenoma volumetry with 3D Slicer. *PLoS One*. 2012;7(12):e51788. doi: 10.1371/journal.pone.0051788. Epub 2012 Dec 11. PMID: 23240062; PMCID: PMC3519899.
296. 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*. 2012:1467-1470. doi: 10.1109/ISBI.2012.6235848. PMID: 23744052; PMCID: PMC3670103.
297. 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. doi: 10.3389/fneur.2012.00010. PMID: 22363313; PMCID: PMC3275792.
298. 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. doi: 10.1136/amiajnl-2011-000493. Epub 2011 Nov 10. PMID: 22081219; PMCID: PMC3277624.
299. 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. doi: 10.1007/s11682-012-9156-5. PMID: 22438191; PMCID: PMC3803157.
300. 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. doi: 10.1016/j.jbi.2012.02.013. Epub 2012 Apr 3. PMID: 22490168; PMCID: PMC3371096.
301. Gao Y, **Kikinis R**, Bouix S, Shenton M, 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. doi: 10.1016/j.media.2012.06.002. Epub 2012 Jul 6. PMID: 22831773; PMCID: PMC3443290.
302. 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. doi: 10.1016/j.nicl.2012.08.002. PMID: 24179732; PMCID: PMC3757727.
303. 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. doi: 10.1007/s11682-012-9152-9. PMID: 22415192; PMCID: PMC4128025.
304. 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. doi: 10.1002/jmri.23688. Epub 2012 May 29. PMID: 22645031; PMCID: PMC3434292.

305. 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. doi: 10.1016/j.schres.2012.06.032. Epub 2012 Aug 3. PMID: 22863550; PMCID: PMC3462006.
306. 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. doi: 10.1016/j.mri.2012.05.001. Epub 2012 Jul 6. PMID: 22770690; PMCID: PMC3466397.
307. 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. doi: 10.1523/JNEUROSCI.2904-12.2012. PMID: 23197727; PMCID: PMC3549332.
308. 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. doi: 10.1038/srep01364. PMID: 23455483; PMCID: PMC3586703.
309. Liu S, Cai W, Song Y, Pujol S, **Kikinis R**, Wen L, Feng DD. Localized Sparse Code Gradient in Alzheimer's disease staging. *Annu Int Conf IEEE Eng Med Biol Soc*. 2013;2013:5398-401. doi: 10.1109/EMBC.2013.6610769. PMID: 24110956; PMCID: PMC4849882.
310. Wassermann D, Makris N, Rathi Y, Shenton M, **Kikinis R**, Kubicki M, Westin CF. On describing human white matter anatomy: the white matter query language. *Med Image Comput Comput Assist Interv*. 2013;16(Pt 1):647-54. doi: 10.1007/978-3-642-40811-3\_81. PMID: 24505722; PMCID: PMC4029160.
311. Liu S, Song Y, Cai W, Pujol S, **Kikinis R**, Wang X, Feng D. Multifold Bayesian kernelization in Alzheimer's diagnosis. *Med Image Comput Comput Assist Interv*. 2013;16(Pt 2):303-10. doi: 10.1007/978-3-642-40763-5\_38. PMID: 24579154; PMCID: PMC4017205.
312. Lemaire JJ, Golby A, Wells WM 3rd, Pujol S, Tie Y, Rigolo L, Yarmarkovich A, Pieper S, Westin CF, Jolesz F, **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. doi: 10.1007/s10548-012-0257-7. Epub 2012 Sep 22. PMID: 23001727; PMCID: PMC3966184.
313. 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; COPDGene Study. 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. doi: 10.1164/rccm.201301-0162OC. PMID: 23656466; PMCID: PMC3778757.
314. 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 22q11.2 deletion syndrome. *Brain Imaging Behav*. 2013 Sep;7(3):316-25. doi: 10.1007/s11682-013-9232-5. PMID: 23612843; PMCID: PMC3796180.
315. 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. doi: 10.1002/uog.12484. Epub 2013 Oct 2. PMID: 23576282; PMCID: PMC4032474.
316. 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. doi: 10.1016/j.clinph.2013.04.336. Epub 2013 Jun 6. PMID: 23746499; PMCID: PMC3805748.

317. 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. doi: 10.1007/s10439-013-0838-y. Epub 2013 Jun 15. PMID: 23771299; PMCID: PMC3939696.
318. Velazquez ER, Parmar C, Jermoumi M, Mak RH, van Baardwijk A, Fennessy FM, Lewis JH, De Ruysscher D, **Kikinis R**, Lambin P, Aerts HJ. Volumetric CT-based segmentation of NSCLC using 3D-Slicer. *Sci Rep.* 2013 Dec 18;3:3529. doi: 10.1038/srep03529. PMID: 24346241; PMCID: PMC3866632.
319. 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. doi: 10.1593/tlo.13811. Erratum in: *Transl Oncol.* 2014 Aug;7(4):523. PMID: 24772209; PMCID: PMC3998685.
320. 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. doi: 10.1593/tlo.13838. PMID: 24772219; PMCID: PMC3998693.
321. 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. doi: 10.1117/12.2042915. PMID: 25302005; PMCID: PMC4187387.
322. 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. doi: 10.1088/0967-3334/35/5/863. Epub 2014 Apr 8. PMID: 24710978; PMCID: PMC4059506.
323. Garlapati RR, Roy A, Joldes GR, Wittek A, Mostayed A, Doyle B, Warfield SK, **Kikinis R**, Knuckey N, Bunt S, Miller K. More accurate neuronavigation data provided by biomechanical modeling instead of rigid registration. *J Neurosurg.* 2014 Jun;120(6):1477-83. doi: 10.3171/2013.12.JNS131165. Epub 2014 Jan 24. PMID: 24460486; PMCID: PMC4386882.
324. 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. doi: 10.1109/TMI.2014.2317796. Epub 2014 Apr 16. PMID: 24759985; PMCID: PMC4096345.
325. 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. doi: 10.1016/j.schres.2014.04.022. Epub 2014 May 14. PMID: 24837684; PMCID: PMC4080801.
326. 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. doi: 10.1371/journal.pone.0102107. PMID: 25025374; PMCID: PMC4098900.
327. 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. doi: 10.1016/j.compmedimag.2014.05.003. Epub 2014 May 14. PMID: 24933011; PMCID: PMC4135007.

328. 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. doi: 10.1002/acn3.121. Epub 2014 Oct 1. PMID: 25493270; PMCID: PMC4241806.
329. 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. doi: 10.1109/TBME.2014.2372011. Epub 2014 Nov 20. PMID: 25423647; PMCID: PMC4394860.
330. 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. doi: 10.1016/j.jalz.2014.04.518. Epub 2014 Jul 14. PMID: 25035154; PMCID: PMC4295016.
331. 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. doi: 10.1016/j.media.2014.12.008. Epub 2015 Jan 30. PMID: 25721296; PMCID: PMC4405489.
332. 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. doi: 10.1007/s40708-015-0019-x. Epub 2015 Aug 29. PMID: 27747507; PMCID: PMC4737664.
333. 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. doi: 10.1007/s40708-015-0020-4. Epub 2015 Sep 4. PMID: 27747508; PMCID: PMC4737665.
334. Pujol S, Wells W, 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-Dec;25(6):875-82. doi: 10.1111/jon.12283. Epub 2015 Aug 11. PMID: 26259925; PMCID: PMC4641305.
335. 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; PMCID: PMC4773735.
336. 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 (Amst).* 2016 Feb 12;177:75-88. doi: 10.1016/j.neucom.2015.11.008. Epub 2015 Nov 17. PMID: 27688597; PMCID: PMC5036942.
337. 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. PMID: 26941639; PMCID: PMC4763344.
338. 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; PMCID: PMC4808571.
339. Zhang F, Song Y, Cai W, Liu S, Liu S, Pujol S, **Kikinis R**, Xia Y, Fulham MJ, Feng DD, Alzheimers Disease Neuroimaging Initiative. Pairwise Latent Semantic Association for Similarity Computation in Medical Imaging. *IEEE Trans Biomed Eng.* 2016 May;63(5):1058-1069. doi: 10.1109/TBME.2015.2478028. Epub 2015 Sep 10. PMID: 26372117; PMCID: PMC4850117.



340. 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. PMID: 27257542; PMCID: PMC4888317.
341. 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 RSJ, Gering D, Aerts HJWL, Jakab M, Hata N, Ibanez L, Blezek D, Miller J, Aylward S, Grimson WEL, 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;33:176-180. doi: 10.1016/j.media.2016.06.035. Epub 2016 Jul 7. PMID: 27498015; PMCID: PMC5003088.
342. 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. *Brain Struct Funct*. 2016 Dec;221(9):4705-4721. doi: 10.1007/s00429-015-1179-4. Epub 2016 Jan 11. PMID: 26754839; PMCID: PMC4940319.
343. 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 Dec;32(12):10.1002/cnm.2771. doi: 10.1002/cnm.2771. Epub 2016 Mar 14. PMID: 26791945; PMCID: PMC4956599.
344. Pujol S, Cabeen R, Sébille SB, Yelnik J, François C, Fernandez Vidal S, Karachi C, Zhao Y, Cosgrove GR, Jannin P, **Kikinis R**, Bardin 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.
345. 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. PMID: 28109564; PMCID: PMC5549678.
346. 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. PMID: 28396633; PMCID: PMC5366788.
347. 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. PMID: 28213646; PMCID: PMC5561528.
348. 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. PMID: 28233166; PMCID: PMC5568989.
349. Maier-Hein L, Vedula SS, Speidel S, Navab N, **Kikinis R**, Park A, Eisenmann M, Feussner H, Forestier G, Giannarou S, Hashizume M, Katic D, Kenngott H, Kranzfelder M, Malpani A, März K, Neumuth T, Padoy N, Pugh C, Schoch N, Stoyanov D, Taylor R, Wagner M, Hager GD, Jannin P. Surgical data science for next- generation interventions. *Nat Biomed Eng*. 2017 Sep;1(9):691-696. doi: 10.1038/s41551-017-0132-7. PMID: 31015666.
350. 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. PMID: 28275890; PMCID: PMC5591070.
351. 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. PMID: 29092948; PMCID: PMC5675033.
352. 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.CAN-17-0332. Erratum in: *Cancer Res.* 2018 May 1;78(9):2445. PMID: 29092950; PMCID: PMC5679308.
  353. Black D, Hahn HK, **Kikinis R**, Wårdell K, Haj-Hosseini N. Auditory display for fluorescence-guided open brain tumor surgery. *Int J Comput Assist Radiol Surg.* 2018 Jan;13(1):25-35. doi: 10.1007/s11548-017-1667-5. Epub 2017 Sep 19. PMID: 28929305; PMCID: PMC5772873.
  354. Black D, Unger M, Fischer N, **Kikinis R**, Hahn H, Neumuth T, Glaser B. Auditory display as feedback for a novel eye-tracking system for sterile operating room interaction. *Int J Comput Assist Radiol Surg.* 2018 Jan;13(1):37-45. doi: 10.1007/s11548-017-1677-3. Epub 2017 Oct 27. PMID: 29079993; PMCID: PMC5772904.
  355. Yao S, Zhang J, Zhao Y, Hou Y, Xu X, Zhang Z, **Kikinis R**, Chen X. Multimodal Image-Based Virtual Reality Presurgical Simulation and Evaluation for Trigeminal Neuralgia and Hemifacial Spasm. *World Neurosurg.* 2018 May;113:e499-e507. doi: 10.1016/j.wneu.2018.02.069. Epub 2018 Feb 21. PMID: 29476993.
  356. Lasso A, Nam HH, Dinh PV, Pinter C, Fillion-Robin JC, Pieper S, Jhaveri S, Vimort JB, Martin K, Asselin M, McGowan FX, **Kikinis R**, Fichtinger G, Jolley MA. Interaction with Volume-Rendered Three-Dimensional Echocardiographic Images in Virtual Reality. *J Am Soc Echocardiogr.* 2018 Oct;31(10):1158-1160. doi: 10.1016/j.echo.2018.06.011. Epub 2018 Aug 6. PMID: 30093145; PMCID: PMC6382668.
  357. Herrmann MD, Clunie DA, Fedorov A, Doyle SW, Pieper S, Klepeis V, Le LP, Mutter GL, Milstone DS, Schultz TJ, **Kikinis R**, Kotecha GK, Hwang DH, Andriole KP, Iafrate AJ, Brink JA, Boland GW, Dreyer KJ, Michalski M, Golden JA, Louis DN, Lennerz JK. Implementing the DICOM Standard for Digital Pathology. *J Pathol Inform.* 2018 Nov 2;9:37. doi: 10.4103/jpi.jpi\_42\_18. PMID: 30533276; PMCID: PMC6236926.
  358. Fedorov A, Schwier M, Clunie D, Herz C, Pieper S, **Kikinis R**, Tempny C, Fennessy F. An annotated test-retest collection of prostate multiparametric MRI. *Sci Data.* 2018 Dec 4;5:180281. doi: 10.1038/sdata.2018.281. PMID: 30512014; PMCID: PMC6278692.
  359. Nitsch J, Klein J, Dammann P, Wrede K, Gembruch O, Moltz JH, Meine H, Sure U, **Kikinis R**, Miller D. Automatic and efficient MRI-US segmentations for improving intraoperative image fusion in image-guided neurosurgery. *Neuroimage Clin.* 2019;22:101766. doi: 10.1016/j.nicl.2019.101766. Epub 2019 Mar 12. PMID: 30901714; PMCID: PMC6425116.
  360. Spahr N, Thoduka S, Abolmaali N, **Kikinis R**, Schenk A. Multimodal image registration for liver radioembolization planning and patient assessment. *Int J Comput Assist Radiol Surg.* 2019 Feb;14(2):215-225. doi: 10.1007/s11548-018-1877-5. Epub 2018 Oct 22. PMID: 30349976; PMCID: PMC6373337.
  361. Kocev B, Hahn HK, Linsen L, Wells WM, **Kikinis R**. Uncertainty-aware asynchronous scattered motion interpolation using Gaussian process regression. *Comput Med Imaging Graph.* 2019 Mar;72:1-12. doi: 10.1016/j.compmedimag.2018.12.001. Epub 2018 Dec 21. PMID: 30654093; PMCID: PMC6433137.
  362. Mehrtash A, Ghafoorian M, Pernelle G, Ziaei A, Heslinga FG, Tuncali K, Fedorov A, **Kikinis R**, Tempny CM, Wells WM, Abolmaesumi P, Kapur T. Automatic Needle Segmentation and Localization in MRI With 3-D Convolutional Neural Networks: Application to MRI-Targeted Prostate Biopsy. *IEEE Trans Med Imaging.* 2019 Apr;38(4):1026-1036. doi: 10.1109/TMI.2018.2876796. Epub 2018 Oct 18. PMID: 30334789; PMCID: PMC6450731.
  363. Schwier M, van Griethuysen J, Vangel MG, Pieper S, Peled S, Tempny C, Aerts HJWL, **Kikinis R**, Fennessy FM, Fedorov A. Repeatability of Multiparametric Prostate MRI

- Radiomics Features. *Sci Rep.* 2019 Jul 1;9(1):9441. doi: 10.1038/s41598-019-45766-z. PMID: 31263116; PMCID: PMC6602944.
364. Zaffino P, Pernelle G, Mastmeyer A, Mehrtash A, Zhang H, **Kikinis R**, Kapur T, Francesca Spadea M. Fully automatic catheter segmentation in MRI with 3D convolutional neural networks: application to MRI-guided gynecologic brachytherapy. *Phys Med Biol.* 2019 Aug 14;64(16):165008. doi: 10.1088/1361-6560/ab2f47. PMID: 31272095; PMCID: PMC6726393.
  365. Lemaire JJ, De Salles A, Coll G, El Ouadih Y, Chaix R, Coste J, Durif F, Makris N, **Kikinis R**. MRI Atlas of the Human Deep Brain. *Front Neurol.* 2019 Aug 27;10:851. doi: 10.3389/fneur.2019.00851. PMID: 31507507; PMCID: PMC6718608.
  366. Peled S, Vangel M, **Kikinis R**, Tempny CM, Fennessy FM, Fedorov A. Selection of Fitting Model and Arterial Input Function for Repeatability in Dynamic Contrast-Enhanced Prostate MRI. *Acad Radiol.* 2019 Sep;26(9):e241-e251. doi: 10.1016/j.acra.2018.10.018. Epub 2018 Nov 20. PMID: 30467073; PMCID: PMC6526092.
  367. Canalini L, Klein J, Miller D, **Kikinis R**. Segmentation-based registration of ultrasound volumes for glioma resection in image-guided neurosurgery. *Int J Comput Assist Radiol Surg.* 2019 Oct;14(10):1697-1713. doi: 10.1007/s11548-019-02045-6. Epub 2019 Aug 7. PMID: 31392670; PMCID: PMC6797669.
  368. Miller K, Joldes GR, Bourantas G, Warfield SK, Hyde DE, **Kikinis R**, Wittek A. Biomechanical modeling and computer simulation of the brain during neurosurgery. *Int J Numer Method Biomed Eng.* 2019 Oct;35(10):e3250. doi: 10.1002/cnm.3250. Epub 2019 Sep 5. PMID: 31400252; PMCID: PMC6785376.
  369. Xie G, Zhang F, Leung L, Mooney MA, Epprecht L, Norton I, Rathi Y, **Kikinis R**, Al-Mefty O, Makris N, Golby AJ, O'Donnell LJ. Anatomical assessment of trigeminal nerve tractography using diffusion MRI: A comparison of acquisition b-values and single- and multi-fiber tracking strategies. *Neuroimage Clin.* 2020;25:102160. doi: 10.1016/j.nicl.2019.102160. Epub 2020 Jan 8. PMID: 31954337; PMCID: PMC6962690.
  370. Herz C, MacNeil K, Behringer PA, Tokuda J, Mehrtash A, Mousavi P, **Kikinis R**, Fennessy FM, Tempny CM, Tuncali K, Fedorov A. Open Source Platform for Transperineal In-Bore MRI-Guided Targeted Prostate Biopsy. *IEEE Trans Biomed Eng.* 2020 Feb;67(2):565-576. doi: 10.1109/TBME.2019.2918731. Epub 2019 May 23. PMID: 31135342; PMCID: PMC6874712.
  371. Zhang F, Noh T, Juvekar P, Frisken SF, Rigolo L, Norton I, Kapur T, Pujol S, Wells W 3rd, Yarmarkovich A, Kindlmann G, Wassermann D, San Jose Estepar R, Rathi Y, **Kikinis R**, Johnson HJ, Westin CF, Pieper S, Golby AJ, O'Donnell LJ. SlicerDMRI: Diffusion MRI and Tractography Research Software for Brain Cancer Surgery Planning and Visualization. *JCO Clin Cancer Inform.* 2020 Mar;4:299-309. doi: 10.1200/CCI.19.00141. PMID: 32216636; PMCID: PMC7113081.
  372. Epprecht L, Qureshi A, Kozin ED, Vachicouras N, Huber AM, **Kikinis R**, Makris N, Brown MC, Reinshagen KL, Lee DJ. Human Cochlear Nucleus on 7 Tesla Diffusion Tensor Imaging: Insights Into Micro-anatomy and Function for Auditory Brainstem Implant Surgery. *Otol Neurotol.* 2020 Apr;41(4):e484-e493. doi: 10.1097/MAO.0000000000002565. PMID: 32176138; PMCID: PMC7392811.
  373. **Kikinis R**, Wells WM 3rd. Detection of Brain Metastases with Deep Learning Single-Shot Detector Algorithms. *Radiology.* 2020 May;295(2):416-417. doi: 10.1148/radiol.2020200261. Epub 2020 Mar 17. PMID: 32186458; PMCID: PMC7549124.
  374. Fedorov A, Beichel R, Kalpathy-Cramer J, Clunie D, Onken M, Riesmeier J, Herz C, Bauer C, Beers A, Fillion-Robin JC, Lasso A, Pinter C, Pieper S, Nolden M, Maier-Hein K, Herrmann MD, Saltz J, Prior F, Fennessy F, Buatti J, **Kikinis R**. Quantitative Imaging Informatics for Cancer Research. *JCO Clin Cancer Inform.* 2020 May;4:444-453. doi: 10.1200/CCI.19.00165. PMID: 32392097; PMCID: PMC7265794.
  375. Rushmore RJ, Wilson-Braun P, Papadimitriou G, Ng I, Rathi Y, Zhang F, O'Donnell LJ, Kubicki M, Bouix S, Yeterian E, Lemaire JJ, Calabrese E, Johnson GA, **Kikinis R**, Makris N.

- 3D Exploration of the Brainstem in 50-Micron Resolution MRI. *Front Neuroanat.* 2020 Sep 23;14:40. doi: 10.3389/fnana.2020.00040. PMID: 33071761; PMCID: PMC7538715.
376. Zhang F, Xie G, Leung L, Mooney MA, Epprecht L, Norton I, Rathi Y, **Kikinis R**, Al-Mefty O, Makris N, Golby AJ, O'Donnell LJ. Creation of a novel trigeminal tractography atlas for automated trigeminal nerve identification. *Neuroimage.* 2020 Oct 15;220:117063. doi: 10.1016/j.neuroimage.2020.117063. Epub 2020 Jun 20. PMID: 32574805; PMCID: PMC7572753.
377. Fedorov A, Hancock M, Clunie D, Brochhausen M, Bona J, Kirby J, Freymann J, Pieper S, J W L Aerts H, **Kikinis R**, Prior F. DICOM re-encoding of volumetrically annotated Lung Imaging Database Consortium (LIDC) nodules. *Med Phys.* 2020 Nov;47(11):5953-5965. doi: 10.1002/mp.14445. Epub 2020 Sep 6. PMID: 32772385; PMCID: PMC7721965.
378. Gao Y, Xiao X, Han B, Li G, Ning X, Wang D, Cai W, **Kikinis R**, Berkovsky S, Di Ieva A, Zhang L, Ji N, Liu S. Deep Learning Methodology for Differentiating Glioma Recurrence From Radiation Necrosis Using Multimodal Magnetic Resonance Imaging: Algorithm Development and Validation. *JMIR Med Inform.* 2020 Nov 17;8(11):e19805. doi: 10.2196/19805. PMID: 33200991; PMCID: PMC7708085.
379. Canalini L, Klein J, Miller D, **Kikinis R**. Enhanced registration of ultrasound volumes by segmentation of resection cavity in neurosurgical procedures. *Int J Comput Assist Radiol Surg.* 2020 Dec;15(12):1963-1974. doi: 10.1007/s11548-020-02273-1. Epub 2020 Oct 7. PMID: 33029677; PMCID: PMC7671994.
380. Drakopoulos F, Tsolakis C, Angelopoulos A, Liu Y, Yao C, Kavazidi KR, Foroglou N, Fedorov A, Frisken S, **Kikinis R**, Golby A, Chrisochoides N. Adaptive Physics-Based Non-Rigid Registration for Immersive Image-Guided Neuronavigation Systems. *Front Digit Health.* 2021 Feb 18;2:613608. doi: 10.3389/fdgth.2020.613608. PMID: 34713074; PMCID: PMC8521897.
381. Nitsch J, Sack J, Halle MW, Moltz JH, Wall A, Rutherford AE, **Kikinis R**, Meine H. MRI-based radiomic feature analysis of end-stage liver disease for severity stratification. *Int J Comput Assist Radiol Surg.* 2021 Mar;16(3):457-466. doi: 10.1007/s11548-020-02295-9. Epub 2021 Mar 1. PMID: 33646521; PMCID: PMC7946682.
382. He J, Zhang F, Xie G, Yao S, Feng Y, Bastos DCA, Rathi Y, Makris N, **Kikinis R**, Golby AJ, O'Donnell LJ. Comparison of multiple tractography methods for reconstruction of the retinogeniculate visual pathway using diffusion MRI. *Hum Brain Mapp.* 2021 Aug 15;42(12):3887-3904. doi: 10.1002/hbm.25472. Epub 2021 May 12. PMID: 33978265; PMCID: PMC8288095.
383. Fedorov A, Longabaugh WJR, Pot D, Clunie DA, Pieper S, Aerts HJWL, Homeyer A, Lewis R, Akbarzadeh A, Bontempi D, Clifford W, Herrmann MD, Höfener H, Octaviano I, Osborne C, Paquette S, Petts J, Punzo D, Reyes M, Schacherer DP, Tian M, White G, Ziegler E, Shmulevich I, Pihl T, Wagner U, Farahani K, **Kikinis R**. NCI Imaging Data Commons. *Cancer Res.* 2021 Aug 15;81(16):4188-4193. doi: 10.1158/0008-5472.CAN-21-0950. Epub 2021 Jun 15. PMID: 34185678; PMCID: PMC8373794.
384. Fichtinger G, Mousavi P, Ungi T, Fenster A, Abolmaesumi P, Kronreif G, Ruiz-Alzola J, Ndoye A, Diao B, **Kikinis R**. Design of an Ultrasound-Navigated Prostate Cancer Biopsy System for Nationwide Implementation in Senegal. *J Imaging.* 2021 Aug 20;7(8):154. doi: 10.3390/jimaging7080154. PMID: 34460790; PMCID: PMC8404908.
385. Hsu TH, Schawkat K, Berkowitz SJ, Wei JL, Makoyeva A, Legare K, DeCicco C, Paez SN, Wu JSH, Szolovits P, **Kikinis R**, Moser AJ, Goehler A. Artificial intelligence to assess body composition on routine abdominal CT scans and predict mortality in pancreatic cancer- A recipe for your local application. *Eur J Radiol.* 2021 Sep;142:109834. doi: 10.1016/j.ejrad.2021.109834. Epub 2021 Jun 24. PMID: 34252866.
386. Yu Y, Bourantas G, Zwick B, Joldes G, Kapur T, Frisken S, **Kikinis R**, Nabavi A, Golby A, Wittek A, Miller K. Computer simulation of tumour resection-induced brain deformation by a

- meshless approach. *Int J Numer Method Biomed Eng.* 2022 Jan;38(1):e3539. doi: 10.1002/cnm.3539. Epub 2021 Oct 24. PMID: 34647427; PMCID: PMC8881972.
387. Maier-Hein L, Eisenmann M, Sarikaya D, März K, Collins T, Malpani A, Fallert J, Feussner H, Giannarou S, Mascagni P, Nakawala H, Park A, Pugh C, Stoyanov D, Vedula SS, Cleary K, Fichtinger G, Forestier G, Gibaud B, Grantcharov T, Hashizume M, Heckmann-Nötzel D, Kenngott HG, **Kikinis R**, Mündermann L, Navab N, Onogur S, Roß T, Sznitman R, Taylor RH, Tizabi MD, Wagner M, Hager GD, Neumuth T, Padoy N, Collins J, Gockel I, Goedeke J, Hashimoto DA, Joyeux L, Lam K, Leff DR, Madani A, Marcus HJ, Meireles O, Seitel A, Teber D, Ückert F, Müller-Stich BP, Jannin P, Speidel S. Surgical data science - from concepts toward clinical translation. *Med Image Anal.* 2022 Feb;76:102306. doi: 10.1016/j.media.2021.102306. Epub 2021 Nov 18. PMID: 34879287; PMCID: PMC9135051.
388. Yu Y, Safdar S, Bourantas G, Zwick B, Joldes G, Kapur T, Frisken S, **Kikinis R**, Nabavi A, Golby A, Wittek A, Miller K. Automatic framework for patient- specific modelling of tumour resection-induced brain shift. *Comput Biol Med.* 2022 Apr;143:105271. doi: 10.1016/j.combiomed.2022.105271. Epub 2022 Jan 30. PMID: 35123136; PMCID: PMC9389918.
389. Pujol S, Cabeen RP, Yelnik J, François C, Fernandez Vidal S, Karachi C, Bardinet E, Cosgrove GR, **Kikinis R**. Somatotopic Organization of Hyperdirect Pathway Projections From the Primary Motor Cortex in the Human Brain. *Front Neurol.* 2022 Apr 25;13:791092. doi: 10.3389/fneur.2022.791092. PMID: 35547388; PMCID: PMC9081715.
390. Lasso A, Herz C, Nam H, Cianciulli A, Pieper S, Drouin S, Pinter C, St-Onge S, Vigil C, Ching S, Sunderland K, Fichtinger G, **Kikinis R**, Jolley MA. SlicerHeart: An open-source computing platform for cardiac image analysis and modeling. *Front Cardiovasc Med.* 2022 Sep 6;9:886549. doi: 10.3389/fcvm.2022.886549. PMID: 36148054; PMCID: PMC9485637.
391. Sack J, Nitsch J, Meine H, **Kikinis R**, Halle M, Rutherford A. Quantitative Analysis of Liver Disease Using MRI-Based Radiomic Features of the Liver and Spleen. *J Imaging.* 2022 Oct 9;8(10):277. doi: 10.3390/jimaging8100277. PMID: 36286371; PMCID: PMC9605113.
392. Gillot M, Baquero B, Le C, Deleat-Besson R, Bianchi J, Ruellas A, Gurgel M, Yatabe M, Al Turkestani N, Najarian K, Soroushmehr R, Pieper S, **Kikinis R**, Paniagua B, Gryak J, Ioshida M, Massaro C, Gomes L, Oh H, Evangelista K, Chaves Junior CM, Garib D, Costa F, Benavides E, Soki F, Fillion-Robin JC, Joshi H, Cevidanes L, Prieto JC. Automatic multi-anatomical skull structure segmentation of cone-beam computed tomography scans using 3D UNETR. *PLoS One.* 2022 Oct 12;17(10):e0275033. doi: 10.1371/journal.pone.0275033. PMID: 36223330; PMCID: PMC9555672.
393. Wang S, Zhang F, Huang P, Hong H, Jiaerken Y, Yu X, Zhang R, Zeng Q, Zhang Y, **Kikinis R**, Rathi Y, Makris N, Lou M, Pasternak O, Zhang M, O'Donnell LJ. Superficial white matter microstructure affects processing speed in cerebral small vessel disease. *Hum Brain Mapp.* 2022 Dec 1;43(17):5310-5325. doi: 10.1002/hbm.26004. Epub 2022 Jul 13. PMID: 35822593; PMCID: PMC9812245.
394. Diao B, Bagayogo NA, Carreras NP, Halle M, Ruiz-Alzola J, Ungi T, Fichtinger G, **Kikinis R**. The use of 3D digital anatomy model improves the communication with patients presenting with prostate disease: The first experience in Senegal. *PLoS One.* 2022 Dec 1;17(12):e0277397. doi: 10.1371/journal.pone.0277397. PMID: 36454858; PMCID: PMC9714841.
395. Gorman C, Punzo D, Octaviano I, Pieper S, Longabaugh WJR, Clunie DA, **Kikinis R**, Fedorov AY, Herrmann MD. Interoperable slide microscopy viewer and annotation tool for imaging data science and computational pathology. *Nat Commun.* 2023 Mar 22;14(1):1572. doi: 10.1038/s41467-023-37224-2. PMID: 36949078; PMCID: PMC10033920.
396. Zheng J, Yang Q, Makris N, Huang K, Liang J, Ye C, Yu X, Tian M, Ma T, Mou T, Guo W, **Kikinis R**, Gao Y. Three-Dimensional Digital Reconstruction of the Cerebellar Cortex: Lobule Thickness, Surface Area Measurements, and Layer Architecture. *Cerebellum.* 2023

- Apr;22(2):249-260. doi: 10.1007/s12311-022-01390-8. Epub 2022 Mar 14. Erratum in: *Cerebellum*. 2023 Sep 5; PMID: 35286708; PMCID: PMC9470778.
397. Neumann PE, Halle MW, Kong J, **Kikinis R**. West meets east: Taking a stab at acupuncture point names. *Clin Anat*. 2023 May;36(4):641-650. doi: 10.1002/ca.24011. Epub 2023 Feb 18. PMID: 36648069.
398. Groves LA, Keita M, Talla S, **Kikinis R**, Fichtinger G, Mousavi P, Camara M. A Review of Low-cost Ultrasound Compatible Phantoms. *IEEE Trans Biomed Eng*. 2023 Jun 20;PP. doi: 10.1109/TBME.2023.3288071. Epub ahead of print. PMID: 37339047.
399. Bumm R, Zaffino P, Lasso A, Estépar RSJ, Pieper S, Wasserthal J, Spadea MF, Latshang T, Kawel-Böhm N, Wäckerlin A, Werner R, Hässig G, Furrer M, **Kikinis R**. From Voxels to Prognosis: AI-Driven Quantitative Chest CT Analysis Forecasts ICU Requirements in 78 COVID-19 Cases. *Res Sq [Preprint]*. 2023 Jul 5:rs.3.rs-3027617. doi: 10.21203/rs.3.rs-3027617/v2. PMID: 37333197; PMCID: PMC10275043.
400. Zheng J, Yang Q, Makris N, Huang K, Liang J, Ye C, Yu X, Tian M, Ma T, Mou T, Guo W, **Kikinis R**, Gao Y. Correction: Three-Dimensional Digital Reconstruction of the Cerebellar Cortex: Lobule Thickness, Surface Area Measurements, and Layer Architecture. *Cerebellum*. 2023 Sep 5. doi: 10.1007/s12311-023-01603-8. Epub ahead of print. Erratum for: *Cerebellum*. 2023 Apr;22(2):249-260. PMID: 37668837.
401. Chrisochoides N, Fedorov A, Liu Y, Kot A, Foteinos P, Drakopoulos F, Tsolakis C, Billias E, Clatz O, Ayache N, Golby A, Black P, **Kikinis R**. Real-Time Dynamic Data Driven Deformable Registration for Image-Guided Neurosurgery: Computational Aspects. *ArXiv [Preprint]*. 2023 Sep 6:arXiv:2309.03336v1. PMID: 37731651; PMCID: PMC10508827.
402. Pallanti S, Di Ponzio M, Gavazzi G, Gasic G, Besteher B, Heller C, **Kikinis R**, Makris N, Kikinis Z. From 'mental fog' to post-acute COVID-19 syndrome's executive function alteration: Implications for clinical approach. *J Psychiatr Res*. 2023 Sep 30;167:10-15. doi: 10.1016/j.jpsychires.2023.09.017. Epub ahead of print. PMID: 37804756.
403. Safdar S, Zwick BF, Yu Y, Bourantas GC, Joldes GR, Warfield SK, Hyde DE, Frisken S, Kapur T, **Kikinis R**, Golby A, Nabavi A, Wittek A, Miller K. SlicerCBM: automatic framework for biomechanical analysis of the brain. *Int J Comput Assist Radiol Surg*. 2023 Oct;18(10):1925-1940. doi: 10.1007/s11548-023-02881-7. Epub 2023 Apr 1. PMID: 37004646; PMCID: PMC10497672.
404. Groves LA, Keita M, Talla S, **Kikinis R**, Fichtinger G, Mousavi P, Camara M. A Review of Low-Cost Ultrasound Compatible Phantoms. *IEEE Trans Biomed Eng*. 2023 Dec;70(12):3436-3448. doi: 10.1109/TBME.2023.3288071. Epub 2023 Nov 21. PMID: 37339047.
405. He J, Zhang F, Pan Y, Feng Y, Rushmore J, Torio E, Rath Y, Makris N, **Kikinis R**, Golby AJ, O'Donnell LJ. Reconstructing the somatotopic organization of the corticospinal tract remains a challenge for modern tractography methods. *Hum Brain Mapp*. 2023 Oct 4. doi: 10.1002/hbm.26497. Epub ahead of print. PMID: 37792280.
406. Schacherer DP, Herrmann MD, Clunie DA, Höfener H, Clifford W, Longabaugh WJR, Pieper S, **Kikinis R**, Fedorov A, Homeyer A. The NCI Imaging Data Commons as a platform for reproducible research in computational pathology. *Comput Methods Programs Biomed*. 2023 Oct 2;242:107839. doi: 10.1016/j.cmpb.2023.107839. Epub ahead of print. PMID: 37832430.
407. Fedorov A, Longabaugh WJR, Pot D, Clunie DA, Pieper SD, Gibbs DL, Bridge C, Herrmann MD, Homeyer A, Lewis R, Aerts HJWL, Krishnaswamy D, Thiriveedhi VK, Ciauscu C, Schacherer DP, Bontempi D, Pihl T, Wagner U, Farahani K, Kim E, **Kikinis R**. National Cancer Institute Imaging Data Commons: Toward Transparency, Reproducibility, and Scalability in Imaging Artificial Intelligence. *Radiographics*. 2023 Dec;43(12):e230180. doi: 10.1148/rg.230180. PMID: 37999984; PMCID: PMC10716669.
408. Chrisochoides N, Liu Y, Drakopoulos F, Kot A, Foteinos P, Tsolakis C, Billias E, Clatz O, Ayache N, Fedorov A, Golby A, Black P, **Kikinis R**. Comparison of physics-based deformable

- registration methods for image-guided neurosurgery. *Front Digit Health*. 2023 Dec 8;5:1283726. doi: 10.3389/fdgth.2023.1283726. PMID: 38144260; PMCID: PMC10740151.
409. Mehrtash A, Ziegler E, Idris T, Somarouthu B, Urban T, LaCasce AS, Jacene H, Van Den Abbeele AD, Pieper S, Harris G, **Kikinis R**, Kapur T. Evaluation of mediastinal lymph node segmentation of heterogeneous CT data with full and weak supervision. *Comput Med Imaging Graph*. 2024 Jan;111:102312. doi: 10.1016/j.compmedimag.2023.102312. Epub 2023 Dec 15. PMID: 38141568.
410. Krishnaswamy D, Bontempi D, Thiriveedhi VK, Punzo D, Clunie D, Bridge CP, Aerts HJWL, **Kikinis R**, Fedorov A. Enrichment of lung cancer computed tomography collections with AI-derived annotations. *Sci Data*. 2024 Jan 4;11(1):25. doi: 10.1038/s41597-023-02864-y. PMID: 38177130; PMCID: PMC10766991.
411. Li S, Zhang W, Yao S, He J, Zhu C, Gao J, Xue T, Xie G, Chen Y, Torio EF, Feng Y, Bastos DC, Rathi Y, Makris N, **Kikinis R**, Bi WL, Golby AJ, O'Donnell LJ, Zhang F. Tractography-based automated identification of the retinogeniculate visual pathway with novel microstructure-informed supervised contrastive learning. *bioRxiv [Preprint]*. 2024 Jan 4:2024.01.03.574115. doi: 10.1101/2024.01.03.574115. PMID: 38260369; PMCID: PMC10802389.

## Other peer-reviewed scholarship

### 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.
9. 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.
  10. 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.
  11. **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.
  12. 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.
  13. 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.
  14. **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.
  15. 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.
  16. 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.
  17. 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.
  18. Warfield S, Dengler J, Zaers J, Guttmann 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.
  19. 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.
  20. 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.
  21. 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.
  22. 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.
  23. 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.
24. 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.
  25. 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.
  26. 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.
  27. 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.
  28. 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.
  29. 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.
  30. 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.
  31. 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.
  32. 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.
  33. 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.
  34. 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.

35. 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.
36. 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.
37. 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.
38. 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.
39. 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.
40. 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.
41. 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.
42. 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.
43. 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.
44. 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.
45. 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.
46. 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.

47. 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.
48. Rexilius J, Warfield SK, Guttman 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.
49. 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.
50. 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.
51. 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.
52. 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.
53. 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.
54. 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.
55. 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.
56. Pachai C, Zhu YM, Guttman 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.
57. 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.
58. 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.
59. 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.
  60. 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.
  61. 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.
  62. 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.
  63. 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.
  64. 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.
  65. 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.
  66. 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.
  67. 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.
  68. 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.
  69. 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.

70. 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.
71. 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.
72. 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.
73. 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.
74. 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.
75. 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.
76. 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.
77. 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.
78. 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.
79. 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.
80. 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.
81. 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.

82. 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.
83. 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.
84. 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.
85. 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.
86. 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.
87. 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.
88. 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.
89. 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.
90. 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.
91. 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.

#### **Non-peer reviewed scholarship in print or other media:**

#### **Reviews, chapters, and 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-Hersfield 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 for Subject-Specific Analysis, 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.

## Narrative Report



My research, initiated during my residency in Radiology in the early 1980s, has centered on enhancing the clinical relevance of diagnostic imaging data. This focus stems from the desire to bridge the translational gap between biomedical research and clinical practice. Through advanced computational techniques, my work aims to transform extracted information into actionable insights that directly inform diagnoses and treatment decisions.

As the Principal Investigator of 3D Slicer, a widely used open-source image computing platform, I have facilitated diverse biomedical research applications spanning numerous anatomical regions and interventions. 3D Slicer is supported by a dedicated international community and receives funding from various grants. Notably, the past decade has seen my research interests expand beyond 3D Slicer, embracing the broader aim of facilitating reproducible scientific practices.

I am actively engaged in mentoring the next generation of scientists, dedicating substantial time to individual meetings and workshops. Additionally, I regularly travel to disseminate knowledge and insights through lectures on topics of current interest.