BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Ron Kikinis	Professor of Radiology
eRA COMMONS USER NAME	
rk1234	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Zurich Medical School, Zurich, Switzerland	M.D.	1982	Medicine

A. Positions and Honors.

Positions and Employment

1982-1983 Intern, Department of Radio-oncology, University Hospital, Zurich
1984-1986 Resident in Radiology, University Hospital, Zurich
1985-1986 Resident in Neuroradiology, Division of Neuroradiology, Institute of Radiology
1986-1987 Resident, MR Unit, Children's Hospital, University of Zurich
1987-1988 Research Fellow Image Processing Radiology, Institute of Radiology, University Hospital, Zurich and Institute of Communications Technology of the Swiss Federal Institute of Technology
1988-1989 Research Fellow in Neuro MR, Department of Radiology, Brigham and Women's Hospital and Harvard Medical School, Boston, MA
1989-1992 Instructor in Radiology, Department of Radiology, Harvard Medical School, Boston, MA
1990-present Director, Surgical Planning Laboratory, Department of Radiology, Brigham and Women's Hospital, Boston, MA
1992-1997 Assistant Professor of Radiology, Department of Radiology, Brigham and Women's Hospital and Harvard Medical School, Boston, MA
1992-present Research Assistant Professor of Biomedical Engineering, College of Engineering, Boston University, Boston, MA
1997-2004 Associate Professor of Radiology, Department of Radiology, Brigham and Women's Hospital and Harvard Medical School, Boston, MA
2004-present Professor of Radiology, Department of Radiology, Brigham and Women's Hospital and Harvard Medical School, Boston, MA

B. Selected peer-reviewed publications (in chronological order).

1. Kikinis R, von Schulthess GK, Jager P, Durr R, Bino M, Kuoni W, Kubler O. Normal and Hydronephrotic Kidney: Evaluation of Renal Function with Contrast-Enhanced MR Imaging. Radiology, 1987; 165(3):837-42.
2. Cline HE, Lorenson WE, Kikinis R, Jolesz F. 3-D Segmentation of MR Images of the Head Using Probability and Connectivity. JCAT, 1990; 14(6):1037-1045.
3. Gerig G, Kikinis R, Kuebler O. Nonlinear Anisotropic Filtering Of MRI Data. IEEE Transactions On Medical Imaging, 1992; 11(2):221-232.
4. Shenton ME, Kikinis R, Jolesz FA, Pollack SD, LeMay M, Martin J, Metcalf D, Coleman M, McCarley RW. Abnormalities of the Left Temporal Lobe and Thought Disorder in Schizophrenia: A Quantitative Magnetic Resonance Imaging Study. New England Journal of Medicine, 1992; 327(9):604-612.
5. Kikinis R, Shenton M, Jolesz FA, Gerig G, Martin J, Anderson M, Metcalf D, Guttmann C, McCarley RW, Lorenson W, Cline H. Routine Quantitative Analysis of Brain and Cerebrospinal Fluid Spaces with MR Imaging. JMRI, 1992; 2:619-629.
6. 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 Schizophrenics: an In Vivo MR Three-Dimensional Surface Rendering Study. Neuroscience Letters, 182 (1994) 7-12.

7. Kikinis R, Gleason LP, Moriarty TM, Moore MR, Alexander E III, Steig PE, Matsumae M, Lorensen WE, Cline HE, Black P McL, Jolesz FA. Computer-Assisted Interactive Three-Dimensional Planning for Neurosurgical Procedures. Neurosurgery, 1996; 4:640-651.
8. Wells WM, 3rd, Viola P, Atsumi H, Nakajima S, Kikinis R. Multi-Modal Volume Registration by Maximization of Mutual Information. Med Image Anal, 1996; 1(1):35-51.
9. 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 [See Comments]. AJR, 1997; 169(5):1229-35.
10. 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; 15(4):344-50.
11. 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. JMRI, 1999;9(4):519-30.
12. Angenent S, Haker S, Tannenbaum A, Kikinis R. On the Laplace-Beltrami Operator and Brain Surface Flattening. IEEE Trans Med Imaging, 1999;18(8):700-11.
13. Warfield SK, Kaus M, Jolesz FA, Kikinis R. Adaptive, Template Moderated, Spatially Varying Statistically Classification. Medical Image Analysis, 2000; 4(1):43-55.
14. Gering D, Nabavi A, Kikinis R, Hata N, O'Donnell L, Grimson WEL, Jolesz FA, Black PM. An Integrated Visualization System for Surgical Planning and Guidance Using Image Fusion and an Open MR. JMRI, 2001; 13(6):967-975.
15. Hata N, Jinzaki M, Kacher D, Cormack R, Gering D, Nabavi A, Silverman S, D'Amico A, Kikinis R, Jolesz FA, Tempany CMC. MR Imaging-Guided Prostate Biopsy with Surgical Navigation Software: Device Validation and Feasibility. Radiology, 2001; 220:263-268.
16. Jolesz FA, Nabavi A, Kikinis R. Integration of Interventional MRI with Computer Assisted Surgery. JMRI, 2001; 13(1):69-77.
17. Benson RR, Guttmann CRG, Wei XC, Warfield SK, Hall C, Schmidt JA, Kikinis R, Wolfson LI. Older People With Impaired Mobility Have Specific Loci of Preventricular Abnormality on MRI. Neurology, 2002; 58(1):48-55.
18. Warfield SK, Talos F, Tei A, Bharatha A, Nabavi A, Ferrant M, Black P, Jolesz F, Kikinis R. Real-Time Registration of Volumetric Brain MRI by Biomechanical Simulation of Deformation During Image Guided Neurosurgery. Computer Visual Science, 2002; 5:3-11.
19. Shenton ME, Gerig G, McCarley RW, Szekely G, Kikinis R. Amygdala-Hippocampal Shape Differences in Schizophrenia: the Application of 3D Shape Models to Volumetric MR Data. Psychiatry Research: Neuroimaging, 2002; 115:15-35.
20. 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 cytsoscopy with color mapping of bladder wall thickness. The Journal of Urology 2002; 167:559-562.
21. Chinzei , Warfield , Hata , Tempany , Jolesz , Kikinis. Planning, simulation and assistance with intraoperative MRI. Minim Invasive Ther Allied Technol. 2003 Mar;12(1):59-64.
22. Zou KH, Warfield SK, Wells WM, Kikinis R. Three validation metrics for automated probablistic image segmentation of brain tumors. Statistics in Medicine 2004; 23:1259-1282.
23. 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.
24. 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; 27(5)58-93.
25. Ellsmere J, Stoll J, Wells W, Kikinis R, Vosburgh K, Kane R, Brooks D, Rattner D. A new visualization technique for laproscopic ultrasonography. Surgery. 2004;136(1):84-92.
26. 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;71(1):65-76.

27. Golland P, Grimson WE, Shenton ME, Kikinis R. Detection and analysis of statistical differences in anatomical shape. Med Image Anal. 2005;9(1):69-86.
28. 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.
29. 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.
30. Schreyer AG, Kikinis R. Combined PET/CT colonography: is this the way forward? Gut. 2006 Jan;55(1):10-2.
31. 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 Int Conf Med Image Comput Comput Assist Interv. 2007;10(Pt 1):491-8.

C. Research Support

Ongoing Research Support

P41 RR13218 (Kikinis) 09/30/98-05/31/13
NIH/NCRR
Neuroimaging Analysis Center
The goal of this project is to expand our high performance computing facility, focusing on neuroimaging applications in the form of collaborative projects as well as providing training and educational support for the local, national and international scientific community. The main research focus of the NAC is to develop post-processing methods for digital medical imaging data and to use these algorithms for clinical applications.
Role: Principal Investigator

U54 EB005149 (Kikinis) 09/17/04-07/31/09
NIH/NIBIB
National Alliance for Medical Imaging Computing (NAMIC)
NAMIC is a multi-institutional, interdisciplinary team of computer scientists, software engineers, and medical investigators who develop computational tools for the analysis and visualization of medical image data. The purpose of the center is to provide the infrastructure and environment for the development of computational algorithms and open source technologies, and then oversee the training and dissemination of these tools to the medical research community.
Role: Principal Investigator

U41 RR019703 (Jolesz) 09/29/05-07/31/10
NIH
Image Guided Therapy Center
This project will establish a NCRR Resource Center for Image-Guided therapy at Brigham and Women's Hospital Harvard Medical School. The Center, based on the existing BWH Image-Guided Therapy Program, will develop, maintain, and make available innovative technologies in five Core Research Programs of Image-Guided Therapy: (1) Bioengineering and Imaging; (2) Surgical Planning (3) MRI-Guided Therapy; (4) Thermal Ablations; and (5) Focused Ultrasound Surgery.
Role: Research Director

U24 RR021382 (Rosen) 09/30/04-05/31/09
NIH
Morphometry Biomedical Informatics Research Network
The major goal of this project is for the Surgical Planning Lab (SPL) at Brigham and Women's Hospital to provide technology development activities as part of the Morphometry BIRN (Biomedical Informatics Research Network) project.
Role: Site Principal Investigator

U24 RR021992 (Potkin) 12/01/05-11/30/10

NIH
Functional Biomedical Informatics Research Network
The overarching goal of the Function BIRN is to develop technology and methods to conduct robust, reliable multi-center functional imaging studies, and to produce a knowledge base that would not otherwise be available through single-site imaging studies.
Role: Site Principal Investigator

(Jolesz/Kikinis) 10/01/08-09/30/09
CIMIT
Image Guided Technology/Program Leadership Funding
The major goal of this project is to assist with integration and networking of CIMIT on behalf of CIMIT funded Principal Investigators and to mentor CIMIT funded Investigators within the program.
Role: Program Co-Leader

UL1 RR025758-01 (Nadler) 05/19/08-04/3/13
NIH/NCRR
Harvard Clinical and Translational Science Center
To provide enriched resources to educate and develop the next generation of researchers trained in the complexities of translating research discoveries into clinical trials and ultimately into practice. Design new and improved clinical research informatics tools for analyzing research data and managing clinical trials. Support outreach to underserved populations, local community and advocacy organizations, and health care providers. Assemble interdisciplinary teams and forge new partnerships with private and public health care organizations.
Role: Imaging Specialist

Completed Research Support

P01 CA67165 (Jolesz) 09/30/95-04/30/05
NIH/NCI
MR Guided Therapy
The major goals of this project are to improve an existing infrastructure (scientific, medical and technical) to support a coordinated multifocused, multidisciplinary development of MRI used with interventional procedures in some well-defined clinical areas.
Role: Project Principal Investigator

EEC-973178 (Taylor) 09/01/98-06/30/08
NSF/John Hopkins University
Engineering Research Center for Computer Integrated Surgical Systems and Technology
The major goal of this project is to establish with John Hopkins University an Engineering Research Center.
Role: Site Principal Investigator