BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
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NAME	POSITION TITLE
Tempany, Clare M.	Professor of Radiology Harvard Medical School
eRA COMMONS USER NAME	Vice Chair of Radiology Research Brigham &
CMT 123	Women's hospital

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
Royal College of Surgeons, Dublin, Ireland	LRCP & SI, MB, BAO, BCh	1981	Medicine
Loyola University of Medicine	ABR	1988	Diagnostic Radiology
Johns Hopkins University	Fellowship	1988	MRI

A. Positions and Honors.

Positions and Employment

1982-1984 Internal Medicine residency-Federated Hospitals, Dublin, Ireland
1984-1988 Diagnostic Radiology residency, Loyola University of Chicago.
1988-1990 Fellowship in Magnetic Resonance Imaging, Johns Hopkins University School of Medicine.
1990-1991 Assistant Professor of Radiology, The Johns Hopkins University School of Medicine
1990-1991 Associate Director, MRI Division, The Johns Hopkins Hospital
1992-1997 Assistant Professor of Radiology, Harvard Medical School and Radiologist, Brigham & Women's Hospital, Boston, MA
1993-1997 Director of Body MRI, Brigham & Women's Hospital
1997-2004 Associate Professor of Radiology, Harvard Medical School
1997-2006 Director of Clinical MRI, Brigham & Women's Hospital
1999-2005 Program leader, Cancer Imaging Program of the Dana Farber Harvard Cancer Center.
2004-present Professor of Radiology, Harvard Medical School
2004-present Director of Clinical Focused Ultrasound, Brigham & Women's Hospital
2007-present Ferenc Jolesz Chair of Radiology Research, Brigham & Women's Hospital

Awards and Honors

1980 Gold Medal & First Place: Obstetrics and Gynecology
1995 Certificate of Merit: Cum Laude for RSNA exhibit
1994-1996 Research Career Development Award - General Electric - GERRAF Association of University Radiologists Fellowship

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

1. Cormack RA, Kooy H, Tempany CM, D'Amico AV. A clinical method for real-time dosimetric guidance of transperineal I-125 prostate implants using interventional MRI. Int J Radiation Oncology Biol. Phys 2000; 46 (1): 207-214
2. D'Amico AV, Tempany CM, Cormack RC, Hata N, Jinzaki M, Tuncali K, Weinstein M, Richie JP. Transperineal Magnetic Resonance Image guided prostate biopsy. J Urol. 2000;164:
3. Cormack RA, Tempany CM, D'Amico AV. Optimizing target coverage by dosimetric feedback during prostate brachytherapy. Int J Radiation Oncology Biol. Phys 2000; 48(4) 1245-1249
4. Tempany CMC, McNeil BJ. Prospects for advances in biomedical imaging. JAMA 2000; 285 (5) 562-567
5. D'Amico AV, Cormack RA, Tempany CM. MRI-guided diagnosis and treatment of prostate cancer. NEJM 2001;344 (10):776-777

6. Bharatha A, Hirose M, Hata N, Warfield SK, Ferrant M, Zou KH, Suarez-Santana E, Ruiz-Alzola J, D'amico AV, Cormack RA, Kikinis R, Jolesz FA, Tempany CMC. Three-dimensional finite element-based deformable registration of pre- and intra-operative prostate imaging. Med Physics 2001;28:2551-2560
7. Hata N, Jinzaki M, Kacher D, Cormack R, Gering D, Nabavi A, Silverman SG, D'Amico AV, Kikinis R, Jolesz FA, Tempany CMC. MRI-guided prostate biopsy using surgical navigation software: Device validation and preliminary experience. Radiology 2001;220:263-268
8. D'Amico AV, Manola J, Loffredo M, Lopes L, Nissen K, O'Farrell DA, Gordon L, Tempany CMC, Cormack RA. A practical method to achieve prostate gland immobilization and target verification for daily treatment. Int Radiation Oncology Bio Phys, 2001;51:1431-1436
9. Hirose M, Bharatha A, Hata N, Zou K, Warfield S, Cormack RA, D'Amico A, Kikinis R, Jolesz FA, Tempany CMC. Quantitative MRI assessment of prostate gland deformation before and during MRI-guided brachytherapy. Academic Radiology 2002; 9:906-912.
10. D'Amico AV, Topulos G, Lopes L, Valentine KJ, Cormack RA, Tempany CM, Kumar S, Marks PJ. Self-administration of untested medical therapy for treatment of prostate cancer can lead to clinically significant adverse events. Int J Radiat Oncol Biol Phys 2002; 54 (5) 1311-3.
11. Tempany CMC, Stewart EA, McDannold N, Quade B, Jolesz F, Hynynen K. MRI guided focused ultrasound surgery (FUS) of uterine leiomyomas: A feasibility study. Radiology 2003; 227:897-905
12. Chinzei K, Warfield S, Hata N, Tempany CMC, Jolesz, FA, Kikinis R. Planning, simulation and assistance with intraoperative MRI. Min Invas Ther & Allied Technol 2003;12(1-2) 59-64.
13. Chan I, Wells W, Mulkern R, Haker S, Zhang J, Zou K, Maier S, Tempany CM. Detection of prostate cancer by integration of line-scan diffusion, T2-mapping and T2-weighted MR imaging; a multi-channel statistical classifier. Medical Physics;2003;30(9)2390-2398
14. Stewart EA, Gedroyc WDW, Tempany CMC, Quade BJ, Inbar Y, Ehrenstein T, Shushan A, Hindley JT, Goldin RD, David M, Sklair M, Rabinovici J. Focused Ultrasound treatment of uterine fibroids: Safety and feasibility of a noninvasive thermoablative technique. Am J of OB/GYN 2003;189 (1) 48-54
15. Albert M, Tempany CMC, Schultz D, Chen M-H, Cormack RA, Kumar S, Hurwitz MD, Beard C, Tuncali K, O'Leary M, Topulos GP, Valentine K, Lopes L, Kanan A, Kacher D, Rosato J, Kooy H, Jolesz F, Carr-Cocke DL, Richie JP, D'Amico AV. Late genitourinary and gastrointestinal toxicity after magnetic resonance image-guided prostate brachytherapy with or without neoadjuvant external beam radiation therapy. Cancer. 2003 1; 98(5):949-54.
16. Tsai A, Wells W, Tempany C, Grimson E, Willsky A. Coupled multi-shape model and mutual information for medical image segmentation. Information Processing in Medical Imaging (IPMI). 2003
17. D'Amico, A., Tempany C, Schultz D, Cormack R, Jolesz, FA, Richie JR. Comparing PSA outcome following radical prostatectomy or magnetic resonance image-guided particle prostatic irradiation in select patients with clinically localized adenocarcinoma of the prostate. Urology 2003 62:1063-1067.
18. Zou KH, Warfield SK, Bharatha A, Tempany CMC, Kaus MR, Haker SE, Wells WM, Jolesz FA, Kikinis R. Statistical validation of image segementation quality based on a spatial overlap index. Academic Radiology 2003 10(12):1359-68
19. 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. Study Health Technology Information 2004;98:72-4
20. Tsai A, Wells W, Tempany C, Grimson E, Willsky A. Mutual information in coupled multi-shape model for medical image segmentation. Medical Image Analysis. 2004;8(4):429-45.
21. Hindley J, Gedroyc WD, Regan L, Stewart E, Tempany C et al. MRI guidance of focused ultrasound therapy of uterine fibroids: early results AJR 2004; 183: 1713-1719
22. McDannold N, Tempany C, Fennessy F, So M, Rybicki F, Stewart E, Ferenc J, Hynynen K. MRI-based thermometry and thermal dosimetry during focused ultrasound thermal ablation of uterine leiomyomas. Radiology 2006
23. Stewart E, Rabinovici J, Tempany C, Inbar Y, Regan L, Gastout B, Hesley G, Kim H, Hengst S, Gedroyc W. Clinical Outcomes of Focused Ultrasound Surgery for the Treatment of Uterine Fibroids. Fertility and Sterility 2006 Vol. 85, No.1 22-29
24. Fennessy F, Tempany C, McDannold N, So MJ, Hesley G, Gostout, Kim HS, Holland GA, Sarti DA, Hynynen K, Jolesz F, Stewart EA. MRI-guided focused ultrasound surgery of uterine leiomyomas: results of different treatment guideline protocols. Radiology 2007; 243: 885-893.

25. Zhang J, Loughlin KR, Zou KH, Haker S, Tempany CMC. The Role of Endorectal Coil MRI in the Management of Patients with Prostate Cancer and in Determining Radical Prostatectomy Surgical Margin Status: A Report of a Single Surgeon's Practice. Urology 2007, 69; 1134-1137 .
26. Stewart EA, Gostout B, Rabinovici, Kim KS, Regan L, Tempany CM. Sustanined relief of leiomyoma symptoms by using focused ultrasound surgery. Obstet Gynecol. 2007; 110: 1

C. Research Support

Active

1 R01 CA109246-01-A1 (Tempany) 05/11/05-04/30/10
NIH
MR Guided Focused Ultrasound Surgery for Prostate Cancer
The goal is to develop an interactive comprehensive MRI image-guided FUS system for treatment of localized prostate cancer.

UL1 RR025758-01 (Nadler) 05/19/08-04/3/13
NIH
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

U41 RRO19703-01A2 (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.

R01 CA111288-01 (Tempany) 07/01/06-05/31/11
NIH/Bioengineering Research Partnership
Enabling Technology for MR-Guided Prostate Interventions
To develop a technology platform for precise trans-perineal needle placement into the prostate for both diagnostic and therapeutic purposes, inside conventional (high-field closed) MRI scanners, under real-time image guidance and monitoring.

P01 CA067165 (Jolesz) 04/01/07-03/31/12
NIH
Image Guided Therapy
The overall objective of this project is to develop accurate and robust methods for tracking the motion of interventional devices during MRI-guided procedures, and to integrate these methods into an advanced generalized interface for image-guided planning, navigation, and targeting.

Completed

1 R01 CA109246-01 (Davatzikos/Tempany) 04/01/04-03/31/08
NIH/U Penn Subcontract
Optimized Prostate Biopsy Using Mathematical Optimization
The goal is to construct a suite of statistical modeling and image analysis that will determine the best way to biopsy a candidate patient for prostate cancer.