

**Harvard Medical School  
Curriculum Vitae**

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**Place of Birth:** Dublin, Ireland

**Education**

1981	LRCP & SI, MB BAO BCh	Royal College of Surgeons, Dublin, Ireland
1994	Program in Clinical Effectiveness	Harvard School Public Health
2004	Master of Arts	Harvard Medical School

**Postdoctoral Training**

1981-1982	Intern	Flexible Internship, Surgery & Medicine	Richmond & St. Laurence Hospitals, Dublin, Ireland
1982-1984	Resident	Internal Medicine Residency	Federated Hospitals, Dublin, Ireland
1984-1988	Resident	Diagnostic Radiology	Loyola University of Chicago, IL
1988-1990	Fellow	Magnetic Resonance Imaging	Johns Hopkins Medical Institutions, Baltimore, MD

**Faculty Academic Appointments**

1990-1991	Assistant Professor	Radiology	Johns Hopkins University School of Medicine, Baltimore, MD
1991-1997	Assistant Professor	Radiology	Harvard Medical School, Boston,
1997-2004	Associate Professor	Radiology	Harvard Medical School, Boston,
2004-	Professor	Radiology	Harvard Medical School, Boston,
2017-	Ferenc Jolesz, MD Professor	Radiology	Harvard Medical School, Boston,

**Appointments at Hospitals/Affiliated Institutions**

1990-1991	Attending Staff Radiologist	Radiology	Johns Hopkins Hospital
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1990-1991	Attending Staff Radiologist	Radiology	Francis Scott Key Medical Center
1991-	Attending Staff Radiologist	Radiology	Brigham and Women's Hospital
1997-	Clinical Associate in Radiology	Radiology	Massachusetts General Hospital
2001-	Attending Staff Radiologist	Radiology	Dana-Farber Cancer Institute
2007-2017	Ferenc Jolesz Distinguished Chair	Radiology Research	Brigham and Women's Hospital

## Major Administrative Leadership Positions

### Local

1993-1997	Director, Body MRI		Brigham and Women's Hospital
1996-1999	Director, Radiology Technology Assessment Program		Brigham and Women's Hospital
1997-2006	Director, Clinical MRI		Brigham and Women's Hospital
1999-2003	Program Leader, DF/HCC Cancer Imaging Program		Dana-Farber/Harvard Cancer Center
2001-2003	Chair, Partners Radiology Research Committee		Partners Healthcare
2003-2006-	Director, Clinical Focused Ultrasound Program		Brigham and Women's Hospital
	Co-Director of the Imaging Platform of Brigham Research Institute		Brigham and Women's Hospital
2006-2007-	Director, Clinical IGT/NCIGT/AMIGO Program		Brigham and Women's Hospital
	Vice-Chair of Research Department of Radiology		Brigham and Women's Hospital
2008-2011	Co-Director, BWH Imaging Program		Harvard Catalyst/CTSC
2015-	Medical Director, AMIGO BWH		Brigham and Women's Hospital

### Regional

1988-1991	Co-Director, MRI Educational Program		Johns Hopkins Medical Institution
1990-1991	Chair, Grand Rounds Department of Radiology		Johns Hopkins Medical Institution
1990-1991	Director, MRI Fellowship Program		Johns Hopkins Medical Institution
1990-1991	Chair, Quality Assurance Committee Division of MRI		Johns Hopkins Medical Institution
1990-1991	Associate Director, Division of MRI		Johns Hopkins Medical Institution
1991	Acting Director, MRI Division		Johns Hopkins Medical Institution

### National and International

1990-1991	Chair, Education Committee		Maryland Radiological Society
2001-2004	Chair, CT/MRI Committee		American College of Radiology Imaging Network (ACRIN)
2010-2017	Board of Trustees member		ISMRM
2015-16	Chair, Nominating Committee		International Society of Magnetic Resonance in Medicine (ISMRM)
2013-17	Treasurer, Executive Committee and Board of Trustees		ISMRM

### Committee Service

#### Local

1992-2003	Member, Residency and Fellowship Selection Committee		Brigham and Women's Hospital
1992-1993	Member, Medical Staff Orientation Committee		Brigham and Women's Hospital
1993-	Member, BWH MRI Safety Committee		Brigham and Women's Hospital

1995-	Member, Technology Assessment Committee	Brigham and Women's Hospital
1997-	Member, Clinical MRI Oversight Committee	Brigham and Women's Hospital
1999-2002	Member, The BWH Mentoring Program Committee	Brigham and Women's Hospital
1999-	Member, The BWH Radiology Research Council	Brigham and Women's Hospital
1999-2003	Member, Partners Radiology Research Committee	Brigham and Women's Hospital
2001	Member, Partners Oncology Service Line Planning Leadership Group	Brigham and Women's Hospital
2001-	Member, Committee on Mentoring-Scholars in Clinical Science Program	Harvard Medical School
2001-	Member, BWH Cancer Center Executive Committee	Brigham and Women's Hospital
2003-	Member, Clinical Research Planning Committee	Brigham and Women's Hospital
2004-	Member, Clinical Investigation Committee	Brigham and Women's Hospital
2005	Member, Partners Radiology Research Council	Brigham and Women's Hospital
2006	Member, Biomedical Research Institute Research Oversight Committee	Brigham and Women's Hospital
2007-2010	Member, Promotions and Reappointment Committee	Harvard Medical School
2008-	Chair, Ad Hoc Committee for a nominee for Professor of Radiology	Harvard Medical School
2009-	Member, Participant and Clinical Interaction Resource (PCIR) Committee	Brigham and Women's Hospital
2009-	Member, DF/BWH Cancer Center Radiology Steering Committee	Brigham and Women's Hospital
2009-	Women's Reproductive Health Research Career Development	Brigham and Women's Hospital
2010-11	Member, Chief of Urology Search Committee	Massachusetts General Hospital
2010	Member, Search Committee for Professor of Surgery and Chief of Urology Division	Brigham and Women's Hospital
2010-	Member, BRI Research Oversight Committee (ROC) Oversight Committee	Brigham and Women's Hospital
2013-	Member, Clinical Trials Review Committee	Dana-Farber Cancer Institute
2013-	Member, Executive Committee for Clinical Research	Dana-Farber Cancer Institute
2015-	Member, Personalized Medicine Committee Chair Jeff Golden, MD	Brigham and Women's Hospital
2016	Member, Chief of Neurointerventional Division Search Committee	Massachusetts General Hospital
2017	Member, Chief of Diagnostic Radiology DFCI Search Committee	DFCI/BWH
2018-2020	Member, Subcommittee of Professors (SOP)	Harvard Medical School
<b>Regional</b>		
1990-1991	Member, Imaging Fellowship Selection Committee	Johns Hopkins University
1998-2001	Member, Engineering Research Center - Center for Computer Integrated Surgical System and Technology	Johns Hopkins University

#### **National and International**

2001-2004	Member, CT/MRI Committee	American College of Radiology Imaging Network (ACRIN)
2001-	Member, Advisory Board, G.E. Medical Systems Body MRI	General Electric Company
2005	Member, External Advisory Board, Image guided Therapy	General Electric Company
2006	Member, External Advisory Board, MR Imaging of Prostate	General Electric Company
2007	Member, Fellowship Selection Committee	Focused Ultrasound Surgery Foundation
2008	Member, Special Advisory Committee for Uterine Fibroids	Focused Ultrasound Surgery Foundation
2011-	Member, Data Safety and Monitoring Committee (DSMC)	ACRIN
2012-	Member, MR PI-RADS Steering Committee	American College of Radiology
2012-	Member, Data and Safety Monitoring Board DSMB	Eastern Cooperative Oncology Group (ECOG)-American College of Radiology Imaging Network or ECOG-ACRIN
2013-	Member, ASIST-DSMC Canada	Active Surveillance Magnetic Resonance Imaging-Data and Safety Monitoring Committee
2016-18	Member, TMIST Diagnostic Imaging Fall Data Safety and Monitoring Committee (DSMC)	ECOG-ACRIN
2018-	Member, Selection Committee for the Margulis Award for Scientific Excellence	Radiological Society of North America (RSNA)
2019-	Co-Chair PI-RADS Steering Committee	ACR

### **Professional Societies**

1985-	Member, Radiology Society of North America (RSNA)
1988-	Member, International Society of Magnetic Resonance in Medicine (ISMRM)
1990-	Member, American College of Radiology
1991	Faculty, Introduction to Research Seminar, AARS/AUR/RSNA
1991	Member, American Association of Women Radiologist
1991	Member, American Association of Women Radiologist
1991	Member, Stauffer Award Committee Association of University of Radiologists
1992	Faculty, New England Roentgen Ray Society
1995-2000	Member and Co-author, Professional Self Evaluation Committee
1996	Member, Society for Health Services Research in Radiology
1996-2000	Faculty, Improving Research Environment in Radiology Departments RSNA Workshop
1999	Scientific-Advisor, Research and Education Foundation
2001	Member, Panel on Urological Imaging, Appropriateness Criteria Committee
2003-2005	Member, ISMRM Workshop Committee
2004-2005	Member, Subcommittee on Student Stipends
2005-2008	Member, AMPC-Scientific and Education Committee
2010-	Member, Vice Chairs of Research Committee
2010-2017	Elected Member, Board of Trustees (2 terms)
2010-2011	Member, Subcommittee on Trainee Stipends
2011-2012	Member, Affiliated Sections- ISMRT Committee
2012	Session Co-Moderator, 20 <sup>th</sup> ISMRM Meeting, Australia
2012	Chair, Nominating Committee

2013-2017 Treasurer, Board of Trustees ISMRM (2 terms)  
 2014-2020 Member, RSNA Committee on Scientific Affairs  
 2017-2018 Member, MR PI-RADS Steering Committee  
 2020- Co Chair PI-RADS committee

### Grant Review Activities

2003	BRTT Partnership Awards Proposal Review	Ohio Biomedical Research Society for Health Services Research in Radiology & Technology Transfer Commission Reviewer
2004	NIH Study Section NCI Review	NIH Ad Hoc Member
2006	NIH PAR 06-0406 in vivo Cellular and Molecular Imaging Centers Review	NIH Ad Hoc Member
2007-2011	NIH Medi Study Section Review	NIH Charter Member
2008	Harvard Catalyst Pilot Grants Review	Harvard Clinical and Translational Science Center Permanent Member
2009	Wellbeing of Women Research Grant Review	Ontario Institute for Cancer Research Reviewer
2010, 2012	ASIST Canadian Grant Review	ASIST Reviewer
2010-	Foundation for Focused Ultrasound Surgery Review	FFUS Reviewer
2013-	NIH Study Section Review IGT	Chair of Study Section
2014	Canada Foundation for Innovation (Medical Imaging) Review	CFI Reviewer
2015	Department of Defense Grant Review	DOD Reviewer
2015	Wellcome Trust, London Grant Review	Wellcome Trust Reviewer
2016	Canadian Foundation for Innovation Grant (CFI) Review	CFI Reviewer
2017	CFI Expert Committee Review (Medical Imaging)	CFI Chair of Review Committee
2018	NIH IDGG Study Section	Reviewer
2018	Cancer Research UK (CRUK) Science Committee Multidisciplinary Expert Review Panel	Reviewer

### Editorial Activities

1992- *Radiology*  
 1993 *American Journal of Roentgenology*  
 1995- *Radiographics*  
 1996- *Journal of Magnetic Resonance Imaging*  
 1997- *The Lancet*  
 1997 *Mosby Yearbook*  
 1997- *Cancer*  
 2000-2001 *The Prostate Journal*  
 2000- *Urology*  
 2000- *The Journal of Urology*  
 2001- *Academic Radiology*  
 2002- *Gynecologic Oncology*  
 2003 *Journal of the American College of Radiology*  
 2007- *Magnetic Resonance in Medicine*  
 2010 *European Urology*

2010 *British International Journal of Urology*  
 2013 *International Journal of Computer Assisted Radiology and Surgery*

### Other Editorial Roles

1997-2001	Associate Editor	The Prostate Journal
2000-2001	Member of Editorial Board	The Prostate Journal
2001-2003	Consultant to Editor	Radiology
2007	Member of Editorial Board	Journal of Magnetic Resonance Imaging

### Honors and Prizes

1975-1981	Honors: Biology, Pathology, Psychiatry, Pediatrics, Anesthetics, Medicine	Royal College of Surgeons, Dublin, Ireland
1977	Honors with Distinction: Biochemistry	Royal College of Surgeons, Dublin, Ireland
1980	Gold Medal & First Place: Obstetrics and Gynecology	Royal College of Surgeons, Dublin, Ireland
1991	Editor Recognition Award for Distinction: Reviewing	Radiology
1994-1996	Editor Recognition Award for Distinction: Reviewing	Radiology
1994-1996	Research Career Development Award	GE Radiology Research Academic Fellowship (GERRAF)
1995-1996	Special Distinction: Reviewing	Radiology
1995	Editor's Certification of Recognition: Reviewing	RSNA Scientific Exhibit
1995	Certificate of Merit: <i>Cum Laude</i> for RSNA Exhibit	RSNA Scientific Exhibit
1997	First Prize: <i>Right Ventricular Dysplasia: Evaluation of MRI Imaging Criteria</i> . Co-Authors: VL Ward, GT Sica, CM Tempany, KE Ellison, DF Adams	National Medical Association Section on Radiology
2001	Outstanding Student Paper Award to Andrew Tsai - <i>Model-based Curve Evolution Techniques for Image Segmentation</i> . Co-Authors: A Yezzi, WM Wells, CM Tempany, D Tucker, A Fan, E Grimson, A Willsky	IEEE Computer Society
2006	Edward M. Kennedy Award: Healthcare Innovation	CIMIT Image Guided Therapy Team
2010	Judah Folkman Prize: Clinical/Translational Science Research Award to Mentee - Shantanu Gaur - <i>Drug-eluting bead hepatic arterial chemoembolization in the treatment of carcinoid metastases to the liver</i> . Co-Authors: S Gaur, J Friese, CM Tempany, RA Baum	Harvard Medical School
2011	Partners in Excellence Award: Advanced Multi-modality Image Guided Operating (AMIGO) Room - Team Leaders: Clare Tempany and Ferenc A Jolesz	Brigham and Women's Hospital
2012	Partners in Excellence Award: MRI Research Center Upgrade Team Member	Brigham and Women's Hospital

2013	Senior Fellow	International Society for Magnetic Resonance in Medicine (ISMRM)
2013	Distinguished Investigator Award	Academy of Radiology Research
2017	Fellow	American College of Radiology
2019	Recipient of the Jack Colbert Award	Massachusetts Prostate Cancer Coalition

## Report of Funded and Unfunded Projects

### Funding Information

#### Past

1988-1991	NIH/NCI: Radiology Diagnostic Oncology Group 2 National Diagnostic Imaging Trials - "CT/MRI of colorectal and pancreatic cancer" Co-Investigator
1989	ICNMR: Johns Hopkins Medical Institutions "Evaluation of the role of <i>in vivo</i> P31 spectroscopy in detecting intracellular pH and relative amounts of phosphorus-containing compounds in renal allografts as possible markers for allograft rejection" PI Tempany
1989-1991	Department of Radiology Seed Grant: Johns Hopkins Medical Institutions "Role of MRI in evaluating BPH in an animal model" PI Tempany
1989-1991	MERCK Research Laboratories MK 906#024-01 "The influence of Finasteride on the volume of the peripheral zones of the prostate in men with benign prostatic hyperplasia" Co-Investigator
1989-1991	NIH/NCI: RDOG I "National Diagnostic Imaging Trial-MRI evaluation of body and endorectal coil in staging of prostate carcinoma" PI Tempany
1991-1995	AHCPR (PI McNeil, BJ) "Enhanced accuracy of MRI for staging prostate cancer" Co-Investigator
1992-1996	NIH/NCI: RDOG4 (National PI Kurtz, A) National Diagnostic Imaging Trial – "Ovarian Cancer" Site PI Tempany
1994-1996	GE-AUR (GERRAF) Research Career Development Award PI Tempany
1996-1998	Advanced Magnetics, Inc. "Phase III study of <i>Combidex</i> , as a magnetic resonance imaging agent for the evaluation of lymph node disease" Co-Investigator
1997-2001	Schering Plough Medical Research

“Prognostic significance of endorectal MRI in predicting outcome after combined radiation and androgen suppression for prostate cancer: A prospective CALBG Phase II study”  
 PI Tempany

1998-1999 Epix Medical  
 “Phase II trial of breast MR contrast agent (MS 325)”  
 Co-Investigator

1998- 2001 Schering Plough Medical Research  
 “Computed volumetrics of the prostate gland and tumors: CALBG Phase II study”  
 PI Tempany

1998-2012 MR Guided Therapy (PI Jolesz) NIH/NCI, P01CA067165  
 Core PI of Prostate Core from 2008-2012

2000-2005 NIH/NCI 2P30 CA06516-37 (PI Nathan D)  
 Cancer Center Support Grant for the Cancer Imaging Program of the DF/HCC  
 Program Leader

2000-2005 NIH T32 CA09536  
 “Research training in imaging methods for cancer”  
 Co-Investigator

2001-2002 Boston Scientific  
 “Myomectomy vs. UAE trial. MRI evaluation of uterine leiomyomas”  
 Co-Investigator

2001- 2003 Whitaker Foundation Award (PI Noby Hata)  
 “Robot-assisted needle guidance system for MRI-guided prostate cancer”  
 Co-Investigator

2001-2004 InSightec  
 “MR-guided FUS of breast fibroadenomas”  
 PI Tempany

2001-2004 NIH/AG R01 AG19513  
 “MR guided prostate cancer diagnosis and brachytherapy”  
 PI Tempany

2001-2004 Novartis Pharmaceuticals  
 “Open-label pilot study of ST1571 prior to radical prostatectomy inpatient with newly diagnosed prostate cancer”  
 Co-Investigator-Tempany

2000-2006 InSightec Inc.  
 Clinical Trial - “MR-guided FUS of uterine leiomyomas”  
 PI-Tempany

2003-2007 NIH R01 CA104976 NCI (PI Davatzikos)  
 “Target prostate biopsy using mathematical optimization”  
 Co-Investigator



2005-2008 NIH M01 RR02635  
Brigham & Women's Hospital General Clinical Research Center (GCRC)  
Imaging Core Co-Leader-Tempany

2009-2011 AdMeTech/DOD, DAMD17-03-2-055  
"Molecular Imaging of Prostate Cancer Research"  
Site PI-Tempany

2008-2012 NIH/NCRR: UL1 RR025758-01, PI Lee Nadler  
Harvard Clinical and Translational Science Center  
Harvard Catalyst - Translational Imaging Consortium  
Site Consultant

2009-2012 NIH R01 CA109246-01  
"MR Guided Focused Ultrasound Surgery for Prostate Cancer"  
PI-Tempany

2007-2013 NIH P01 CA067165, PI Ferenc A. Jolesz  
"MR Guided Therapy" (PI Jolesz) NCE  
Project Leader-Tempany

2011-2017 NIH R01 CA111288  
"Enabling technologies for MR guided prostate interventions"  
Bioengineering Research Partnership  
PI-Tempany

2012-2017 NIH R01 CA160902  
"Advancement and Validation of Prostate Diffusion and Spectroscopic MRI"  
Co-Investigator

2013-2019 5 R25 CA089017-15 Co-Investigator  
"Multidisciplinary Training Grant in Image Guided Therapy"  
PI Fiona Fennessy, MD, PhD, Dana-Farber Cancer Institute/BWH

2014-2016 DPH 403516, Clinical Trial  
"Multi-parametric (mp) MRI and PI-RADS Standardization for Improved Diagnosis of Prostate Cancer"  
PI: Tempany

2015-2018 NIH 1U01HD087211-01 114059 Co-Investigator  
"Noninvasive real-time assessment of materno-fetal placental unit"  
PI: Ellen Grant, MD, Children's Hospital

2014-2020 InSightec-TxSonics, Ltd.  
13-184, Focal MR-Guided Focused Ultrasound Treatment of Localized Low-Risk Prostate Cancer: Feasibility Study.  
PI: Clare Tempany-Afdhal, MD

2015-2021 NIH P41 EB015898  
National Center for Image Guided Therapy (NCIGT)  
NIBIB PI and Prostate Core Leader "Image Guided Therapy Center"  
PI: Clare Tempany-Afdhal, MD

## **Current**

- 2015-2022      Gilead Sciences, Inc.  
CRSA: Gilead MRCP Image Analysis Trial  
PI: Clare Tempany-Afdhal, MD
- 2017-2023      ECOG-ACRIN Medical Research Foundation, Inc. [EA 8171]  
“Multiparametric MRI (mpMRI) for Preoperative Staging and Treatment Planning for Newly-Diagnosed Prostate”  
PIs: Robert Comis, MD, and Mitchell Schnall, MD, PhD, ECOG-ACRIN
- 2019-2024      NIH R01 CA232174-01A1 Investigator  
“Pilot study of an implantable microdevice to test multiple drug responses in prostate cancer patients”  
PI: Oliver Jonas, PhD, Brigham and Women’s Hospital
- 2019-2024      NIH T32 EB025823-01A1  
“Training in Image Guidance, Precision Diagnosis and Therapy”  
MPI: Fiona Fennessy, MD, PhD, and Clare Tempany-Afdhal, MD
- 2020-2020      INTF4005PP1W20089188 (Tempany)  
Corporation for Advancement of Medical Technologies Inc.  
Prostate Cancer Research Program, Integrated with Education and Awareness  
The major goals of this project are: To perform analyses data from a prospective IRB approved trial which follows a schema derived from this ongoing MRI-based AS trial. We will determine the yield on mpMRI in this low risk population, the accuracy of reclassification and compare 2 biopsy methods. We will also obtain longitudinal data in all men and determine the overall health status, and metastases-free survival as a unique endpoint in this population.
- 2020-2025      NIH R01 CA241817-01A1 (Maier)  
Development of Methods for a Simplified and Reliable Prostate Cancer MRI Exam  
The major goals of this project are: Development of MRI methods for diagnosis of prostate cancer with particular focus on quantitative diffusion and T2 signal decay mapping.
- 2021-2025      NIH P41 EB028741-01A1  
Advanced Technologies - National Center For Image Guided Therapy (AT-NCIGT)  
PI: Clare Tempany-Afdhal, MD

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

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

- 1994            Boston University Medical Campus  
MRI of the Female Pelvis/Grand Rounds
- 1994            Mt. Auburn Hospital, Women’s Health Symposium  
MRI of the Female Pelvis

1994 Dana-Farber Cancer Institute, Grand Rounds  
MRI of Prostate Cancer

1994 Deaconess Hospital, Grand Rounds  
MRI of Prostate Cancer

1994 Norwood Hospital, Grand Rounds  
MRI of Prostate Cancer

1995 New England Roentgen Ray Society  
MRI of the Female Pelvis

1996 Dana-Farber Cancer Institute  
GU Oncology Grand Rounds

1996 Boston University  
MRI of GYN Malignancy

1996 Massachusetts General Hospital, Grand Rounds  
MRI of the Female Pelvis

1997 Mt. Auburn Hospital  
Prostate MRI

1997 HCHP, Tumor Board Prostate MRI

1998 Boston University  
MRI of the Pelvis

1998 Western Urological Society Fall Meeting  
Prostate MRI

1999 Mt Auburn Hospital, Grand Rounds  
MRI of the Pelvis

2001 New England Roentgen Ray Society  
Women's Imaging: MRI and MR Guided Interventions

2003 Beth Israel Deaconess Medical Center  
Female Pelvis

2004 Yale University  
MR-Guided Focused Ultrasound of Uterine Fibroid

2005 New York University Hospital  
Translational Research in Image-guided Therapy

2006 Rhode Island Hospital  
MR-Guided Focused Ultrasound Surgery MR Imaging and MR-Guided Interventions in  
Prostate Cancer

2008 MIT, HST.563

## Abdominal/Pelvis, Imaging Biophysics and Clinical Applications

- 2009 Biomedical Research Institute, BWH  
Making the Transition and Staffing Your Program/Moving to the Top: Establishing Your Research Program
- 2010 Beth Israel Deaconess Medical Center  
MR-guided HIFU in Abdominal/Pelvic Disease/Abdominal Imaging Section Lecture
- 2010 Abdominal/Pelvis, Imaging Biophysics and Clinical Applications  
HST.563, MIT
- 2011 New England Roentgen Ray Society  
MRI Prostate
- 2012 Massachusetts Prostate Cancer Coalition Annual Meeting  
MRI Prostate
- 2015 New England Roentgen Ray Society
- 2016 RCC-Harvard Medical Imaging Open House  
Imaging Innovations Image Guided Therapy
- 2017 Brigham and Women's Hospital  
Women's GYN Cancer Program (RSS33)

### **Clinical Supervisory and Training Responsibilities**

Since joining the faculty at BWH, I have been a member of the Abdominal Imaging Group with a primary focus in body MRI. In 1991, I established the Prostate MRI service. In 1993, I became the director of body MRI, and from 1997 to 2006 I was then the director of clinical MRI. I established new programs in prostate and female pelvic and obstetrical MRI. I have trained multiple staff, fellows, and MR technologists to support this MR clinical program. I was responsible for the management, productivity, and revenue enhancement for our MR fleet as it grew from 4 magnets to 12. This involved supervision of all technologists' inter-divisional oversight, quality control, and safety.

I now lead a NIH-funded team of investigators that pursues a wide range of clinical research projects in prostate cancer MR imaging, from pulse sequence development to outcomes research. We now have one of the largest clinical prostate and pelvic MR programs in the country with over 3,000 exams performed a year.

MR-guided prostate interventions. I established the first U.S. MR-(in-bore) guided prostate biopsy and MR guided prostate cancer brachytherapy programs. We have performed over 600 cancer treatments and over 700 biopsies to date. In 2010, we re-established this clinical program in the 3T wide bore magnet. In 2013, we performed the first MR guided cryotherapy for localized prostate cancer. I also direct the program in clinical MR-guided Focused Ultrasound Surgery (FUS). We treat women with uterine fibroids, men with prostate cancer, and patients with bone metastases. This program was the first clinical FUS program in the U.S. We developed, designed, and tested the first FDA-approved application for symptomatic relief of uterine fibroids. Today, it collaborates with over 10 other programs

in the U.S. Since then, we have established multiple other MRgFUS programs in bone metastases (pain palliation) and essential tremor and focal prostate cancer ablation.

In 2015, I became the PI of the NCIGT and director of AMIGO at BWH. I now lead both programs and direct the clinical activities of AMIGO-now in its 11<sup>th</sup> year having treated over 2,700 patients with multidisciplinary teams of physician leaders and translational researchers.

### **Laboratory and Other Research Supervisory and Training Responsibilities**

2001-present **Supervisor/Leader of Prostate Research Group**

#### **Original and Current Members**

Robert Cormack, PhD

Steven Haker, PhD

Robert Mulkern, PhD

William (Sandy) Wells, PhD

Kelly Zou, PhD

Stephan Maier, PhD

Mehdi Moradi, PhD

Ian Chan, PhD

Anthony D'Amico, MD

Agnieszka Szot-Barnes, MD

Minna J. (So) Kohler, MD

Mark Hurwitz, MD

Nathan McDannold, PhD

Junichi Tokuda, PhD

Robert Caughey, BS

Joseph Roebuck, MD, PhD

Sarah Straus

Jalil Afnan, MD, MRCS

Fiona Fennessy, MD

Yi (Jeffrey) Tang, MD

Sota Oguro, MD

Nobuhiko Hata, PhD

#### **Current Positions**

Associate Professor of Radiation Oncology

DFCI/BWH Radiation Oncology, MA

Vanderbilt University

Associate Professor of Radiology

Children's Hospital-Boston, MA

Professor of Radiology

Brigham and Women's Hospital

Fellow, American Stat. Assoc. Accredited Prof.

Statistician™; Sr. Dir. & Analytic Science Lead;

Real World Data & Analytics (RWDnA);

Patient & Health Impact (P&HI), Pfizer, NY

Associate Professor of Radiology

Brigham and Women's Hospital

Manager/Scientist, Medical Image Analysis

and Machine Learning Research @ IBM

Almaden Research Center, CA

Massachusetts Institute of Technology (MIT)

Professor of Radiation Oncology

DFCI/BWH Radiation Oncology, MA

Unknown

Director, Rheumatology Musculoskeletal Ultrasound

Program, MGH, MA

Unknown

Professor of Radiology

Brigham and Women's Hospital

Associate Professor of Radiology

Brigham and Women's Hospital

Unknown

Teleradiologist, Manatee Healthcare System, FL

2015 Masters Graduate, Worcester Polytechnic Institute,

MA

Diagnostic Radiology, Lahey Hospital and Medical

Center, MA

Associate Professor of Radiology, DFCI/BWH

Radiologist, Henry Ford Health System, MI

Radiologist, Keio University School of Medicine, Tokyo,

Japan

Professor of Radiology

Andriy Fedorov, PhD	Brigham and Women's Hospital Associate Professor of Radiology Brigham and Women's Hospital
Sang Eun (Sam) Song	Associate Professor, UCF Department of Mechanical Aerospace Engineering, FL
Felipe Franco	Fellow, DFCI Radiology
Lawrence Patrick Panych, PhD	Associate Professor of Radiology Brigham and Women's Hospital
Thiele Kobus, MSc	Postdoctoral Research Fellow Biomedical MR Research Group, The Netherlands
Tobias Penzkofer, MD	Staff Radiologist, Berlin, Germany
Fernando Yamauchi, MD	Staff Radiologist, Brazil
Louise Greenberg, MEd	Clinical Trials Coordinator, Retired
Ruth Dunne, MD	Consultant Radiologist, Beaumont Hsp, Dublin, Ireland
Daniel Glazer, MD	Assistant Professor of Radiology Brigham and Women's Hospital
Elmira Hassanzadeh, MD	Resident, Radiology, University of Illinois, IL
Peter Beckwith, BSc	Clinical Trials Coordinator Diagnostic Radiology Residency, University of Chicago, IL
Mehdi Taghipour Fard Ardekani, MD	Visiting Research Scholar, Queens University, Canada
Parvin Mousavi, PhD	Visiting Research Trainee, Queens University, Canada
Kyle MacNeil	R25 Fellow (2017-19)
Elizabeth Randall, PhD	R25 Fellow (2017-18) Research Fellow Children's Hospital 2018-
Alireza Ziaei Torbati, MD	PhD Graduate, Research Scientist, BWH Radiology
Alireza Mehrtash	2018 and 2019 High School Summer Student
Katarina Stephan	Postdoctoral Research Fellow (Turku University Finland)
Aida Kiviniemi, MD	Brigham and Women's Hospital Postdoctoral Research Fellow (Otto von Guericke University Magdeburg Germany)
Björn Langbein, MD	Brigham and Women's Hospital

### **Formally Supervised Trainees**

#### **Medical Students**

1989	Karl Wolff	Johns Hopkins University Consultant Radiologist, SKG Radiology, Australia
1990	Fred Masoudi	Johns Hopkins University Cardiologist, University of Colorado Denver – Anschutz, Medical Campus, CO
2000-2004	Aditya Bharatha	University of Toronto Division Head of Neuroradiology, University of Toronto, Canada
2000-2004	Andrew Tsai	Harvard Medical School Pediatric Radiologist, Boston Children's Hospital, Boston, MA

2009	Shantanu Gaur	Harvard Medical School Co-founder and CEO, Allurion, MA
2011-2014	John V. Hegde	Harvard Medical School Radiation Oncology Resident, UCLA, CA
2012-2014	John Phillips	Harvard Medical School Radiation Oncologist, DFCI, MA
2015	Erik Velez	University of California, San Francisco Medical Graduate, University of California, San Francisco, CA

#### **Radiology Clinical Research Fellows/JHU**

1990	Alex Chacko	Johns Hopkins University Unknown
1990	Phyllis Frostenson	Johns Hopkins University Diagnostic Radiologist, Central Imaging of Arlington, TX
1990	Joseph Paravanno	Johns Hopkins University Board Certified Radiologist, NV
1990	Christian Herold	Johns Hopkins University Chairman, Department of Radiology, Medical University of Vienna, Austria
1990	Maria A. Cova	Johns Hopkins University Director of Diagnostic Imaging, Cattinara Radiology, University of Trieste Integrate Health Authority, Italy
1990	Akira Kawashima	Johns Hopkins University Genitourinary Radiologist, Mayo Clinic, AZ
1990	Alain Rahmouni	Johns Hopkins University Head of Medical Imaging Department, Henri Mondor Hospital, Paris, France
1990	Claudio Ricci	Johns Hopkins University Radiologist, Institutes of Radiology, University of Trieste, Italy

#### **Urology Fellows/JHU**

1989	Ronald Morton	Johns Hopkins University Chief Surgical Officer, American Medical Systems, Boston Scientific, MA
1989	Alan Burnett	Johns Hopkins University Director, Basic Science Laboratory, Neuro-urology; Director, Male Consultation Clinic; Clinician-

Scientist, James Buchanan Brady Urological Institute, IL

1989 Alan Partin

Johns Hopkins University  
Chairman, Department of Urology; Urologist-in-Chief, Johns Hopkins Medical Institutions, IL

**OB/GYN Fellows/JHU**

1990 Joseph Wax

Johns Hopkins University  
Sr. Researcher, Division of Maternal Fetal Medicine, Maine Medical Center/Maine Health, ME

**Radiology Residents/Fellows – BWH**

**Current Positions**

1992 Lawrence Schwartz

Chair, Department of Radiology Columbia University Medical Center, NY

1993 Julia Fielding

Chief, Department of Abdominal Imaging, UT Southwestern Medical Center, TX

1994 Oliver Pomeroy

Staff Radiologist, BWH, MA

1994 Ariane Neish

Radiologist, Children's Diagnostic Imaging, GA

1995 Richard Tello

Deceased

1995 Vivek David

Radiologist, Tysons Corner Diagnostic Imaging, VA

1996 Susan Teeger

Radiologist, Midtown East, NY

1997 Lawrence Steinbach

Staff Radiologist, East Side Attleboro, MA

1998 Mark Pugach

Director, Next Generation Radiology, NY

1999 Jeffrey McTavish

Staff Radiologist, Sentara Virginia Beach General Hospital, VA

2000 David Cheng

Staff Radiologist, Advanced Radiology and Open MRI of New England, RI

2001 Vikas Kundra

Faculty Radiologist Director of Molecular Imaging MD Anderson Cancer Center, TX

2001 Maricela Contreras

Department of Radiology, Madigan Army Medical Center, WA

2002 Mark Fruitman

Staff Radiologist, St. Joseph's Hospital, Toronto, Canada

2003 Fiona Fennessy

Faculty Radiologist & Senior Physician; Cancer Imaging Program Fellowship Director, DFCI/BWH, MA

2003-2004 Syed Akbar

Staff Radiologist, Abdominal Imaging, Rush-Copley



		Medical Center, IL
2003-2004	Ramit Lamba	Staff Radiologist, Abdominal Imaging, UC Davis Medical Center, CA
2003-2004	Nikhil Ramaiya	Clinical Director, MRI, Abdominal Imaging, DFCI, MA
2003-2004	Servet Tatli	Radiologist, Department of Emergency and Hospital Medicine, Lehigh Valley Health Network, PA
2003-2004	Idelisa Torres-Berastain	Radiologist, Advanced Technology Radiology, FL
2004	Noushin Vahdat	Associate Staff, Diagnostic Radiology, Cleveland Clinic, OH
2004-2005	Carina Briggs	Staff Radiologist, University of Kentucky Medical Center, KY
2004-2005	Victoria Clague	Staff, Abdominal Imaging, Kaiser Permanente Medical Group, CA
2004-2005	Rashmi Nair	Staff, Abdominal Imaging, UK Health Care University of Kentucky, KY
2004-2005	Desencia Thomas	Faculty Radiologist, Southwestern Medical School, University of Texas, TX
2004-2006	Rahul Gupta	Staff Radiologist, Emory Radiology Clinic, GA
2004-2007	Raquel Oliva Alencar	Faculty Radiologist & Head, GI Fluoroscopy Abdominal Imaging and Intervention, BWH, MA
2005-2006	Munazza Anis	Staff Radiologist, Medical University of South Carolina, SC
2005-2006	Jeffrey Girshman	Radiologist, Manhattan Diagnostic Radiology, NY
2005-2006	Vincent Pelsser	Staff Radiologist, Jewish General Hospital, Montreal, Canada
2006-2007	Chris Sidden	Staff Radiologist, Emcare, TX
2006-2007	Frederico Souza	Director of Body Imaging Division, University of Mississippi Medical Center, MS
2006-2007	Wendy Landman	Faculty Radiologist, BWH, MA
2006-2007	Sejal Shah	Faculty Radiologist, Emergency Radiology, Beth Israel Deaconess Medical Center, MA
2007-2008	Lindsay Pearce	Staff Radiologist, Beverly Radiology Assoc., MA

2007-2008	Girish Raghunathan	Staff Radiologist, BWH, MA
2007-2008	Tatiana Rocha	Emergency Radiology, BWH, MA
2007-2008	Vikram Sahni	Faculty Radiologist & Associate Director, Abdominal Imaging and Intervention; Director, Abdominal and Pelvic MRI, BWH, MA
2007-2008	Shane Wheeler	Diagnostic Radiologist, Body Imaging, Radiology Imaging Associates, CO
2007-2008	Atif Zaheer	Associate Program Director, Diagnostic Radiology Residency; Diagnostic Radiology, John Hopkins Hospital, MD
2008-2009	Alicia Arnold	Radiologist, Private Practice, WI
2008-2009	Michael Baldwin	Pediatric Radiologist, Boston Children's Hospital, MA
2008-2009	Raul Galvez Trevino	Pediatric Radiologist, Valley Radiologist Ltd., AZ
2008-2009	Angela Tai	Radiologist, Abdominal Imaging, St. Paul, MN
2008-2009	Pieter Baeyens	Abdominal Radiologist, BWH, MA
2008-2009	Errol Colak	Faculty Radiologist, St. Michael's Hospital, Toronto, Canada
2008-2009	Fadi Habbab	Faculty Radiologist, McGill University, Montreal, Canada
2008-2009	Tereza Poghosyan	Radiologist, Thoraco-abdominal Imaging, GI and GU Imaging, Image-Guided Interventions and Breast Imaging, Valley Radiology, NC
2008-2009	Margarita Revzin	Diagnostic Radiologist, Private Practice, CT
2008-2009	Nisha Sainani	Assistant Professor of Radiology, Abdominal Imaging and Intervention, BWH, MA
2010-2011	Dellano Fernandes	Staff Radiologist, Royal Inland Hospital, BC, Canada
2010-2011	Michael Hutchinson	Radiologist, Aurora Radiology Consultants, IL
2010-2011	Sunny Jaiswal	Faculty Radiologist Abdominal Radiologist, Ohio State University Medical Center, OH
2010-2011	Albert Parladé	Faculty Radiologist, Cleveland Clinic, FL
2010-2011	Atul Shinagare	Chief abdominal imaging & intervention BWH/DFCI
2010-2011	Elliot Wasser	Faculty Radiologist, Cleveland Clinic, FL

2012-2017	Ruth Dunne, MD	Consultant Radiologist, Beaumont Hospital, Dublin, Ireland
2012-2013	Loraine Wu, MD	Radiologist, Informaticist, Healthcare Innovator, DC
2012-2013	Ayaz Aghayev, MD	Faculty Radiologist, Section of CV Imaging BWH, MA
2012-2013	Vinit Khanna, MD	Faculty Radiologist, University of Rochester Medical Center, NY
2012-2013	Ryan Muller, MD	Diagnostic Radiologist, MedStar Health, MD
2012-2013	Karl Sayegh, MD	Director, Cardiac CT, McGill University, Montreal, Canada
2012-2013	Santosh Selvarajan, MD	Faculty Radiologist, Thomas Jefferson University Hospitals, PA
2013-2014	Mark Robbins, MD	Radiologist; Founding Partners, American Radiology Technologies (ART), FL
2013-2014	Jeremy Duda, MD	Radiologist, Central Maine Medical Center, ME
2013-2014	Edward Harter, MD	Radiologist, OSF St. Anthony's Health Center, IL
2013-2014	Gevork Mnatzakanian, MD	Faculty Radiologist, St. Michael's Hospital, Toronto, Canada
2013-2014	Jonathan Scalera, MD	Faculty Radiologist, Boston Medical Center, MA
2013-2014	Karen (Shoebotham) Salmieri, MD	Faculty Radiologist, University Radiology Group, NJ
2013-2014	Sophie Tremblay-Paquet, MD	Faculty Radiologist, CIUSSS Saguenay/Lac-Saint-Jean, Quebec, Canada
2014-2015	Daniel Glazer, MD	Assistant Professor of Radiology, Head of Abdominal and Pelvic CT, Abdominal Imaging Division, BWH, MA
2015-	Sharath Bhagavatula, MD	Radiology Resident on Clinician Scientist Pathway, BWH, MA
2015-	Jeffrey Guenette, MD	Radiology Resident on Clinician Scientist Pathway, BWH, MA
2017-	Elizabeth George, MD	Radiology Resident on Clinician Scientist Pathway, BWH, MA
2016-17	Rory O'Donohue, MD	Consultant Radiologist UK

### **Surgical Planning Laboratory/Grant-funded Students, Research Fellows**

1999	Husain Dumanli, MD	Staff Radiologist, Turkey Department of Radiology, Zekai Tahir Burak Women's Health Education and Research Hospital, Turkey
1999	Andreas Schreyer, MD	Staff Radiologist, Germany Science Directorate, ESS; Chair, ICB; co-Proposer, BEER, Germany
1999	Masa Jinzaki, MD	Staff Radiologist, Japan Department of Diagnostic Radiology, Keio University School of Medicine, Japan
2000	Masanori Hirose, MD	Staff Radiologist, Japan Department of Radiology, School of Medicine, Showa University, Japan
2000	Aditya Bharatha	Medical Student, Canada Department of Medical Imaging, Neuroimaging Div., St. Michael's Hospital, University of Toronto, Canada
2001	Jian Qing Zhang, MD	Research Fellow, China Department of Radiology, First Hospital of Wenzhou Medical College, China
2001	Ian Chan	Masters Student, MIT, MA Co-founder, Abpro now IELab, MA
2002	Agnieszka Szot-Barnes, MD	Medical Director at Karyopharm Therapeutics
2005	Philip Blumenfeld	Medical Student, NY Resident Physician, Department of Radiation Oncology, Rush University Medical Center, IL
2006	Patrick Wong	Medical Student, Canada CHUM, Canada
2008	Shu-Huei Shen, MD	Research Fellow, Taiwan Department of Radiology, Taipei Veterans General Hospital, Taiwan
2009-12	Ronit Machtiger, MD	OB/GYN Attending, Israel

		Sr. Physician, IVF Unit, Department of OB/GYN, Sheba Tel Hashomer Medical Center, Israel
2010	Felipe Boschini Franco	Medical Student, Brazil School of Medicine of University of Sao Paulo, Brazil
2012-13	Tobias Penzkofer, MD	Radiologist, Germany Charite – University Medicine, Berlin, Germany
2014-15	Elmira Hassanzadeh, MD	Radiology Resident, University of Illinois, IL
2015-	Lisanne Kok	Research Fellow, The Netherlands Student Medical Engineering, Department of Biomedical Engineering, University of Technology, Eindhoven, The Netherlands

#### **Image Guided Therapy R25 Training Grant Fellows**

2002	Vasu Brown, MD	Fellow in IGT and Web Media Founder, HollistonMD.com, Wound and Pain Management, MA
2002	Michele Albert, MD	Fellow in IGT and Radiation Oncology Radiation Oncologist, Saint Anne's Hospital Regional Cancer Care, MA
2003	Minna So Kohler, MD	R25 Fellow in IGT Director of the Rheumatology Musculoskeletal Ultrasound Program, MGH; Co-director, Pilot Point- of-Care Ultrasound Curriculum, HMS, MA
2004	Agnieszka Szot-Barnes, MD	R25 Fellow in IGT
2004	Alexandra Stewart, MD	R25 Fellow in IGT/Radiation Oncology Consultant Oncologist, Royal Surrey County Hospital, UK
2005-2007	Alisa Suzuki-Han, MD	R25 Fellow in IGT Interventional Radiology Specialist, Southern California Permanente Medical Group, CA
2005-2007	Joseph Roebuck, MD	R25 Fellow in IGT Radiologist, University of Texas, Medical Branch, TX
2006-2007	Richard Gessman, MD	R25 Fellow in IGT Radiologist, XRA Medical Imaging, NY
2006-2008	Jeremy Friese, MD	R25 Fellow in IGT Co-founder and Chairman, Evidentia Health, Inc., MN

2007-2009	Jalil Afnan, MD	Fellow in IGT Physician, Lahey Hospital and Medical Center, MA
2008-	Sota Oguro, MD	Fellow in IGT Researcher, Department Radiology, Keio University, Japan
2008-2009	Balazs Lengyel, MD	R25 Fellow in IGT Surgery Administrator, Westchester Medical Center, WMC Health, AZ
2008-2010	Caleb Farny, PhD	R25 Fellow in IGT Professor, College of Engineering, Boston University, MA
2008-2009	Phillip Jason White, PhD	R25 Fellow in IGT Assistant Professor of Radiology, Focused Ultrasound Lab, BWH, MA
2009-2010	Rivka Colen, MD	R25 Fellow in IGT Co-director, Quantitative Imaging Analysis Core; Department of Diagnostic Radiology, Division of Diagnostic Imaging; Head, Cancer Genome Atlas (TCGA) Imaging-Genomic Projects, University of Texas MD Anderson Cancer Center, TX
2009-2010	Giovanna Danagouliau, PhD	R25 Fellow in IGT Senior Scientist, Buckler Biomedical Sciences LLC, MA
2009-2010	Lauren O'Donnell, PhD	Associate Professor of Radiology Researcher, Surgical Brain-Mapping and Lab of Mathematics in Imaging, BWH/HMS, MA
2010-2011	Scott Hoge, PhD	Instructor in Radiology Researcher, Lab of Mathematics in Imaging, BWH/HMS, MA
2013-2015	Pelin Ciris, PhD	R25 Fellow in IGT Researcher, Medical Imaging, Magnetic Resonance Imaging, Akdeniz University, Turkey
2015-2016	Melissa Mallory, MD	R25 Fellow in IGT Department of Surgery, DF/BW Cancer Center, MA
2015-2016	Daniel Glazer, MD	R25 Fellow in IGT Diagnostic Radiologist, Head of Abdominal and Pelvic CT, Abdominal Imaging Division, BWH, MA
2015-2016	Farzad Sedaghat, MD	R25 Fellow in IGT Abdominal Imaging Fellow, BWH, MA

## Research Doctoral Students

1998-2006	Andrew Tsai	Massachusetts Institute of Technology Pediatric Radiologist, Boston Children's Hospital, MA
2001-2003	Ian Chan	Massachusetts Institute of Technology Co-founder, Abpro now IELab, MA
1999-2002	Elizabeth Kim	Massachusetts Institute of Technology Doctoral Student, UC Irvine, CA
2011-2013	Hao Su	Worcester Polytechnic Institute Research Scientist, Philips Research, NY
2015-	Peter A. Behringer	University of Lübeck, Germany Now: Product Market Manager Medical, Basler AG; Co-founder, Edison Glow, Germany
2015-2016	Christian Herz	University of Lübeck, Germany Research Fellow, BWH, MA

## Post Doctoral Fellows/BWH

1999	Nobuhiko Hata, PhD	Director, Surgical Navigation and Robotics Lab; Core Lead, Guidance Project, National Center for Image-Guided Therapy, BWH, MA
2000	Steven J. Haker, PhD	Department of Radiology, Children's Hospital, Boston, MA
2000	Robert A. Cormack, PhD	Associate Professor of Radiation Oncology, BWH/DFCI/HMS, MA
2007	Junichi Tokuda, PhD	Associate Professor of Radiology, OpenIGT Link; Project Co-Lead, Prostate Core, NCIGT; Guidance Core, NCIGT; Team-player, MRI-Guided Transperineal Prostate Robot Project; Surgical Navigation and Robotics Lab, BWH, MA
2008	Haytham Elhawary, PhD	Co-founder and CEO of KINETIC, a wearable device company, NY
2014-2015	Elmira Hassanzadeh, MD	Tehran University of Medical Sciences, Tehran, Iran Clinical Resident, Department of Surgery/ Radiology, University of Chicago Medicine, IL
2015-2016	Mehdi Taghipour Fard Ardekani, MD	Johns Hopkins University Medical Institutions, MD Research Fellow, BWH, MA

## Faculty

1997	Mitchell Rein, OB/GYN	Chief Medical Officer/Sr. V.P. Medical Affairs NSMC; Associate Gynecologist and Obstetrician, MGH; Chairman, MGH/North Shore Quality Committee, MA
1998	Julian Robinson, OB/GYN	Department of Obstetrics & Gynecology, BWH, MA
1999	Lore Schierlitz, OB/GYN	Honorary, Obstetrics and Gynecology, Royal Women's Hospital/Mercy, University of Melbourne, Australia
2000	Sara M. Durfee, MD	Radiologist, BWH, MA
2001	Ramin Khorasani, MD	Professor of Radiology, BWH, Boston, MA
2003	Steven J. Haker, PhD	Department Radiology, Children's Hospital, Boston, MA
2002	Fiona Fennessy, MD, PhD	Associate Professor of Radiology, Cancer Imaging Program Fellowship Director, DFCI/BWH; Project Co-Lead, Prostate Core, NCIGT, BWH, MA
2011	Mizuki Nishino Hatabu, MD	Staff Radiologist, DFCI/BWH, MA
2012	Ritu Gill, MD Radiology	Associate Radiologist; Beth Israel Deaconess Medical Center, MA
2014-	Bharti Khurana, MD	Assistant Professor of Radiology, BWH, MA
2014-	Krisztina Fischer, MD	Assistant Professor of Radiology, BWH, MA
2014-	Jayender Jagadeesan, PhD	Associate Professor of Radiology, BWH, MA
2014-2017	Ehud J. Schmidt, PhD	Associate Professor, Department of Medicine-Cardiovascular, Johns Hopkins Medical Institutes, Baltimore, MD
2012-2017	Ruth Dunne, MD	Consultant Radiologist, Beaumont Hospital, Dublin, Ireland

**Formal Teaching of Peers (e.g., CME and other continuing education courses)**

1988-1992	Principles and Practice of MRI Course <i>MRI of Male Pelvis &amp; MRI of Female Pelvis</i> Johns Hopkins University
1992	MRI/CT Update Postgraduate Course <i>MRI of Male Pelvis &amp; MRI of Female Pelvis</i> BWH/HMS
1993-1995	MRI/CT Update Postgraduate Course



- MR Prostate*  
BWH/HMS
- 1994-1997 Women's Diagnostic Imaging Course  
*Pelvic MRI*  
Brigham and Women's Hospital
- 1995 MRI Clinical Update & Advanced Applications Course  
*MRI of the Abdomen; MRI of Male Pelvis/MRI of the Female Pelvis; MRI of the Breast*  
Harvard Medical School
- 1996 MRI Clinical Update & Advanced Applications Course  
*MRI of the Infertile Patient; Update on Breast MRI; MRI of Pelvic Neoplasms in Female Patient*  
Harvard Medical School
- 1996-1998 Urologic Cancer Course  
*MRI of the Prostate*  
Harvard Medical School
- 1996 MRI/CT Update Postgraduate Course  
*MRI of the Female Pelvis; MRI of the Prostate*  
BWH/HMS
- 1997-1998 MRI/CT Update Postgraduate Course  
*MRI of Prostate; MRI of Female Pelvis; Malignant & Benign*  
BWH/HMS
- 1998 MRI Clinical Update & Advanced Applications Course  
*MRI of the Female Pelvis; MRI of the Breast*  
Harvard Medical School
- 1999 MRI Clinical Update & Advanced Applications Course  
*MRI of the Female Pelvis; MRI of the Male Pelvis; MRI of the Liver and Adrenals*  
Harvard Medical School
- 1999-2000 MRI/CT Update Postgraduate Course  
*MRI of the Female Pelvis; MRI of the Prostate*  
BWH/HMS
- 2000 MRI Clinical Update & Advanced Applications Course  
*MRI of the Female Pelvis; MRI of the Breast*  
Harvard Medical School
- 2001-2006 Radiology Review  
*Pelvic CT/MRI*  
BWH/MGH
- 2001-2002 Ultrasound/Women's Imaging  
*MRI in Obstetrics*  
Brigham and Women's Hospital
- 2001 MRI/CT Update Postgraduate Course  
MR Imaging & Guided Interventions in the Prostate; MR of Malignant Disease of Female Pelvis  
BWH/HMS
- 2002-2003 Annual Symposium on Prostate Cancer  
Brigham and Women's Hospital

- 2002 MRI Clinical Update & Advanced Applications Course  
*MR Female Pelvis; MRI of Prostate; MRI of Renal and Adrenal*  
Harvard Medical School
- 2002 Urologic Cancer Course  
*Prostate Cancer; MRI for Biopsy and Staging*  
Harvard Medical School
- 2002 MRI/CT Update Postgraduate Course  
*MRI of the Male Pelvis*  
BWH/HMS
- 2002 SAWI Symposium  
*MRI of Cervical Cancer*  
Boston MA
- 2003 MRI Clinical Update & Advanced Applications Course  
*MRI of the Female Pelvis; Prostate MRI; MR Guided Interventions in the Pelvis*  
Harvard Medical School
- 2003 *Female Pelvis*  
Beth Israel Deaconess Medical Center
- 2003-2005 MRI/CT Update Postgraduate Course  
*Prostate MRI*  
BWH/HMS
- 2004 MRI Clinical Update & Advanced Applications Course  
*MRI of the Female Pelvis; Benign Diseases & MR of the Male Pelvis; MR-guided Interventions in the Pelvis*  
Harvard Medical School
- 2004 Practical Applications of Imaging Techniques  
*Benign Diseases of the Uterus; Cancer Staging of Gynecologic Disease; Focused Ultrasound and Fibroid Treatment; MRI of Pregnancy*  
Harvard Medical School
- 2004-2008 Urologic Cancer Course  
*MRI for Biopsy and Staging*  
Harvard Medical School
- 2005 MRI Clinical Update & Advanced Applications Course  
*Prostate Imaging; Female Pelvis & Ovary*  
Harvard Medical School
- 2005-2007 MR Sequences: Pelvis  
*Male Pelvis; Case Review: Pelvis Practical MR Imaging of the Abdomen and Pelvis*  
Harvard Medical School
- 2006 MRI Clinical Update & Advanced Applications Course  
*MRI of the Abdomen; MRI of the Male Pelvis/MRI of the Female Pelvis; MRI of the Breast*  
Harvard Medical School
- 2007 MRI Clinical Update & Advanced Applications Course  
*MRI of the Abdomen; MRI of Male Pelvis/MRI of the Female Pelvis; MRI of the Breast*  
Harvard Medical School
- 2008-2009 MRI/CT Update Postgraduate Course  
*MRI of the Prostate Gland*

BWH/HMS

- 2009 MRI Clinical Update & Advanced Applications Course  
*MR of Female Pelvis-Benign Disease; MRI of the Female Pelvis-Malignant Disease; Prostate MR Role in Detection/Surveillance and Treatment; Image Guided Therapy: Emphasis on MR Guided Focused Ultrasound*  
Harvard Medical School
- 2009 MR Sequences: Pelvis  
*Prostate; Practical MR Imaging of the Abdomen and Pelvis*  
Harvard Medical School
- 2010 MRI Clinical Update & Advanced Applications Course  
*MR of Female Pelvis-Benign Disease; MRI of the Female Pelvis-Malignant Disease; MR-guided Interventions in the Pelvis; MRI for Diagnosis & Staging of Prostate Cancer*  
Harvard Medical School
- 2010 MR Sequence: Pelvis  
*Practical MR Imaging of the Abdomen and Pelvis*  
Harvard Medical School
- 2010 15<sup>th</sup> Biennial Urologic Cancer Course  
*MRI for Biopsy and Staging*  
Harvard Medical School
- 2011 Practical MR Imaging of the Abdomen and Pelvis Postgraduate Course  
*MR Sequence: Pelvis; Female Pelvis: Malignant Diseases*  
BWH/HMS
- 2011 Overview of Clinical Imaging Modalities  
*CTSA Biomarkers and Imaging in Drug Development Course*  
Harvard Medical School
- 2012 16<sup>th</sup> Biennial Urologic Cancer Course  
*Advances in Multiparametric MRI for Diagnosis and Staging/Panel Discussion*  
Harvard Medical School
- 2012 Practical MR Imaging of the Abdomen and Pelvis MRI/CT Update Postgraduate Course  
*MR Sequence: Pelvis; Female Pelvis: Malignant Diseases*  
BWH/HMS
- 2012 Division of Reproductive Endocrinology and Infertility Seminar Series  
*GYN Lecture – Radiologic Ablation of Fibroids*  
Brigham and Women's Hospital
- 2013 Harvard Catalyst Imaging Program  
*Imaging in Clinical Translational Cancer Research*  
BWH/HMS
- 2014 Abdominal Imaging and Intervention Lecture Series  
*MR Fibroids*  
Brigham and Women's Hospital
- 2014 17<sup>th</sup> Biennial Urologic Cancer Course

*Advances in Multiparametric MRI for Diagnosis and Staging and Panel Discussion*  
Harvard Medical School

- 2014 MRI/CT Update Course  
*MRI of the Prostate*  
Brigham and Women's Hospital
- 2015 Radiology Postgraduate Radiology Review  
*MR Prostate*  
Brigham and Women's Hospital
- 2016 18<sup>th</sup> Biennial Urologic Cancer Course  
*Advances in Multiparametric MRI for Diagnosis and Staging and Panel Discussion*  
Harvard Medical School
- 2018 Radiology Postgraduate Radiology Review  
*MR Prostate*  
Brigham and Women's Hospital

**Local Invited Presentations**

- 1994 Boston University Medical Campus Grand Rounds  
*MRI of the Female Pelvis*  
Boston, MA
- 1994 Mt. Auburn Hospital Women's Health Symposium  
*MRI of the Female Pelvis*  
Cambridge, MA
- 1994 Dana-Farber Cancer Institute Grand Rounds  
*MRI of Prostate Cancer*  
Boston, MA
- 1994 Deaconess Hospital Grand Rounds  
*MRI of Prostate Cancer*  
Boston, MA
- 1994 Norwood Hospital Grand Rounds  
*MRI of Prostate Cancer*  
Norwood, MA
- 1995 New England Roentgen Ray Society  
*MRI of the Female Pelvis*  
Waltham, MA
- 1996 GU Oncology Grand Rounds Prostate MRI  
Dana-Farber Cancer Institute, Boston, MA
- 1996 Boston University Grand Rounds  
*MRI of GYN Malignancy*  
Boston, MA
- 1996 Massachusetts General Hospital Grand Rounds  
*MRI of the Female Pelvis*

Boston, MA

- 1997 Mt Auburn Hospital Grand Rounds  
*Prostate MRI*  
Cambridge, MA
- 1997 HCHP Tumor Board  
*Prostate MRI*  
Boston, MA
- 1998 Boston University Grand Rounds  
*MRI of the Pelvis*  
Boston, MA
- 1998 Western Urological Society Fall Meeting  
*Prostate MRI*
- 1999 Mt. Auburn Hospital Grand Rounds  
*MRI of the Pelvis*  
Cambridge, MA
- 2001 New England Roentgen Ray Society  
*Women's Imaging: MRI & MR Guided Interventions*  
Waltham, MA
- 2004 Yale University Grand Rounds  
*MR-Guided Focused Ultrasound of Uterine Fibroid*  
New Haven, NJ
- 2005 New York University Hospital Grand Rounds  
*Translational Research in Image-guided Therapy*  
New York, NJ
- 2006 Rhode Island Hospital Grand Rounds  
*MR-Guided Focused Ultrasound Surgery MR Imaging; MR-Guided Interventions in Prostate Cancer*  
Providence, RI
- 2009 Making the Transition and Staffing Your Program  
*Moving to the Top: Establishing Your Research Program*  
Biomedical Research Institute, Brigham and Women's Hospital, Boston, MA
- 2010 Abdominal Imaging Section Lecture  
*MR-guided HIFU in Abdominal; Pelvic Disease*  
Beth Israel Medical Center, Boston, MA
- 2011 New England Roentgen Ray Society  
*MRI Prostate*  
Waltham, MA
- 2011 3<sup>rd</sup> Annual Prostate Cancer Awareness Day  
*Prostate imaging "where is our Manogram"*  
Massachusetts State House, Boston, MA

- 2012 15<sup>th</sup> Annual Massachusetts Prostate Cancer Symposium  
Massachusetts Prostate Cancer Coalition Annual Meeting  
*Prostate imaging "where is our Manogram"*  
Boston, MA
- 2014 Radiology Grand Rounds  
*Prostate MRI*  
South Shore Hospital, South Weymouth, MA
- 2015 Methods in Clinical Research Course  
*Imaging in Era of Targeted Therapy*  
Dana-Farber Cancer Institute, Boston, MA
- 2015 Spring Oncology Symposium  
*Prostate MRI and image guided interventions*  
Saint Anne's Hospital, Dartmouth, MA
- 2015 BWH, MGH-Urologic Oncology Conference  
*Multi-parametric MRI -PIRADS Classification*  
Boston, MA
- 2015 DFCI-Seminar of Genitourinary Oncology  
*Prostate MR Update Including New PIRADS*  
Boston, MA
- 2016 BWH GYN Oncology Series  
*MRI characterization and staging of GYN malignancies*  
Boston, MA
- 2016 BWH/MGH Radiology Update Postgraduate Course  
*Prostate Imaging and PI-RADS*  
Boston Marriott Long Wharf, Boston, MA
- 2016 HMS Seminars in Genitourinary Oncology  
*MR Prostate and PIRADS*  
Boston, MA
- 2016 HMS 18th Biennial Jerome P. Richie Biennial Urologic Cancer Course  
*Advances in Multiparametric MRI for Diagnosis and Staging*  
*Panel Discussion and Q&A - Prostate Cancer: Epidemiology and Optimizing Detection*  
Boston, MA
- 2017 2nd Global Summit on Precision Diagnosis for Prostate Cancer Care  
*Precision Imaging and Focal Treatment*  
Boston, MA
- 2017 MPCC Prostate Cancer 20th Anniversary Symposium  
*"Prostate Cancer State of the Art - State of the Disease"*  
*Active Surveillance and Early Stage Disease*  
Boston, MA
- 2018 HMS 19th Biennial Jerome P. Richie Biennial Urologic Cancer Course

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

### **Invited Presentations and Courses**

#### **Regional**

- 1995 Women's Imaging Symposium  
*MRI of Gynecological Malignancies*  
Norwalk Hospital, Norwalk, CT
- 1996 Albany Medical Center Grand Rounds  
*MRI of the Female Pelvis*  
Albany, NY
- 2007 African American Prostate Cancer Disparity Summit  
Rayburn House, Washington DC
- 2008 18<sup>th</sup> Annual Robin C. Watson Lecture  
*Image Guided Intervention: Where Can the Future Lead?*  
Memorial Sloan-Kettering Cancer Center, New York, NY
- 2008 Boston Children's Hospital Faculty Research Talk/Grand Rounds  
*Overview of the Recent Advances; Future Vision for Image-Guided Diagnosis and Treatment of Cancer*  
Boston, MA
- 2008 Genitourinary Oncology Seminar Series  
*Prostate Imaging and Intervention Update*  
Dana-Farber Cancer Institute, Boston, MA
- 2008 CIMIT-ORF and Beyond Team  
*Glimpse at future imaging technologies and their role in surgery*  
Boston, MA
- 2012 NIH-NCBC Showcase Meeting  
Testimonial Speaker  
National Institutes of Health, Bethesda, MD
- 2013 Harvard Catalyst-Advanced Imaging: Imaging in Clinical/Translational Cancer Research  
*Image-guided Therapy*  
Cambridge, MA
- 2013 Boston Scientific  
*Visualization for Surgical Applications*  
Marlborough, MA
- 2013 3<sup>rd</sup> Governance Board Meeting  
*Canon-BWH Collaboration*  
Cambridge, MA
- 2013 Physical Principles of Human Cancer Imaging Workshop  
*Interventionalist Perspective*  
Cambridge, MA

- 2014 BWH Research Day  
*Latest Developments in Generating the Imaging Phenotype*  
*Session Theme: Imaging, Session Title: A picture is worth a thousand words.*  
Boston, MA
- 2015 Mass. Medical Society Body MRI, NERRS Annual Refresher Course  
*MRI of the Prostate*  
Waltham, MA
- 2017 First Joint Center for Surgical Innovations & National Center for Image Guided Therapy  
Boston, MA
- 2017 MPCC Prostate Cancer 20<sup>th</sup> Anniversary Symposium  
*Prostate Cancer State of the Art – State of the Disease*  
Boston, MA
- 2017 Robo Healthcare Summit  
Boston, MA
- 2017 2017 American Brachytherapy Society Annual Conference  
Boston, MA
- 2017 Invited Faculty, World Interventional Oncology Conference  
Boston, MA
- 2019 Invited Lecturer, 2<sup>nd</sup> Annual Erich K. Lang, M.D. Lecture, Russell H. Morgan Department  
of Radiology and Radiological Science  
Baltimore, MD (2/7/19)
- 2019 Invited Lecturer, Adamczyk Lecture, Case Western Reserve University, Department of  
Biomedical Engineering  
*Image guided Therapies: An Opportunity for Team Science and Clinical Translational  
Research*  
Cleveland, OH (4/24/19)
- 2019 Invited Lecturer, 45<sup>th</sup> Eugene P. Pendergrass Lecture, Pendergrass Day Symposium &  
Dinner Dance, Department of Radiology, University of Pennsylvania, Perelman School  
of Medicine  
*Advanced Technologies for Image-Guided Therapy*  
Philadelphia, PA (6/14/19)
- National**
- 1991 Loyola University Medical Center Grand Rounds  
*Clinical MRI*  
Chicago, IL
- 1995 University of Pennsylvania MRI Course  
*MRI of the Abdomen, Male Pelvis, Female Pelvis & Breast*  
Philadelphia, PA
- 1996 Memorial Hospital Grand Rounds  
*Radiology/Obstetrics & Gynecology*



Hollywood, FL

- 2000 University of CA at San Francisco MRI Course  
*MRI Prostate & MRI Female Pelvis*  
San Francisco, CA
- 2000 MUSC Savannah MRI Course  
*MRI of the Female Pelvis; MRI of the Male Pelvis; MRI of Malignant Disease of the Pelvis*  
Savannah, GA
- 2002 Loyola University of Chicago *Leon Love Lecture*  
*Prostate MRI*  
Maywood, IL
- 2002 University of CA at San Francisco Earl Miller Lecture  
*Pelvic MRI and Image Guided Interventions*  
San Francisco, CA
- 2002 ISMRM Workshop on Clinical Applications of Focused Ultrasound Surgery-Non-MRI vs. MRI  
*Uterine Fibroid*  
Cambridge, MA
- 2003 Texas Radiological Society Annual Meeting  
*MRI of Adrenals; MR-Guided FUS of Fibroids; MRI Prostate*  
Galveston, TX
- 2004 American Association for Cancer Research Meeting  
*Advances in Prostate Cancer Imaging: Diagnosis, Staging and Monitoring*  
Bonita Springs, FL
- 2004 Practical Applications of Imaging Techniques  
*Benign Diseases of the Uterus; Cancer Staging of Gynecologic Disease; Focused Ultrasound and Fibroid Treatment*  
Scottsdale, AZ
- 2004 CIMIT - Transforming Investigator Ideas into Medical Practice Case Studies  
Massachusetts General Hospital, Boston, MA
- 2005 Hospital of the University of Pennsylvania Grand Rounds  
*MRI of Malignant Disease of the Female Pelvis; MRI of Leiomyomas and MRg Focused Ultrasound Surgery of Leiomyomas; MRI of Pelvic Image Guided Intervention; MRI of the Female Pelvis; MRI of the Prostate: Diagnosis, Staging and Treatment of Prostate Cancer*  
Philadelphia, PA
- 2006 ISMRM Meeting 2006  
*MRI of Prostate Cancer: Diagnosis, Staging and Treatment*  
Seattle, WA
- 2006 University of Maryland Grand Rounds, Warres Lecture  
*MR Guided Interventions in the Pelvis*  
Baltimore, MD
- 2007 Stanford University Symposium  
*MR-guided High Intensity Focused Ultrasound*

- Stanford, CA
- 2007 *GERRAF Program Association of University Radiologists*  
Denver, CO
- 2007 St. Jude's Medical Annual Imaging Symposium  
*Imaging Biomarkers*  
Memphis, TN
- 2008 MRI-guided Focused Ultrasound Surgery International Symposium  
*MR-guided High Intensity Focused Ultrasound*  
Washington, DC
- 2008 2<sup>nd</sup> NCIGT Image Guided Therapy Workshop  
Arlington, VA
- 2009 NYU School of Medicine Grand Rounds  
*MRI-Guided Prostate Biopsy; Role and Limitations of Conventional Imaging Techniques;  
Minimally Invasive Intervention for Localized Prostate Cancer*  
New York, NY
- 2009 9<sup>th</sup> International Congress on Genitourinary Malignancies  
*Prostate Imaging*  
Washington, DC
- 2010 3<sup>rd</sup> NCIGT Image Guided Therapy Workshop  
Arlington, VA
- 2011 4<sup>th</sup> NCIGT Image Guided Therapy Workshop  
Arlington, VA
- 2011 12<sup>th</sup> Annual Meeting of the Society of Urologic Oncology in Conjunction with the World  
Urological Oncology Federation Extraordinary Opportunities for Discovery  
*Imaging Adjuncts to Improve Prostate Biopsy*  
Bethesda, MD
- 2012 3<sup>rd</sup> International Symposium *MR Guided FUS*  
Washington, DC
- 2012 5<sup>th</sup> NCIGT Image Guided Therapy Workshop  
Boston, MA
- 2013 ARRS Body MRI Faculty Annual Meeting  
*Body MRI male and female pelvis*  
Washington, DC
- 2013 6<sup>th</sup> NCIGT Image Guided Therapy Workshop  
Washington, DC
- 2013 Brown University/Rhode Island Hospital Grand Rounds  
*Prostate MRI and case review*  
Providence, RI

- 2014 Scripps Research Institute Meeting  
*Advances in Prostate Cancer Diagnosis and Monitoring with Multi Parametric MRI*  
La Jolla, CA
- 2014 7<sup>th</sup> Annual W.B. Ingalls Memorial Prostate Health and Cancer Seminar  
The Prostate Cancer Dilemma: Tiger or Pussycat?  
*Advances in Prostate Cancer Diagnosis and Monitoring with Multi Parametric MRI*  
Jupiter, FL
- 2014 Prostate MRI and MRI-Targeted Procedures Conference: The Comprehensive Course  
Invited Faculty, IAME  
*Prostate Cancer, Pathology & PI-RADS "Current Therapies for Prostate Cancer"; MRI-Targeted Biopsies "Overview" and "In bore"; Clinical Case Review Post Treatment Recurrence; Elevated PSA and Negative Biopsies; Clinical Case Review 15 "Pseudo Screening": High Risk and No Biopsy; Radiation Therapy Planning; MRI Targeted Therapies*  
Las Vegas, NV
- 2014 RSNA 100<sup>th</sup> Scientific Assembly and Annual Meeting  
*Interactive Game: Prostate MRI Using PI-RADS*  
Chicago IL
- 2014 RSNA 100<sup>th</sup> Scientific Assembly and Annual Meeting  
*Multi-parametric MRI (including PIRADS)*  
Chicago, IL
- 2014 7<sup>th</sup> NCIGT Image Guided Therapy Workshop  
*MR Guided Prostate Interventions*  
Washington, DC
- 2015 RSNA 101<sup>st</sup> Scientific Assembly and Annual Meeting  
Prostate MRI Using PI-RADS (Prostate Imaging Reporting and Data System);  
Multi-parametric MRI (including PIRADS)  
Chicago, IL
- 2016 8<sup>th</sup> NCIGT Image Guided Therapy Workshop  
*NCIGT Leadership Perspective and Prostate MR and Image-guided Interventions*  
Washington, DC
- 2016 First Global Summit on Precision Diagnosis for Prostate Cancer Care  
*Radiology Perspective: Anatomic and Functional Imaging mpMRI and Ultrasound*  
Westin Copley Hotel, Boston, MA
- 2016 World Molecular Imaging Congress 2016  
Keynote Lecturer; Jorge Barrio Lecture for Advances in Clinical Research  
Jacob K. Javits Convention Center, New York, NY
- 2016 International Prostate Imaging Symposium  
*T2-Weighted Imaging; PI-RADS; Case Reviews; Case Review-Biopsy*  
Chicago, IL
- 2016 RSNA 102<sup>st</sup> Scientific Assembly and Annual Meeting  
*Prostate MRI in the PIRADS Era*

- GU Series Course Director  
Chicago, IL
- 2017 2<sup>nd</sup> International Prostate Imaging Symposium  
*T2-Weighted Imaging; PI-RADS; Case Reviews; Case Review-Biopsy*  
Chicago, IL
- 2017 9<sup>th</sup> NCIGT Image Guided Therapy Workshop  
*Image-Guided Interventions in AMIGO*  
Washington, DC
- 2017 2<sup>nd</sup> Global Summit on Precision Diagnosis for Prostate Cancer Care  
*Precision Imaging and Focal Treatment*  
Boston, MA
- 2017 Prostate MRI Course-Prostate MR  
American College of Radiology  
Reston, VA
- 2017 RSNA 103<sup>rd</sup> Scientific Assembly and Annual Meeting  
*Prostate MRI in the PIRADS Era*  
GU Series Course Director  
Chicago, IL
- 2017 American Brachytherapy Society (ABS) Annual Conference  
*MRI Pelvic Anatomy: Prostate*  
Boston, MA
- 2017 AASLD Liver Meeting  
Autoimmune and Cholestatic Liver Disease – Poster Session  
Radiologic progression in primary sclerosing cholangitis (PSC) by two-dimensional magnetic resonance cholangiopancreatography (MRCP): Prospective data from a randomized controlled trial  
Washington, DC
- 2017 AAPM FOrE M on IGT  
Alexandria, VA
- 2017 RSNA 2017 Explore. Invent. Transform. 103<sup>rd</sup> Scientific Assembly and Annual Meeting  
Moderator: RC607 Genitourinary Series: Prostate MRI in the PI-RADS Era: Detection, Diagnosis and MRI Guided/Targeted Interventions  
Chicago, IL
- 2018 10<sup>th</sup> NCIGT Image Guided Therapy Workshop  
Boston, MA
- 2018 RSNA 104<sup>th</sup> Scientific Assembly and Annual Meeting  
Chicago, IL
- 2019 2019 World Medical Innovation Forum – Artificial Intelligence (AI)  
Boston, MA

## International

- 1990 Royal College of Surgeons & University College Grand Rounds  
*Clinical MRI*  
Dublin, Ireland
- 1990 Radiology Society of Argentina  
*International Diagnostic Radiology Course, 5 Lectures*  
Argentina
- 1997 Annual Scientific Meeting, Royal College of Surgeons  
*Role of Prostate MRI in Men with Prostate Cancer*  
Dublin, Ireland
- 1997 Annual Scientific Meeting, Royal College of Surgeons  
*Comparative Value of Ultrasound, CT and MRI in Diagnosis and Staging of Ovarian Cancer*  
Dublin, Ireland
- 1999 International Diagnostic Radiology Course, 10 Seminars, 75 Minutes  
*MRI of Female Pelvis*  
Davos, Switzerland
- 2000 3<sup>rd</sup> Interventional MRI Workshop: *MR guided prostate interventions*  
Leipzig, Germany
- 2000 34<sup>th</sup> International Course of Radiology and Imaging  
*Prostate MRI; MRI of the Breast; MRI of Female Pelvis Benign Disease; MRI of the Female Pelvis Malignant Disease*  
Mexico City, Mexico
- 2002 New Horizons in Radiology Symposium  
*MRI Female Pelvis Benign; MRI Female Pelvis Malignant*  
Berlin, Germany
- 2003 37<sup>th</sup> International Course of Radiology and Imaging  
*MRI Female Pelvis; MRI Male Pelvis; MRI in Obstetrics*  
Mexico City, Mexico
- 2004 Radiology in Ireland  
*MRI of the Prostate; Image Guided Diagnosis and Treatment of Prostate Cancer; MR Diagnosis and MR Guided Focused Ultrasound Surgery of Uterine Fibroids; MRI of the Female Pelvis: Malignant Disease*  
Killarney and Dublin, Ireland
- 2005 Imaging and Interventional Procedures in Hepatocellular Carcinoma Liver and Disease at the Crossroads of Civilization East Meets West: *MR imaging and image guided interventions in the liver*  
Alexandria Library, Egypt
- 2005 University of Barcelona Grand Rounds  
*Image Guided Therapy of the Pelvis; MRI in Reproductive Medicine*  
Barcelona, Spain
- 2006 European Congress of Radiology  
*MR Guided Focused Ultrasound for Uterine Fibroids*  
Vienna, Austria

- 2006 Practical Applications of New Imaging Techniques  
*MRI of the of the Male Pelvis; Focused Ultrasound Surgery on Leiomyomas*  
Brugge, Belgium
- 2006 *MR Guided Pelvic Interventions*  
Kaposvar, Hungary
- 2006 Royal College of Surgeons Grand Rounds  
*Image Guided Therapy*  
Dublin, Ireland
- 2007 17<sup>th</sup> APASL Conference  
*MR Guided Focused Ultrasound Surgery: A Novel Non-invasive Treatment for Focal Liver Disease*  
Kyoto, Japan
- 2007 Joint Annual Meeting ISMRM-ESMRMB  
*Advanced Body Imaging*  
Berlin, Germany
- 2008 *National Center for Image Guided Therapy: Mission and Organizational Overview*  
OR Leadership, Princess Margaret Hospital  
Toronto, ON
- 2010 2010 MRI: Clinical Updates & Practical Applications  
*MR of Female Pelvis: Benign Diseases; MR of Female Pelvis: Malignant Diseases; MRI for Diagnosis and Staging; MR-guided Interventions in the Pelvis*  
Los Cabos, Mexico
- 2011 Clinical MRI Update Course  
*MRI of the Prostate; Image Guided Therapy; MRI Guided High Focused Ultrasound in the Abdomen & Pelvis*  
Rio de Janeiro, Brazil
- 2011 European MR Guided US Therapy Symposium  
*MRgFUS of Prostate Cancer*  
Rome, Italy
- 2012 Visiting Professor, Queen Mary Hospital-Hong Kong  
*Women's Imaging*  
Pok Fu Lam, Hong Kong
- 2012 SMRT, ISMRM Faculty Courses  
*MRI of prostate cancer how I do it*  
Melbourne, Australia
- 2013 Visiting Professor, Visiting Professors' Program, McGill University  
*MR Prostate Update; MR of GYN Malignancy*  
Montreal, Canada
- 2013 Visiting Professor, German Association of University Professors and Lecturers,  
Chairman in Radiology  
*The Role of Radiology in the Field of Image Guided Therapy*  
Tubingen, Germany

- 2013 Visiting Professor, UMCU Symposium 2013  
*MR-HIFU Applications: Uterine Fibroids*  
Utrecht, The Netherlands
- 2014 ISMRM & SMRT Faculty Course  
*Prostate MR*  
Milan, Italy
- 2014 10<sup>th</sup> Interventional MRI Symposium  
*MR-guided Prostate Interventions*  
Leipzig, Germany
- 2015 Visiting Professor, University of British Columbia Grand Rounds (Electrical and Computer Engineering, Radiologic and Urologic Sciences)  
*MR guided interventions technical challenges: A Radiologist's perspective; MR imaging and image guided interventions in Prostate cancer; The role of Multi-parametric MRI (including PIRADS) in prostate cancer detection, diagnosis and image guided interventions.*  
Vancouver, Canada
- 2015 25<sup>th</sup> Anniversary – Institute of Diagnostic Imaging and Radiation Oncology, Kaposvar University  
*Image guided therapy – a view from Boston.*  
Kaposvar, Hungary
- 2015 3<sup>rd</sup> European Symposium on Focused Ultrasound Therapy  
*1<sup>st</sup> Annual Ferenc A. Jolesz Oration in Focused Ultrasound*  
Prostate Panel – Difficult Cases, Complications, Where Next with Technology  
London, England
- 2016 Brain and Spine Institute [Institut du Cerveau et de la Moelle épinière (ICM)]  
*Image guided therapy advances in Oncology from the NCIGT*  
Paris, France
- 2015 MICCAI 2015  
Invited Keynote Plenary - *Image guided therapy advances in Oncology*  
Istanbul, Turkey
- 2016 MICCAI 2016  
Athens, Greece
- 2017 ISMRM 25<sup>th</sup> Annual Meeting and Exhibition  
Honolulu, Hawaii
- 2018 APASL Liver Meeting  
Autoimmune Cholestatic Liver Disease – Podium Presentation  
Quantification of biliary tree volume in patients with PSC using 3D reconstruction of magnetic resonance cholangiopancreatography (MRCP): Clinical associations and prognostic significance  
New Delhi, India
- 2018 ISMRM 26<sup>th</sup> Annual Meeting and Exhibition

Plenary Lecturer: *High-End MRI: Added Value vs Added Science*  
Paris, France

2019 ISMRM 27<sup>th</sup> Annual Meeting and Exhibition  
Montreal, Canada

## Report of Clinical Activities and Innovations

### Current Licensure and Certification

1982- Irish Medical Council Registration  
1988- American Board of Radiology Certification  
1991- Massachusetts Medical License

## Report of Technological and Other Scientific Innovations

10/30/2001-12/17/2013 *Patent #:* 6,311,084 - Radiation seed implant method and apparatus.

## Report of Scholarship

### Publications

#### Original Articles

1. **Tempany CM**. Villous tumor. *IMJ III Med J*. 1985 Nov; 168(5):313, 52-3. PMID: 2867070.
2. **Tempany CM**. The Viewbox. Villous adenoma of duodenum. *IMJ III Med J*. 1986 Jan; 169(1):7, 45. PMID: 2869017.
3. Posniak HV, **Tempany CM**, Demos TC, Love L. Computed tomography of posterior pararenal and properitoneal metastases. *Urol Radiol*. 1988 Jan; 10(2):75-9. PMID: 3055632.
4. Cooper RA, **Tempany CM**, Farrell B. Conventional and computed tomographic sialography in evaluating disorders of the parotid gland. *Entechnology*. 1988 Sep; 20-35. PMID: 3271574.
5. Kawashima A, Fishman EK, Hruban RH, **Tempany CM**, Kuhlman JE, Zerhouni EA. Biliary cystadenoma with intratumoral bleeding: radiologic-pathologic correlation. *J Comput Assist Tomogr*. 1991 Nov-Dec; 15(6):1035-8. PMID: 1939756.
6. Kawashima A, Kuhlman JE, Fishman EK, **Tempany CM**, Magid D, Lederman HM, Winkelstein JA, Zerhouni EA. Pulmonary Aspergillus chest wall involvement in chronic granulomatous disease: CT and MRI findings. *Skeletal Radiol*. 1991 Jan; 20(7):487-93. PMID: 1754909.
7. Kronthal AJ, Kang YS, Fishman EK, Jones B, Kuhlman JE, **Tempany CM**. MR imaging in sclerosing mesenteritis. *AJR Am J Roentgenol*. 1991 Mar; 156(3): 517-9. PMID: 1899747.
8. **Tempany CM**, Rahmouni AD, Epstein JI, Walsh PC, Zerhouni EA. Invasion of the neurovascular bundle by prostate cancer: evaluation with MR imaging. *Radiology*. 1991 Oct; 181(1):107-12. PMID: 1887017.
9. Wolff KA, Herold CJ, **Tempany CM**, Parravano JG, Zerhouni EA. Aortic dissection: atypical patterns seen at MR imaging. *Radiology*. 1991 Nov; 181(2):489-95. PMID: 1924793.
10. Carter HB, Brem RF, **Tempany CM**, Yang A, Epstein JI, Walsh PC, Zerhouni EA. Nonpalpable prostate cancer: detection with MR imaging. *Radiology*. 1991 Feb; 178(2):523-5. PMID: 1987620.



11. Brem RF, **Tempany CM**, Zerhouni EA. MR detection of breast implants rupture. *J Comput Assist Tomogr*. 1992 Jan-Feb; 16(1):157-9. PMID: 1729297.
12. Mitchell DG, Palazzo J, Hann HW, Park CH, **Tempany CM**, Chako A, Rubin R. Mass-like hepatic hypertrophy: MRI findings with histologic correlation. *Magn Reson Imaging*. 1992 Jan; 10(4):541-7. PMID: 1501524.
13. Schiebler ML, Yankaskas BC, **Tempany CM**, Holtz P, Zerhouni EA. Efficacy of prostate-specific antigen and magnetic resonance imaging in staging stage C adenocarcinoma of the prostate. *Invest Radiol*. 1992 Aug; 27(8):575-7. PMID: 1385355.
14. **Tempany CM**, Morton RA, Marshall FF. MRI of the renal veins: assessment of nonneoplastic venous thrombosis. *J Comput Assist Tomogr*. 1992 Nov-Dec; 16(6):929-34. PMID: 1430444.
15. Rahmouni A, Yang A, **Tempany CM**, Frenkel T, Epstein J, Walsh P, Leichner PK, Ricci C, Zerhouni EA. Accuracy of in-vivo assessment of prostatic volume by MRI and transrectal ultrasonography. *J Comput Assist Tomogr*. 1992 Nov-Dec; 16(6):935-40. PMID: 1385499.
16. Silverman SG, Bloom DA, Seltzer SE, **Tempany CM**, Adams DF. Needle-tip localization during CT-guided abdominal biopsy: comparison of conventional and spiral CT. *AJR Am J Roentgenol*. 1992 Nov; 159(5):1095-7. PMID: 1414782.
17. Schiebler ML, Yankaskas BC, **Tempany CM**, Spritzer CE, Rifkin MD, Pollack HM, Holtz P, Zerhouni EA. MR imaging in adenocarcinoma of the prostate: interobserver variation and efficacy for determining stage C disease. *AJR Am J Roentgenol*. 1992 Mar; 158(3):559-62; discussion 63-4. PMID: 1738994.
18. Rahmouni A, **Tempany CM**, Jones R, Mann R, Yang A, Zerhouni EA. Lymphoma: monitoring tumor size and signal intensity with MR imaging. *Radiology*. 1993 Aug; 188(2):445-51. PMID: 8327695.
19. **Tempany CM**, Partin AW, Zerhouni EA, Zinreich SJ, Walsh PC. The influence of finasteride on the volume of the peripheral and periurethral zones of the prostate in men with benign prostatic hyperplasia. *Prostate*. 1993 Jan; 22(1):39-42. PMID: 7678931.
20. Schwartz LH, Seltzer SE, **Tempany CM**, Silverman SG, Piwnica-Worms DR, Adams DF, Herman L, Herman LT, Hooshmand R. Prospective comparison of T<sub>2</sub>-weighted fast spin-echo, with and without fat suppression, and conventional spin-echo pulse sequences in the upper abdomen. *Radiology*. 1993 Nov; 189(2):411-6. PMID: 8210368.
21. Ellis JH, **Tempany CM**, Sarin MS, Gatsonis C, Rifkin MD, McNeil BJ. MR imaging and sonography of early prostatic cancer: pathologic and imaging features that influence identification and diagnosis. *AJR Am J Roentgenol*. 1994 Apr ;162(4):865-72. PMID: 8141009.
22. Schwartz LH, Seltzer SE, Adams DF, **Tempany CM**, Piwnica-Worms DR, Silverman SG, Herman L, Herman LT, Hooshmand R. Effects of superparamagnetic iron oxide (AMI-25) on liver and spleen imaging using spin-echo and fast spin-echo magnetic resonance pulse sequences. *Invest Radiol*. 1994 Jun; 29 Suppl 2:S21-3. PMID: 7928234.
23. **Tempany CM**, Zhou X, Zerhouni EA, Rifkin MD, Quint LE, Piccoli CW, Ellis JH, McNeil BJ. Staging of prostate cancer: results of Radiology Diagnostic Oncology Group project comparison of three MR imaging techniques. *Radiology*. 1994 Jul; 192(1):47-54. PMID: 8208963.

24. Burnett AL, Allen RP, **Tempany CM**, Dover GJ, Brendler CB. Evaluation of erectile function in men with sickle cell disease. *Urology*. 1995 Apr; 45(4):657-63. PMID: 7716848.
25. **Tempany CM**, Masoudi FA, Marshall FF. The use of dynamic magnetic resonance imaging to evaluate orthotopic continent urinary diversion. *Urology*. 1995 May; 45(5):886-92. PMID: 7747382.
26. Chako AC, **Tempany CM**, Zerhouni EA. Effect of slice acquisition direction on image quality in thoracic MRI. *J Comput Assist Tomogr*. 1995 Nov-Dec; 19(6):936-40. PMID: 8537529.
27. Schwartz LH, Seltzer SE, **Tempany CM**, Silverman SG, Piwnica-Worms DR, Adams DF, Herman L, Herman LA, Hooshmand R. Superparamagnetic iron oxide hepatic MR imaging: efficacy and safety using conventional and fast spin-echo pulse sequences. *J Magn Reson Imaging*. 1995 Sep-Oct; 5(5):566-70. PMID: 8574043.
28. Silverman SG, Hillstrom MM, Doyle CJ, **Tempany CM**, Sica GT. Thrombophlebitic retroperitoneal collateral veins mimicking lymphadenopathy: MR and CT appearance. *Abdom Imaging*. 1995 Sep-Oct; 20(5):474-6. PMID: 7580789.
29. D'Amico AV, Whittington R, Malkowicz SB, Loughlin K, Schultz D, Schnall M, **Tempany CM**, Tomaszewski JE, Renshaw A, Wein A. An analysis of the time course of postoperative prostate-specific antigen failure in patients with positive surgical margins: implications on the use of adjuvant therapy. *Urology*. 1996 Apr; 47(4):538-47. PMID: 8638365.
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33. **Tempany CM**, Langlotz CP. Re: Endo-rectal coil magnetic resonance imaging in clinically localized prostate cancer: is it accurate? *J Urol*. 1997 Apr; 157(4):1371-2. PMID: 9120955.
34. Getty DJ, Seltzer SE, **Tempany CM**, Pickett RM, Swets JA, McNeil BJ. Prostate cancer: relative effects of demographic, clinical, histologic, and MR imaging variables on the accuracy of staging. *Radiology*. 1997 Aug; 204(2):471-9. PMID: 9240538.
35. Fielding JR, Fox LA, Heller H, Seltzer SE, **Tempany CM**, Silverman SG, Steele G. Spiral CT in the evaluation of flank pain: overall accuracy and feature analysis. *J Comput Assist Tomogr*. 1997 Jul-Aug; 21(4):635-8. PMID: 9216774.
36. Tello R, **Tempany CM**, Chai J, Ainslie M, Adams DF. MR hystero-graphy using axial long TR imaging with three-dimensional projections of the uterus. *Comput Med Imaging Graph*. 1997 Mar-Apr; 21(2):117-23. PMID: 9152577.

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39. D'Amico AV, Cormack RA, **Tempany CM**, Kumar S, Topulos G, Kooy HM, Coleman CN. Real-time magnetic resonance image-guided interstitial brachytherapy in the treatment of select patients with clinically localized prostate cancer. *Int J Radiat Oncol Biol Phys*. 1998 Oct; 42(3):507-15. PMID: 9806508.
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42. Kurtz AB, Tsimikas JV, **Tempany CM**, Hamper UM, Arger PH, Bree RL, Wechsler RJ, Francis IR, Kuhlman JE, Siegelman ES, Mitchell DG, Silverman SG, Brown DL, Sheth S, Coleman BG, Ellis JH, Kurman RJ, Caudry DJ, McNeil BJ. Diagnosis and staging of ovarian cancer: comparative values of Doppler and conventional US, CT, and MR imaging correlated with surgery and histopathologic analysis--report of the Radiology Diagnostic Oncology Group. *Radiology*. 1999 Jul; 212(1):19-27. PMID: 10405715.
43. Cormack RA, Kooy H, **Tempany CM**, D'Amico AV. A clinical method for real-time dosimetric guidance of transperineal 125I prostate implants using interventional magnetic resonance imaging. *Int J Radiat Oncol Biol Phys*. 2000 Jan; 46(1):207-14. PMID: 10656394.
44. Kooy HM, Cormack RA, Mathiowitz G, **Tempany CM**, D'Amico AV. A software system for interventional magnetic resonance image-guided prostate brachytherapy. *Comput Aided Surg*. 2000 Apr; 5(6):401-13. PMID: 11295853.
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47. **Tempany CM**, Zou KH, Silverman SG, Brown DL, Kurtz AB, McNeil BJ. Staging of advanced ovarian cancer: comparison of imaging modalities--report from the Radiological Diagnostic Oncology Group. *Radiology*. 2000 Jun; 215(3):761-7. PMID: 10831697.
48. Thomas MD, Cormack RA, **Tempany CM**, Kumar S, Manola J, Schneider L, Hurwitz MD, D'Amico AV. Identifying the predictors of acute urinary retention following magnetic-resonance-

- guided prostate brachytherapy. *Int J Radiat Oncol Biol Phys*. 2000 Jul; 47(4):905-8. PMID: 10863058.
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