

# Curriculum Vitae

## Robert F. Mattrey, M.D.

### Title and Position:

Professor of Radiology, UC San Diego  
Vice Chairman of Radiology, Director of Research  
Director of Radiology Clinician/Scientist Program  
Director of In-vivo Cancer and Molecular Imaging Program  
Director of Imaging Core Resources, Clinical Translation Institute, UCSD  
Clinical Duties include General Radiology and Body Imaging (CT/US/MRI)

(b) (6)

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### Education and Training:

#### College Degree

B.S. in Electrical Engineering, State University of New York at Buffalo. 1971.

#### Graduate Degree

M.S. in Electrical Engineering, State University New York at Buffalo 1973.

#### Medical Degree

M.D. State University of New York at Buffalo. 1978.

#### Residency

Diagnostic Radiology, University of California, San Diego, Dept. of Radiology 1978-81.

#### Fellowship

CT/Ultrasound/Interventional, University of California, San Diego, Dept. of Radiology 1981-82.

#### Post Graduate Education

Course on Clinical Effectiveness, Harvard School of Public Health, summer of 1997  
15 credit hours towards MPH (Biostatistics, Epidemiology, Decision Analysis, and Outcome Measures)

#### Certification/License

Board Certification in General Diagnostic Radiology, 6/82.  
California Medical License # (b) (6). Expires 10/2007.

#### Honors & Awards:

- The AE James Lecturer, Nov 2009, Vanderbilt University
- Association of University Radiologists 2007 Gold Medal Award. This highest honor of the Association is given to an individual with major life time contribution to the Association and to the field of Radiology.

- International Contrast Media Research 2007 Harry Fisher Lifetime Achievement Award in Contrast Media Research.
- Herbert Stauffer Award - best paper in basic science published in *Academic Radiology*, AUR 2005. Senior Author. Lucidarme O, Nguyen T, Kono Y, Corbeil J, Choi SH, Varner J, Mattrey RF: Angiogenesis Model for Ultrasound Contrast Research: Exploratory Study. *Academic Radiol* 2004, 11:4-12.
- Radiological Society of North America. Cum Laude Award for Education Exhibit. Alijani A, Pinto R, Mattrey RF, 12/2002
- American Society of Neuroradiology. Magna Cum Laude Award for Scientific Exhibit. Georgy, BA, Mattrey RF: Wong W, Healy JF: MR Imaging of Fetal Central Nervous System. 4/2002
- Society of Computed Body Tomography and Magnetic Resonance, Cum Laude Award for outstanding Scientific Paper on Liver lesion Feature Analysis. S. Seltzer 1<sup>st</sup> Author, 3/1998
- European Society of Uroradiology. First Place Award, June 1996, R.F. Mattrey, M.S. Girard: "Detection of Partial Renal Infarction with Ultrasound Contrast Agents."
- Association of University Radiologists, Resident Memorial Award for most outstanding research, April, 1990. (Senior author) Coley BD, Mattrey RF, Mitten RM, Peterson T: The Physiologic Basis of the Radiodense Renal Medulla after the Administration of Blood Pool Contrast Agent, PFOB. *Invest Radiol*.1990; Vol. 25(12):1287-1293.
- NIH Research Career Development Award. May 1988 -KO8-CA01319;
- Research: J. Twidwell, R. MacIntyre, J. Sands, R.F. Mattrey: J.C. Kimbrough Urologic Seminar, Norfolk, VA, Nov. 3, 1988.
- NIH Physician-Investigator Development Award Program. March 1984-KO8-CA00940;
- Association of University Radiologists, Resident Memorial Award for most outstanding research, March 1982. Mattrey RF, Higgins CB: Detection of Regional Myocardial Dysfunction During Ischemia with Computerized Tomography: Documentation and Physiologic Basis. AUR Memorial Award Paper. *Invest Radiol*. 1982; 17:329-335.
- Donald Resnick Annual Resident Award for most outstanding clinical achievement in Osteoradiology, June 1981.
- Elected Chief Resident 1980-81.

### Academic History

8/82 – 6/84	UCSD, Assistant Professor of Radiology, In Residence, Step II
7/84 – 6/86	UCSD, Assistant Professor of Radiology, In Residence, Step IV
7/86 – 6/88	UCSD, Assistant Professor of Radiology, In Residence, Step V
7/88 – 6/90	UCSD, Associate Professor of Radiology, In Residence, Step II
7/90 – 6/91	UCSD, Associate Professor of Radiology, In Residence, Step III
7/91 – 6/94	UCSD, Professor of Radiology, In Residence, Step I
7/94 – 6/97	UCSD, Professor of Radiology, In Residence, Step II
7/97 – 6/00	UCSD, Professor of Radiology, In Residence, Step III
7/00 – 6/03	UCSD, Professor of Radiology, In Residence, Step IV
7/03 – 6/06	UCSD, Professor, Step V
7/06 – 7/09	UCSD, Professor, Step VI
7/09 – present	UCSD, Professor, Step VII

**Professional Experience:**

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3/80 – 2/81	Chief Resident, UC San Diego Dept. of Radiology.
7/82 – 8/84	Chief, Digital Radiology Section, UCSD Medical Center.
6/84 – 7/87	Chief, Computed Tomography Section, UCSD Medical Center.
12/85 – 6/90	Director of Magnetic Resonance Research.
7/90 – 6/95	Director of 5-year Residency program, UCSD Dept. of Radiology.
1996 – 1997	Vice president, Association of University Radiologists
1997 – 1998	President elect, Association of University Radiologists
1998 – 1999	President, Association of University Radiologists
2001 – 2002	President elect, Radiology Research Alliance
2002 – 2003	President, Radiology Research Alliance
12/85 – 6/2005	Chief, Body MRI Section, UCSD Medical Center.
9/2003 – 9/2007	Director, Imaging Core Services, Clinical Investigational Institute
2/96 – present	Vice Chairman, Director of Research
9/01 – present	Director, Molecular Imaging Program
11/03 – present	Director, 5-year Radiology Clinician/Scientist Program, UCSD Dept. of Radiology.
4/2008 – present	Director, Imaging Services, Clinical Translation Institute (part of CTSA)

**Consultant:**

7/87 - 6/88	Consultant: Molecular Biosystems Incorporated, San Diego, CA.
7/88 – 6/2000	Consultant: Naval Hospital, San Diego, CA, Dept. of Radiology.
2/89 – 6/2002	Consultant: Alliance Pharmaceutical Corp. San Diego, CA
11/01 – 12/2002	Bracco Diagnostic Inc.

**Professional Activities:****Societies:**

- American Institute of Ultrasound in Medicine
- Association of University Radiologists
- Radiologic Society of North America
- San Diego Radiologic Society
- Society of Magnetic Resonance in Medicine
- Society of Molecular Imaging

**Fellow:**

- American Institute of Ultrasound in Medicine
- Society of Uroradiology

**Meeting Organization:**

- Organized the 1995 and 1999 meetings of the Association of University Radiologists in San Diego that attract approximately 600 to 700 attendees.
- Initiated and directed the Ultrasound Contrast Media Research Symposium 1996-2005. This scientific yearly meeting in San Diego is all scientific presentations with abstract

submissions. It is supported by grants from the ultrasound contrast and equipment manufacturers. It gathers approximately 50-100 scientists from industry and academia.

- Elected by participants to Convene the International Contrast Media Research Symposium in October 2003. This is equivalent to being elected the president of the multidisciplinary group for 2 years.

**Committees:**

Non-UCSD

4/80 - 4/81	Representative of the Amer. Assoc. of Acad. Chief Residents in Radiology. to the Amer. Assoc. of Phys. in Med. Education Committee.
9/82 - 10/83	Organization Committee, International Symposium on Contrast Media, San Francisco, CA.
5/83 - 5/86	Membership Committee of The Association of University Radiologists (AUR).
4/86 - 3/87	AUR Nominating Committee.
10/88 - 12/88	Ad hoc Committee for the AUR Stauffer Laboratory Research Award.
12/89 - 1/90	Ad hoc Committee for the AUR Stauffer Clinical Research Award.
7/90 - 4/91	Chairman, ad hoc Committee for the AUR Stauffer Laboratory Research Award.
7/91 - 4/92	Chairman, ad hoc Committee for the AUR Stauffer Award.
7/92 - 11/92	Ad hoc Advisory Committee to develop a 5-year plan for NIH supported research in Diagnostic Imaging.
1/87 - 12/92	Diagnostic and Therapeutic Technology and Assessment Panel of the American Medical Association.
3/92 - 3/93	Organization Committee of VIth Conference of the International Society on Blood Substitutes.
5/93 - 5/95	AUR ad hoc Scientific Program Committee
5/93 - 6/95	AUR ad hoc Long Range Planning Committee
5/92 - 5/96	AUR Finance Committee
5/89 - 5/97	AUR Committee on Research Symposium 1989-92, and Chairman 1993-97.
3/99	Develop Specifications of an Ultrasound Instrument and Infrastructure for Improved Imaging Methods. NIH-NCI Diagnostic Imaging
6/95 - 6/99	Amer. Roentgen Ray Society Advisory Committee on Education and Research
11/93 - 11/99	ACR Imaging Network Committee on Drugs and Contrast Media
12/99	Board of Scientific Counselors review of the NIH Imaging Science Program of The Warren Grant Magnuson Clinical Center.
9/90 - 8/2000	USP Drug Inform. Expert Advisory Panel on Non-Radioactive Diagnostic Agents
10/98 - 9/2000	NCI Clinical Trials Cooperative Group for Cancer
1/95 -12/2000	Soc. of Uroradiology Committee on Research
5/89 - 4/2001	<i>Academic Radiology</i> Executive Committee.
1/00 - 6/2001	RSNA FutuRAD Committee on all aspects of the specialty of Radiology
10/00 – 2008	AUR-Europe liaison to AUR
1/01 – 1/02	AUR Awards Committee
5/89 – 4/2003	AUR Executive Committee.
11/98 – 9/00	Chair, AUR International Organizing Committee to develop AUR-International
1/01 – 12/06	RSNA Committee on International Relations & Education (CIRE)
1/04 - 2008	AIUM Abstract Reviewer for Physics and Contrast Sessions
5/04 – 2008	AUR Development Committee Chairman
1/05 – 12/06	RSNA Ultrasound Subcommittee of the Scientific Program Committee
5/05 – 2008	AUR Finance, Committee
5/05 – 2008	AUR Nominating Committee
5/05 – 2008	AUR Website Committee
1/06 – 12/07	RSNA GI/GU Subcommittee of the Scientific Program Committee
1/03 – 4/09	AUR Long-Range Planning Committee
5/05 – present	AUR R&E Foundation Board Member

5/05 – present AUR Publications Committee  
11/05 – present AIUM Committee of Ultrasound Contrast Applications  
1/06 – present ACR Imaging Network GI/GU Committee  
8/06 – present FDA - Division of Medical Imaging Drug Products Advisory Board  
1/08 – present Academy of Radiology Research Board of Directors

UCSD

7/82 - 4/83 Utilization Review Committee, UCSD Medical Center.  
3/83 - 12/85 Member of MR Research Committee.  
3/83 - 12/86 Chairman Department Computer Committee.  
7/85 - 10/88 Dept. of Radiology Executive Committee - Represented Jr. Faculty.  
9/86 - 6/89 UCSD School of Medicine, Medical Scientific Training Program Admission Committee (MD/Ph.D. program).  
12/85 - 6/90 Chairman, MR Research Committee.  
4/87 - 6/90 Radiology Department Library Committee.  
4/83 - 9/93 Dept. of Radiology Research Committee.  
12/92 - 12/95 Human Exposure Review Committee  
12/92 - 12/95 Radioactive Drug Research Committee  
6/90 - 2/96 Member of MR Research Committee.  
1/99 - 5/99 Chairman, Search Committee for Chief of Nuclear Medicine  
5/96 - 5/98 Ad hoc Committee, Faculty Incentive Plan  
5/83 – 4/2003 Resident Selection Committee, UCSD Dept. of Radiology.  
1/03 – 5/03 Steering Committee for 2003 UCSD Cancer Center retreat  
3/03 – 5/04 Search Committee for Chief of GI division, Department of Medicine  
8-04 – 7/05 Search Committee for Bioengineering Scientist at UCSD Cancer Center  
5/05 – 5/06 Steering Committee for UCSD Cancer Center retreat  
7/82 – 6/2007 Selection Committee for Body Imaging and MR Fellowship programs  
7/82 – 6/2007 Selection Committee for Body Imaging and MR Fellowship programs  
9/03 – 9/07 Executive Committee, Clinical Investigation Institute  
12/09 – present Ad hoc Committee, 5-year review of Chair of Surgery  
11/03 – present Chair, 5-year Clinician/Scientist Selection Committee, UCSD Dept. of Radiology.

**MS/PhD Committees**



## Grant Support

### Active:

#### As P.I.

1. Training Clinical Scientists in Radiological Imaging; NIH 7/1/2007-6/30/2012, P.I. Robert F. Mattrey, M.D.(20%), \$175,000/yr.
2. In Vivo Cellular and Molecular Imaging Center Development; NIH 9/1/2008 - 6/30/2013, P.I. Robert F. Mattrey, M.D. \$1.2M/yr; Two Supplements to support 2 URM Grad Students
3. UCSD Cancer Nanotechnology Training Center , NIH P.I. Robert F. Mattrey, M.D. \$363,800/yr
4. Quantitative Subharmonic Breast Imaging. 7/1/2011-6/30/2013, NIH \$375,000/yr, PI to subcontract to Fleming Forsberg, Thomas Jefferson, Robert F. Mattrey

#### As Co-Investigator

5. Feasibility of Dual Optics/Ultrasound Imaging and Contrast Media for the detection and characterization of Prostate Cancer. 1/1/07-12/31/09, DOD PCRP \$375,000, David J. Hall, PhD P.I., Robert F. Mattrey, M.D (10%)
6. Isolation of rare circulating tumor cells from blood using microbubbles. 9/1/2009-8/31/2011; NIH \$250,000; Dmitri Simberg, PI.; Robert F. Mattrey (3%)

### Expired:

#### Peer Reviewed:

1. PFC's as Ultrasound Contrast Agents: Preclinical Evaluation. 7/83-6/86; P.I. (20%); **NIH**; R01-CA36799; \$128,099.
2. NCI Physician-Investigator Development Award Program. 3/84-2/87; P.I. (70%); **NIH**; KO8-CA00940; \$148,482.
3. Preclinical Evaluation of Perfluorocarbons as Myocardial Infarction Specific Ultrasound Contrast Agents. 1/85-12/87; P.I. Unit #6 (10%); **NIH**; SCOR-HL17682; \$184,469.
4. Clinical Evaluation of Fluosol as a Liver/Tumor Ultrasound Contrast Agent. 7/84-6/87; P.I. (20%); **American Cancer Society**; #PDT-257; (b) (4)
5. Radiopaque Fluorocarbon in Diagnostic Radiology. 1/79-8/88; Co-investigator (10%); **NIH**; R01-CA32857; \$149,084. (P.I.: David Long, M.D.)
6. Shared Instrumentation Grant to Purchase X-ray Fluorescent Spectrometer. 7/88-4/89; P.I.; **NIH**; 1-S10-RR04059-01; \$140,000.
7. High resolution MR imaging of the prostate using a prototype endorectal coil for the detection and staging of prostate cancer. **US Navy**, collaboration with the Dept. of Urology San Diego Naval Medical Center. 6/86-6/91. (Co-P.I. no salary support), \$120,000
8. Multinuclear *in vivo* MRI/MRS: Development and Application. 2/88-1/92; P.I. (20%) (2/90-1/92); **NIH**; 5 RO1-CA44574; \$457,588. (Joel Martin, P.I. 2/88-1/90)
9. Radiopaque Fluorocarbon in Diagnostic Radiology. 1/79-3/92; Co-investigator (10%); **NIH**; 2 RO1 CA32857-10A1; \$470,000. (P.I.: David Long, M.D.)
10. PFCs as CT/Ultrasound Contrast Agents. 4/88-3/93; P.I. (20%); **NIH**; R01-CA36799; \$731,914.

11. Research Career Development Award. 5/88-4/93; P.I. (70%); **NIH**; KO8-CA01319; \$250,269.
12. MR Imaging of Lung Parenchyma. 12/92-9/96, Co-investigator (10%); **NIH**; R29-HL48854-01, \$272,000, (P.I., Colleen Bergin, M.D.)
13. Ultrasound Contrast Agents and Harmonic Imaging for the Improved Delineation of Atherosclerotic Disease. 7/1/96-6/30/97, **RSNA Resident Education Fund**, Mentor to (b) (6) M.D., \$ (b) (4)
14. PFCs in Diagnostic Imaging. **NIH**, 4/1/96-3/31/2001, P.I. (30%), \$862,795.
15. Tagging of Breast Tumors for Excision and Specimen Radiography and of Sentinel Nodes for Ultrasound-Guided Localization Using Novel Particulate Agents, **U.S. Army Medical Research and Materials Command**, 9/1/98-8/31/2001, \$299,805, RF Mattrey P.I. (10%).
16. Blood Pool Contrast Agents for CT and MRI. D. Vera, Ph.D. P.I.; RF Mattrey, M.D. (20%). **NIH**; R01-CA82335; \$950,217, 4/1/2000-2004.
17. Trans-Splicing Ribozymes and Reporter Enzymes to Image and Treat Tumors. R Tsien Ph.D., P.I. RF Mattrey, M.D. (10%). **DOE**. 10/1/2001-2004. \$1,752,776
18. Pre-In-vivo Cellular and Molecular Imaging Centers. R. Mattrey P.I. (40%), **NIH**, \$987,064, 4/1/2001-8/31/06.
19. Imageable Mouse Models of Pancreatic Cancer, Michael Bouvet, M.D., P.I., Robert F. Mattrey, M.D., (5%). **NIH**, 9/1/04-8/31/06, \$250,000
20. Ultrasound Imaging of Brain Perfusion in Acute Stroke before and after tPA. RF Mattrey (10%) P.I. of Project #3 (\$800,000) on **NIH** Program Project "SPOTRIAS – Therapeutic Window for Acute Stroke Therapy" (\$5,000,000) Patrick Lyden P.I. 4/1/03-3/31/08
21. Optical Measurement of Fast Drug Kinetics in Tumors. Irving Bigio, Ph.D., Boston University, P.I.; Robert F. Mattrey, M.D., P.I. of subcontract to UCSD (\$240,000). (10%). **NIH**; 10/1/03-9/30/07
22. Indirect Lymphosonography for Sentinel Node Localization, P.I., Robert F. Mattrey, M.D., **NIH** (20%) 9/1/04-8/31/07, \$335,512
23. A New MRI Dextran-based Contrast Agent for Early Detection. 5/1/05 – 4/30/08. **Susan G. Komen Foundation** \$ (b) (4) . (b) (6) (5%) as co-investigator
24. Pre-In-vivo Cellular and Molecular Imaging Centers. R. Mattrey P.I. (40%), **NIH**, \$500,000, 9/1/2007-8/31/08.
25. Center of Nanotechnology for Treatment, Understanding, and Monitoring of Cancer, **NIH** 9/1/05 - 8/31/10, Robert F. Mattrey, M.D., P.I. Imaging Core; co-Investigator on Project #2 and Project #6, \$4,346,777 first year.
26. Molecular Imaging with Ultrasound Contrast Agents, **NIH** 9/1/05 – 8/31/10, P.I. Robert F. Mattrey, M.D. \$1,199,944 total.

Industry/Foundation:

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**Grant Reviewer**

**NIH**

- Special review for NIH program project 7/91
- Special review for NIH program project 6/92
- Special review for NIH program project 4/93
- Special review for RFA on Monitoring Tumor Treatment Response 4/99
- Special review for SBIR grants 4/04
- Special review for NIH Shared Resource 1/06
- NIH Imaging and BRP Study Section 2/06
- NIH Imaging and BRP Study Section 2/07
- Medical Research Council, UK Adhoc Reviewer 9/08
- Chair and Review of S10 proposals 11/08
- Special Review of University of Arizona Cancer Center Renewal 2/09
- Review of Challenge Grants 6/09
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**Other**

- RSNA R&E Foundation Study Section 2002 – 2006 review cycles
- Lymphatic Research Foundation 2006 cycle
- External Advisory Ctte of Research Program, The Methodist Hospital, Houston, TX, 8/06

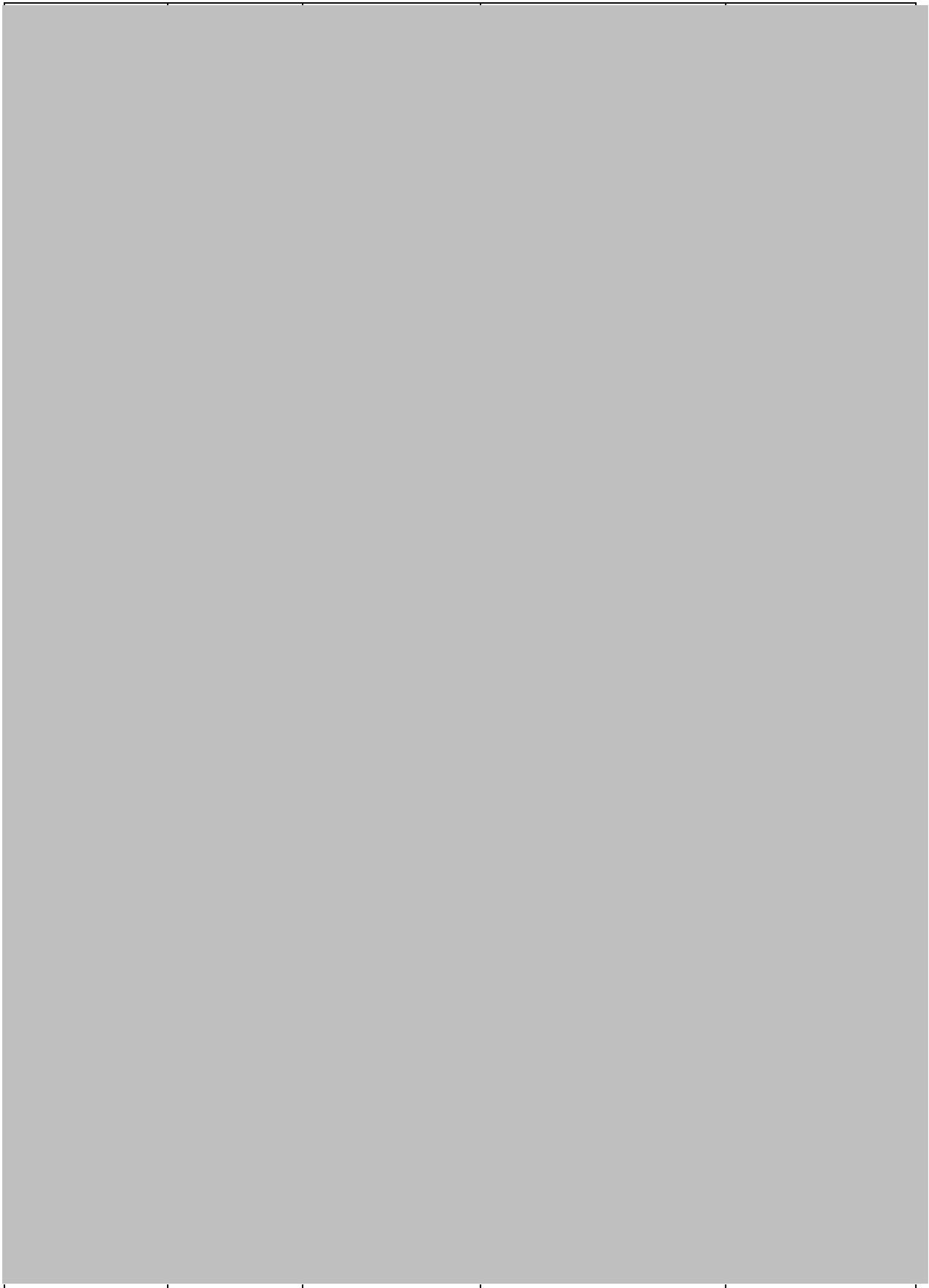
**Reviewer to Refereed Journal**

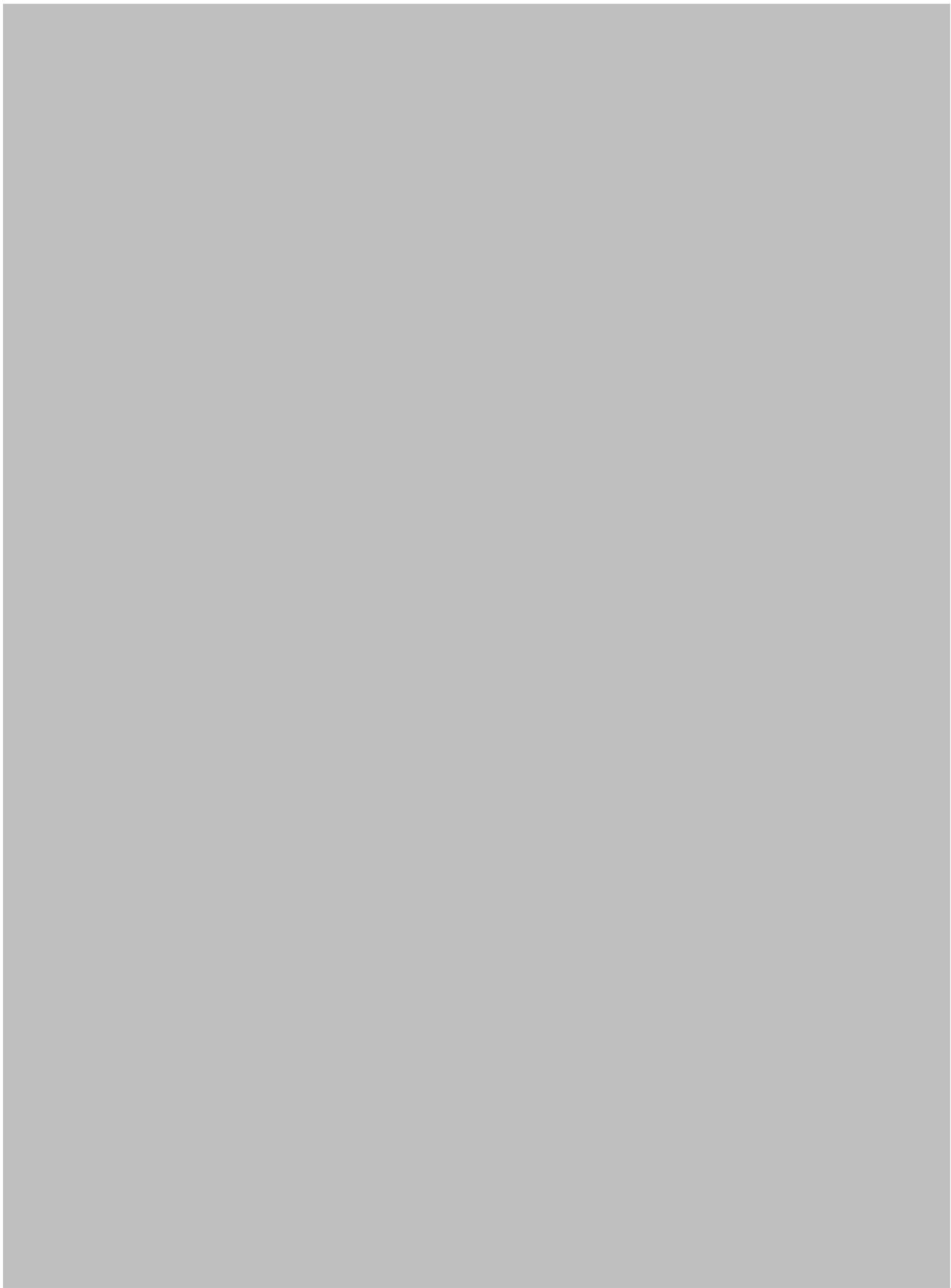
- *American Journal of Roentgenology*
- *Academic Radiology*
- *Arthritis & Rheumatism*
- *Cancer Research*
- *Journal of Magnetic Resonance Imaging*
- *Journal of Ultrasound in Medicine*
- *Journal of Ultrasound in Medicine and Biology*
- *Molecular Imaging*
- *Radiology*

**Faculty Mentorship for Research Training**

**Past Trainees:**

Name	Training Period	Prev. Institution & Degree	Title of Research Project	Current or Last Known Position







## Visiting Professorship

- Department of Radiology, University of New Mexico, 2/89.
- Department of Radiology, University of New Mexico, 11/90.
- Department of Radiology, Massachusetts General Hospital, 6/92.
- Department of Radiology, UC Davis Medical Center, 6/92
- Department of Radiology, Cottage Hospital, Santa Barbara 6/94
- Department of Radiology, UC Irvine Medical Center, 9/95
- Department of Radiology, Duke University, North Carolina, 9/96
- Department of Radiology, Brigham and Women's Hospital, 12/96
- Department of Radiology, University of Nijmegen, Netherlands, 9/98
- Department of Radiology, University of Wisconsin, Madison, 4/01
- Department of Radiology, Vanderbilt University, Nashville, 5/01
- Department of Radiology, American University of Beirut, Lebanon 5/04
- Department of Ultrasound, Chongqing Medical University, Chongqing, China 6/04
- Department of Radiology, Ulsan University, Seoul Korea, 9/06
- Department of Ultrasound, Chongqing Medical University, Chongqing, China 10/06
- Department of Radiology, Vanderbilt University, Nashville, 11/09

## Invited Lectures

2-4 page handout is prepared for each lecture. Handouts are published in course syllabus.

### Local:

Over 450 lectures given at courses sponsored by the UCSD Dept. of Radiology.

Other local lectures not sponsored by UCSD Department of Radiology

1. MRI Scanning of the Prostate and Scrotum: Texas Assoc. of Genitourinary Surgeons Conference, San Diego, CA, 4/89.
2. Role of MRI in Urologic Applications. American Urology Association: Postgraduate Radiology Course: San Diego, CA, 11/89.
3. Radiologic Imaging of the Endocrine Glands. Endocrine Postgraduate Assembly. San Diego, CA 10/91.
4. Doppler Contrast Agents. Symposium of Vascular Diagnosis. San Diego, CA 2/92
5. Application of fluorocarbons in Diagnostic Imaging. VIth Symposium of the International Society of Blood Substitutes, San Diego, 3/93
6. Perflubron as a CT/Ultrasound Contrast Agent. VIth Symposium of the International Society of Blood Substitutes, San Diego, 3/93
7. Role of MRI in Prostate Cancer. Mission Regional Imaging Center. Mission Viejo, 2/93
8. Role of MRI in Urologic Applications. Mission Regional Imaging Center. Mission Viejo, 4/93
9. Applications of MR in Ob/Gyn. Mission Regional Imaging Center. Mission Viejo, 5/93
10. MRI of the Prostate from the patient's perspective. Prostate Cancer Support Group, 9/95
11. MRI of the Liver and Biliary Tree. Grand Rounds, UCSD Gastroenterology, San Diego, 2/2000.
12. How to Read an MRI. Professor's Lecture Series, UCSD Department of Urology, San Diego, 9/2000.
13. Diagnosis of Hepatocellular Carcinoma. New Horizons in Hepatology 2001. UCSD Liver Center, San Diego, 9/2001.
14. Imaging beyond structure. Keynote Speaker Small Animal Imaging Course 2005. GE Healthcare

**National:**

1. Perfluorocarbons as Ultrasound Contrast Agents: Alpha Therapeutic Corporation, Los Angeles, CA, 4/82.
2. Future Advances in Computed Tomography and Ultrasound, American Association of Physicists in Medicine, Las Vegas, NV, 5/83.
3. Perfluorocarbons in diagnostic ultrasound, VIIIth Fluosol Clinical Meeting, Los Angeles, CA, 8/83.
4. Perfluorocarbons in diagnostic ultrasound, early human experience, Orlando Ultrasound Society, Orlando, FL, 9/83.
5. PFC's as Ultrasound Contrast Agents: Possible mechanisms. Technicare Corporation, Denver, CO, 4/83.
6. Perfluorocarbon emulsions in diagnostic imaging. Course on Advances in Organ Imaging and Contrast Enhancement; , San Francisco, CA, 10/83
7. Ultrasound Contrast Agents. International Symposium on Contrast Media, San Francisco, CA 10/83:
8. Applications of Perfluorooctyl Bromide in Computed Tomography. International Symposium on Contrast Media, San Francisco, CA 10/83
9. Fetal Anatomy & Fetal Echocardiography, Society of Diagnostic Medical Sonographers, Las Vegas, NV, 3/85.
10. Liver and The Uses of Contrast Media, Society of Diagnostic Medical Sonographers, Las Vegas, NV, 3/85.
11. Perfluorocarbon Compounds: Applications in Diagnostic Imaging, The International Society for Optical Engineering, Newport Beach, CA, 2/86.
12. Ultrasonic Evaluation of Pregnancy: Dating and Normal Observation, The Seventh Annual Spring Sonic Symposium, Jackson, MS, 4/86.
13. Ultrasonic Evaluation of Pregnancy – Abnormal, The Seventh Annual Spring Sonic Symposium, Jackson, MS, 4/86.
14. Ultrasound in the Detection of Liver Lesions, Sonic Symposium, Milwaukee, WI, 10/86.
15. Artifacts, Sonic Symposium, Milwaukee, WI, 10/86.
16. MRI of the Abdomen, Aspen Abdominal and Uroradiology Conference, Aspen, CO, 3/87.
17. MRI of the Pelvis, Aspen Abdominal and Uroradiology Conference, Aspen, CO, 3/87.
18. MRI of the Scrotum and Testis, Aspen Abdominal and Uroradiology Conference, Aspen, CO, 3/87.
19. MRI of Pelvis with Emphasis on Oncologic Disorders: APC 57th Annual Postgraduate Convention; Loam Linda Hospital, Los Angeles, CA, 2/89.
20. Body MRI in Cancer – Part 1 & 2: Cancer Seminar: St. Joseph's Hospital, Minot, North Dakota, 4/89.
21. MRI of the Female Pelvis: South Coast Radiological Society: Santa Barbara, CA, 4/89.
22. Inflatable Surface Coil for MR Imaging of the Prostate: AUA Meeting: Dallas, TX, 5/89.
23. Contrast Media for MRS – Moderator: Assoc. of Univ. Rad. Research (Spectroscopy) Symposium: Seattle, WA, 5/89.
24. Fluorochemicals as Ultrasound Contrast Agent: NIH – Symposium on Ultrasound Imaging and Tissue Characterization: Arlington, VA, 6/89.
25. MRI of Prostate and Scrotum, Advances in Cancer Imaging. American Cancer Society (ACS) lecture: New York, 1/90.
26. Uses of Surface coils in MRI of the Genitourinary Tract: UCSF Grand Rounds, San Francisco, CA, 2/90.

27. Liver Lesion Detection and Characterization: UCSF Visiting Fellowship Course, San Francisco, CA, 2/90.
28. Contrast To Noise Ratio, a Fine Line in Body Imaging: UCSF Visiting Fellowship Course, San Francisco, CA, 2/90.
29. MR Imaging of the Brachial Plexus: UCSF Visiting Fellowship Course, San Francisco, CA, 2/90.
30. Role of PFOB (Imagent®) In Diagnostic Imaging. UCI Department of Radiological Sciences Division of Physics and Engineering Seminar, 5/90.
31. Role of Imagent® BP in Liver CT. Massachusetts General Hospital/Harvard Liver Symposium. Boston, Massachusetts, 6/90.
32. MRI of Male and Female Pelvis. Kaiser Permanente's 17th Annual Radiology Symposium, Anaheim, CA, 11/90.
33. The Brachial Plexus. Kaiser Permanente's 17th Annual Radiology Symposium, Anaheim, CA, 11/90.
34. MRI of Prostate Cancer. The University of New Mexico. Albuquerque, NM, 11/90.
35. Imaging the Brachial Plexus. The University of New Mexico. Albuquerque, NM, 11/90.
36. MR Image Contrast and Signal-to-Noise Optimization. The University of New Mexico, Albuquerque, NM, 11/90.
37. Imaging of the Female Pelvis. The University of New Mexico. Albuquerque, NM, 11/90.
38. PFOB as an Ultrasound Contrast Agent. Sterling-Winthrop Manitoba Diagnostic Imaging Symposium. Orlando, FL, 3/91.
39. Blood Pool Imaging for CT. Sterling-Winthrop Manitoba Diagnostic Imaging Symposium. Orlando, FL, 3/91.
40. MRI of the Male Pelvis. UCSF Postgraduate Course. Monterey, CA, 5/91.
41. MRI of the Female Pelvis. UCSF Postgraduate Course. Monterey, CA, 5/91.
42. Contrast Media in Body MRI. UCSF Postgraduate Course. Monterey, CA, 5/91.
43. MRI of Prostate/Scrotum. UC Davis Radiology MRI Update Conference. Napa, CA, 8/91.
44. MRI of the Female Pelvis. UC Davis Radiology MRI Update Conference. Napa, CA, 8/91.
45. Blood Pool Imaging with CT. Grand Rounds. Harvard Medical School. Boston, Mass, 2/92.
46. Researching New Pharmaceutical Agents, The ARRS, AUR, and RSNA Introduction to Research for Residents. Radiological Society of North America, Chicago, 11/92.
47. MR of the Prostate and Scrotum. Amer. Roentgen Ray Society Post Graduate Education, San Francisco, 4/93
48. Role of Perflubron Emulsion in Renal Imaging. Squibb Research Symposium on Ultrasound Contrast Agents. Jacksonville, FL 4/93.
49. MRI of the Prostate and Scrotum. Amer. Roentgen Ray Society San Francisco, CA 4/93.
50. Researching New Pharmaceutical Agents, The ARRS, AUR, and RSNA Introduction to Research for Residents. Radiological Society of North America, Chicago, 11/93
51. MRI and Ultrasound of the Prostate. Amer. Roentgen Ray Society, New Orleans, 4/94
52. Essentials of Experimental Design for Laboratory Research, The ARRS, AUR, and RSNA Introduction to Research for Residents. Radiological Society of North America, Chicago, 11/94
53. The Male Pelvis: MRI of the Prostate and Scrotum. Los Angeles Radiological Society, Midwinter Conference, 2/95.

54. MRI of the Brachial Plexus. Los Angeles Radiological Society, Midwinter Conference, 2/95.
55. MRI in Female Pelvic Malignancy. Los Angeles Radiological Society, Midwinter Conference, 2/95.
56. MRI in OB/GYN. Los Angeles Radiological Society, Midwinter Conference, 2/95.
57. CT and MRI for the Generalist. Brotman Medical Center, Culver City, CA 3/95
58. Ultrasound and Contrast Media Materials. Ultrasound Society, Raleigh, NC, 3/95.
59. Testicular Evaluation. Ultrasound Society, Raleigh, NC 3/95
60. Introduction to Research AUR, San Diego, 4/95
61. Essentials of Experimental Design for Laboratory Research, ARRS, Washington DC, 1995
62. Introduction to Research for Residents. Amer. Roentgen Ray Society, 11/95
63. Perfluorocarbon-based Ultrasound Contrast Agents. Symposium on Ultrasound Contrast Agents; The Leading Edge in Diagnostic Ultrasound, Atlantic City, NJ 5/95.
64. MR of the Brachial Plexus, UC Irvine 9/95
65. MR of the Female Pelvis, Orange County Radiologic Society, Los Angeles 9/95
66. MR of the Brachial Plexus, Kaiser Permanente Conference, Los Angeles 10/95
67. MR of the Female Pelvis, Kaiser Permanente Conference, Los Angeles 10/95
68. MR of the Female Pelvis, Queen of Angels Hospital, Hollywood 10/95
69. Essentials of Experimental Design for Laboratory Research. RSNA Introduction to Research for Residents. Radiological Society of North America, Chicago, 11/95
70. Essentials of Experimental Design for Laboratory Research. Introduction to Research for Residents. AUR 44th Annual Meeting, Birmingham 4/96.
71. Potential Impact of 2nd Harmonic Imaging. Symposium on Ultrasound Contrast Agents; The Leading Edge in Diagnostic Ultrasound, Atlantic City, NJ 5/96.
72. Essentials of Experimental Design for Laboratory Research. Introduction to Research for Residents. Amer. Roentgen Ray Society, Reston, VA 5/96
73. The Impact of the Regulatory Process on Research, Technology Transfer and Patient Care in the United States. RSNA, Chicago, 11/96.
74. Enhancing the accuracy of Liver Lesion Classification on MR and CT. Brigham and Women's Hospital, Boston, MA 12/96.
75. Moderator of Scientific Session on Genitourinary AUR, Dallas TX, 4/97
76. MR Contrast in Abdominal Imaging. Educational Symposia, Inc. Los Angeles, CA 5/97.
77. Impact of Contrast Media on Grey-Scale Imaging. The Leading Edge in Diagnostic Ultrasound, Atlantic City, NJ 5/97.
78. The New Ultrasound Contrast Agents. The Society of Uroradiology, Santa Fe, New Mexico, 6/97.
79. Introduction to Laboratory Research. RSNA, Chicago, 11/97
80. Ultrasound Contrast Agents. The Society of Gastrointestinal Radiologists. Rancho Mirage, CA 2/98
81. Essentials of Experimental Design for Laboratory Research, Amer. Roentgen Ray Society, San Francisco, CA 4/98.
82. Contrast Specific Imaging Techniques. The Leading Edge in Diagnostic Ultrasound, Atlantic City, NJ 5/98.
83. Introduction to Laboratory Research. RSNA, Chicago, 11/98
84. Panelist "The FDA Modernization Act of 1997: Implications for Radiology Sponsorship by the RSNA Health Policy and Practice Committee:" Chicago, 11/98

85. Liver Imaging: Contrast and Sequence Choice, Fast Sequences in Body Applications, Female Pelvis I and Female Pelvis II Post. Graduate MRI Course, Snowbird, Utah 1/99
86. MRI in Gynecologic Oncology, MRI Applications in Gynecology & Obstetrics, and MRI of the Liver. Post Graduate MRI Course, Snowbird, Utah 3/99
87. Developing Ideas in Laboratory Research. AUR, San Diego, California, 3/99
88. Clinical Aspects of Ultrasound Contrast Media. Amer. Institute of Ultrasound in Medicine, San Antonio, TX 3/99
89. Wideband Harmonic Imaging. The Leading Edge in Diagnostic Ultrasound, Atlantic City, NJ 5/99.
90. Contrast Agents for MRI and Ultrasound. Innovative Solutions for Prostate Cancer Care: Image-Guided, Minimally Invasive Diagnosis and Treatment. Washington, D.C. 6/99.
91. Global Development for Diagnostic Imaging Products. 35<sup>th</sup> Annual DIA Meeting, Baltimore, MD 6/99
92. Introduction to Laboratory Research. Introduction to Research sponsored by RSNA/AUR/ARRS. RSNA annual meeting, Chicago, Ill, 11/99
93. Approach to Body Imaging, Brachial Plexus, Gynecologic Oncology, Prostate and Scrotum. 15<sup>th</sup> Postgraduate MRI Course, Snowbird, Utah, 1/2000.
94. Approach to Body Imaging, Brachial Plexus, Gynecologic Oncology, Prostate and Scrotum. 15<sup>th</sup> Postgraduate MRI Course, Snowbird, Utah, 2/2000.
95. Advances in Abdominal Ultrasound: Intravenous Contrast Agents. American Institute of Ultrasound in Medicine, 44<sup>th</sup> Annual Convention, San Francisco, 4/2000.
96. 3D Ultrasound: Clinical Applications in Vascular Imaging. American Institute of Ultrasound in Medicine 44<sup>th</sup> Annual Convention, San Francisco, 4/2000.
97. Laboratory Research, AUR Career Development Program, Orlando, 4/2000
98. MRI Contrast Applications in the Abdomen and Pelvis. Educational Symposium. Los Angeles, CA, 4/2000
99. Contrast Imaging of Lymph Nodes. Twentieth Annual Leading Edge Conference, Atlantic City, N.J., 5/2000
100. MRI Contrast Use in the Abdomen & Pelvis. Educational Symposium. Phoenix, Arizona, 9/2000
101. MRI Contrast Use in the Abdomen & Pelvis. Educational Symposium. San Francisco, California, 11/2000
102. Introduction to Laboratory Research. Sponsored by RSNA/AUR/ARRS, RSNA Annual Meeting, Chicago, Illinois, November, 2000.
103. Ultrasound Contrast Agents. Panel Discussion, Future Direction. RSNA Annual Meeting, Chicago, Illinois, November 2000.
104. Abdominal Applications of Contrast Agents. Categorical Course: New Innovations in Abdominal Imaging, Part I. AIUM 45<sup>th</sup> Annual Convention. Orlando, Florida, March 2001.
105. The Potential for Quantifying Contrast Imaging. The Leading Edge in Diagnostic Ultrasound Conference, Atlantic City, New Jersey, May 2001.
106. 25<sup>th</sup> Annual Diagnostic Sonography Symposium. Vanderbilt University Medical Center, Nashville, Tennessee, May, 2001.
107. Radiology Research: "Finding the Resources." AUR Annual Meeting, Toronto, May 2001.
108. Introduction to Laboratory Research Sponsored by RSNA Annual Scientific Meeting, Chicago, Illinois, November 2001.
109. Introduction to the National Institute of Biomedical Imaging and Bioengineering Workshop, RSNA/ARR/AAP, Chicago, Illinois, November 2001.

110. Moderator: RRA/RSNA "NIBIB Update." AUR Annual Meeting, Phoenix, Arizona, April 2002.
111. NIBIB/Academic Liaison and Opportunity. AUR Annual Meeting, Phoenix, Arizona, April 2002.
112. Current Status of Ultrasound Contrast. 22<sup>nd</sup> Annual Leading Edge Conference, Atlantic City, N.J., 5/2002
113. Introduction to Laboratory Research Sponsored by RSNA Annual Scientific Meeting, Chicago, Illinois, November 2002.
114. Radiology at Snowbird; Spine, Body and Musculoskeletal Imaging. Title of lectures: Female Pelvis I and II, Prostate Imaging. Graduate MRI Course, Snowbird, Utah March 2003
115. Academic Faculty Development Program. AUR Annual Meeting Miami, Florida, May 2003.
116. Session Moderator for Scientific Session #10. AUR Annual Meeting Miami, Florida, May 2003.
117. Safety of Ultrasonic Contrast Agents Symposium. 10<sup>th</sup> Congress of the World Federation for Ultrasound in Medicine and Biology Montreal, Canada, June 2003
118. Introduction to Research: Title of lecture "International Efforts in Academic Radiology" Sponsored by RSNA Annual Scientific Meeting, Chicago, Illinois, November 2003.
119. Radiology at Snowbird; Spine, Body and Musculoskeletal Imaging. Title of lecture: MRI of the Liver, Female Pelvis I and Female Pelvis II. Graduate MRI Course, Snowbird, Utah, January 2004
120. AUR Philips Faculty Development Program for Scientific Session at the AUR 52<sup>nd</sup> Annual Meeting, Title of presentation: "Laboratory Research" San Francisco, April 2004.
121. Off-label use of ultrasound Contrast in clinical Practice. 24<sup>th</sup> Annual Leading Edge Conference, Atlantic City, N.J., 5/2004
122. Introduction to Research Series. Sponsored by RSNA Annual Scientific Meeting, Chicago, Illinois, November 2004.
123. Radiology at Snowbird; Spine, Body and Musculoskeletal Imaging. Titles of lectures: Prostate Imaging, Female Pelvis I and II, CT Colonoscopy. Graduate MRI Course, Snowbird, Utah, January 2005.
124. Frontiers of Clinical Investigation – Autoimmunity 2005: From Bench to Bedside Symposium. Title of Presentation "Novel Imaging Modalities." Sponsored by UCSD Clinical Investigation Institute (CII) and Nature Medicine, September 2005.
125. Siemens Ultrasound, "Opportunities and Challenges for Ultrasound Contrast in Molecular Imaging", Geneva, Switzerland, November 2005.
126. RSNA Course in Clinical Translation. Title of lecture: "Training and Molecular Imaging." 91<sup>st</sup> Scientific Assembly and Annual Meeting, Chicago, Illinois, November 2005.
127. RSNA Course in Image Guided Intervention. Title of lecture: "Ultrasound Contrast in Diagnosis and Therapy" 91<sup>st</sup> Scientific Assembly and Annual Meeting, Chicago, Illinois, November 2005.
128. RSNA Presiding Officer Session: Ultrasound (Perfusion, Gene Therapy). 91<sup>st</sup> Scientific Assembly and Annual Meeting, Chicago, Illinois, November 2005.
129. Radiology at Snowbird; Spine, Body and Musculoskeletal Imaging. Titles of lectures: Prostate Imaging, Female Pelvis I and II, CT Colonoscopy. Graduate MRI Course, Snowbird, Utah, January 2006.
130. AIUM "Is there a future for ultrasound contrast", March, 2006
131. Ultrasound Contrast in Molecular Imaging. 26<sup>th</sup> Annual Leading Edge Conference, Atlantic City, N.J., 5/2006

132. Recent Development in MR Contrast Media. Bracco Experts Meeting, Las Vegas, NV, 6/2006
133. Introduction to molecular imaging, ACR Imaging Network, 9/2006
134. RSNA Presiding Officer Session: Ultrasound Contrast, 92<sup>nd</sup> Scientific Assembly and Annual Meeting, Chicago, Illinois, November 2006.
135. RSNA Presiding Officer Session: Cell Labeling and Tracking, 92<sup>nd</sup> Scientific Assembly and Annual Meeting, Chicago, Illinois, November 2006.
136. Radiology at Snowbird; Spine, Body and Musculoskeletal Imaging. Titles of lectures: Prostate Imaging, Female Pelvis I and II, Brachial Plexus. Graduate MRI Course, Snowbird, Utah, January 2007.
137. AIUM "Introduction to Molecular Imaging", March, 2007
138. RSNA Presiding Officer Session: Ultrasound Contrast, 93<sup>rd</sup> Scientific Assembly and Annual Meeting, Chicago, Illinois, November 2007.
139. RSNA Presiding Officer Session: Molecular Imaging, 93<sup>rd</sup> Scientific Assembly and Annual Meeting, Chicago, Illinois, November 2007.
140. AIUM "Update on Ultrasound Contrast ", March, 2008
141. Frontiers in Cancer Imaging, Memphis Bioimaging Symposium, Oct, 2008
142. Cell Labeling Tracking with Ultrasound, American Heart Association, Nov, 2008
143. RSNA Presiding Officer Session: Molecular Imaging, 94<sup>th</sup> Scientific Assembly and Annual Meeting, Chicago, Illinois, November 2008.
144. Radiology at Snowbird; Spine, Body and Musculoskeletal Imaging. Titles of lectures: Prostate Imaging, Female Pelvis I and II, Intro to Molecular Imaging. Graduate MRI Course, Snowbird, Utah, January 2009.
145. AIUM "Molecular Imaging with Ultrasound Contrast", March, 2009
146. Radiology at Snowbird; Spine, Body and Musculoskeletal Imaging. Titles of lectures: Prostate Imaging, Female Pelvis I and II, Intro to Molecular Imaging. Graduate MRI Course, Snowbird, Utah, March 2010.
147. AIUM "Role of Ultrasound Contrast in Clinical Imaging", March, 2010
148. AIUM "Vascular Imaging of Renal Arteries MR vs. CT vs. US", March, 2010
149. Radiology at Snowbird; Titles of lectures: Prostate Imaging, Female Pelvis in OB/Gyn and Oncology, Brachial Plexus, Intro to Molecular Imaging. Graduate MRI Course, Snowbird, Utah, March 2011.
150. Educating Clinician Scientists, AUR, April 2011, Boston
151. AIUM, Role of CEUS in monitoring tumor response to therapy, New York, April 2011

**International:**

1. Ultrasound Contrast Agents, 5th Congress of the European Federation of Societies for Ultrasound in Medicine and Biology, Strasbourg, France, 5/84.
2. PFOB applications in diagnostic Imaging, an overview and state of development, World Symposium on Contrast Media, Paris, France, 5/87.
3. PFOB as an ultrasound contrast agent, World Symposium on Contrast Media, Paris, France, 5/87.
4. Ultrasound Contrast agents for tumor imaging in man. ECO Italia 87, Salerno, Italy, 10/87.
5. Magnetic Resonance Imaging of the Male pelvis, ECO Italia 87, Salerno, Italy, 10/87.
6. Panel discussion: Imaging in AIDS. ECO Italia 87, Salerno, Italy, 10/87.
7. Panel discussion: Parathyroid Imaging. ECO Italia 87, Salerno, Italy, 10/87.

8. The Second Update and Review: MR Basics of Physics, Indications, etc., Tijuana B.C., Mexico, 3/88.
9. Magnetic Resonance Imaging of pregnancy. ECO Italia 89, Salerno, Italy, 10/89.
10. Magnetic Resonance Imaging in the early diagnosis of ovarian cancer. ECO Italia 89, Salerno, Italy, 10/89.
11. New advances in Magnetic Resonance Imaging of the body. ECO Italia 89, Salerno, Italy, 10/89.
12. Moderator and editor of abstracts presented in Advances in Sonographic Contrast media developments, Sydney, Australia, 10/89.
13. European Information meeting on Imagent<sup>®</sup>, sponsored by Boehringer Ingelheim International. Frankfurt, West Germany, 9/90.
14. Ultrasound: What Is It? and What Can You Do With It? Boehringer Ingelheim Medical Directors' Meeting 1990, Rudesheim, West Germany, 10/90.
15. Role of PFOB in Diagnostic Imaging. Boehringer Ingelheim Medical Directors' Meeting 1990, Rudesheim, West Germany, 10/90.
16. Sonographic Visualization of Flow and Tissue Perfusion with Imagent<sup>®</sup> BP. Second International Conference on Digestive Diseases. Erlangen, Germany, 6/91.
17. PFOB as an Ultrasound Contrast Agent. Sterling Winthrop Diagnostic Imaging Symposium, Florida, 3/91.
18. Blood Pool Imaging for CT. Sterling Winthrop Diagnostic Imaging Symposium, Florida, 3/91.
19. Ultrasound Contrast Agents. "State of the Art" CMR '91. Cambridge, England, 7/91.
20. Testicular torsion with MRI and Sonography (animal and man). ECO Italia '91, Salerno, Italy, 10/91.
21. Imaging Undescended testes with MRI. ECO Italia '91, Salerno, Italy, 10/91
22. Ultrasound Contrast Media. Societa Italiana Di Ultrasonologia in Medicina E Biologia. Rome, Italy, 9/92.
23. MRI In the Evaluation of Localized Prostatic Cancer. WHO Conference. Stockholm, Sweden, 5/93.
24. Evaluation of Different Imaging Methods for TNM-Staging in Prostate Cancer. WHO Conference. Stockholm, Sweden, 5/93.
25. Potential Applications of Perfluorochemicals (PFCs) in Diagnostic Imaging. Fluorine in Medicine Conference, London, 4/94
26. 2nd Harmonic Imaging Improves Tissue Contrast on Gray-scale. 2nd International Conference on Contrast Ultrasound, London, 5/96
27. Imaging Testicular Tumors. European Society of Uroradiology, Zurich, 6/96
28. Focal Liver Lesions. 8th Annual Clinical Gastrointestinal Radiology; Update for the 2000's. Amsterdam, The Netherlands, 6/97.
29. Contrast Media in Ultrasound. Muscles and Tendons and Male and Female Pelvis. ECO Italia '97, Napoli, Italy, 10/97
30. High Resolution Harmonic Imaging. Kansai Ultrasound Society Branch Meeting, Kyoto, Japan, 2/98.
31. Principles of Microbubbles and Ultrasound. The Society of Uroradiology Annual Meeting, Bermuda, 6/98.
32. Abdominal Imaging, The Society of Uroradiology Annual Meeting, Bermuda, 6/98.

33. Scrotal Imaging Beyond Ultrasound. 6<sup>th</sup> European Symposium on Uroradiology, Strasbourg, France 9/98
34. Kidney Vasculature and Tumors. First Annual Ultrasound Contrast for Radiological Diagnosis: Bubbles in Radiology-State of the Art, Toronto, Canada 10/98
35. State of the Art Contrast Imaging in Radiology. 4<sup>th</sup> Heart Centre European Symposium on Ultrasound Contrast Imaging, Rotterdam, The Netherlands, 1/99
36. Contrast Specific Imaging. Perfusion Imaging in Normal and Abnormal Tissues. Potential for Sentinel Node Detection. State of the art in Ultrasound Today and Tomorrow. Trieste Italy, 4/99
37. Ultrasound Contrast Agents in the New Mellenium. Napoli Italy, 9/99
38. Contrast Specific Imaging of Ultrasound Contrast in Liver Disease. Kyoto, Japan, 10/99
39. Sentinel Lymphnode Imaging with Ultrasound Contrast. Kyoto, Japan, 10/99
40. Contrast Enhanced MRI of the Liver in Liver Transplant Patients. Liver Institute Conference, Cairo Egypt, 12/99.
41. Potential Application of Ultrasound Contrast in Cirrhotic Patients. Liver Institute Conference, Cairo Egypt, 12/99.
42. Sentinel Node Detection. 9<sup>th</sup> Congress of the World Federation for Ultrasound in Medicine and Biology. Florence, Italy, 5/2000
43. Potential for Quantification of Tissue Perfusion. 9<sup>th</sup> Congress of the World Federation for Ultrasound in Medicine and Biology. Florence, Italy, 5/2000
44. The Sentinel Node. 9<sup>th</sup> Congress of the World Federation for Ultrasound in Medicine and Biology. Florence, Italy, 5/2000
45. Academic Radiology-The International Effort to Promote Academic Radilogy. Management in Radiology Working Group. European Association of Radiology, Parma, Italy, 10/2000
46. New Ultrasound Agents and New Applications. Ecografia 2001. Societ Italiana Rodiologia Medica Rome Italy 5/2001
47. Imaging the Extracranial Carotids with Ultrasound Contrast. Ecografia 2001. Societ Italiana Rodiologia Medica Rome Italy 5/2001
48. Liver tumor detection and characterization. Liver Days. Portofino, Italy, 10/2001
49. Developing an angiogenesis model and imaging neoangiogenesis. Liver Days. Portofino, Italy, 10/2001
50. Liver tumor detection and characterization. 3<sup>rd</sup> International Kyoto Symposium on Ultrasound Contrast Imaging. Kyoto, Japan, 11/2001
51. Developing an angiogenesis model and imaging neoangiogenesis. 3<sup>rd</sup> International Kyoto Symposium on Ultrasound Contrast Imaging. Kyoto, Japan, 11/2001
52. Middle East Medical Assembly, American University of Beirut, Lebanon, May 17-18, 2004
53. 23<sup>rd</sup> International Congress of Radiology, Palais Des Congres de Montreal, June 22-29, 2004.
54. European Society of Urogenital Radiology ESUR Meeting 2004. Title of Lecture: "Functional Imaging with Ultrasound." ESUR Meeting, Santiago de Compostela, September 2004.

55. 6<sup>th</sup> International Symposium on Ultrasound Contrast Imaging. Title of lecture "Current Status of Next-generation Contrast Agents in USA." December 11-12, 2004, Tokyo.
56. AUR Philips Faculty Development Program for Scientific Session at the AUR 53<sup>rd</sup> Annual Meeting, Title: "Laboratory Research" Montreal, Quebec, Canada, May 4-7, 2005.
57. Bracco Research, "Opportunities and Challenges for Ultrasound Contrast in Molecular Imaging", Geneva, Switzerland, October 2005.
58. National University of Singapore. "Introduction to Molecular Imaging." Singapore, Feb, 2006
59. University of Nijmegen, Netherlands, "Ultrasound Contrast: What will it bring to the bedside?" March 2006.
60. Korean Society of Uroradiology, "Prostate MR Imaging and Spectroscopy" Sept 2006
61. 8<sup>th</sup> International Symposium on Ultrasound Contrast Imaging. Title of lecture "AIUM Effort and Current Status of Contrast Agents in USA." December, 2006, Tokyo.

### Patents:

- Robert F. Mattrey: "Diagnostic Imaging of Lymph Structures." Publication No. US-2002-0061280-A1. Publication Date: 05/23/2002.

### Publications:

#### Peer-reviewed Original Publications

1. Mattrey RF: "New Approach to Neural Modeling:" Master's Thesis SUNY Buffalo, 1973.
2. Mattrey RF, Givone DD, Allen CM: Applying Multiple-valued Algebra Concepts to Neural Modeling. *Conference record of the International Symposium on Multiple-valued Logic, IEEE*, Toronto, Canada, 1973.
3. Higgins CB, Gerber KH, Mattrey RF, Slutsky RA: Evaluation of the Hemodynamic Effects of Intravenous Administration of Ionic and Nonionic Contrast Materials. *Radiology*. 1982; 142:681-686.
4. Mattrey RF, Higgins CB: Detection of Regional Myocardial Dysfunction During Ischemia with Computerized Tomography: Documentation and Physiologic Basis. Assoc. of Univ. Rad. Memorial Award Paper. *Invest Radiol*. 1982; 17:329-335.
5. Mattrey RF, Long DM, Multer F, Mitten R, Higgins CB: Perfluorooctyl bromide: A Reticuloendothelial-Specific and A Tumor Imaging Agent for Computed Tomography. *Radiology*. 1982; 145:755-758.
6. Mattrey RF, Scheible FW, Gosink BB, Leopold GR, Long DM, Higgins CB: Perfluorooctyl bromide: A Liver\Spleen-Specific and a Tumor-Imaging Ultrasound Contrast Material. *Radiology*. 1982; 145:759-762.
7. Mattrey RF, Leopold GR, vanSonnenberg E, Gosink BB, Scheible FW, Long DM: Perfluorochemicals as Liver- and Spleen-seeking Ultrasound Contrast Agents. *J Ultrasound Med*. 1983; 2:173-176.
8. Mattrey RF, Long SA, Erickson SW, Higgins CB: Computer Technique for Monitoring Time Dependent Changes From Sequential CT Images. *J Comput Assist Tomogr*. 1983; 7:379-382.
9. Nakamoto SK, Dreilinger A, Dattel B, Mattrey RF, Key TC: The Sonographic Appearance of Hepatic Hemangioma *in Utero*. *J Ultrasound Med*. 1983; 2:239-241.

10. Mattrey RF, Slutsky RA, Long SA, Higgins CB: In Vivo Assessment of Left Ventricular Wall and Chamber Dynamics During Transient Myocardial Ischemia Using Prospectively ECG-gated Computerized Transmission Tomography. *Circulation*. 1983; 67(6):1245-1251.
11. Mancini GBJ, Peck WW, Slutsky RA, Mattrey RF, Higgins CB: Pharmacologically Induced Changes in Wall Thickening Dynamics and Mid-Ventricular Volumes in Dogs Assessed by Prospectively Gated Computerized Tomography. *Am J Cardiology*. 1983; 51:1739-1743.
12. vanSonnenberg E, Lin AS, Deutsch AL, Mattrey RF: Percutaneous Biopsy of Difficult Mediastinal, Hilar, and Pulmonary Lesions by Computed-Tomographic Guidance and a Modified Coaxial Technique. *Radiology*. 1983; 148(1):300-302.
13. Higgins CB, Mattrey RF, Shea P: CT Localization and Aspiration of Postoperative Pericardial Fluid Collection. *J Comput Assist Tomogr*. 1983; 7(4):734-736.
14. Slutsky RA, André MP, Mattrey RF, Brahme FJ: *In Vitro* Magnetic Relaxation Times of the Ischemic and Reperfused Rabbit Kidney: Concise Communication. *J Nuc Med*. 1983; Vol.25(1):38-41.
15. Peck WW, Mattrey RF, Slutsky RA: Right Ventricular Mural Thrombus Caused By Myocardial Infarction Diagnosed By Computerized Tomography. *J Comput Assist Tomogr*. 1984; 8:133-136.
16. Hackney D, Slutsky RA, Mattrey RF, Peck WW, Abraham J, Shabetai R, Higgins CB: Experimental Pericardial Inflammation Evaluated by Computed Tomography. *Radiology*. 1984; Vol.151(1):145-148.
17. Peck WW, Mattrey RF, Slutsky RA, Higgins CB: Perfluorooctyl bromide: Acute Hemodynamic Effects, in Pigs, of Intravenous Administration Compared With the Standard Ionic Contrast Media. *Invest Radiol*. 1984; Vol. 2, 19:129-132.
18. Peck WW, Mancini GBJ, Slutsky RA, Mattrey RF, Higgins CB: *In Vivo* Assessment by Computed Tomography of the Natural Progression of Infarct Size, Left Ventricular Muscle Mass and Function After Acute Myocardial Infarction in the Dog. *Amer J Cardiology*. 1984; 53:929-935.
19. Mattrey RF, Long DM, Peck WW, Slutsky RA, Higgins CB: Perfluorooctyl bromide as a Blood Pool Contrast Agent for Liver, Spleen, and Vascular Imaging in Computed Tomography. *J Comput Assist Tomogr*. 1984; 8(4):739-744.
20. Mattrey RF, André MP: Ultrasonic Enhancement of Myocardial Infarction with Perfluorocarbon Compounds in Dogs. *Amer J Cardiology*. 1984; 54:206-210.
21. Mattrey RF, André M, Campbell J, Mitten R, Multer F, Hackney D, Long DM, Higgins CB: Specific Enhancement of Intra-Abdominal Abscesses with Perfluorooctyl bromide for CT Imaging. *Invest Radiol*. 1984; Vol. 19(5):438-446.
22. Nancarrow PA, Mattrey RF, Edwards DK, Skram C: Fibroadhesive Meconium Peritonitis: In Utero Sonographic Diagnosis. *J Ultrasound Med*. 1985; 4:213-215.
23. vanSonnenberg E, Casola G, Cubberley DA, Halasz NA, Cabrera OA, Wittich GR, Mattrey RF, Scheible FW: Oriental Cholangiohepatitis: Diagnostic Imaging and Interventional Management. *Amer J Roentgenology*. 1986; 146:327-331.
24. Sartoris DJ, Guerra J, Mattrey RF, Resnick D, Haghghi P, Mitten R, Trudell D, Pate D: Perfluorooctyl bromide as a Contrast Agent for Computed Tomographic Imaging of Septic and Aseptic Arthritis. *Invest Radiol*. 1986; 21:49-55.

25. Baker LL, Hajek PC, Burkhard TK, Mattrey RF: Polyorchidism: Evaluation by MR. *Amer J Roentgenology*. 1987; 148:305-306.
26. Mattrey RF, Strich G, Shelton RE, Gosink BB, Leopold GR, Lee T, Forsythe J: Perfluorochemicals as US Contrast Agents for Tumor Imaging and Hepatosplenography: Preliminary Clinical Results. *Radiology*. 1987; 163:339-343.
27. Baker LL, Hajek PC, Burkhard TK, Dicapua L, Leopold GR, Hesselink JR, Mattrey RF: MR Imaging of the Scrotum: Normal Anatomy. *Radiology*. 1987; 163:89-92.
28. Baker LL, Hajek PC, Burkhard TK, Dicapua L, Landa HM, Leopold GR, Hesselink JR, Mattrey RF: MR Imaging of the Scrotum: Pathologic Conditions. *Radiology*. 1987; 163:93-98.
29. Mattrey RF, Hajek PC, Gylys-Morin VM, Baker LL, Martin J, Long DC, Long DM: Perfluorochemicals as Gastrointestinal Contrast Agents for MR Imaging: Preliminary Studies in Rats and Humans. *Amer J Roentgenology*. 1987; 148:1259-1263.
30. Landa HM, Gylys-Morin V, Mattrey RF, Krous HF, Kaplan GW, Packer MG. Magnetic resonance imaging of the cryptorchid testis. *Eur J of Ped*. 1987; 146(2):S16-S17.
31. Martin JF, Hajek P, Baker L, Gylys-Morin V, Fitzmorris-Glass R, Mattrey RF: Inflatable Surface Coil for MR Imaging of the Prostate. *Radiology*. 1988; 167:268-270.
32. vanSonnenberg E, Hajek P, Gylys-Morin V, Varney RA, Baker L, Casola G, Christensen R, Mattrey RF: A Wire-Sheath System for MR-Guided Biopsy and Drainage: Laboratory Studies and Experience in 10 Patients. *Amer J Roentgenology*. 1988; 151:815-817.
33. Mattrey RF, Long DC: Potential Role of PFOB in Diagnostic Imaging. *Invest Radiol*. 1988; Vol. 23(9)(Suppl. 1):S298-S301.
34. Bruneton JN, Falewee MN, Balu-Maestro C, Normand F, Mattrey RF: Perfluorooctyl bromide and Hepatosplenic Computed Tomography. Preliminary Clinical Study. *Invest Radiol*. 1988; Vol. 23(9) (Suppl 1):S306-S307.
35. Landa HM, Gylys-Morin V, Mattrey RF, Hajek P, Krous HF, Kaplan GW, Packer MG: Detection of Testicular Torsion by Magnetic Resonance Imaging in a Rat Model. *J. Urol*. 1988, Part 2;140:1178-1180.
36. Mattrey RF: Potential role of Perfluorooctyl bromide in the Detection and Characterization of Liver Lesions with CT. *Radiology*. 1989; 170:18-20.
37. Mattrey RF: Perfluorooctyl bromide: A New Contrast Agent for CT, Sonography, and MR Imaging: *Amer J Roentgenology*. 1989; 152:247-252.
38. Fitzmorris-Glass R, Mattrey RF, Cantrell CJ: Magnetic Resonance Imaging as an Adjunct to Ultrasound in Oligohydramnios: Detection of Sirenomelia. *J Ultrasound Med*. 1989; 8:159-162.
39. Mattrey RF, Hilpert PL, Long CD, Long DM, Mitten RM, Peterson T: Hemodynamic effects of intravenous lecithin-based perfluorocarbon emulsions in dogs. *Critical Care Medicine*. 1989; Vol. 17(7):652-656.
40. Schwaighofer BW, Yu KK, Mattrey RF: Diagnostic Significance of Interslice Gap and Imaging Volume in Body MR Imaging. *Amer J Roentgenology*. 1989; 153:629-632.
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1. *Trends in Contrast Media.* Thomsen HS, Muller R, Mattrey RF eds. Medical Radiology – Diagnostic Imaging and Radiation Oncology series. Springer-Verlag. 1999

### Invited Manuscripts, Book Chapters, Editorials, Letters, Extended abstracts:

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