

CURRICULUM VITAE

Maryellen L. Giger, Ph.D.

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Personal Data

Date of Birth:
Place of Birth:
Citizenship:
Marital status:



Education



B.S. summa cum laude (Mathematics, Physics,
Health Sciences), Illinois Benedictine College
M.Sc. (Physics), University of Exeter, England
Ph.D. (Medical Physics), The University of Chicago

Professional Experience

Summers of 1976, 1977, 1978	Lab Assistant, Beam Diagnostic Group and Cancer Therapy Group, Fermi National Laboratory, Batavia, Illinois
Oct. 1979 - Sept. 1983	NIH Pre-doctoral trainee, Department of Radiology, The University of Chicago, Chicago, Illinois
Oct. 1983 - March 1985	Research Assistant, Department of Radiology, The University of Chicago, Chicago, Illinois
1985 - 1986	Research Associate, Department of Radiology, The University of Chicago, Chicago, Illinois
1986 - 1991	Assistant Professor, Department of Radiology, The University of Chicago, Chicago, Illinois
1991 - 2000	Associate Professor, Department of Radiology, The University of Chicago, Chicago, Illinois

1998-present	Director, Graduate Programs in Medical Physics, The University of Chicago, Chicago, Illinois
1999 - 2000	Associate Professor, Biological Sciences Collegiate Division, The University of Chicago, Chicago, Illinois
2000 - present	Professor, Department of Radiology & Biological Sciences Collegiate Division, The University of Chicago, Chicago, Illinois
2003 – present	Professor and Chair, Committee on Medical Physics, The University of Chicago, Chicago, Illinois
2003 – 2008	Section Chief, Radiological Sciences, Department of Radiology, The University of Chicago, Chicago, Illinois
2003 – present	Vice Chair of Radiology for Basic Science Research, Department of Radiology, The University of Chicago, Chicago, Illinois
2007 – present	Senior Fellow, Computation Institute, University of Chicago
2008 – present	Director, Imaging Research Institute, University of Chicago, Chicago, Illinois

Professional Associations

Member & Fellow, American Association of Physicists in Medicine (AAPM)
 Member, The International Society for Optical Engineering (SPIE)
 Member, Society for Computer Applications in Radiology (SCAR)
 Senior Member, The Institute of Electrical and Electronics Engineers (IEEE)
 Member, The Association of University Radiologists (AUR)
 Member, Radiological Society of North America (RSNA)
 Member & Fellow, American Institute of Medical and Biological Engineers (AIMBE)

Honors

	President's Scholarship Award, Illinois Benedictine College
	Rev. Shonka, O.S.B. Scholarship Award in Physics
	B.S. summa cum laude
	Procopian Award, Illinois Benedictine College (highest honor given to a graduating student)
1978	Who's Who in American Colleges and Universities
	Rotary International Fellowship

- 1985 First Place Award, Young Investigators' Symposium, 27th meeting of the American Association of Physicists in Medicine, Seattle, Washington
- 1986 The University of Chicago, American Cancer Society Institutional Grant Award
- 1986 The University of Chicago Louis Block Research Grant Award
- 1987 Whitaker Foundation Biomedical Engineering Research Grant
- 1988 American Cancer Society Junior Faculty Research Award
- 1989 Wendy Will Case Cancer Fund Research Grant Award
- 1989 Certificate of Merit for Scientific Exhibit at the Radiological Society of North America, Chicago, IL (MacMahon H, Doi K, Sanada S, Montner SM, Giger ML, Metz CE, Yin FF, Yonekawa H, Takeuchi H: "Effect of Data Compression on Diagnostic Accuracy in Digital Chest Radiography: An ROC Study").
- 1991 American Cancer Society Faculty Research Award
- 1992 Certificate of Merit for Scientific Exhibit at the Radiological Society of North America Annual Meeting, Chicago, IL (Hoffmann K, Doi K, MacMahon H, Giger ML, Nishikawa RM: "Development of a digital duplication system for portable chest radiographs").
- 1993 Certificate of Merit for Scientific Exhibit at the Radiological Society of North America Annual Meeting, Chicago, IL (MacMahon H, Kano A, Xu XW, Doi K, Giger ML, Hassell D: "Use of difference images for improved detection of interval changes on digital chest radiographs").
- 1993 Magna cum laude for Scientific Exhibit at the Radiological Society of North America Annual Meeting, Chicago, IL (Doi K, Giger ML, Nishikawa RN, Hoffmann KR, MacMahon H, Schmidt RA, et al.: "Computer-aided diagnosis in mammography, chest radiography, angiography, and bone radiography").
- 1994 Certificate of Merit for Scientific Exhibit at the Radiological Society of North America Annual Meeting, Chicago, IL (MacMahon H, Giger ML, Sullivan B, Ansari R, Dixon LB, Dachman AH: "Effect of glossy compression and spatial resolution on the quality of general radiographic images").
- 1995 Stauffer Award (presented at the annual meeting of the Association of University Radiologists) for the best clinical paper published in 1994 in *Investigative Radiology/Academic Radiology* (Giger ML,

- Bae K, MacMahon H: "Computerized Detection of Pulmonary Nodules in Computed Tomography Images").
- 1995 Sylvia Sorkin Greenfield Award for the best paper published in *Medical Physics* in 1994 (Caligiuri P, Giger ML, Favus M: "Multifractal Radiographic Analysis of Osteoporosis")
- 1996 Visiting Professor, Mayo Clinic, Department of Radiology (9/26-9/27)
- 1997 Excellence in Design Award for scientific exhibit at the 83rd Assembly and Annual Meeting of RSNA, Chicago, Illinois (Doi K, Giger ML, Nishikawa RM, Hoffmann KR, Schmidt RA, MacMahon H: Computer-aided diagnostic schemes in mammography, chest radiography, angiography, and computed tomography)
- 1998 Cum laude award for scientific exhibit at the 84th Assembly and Annual Meeting of RSNA, Chicago, Illinois (Jiang Y, Nishikawa RM, Giger ML, Huo Z, Schmidt RA, Wolverton DE, et al.: Computer-aided diagnosis of breast lesions: An interactive demonstration)
- 1998 Excellence in Design Award for scientific exhibit at the 84th Assembly and Annual Meeting of RSNA, Chicago, Illinois (Armato SG, Giger ML, Moran CJ, Doi K, MacMahon H: Computerized detection of pulmonary nodules in CT scans)
-  Fellow, AIMBE (American Institute of Medical and Biological Engineers)
- 2000 Stauffer Award, *Academic Radiology* (Jiang Y, Nishikawa RM, Schmidt RA, Metz CE, Giger ML, Doi K: Improving breast cancer diagnosis with computer-aided diagnosis)
- 2000 Cum laude award for scientific education exhibit at the 86th Assembly and Annual Meeting of RSNA, Chicago, Illinois (Nishikawa RM, Giger ML, Jiang Y, Huo Z, Vyborny CJ, Jokich PM)
-  Fellow, AAPM (American Association of Physicists in Medicine)
- 2001 Certificate of merit award for scientific education exhibit at the 87th Assembly and Annual Meeting of RSNA, Chicago, Illinois (Giger ML, Nishikawa RM, Huo Z, Horsch K, Vyborny CJ, Hendrick RE)

- 2002 Excellence in Design Award for scientific education exhibit at the 88th Assembly and Annual Meeting of RSNA, Chicago, Illinois (Jiang Y, Nishikawa RM, Giger ML, Vyborny CJ, et al.)
- 2004 Certificate of merit award for infoRad exhibit at the 90th Assembly and Annual Meeting of RSNA, Chicago, Illinois (Giger, ML, Nishikawa RM, Yiang Y, Newstead GM, Schmidt RA, Metz CE, et al.)
- 2004 Excellence in Design Award for scientific education exhibit at the 90th Assembly and Annual Meeting of RSNA, Chicago, Illinois (Drukker K, Giger ML)
- 2004 - present Who's Who in America
- 2004 Certificate of Merit Award, InfoRad Exhibit: Integration of multi-modality breast CAD into the clinical workflow. Presented at 90th Scientific Assembly and Annual Meeting of the Radiological Society of North America, November 2004, Chicago, IL. (Authors: Giger ML, Nishikawa RM, Jiang Y, Schmidt FA, Newstead GM *et al.*)
- 2005 - present Who's Who in the World
- 2005 – present Senior Member, IEEE
- 2005 Third Vice-President, RSNA
- 2006 Honorable Mention Poster Award, Y. Yuan, M. L. Giger, K. Suzuki, H. Li and A. R. Jamieson, "A two-stage method for lesion segmentation on digital mammograms," SPIE Medical Imaging 2006 Symposium
- 2006 Honorable Mention Poster Award, J. R. Wilkie, M. L. Giger, C. A. Engh, Sr., R. H. Hopper, Jr., J. M. Martell, "Investigation of Temporal Radiographic Texture Analysis for the Detection of Periprosthetic Osteolysis." SPIE Medical Imaging 2006 Symposium
- 2009 Honorable Mention Poster Award, K. Drukker, N. Gruszauskas, M. L. Giger, "Principal component analysis, classifier complexity, and robustness of sonographic breast lesion classification." SPIE Medical Imaging 2009 Symposium
- 2009 Excellence Award, University of Chicago Paul Hodges Society

2010

Elected, National Academy of Engineering

Grants (as P.I.)*Past grants:*

1. American Cancer Society Institutional Grant, The University of Chicago, Maryellen Giger, P.I., 10/1/86-9/30/87. Total cost [REDACTED]
2. Louis Block Fund, The University of Chicago, Maryellen Giger, P.I., 10/1/86-9/30/87. Total cost [REDACTED]
3. Whitaker Foundation Bioengineering Grant, "Computer-Aided Detection of Lung Nodules", Maryellen Giger, P.I., 3/1/87-2/29/90. Total direct cost [REDACTED].
4. Wendy Will Case Cancer Foundation Grant, "Digital Image Analysis for Cancer Detection", Maryellen Giger, P.I., 7/1/89-11/30/89. Total direct cost [REDACTED]
5. American Cancer Society Junior Faculty Research Award JFRA-212 grant, "Computer-Aided Detection and Classification of Lesions in Digital Mammograms", Maryellen Giger, P.I., 7/1/88-6/30/91. Total direct cost [REDACTED]
6. Ameritech Services grant, "Digital Radiography and Teleradiography", Maryellen Giger, P.I., 1/93-12/93. Total direct cost [REDACTED]
7. NIH grant P20 CA66132, "Breast Cancer Planning Grant," Samuel Hellmann, P.I., Pilot Project "Computerized Mammographic Methods for Quantitatively Assessing Breast Cancer Risk (pilot project: P.I. Maryellen Giger), 9/30/94-9/29/95. Total direct cost \$34,985.
8. NIH grant RO1 CA48985, "Digital Image Analysis for Cancer Detection", Maryellen Giger, P.I., 12/1/89-11/30/95. Total direct cost \$550,062. (20% effort).
9. Ameritech Services grant, "Digital Radiography and Teleradiography", Maryellen Giger, P.I., 1/94-12/95. Total direct cost [REDACTED]
10. The University of Chicago, Department of Surgery Research Committee, Pilot and Feasibility Study Application, "Computerized radiographic analysis of the proximal femur as a predictor of bone strength in vitro", John Martell and Maryellen Giger, co-P.I.s, 1/94-12/94, Total direct cost [REDACTED]
11. Procter & Gamble grant, "Digital bone radiography", Maryellen Giger, P.I., 3/94-12/95. Total direct cost [REDACTED]
12. United States Army Medical Research and Development Command grant DAMD-93-J-3021, "Development of methods for computer-assisted interpretations of digital mammograms for early breast cancer detection", Maryellen Giger, P.I., 3/93-2/96. Total cost \$1,400,000 (25% effort).

13. American Cancer Society Faculty Research Award FRA-390, "Development of a computer-vision system to aid in mammographic interpretation", Maryellen Giger, P.I., 7/1/91-6/30/96. Total direct cost [REDACTED]
14. National Information Display Laboratory, U.S. Intelligence Community, U.S. Air Force Contract No. F33657-95-C-5056; Subcontract, "Serial change detection in digital mammography", Maryellen Giger, P.I., 8/1/96-11/30/96. Total cost \$14,791.
15. UC-ANL collaborative grant program, "Resource center for computational science: Project 4 on supercomputer-supported computer-aided diagnosis", co-P.I.s Maryellen Giger & Ian Foster for Project #4 (out of six projects which total [REDACTED])
16. NIH Shared Instrument Grant 1S10RR11459, "A scientific visualization and image analysis system", Maryellen Giger, P.I., 7/1/96-6/30/97, Total cost \$387,745.
17. National Information Display Laboratory, U.S. Intelligence Community, Subcontract, "Use of HPNN in the detection of masses in digital mammography", Maryellen Giger, P.I. 6/1/96-10/31/97, Total cost [REDACTED]
18. NIH grant P20 CA66132, "Breast Cancer Planning Grant," Samuel Hellmann, P.I., Pilot Project "Computerized Image Analysis of Ultrasound and MR Images of the Breast (pilot project: P.I. Maryellen Giger), 7/1/95-6/30/98. Total direct cost \$34,794.
19. National Information Display Laboratory, U.S. Intelligence Community, Subcontract, "Use of computerized analysis and HPNN in the Detection and Classification of Breast Masses", Maryellen Giger, P.I. 11/1/98-10/31/99, Total cost [REDACTED]
20. NIH grant RO1 AR42739, "Computerized radiographic analysis of bone structure", Maryellen Giger, P.I., 4/1/96-3/31/00, Total cost \$760,926.
21. DOD, U.S. Army Medical Research and Materiel Command, DAMD17-96-1-6058, "Advanced methods for the computer-aided diagnosis of lesions", Maryellen Giger, P.I., 6/7/96-6/6/00, Total cost \$867,451.
22. DOD, U.S. Army Medical Research and Materiel Command, DAMD17-97-1-7202, "Investigation of Genetic Algorithms for Computer-Aided Diagnosis. P.I. Maryellen Giger on behalf of Matthew Kupinski, 10/1/97-9/60/00, Total predoctoral fellowship cost \$61,619.
23. DOD, U.S. Army Medical Research and Materiel Command, IDEA grant, DAMD 17-98-1-8194 "Computerized Analysis of MR and Ultrasound Images of Breast Lesions, Maryellen Giger, P.I., 7/1/98-6/30/01. Total cost \$319,503.
24. NIH grant, R21 CA79711, "Computer-Aided Image Assessment of Breast Cancer Risk", Maryellen Giger, P.I., 10/1/99-9/30/01, Total cost \$294,320 .

25. RSNA (Radiological Society of North America) Medical Student Departmental Research Award Program, Maryellen Giger, P.I., 7/1/97-6/30/02, [REDACTED]
26. DOD, U.S. Army Medical Research and Materiel Command, IDEA grant, DAMD 17-99-1911 "A new model for the estimation of breast cancer risk", Maryellen Giger, P.I., 7/1/99-6/30/02. Total cost \$317,020.
27. NIH grant, T32 CA09649-11, "Research training in medical physics", Maryellen Giger, P.I., 5/1/00-4/30/05, Total cost \$1,520,031
28. NIH grant RO1 AR42739, "Computerized radiographic analysis of bone structure", Maryellen Giger, P.I., 04/18/01-03/31/06, Total cost \$1,485,520.
29. DOD, U.S. Army Medical Research and Materiel Command, Summer Undergraduate Research grant, DAMD17-03-1-0310, Maryellen Giger, P.I., 4/15/03-5/14/06, Total cost \$184,276.
30. DOD, U.S. Army Medical Research and Materiel Command, DAM17-03-1-0245, "Computerized interpretation of dynamic breast MRI". Maryellen Giger P.I. on behalf of Weijie Chen, Predoctoral fellowship, 4/14/03-5/14/06, Total cost \$90,000.
31. NIH grant RO1 CA89452, "Computer-aided diagnosis in breast imaging", Maryellen Giger, P.I., 04/24/2001 - 03/31/07, Total cost \$1,559,055.
32. NIH Grant R21 CA113800-01, "Optimization of CAD Output in Breast Imaging", Maryellen Giger, P.I., 05/01/2006 - 04/30/2008. Total cost \$419,375.
33. UCCRC/Argonne Collaborative Project Pilot Funding, "Grid-based optimization for breast cancer image analysis", Maryellen Giger and Ian Foster, co-P.I.s, University of Chicago Cancer Research Center and Argonne National Laboratory, 04/01/07-03/31/09, Total cost [REDACTED]
34. DOD, U.S. Army Medical Research and Materiel Command, "Correlative feature analysis for multi-modality breast CAD". Maryellen Giger P.I. on behalf of Yading Yuan, Predoctoral fellowship, 10/01/06-9/30/09, Total cost \$90,000.

Current grants:

35. NIH grant, T32 EB002103-16, "Research training in medical physics", Maryellen Giger, P.I., 5/1/05-4/30/10, Total cost \$1,659,345
36. NIH grant RO1 AR42739-09, "Computerized radiographic analysis of bone structure", Maryellen Giger, P.I., 04/01/2006 - 03/31/2010, Total cost \$1,345,751.
37. NIH Grant R33 CA113800-01, "Optimization of CAD Output in Breast Imaging", Maryellen Giger, P.I., 05/01/2008 - 04/30/2011. Total cost \$1,251,686.

38. NIH Breast SPORE Grant (overall grant co-PI) and Project 1 (project PI) P50CA125183-01, "Image-Based Determination of Breast Cancer Risk", Maryellen Giger, P.I., 08/01/06-07/31/11, Total cost project 1 approx. \$1.6M.
39. DOE, DE-FG02-08ER6478, "Integrated Multi-Modality, Image-based Markers of Breast Density & Structure in Assessing Breast Cancer Risk at the University of Chicago", Maryellen Giger, P.I., 06/01/08-05/31/11, Total cost \$573,000.
40. NIH Grant Sub award R01 EB002138-06 (UC-Davis Boone), "Breast CT Scanner for Earlier Cancer Detection", 06/01/08-03/01/13, Total cost \$382,500.
41. DOD, W81XWH-08-1-0731, U.S. Army Medical Research and Materiel Command, "Grid-Enabled Quantitative Analysis of Breast Cancer". Maryellen Giger P.I. on behalf of Andrew Jamieson, Predoctoral fellowship, 10/01/08-9/30/11, Total cost \$96,368.
42. University of Chicago, ChicagoBioMedicine Center-style Seed Funding, "Research Resource for Biomedical Imaging and Informatics". Maryellen Giger, Paul Chang, Ian Foster, Conrad Gilliam, co-PIs. 05/01/09-04/30/10, Total cost ██████████
43. DOD, BC093586, U.S. Army Medical Research and Materiel Command "Prognostic and Predictive MRI Computer-Extracted Biomarkers for Breast Cancer Assessment". Maryellen Giger P.I. on behalf of Neha Bhooshan, Predoctoral fellowship, 03/01/10-02/28/13, Total cost \$127,941.

National and International Professional Activities

Manuscript Reviewer (and as indicated associate editor) -- various journals & meetings since 1985

Medical Physics (*Associate Editor, 1995-2007*)

Optical Engineering

IEEE Trans. Biomedical Engineering

Medical Decision Making

IEEE Trans. Medical Imaging (*Associate Editor, 1996-2007, Guest Editor Dec., 2001 issue*)

Investigative Radiology

Journal of Digital Imaging

Academic Radiology (*1995-2001, Editor/Editorial Consultant*)

Image and Vision Computing Journal

The Journal of Intelligent Systems

American Journal of Respiratory and Critical Care Medicine

Medical Image Analysis

American Journal of Roentgenology

Annals of Biomedical Engineering

Vision, Image and Signal Processing

Seminars in breast Disease (*Guest Editor, Dec. 2002 issue*)

Session Chairman at and Abstract Reviewer for regular meetings of (various meetings since 1986)

American Association of Physicists in Medicine (AAPM)

Radiological Society of North America (RSNA)
 International Society for Optical Engineering (SPIE)
 World Congress on Medical Physics and Biomedical Engineering
 International Conference of IEEE Engineering in Medicine & Biology Society
 International Workshop on Digital Mammography (IWDM)

Professional Service to NIH and other Grant Funding Agencies

February 1990	Ad Hoc Member, Special Study Section, NIH
October 1990	Ad Hoc Member, Diagnostic Radiology Study Section, National Institutes of Health
January 1991	Grant Reviewer, Medical Research Council, London, United Kingdom
1991-1995	Regular Member, Diagnostic Radiology Study Section, National Institutes of Health
1992-present	Grant Reviewer, Dutch Cancer Society, Amsterdam, The Netherlands
1994-present	Grant Reviewer, U. S. Army Medical Research and Development Command Breast Cancer Research Program. (various review sessions)
1995 - 1997	Reviewer, State of California Breast Cancer Research Program, University of California
1996-1997	Member, Research Review Task Force, American Cancer Society, Illinois Division, Inc.
1995-present	Member, NIH Reviewers Reserve serving as ad hoc review on study sections
1999-present	Grant Reviewer, Austrian Science Foundation for the Erwin Schrodinger Fellowship
2000	NIH Program Project Site Visit Study Section
2001-2007	Study section member, RSNA Research Foundation
2005-2007	Chair, RSNA Research Foundation Study section

Professional Service to American Association of Physicists in Medicine (AAPM)

1987-1992	Member (Chairman 1989,1990), Commission on Accreditation of Educational Programs for Medical Physicists, American Association of Physicists in Medicine
1989	Consultant, Educational Council, AAPM
1997-2001	Program Committee, American Association of Physicists in Medicine
1997-1998	Scientific Program co-Director, AAPM annual meeting, San Antonio Texas (1998)
1998-1999	Scientific Program Director, AAPM annual meeting, Nashville, TN (1999)
2000-2002	Board Member, American Association of Physicists in Medicine, (elected to a three-year term)
2001-present	Member, Committee on Imaging within the AAPM
2001-present	Member, NIBIB Subcommittee
2002-2004	Member, Awards and Honors Committee
2004-2007	Treasurer and Board Member of AAPM
2004-2007	Chair, Finance Committee, AAPM
2004-present	Member, AAPM Executive Committee
2008	President-Elect and Board Member of AAPM
2009	President and Board Member of AAPM
2010	Chairman of the Board of AAPM

Faculty at National and International Meetings

1992 - 1994	Refresher/Categorical Course faculty, Radiological Society of North America Annual Assembly and Meeting, Chicago, Illinois
1993	Mini-symposium organizer and Trackchair, 15th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, San Diego, California
June 1994	Session chair on Biomedical Applications of Neural Networks, World Congress on Neural Networks, 1994 International Neural Network Society Annual Meeting, San Diego, California
1997- present	Refresher/Categorical Course faculty, Radiological Society of North America Annual Assembly and Meeting, Chicago, Illinois
2001,2002,2004	SCAR, faculty for symposia on CAD

Scientific and Organizing Committees at National and International Meetings*RSNA: Radiological Society of North America*

2001-2007	Member, RSNA Physics Subcommittee of the Program Committee
2003-2007	Chair, RSNA Physics Subcommittee of the RSNA Program Committee
2003-2008	Member, Executive Committee and Program Committee of BIROW - II; Biomedical Imaging Research Opportunities Workshop (AAPM; RSNA; BMES; ARR)
2003-2006	Member, RRRE Subcommittee of RSNA

IWDM: International Workshop on Digital Mammography

1995-1996	Member, Organizing Committee, 3rd International Workshop on Digital Mammography for June 1996, Chicago, Illinois
2000	Member, Scientific Committee; IWDM-2000; 5th International Workshop on Digital Mammography, Toronto, Canada, June 11-14, 2000
2000-2002	Member, Scientific Committee; IWDM-2002; 6th International Workshop on Digital Mammography, June 23 - 25, 2002, Bremen, Germany
2002-2004	Member, Scientific Committee; IWDM-2004; 7th International Workshop on Digital Mammography, UNC-Chapel Hill, North Carolina
2004-2006	Member, Scientific Committee; IWDM-2006; 8th International Workshop on Digital Mammography, Manchester, England
2006-2008	Member, Scientific Committee; IWDM-2008; 9th International Workshop on Digital Mammography, Tucson, Arizona
2009-present	Member, Scientific Committee; IWDM-2010; 10th International Workshop on Digital Mammography, Girona, Spain

SPIE Medical Imaging

2000-2006	Member, Image Processing Scientific Program Committee, Annual SPIE Medical Imaging Symposium, San Diego, California
2006-2009	Founding Chair and member, Program Committee for CAD Conference, part of the Annual SPIE Medical Imaging Symposium
2009-present	Chair of SPIE Medical Imaging Symposium

Others

1999-2000	CARS'2000 Executive Committee
2000-present	Member, CARS Program Committee
February, 2000	Member, Planning Group - U.S. Army Era of Hope Meeting 2000

- 2001-2003 Scientific Program Chair; BIROW - I; Biomedical Imaging Research Opportunities Workshop (AAPM; RSNA; BMES; ARR)
- 2001-2008 BIROW I, II, III Executive Committee

Advisory Committees/Boards

- 1995-1996 Mammography Integration Panel Member, Breast Cancer Research Program; U.S. Army Medical Research and Development Command, Purpose: determine policies & guidelines for broad agency announcement for grant applications. Select final applicants for funding based on satisfaction of guidelines and study section review.
- 2001-present Advisory Board member, the Pritzker Institute of Medical Engineering, Illinois Institute of Technology, Chicago, IL
- 2002-2004 Member, Basic Sciences Committee, Academy of Radiology Research
- 2002 Member, NIBIB Workshop on Biomedical Imaging and Bioengineering Training (8/02)
- 2002-2007 Member, RRRE, RSNA
- 2002 Member, Study Section Boundaries Team, Center for Scientific Review (CSR), NIH
- 2002 Member, New Technologies Workgroup; American Cancer Society Breast Cancer Early Detection Guideline Review -- Meeting of Work Groups and Breast Cancer Advisory Group (9/02)
- 2004 External Advisor, Vanderbilt University Cancer Imaging Training Grant

University Activities

- 1988 Member, Task Force on Research Associates, Biological Sciences Division, The University of Chicago
- 1989-1991 Member, Committee on Balancing Personal and Professional Life, Biological Sciences Division, The University of Chicago
- 1991-1993 Member, Committee on Academic and Research Networking, Biological Sciences Division, The University of Chicago
- 1991-present Member, The University of Chicago Cancer Research Center
- 1991-1995 Member, Board of Computing Activities and Services, The University of Chicago, (Chair of subcommittee on platform support, 1992-1993)
- 1993-1998 Member, University of Chicago Breast Cancer Advisory Committee/Breast Cancer Program Steering Committee
- 1994-2008 Program Director, Advanced Imaging Program, The University of Chicago Cancer Research Center
- 1994-2008 Member, Executive Committee, The University of Chicago Cancer Research Center

1995-1996	Member, Dean's Task Force to consider recommendations of the Fuchs Report, The University of Chicago
1996-1998	Member, Subcommittee on Networking, Board of Computing Activities and Services, The University of Chicago
1996- 2001	Member, Committee on Patents and Software, The University of Chicago
1996-2007	Director, Scientific Visualization and Image Analysis Core Facility, The University of Chicago Cancer Research Center
1998-2000	Member, BSD Research Facilities Planning Committee, The University of Chicago
1999-2000	Member, University committee (the Hellman Committee) to review the Final report of the ad hoc committee on ARCH and technology transfer), The University of Chicago
1999-2000	Member, Divisional (elected) committee to review the Deanship of the BSD, The University of Chicago
2000-2001	Member and Chair, University (university-appointed) ad hoc committee (the Giger Committee) to make recommendations about the structure, scope, policies, staffing, finances, and modes of faculty involvement for a proposed Office for Commercialization of Intellectual Property, The University of Chicago
2001-2006	Member and Chair (2001-2004), UCTech Faculty Advisory Committee
2002-2004	Member, COAP, BSD Divisional Committee on Appointments and Promotions
2002-2003	Member, BSD Dean's Research Aims Action Committee
2003	Member, BSD Committee to review the Department of Medicine
2003-2006	Member, BSD Research Advisory Committee (RAC) to the Dean
2004-2006	Chair, UC-ANL Subcommittee of RAC
2007-2008	Co-Chair, Imaging Subcommittee of RAC
2007-present	Senior Fellow, Computation Institute
2008-present	Chair, Steering Committee of the Imaging Institute
2008-present	Director, Imaging Research Institute
2009	Member, Faculty Science ad hoc Committee in ChicagoBioMedicine

2009-present Member, University of Chicago Board of Computing Activities & Services

Departmental Activities

1987-1992 Member, Library Committee, Department of Radiology, The University of Chicago

1988-1997 Member, PACS (Picture Archiving and Communication Systems) Committee, Department of Radiology, The University of Chicago

1992-2001 Member, Department of Radiology Research Committee, The University of Chicago

1994-1999 Chairperson, Research Advisory Committee to the Associate Chairman for Research, Department of Radiology (Responsible for the evaluation of the potential of new research programs, allocation of new research space, development of lab floor plan for new Multi-Modality Imaging Center, preparation of a successful NIH construction grant, development of a departmental seed grant program, and submission and implementation of the RSNA medical student summer research grant)

1994-1998 Member, Finance Committee, Department of Radiology

1995-1997 Member, Search Committee for Musculoskeletal Radiologist, Department of Radiology

1999-2000 Member, Research Committee

2000-2001 Member and Chair, Department Research Space Committee

2003-2008 Section Chief, Radiological Sciences Section, Department of Radiology

2003-present Vice Chair of Radiology for Basic Science Research, Department of Radiology

Graduate Programs in Medical Physics Activities

1988-1992 Chairperson, Seminar Committee, Graduate Programs in Medical Physics, The University of Chicago

1988-present Member, Curriculum Committee, Graduate Programs in Medical Physics, The University of Chicago

1991-1998 Assistant Director, Graduate Programs in Medical Physics, The University of Chicago

1992-1999 Chairperson, Curriculum Committee, Graduate Programs in Medical Physics, The University of Chicago (responsible for reviewing and reorganizing the curriculum and the qualifying/comprehensive examinations of the GPMP)

1992-1996	Representative of Graduate Programs in Medical Physics to Biological Sciences Division Committee on Teaching Assistants, The University of Chicago
1998-present	Director, Graduate Programs in Medical Physics, The University of Chicago
2000-2001	Member, Graduate Programs in Medical Physics, Website subcommittee
2003-present	Chair and member, Committee on Medical Physics, The University of Chicago

Teaching Experience

Courses Taught

1992 - present	Radiology/Radiation Oncology 34900 Mathematics for Medical Physicists (course coordinator and lecturer)
1984 - 1998	Radiology/Radiation Oncology 38700 Physics of Diagnostic Radiology (now Physics of Medical Imaging I) (lecturer since 1984; course coordinator and lecturer since 1994)
1984 - 1998	Radiology/Radiation Oncology 34300 Practicum in the Physics of Diagnostic Radiology (now Practicum in the Physics of Medical Imaging I) (lecturer)
1993-present	Radiology/Radiation Oncology 35600 Anatomical Structure of the Body (course co-coordinator)
1987 - 1999	Radiology/Radiation Oncology 34000 Introduction to Research (This course is no longer offered under the new curriculum established in 1999) (instructor)
1988 - 1999	Radiology/Radiation Oncology 41700 Research in Medical Physics (This course is no longer offered under the new curriculum established in 1999) (instructor)
1987 - present	Radiology/Radiation Oncology 42100 Research in the Physics of Diagnostic Radiology (research advisor)

- 1993-1996 Radiology Residency Program Mini-Course
Medical imaging research and computer-aided diagnosis
- 1997- 2004 BioSci 263
Introduction to Medical Physics
Undergraduate course for juniors and seniors (registered students have been from the departments of physics, chemistry and biology)
(founding instructor and course coordinator)
- 2002-2006 Workshop in BSD Ethics Course, "Patenting and the Academic Mission"
- 2001-2008 regular lectures at the Breast Imaging Symposia and Courses for University of Chicago and the Lynn Sage Breast Center, Northwestern University.

Students/Trainees Supervised

The University of Chicago

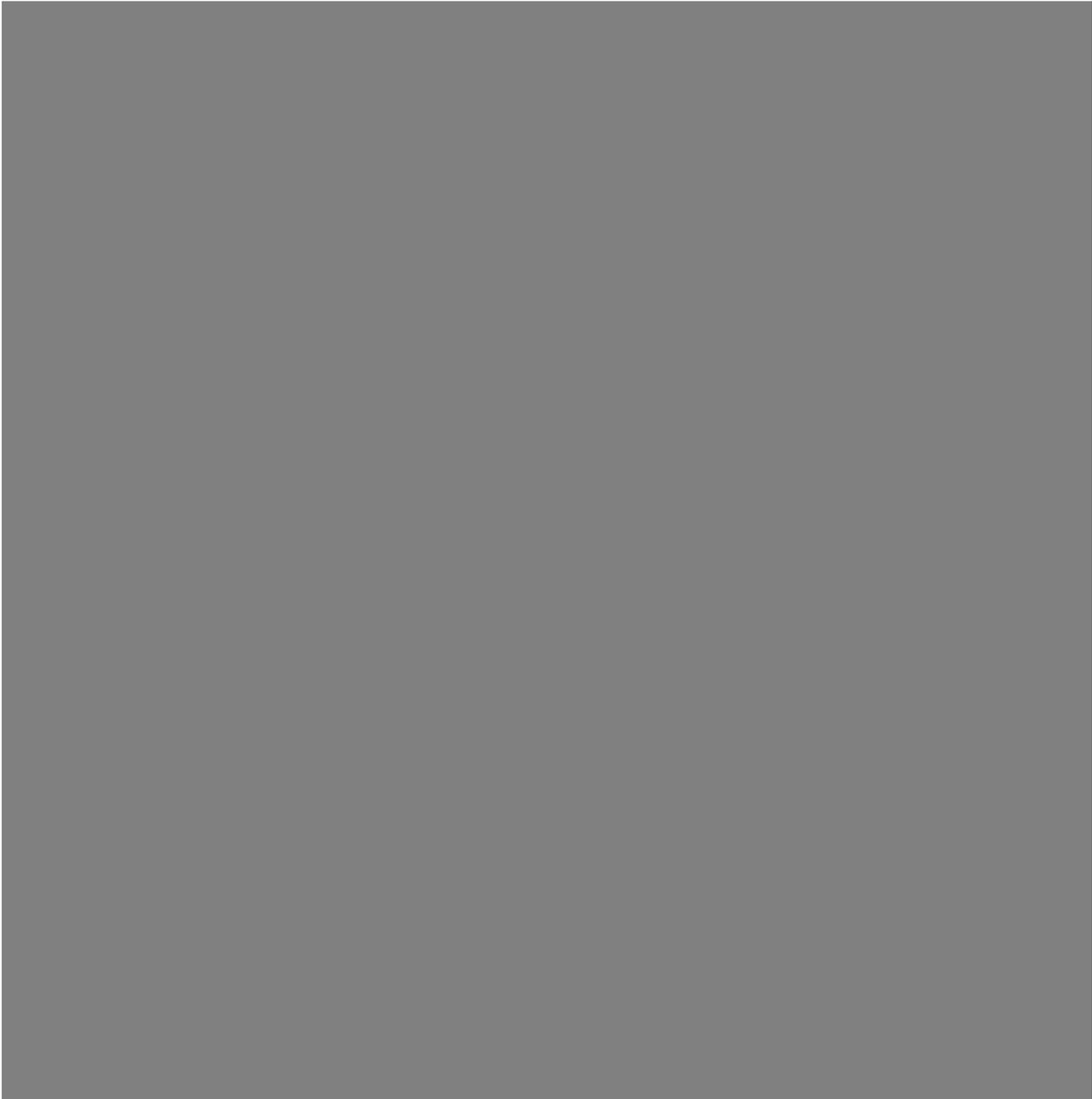
Medical Physics (Postdoctoral Trainees/Research Associates):

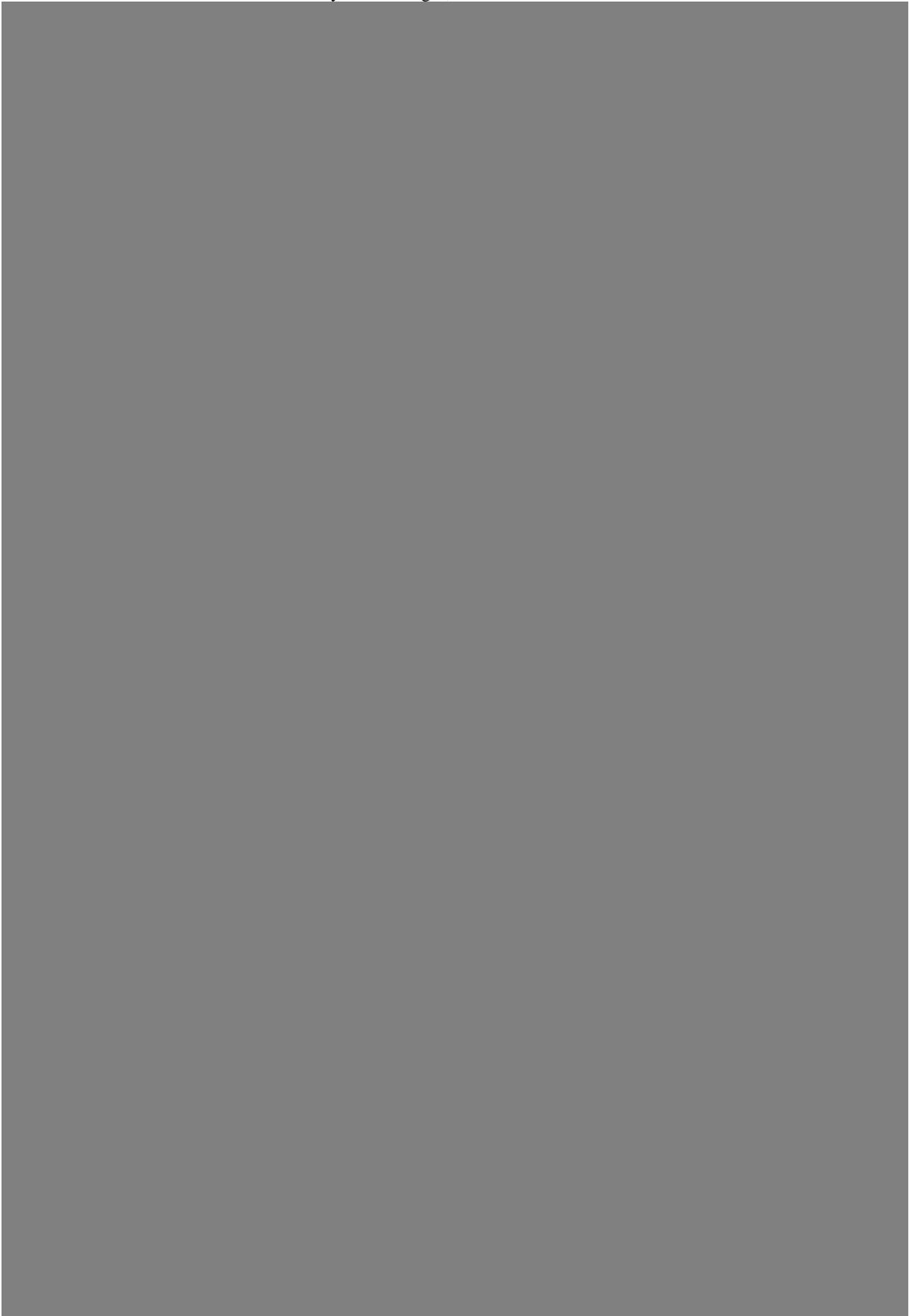






*The University of Chicago
Medical Physics (Graduate Students):*





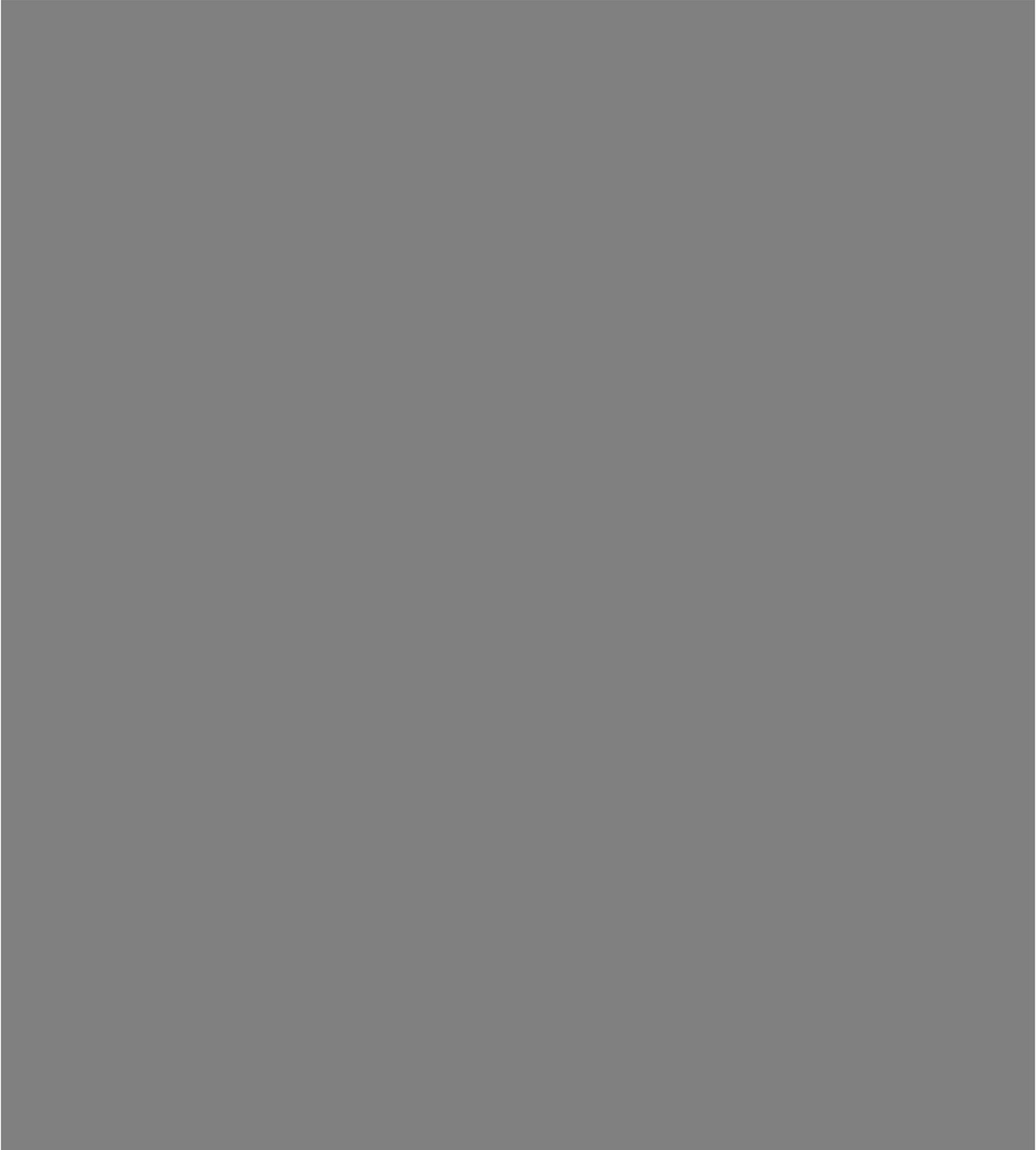


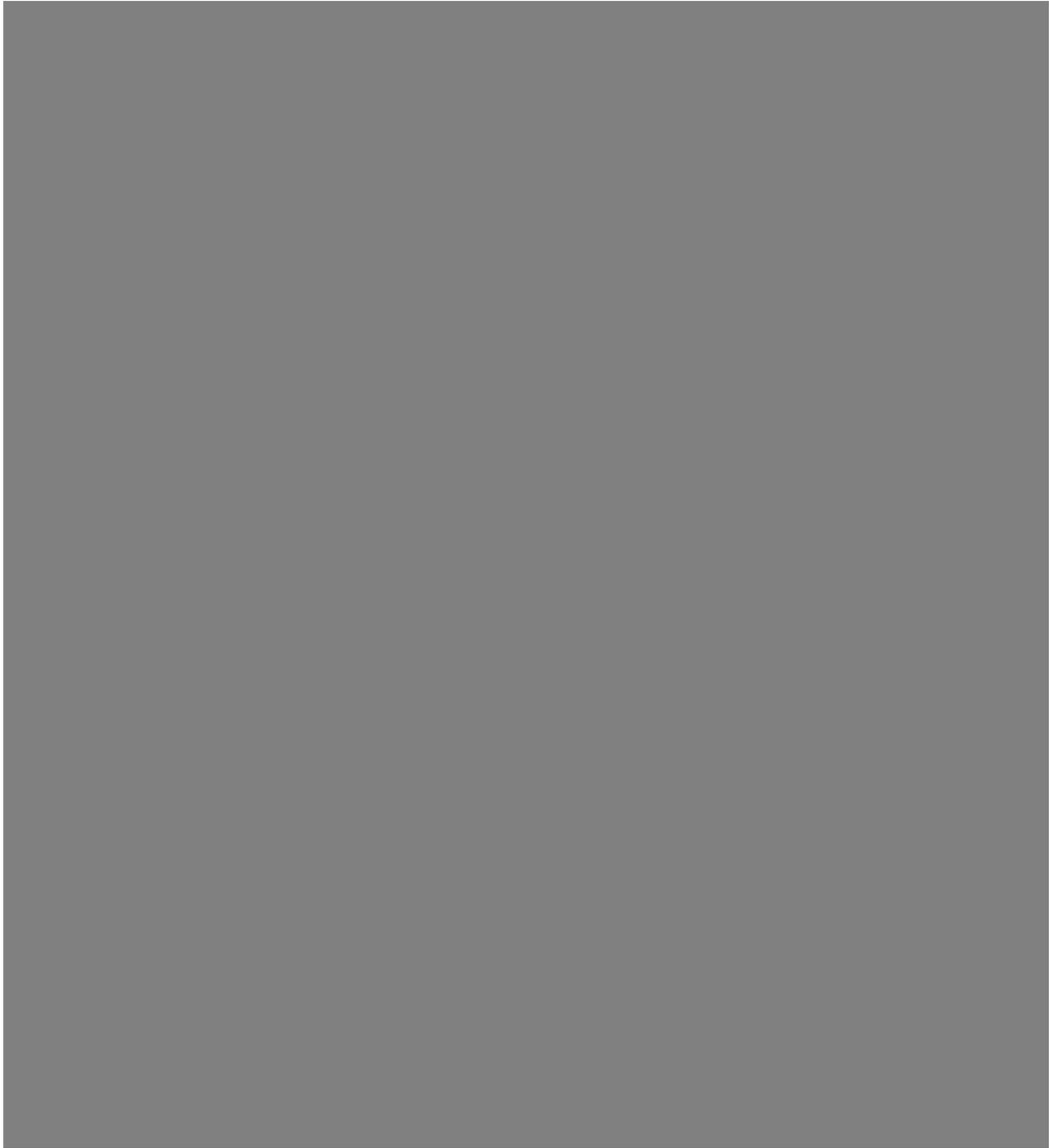
*The University of Chicago
Junior Faculty and Radiology Residents*





*The University of Chicago
Medical Students*





The University of Chicago
Undergraduate students







Other Graduate Programs

*Northwestern University, Evanston, Illinois
Electrical Engineering and Computer Science (Graduate Students)*

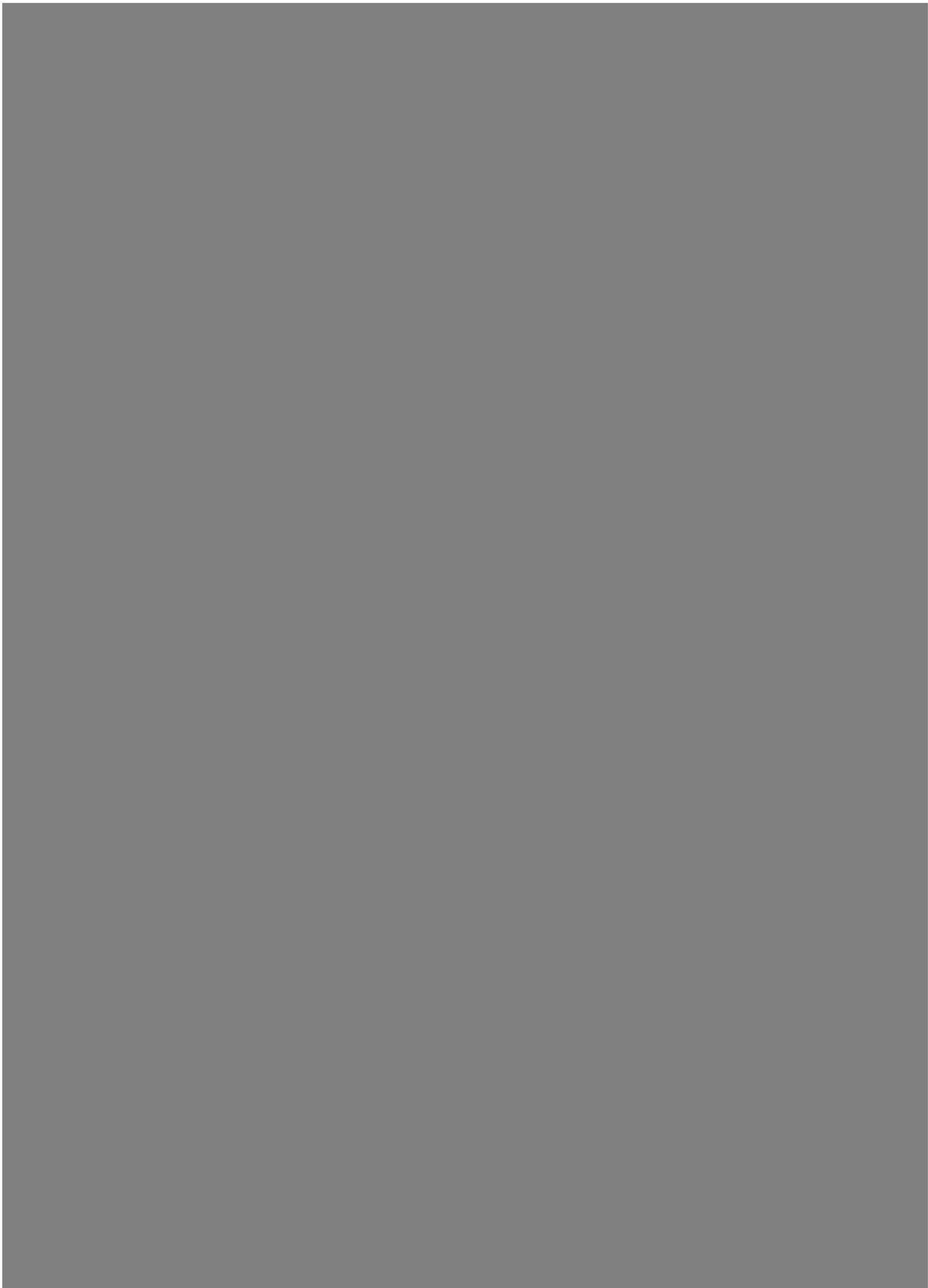


Chicago Medical School (medical physics graduate program)



Other institutions (Undergraduate students)









Refereed Journal Articles

- J1. [REDACTED]
- J2. **Giger ML**, Doi K: Investigation of basic imaging properties in digital radiography. 1. Modulation transfer function. Medical Physics 11: 287-295, 1984.
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- J7. Fujita H, Doi K, **Giger ML**, Chan HP: Investigation of basic imaging properties in digital radiography. 5. Characteristic curves of I.I.-TV digital systems. Medical Physics 13: 13-18, 1986.
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- J20. Fujita H, Doi K, **Giger ML**: MTF analysis in digital radiography: Measurements of the presampling MTF in a DSA system. Japanese Journal of Medical Imaging and Information Sciences 6: 1-18, 1989.
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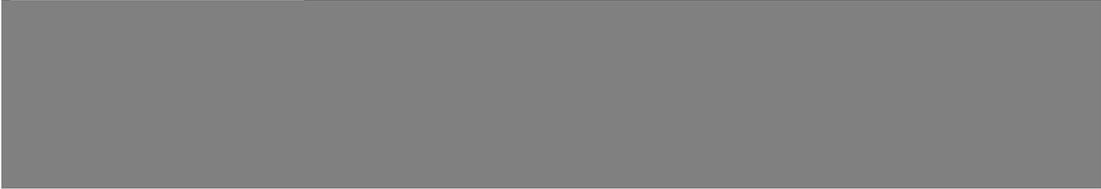
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- A189. Nishikawa RM, **Giger ML**, Jiang Y, Huo Z, Vyborny CJ, Jokich PM: Implementation of computer-aided diagnosis (CAD) into the clinical mammography work flow. *Radiology Supplement 217 (P): 626, 2000.*
- A190. **Giger ML**, Nishikawa RM, Huo Z, Jiang Y, Horsch KJ, Hendrick RE, et al: Multi-modality workstation for computer-aided diagnosis (CAD) in breast imaging. *RSNA, 221: 698, 2001.*
- A191. **Giger ML**, Horsch KJ, Vyborny CJ, Venta LA, Huo Z, Lan L, et al: Performance of CAD in the interpretation of breast lesions on ultrasound images: Results of an observer study using independent cases. *RSNA, 221: 521, 2001.*
- A192. Armato SG, Li F, **Giger ML**, MacMahon HM, Sone S, Doi K: Performance of automated CT lung nodule detection on missed cancers. *RSNA, 221: 312, 2001.*
- A193. Armato SG, Li F, **Giger ML**, Sone S, Doi K, MacMahon HM, et al: Interactive interpretation of CT scans with the benefit of automated lung nodule detection results. *RSNA, 221: 715, 2001.*
- A194. Chinander MR, **Giger ML**, Vokes T, Shah R, Favus M, Martell J: Computerized radiographic texture analysis on digital images of the calcaneus (heel), obtained on a bone densitometer, for use in assessing bone strength. *RSNA, 221: 514, 2001.*

- A195. Horsch KJ, **Giger ML**, Huo Z, Bonta I, Vyborny CJ, Hendrick E, et al: Computerized classification of lesions on mammograms and ultrasound images of the breast. *RSNA*, 221: 425, 2001.
- A196. Armato S, **Giger M**, Doi K, MacMahon H: Assessment of false-positive detections from a computerized analysis of CT lung nodule cases. *Med Phys* 28(6), 1302, 2001.
- A197. Chinander, **Giger M**, Vokes T, Shah R, Favus M: Effect of radiographic exposure on texture features extracted from bone densitometry images. *Med Phys* 28(6), 1302, 2001.
- A198. Bonta I, Giger ML, Heiman R, McBride R, Lan L, Huo Z, **Vyborny CJ**, Doerr S: Computerized mammographic analysis for prognosis. *Medical Physics* 29, 1308, 2002.
- A199. Drukker K, **Giger ML**, Mendelson EB, Vyborny CJ, Schmidt RA: Computerized detection of breast lesions on sonograms. *Radiology* 225(P) 498, 2002.
- A200. **Giger ML**, Huo Z, Vyborny CJ, Lan L, Li H: Mammographic risk-modulated computer-aided diagnosis. *Radiology* 225(P) 602, 2002.
- A201. Horsch KJ, **Giger ML**, Huo Z, Vyborny CJ, Lan L, Hendrick RE: Pre-clinical evaluation of multimodality CAD for breast cancer diagnosis. *Radiology* 225(P) 498, 2002.

Invited Lectures

- I1. Giger ML, Doi K: Analysis of MTFs, Wiener spectra and signal-to-noise ratios of digital radiographic imaging systems. 1984 American Association of Physicists in Medicine Annual Summer School, "Recent Developments in Digital Imaging," Univ. of Notre Dame, South Bend, Indiana; July 1984.
- I2. Giger ML: MTFs, Wiener spectra and signal-to-noise ratios of digital radiographic imaging systems. Seminar at Research Laboratories, Eastman Kodak Company, Rochester, New York, 1984.
- I3. Giger ML: Digital radiography and evaluation of image quality. Medical Physics Section, Rush-Presbyterian-St. Luke's Medical Center, Chicago, Illinois, Winter 1986.
- I4. Giger ML: Computer-aided diagnosis in digital radiography. AUR Computer Symposium, Association of University Radiologists, Charleston, South Carolina, Spring 1987.
- I5. Giger ML: Digital radiography and computer-aided diagnosis. Seminar for Department of Physics, University of Exeter, England, July 1987.
- I6. Giger ML: Digital radiography, digital radiographic imaging systems and image quality. Seminar for the Medical Diagnostic Systems Group, AT&T Bell Laboratories, Middletown, New Jersey, Autumn 1987.

- I7. Giger ML: Computer-aided diagnosis. Seminar for the Medical Diagnostic Systems Group, AT&T Bell Laboratories, Middletown, New Jersey, Autumn 1987.
- I8. Giger ML: Image quality: Effects of digitization, matrix size and noise. 1987 American Association of Physicists in Medicine Annual Summer School, "Image Communication and Image Analysis," Univ. of Michigan, Ann Arbor, Michigan; July 1987.
- I9. Giger ML: Film digitization - Technical requirements. Chest Imaging Conference-87, Univ. of Wisconsin, Madison, Wisconsin; August 1987.
- I10. Giger ML, Doi K, MacMahon H: Automated detection of pulmonary nodules in digital chest images. American Association of Physicists in Medicine Midwest Chapter Meeting, Chicago, Illinois, October 1987.
- I11. Giger ML: Digital processing of medical images: a review. SPIE Applications of Electronic Imaging: Critical Reviews of Optical Science and Technology (Conf. 1082), Los Angeles, California, 1989.
- I12. Giger ML: Computer-aided detection of pulmonary nodules. Pendergrass Diagnostic Research Laboratory, University of Pennsylvania, 1989.
- I13. Giger ML: Computer-aided diagnosis and its effect on observer performance. Conference Faculty. Third Farwest Image Perception Conference, Tucson, Arizona, 1989.
- I14. Giger ML: Computerized scheme for the detection of pulmonary nodules. 11th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Seattle, Washington, November 1989.
- I15. Giger ML: Computer-aided diagnosis in digital chest radiography and mammography. Grand Rounds. Harvard Medical School, Brigham and Women's Hospital, Boston, Massachusetts, February 1990.
- I16. Giger ML: Computer vision schemes in digital chest radiography and mammography. Department of Electrical Engineering and Computer Science. Northwestern University, Evanston, Illinois, April 1990.
- I17. Giger ML: Digital radiography and computer-aided diagnosis. Sixth Mid-America Conference on Advanced Science and Technology. Evanston, Illinois, April 1990.
- I18. Giger ML: Image analysis and computer-aided diagnosis. Grand Rounds, Department of Radiology, Rush Presbyterian-St. Luke's Medical Center, Chicago, Illinois, 1991.
- I19. Giger ML: Computer-aided diagnosis in chest radiography and mammography. 44th annual conference of the Society for Imaging Science and Technology (S&T), St. Paul, Minnesota, May 1991.

- I20. Giger ML, Yin F-F, Doi K, Vyborny CJ, Schmidt RA, Metz CE: Computerized detection and classification of masses in digital mammograms. World Congress on Medical Physics and Biomedical Engineering. Kyoto, Japan, July 1991.
- I21. Giger ML, Yoshimura H, Doi K, MacMahon H, Matsumoto T, Montner S: Computerized detection of lung nodules in digital chest radiographs. World Congress on Medical Physics and Biomedical Engineering. Kyoto, Japan, July 1991.
- I22. Giger ML: Automated scheme for lung nodule detection in chest radiographs. Kumamoto University, Kumamoto City, Japan, July 1991.
- I23. Giger ML: Automated scheme for lung nodule detection in chest radiographs. Konica Corporation, Hino, Japan, July 1991.
- I24. Giger ML: Automated scheme for lung nodule detection in chest radiographs. Toshiba Corporation, Nasu, Japan, July 1991.
- I25. Giger ML: Computerized detection of masses in mammograms. Toshiba Corporation, Nasu, Japan, July 1991.
- I26. Giger ML: Automated scheme for lung nodule detection in chest radiographs. Iwate Medical University, Morioka, Japan, July 1991.
- I27. Giger ML: Computer analysis of chest and mammographic x-ray images. Department of Biomedical Engineering, Case Western Reserve University, Cleveland, Ohio, March 1992.
- I28. Giger ML: Digital x-ray radiography. Optical Engineering Midwest-1992, OEM Tutorial on Medical Imaging, Illinois Institute of Technology, Chicago, Illinois, March 1992.
- I29. Giger ML: Computer-aided diagnosis in mammography. American Cancer Society DuPage Unit, DuPage County, Illinois, May 1992.
- I30. Giger ML: Artificial intelligence in medical radiographic imaging. Organization of Graduate Women in Science. Chicago, Illinois, June 1992.
- I31. Giger ML: Computer-aided diagnosis in mammography. American Cancer Society West DuPage Unit, Illinois, July 1992.
- I32. Giger ML: Computer-aided diagnosis in digital mammography. 34th Annual meeting of American Association of Physicists in Medicine. Scientific symposium on 'Computerized image analysis in digital mammography. Calgary, Canada, August 1992.
- I33. Giger ML: Computer-aided diagnosis. National Institutes of Health Workshop on Developments in Multidimensional Image Processing. Bethesda, Maryland, October 1992.
- I34. Giger ML, Yin FF, Doi K, Wu Y, Vyborny CJ, Schmidt RA, Huo Z: Computerized detection and characterization of mass lesions in digital mammography. IEEE

- International Conference on Systems, Man and Cybernetics, Chicago, Illinois, October 1992.
- I35. Giger ML: Categorical course on the technical aspects of breast imaging: Future of breast imaging: Computer-aided diagnosis. 78th Assembly and Annual Meeting of RSNA, Chicago, Illinois, December 1992.
- I36. Giger ML: Practical problems in image analysis: medical perspective. Optical Society of Chicago, Illinois, December 1992.
- I37. Giger ML: Computer-aided diagnosis in radiology, New Concepts in Medical Imaging. The University of Chicago, Chicago, February 1993.
- I38. Giger ML: Computer-aided diagnosis in medical imaging. Departmental Seminar. Department of Medical Physics, University of Wisconsin-Madison, March 1993.
- I39. Giger ML: Computer-aided diagnosis in medical imaging. Illinois Benedictine College, Lisle, Illinois, March 1993.
- I40. Giger ML: Computer-aided diagnosis. Kodak 2nd Annual Striving for Excellence in Mammography course. Oak Brook, Illinois, July 1993.
- I41. Giger ML: Computer applications in analysis of radiological image of the breast. NCI Workshop on Computer Applications for Early Detection and Staging of Cancer. Bethesda, Maryland, July 1993.
- I42. Giger ML: Computer-aided diagnosis in digital mammography. Invited mini-symposia. 15th Annual International Conference of IEEE Engineering in Medicine and Biology Society, San Diego, California, October 1993.
- I43. Giger ML: Categorical course on the technical aspects of breast imaging. Future of breast imaging: Computer-aided Diagnosis. 79th Assembly and Annual Meeting of RSNA, Chicago, Illinois, November 1993.
- I44. Giger ML, Huo Z, Zhang W: Application of artificial neural networks to the task of merging feature data in computer-aided diagnosis schemes. World Congress on Neural Networks, San Diego, California, June 1994.
- I45. Giger ML: Computer-aided diagnosis in mammography. American Association of Physicists in Medicine Annual Meeting, Anaheim, California, July 1994.
- I46. Giger ML: Computerized radiographic analysis of bone structure. American Association of Physicists in Medicine Annual Meeting, Anaheim, California, July 1994.
- I47. Giger ML: Categorical course on the technical aspects of breast imaging. Future of breast imaging: Computer-aided Diagnosis. 80th Assembly and Annual Meeting of RSNA, Chicago, Illinois, November 1994.

- I48. Giger ML: Computer vision system to aid in mammographic interpretation: An intelligent mammography workstation. American Cancer Society Science Writers' Seminar. New Orleans, Louisiana, March 1995.
- I49. Giger ML: Digital concepts and digital mammography. Workshop on Mammography. Charles University, Prague, Czech Republic, April 1995.
- I50. Giger ML: Computer-aided diagnosis. Workshop on Mammography. Charles University, Prague, Czech Republic, April 1995.
- I51. Giger ML: Computer vision system to aid in mammographic interpretation: An intelligent mammography workstation. Keynote Speaker. American Cancer Society, Illinois Division, Annual Meeting, October, 1995.
- I52. Giger ML: Computerized radiographic analysis of bone radiographs. Proctor & Gamble, Cincinnati, Ohio, January, 1996.
- I53. Giger ML: Can computers help us read Mammograms?. Fourth Annual Striving for Excellence in Mammography, Oak Brook, Illinois, April, 1996.
- I54. Giger ML: Computer-aided diagnosis in mammography, Association of University Radiologists (AUR) annual meeting, Birmingham, Alabama, April, 1996.
- I55. Giger ML: Current issues in computer-aided diagnosis in mammography, 3rd International Workshop on Digital Mammography, Chicago, Illinois, June, 1996.
- I56. Giger ML: Computer-aided diagnosis, Continuing Education Course in Digital Mammography, 38th Annual Meeting of the American Association of Physicists in Medicine. Philadelphia, PA, July, 1996.
- I57. Giger ML: Rationale and Potential of Computer-Aided Diagnosis in Radiology, Department of Diagnostic Radiology, Mayo Clinic, Rochester, Minnesota, September, 1996.
- I58. Giger ML: Evaluation of Physical Imaging Properties in Digital Radiography, Department of Diagnostic Radiology, Mayo Clinic, Rochester, Minnesota, September, 1996.
- I59. Giger ML: Computer-Aided Diagnosis in Mammography, Department of Diagnostic Radiology, Mayo Clinic, Rochester, Minnesota, September, 1996.
- I60. Giger ML: Grant Writing, Department of Radiology Research Conference, University of Chicago, Chicago, Illinois, October, 1996.
- I61. Giger ML: Computer Detection of Cancer: Current Results with Primary Breast Cancer. Potential for Earlier Diagnosis of Metastases. Creative Concepts Conference, Vail, Colorado, December, 1996.
- I62. Giger ML: Image Processing for Human Vision. Basic Imaging Technology Course, Philips Medical Systems North America Co., Shelton, Connecticut, May, 1997.

- I63. Giger ML: Image Processing for Computer Vision and Computer-Aided Diagnosis. Basic Imaging Technology Course, Philips Medical Systems North America Co., Shelton, Connecticut, May, 1997.
- I64. Giger ML: Computer-Aided Diagnosis in Radiology, Sunnybrook Health Science Centre, University of Toronto, Toronto, Canada, June, 1997.
- I65. Giger ML: Computer-Aided Diagnosis in Breast Imaging, University of Chicago Cancer Research Center, Breast Cancer Program, Chicago, October, 1997.
- I66. Giger ML: Development of Methods for Computer-Assisted Interpretations of Digital Mammograms for Early Breast Cancer Detection. Era of Hope Meeting, Department of Defense Breast Cancer Research Program, Washington, D.C., November, 1997.
- I67. Giger ML: Categorical course on the technical aspects of breast imaging. Future of breast imaging: Computer-aided Diagnosis. 83rd Assembly and Annual Meeting of RSNA, Chicago, Illinois, December 1997.
- I68. Giger ML: Lung nodule CAD detection methods. Lung Imaging Workshop: Technology Transfer Diagnostic Imaging Program, NCI, Washington, D.C., January, 1998.
- I69. Yaffe MJ, Giger ML: Integration of image processing and CAD with workstation design. Working Group on Digital Mammography: Digital Displays and Workstation Design, Office of Women's Health and NCI, Washington, D.C., March, 1998.
- I70. Giger ML: Computer-Aided Diagnosis in Medical Imaging. Whitaker Foundation Conference, San Diego, CA, August, 1998.
- I71. Giger ML: Overview of CAD in Breast Imaging. First International Workshop on Computer-Aided Diagnosis, Chicago, IL, September, 1998.
- I72. Giger ML: The Clinical Aspect of Full Field Digital Mammography. GE Medical Systems Seminar on digital x-ray detector technology, Chicago O'Hare, IL, November, 1998.
- I73. Giger ML: Update course on the technical aspects of breast imaging. Computer-Aided Diagnosis in Breast Imaging. 84th Assembly and Annual Meeting of RSNA, Chicago, Illinois, December 1998.
- I72. Giger ML: The Clinical Aspect of Full Field Digital Mammography. GE Medical Systems Seminar on digital x-ray detector technology, Vancouver, Canada, February, 1999.
- I73. Giger ML: Refresher course on Digital Mammography & Computer-Aided Diagnosis, SPIE, San Diego, CA, February, 1999.
- I74. Giger ML: Perception Workshop on Computer-Aided Diagnosis, SPIE, San Diego, CA, February, 1999.

- I75. Giger ML: Tutorial on Computer-Aided Diagnosis, SCAR, Houston, Texas, May, 1999.
- I76. Giger ML: Computer-Aided Diagnosis, BECON (hosted by NIH), Washington, D.C., June, 1999.
- I77. Giger ML, Huo Z: Artificial neural networks in breast cancer diagnosis: Merging of computer-extracted features from breast images. Proc. Of Conference on Evolutionary Computing (CEC'99), 1999.
- I78. Giger ML: Categorical course on the technical aspects of breast imaging. Computer-Aided Diagnosis in Breast Imaging. 85th Assembly and Annual Meeting of RSNA, Chicago, Illinois, December 1999.
- I79. Giger ML: Breast imaging and computer-aided diagnosis. University of Chicago Cancer Risk Symposium, Chicago, Illinois, June, 2000.
- I80. Giger ML: Computer-aided diagnosis in breast imaging. Breast Imaging Course, Northwestern University, Chicago, Illinois, July, 2000.
- I81. Giger ML: Computer-aided diagnosis. Columbia University Inaugural Symposium for their new Bioengineering Department, New York, NY, October, 2000.
- I82. Giger ML: Categorical course on the technical aspects of breast imaging. Computer-Aided Diagnosis in Breast Imaging. 86th Assembly and Annual Meeting of RSNA, Chicago, Illinois, November, 2000.
- I83. Giger ML: Computer-Aided Diagnosis. Student Radiographer Theater Presentation. . 86th Assembly and Annual Meeting of RSNA, Chicago, Illinois, November, 2000.
- I84. Giger ML: Refresher course on Digital Mammography & Computer-Aided Diagnosis, SPIE, San Diego, CA, February, 2001.
- I85. Giger ML: Workshop on Computer-Aided Diagnosis: Breadth and Depth of CAD, SPIE, San Diego, CA, February, 2001.
- I86. Giger ML: Rationale for and Status of Computer-Aided Diagnosis. M. D. Anderson Cancer Center, Houston, Texas, March, 2001.
- I87. Giger ML: Technical Aspects of Computer-Aided Diagnosis. M. D. Anderson Cancer Center, Houston, Texas, March, 2001.
- I88. Giger ML: Computer-Aided Diagnosis and Medical Imaging. Program on Biomedical Engineering in the 21st Century: Challenges and Promise, Illinois Institute of Technology, Chicago, Illinois, March, 2001.
- I89. Giger ML: Computer-Aided Diagnosis in Medical Imaging. Electrical Engineering and Biomedical Engineering Departments, University of Iowa, Iowa City, Iowa, April, 2001

- I90. Giger ML: Computer-Aided Diagnosis in Medical Imaging. Department of Radiology, University of Iowa Hospitals, Iowa City, Iowa, April, 2001
- I91. Giger ML: Extent of Computer-Aided Diagnosis in Medical Imaging. Special Session on CAD. SCAR 2001, The 18th Symposium for Computer Applications in Radiology, Salt Lake City, Utah, May, 2001.
- I92. Giger ML, Vyborny CJ: Computer Applications to Radiological Diagnosis. Key Note speaker, GE Medical Systems, AAC (Academic Advisory Council), Milwaukee, WI, June, 2001.
- I93. Giger ML, Armato SA: Current status and future direction of computer-aided diagnosis in chest CT. CARS 2001, Computer Assisted Radiology and Surgery, Berlin, Germany, June, 2001.
- I94. Giger ML: Update on Computer-Aided Diagnosis in Mammography, 2001 AAPM Annual Meeting, Salt Lake City, UT, July 2001.
- I95. Giger ML: Computational Methods in CAD, 2001 AAPM Annual Meeting, Salt Lake City, UT, July 2001.
- I96. Giger ML: Computerized Analysis of Breast Images: A New Era in Image Interpretation, American Cancer Society Excalibur Roundtable Symposium, Chicago, IL, August, 2001.
- I97. Giger ML: Computer-aided diagnosis in medical imaging. 2nd Beijing International Conference on Physics and Engineering of Medical Imaging. University of Beijing, Beijing, China, October 24-28, 2001.
- I98. Giger ML: Computer-Aided Diagnosis in Medical Imaging. University of Toronto, Toronto, Canada, December, 2001.
- I99. Giger ML: Computer-Aided Diagnosis in Breast Imaging. Special Session on CAD. SCAR 2001, The 18th Symposium for Computer Applications in Radiology, Cleveland, Ohio, May, 2002.
- I100. Giger ML: Computer-aided diagnosis in breast ultrasound. CARS 2002, Computer Assisted Radiology and Surgery, Paris, France, June, 2002.
- I101. Giger ML: Computer-aided diagnosis in medical imaging. 9th International Congress of the Metastasis Research Society, Chicago, Illinois, Sept. 2002.
- I102. Giger ML: A new model for the estimation of breast cancer risk. Era of Hope Department of Defense Breast Cancer Research Program Meeting, Orlando, FL, Sept. 2002.
- I103. Giger ML: Roots of CAD. Creative Concepts Conference, Vail, Colorado, December, 2002.

- I104. Giger ML: Computer-assisted diagnosis, Institute of Medicine, IOM/NAS workshop on "New Technologies for the Early Detection and Diagnosis of Breast Cancer", National Academy of Science, Washington D.C., January 2003
- I105. Giger ML: CAD in breast imaging, Siemens Medical, Pennsylvania, March, 2003.
- I106. Giger ML: Moderator and Report Presenter for Data Reconstruction, Interpretation, and Informatics, at "Defining the State-of-the-Art in Biomedical Imaging: Research Needs for the Future", NIBIB/UMMC Workshop, March, Jackson, Mississippi, 2003.
- I107. Giger ML. CAD in Breast Imaging, AAPM, San Diego, August, 2003.
- I108. Giger ML: Cancer Screening and Diagnosis. NCI CAD/Informatics Workshop. Maryland, September, 2003.
- I109. Giger ML; CAD for Breast Ultrasound. Lynn Sage Breast Imaging Symposium, Chicago, IL, October 2003.
- I110. Giger ML: CAD for Mammography, Ultrasound, and MRI. Lynn Sage Breast Imaging Symposium, Chicago, IL, October 2003.
- I111. Giger ML: Collaboration between MDs and PhDs. RSNA Revitalizing the Radiology Research Enterprise. Oak Brook, IL October, 2003.
- I112. Giger ML. Computer-Aided Diagnosis in Breast Imaging, NCI Forum, Bethesda, Maryland, January 2004.
- I113. Giger ML: Computerized Image Analysis: Breast Cancer Imaging, BIROW II, Bethesda, Maryland, February 2004.
- I114. Giger ML: Computer-Aided Diagnosis in Breast Cancer Imaging – Challenges and Opportunities, Marquette University, March, 2004.
- I115. Giger ML: CAD Overview for Radiologists (SCAR U102), SCAR, Vancouver, Canada, May 2004.
- I116. Giger ML: Computer-Aided Diagnosis in Breast Imaging (SCAR U 204), SCAR, Vancouver, Canada, May 2004.
- I117. Giger ML; CAD in Breast Imaging – TRIP Session, SCAR, Vancouver, Canada, May 2004.
- I118. Giger ML: Computer-Aided Diagnosis in Breast Cancer Imaging – Challenges and Opportunities. International Workshop on Digital Mammography (IWDM), Chapel Hill, North Caroline, June 2004.
- I119. Giger ML: Computer-Aided Diagnosis in Breast Cancer Imaging: Latest Developments. CARS, Chicago, June 2004.

- I120. Giger ML: Biomedical Imaging Perspective; Joint BECON/BISTIC Symposium 2004 entitled "Biomedical Informatics for Clinical Decision Support: A Vision for the 21st Century", Bethesda, Maryland, June, 2004.
- I121. Giger ML: CAD for Breast Ultrasound. Northwestern Breast Imaging Course, Chicago, Illinois, October, 2004
- I122. Giger ML: Multi-modality computer-aided diagnosis in the interpretation of breast images Imaging Network Ontario Symposium, Toronto, Canada, March, 2005.
- I123. Giger ML: Multimodality CAD in the Interpretation of Breast Images. DePaul University, Chicago, Illinois, May, 2005.
- I124. Giger ML: Computer-aided detection and diagnosis. RSNA, Chicago, Illinois, November, 2005.
- I125. Giger ML: Computer-aided diagnosis in diagnostic mammography & multi-modality breast imaging. RSNA, Chicago, Illinois, November, 2005.
- I126. Giger ML: Multi-modality breast computer-aided diagnosis. CVAMIA Workshop (Computer Vision Approaches to Medical Image Analysis), Graz, Austria, May, 2006.
- I127. Giger ML: The switch and setting of priorities while balancing a family and an academic career. University of Chicago Women in Science, Chicago, Illinois, May, 2006.
- I128. Giger ML: Multi-Modality Breast CAD. DePaul University, Chicago, Illinois, July 2006.
- I129. Giger ML: Breast CAD in the Digital Era. AAPM Annual Meeting. Orlando, Florida, August, 2006.
- I130. Giger ML: Multi-Modality Breast CAD. National Laboratory of Pattern Recognition, Institute of Automation, The Chinese Academy of Sciences, Beijing, China, August 2006.
- I131. Giger ML: Computer-Aided Diagnosis in Medical Imaging. International Workshop on Medical Imaging and Augmented Reality (MIAR06), Shanghai, China, August 2006.
- I132. Giger ML: Multi-Modality Breast CAD. International Workshop on Medical Imaging and Augmented Reality (MIAR06), Shanghai, China, August 2006.
- I133. Giger ML: Multi-Modality Breast Computer-Aided Diagnosis and Prognosis. AAPM Midwest Chapter, Lawrence Lanzl Award Lecture. Downers Grove, Illinois, October 2006.
- I134. Giger ML: Lessons Learned from Breast CAD. The 15th International Conference on Screening for Lung Cancer (I-ELCAP). Weill Medical College of Cornell University. New York, NY, October 2006.

- I135. Giger ML: CAD for Breast Ultrasound. Northwestern/University of Chicago Breast Imaging Course. Chicago, Illinois, October 2006.
- I136. Giger ML: Computer-Aided Diagnosis – Reflections on the Past, Present, and Future. Forum on Emerging Biomedical Technologies, 2006 International Workshop on CAD at Taiwan National University, Taipei, Taiwan, November 2006.
- I137. Giger ML: Breast CAD. Forum on Emerging Biomedical Technologies, 2006 International Workshop on CAD at Taiwan National University, Taipei, Taiwan, November 2006.
- I138. Giger ML: Computer-aided diagnosis in diagnostic mammography & multi-modality breast imaging. RSNA, Chicago, Illinois, November, 2006.
- I139. Giger ML: The State of CAD. Are you Ready to Move? Breast CAD. RSNA, Chicago, Illinois, November, 2006
- I140. Giger ML: Computer-Aided Diagnosis, Southeast AAPM Chapter Meeting, Atlanta, Georgia, March 2007.
- I141. Giger ML, Yuan Y, Li H, Drukker K, Chen W, Lan L, Horsch K: CAD in Radiology – Current Status and Future Directions – Progress in Breast CADx. IEEE ISBI, Arlington, Virginia, April, 2007.
- I142. Giger ML: Computer-Aided Diagnosis for Breast Cancer and Other Diseases, University of Chicago Computation Institute, Chicago, Illinois, May, 2007.
- I143. Giger ML, Li H: Image-Based Breast Cancer Risk Assessment. ASCO American Society of Clinical Oncology, Chicago, Illinois, June, 2007.
- I144. Giger ML: Breast CAD: Lessons learned and vision for the future. Medical Imaging and Informatics (MIMI 2007), Beijing, China, August 2007
- I145. Giger ML: CAD: State-of-the-art and future. Medical Imaging and Informatics (MIMI 2007), Beijing, China, August 2007
- I146. Giger ML: CAD for detection of breast cancer. AAPM Southern California Chapter midwinter Workshop, Universal City, California, January 2008
- I147. Giger ML, Karssemeijer N, van Ginneken B, Summers R : Computer-Aided Diagnosis (SC882), Refresher Course, SPIE Medical Imaging, San Diego, CA, February 2008.
- 148. Giger ML: State of the AAPM and the future. PennOhio AAPM Chapter, Youngstown, Ohio, June 2008.
- I149. Giger ML: Updates on AAPM and Research in Breast CAD. RAMPS, New York, NY, September, 2008.

- I150. Giger ML: State licensure and other AAPM initiatives. AAPM North Central Chapter, Milwaukee, WI, October 2008.
- I151. Giger ML: Breast cancer, imaging, and computer-aided diagnosis. IAAP, Oak Brook, IL, October 2008.
- I152. Giger ML: Multi-modality breast CAD. Chicago International Breast Course, Chicago, IL, November, 2008.
- I153. Giger ML: Quantitative image analysis of breast MRI. (keynote) International Forum on Medical Imaging in Asia (IFMIA), Taipei, Taiwan, January 2009.
- I154. Giger ML: Multimodality breast CADx. (tutorial) International Forum on Medical Imaging in Asia (IFMIA), Taipei, Taiwan, January 2009.
- I155. Giger ML: Status and future of medical physics and the AAPM. University of Wisconsin – Madison, February, 2009.
- I156. Giger ML: Multimodality breast CADx. University of Wisconsin – Madison, February, 2009.
- I157. Giger ML: Status of the AAPM. Florida AAPM Chapter, Orlando, Florida, March 2009.
- I158. Giger ML: Quantitative Image Analysis in Radiology. Southeast AAPM Chapter, Chapel Hill, North Carolina, March 2009.
- I159. Giger ML: Future of the AAPM Organization and the Medical Physics Profession. Southeast AAPM Chapter, Chapel Hill, North Carolina, March 2009.
- I160. Giger ML: Informal Discussion on Future of the AAPM Organization and the Medical Physics Profession, Duke University Medical Physics Program, Durham, North Carolina, March 2009.
- I161. Giger ML: New Horizons in Cancer Diagnosis: Artificial Intelligence & Computer Vision. Chicago Women’s Alliance, Chicago, Illinois, May 2009.
- I162. Giger ML: Current Approaches to Computerized Image Assessment for the Detection and Diagnosis of Disease. In Frontiers of Biomedical Imaging Science, Vanderbilt University, Nashville, TN, June 2009.
- I163. Giger ML: Risk Assessment from Parenchyma Characteristics. At 4th International Workshop on Breast Densitometry and Breast Cancer Risk Assessment. San Francisco, California, June 2009.

Other Presentations

- L1. **Lissak M**, Doi K, Ishida M, Loo LN: Determination of MTFs of digital radiographic imaging systems. 24th meeting of American Association of Physicists in Medicine, New Orleans, Louisiana, July 1982.
- L2. **Lissak M**, Doi K, Ishida M, Loo LN: Investigation of noise Wiener spectra of digital radiographic imaging systems. 68th Assembly and Annual Meeting of RSNA, Chicago, Illinois, July 1982 .
- L3. **Lissak M**, Doi K, Loo LN, Ishida M: Modulation transfer functions and noise Wiener spectra of digital radiographic imaging systems. American Association of Physicists in Medicine Midwest Chapter meeting, Chicago, Illinois, 1983.
- L4. **Giger ML**, Doi K, Loo LN, Ishida M: Signal-to-noise ratios of digital radiographic imaging systems and their relationship to detectability. 25th meeting of American Association of Physicists in Medicine, New York, New York, 1983.
- L5. **Giger ML**, Doi K, Loo LN: Effect of pixel size on the detection of simulated low-contrast radiographic patterns in digital radiography. 69th Assembly and Annual Meeting of Radiological Society of North America, Chicago, Illinois, 1983.
- L6. **Giger ML**, Doi K, Fujita H, Ohara K: Analysis of noise Wiener spectra in digital I.I./TV imaging systems. 26th meeting of American Association of Physicists in Medicine and Inter-American Meeting of Medical Physics, Chicago, Illinois, 1984.
- L7. **Giger ML**, Doi K: Effect of pixel size and scatter on threshold detection in digital radiography. 70th Assembly and Annual Meeting of Radiological Society of North America, Washington, D.C., 1984.
- L8. **Giger ML**, Doi K, Metz CE: Investigation of basic imaging properties in digital radiography. 27th meeting of American Association of Physicists in Medicine (Young Investigators' Symposium, First Place Award), Seattle, Washington, 1985.
- L9. **Giger ML**, Doi K: SNR and threshold contrast of digital radiographic images. SPSE - 25th Fall Symposia Imaging, Arlington, Virginia, 1985.
- L10. **Giger ML**, Ohara K, Doi K: Effect of quantization on digitized noise and detection of low-contrast objects. SPIE Medicine XIV/PACS IV, Newport Beach, California, 1986.
- L11. **Giger ML**, Doi K, MacMahon H: Computer-aided detection of lung nodules. 28th meeting of American Association of Physicists in Medicine, Lexington, Kentucky, 1986.
- L12. **Giger ML**, Doi K, MacMahon H: Computer-aided detection of lung nodules in digital chest radiographs. 72nd Assembly and Annual Meeting of Radiological Society of North America, Chicago, Illinois, 1986.
- L13. **Giger ML**, Doi K, MacMahon H: Computerized detection of lung nodules in digital chest radiographs. SPIE Medical Imaging (Conf. 767), Newport Beach, California, 1987.

- L14. **Giger ML**, Doi K, MacMahon H: Automated scheme for the detection of lung nodules. 29th Meeting of American Association of Physicists in Medicine, Detroit, Michigan, 1987.
- L15. **Giger ML**, Doi K, MacMahon H: Computer-aided diagnosis of pulmonary nodules. Chest Imaging Conference-87, Univ. of Wisconsin, Madison, Wisconsin, Aug. 3 1-Sept. 2, 1987.
- L16. **Giger ML**, Doi K, MacMahon H: Filtering and feature-extraction techniques used in the computer-aided detection of pulmonary nodules. 73rd Assembly and Annual Meeting of Radiological Society of North America, Chicago, Illinois, Nov. 29 - Dec. 4, 1987.
- L17. **Giger ML**, Doi K, MacMahon H, Schmidt RA, Vyborny CJ, Yin F-F: Image-processing techniques used in the computer-aided detection of radiographic lesions in anatomic background. SPIE Medical Imaging II (Conf. 914), Newport Beach, California, 1988.
- L18. **Giger ML**, Doi K, MacMahon H, Metz CE, Yin F-F: Computer-aided detection of pulmonary nodules in digital chest images. 17th International Congress of Radiology, Paris, France, July 1-8, 1989.
- L19. **Giger ML**, Yin F-F, Doi K, Schmidt RA, Vyborny CJ: Feature-extraction techniques used in the computerized detection and classification of lesions in digital mammograms. 31st Meeting of American Association of Physicists in Medicine, Memphis, Tennessee, 1989.
- L20. **Giger ML**, Doi K, Yin F-F, MacMahon H, Metz CE, Vyborny CJ, Schmidt R: Feature-extraction techniques used in the computerized detection of lung nodules and mammographic lesions in digital medical images. Optical Engineering Midwest, Northbrook, Illinois, November 1989.
- L21. **Giger ML**, Doi K, Yin F-F, Schmidt R, Vyborny C: Computerized classification of mass lesions in digital mammograms: Lesion spiculation in analysis of malignancy. 75th Assembly and Annual Meeting of Radiological Society of North America, Chicago, Illinois, November 1989.
- L22. **Giger ML**, Yin F-F, Doi K, Metz CE, Schmidt RA, Vyborny CJ: Computerized detection and classification of mass lesions in digital mammograms. SPIE Medical Imaging IV (Conf. 1233), Newport Beach, California, 1990.
- L23. **Giger ML**, Yoshimura H, Bae T, Doi K, MacMahon H, Montner S, Metz CE: Computer vision schemes for lung cancer detection. 38th annual meeting of Association of University Radiologists (AUR), Minneapolis, Minnesota, April 1990.
- L24. **Giger ML**, Yin F-F, Doi K, Vyborny C, Schmidt R, Metz CE: Image features of mammographic masses used in the development of computerized schemes. 10th Conference of Computer Applications in Radiology and 4th Conference on Computer Assisted Radiology, Anaheim CA, June 1990.
- L25. **Giger ML**, Doi K, Yin F-F, Yoshimura H, MacMahon H, Vyborny CJ, Schmidt RA,

- Metz CE, Montner S: Computer-vision schemes for lung and breast cancer detection. 2nd International Conference on Visual Search. University of Durham, United Kingdom, September 1990.
- L26. **Giger ML**, Roeske J, Dixon LB, Doi K, Gowrishankar TR, Caligiuri P, Katsuragawa S, Collins PA: Computerized analysis of osteoporosis on bone radiographs. 76th Assembly and Annual Meeting of Radiological Society of North America, Chicago, Illinois, November 1990.
- L27. **Giger ML**, Nishikawa RM, Doi K, Yin FF, Vyborny CJ, Schmidt RA, Metz CE, Wu Y, MacMahon H, Yoshimura H: Development of a "smart" workstation for use in mammography. SPIE Medical Imaging V (Conf. 1445), San Jose, California, 1991.
- L28. **Giger ML**, Caligiuri P, Favus M, Jia H, Doi K, Dixon LB: Computerized radiographic analysis of bone structure for evaluation of osteoporosis. 34th annual meeting of American Association of Physicists in Medicine, Calgary, Canada, August 1992.
- L29. **Giger ML**, Huo Z, Yin FF, Kovar D, Doi K, Vyborny CJ, Schmidt RA: Computer-aided diagnosis in mammography: Automated classification of masses. 78th Assembly and Annual Meeting of Radiological Society of North America, Chicago, Illinois, December 1992.
- L30. **Giger ML**, Nishikawa RM, Schmidt RA, Vyborny CJ, Lu P, et al.: Preliminary evaluation of an "intelligent" mammography workstation. SPIE Medical Imaging VII, CA, poster presentation, 1993.
- L31. **Giger ML**, Caligiuri PC, Bick U, Favus M, Lu P, Doi K: Computer-aided diagnosis in bone radiography: analysis of bone structure for risk of fracture. 79th Assembly and Annual Meeting of Radiological Society of North America, Chicago, Illinois, November 1993.
- L32. **Giger ML**, Lu P, Doi K, Vyborny CJ, Schmidt RA: Computed bilateral comparison of mammograms with feature-space images for detection of masses and parenchymal distortions. 79th Assembly and Annual Meeting of Radiological Society of North America, Chicago, Illinois, November 1993.
- L33. **Giger ML**, Lu P, Huo Z, Bick U, Doi K, Vyborny CJ, Schmidt RA, Zhang W, Metz CE, Wolverton D, Nishikawa RM, Zouras W: CAD in digital mammography: Computerized detection and classification of masses. Second International Workshop on Digital Mammography, York, UK, July 1994.
- L34. Huo Z, **Giger ML**, Bick U, Lu P, Vyborny CJ, Wolverton DE, Schmidt RA, Doi K: Computerized characterization of masses in digital mammograms. 36th annual meeting of American Association of Physicists in Medicine, Anaheim, California, July 1994.
- L35. Zhang W, **Giger ML**, Doi K, Lu P: Computerized detection of subtle masses on mammograms of dense breasts. 80th Assembly and Annual Meeting of Radiological Society of North America, Chicago, Illinois, November 1994.

- L36. **Giger ML**, Lu P, Bick U, Zhang W, Vyborny CJ, Doi K, et al.: Triage system for computer-aided detection of masses on digital mammograms of fatty and dense breasts. 80th Assembly and Annual Meeting of Radiological Society of North America, Chicago, Illinois, November 1994.
- L37. **Giger ML**, Moran C, Wolverton DE, Al-Hallaq H: Computer-aided diagnosis in ultrasound: Classification of breast lesions. 84th Assembly and Annual Meeting of RSNA, Chicago, Illinois, December 1998.

Scientific Exhibits/Posters

- S1. **Giger ML**, Doi K, MacMahon H, Metz CE, Yin F-F: Computer-aided human detection of pulmonary nodules in digital chest images. 74th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL, November, 1988. (Invited for submission by RadioGraphics).
- S2. MacMahon H, Doi K, Sanada S, Montner SM, **Giger ML**, Metz CE, Yin F-F, Yonekawa H, Takeuchi H: Effect of data compression on diagnostic accuracy in digital chest radiography: Receiver-operating characteristic study. 75th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL, November 1989. (Awarded Certificate of Merit Citation).
- S3. MacMahon H, Sanada S, Doi K, **Giger ML**, Xu X-W, Yin F-F, Montner SM: Direct comparison of conventional and computed radiography with a dual-image recording technique. 75th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL, November, 1989 and American Roentgen Ray Society, May 1990.
- S4. Doi K, **Giger ML**, MacMahon H, Hoffmann KR, Katsuragawa S, Yoshimura H, Nishikawa RM, Yin F-F, Metz CE, Asada N, Alperin N, Vyborny CJ, Schmidt RA, Montner SM, Ramsey R, Chua KG, Sanada S, Wu Y, Xu XW, Carlin M: Clinical radiology and computer-aided diagnosis: Potential partners in medical diagnosis? 76th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL, November 1990.
- S5. MacMahon H, Doi K, Sanada S, Carlin M, **Giger ML**, Montner SM: Single new processing algorithm to replace the standard dual-image format in computed chest radiography. 76th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL, November 1990.
- S6. Montner SM, Doi K, MacMahon H, Yoshimura H, Xu X-W, **Giger ML**: High-quality film digitization as a practical alternative to computed and conventional radiography. 76th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL, December 1991.
- S7. Doi K, **Giger ML**, MacMahon H, Nishikawa RM, Hoffmann KR, Katsuragawa S: An intelligent workstation for computer-aided diagnosis. 77th Scientific Assembly

- and Annual Meeting of the Radiological Society of North America, Chicago, IL, December 1991.
- S8. MacMahon H, Doi K, Xu XW, Montner SM, **Giger ML**, Carlin M: Clinical experience with an advanced laser digitizer for cost-effective digital radiography. 77th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL, December 1991.
- S9. Hoffmann KR, Doi K, MacMahon H, **Giger ML**, Nishikawa RM: Development of a digital duplication system for portable chest radiographs. 78th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL, December 1992. (Awarded Certificate of Merit Citation).
- S10. Doi K, **Giger ML**, MacMahon H, Nishikawa RM, Schmidt RA, Hoffmann KR: Computer-aided diagnosis: Potential usefulness of real-time computer outputs to interpretations of radiologists. 78th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL, December 1992.
- S11. Nishikawa RM, Jiang Y, **Giger ML**, Doi K, Vyborny CJ, Schmidt RA: Improved method for automated detection of clustered microcalcifications from digital mammograms. 40th Annual Meeting of the Association of University Radiologists, Chicago, IL, April 1992.
- S12. **Giger ML**, Nishikawa RM, Schmidt RA, Vyborny CJ, Lo P, et al: Preliminary evaluation of an "intelligent" mammography workstation. Medical Imaging VII Conference, Newport Beach, CA, February, 1993.
- S13. Doi K, **Giger ML**, Nishikawa RM, Hoffmann KR, MacMahon H, Schmidt RA, et al.: Computer-aided diagnosis in mammography, chest radiography, angiography, and bone radiography. 79th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL, November 1993. (awarded Magna Cum Laude)
- S14. MacMahon H, Kano A, Xu XW, Doi K, **Giger ML**, Hassell D: Use of difference images for improved detection of interval changes on digital chest radiographs. 79th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL, November 1993. (awarded Certificate of Merit)
- S15. Nishikawa RM, Vyborny CJ, **Giger ML**, Doi K: Analysis of false-negative and false-positive clusters identified by a mammographic computer-aided detection scheme. Medical Imaging VIII Conference, Newport Beach, CA, February, 1994.
- S16. Yaffe MJ, Nishikawa RM, **Giger ML**, Plewes DB, Doi K, Rowlands JA, et al: Development of digital mammography for clinical evaluation. Presented at the Capitol Hill Briefing on New Frontiers in Breast Cancer Imaging and Early Detection, Washington, D.C., October, 1994.
- S17. MacMahon H, **Giger ML**, Sullivan B, Ansari R, Dixon LB, Dachman AH, et al.: Effect of glossy compression and spatial resolution on the quality of general radiographic

- images. 80th Assembly and Annual Meeting of RSNA, Chicago, Illinois, November 1994.
(awarded Certificate of Merit)
- S18. Doi K, **Giger ML**, Nishikawa RM, Hoffmann KR, MacMahon H, Schmidt RA: Radiology workstation with advanced techniques for computer-aided diagnosis. 80h Assembly and Annual Meeting of RSNA, Chicago, Illinois, November 1994.
- S19. Schmidt RA, Schreiberman KL, Sussmann MA, Nishikawa RM, Wolverton DE, **Giger ML**, et al.: Lesions missed at mammography. 80th Assembly and Annual Meeting of RSNA, Chicago, Illinois, November 1994.
- S20. **Giger ML**, Nishikawa RM, Schmidt RA, Vyborny CJ, Wolverton DE, Doi K: Computer-aided diagnosis in digital mammography. 80th Assembly and Annual Meeting of RSNA, Chicago, Illinois, November 1994. InfoRad Exhibit.
- S21. Bick U, **Giger ML**, Schmidt RA, Nishikawa RM, Doi K: Peripheral density correction of digital mammograms. 81st Assembly and Annual Meeting of RSNA, Chicago, Illinois, November 1995.
- S22. Schmidt RA, Haldemann RC, Nishikawa RM, Giger ML, Doi K, Wolverton DE, et al: Prospective testing of a prototype clinical mammography workstation for computer-aided diagnosis. 81st Assembly and Annual Meeting of RSNA, Chicago, Illinois, November 1995.
- S23. Doi K, **Giger ML**, Nishikawa RM, Hoffmann KR, Schmidt RA, MacMahon H, et al.: Prototype clinical "intelligent" workstation for computer-aided diagnosis. 81st Assembly and Annual Meeting of RSNA, Chicago, Illinois, November 1995.
- S24. Doi K, **Giger ML**, Nishikawa RM, Hoffmann KR, Schmidt RA, MacMahon H, et al: Prototype clinical "intelligent" workstation for computer-aided diagnosis. 55th Annual Meeting of the Japan Radiological Society, Yokohama, Japan, April, 1996.
- S25. **Giger ML**, Nishikawa RM, Schmidt RA, Wolverton DE, Doi K: Computer-aided diagnosis in digital mammography. 82nd Assembly and Annual Meeting of RSNA, Chicago, Illinois, November 1996. InfoRad Exhibit.
- S26. Doi K, **Giger ML**, Nishikawa RM, Hoffmann KR, et al: Computer-aided radiographic interpretation on intelligent workstations. 82nd Assembly and Annual Meeting of RSNA, Chicago, Illinois, November 1996. (awarded Cum Laude)
- S27. **Giger ML**, Nishikawa RM, Vyborny CJ, et al.: Development of Methods for Computer-Assisted Interpretations of Digital Mammograms for Early Breast Cancer Detection. Era of Hope Meeting, Department of Defense Breast Cancer Research Program, Washington, D.C., November, 1997.
- S28. Doi K, **Giger ML**, Nishikawa RM, Hoffmann KR, Schmidt RA, MacMahon H: Computer-aided diagnostic schemes in mammography, chest radiography, angiography,

- and computed tomography. 83rd Assembly and Annual Meeting of RSNA, Chicago, Illinois, December 1997. (received Excellence in Design Award)
- S29. Nishikawa RM, Giger ML, Yiang J, Yoshida H, et al: Computer-aided diagnosis for the detection and classification of breast lesions. 83rd Assembly and Annual Meeting of RSNA, Chicago, Illinois, December 1997.
- S30. Armato SG, **Giger ML**, Moran CJ, Doi K, MacMahon H: Computerized detection of pulmonary nodules in CT scans. 84th Assembly and Annual Meeting of RSNA, Chicago, Illinois, December 1998. (received Excellence in Design Award)
- S31. Doi K, **Giger ML**, Nishikawa RM, Hoffmann KR, MacMahon, Schmidt RA, et al: Computer-aided diagnosis: From lab to practice. 84th Assembly and Annual Meeting of RSNA, Chicago, Illinois, December 1998.
- S32. Jiang Y, Nishikawa RM, **Giger ML**, Huo Z, Schmidt RA, Wolverton DE, et al.: Computer-aided diagnosis of breast lesions: An interactive demonstration. 84th Assembly and Annual Meeting of RSNA, Chicago, Illinois, December 1998. (awarded cum laude)
- S33. **Giger ML**, Nishikawa RM, Schmidt RA, Wolverton DE, Doi K: Computer-aided diagnosis in breast imaging. 84th Assembly and Annual Meeting of RSNA, Chicago, Illinois, November 1998. InfoRad Exhibit.
- S34. **Giger ML**, Nishikawa R, Huo Z, Jiang Y, Venta L, Doi K: Computer-aided diagnosis (CAD) in breast imaging. 85th Assembly and Annual Meeting of RSNA, Chicago, Illinois, November, 1999.
- S35. **Giger ML**: Computerized analysis of magnetic resonance images and ultrasound images of breast lesions. Era of Hope, Department of Defense Breast Cancer Research Program Meeting, Atlanta, Georgia, June, 2000.
- S36. **Giger ML**, Nishikawa RM, Huo Z, Horsch K, Vyborny CJ, Hendrick RE. scientific education exhibit at the 87th Assembly and Annual Meeting of RSNA, Chicago, Illinois November, 2001.
- S37. Jiang Y, Nishikawa RM, **Giger ML**, Papaioannou J, Lan L, Vyborny CJ et al: On-line demonstration of computer-aided diagnosis (CAD) of malignant and benign breast lesions. Presented at the 88th Scientific Assembly of the Radiological Society of North America, Chicago IL, December 1st - December 6th, 2002.

Patents

- PA1. Doi K, Chan H-P, **Giger ML**: Automated systems for the detection of abnormal anatomic regions in a digital x-ray image. U. S. Pat. No. 4907156, March 1990.

- PA2. **Giger ML**, Doi K, Metz CE, Yin F-F: Automated method and system for the detection and classification of abnormal lesions and parenchymal distortions in digital medical images. U. S. Pat. No. 5133020, July 1992.
- PA3. Doi K, Matsumoto T, **Giger ML**, Kano A: Method and system for analysis of false positives produced by an automated scheme for the detection of lung nodules in digital chest radiographs. U.S. Pat. No. 5289374, February 1994.
- PA4. Nishikawa RM, **Giger ML**, Doi K: Method for computer-aided detection of clustered microcalcifications from digital mammograms. U.S. Pat. No. 5,537,485, July 1996.
- PA5. **Giger ML**, Armato SG, MacMahon H: Automated method and system for the detection of gross abnormalities and asymmetries in chest images. U. S. Pat. No. 5,638,458, June 1997.
- PA6. **Giger ML**, Chen C-T, Armato S, Doi K: Automated method and system for the alignment and correlation of images from two different modalities. U. S. Pat. No. 5,974,165.
- PA7. **Giger ML**, Doi K, Lu P, Huo Z: Automated method and system for improved computerized detection and classification of mass in mammograms. U. S. Pat. No. 5,832,103, November, 1998.
- PA8. Bick U, **Giger ML**: Automated method and system for the segmentation of medical images. U. S. Pat. No. 5,452,367, September 1995.
- PA9. **Giger ML**, Doi K: Method and system for the computerized radiographic analysis of bone. U. S. Pat. No. 5,931,780, August, 1999.
- PA10. **Giger ML**, Bae K, Doi K: Automated method and system for the detection of lesions in medical computed tomographic scans. U. S. Pat. No. 5,881,124, March, 1999.
- PA11. 
- PA12. **Giger ML**, Zhang M, Lu P: Method and system for the detection of lesions and parenchymal distortions in mammograms. U.S. Pat. No. 5,657,362, August, 1997.
- PA13. **Giger ML**, Kupinski MA: Automatic analysis of lesions in medical images. U.S. Pat. : 6,138,045, Oct. 24, 2000
- PA14. Huo Z, **Giger ML**: Method and system for the computerized assessment of breast cancer risk. U.S. Pat. 6,282,305, August 28, 2001.
- PA15. **Giger ML**, Al-Hallaq H, Wolverton DE, Bick U: Method and system for the automated analysis of lesions in ultrasound images. U.S. Pat. 5,984,870, Nov. 16, 1999.

PA16. Gilhuijs K, **Giger ML**, Bick U: Method and system for the automated analysis of lesions in magnetic resonance images. U.S. Pat. 08/900,188 allowed.

PA17.

PA18. Armato SA, **Giger ML**, MacMahon H: Method and system of the automated delineation of lung regions and costophrenic angles in chest radiographs. U.S. Pat. 6,282,307, Aug.28, 2001.

PA18.

PA19. Gilhuijs K, **Giger ML**, Bick U: Method and system for the assessment of tumor extent. U.S. Pat. 09/156,413. allowed

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