CURRICULUM VITAE

Maryellen L. Giger, Ph.D.

A.N. Pritzker Distinguished Service Professor of Radiology,
Committee on Medical Physics, & the College

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Education

1978	B.S. summa cum laude (Mathematics, Physics, Health Sciences), Illinois Benedictine College
1979	M.Sc. (Physics), University of Exeter, England
1985	Ph.D. (Medical Physics), The University of Chicago
2015	Certificate in Executive Leadership in Academic Technology and Engineering (ELATE), Drexel University

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 - 2013	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
2000 – present	Professor, Committee on Medical Physics, The University of Chicago, Chicago, Illinois
2000 – 2013	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 – 2018	Senior Fellow, Computation Institute, The University of Chicago
2008 – 2015	Director, BSD Imaging Research Institute, The University of Chicago
2013 – 2020	A.N. Pritzker Professor of Radiology, The University of Chicago
2013 – present	Inaugural Fellow, Institute of Molecular Engineering, The University of Chicago
2021 – present	A.N. Pritzker Distinguished Service Professor of Radiology, the Committee on Medical Physics, and the College, The University of Chicago

Professional Associations

Member -- National Academcy of Engineering (NAE)
Member, Fellow, Former Treasurer, Former Board Member, 2009 President, & 2010 Chairman of the Board -- American Association of Physicists in Medicine (AAPM)
Member & Fellow -- American Institute of Medical and Biological Engineers (AIMBE)
Member & Former Third Vice-President -- Radiological Society of North America (RSNA)
Member, Fellow, Former Board Member, 2017 President-Elect, 2018 President -- The International Society for Optical Engineering (SPIE)
Member & Fellow -- The Institute of Electrical and Electronics Engineers (IEEE)
Member -- Society for Computer Applications in Radiology (SCAR, SIIMS)
Member -- The Association of University Radiologists (AUR)
Member & Fellow – Society of Breast MRI (SBMR)

Honors

1975, 1976, 1977	President's Scholarship Award, Illinois Benedictine College
1977	Rev. Shonka, O.S.B. Scholarship Award in Physics
1978	B.S. summa cum laude
1978	Procopian Award, Illinois Benedictine College (highest honor given to a graduating student)
1978	Who's Who in American Colleges and Universities
1978-1979	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)
2000	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)
2001	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, Jiang 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 – 2015	Senior Member, IEEE (The Institute of Electrical and Electronics Engineers)
2005	Third Vice-President, RSNA
2006	Distinguished Alumni Award, Benedictine University (Illinois Benedictine College)
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 Alumni Society
2010	Hollingsworth Lectureship in Engineering, University of Texas, Austin, Texas
2010	Elected, National Academy of Engineering (NAE), one of the National Academies
2013	Association for Women in Science: Chicago Area Chapter; Scientist of the Month (March 2013)
2013	Named A.N. Pritzker Professor of Radiology, The University of Chicago
2013	Named by the International Congress on Medical Physics (ICMP) as one of the 50 medical physicists with the most impact on the field in the last 50 years
2013	Inaugural Fellow of the Institute for Molecule Engineering, The University of Chicago
2014	Fellow, SPIE (The International Society for Optics and Photonics)
2014	Honorable Mention Poster Award; Drukker K, Giger ML, Duewer F, Malkov S, Flowers CI, Joe B, Kerlikowske K, Drukteinis JS, Shepherd J, "Roles of biologic breast tissue composition and quantitative image analysis of mammographic images in breast tumor characterization." SPIE Medical Imaging 2014 Symposium
2014	Distinguished Science Alumni Award, Benedictine University (formerly Illinois Benedictine College)
2014	BSD DAC Divisional Academic Ceremony Faculty Marshall, The University of Chicago
2015	Visionary Award, Benedictine University (formerly Illinois Benedictine College)

2015	William D. Coolidge Gold Medal from the American Association of Physicists in Medicine (This award recognizes an AAPM member for an eminent career in medical physics - highest award given by the AAPM)
2015	Distinguished Investigator of the Academy of Radiology Research (Washington, DC)
2016	Fellow, IEEE (The Institute of Electrical and Electronics Engineers)
2016	EMBS Academic Career Achievement Award, Engineering in Medicine and Biology Society
2017	Hagler Institute Fellow, Texas A&M University
2018	Fellow, SBMR (Society of Breast MRI)
2018	Crain's Chicago Notable Women in Education
2018	iBIO Institute iCON Innovator Award (iBIO Institute was established in 2003 by the Illinois Biotechnology Innovation Organization)
2019	Fellow, IAMBE (International Academy of Medical & Biological Engineering)
2019	TIME Top 100 Inventions of 2019, for QuantX, the system invented in the Giger lab and translated through Quantitative Insights, incubated in Polsky Center, cleared by FDA in 2017, and then further commercialized through Qlarity Imaging
2020, 2022	RSNA Honored Educator Award
2020	Appointed as the A.N. Pritzker Distinguished Service Professor of Radiology, the Committee on Medical Physics, and the College, The University of Chicago
2020	Upstate New York chapter of the AAPM (UNYAPM) Lifetime Achievement Award
2021	Foreign Fellow, COS (Chinese Optical Society)
2021	SPIE Director's Award
2021	BSD Distinguished Investigator Award (senior faculty category), University of Chicago
2022	SPIE Harrison H. Barrett Award in Medical Imaging
2022	Lifetime Achievement Award from SDAMPP (Society of Directors of Academic Medical Physics Programs)
2022	RSNA Outstanding Researcher Award
2022	Aunt Minnie Finalist for Most Influential Radiology Researcher

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 $5,000.

2. Louis Block Fund, The University of Chicago, Maryellen Giger, P.I., 10/1/86-9/30/87. Total cost $15,000.

3. Whitaker Foundation Bioengineering Grant, "Computer-Aided Detection of Lung Nodules", Maryellen Giger, P.I., 3/1/87-2/29/90. Total direct cost $119,273.

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 $8,333.

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 $75,117.

6. Ameritech Services grant, "Digital Radiography and Teleradiography", Maryellen Giger, P.I., 1/93-12/93. Total direct cost $5,000.

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 $35,000.

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 $9,339.

11. Procter & Gamble grant, "Digital bone radiography", Maryellen Giger, P.I., 3/94-12/95. Total direct cost $37,900.

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 $189,258.

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 $230,000), 1996.

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 $29,540.

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 $19,763.

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. [see also Grants 28 and 37 – three successful renewals]

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, $14,250.

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 [see also Grants 35 and 42 – three successful renewals]

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 $30,000.

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.

35. NIH grant, T32 EB002103-16, "Research training in medical physics", Maryellen Giger, P.I., 5/1/05-9/30/10, Total cost $1,659,345

36. 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 $75,000.

37. NIH grant RO1 AR42739-09, “Computerized radiographic analysis of bone structure”, Maryellen Giger, P.I., 04/01/2006 - 12/31/2010, Total cost $1,345,751.

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. 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.

41. 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.

42. NIH Grant R33 CA113800-01, "Optimization of CAD Output in Breast Imaging", Maryellen Giger, P.I., 05/01/2008 - 04/30/2013 (no cost extension). Total cost $1,251,686.

43. University of Chicago Comprehensive Cancer Center Program Pilot Project Funding "Multi-level correlative analysis of breast cancer tumors". Maryellen Giger. PI with co-PI Jeff Mueller, 04/01/2011-03/31/2012, Total cost $35,000.

44. U-Systems Research Agreement "ROC Reader Study on the benefit of 3D ultrasound in screening of women with dense breasts and negative mammograms", Maryellen Giger, P.I., 01/01/10-12/31/2012, Total cost $650,000.

45. 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.

46. NIH Administrative Suppliment to T32 EB002103 to support bioethics research, training, and translational activities. Maryellen Giger, P.I., 10/1/11-9/30/12, Total cost $154,925.

47. GE/U-Systems Research Agreement (Giger), "Further Analysis of ROC Reader Study on the benefit of 3D ultrasound in screening of women with dense breasts and negative mammograms", 05/01/13-04/30/14, $143,811.

48. University of Chicago CTSA Pilot Grant (Giger), "Quantitative Image Analysis of DCIS", NIH UL1 TR000430 (Solway), 05/07/13-05/06/14, $30,000.

49. NIH grant, T32 EB002103-21, "Research training in medical physics", Maryellen Giger, P.I., 10/1/10-9/30/15, Total cost $1,659,345.

50. University of Chicago ITM Pilot and Collaborative Translation and Clinical Studies Award "Radiogenomics of Breast Cancer using DCE-MRI and Gene Expression Profiling", Albert Yeh, PostDoc Fellow/Resident PI, (Mentors: O Olopade, M Giger) from CTSA UL1 TR000430, 2/16/16-2/15/17, Total cost $39,689.

51. University of Chicago ITM Pilot and Collaborative Translation and Clinical Studies Award "Added Value arising from Quantitative Radiomics of Incidental Findings on Low Dose CT Screening for Lung Cancer", M Giger & S Armato, M-PIs, from CTSA UL1 TR000430, 2/12/16-2/11/17, Total cost $25,000.

52. AHA American Heart Association Pre-doctoral Fellowship Award, "Quantitative Image Analysis of Pial Collaterals in Acute Ischemic Stroke", Christopher Haddad Pre-doc Student (faculty advisor Maryellen Giger), 07/01/15-06/30/17, Total cost $52,000.

53. The University of Chicago Comprehensive Cancer Center Team Science Award, "Quantitative Texture Radiomics in Cancer Diagnosis and Therapy," Samuel G. Armato III, Maryellen Giger, Hania Al-Hallaq, M-PIs, 9/1/16-8/31/17. Total direct costs $140,000.

54. NIH Grant F31CA221193, NCI F31 Pre-Doctoral Training Grant, "Quantitative MRI Radiomics of Breast Cancer in Assessment of Malignancy and Response to Therapy", PI Natalia (Natasha) Antropova Pre-doc Student (faculty advisor Maryellen Giger), 02/19/2018. Total direct costs $132,132.

55. NIH Grant, R01 CA166945 (Shepherd (UCSF), Giger (UChicago), multiple-PIs), "Lesion Composition and Quantitative Imaging Analysis on Breast Cancer Diagnosis", 03/01/13-02/29/18, Total cost $511,615.

56. The University of Chicago Comprehensive Cancer Center Koleseiki Funding, "Breast Imaging and Deep Learning in Cancer Discovery and Risk Assessment for Personalized Screening", Maryellen Giger, PI, 12/1/17 – 11/30/18, Total cost $50,000.

57. NIH Grant F31CA228247, NCI F31 Pre-Doctoral Training Grant, "Machine Learning in Breast Parenchyma and Tumor Characterization for Cancer Risk Assessment", PI Kayla Mendel (Robinson) Pre-doc Student (faculty advisor Maryellen Giger), 03/16/2019. Total direct costs $219,155.

58. NIH Grant S10 OD025081 "Protected Radiomics Analysis Commons for Deep Learning in Biomedical Discovery", Maryellen Giger, P.I., 09/18/18 – 09/17/19, Total cost $338,913.

59. NIH QIN Grant U01CA195564, "Quantitative Image Analysis for Assessing Response to Breast Cancer Therapy", Maryellen Giger, P.I., 04/01/15-03/31/20, Total cost $2,518,530.

60. NIH Grant U01 CA189240 "Integrative Molecular and Imaging Approaches for Risk of Subtype Specific Breast Cancer", Randa El-Zein (PI MD Anderson, Methodist), Maryellen Giger PI of UChicago subcontract. 04/01/15-03/31/20, Total cost of subcontract $814,710.

61. The University of Chicago Comprehensive Cancer Center Dancing with Chicago Celebrities, "Virtual Tumor Biopsy for Breast Cancer Diagnosis", Maryellen Giger, PI, 06/1/19 – 05/31/20, Total cost $50,000.

62. Delphinus Medical Technologies Research Agreement, "An observational, case-controlled, multi-reader, multi-case, receiver operating characteristic (ROC) study of reader performance when SoftVue™ automated breast ultrasound and screening mammography are combined, compared to screening mammography alone, in asymptomatic women with dense breast parenchyma", Y Jiang, M Giger, (multiple-PIs), 08/13/15-07/12/20, Total cost $350,000.

63. The University of Chicago Comprehensive Cancer Center – Cancer Spotlight Grant, "AI risk assessment for precision screening of breast cancer". Maryellen Giger, PI, 11/01/19–10/31/20, Total cost $100,000.

64. University of Chicago Department of Radiology Grant, "LDCT lung screening deep learning project", Maryellen Giger, PI, 09/01/19-05/30/20, Total cost $60,000.

65. CDAC-Data Science Discovery Grant, "Computer-assisted diagnosis of indeterminate thyroid nodules", Xavier Keutgen, Maryellen Giger, M-PIs, 01/01/20-02/28/21, Total cost $100,000.

66. C3.AI Digital Transformation Institute, "Medical Imaging Domain-Expertise Machine Learning for Interrogation of COVID", Maryellen Giger, PI, 06/01/20 – 05/31/21, Total cost $250,000

67. NIH Grant R15 CA227948 Academic Research Enhancement Award (AREA) R15 grant, "Repeatability and Robustness of Radiomics in Breast Cancer Imaging", PI Heather Whitney (Wheaton College; Visiting Scholar at University of Chicago), Subcontract PI Maryellen Giger, total grant cost $396,673.

Current grants:

68. NIH NIBIB contract 75N92020D00021 "MIDRC - Medical Imaging and Data Resource Center", Maryellen Giger, contact PI with MPIs, 08/21/20 – 11/30/23, Total cost $27,000,000.

69. CDAC-Data Science Discovery Grant, "AI-Drive Tutorials for Radiologist Training", Chenhao Tan, Yuxin Chen, Aritrick Chatterjee, Maryellen Giger, Aytekin Oto, M-PIs, 03/01/21 - 02/28/23, Total cost $250,000.

70. NIH NCI Grant CA257652, "Lesion Composition and Quantitative Imaging Analysis on Breast Cancer Diagnosis", John Shepherd (U of Hawaii), Maryellen Giger, M-PIs, 08/09/2021 – 07/31/2026, Total cost $3.4 M.

71. DOE "PALISADE-X: Privacy-Preserving Analysis and Learning in Secure and Distributed Enclaves and Exascale Systems", Ravi Madduri, PI, Subcontract to Maryellen Giger, 08/02/2021-08/01/2022, Total cost $1M, subcontract total cost $118,000.

National and International Professional Activities

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 DOD 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 and at times, chair**
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
2001-2014	Reviewer, State of Arizona Grants
2005-2007	Chair, RSNA Research Foundation Study section
2018-2022	**Member, NIBIB Advisory Council**

2019-2020 **External Faciltator Lead, NIBIB Strategic Planning SubGroup on Data Science, Modeling, and Computation**
2022-present Panel member/reviewer, CPRIT Cancer Preventioin and Research Institute of Texas

Editorial Service - Manuscript Reviewer (*and as indicated other editorial positions*) -- various journals & meetings since 1985
Medical Physics *(Associate Editor, 1995-2007)*
SPIE Journal of Medical Imaging ***(Editor-in-Chief**, 2013-present)*
Physics in Medicine and Biology (PMB) *(International Advisory Board, 2013-2014)*
Radiology
Optical Engineering
IEEE Trans. Biomedical Engineering
Medical Decision Making
IEEE Trans. Medical Imaging *(Associate Editor, 1996-2007, Guest Editor Dec., 2001 issue)*
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*)
Journal of Medical and Biological Engineering-JMBE (*USA Editor, 2011-2014, International Advisory Editorial Board, 2015-present*)

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) – Medical Imaging
World Congress on Medical Physics and Biomedical Engineering
International Conference of IEEE Engineering in Medicine & Biology Society
International Workshop on Digital Mammography (IWDM)

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

Professional Service to National Academy of Engineering (NAE)
2011 – present Reviewer of various NRC reports from NAS, NAE, or NAM (formerly IOM)

2012 – 2015 Member, Russ Award Committee
2014 – 2016 Member, NAE Section 2 Peer Committee
2016 – 2018 Chair, NAE Section 2 Search Committee
2016 – 2022 Member, Report Review Committee (RRC) of the National Academies of Sciences, Engineering, and Medicine

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, AAPM
1989 Consultant, Educational Council, AAPM
1997-2001 Program Committee, AAPM
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 AAPM Board Member
2001-2008 Member, Committee on Imaging within the AAPM
2001-2008 Member, NIBIB Subcommittee
2002-2004 Member, Awards and Honors Committee
2004-2007 Treasurer, AAPM
2004-2007 Chair, Finance Committee, AAPM
2004-2010 Member, AAPM Executive Committee
2008 President-Elect, AAPM
2009 President, AAPM
2010 Chairman of the Board, AAPM
2011-present Member, Science Council
2011 Strategic Planning Committee, AAPM
2011-2017 Member, Technology Assessment Committee, AAPM (Vice-Chair in 2012; Chair in 2013-2017)
2014 Chair (with Sandy Napel, John Hazle, Paul Kinahan) AAPM FOREM on Imaging Genomics
2016 Track chair with Joe Deasy, Radiomics Track at AAPM annual meeting in 2016
2018-present Chair & Member, Data Science (Big Data, Radiomics and Machine Learning) Committee, AAPM
2020 Track chair with Chuck Mayo, Data Science Track for AAPM annual meeting in 2020
2023 Track chair with Chuck Mayo, Data Science Track for AAPM annual meeting in 2023

Professional Service to 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
2005-2007 Chair, RSNA Research Foundation Study section
2009-present Member, QIBA, Quantitative Image Biomarker Alliance
2012-2016 Member, QIBA Metrology Committee
2013-2016 Member, QIBA Steering Committee
2015-present Member, RSNA PIAN (Public Information Advisors Network)
2020 Member, RSNA COVID-19 Task Force

Professional Service to IWDM: International Workshop on Digital Mammography, now on Breast Imaging

1995-1996	Member, Organizing Committee, 3rd International Workshop on Digital Mammography for June 1996, Chicago, Illinois, USA
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, USA
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, USA
2009-2010	Member, Scientific Committee; IWDM-2010; 10th International Workshop on Digital Mammography, Girona, Spain
2011-2012	Member, Scientific Committee; IWDM-2012; 11th International Workshop on Digital Mammography, Philadelphia, PA, USA
2013-2014	Member, Scientific Committee; IWDM-2014; 12th International Workshop on Breast Imaging, Gifu, Japan
2015-2016	Member, Scientific Committee; IWDM-2016; 13th International Workshop on Breast Imaging, Malmo, Sweden
2017-2018	Member, Scientific Committee; IWDM-2018; 14th International Workshop on Breast Imaging, Atlanta, Georgia, USA
2019-2022	Member, Scientific Committee; IWDM-2020; 15th International Workshop on Breast Imaging, Leuven, Belgium

Professional Service to SPIE

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
2009-2011	Chair of SPIE Medical Imaging Symposium
2011-present	Member, Program Committee for CAD Conference, part of the Annual SPIE Medical Imaging Symposium
2012-2014	Elected Board Member, SPIE
2012-2016	SPIE Publications Committee
2013-present	Editor-in-Chief, SPIE Journal of Medical Imaging (except for 2018)
2013-present	SPIE Board of Editors
2016	Elected Vice President, SPIE
2017	President-Elect, SPIE
2017	Chair, SPIE Strategic Planning Committee
2018	President, SPIE
2019	Member, SPIE Compensation Committee
2019	Immediate Past President, SPIE
2019	Chair, SPIE Nominating Committee
2020	Member, SPIE Nominating Committee
2022-present	Chair, SPIE Membership and Communities Committee
2022-present	Advisor to the SPIE Board (by being MCC Chair)

Others

1999-2000	CARS'2000 Executive Committee
2000-present	Member, CARS Program Committee
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
2017	Chair, Executive Committee, NCI Quantitative Imaging Network

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
2006-2009	Member, ACRIN External Advisory Committee [ACRIN: American College of Radiology Imaging Network, an NCI cooperative group]
2010-2013	Board Member, Orthopaedic Biomedical Imaging Institute at Weiss Memorial Hospital
2011-present	Member of the National Mammography Quality Assurance Advisory Committee and Consultant to the Center for Devices and Radiological Health, FDA
2011-2019	External Advisory Board to advise the CDMRP Lung Cancer Research Program (LCRP) regarding the activities of a Lung Cancer Early Detection Clinical Consortium entitled Detection of Early Lung Cancer Among Military Personnel (DECAMP)
2012-2017	Board Member, CAMPEP (Commission on Accreditation of Medical Physics Education Programs)
2012	External Advisory expert consultant, Texas Higher Education Coordinating Board
2015	External Advisory Board, UT-Austin Biomedical Imaging T32
2019	External Review Committee, UCLA Provost office on their Medical Physics graduate program
2019-2022	Texas A & M Advisory Board to the Department of Biomedical Engineering
2020-present	University of Illinois (UIUC) Advisory Board to the Department of Bioengineering
2022-present	Stanford University LEDE External Advisory Board
2022-present	University of California-Davis P41 - NCIBT - External Advisory Board

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 [this led to the establishment of the UCTech office, now UChicagoTech]
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
2008-2009	Chair, Steering Committee of the Imaging Institute
2008-2016	Director, BSD Imaging Research Institute
2009	Member, Faculty Science ad hoc Committee in ChicagoBioMedicine
2009-2012	Member (Chair, 2010-2012), University of Chicago Board of Computing Activities & Services

2010-2017	Member, COAP, BSD Divisional Committee on Appointments and Promotions (co-Chair, 2014–2017)
2011-2017	Chair, Computation Institute Beagle Internal Advisory Committee
2011-2015	Co-Chair, Brain Research Imaging Center (BRIC) Internal Advisory Committee
2011-2013	Member, Institute of Molecular Engineering Faculty Recruitment Advisory Committee
2012-2013	Member, Provost's Committee on On-Line Education
2014-2017	Member, University of Chicago Council of the University Senate
2017	Member, University Chicago Pile-1 Commerative Planning Committee
2017-2020	Member, University of Chicago BSD CFAN Committee for Faculty Award Nominations
2017	Member, University of Chicago Committee on Disruptive Conduct
2018	Member, University of Chicago Committee on Academic Fraud
2020-present	Member, BSD Clinical Research Data Stewardship Committee
2021-present	Member, University of Chicago Polsky Science and Technology Faculty Advisory Committee
2021-present	Member, University of Chicago Library Board
2021-present	Member, BSD Committee on Computing Activities & Services (CCAS)

Radiology 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	Chair, 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 & implementation of a 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
2015-2019	Member, Diversity Committee

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	Chair, 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
1998-2013	Director, Graduate Programs in Medical Physics, The University of Chicago [including leading the program through the University to establish the program officially as a Ph.D.-degree granting Committee]
2003-present	Member, Committee on Medical Physics, The University of Chicago
2003-2013	Chair, Committee on Medical Physics, The University of Chicago
2021-present	Chair, Seminar Committee, Graduate Programs in Medical Physics, The University of Chicago

Teaching Experience

Courses Taught

2014 - present	Medical Physics 39600 Imaging Processing & Computer Vision (lecturer)
1992 - present	Medical Physics 34900 Mathematics for Medical Physicists (current lecturer, past course coordinator)
1984 - 1998	Medical Physics 38700 Physics of Diagnostic Radiology (now Physics of Medical Imaging I) (lecturer since 1984; course coordinator and lecturer since 1994)
1984 - 1998 2013 - 2019	Medical Physics 34300 Practicum in the Physics of Diagnostic Radiology (now Practicum in the Physics of Medical Imaging I) (lecturer)
1993 - 2008	Medical Physics 35600 Anatomical Structure of the Body (course co-coordinator)
1987 - 1999	Medical Physics 34000 Introduction to Research (This course is no longer offered under the new curriculum established in 1999) (lecturer)
1988 - 1999	Medical Physics 41700 Research in Medical Physics (This course is no longer offered under the new curriculum established in 1999) (lecturer)

1987 - 2013 Medical Physics 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 26300
Introduction to Medical Physics
Undergraduate course for juniors and seniors (registered students have been from the departments of physics, chemistry and biology)
(founding instructor & course coordinator; course continues under Patrick La Riviere)

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 (now managed by American Roentgen Ray Society (ARRS))

2022-present CHEM: Discovery and Translation of Molecular Therapeutics (lecture)

Students/Trainees Supervised

The University of Chicago
Medical Physics (Postdoctoral Trainees/Research Associates/Visiting Scholars):

1990-1992 Robert Nishikawa, Ph.D.
(Medical Biophysics, University of Toronto, 1990)
Research Associate
Research on computerized detection of microcalcifications in digital mammograms
Currently, Associate Professor, University of Pittsburgh

1991-1994 Wei Zhang, Ph.D.
(Physics, Osaka University, Japan, 1991)
Research Associate
Research in use of artificial neural networks in medical imaging
Currently, Research staff, R2 Technology, Inc., CA.

1992-1994 Ulrich Bick, M.D.
(Medicine, University of Bonn, Germany, 1986)
Radiology research fellow
Research in computerized image segmentation and detection of masses in digital mammograms

1994-1995 Jie Yao, Ph.D.
(Optics, University of Arizona, 1994)

NIH postdoctoral fellow
Research in the digital analysis of bone radiographs

1994-1996 Regina Haldeman, M.D.
(Medicine, University of Basel, Switzerland, 1984)
Radiology research fellow
Research in evaluation of temporal subtraction and computer-aided diagnosis in mammography

1994-1996 Ming Zhang, Ph.D.
(Computer Science, Post doctoral fellow, British Columbia Cancer Research Centre in Canada)
Research Associate
Research on Hough Spectrum analysis for the detection of mass lesions in digitized mammograms
Currently, Staff, Lucent Technologies, Illinois

1996-1998 Kenneth Gilhuijis, Ph.D.
(Physics, 1996)
Visiting Research Associate
Research in CAD of mass lesions in MR images of the breast
Currently, research staff, National Cancer Institute, The Netherlands

1997-1998 ChungShen Jiang, Ph.D.
(Bioengineering, Cornell, 1997)
NIH trainee post-doctoral fellow
Research in the computerized analysis of trabecular pattern using Minkowski dimension
Currently, Research in medical image analysis, Analogic, Peabody, MA

1998-2000 Karla Horsch, Ph.D.
(Applied Mathematics, University of Arizona, 1998)
NIH trainee post-doctoral fellow
Research in computer-aided diagnosis of mass lesions on 2D and 3D ultrasound images of the breast

1998-2001 Zhimin Huo, Ph.D.
(Medical Physics, University of Chicago, 1998)
Research Associate, Research Associate (Instructor)
Research in computer-aided diagnosis of mammographic lesions and Computerized image analysis for risk assessment

2001-present Karen Drukker, Ph.D.
(Chemistry, University of Amsterdam, 1998)
Research Associate; Research Associate (Assistant Professor); Associate Research Professor, University of Chicago
Research in computer-aided detection of lesion on mammographics, ultrasound and MR images of the breast

2001-present Hui Li, Ph.D.
(Chemistry, University of Chicago, 2000)
Research Associate; Research Associate (Assistant Professor); Associate Research Professor, University of Chicago
Research in computerized image analysis for assessment of breast cancer risk and prognosis

2003-2005 HuiHua Wen, Ph.D.
(Electrical Engineering, Northwestern University, 2002)
NIH trainee post-doctoral fellow
Research in multimodality computer-aided diagnosis in breast imaging

2005-2007 Michael Chinander, Ph.D.
(Medical Physics, University of Chicago, 2004)
Research in radiographic texture analysis

2017-present Heather Whitney, Ph.D., Associate Professor of Physics at Wheaton College, Wheaton, IL
(Visiting Scholar, University of Chicago)

2018-2019 Yu Ji, M.D., Assistant Professor, Tianjin Medical University in Tianjin, China
(Visiting Scholar, University of Chicago)

2018-present Madeleine Durkee, Ph.D., Post-doctoral Scholar
(Biomedical Engieering, Texas A & M University, 2018)
Research in deep learning of microscopy of lupus and breast cancer

The University of Chicago
Medical Physics (Graduate Students):

1984-1989 Victoria Sabeti (S.M. in Medical Physics, 1989)
Development of computerized database system for medical images

1987-1992 Fang-Fang Yin (Ph.D. in Medical Physics, 1992)
Dissertation research on an investigation of computerized methods for the detection of masses in digital mammography
(primary advisor)
Currently, Professor and Chief of Medical Physics, Duke University

1987-1993 Yuzheng Wu (Ph.D. in Medical Physics, 1993)
Dissertation research on application of artificial neural networks in medical images and medical decision making
was Postdoctoral Fellow, Georgetown, Washington, D.C.

1990-1997 Yulei Jiang, Ph.D.
Dissertation research on the computerized classification of microcalcifications in mammography

Currently, Associate Professor, Department of Radiology, The University of Chicago

1991-1997 Sam Armato, Ph.D.
(NIH Predoctoral trainee, 1991-1994)
Dissertation research on computerized analysis of chest radiographs and radionuclide images
(primary advisor)
Currently, Associate Professor, Department of Radiology, The University of Chicago

1991-1998 Zhimin Huo, Ph.D.
Dissertation research on the computerized classification of masses in mammography and the analysis of the risk of breast cancer
(primary advisor)
Currently, Researcher, Eastman Kodak Company

1993-1996 Wendy Zouras, M.Sc.
(NIH Predoctoral trainee, 1993-1996)
Masters thesis research on the computerized temporal analysis of mammograms (Masters)
(primary advisor)

1993-2004 Michael Chinander, Ph.D.
(NIH Predoctoral trainee, 1993-1995)
Dissertation research on the effect of technical factors on the quantitative analysis of bone radiographs
(primary advisor)
Currently, Research Professional Departments of Radiology and Surgery, University of Chicago

1993-1996 Xin-Wei Xu, Ph.D.
Dissertation research on the computerized detection of pulmonary nodules in digital chest radiographs
Research staff, Deus, Caelum, Rockville, Maryland
deceased

1995-2000 Matt Kupinski, Ph.D.
Dissertation research on computerized pattern classification in medical imaging
(primary advisor)
Currently, Professor, University of Arizona - Tucson

1997 Hania Al-Hallaq, Ph.D.
Related research on computerized analysis of ultrasound images of the breast
Currently, Associate Professor, Department of Radiation and Cellular Oncology, The University of Chicago

2002-2007 Weijie Chen, Ph.D.
Dissertation research on computerized analysis of dynamic MRI of breast lesions
(primary advisor)
Currently, Scientist, FDA

2002-2007 Joel Wilkie, Ph.D.
Dissertation research on computerized temporal analysis of bone structure for the detection of osteolysis
(primary advisor)
Currently, medical resident, U of Michigan-Ann Arbor

2004-2008 Martin King, Ph.D.
Dissertation research on computerized image analysis for cardiac images
(MSTP; primary advisor)
Currently, medical resident in radiation oncology, Stanford

2004-2010 Yading Yuan, Ph.D.
Dissertation research on correlation of lesions from multimodalities and multiple view images for breast cancer diagnosis
(primary advisor)
Currently, assistant professor, Mount Sinai, New York

2004-2008 Laura Yarusso, Ph.D.
(committee member)

2004-2010 Robert Tomek, M.Sc.
Masters thesis research on computerized image analysis of 2D and 3D gastric image data
(primary advisor)
Currently, CTO, Quantitative Insights

2006-2010 Yahui Peng, Ph.D.
(committee member)

2006-2009 Dan Xia, Ph.D.
(committee member)

2005-2010 Neha Bhooshan, Ph.D.
Dissertation research on computerized image analysis for breast cancer prognosis on breast MRI
(MSTP; primary advisor)
Currently, Georgetown University medical resident

2006-2012 Andrew Jamieson, Ph.D.
Dissertation research on non-linear data reduction and training with unlabeled data in CADx
(primary advisor)

2008-2014 Martin Andrews, Ph.D.
(committee member)

2009-2012 Zac Labby, Ph.D.
(committee member)

2010-2013 Xiao Han, Ph.D.
(committee member)

2010-2015 William Weiss, Ph.D.
Dissertation research on Quantitative Image Analysis of HiSS Breast MRI
(primary advisor)

2013-2017 Christopher Haddad, Ph.D.
Dissertation research on quantitative image analysis of pial collaterals in acute ischemic stroke
(primary advisor)
Currently, faculty Radiology, Northwestern University

2014-2019 Adam Sibley, Ph.D.
Dissertation research on investigating inflammation at the cellular level using machine learning
(primary advisor)

2015-2018 Natalia (Natasha) Antropova, Ph.D.
Dissertation research on deep learning and radiomics of breast cancer on DCE-MRI in assessment of malignancy and response to therapy
(primary advisor)
Currently, Deep-Mind, London

2015-2019 Eyjolfur Guomundsson
(committee member)

2016-2019 Kayla Mendel Robinson, Ph.D.
Dissertation research in machine learning on medical imaging for breast cancer risk assessment
(primary advisor)
Currently, Data Scientist, Chicago, IL

2017-2020 Joseph Foy
(committee member)

2017-2020 Jennie (Aylyng) Crosby
Dissertation research on investigation and validation of deep learning methods for thoracic imaging
(primary advisor)
Currently, faculty University of Wisconsin - Madison

2018-2021 Isabelle Qiyuan Hu

Dissertation research in machine learning on multi-parametric breast MRI and COVID-19
(primary advisor)

2018-2022 Jordan Fuhrman
Dissertation research in deep learning on thoracic CT
(primary advisor)

2018-2021 Rebecca (Reba) Abraham
Dissertation on quantitative analysis for understanding spatial interactions between T cells and antigen presenting cells (APCs) in inflamed tissue
(MSTP; co-advisor with Marcus Clark, Committee on Immunology)

2019-2022 Inna Gertsenshteyn
(committee member)

2019-2023 Lindsay Douglas
Dissertation on radiomics-driven deep learning in breast cancer imaging
(primary advisor)

2020-2023 Natalie Baughan
Dissertation on quantitative assessment of breast cancer risk
(primary advisor)

2020-present Mena Shenouda
(committee member)

2020-present Gabriel Casella
Dissertation on quantitative analysis of cellular assessment of inflamed tissue
(MSTP; co-primary advisor with Marcus Clark, Committee on Immunology)

2021-present Joseph Cozzi
Dissertaton on AI in assessing indeterminate thyroid cancers
(MSTP; primary advisor)

2021-present Linnea Kremer
(committee member)

2021-present Julian Bertini
(committee member)

2023-present Joel Toledo-Urena
Dissertation on AI in assessing blunt brain injury
(primary advisor)

2023-present Lucas Berens
(committee member)

The University of Chicago
Junior Faculty and Radiology Residents

1991-1994	Philip Caligiuri, M.D. Clinical Assistant Professor of Radiology, University of Chicago Research on the quantitative analysis of bone radiographs
December 1992	Ron Kunst, M.D. Radiology resident, University of Chicago Research on the computerized analysis of digital mammograms
November 1993	Charles Lerner, M.D. Radiology resident, University of Chicago Research on the effect of data compression on the quality of chest radiographs
1993-1995	Dulcy E. Wolverton, M.D. Assistant Professor of Radiology, University of Chicago Research on the evaluation of computer-aided diagnosis schemes and the analysis of false-positives detections
1996-1999	Jennifer Lin-Dunham, M.D. Assistant Professor of Radiology, University of Chicago Research on the computerized texture analysis of radiographs of the hip in pediatric patient
1997-1999	Sandy Kwak, M.D. Assistant Professor of Radiology, University of Chicago Research on a method for estimating volumetric BMD (bone mineral density) from area BMD to better predict degree of bone strength.

The University of Chicago
Medical Students

1989-1992	Kyongtae Ty Bae, (Ph.D. in Bioengineering, 1988, M.D., 1992) Research on the computerized analysis of computed tomography images of the liver and the thorax. Currently Chair of Radiology, U of Pittsburgh
1993	Kenny Ong Research on the quantitative analysis of hand radiographs
1993-1994	Bob Kao Research on the temporal analysis of mammograms
1994	Shephard Shuerman (from Chicago Medical School with rotations at the University of Chicago)

	Research on the effect of data compression on the quality of medical images
1994	Kris Prieb Research on the computerized detection of lung nodules in computed tomography (CT) images of the thorax.
1995	Edward Lee Research involving the pre-clinical evaluation of computerized classification of masses in digital mammograms
1999	Darrin Brenner (with Jennifer Lin-Dunham) Research on computerized radiographic analysis of bone geometry in the femur: A study of age related changes in normal children
2000	Ingrid Roseborough Research on evaluation of an intelligent search workstation for diagnosing breast lesions seen on mammography
2001	Alfredo Fredy Ceballos Research on computer-aided diagnosis of lesions from multi-modality (mammographic and sonographic) images of the breast
2003	David Rusinak Research on computerized multi-modality analysis of breast lesions
2006, 2009	Ken Chiang Correlation of computer-extracted MRI breast lesion features with human characterized lesion features (morphological and kinetic features)
2006-2009	Saurabh Agarwal Sonographic CADx observer study & Correlative analysis between radiologist-indicated BIRADs and Computer-extracted lesion features
2006	Jhee Un Lee Image-based breast cancer risk assessment
2007	John Lee Observer study evaluation of Breast MRI CADx
2007	Tuan Nguyen Image-based analysis of FFDM of BRCA1/BRCA2 carriers
2008	Eric Barker Temporal radiographic texture analysis for monitoring osteoporosis
2009	Stephanie McCann Correlative analysis of breast images across modalities of sonograms, and MRI

2009	Huan Nguyen Comparison of kinetic analyses of breast MRI for cancer diagnosis and assessment of response to therapy
2010	William Ufmann Quantitative image analysis of prostate MR images
2011-2013	Daniel Budreau, Ph.D. Quantitative image analysis of breast MRI for assessing response to therapy
2016-2018	John Lee, Ph.D. Investigation of deep learning in thoracic image analyses

The University of Chicago
Undergraduate & masters students

1991-1992	David Kovar -- physics Computerized segmentation of masses in mammograms Currently graduate student, Medical Physics, University of Chicago
1992-1993	Kurt Thoroughman -- physics Dual-energy analysis of radiographic images of the spine (senior honors thesis work)
1995	Kensuke Arai -- physics Research in the detection of lung nodules in CT images
1997	Kitty Moran -- physics Research in the detection of lung nodules in CT images (senior honors thesis work)
1998	Young-Jin Kim -- physics Research in computerized analysis of mass lesions on mammograms and on MR images of the breast
2000	William Sensakovic -- physics Research in the computerized analysis of CT images of the thorax
1999-2000	Matt Maloney – computer science masters program Research in computerized analysis of FFDM images
2001 - 2003	Ruchi Shah -- biology Research in the computerized analysis of bone trabecular in radiographic images of the heel
2001	David Cho -- biology Research in computerized analysis of ultrasound images of the breast

2001 - 2003	Sara Doerr -- statistics Research in computerized mammographic analysis for risk assessment and prognosis of breast cancer
2003-2005	Anna Margolis -- mathematics Research in computerized texture feature for breast cancer risk assessment
2003-2004	Joseph Zapater – biology Database assistant and research in CAD for FFDM
2005-2006	Andrew Jamieson – physics Research in relationship between physical image quality and CAD
2006	Octavia Biris – physics Research in computerized radiographic texture analysis for osteoporosis
2007-2008	Zach Rodgers – physics, chemistry, biology Computerized assessment of motion contamination in cardiac CT
2008-2011	Jeremy Bancroft-Brown – physics Research in computerized assessment of breast cancer risk from FFDM and kinetic analysis on breast MRI for CADx
2009-2011	Umnouy Ponsukcharoen – physics Research in breast image-based biomarkers and genomics
2010-2011	Claire Salling - physics Research in computerized assessment of multimodality breast images including 3D ultrasound and PET breast imaing
2010	Martin Mullen – biology Research on the analysis of prostate cancer on MRI
2011-2013	Stephanie Burda - physics Research in multi-modality breast imaging
2012	Bill Dague – physics Research in analysis of Breast DWI
2013-2014	Terrell White – physics AAPM summer fellowship & UChicago senior thesis Research in DWI breast MRI
2015-2017	Ben Huynh – statistics UChicago Metcalf summer internship & during academic year via University of Chicago College Research Fellows Program Research in breast cancer radiomics on deep learning data mining methods

2016-2017 Maria Merolle – physics
University of Chicago College Research Fellows Program
Research in medical image analysis using deep learning

2017-2019 Thomas Rhines – molecular engineering & physics
University of Chicago College Research Fellows Program and AAPM Summer Fellowship
Research in deep learning in thoracic radiographic/CT imaging

2020-present Beatrice Katsnelson – biological sciences, computer science, molecular engineering technology and innovation
University of Chicago Research Scholar
Research in deep learning for the segmentation and assessment of COVID-19 in thoracic CTs

2020-present Elise Katsnelson – biological sciences, computer science, molecular engineering technology and innovation
University of Chicago Research Scholar
Research in computer vision and deep learning in the computer diagnosis and prognosis of COVID-19 patients

Other Graduate Programs

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

1988-1989 Darnell Little (M.S. in Electrical Engineering, 1989)
Thesis research on application of the maximum likelihood EM algorithm to radiologic images
Currently member of technical staff at AT&T Bell Laboratories, IL
(co-advisor with B. Sullivan and C.T. Chen)

1991-1992 Jim Brailean, M.S.
Research on application of the maximum likelihood EM algorithm to radiologic images
(co-advisor with B. Sullivan and C.T. Chen)

University of Illinois at Chicago (UIC), Chicago, Illinois
Biomedical Engineering (Graduate Students)

2004-2008 Nick Gruszauskas, Ph.D.
MS& Ph.D, Biomedical Engineering (BME)
Research in the translation of sonographic CAD to the clinical breast imaging area

2010-2014 Hsien-Chi Kuo, Ph.D.
Ph.D. Student in Biomedical Engineering (BME)
Segmentation Methods in 3D Breast Imaging including CT

Chicago Medical School, Chicago, IL
Medical Physics Graduate Program

1999-2002 Kwang-Taeg Oh
Dissertation research on computerized detection/diagnosis of mass lesions in mammograms including three-way classification on malignant, benign and false positives

Texas A & M University, College Station, Texas
Biomedical Engineering (Graduate Students)

2017-2018 Taylor Hinsdale (dissertation research committee)
Dissertation research on novel methods of optical imaging and processing in the detection of oral cancers

2018-2021 Sakina Mohammed Mota (dissertation research committee and co-advisor)
Cell image processing for real time monitoing of melanocyte stem cell culture

Other institutions (Undergraduate students & high school students)

1989,1991,1992 Nicholas Ahn (summer research)
Undergraduate, Illinois Benedictine College, Lisle, Illinois
Computerized detection of lung nodules in digital chest radiographs

1990 Rafi Ali (summer research)
Undergraduate, Illinois Benedictine College, Lisle, Illinois
Research on the computerized delineation of liver contours in CT images

1990 Heng Ly (summer research)
Undergraduate, Illinois Benedictine College, Lisle, Illinois
Research on the computerized delineation of liver contours in computed tomography (CT) images

1993 Tim Mickus (summer research)
Undergraduate, Illinois Benedictine College, Lisle, Illinois
Research on the effect of data compression on the quality of digital chest radiographs

1993, 1994 Adeaide Zhang (summer research)
High school student from Illinois Science Academy
Research on the digitization of medical images

1994-1995 Matt Kupinski
Undergraduate, Trinity University, San Antonio, Texas
Research on feature extraction methods for masses in digital mammograms and optimization of features for ANN
Summer research supported as a Pews Undergraduate Scholar and academic school year research for senior thesis

1994	Noam Ben Ami (summer research) Undergraduate, University of Illinois, Urbana Research on the effect of evaluation methods on the performance of computer-aided diagnosis schemes
2002, 2003	Petrice Mostardi (summer research) Undergraduate, Biomedical Engineering, Vanderbilt University Research on segmentation of breast lesions on digitized mammograms (2002), Research on computer-aided prognosis in breast cancer (2003)
2002	Michael Stern (summer research) Undergraduate, Physics, University of Pennsylvannia Research on computerized detection of breast lesions on ultrasound
2002	Vitek Jaros (summer research) Undergraduate, Computer Science, COD Research on computerized fractal analysis of digital bone images of the os calcis
2002, 2003	Andrew Liu (summer research) University of North Texas/Texas Academy of Math and Science Research on computer-aided diagnosis of mammographic breast lesions (2002), Research on automated lesion segmentation techniques for mammography (2003)
2003	Patrick Walsh (summer research) St. Ignatius High School Research on computerized classification of output from a CAD device
2003	Ed Dudek (summer research) Undergraduate, Computer Engineering, Purdue University Research on computerized lesion features (programming) for breast ultrasound
2003	Phoebe Kuesters (summer research) Undergraduate, Psychology, Dickenson College Research on observer performance in multi-modality CAD
2003	Ken Vojtek (summer research) Undergraduate, Physics, Benedictine University Research on classification of computerized detection results of malignant lesions and false-positive detections
2004-2008	Nick Gruszauskas Undergraduate, MS& Ph.D, BME, University of Illinois at Chicago Research in the translation of sonographic CAD to the clinical breast imaging area
2004	Exinnaya Ubagharaji (summer research) High school student at Kenwood Academy

(American Cancer Society Summer Research Program)
Research in CAD of breast lesions (biopsied and non-biopsied)

2005 Brian Mikolajczyk (summer research)
High school student
(American Cancer Society Summer Research Program)
Research in computerized lesion segmentation methods for full field digital mammography

2006 Farihah Kahandaker (summer research)
High School student
(American Cancer Society Summer Research Program)
Research in computerized image analysis on screen-film mammography and full-field digital mammography

2007 Feng Cao (summer research)
Undergraduate University of Illinois – Champaign Urbana
Research in the translation of radiographic texture analysis in the assessment of osteoporosis on a dataset of subjects on treatment and on placebo

2007 John Mussman (summer research)
High School student
(American Cancer Society Summer Research Program)
Research in computerized image analysis of double-contrast barium radiography for early detection of gastric cancer

2008 James Pelletiere (summer research)
Undergraduate, Benedictine University
Research in the computerized analysis of FFDM images for early diagnosis of breast cancer

2008 Aalok Patel (summer research)
High School student
(American Cancer Society Summer Research Program)
Research in computerized image analysis of breast ultrasound for improved lesion segmentation and early diagnosis of breast cancer

2009 Angelica Marquez (summer research)
Undergraduate, Loyola University, Chicago
Research in computerized image analysis of T1 and T2* breast MRI

2009 Anish Raman (summer research)
High School Student
(UC RIBS2 summer program)
Research in computerized image analysis of cancer risk assessment

2009 Saad Nasser (summer research)
High School Student
(American Cancer Society Summer Research Program)

Research in computerized image analysis of prostate images

2009 Gabriella Cozzi (summer research)
Entering Undergraduate, University of Notre Dame
Research in computerized image analysis of FFDM and breast MRIs for cancer risk assessment

2010 Rabi Alam (summer research; AAPM fellowship)
Undergraduate, Simon's Rock
Research in data reduction in breast CADx

2010 Aoife MacMahon (summer research)
Entering undergraduate, Brown University
Research in breast cancer risk assessment

2010 Mary Mussman (summer research)
High School Student
(American Cancer Society Summer Research Program)
Research in breast cancer risk assessment

2011 Julia Mei (summer research)
High School Student
(American Cancer Society Summer Research Program)
Research in computerized analysis of FFDM

2011 Iris Pak (summer research)
Entering undergraduate, Brown University
University of Chicago RIBS program
Research in analysis of MRI of breast lymph nodes

2011 Mark Tomek (summer research)
Undergraduate, Illinois State University
Research in the registration of multi-parametric prostate images

2011 Daniel Simmons Marengo (summer research)
Undergraduate, Carleton College
Research in the pharmacokinetic analysis of DCE-MRI prostate images

2011 Ronald Stubblefield (summer research)
Undergraduate, Moorehouse
University of Chicago, Physics REU program
Research in data reduction techniques for content-based retrieval in breast imaging

2012 Abby Armato (summer research)
High School Student
Research in the effectiveness of mammographic texture analysis of contralateral breast images in the computer-aided diagnosis of breast lesions

2012 Kathy Rodogiannis (summer research)
High School Student
(American Cancer Society Summer Research Program)
Research on quantitative image analysis of DCIS breast cancer on FFDM

2012 Anais Carell (summer research)
High School Student
Research in the effectiveness of mammographic texture analysis of contralateral breast images in the computer-aided diagnosis of breast lesions

2012 Zexi (Kyle) Mao (summer research)
Undergraduate, Zhejiang University, China
University of Chicago. Molecular Engineering REU program
Magnetic resonance spectroscopy imaging of breast cancer

2012 Sunny Duan (summer research)
High School Student
DCE-MRI of mass and non-mass breast lesions

2012 Stephan Hu (summer research)
High School Student
University of Chicago RIBS program
Kinetic and textural differences between mass and non-mass lesions on breast MRI

2013 Cathleen Cahil (summer research)
Undergraduate, University of Illinois (UIUC)
Risk-based CADx and Robustness of RTA for assessment of breast parenchymal

2013 Victoria Rael (summer research)
High School Student, Alpharetta, GA
University of Chicago RIBS program
Risk-based CADx and Robustness of RTA for assessment of breast parenchymal

2013 Rajiv Raju (summer research)
Undergraduate, University of Illinois at Chicago (UIC)
Dimensional reduction of MRI lesion features in distinguishing mass and non-mass lesions

2013 Jack Kieffer (summer research)
High School Student, Barrington, IL
Quantitative image analysis of T2-weighted MRI lesions for diagnosis and prognosis

2013 Payam Abdollah Yousefzadeh (summer research & during year)
Graduated medical student
Assessment of PE in emergency room

2013 Anthony Mei (summer research)

High School Student, Chicago, IL
American Cancer Society Summer Program
Multi-modality image-based phenotyping of breast cancer subtypes

2014 Melissa Tran (summer research)
High School Student, Schaumburg, Illinois
Role of tumor volume and surface area in breast cancer prognosis

2014 Jonathan Schram (summer research)
Undergraduate, computer science, Benedictine University
Investigation of SVMs and Decision Trees in Data mining

2014 Nyasha Maforo (summer research & senior thesis)
AAPM DREAM fellowship
Undergraduate, physics, Fort Hays State University
Potential of DCE, T2w, and DWI combined in assessing breast cancer

2014 Xin Wen (summer research)
High School Student, UChicago RIBS2 program
Potential of DCE and DWI combined in assessing breast cancer

2014 Karen Altergott (summer research)
Undergraduate, BME, University of Washington, Seattle
Role of tumor heterogeneity/texture in breast cancer prognosis

2014 Celina Nhan (summer research)
High School Student, Chicago, IL
UCCCC CURE summer program
Potential of DCE and T2w MRI combined in assessing breast cancer

2015 Taylor Martell (summer research)
Undergraduate, Engineering, University of Michigan – Ann Arbor
Risk-modulated CADx on digital mammograms

2015 Frank Waggoner (summer research)
Undergraduate, Physics, Johns Hopkins
Risk-modulated CADx on digital mammograms

2015 Imanol Garcia (summer research)
High School Student, Chicago, IL
UCCCC CURE summer program
Applying supervised learning to classify tumors from breat ultrasound

2015 Austin Patrick (summer research & senior thesis)
AAPM Summer fellowship
Undergraduate, Physics, East Tennessee State University
Quantitative image analysis of breast HiSS MRI parenchyma assessment

2015 Kayla Mendel (summer research)

UChicago BSD Summer program for incoming graduate students
University of Southern California
Segmentation and analysis of parenchyma on breast DCE-MRI

2015 - 2017 Ben Huynh (summer research Metcalf Fellow durng the summer; Chicago undergraduate Scholar during senior year; then full time lab staff during gap year)
Investigation of deep learning, convolutional neural networks in medical imaging and classification

2016 Akshata Gunda (summer research)
Oswego East High School student, University of Chicago RIBS2 student
Deep learning in cell segmentation in microscopy images for renal nephritis

2016 Rebecca Gullett (summer research)
Undergraduate, computer science and math, Benedictine University
Fuzzy c-means in distinguishing between vessels and pial collaterals in DSA

2016 Gillian Berg (summer research)
York High School
Deep learning in segmentation of ducts on MRIs of mice mammary glands

2016 Joscelyne Buzman (summer research)
Physics major UTEP, in UChicago Physics Dept REU
Texture analysis on head and neck CTs for assessing progression

2017 Fabienne Bick (spring internship)
Nelson Mandela School (high school), Berlin, Germany
Texture analysis of musculoskeletal tumors on MRI

2017 Nathan Taylor (spring internship)
Physics major, Wheaton College, Wheaton, IL
Classification of Luminal A breast tumors and benign lesions on MRI

2017 Byron Grant (summer research & senior thesis)
AAPM Summer fellowship
Undergraduate, Physics, Western Kentucky University
Deep learning for thoracic image quality assessment

2017 Anushka Murthy (summer research)
University of Chicago RIBS2 high school student
Analysis of FFDMs of a high risk population for assessment of breast cancer risk

2017 Rebecca Xun (summer research)
IIlinois Math & Science Academy (IMSA) high school
Deep learning applied to cell segmentation and classification in Lupus research

2017 Steven Berg (summer research)
Molecular Biology major, University of Illinois
Machine learning in thoracic CT imterpretation

2017	Michael Cahill (summer research) Biology major, Notre Dame University Machine learning of breast MRI of cancerous and benign lymph nodes
2017 & 2018	Rachel Anderson (summer research) Computer Science major, Northwestern University UCCCC CURE summer program Quantitative image analysis of ultrafast MRI and deep learning on breast MRI
2018	Clara Duan (summer research) Naperville North High School Use of deep learning in distinguishing between AP and PA thoracic radiographs
2018	Gavin Cotter (summer research & autumn quarter) Phillips Exeter Academy (high school) University of Chicago RIBS2 high school summer program Mammographic registration for temporal breast cancer risk assessment
2018	Iman El-Bawab (summer research) Walter Payton College Prep High School Quantitative image analysis on DCE-MRI for response to therapy
2019	Peter Halloran (summer research) Science Preprofessional Studies and Economics major, Notre Dame University Deep learning of heart segmentation & coronary artery calcifications on LDCT
2019	Benjamin Cifu (summer research) University of Chicago Lab School (high school) Deep learning of cell distance mapping in comparison of stained parraffin and fresh frozen renal cell biopsies
2019, 2020	Bradie Ferguson (summer research) Biomedical engineering major, University of Washington – Seattle UChicago CDAC scholar for summer of 2020 Radiomic texture analysis on cellular microenvironment of breast cancer tumor biopsies
2019	Liyan Jacob (summer research) AAPM DREAM summer fellowship Physics major, University of Memphis Investigation of radiomics and deep learning analysis of breast lesions on multiparametric MR images for assessing likelihood of malignancy
2019	Sophia Chen (summer research) Computer science & mathematics major, Vanderbilt University Deep learning for the detection of pneumothorax on chest radiographs
2020	Roma Bhattachajee (summer research)

University of Chicago Lab School (high school)
Deep learning in the segmentation of breast lesions on MRI

2020 Tarik Rashada (summer research)
AAPM DREAM summer fellowship
Physics major, Harvard University
Deep learning segmentation of lung regions on COVID-19 radiographs

2020 Fernando Elesterio (summer research)
Computer Science major (Benedictine University/UIUC)
Deep learning segmentation of lung regions on COVID-19 CTs

2020 Catherine Collins (summer research)
UCCCC EYES program (high school)
Predicting residual breast cancer burden using clinical and MRI radiomics features and machine learning

2020 Caitlin Huettl (summer research)
Mechanical Engineering major (Iowa State University))
Deep learning segmentation of spinal regions on low-dose CTs for assessment of osteoporosis

2021 Joshua Genender (summer research)
AAPM summer fellowship
Physics major, Northwestern University
Deep learning segmentation of thyroid nodules on ultrasound

2021 Seoyeon Ester Lee (summer research)
UCCCC researcHStart program (high school)
Quantitative assessment of BPE on Breast MRI

2021 Maya Ballard (summer research)
UCCCC researcHStart program (high school)
Computer texture analysis of breast parenchyma on FFDMs

2021, 2022 Dylan Tang (summer research)
Hinsdale Central (high school)
Data analysis of imaging and clinical data of COVID-19 patients, MIDRC

2021 Peyton Day (summer research)
Chesterton, Indiana (high school)
Creating ground truth of imaging/clinical data of COVID-19 patients

2022 Marlin Keller (summer research)
AAPM summer fellowship
Physics major, The Ohio State University
AI of head CTs of penetrating brain trauma (gun shot)

2022 Jonathan Lopez (summer research)

UCCCC EYES program (high school program)
Radiomic texture analysis to aid in breast cancer risk assessment

2022 Trisha Mondal (summer research)
UCCCC ReseaRCHStart (high school program)
Machine learning to assess BPE on breast MRIs

2022 Michael Reeve (sumer research)
Glenbrook South High School, IL (high school)
Exploring demographic trends within COVID-19 Severity Prediction Data

Refereed Journal Articles (* indicates shared first authorship)

J1. **Lissak M**, Wynn VT: The detection of low frequency rhythms in the electrocardiograms of male and female subjects. J. Interdiscipl. Cycle Res. 12: 69, 1981 .

J2. **Giger ML**, Doi K: Investigation of basic imaging properties in digital radiography. 1. Modulation transfer function. Medical Physics 11: 287-295, 1984.

J3. **Giger ML**, Doi K, Metz CE: Investigation of basic imaging properties in digital radiography. 2. Noise Wiener Spectrum. Medical Physics 11: 797-805, 1984.

J4. **Giger ML**, Doi K: Investigation of basic imaging properties in digital radiography. 3. Effect of Pixel Size on SNR and Threshold Contrast. Medical Physics 12: 201-208, 1985.

J5. Fujita H, Doi K, Chan HP, **Giger ML**, Duda EE: Development of dynamic and static phantoms for evaluation of digital subtraction angiography (DSA) systems. Radiology 155: 799-803, 1985.

J6. Fujita H, Doi K, **Giger ML**: Investigation of basic imaging properties in digital radiography. 6. MTFs of I.I.-TV digital imaging systems. Medical Physics 12: 713-729, 1985.

J7. Fujita H, Doi K, **Giger ML**, Chan HP: Investigation of basic imaging properties in digital radiography. 5. Characteristic curves of I.l.-TV digital systems. Medical Physics 13: 13-18, 1986.

J8. **Giger ML**, Doi K, Fujita H: Investigation of basic imaging properties in digital radiography. 7. Noise Wiener spectra of I.I.-TV digital imaging systems. Medical Physics 13: 131-138, 1986.

J9. Ohara K, Chan HP, Doi K, **Giger ML**, Fujita H: Investigation of basic imaging properties in digital radiography. 8. Detection of simulated low-contrast objects in DSA images. Medical Physics 13: 304-311, 1986.

J10. **Giger ML**, Ohara K, Doi K: Investigation of basic imaging properties in digital radiography. 9. Effect of displayed grey levels on signal detection. Medical Physics 13: 312-318, 1986.

J11. Doi K, Fujita H, Ohara K, Ono K, Matsui H, **Giger ML**, Chan H-P: Digital radiographic imaging system with multiple-slit scanning x-ray beam: A preliminary report. Radiology 161: 513-518, 1986.

J12. Kume Y, Doi K, Ohara K, **Giger ML**: Investigation of basic imaging properties in digital radiography. 10. Structure mottle of I.I.-TV digital imaging systems. Medical Physics 13: 843-849, 1986.

J13. Fujita H, Doi K, MacMahon H, Kume Y, **Giger ML**, Hoffmann K, Katafuchi T, Ohara K, Chan H-P: Basic imaging properties of a large image intensifier-TV digital chest radiographic system. Investigative Radiology 22: 328-335, 1987.

J14. **Giger ML**, Doi K: Effect of pixel size on detectability of low-contrast signals in digital radiography. Journal of the Optical Society of America A 4: 966-975, 1987.

J15. **Giger ML**, Doi K, MacMahon H: Image feature analysis and computer-aided diagnoses in digital radiography. 3. Automated detection of nodules in peripheral lung fields. Medical Physics 15: 158-166, 1988.

J16. Fujita H, **Giger ML**, Doi K: Investigation of basic imaging properties in digital radiography. 12. Effect of matrix configuration on system resolution. Medical Physics 15: 384-390, 1988.

J17. MacMahon H, Metz CE, Doi K, Kim T, **Giger ML**, Chan H-P: The effect of display format on diagnostic accuracy in digital chest radiography: A comparison of hardcopy, video, and reversed grey scale. Radiology 168: 669-673, 1988.

J18. Doi K, MacMahon H, Katsuragawa S, Chan HP, **Giger ML**, Metz CE: Quantitative and qualitative diagnostic information in digital radiographic image data - Potentials and problems. Jap Radiol Phys Suppl 28: 17-23, 1988.

J19. Ohara K, Doi K, Metz CE, **Giger ML**: Investigation of basic imaging properties in digital radiography. 13. Effect of structured noise on the detectability of simulated stenotic lesions. Medical Physics 16:14-21, 1989.

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.

J21. Fraser RG, Sanders C, Barnes GT, MacMahon H, **Giger ML**, Doi K, Templeton AW, Cox GG, Dwyer SJ, Merritt C, Jones J: Digital imaging of the chest: state of the art. Radiology 171: 297-307, 1989.

J22. Doi K, Katsuragawa S, **Giger ML**, Fujita H, MacMahon H: Feasibility of computer-aided diagnosis in digital radiography. Japanese Journal of Radiological Technology 45: 653-663, 1989.

J23. Cook LT, **Giger ML**, Batnitzky S, Wetzel LH, Murphey MD: Digitized film radiography. Investigative Radiology 24: 910-916, 1989.

J24. **Giger ML**, Doi K, MacMahon H, Metz CE, Yin F-F: Computer-aided detection of pulmonary nodules in digital chest images. RadioGraphics 10: 41-51, 1990.

J25. MacMahon H, Doi K, Chan HP, **Giger ML**, Katsuragawa S, Nakamori N: Computer-aided diagnosis in chest radiology. Journal of Thoracic Imaging 5: 67-76, 1990.

J26. Schmidt RA, Doi K, Sekiya M, Xu X-W, **Giger ML**, Lu C-T, Mojtahedi S, MacMahon H: Evaluation of radiographs developed by a new ultra rapid film processing system. American Journal of Roentgenology 154: 1107-1110, 1990.

J27. **Giger ML**, Ahn N, Doi K, MacMahon H, Metz CE: Computerized detection of pulmonary nodules in digital chest images: Use of morphological filters in reducing false-positive detections. Medical Physics 17:861-865, 1990.

J28. Yin F-F, **Giger ML**, Doi K: Measurement of the presampling MTF of film digitizers using a curve fitting technique. Medical Physics 17: 962-966, 1990.

J29. Asada N, Doi K, MacMahon H, Montner S, **Giger ML**, Abe C, Wu Y: Potential usefulness of artificial neural network for differential diagnosis of interstitial lung diseases: a pilot study. Radiology 177: 857-860, 1990.

J30. MacMahon H, Doi K, Sanada S, Montner SM, **Giger ML**, Metz CE, Nakamori N, Yin F-F, Xu X-W, Yonekawa H, Takeuchi H: Data compression: Effect on diagnostic accuracy in digital chest radiography. Radiology 178: 175-179, 1991.

J31. MacMahon H, Sanada S, Doi K, **Giger ML**, Xu X-W, Yin F-F, Montner SM, Carlin M: Direct comparison of conventional and computed radiography with a dual image recording technique. RadioGraphics 11: 259-268, 1991.

J32. Katsuragawa S, Sasaki Y, Yanagisawa T, Doi K, **Giger ML**, MacMahon H, Nakamori N: CAD in digital chest radiography. Clinical Imagiology 7: 54-62, 1991.

J33. Sanada S, Doi K, Xu X-W, Yin F-F, **Giger ML**, MacMahon H: Comparison of imaging properties of a computed radiography system and screen-film systems. Medical Physics 18: 414-420, 1991.

J34. Yin F-F, **Giger ML**, Doi K, Metz CE, Vyborny CJ, Schmidt RA: Computerized detection of masses in digital mammograms: Analysis of bilateral-subtraction images. Medical Physics 18: 955-963, 1991.

J35. **Giger ML**: Automated scheme for lung nodule detection in chest radiography. Image Technology and Information Display 23: 1088-1091, 1991.

J36. MacMahon H, Doi K, Sanada S, Carlin M, **Giger ML**, Montner SM: Optimal imaging processing for digital chest radiographs. Image Technology and Information Display 23: 1105-1110, 1991.

J37. Nishikawa RM, **Giger ML**, Doi K, Vyborny CJ, Schmidt RA: Computer-aided detection of microcalcifications in digital mammograms. Image Technology and Information Display 23: 1092-1096, 1991.

J38. Yoshimura H, **Giger ML**, Doi K, MacMahon H, Montner S: Computerized nodule detection: Reduction of false positives using combination of linear and nonlinear filters. Investigative Radiology 27: 124-129, 1992.

J39. Yin FF, **Giger ML**, Doi K, Yoshimura H, Xu XW, Nishikawa RM: Evaluation of imaging properties of a laser film digitizer. Physics in Medicine and Biology. 37: 273-280, 1992.

J40. Matsumoto T, Yoshimura H, **Giger ML**, Doi K, MacMahon H, Montner SM, Nakanishi T: Potential usefulness of computerized nodule detection in screening programs for lung cancer: A pilot study. Investigative Radiology 27: 471-475, 1992.

J41. Doi K, **Giger ML**, MacMahon H, Hoffmann KR, et al.: Computer-aided diagnosis: development of automated schemes for quantitative analysis of radiographic images. Seminars in Ultrasound, CT and MR 13(2): 140-152, 1992.

J42. Brailean JC, Little D, **Giger ML**, Chen C-T, Sullivan B: A performance evaluation of the EM algorithm applied to radiographic images. Medical Physics 19: 1175-1182, 1992.

J43. Wu Y, Doi K, **Giger ML**, Nishikawa RM: Computerized detection of clustered microcalcifications in digital mammograms: Applications of artificial neural networks. Medical Physics 19: 555-560, 1992.

J44. Matsumoto T, Yoshimura H, Doi K, **Giger ML**, Kano A, MacMahon H, Abe K, Montner SM: Image feature analysis of false-positive diagnoses produced by automated detection of lung nodules. Investigative Radiology 27: 587-597, 1992.

J45. Caligiuri P, **Giger ML**, Favus M, Jia H, Doi K, Dixon L: Computerized radiographic analysis of osteoporosis. Radiology 186: 471-474, 1993.

J46. Wu Y, **Giger ML**, Doi K, Vyborny CJ, Schmidt RA, Metz CE: Artificial neural networks in mammography: Application to decision making in the diagnosis of breast cancer. Radiology 187: 81-87, 1993.

J47. Yoshimura H, Xu X-W, Doi K, MacMahon H, Hoffmann KR, **Giger ML**, Montner SM: Development of a high quality film duplication system using a laser digitizer: comparison with computed radiography. Medical Physics 20: 51-58, 1993.

J48. Bae KT, **Giger ML**, Chen CT, Kahn CE: Automatic segmentation of 3-D liver structure from CT data. Medical Physics 20: 71-78, 1993.

J49. Wu Y, Doi K, Metz CE, Asada N, **Giger ML**: Simulation studies of data classification by artificial neural networks: Potential applications in medical imaging and decision making. Journal of Digital Imaging 6: 117-125, 1993.

J50. **Giger ML**, Doi K, MacMahon H, Nishikawa RM, Hoffmann KR, et al.: An "intelligent" workstation for computer-aided diagnosis. RadioGraphics 13: 647-656, 1993.

J51. Yin FF, **Giger ML**, Vyborny CJ, Doi K, Schmidt RA: Comparison of bilateral-subtraction and single-image processing techniques in the computerized detection of mammographic masses. Investigative Radiology 28: 473-481, 1993.

J52. **Giger ML**, Vyborny CJ: CAD in mammography: rationale, methods and possible scenarios. Diagnostic Imaging June, 98-113, 1993.

J53. Nishikawa RM, **Giger ML**, Doi K, Vyborny CJ, Schmidt RA: Computer-aided detection of clustered microcalcifications: An improved method for grouping detected signals. Medical Physics 20: 1661-1666, 1993.

J54. Doi K, **Giger ML**, Nishikawa RM, Hoffmann KR, MacMahon H, Schmidt RA, Chua KG: Digital radiography: A useful clinical tool for computer-aided diagnosis by quantitative analysis of radiographic images. Acta Radiologica 34: 426-439, 1993.

J55. MacMahon H, Xu XW, Hoffmann KR, **Giger ML**, Yoshimura H, Doi K, Carlin M, Kano A, Yao L, Abe K, Montner SM, Nishikawa RM, Chen X: Clinical experience with an advanced laser digitizer for cost-effective digital radiography. RadioGraphics 13: 635-646, 1993.

J56. Abe K, Doi K, MacMahon H, **Giger ML,** Jia H, Chen X, Kano A, Yanagisawa T: Computer-aided diagnosis in chest radiography: Analysis of results in a large clinical series. Investigative Radiology 28: 987-993, 1993.

J57. Katsuragawa S, Doi K, MacMahon H, **Giger ML,** Hoffmann KR, Nishikawa RM, Chen X, Abe K, Sanada S, Sasaki Y, Yanagisawa T: Development of computer-aided diagnosis for radiographic images. Jpn Radiol Phys 13: 33-45, 1993.

J58. Nishikawa RM, **Giger ML**, Doi K, Vyborny CJ: Effect of case selection on the performance of computer-aided detection schemes. Medical Physics 21: 265-269, 1994.

J59. Yin FF, **Giger ML**, Doi K, Vyborny CJ, Schmidt RA: Computerized detection of masses in digital mammograms: Investigation of feature-analysis techniques. Journal of Digital Imaging 7: 18-26, 1994.

J60. Yin FF, **Giger ML**, Doi K, Vyborny CJ, Schmidt RA: Computerized detection of masses in digital mammograms: Automated alignment of breast images and its effect on bilateral-subtraction technique. Medical Physics 21: 445-452, 1994.

J61. **Giger ML**, Bae KT, MacMahon H: Computerized detection of pulmonary nodules in CT images. Investigative Radiology 29: 459-465, 1994.

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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.

Stopped adding abstracts in 2003

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 Ira 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: Multimodality image analysis in breast cancer. Argonne Workshop on Imaging Structural Hieracrchy in Biological Systems. Argone National Laboratory, Argonne, IL, April, 2009.

I162. Giger ML: New Horizons in Cancer Diagnosis: Artificial Intelligence & Computer Vision. Chicago Women's Alliance, Chicago, Illinois, May 2009.

I163. 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.

I164. Giger ML: Risk Assessment from Parenchyma Characteristics. At 4th International Workshop on Breast Densitometry and Breast Cancer Risk Assessment. San Francisco, California, June 2009.

I165. Giger ML: Computer-aided detection and R2 Technologies. ARCH Venture Partners Innovation Workshop Series, Chicago, IL, June 2009.

I166. Giger ML: Advances of CAD in Breast Imaging. XIV Congress of Medical Physics in Brazil. Sao Paulo, Brazil, October 2009.

I167. Giger ML: Computer-assisted decision systems in radiology – The hope, the hype, and the hard truth: A short history of CAD, RSNA Chicago, IL, November, 2009.

I168. Giger ML: Computer-aided detection and quantitative image analysis. 6th Annual Memphis BioImaging Symposium, Memphis, TN, November, 2009.

I169. Giger ML: Update on AAPM. AAPM Midwest Chapter, Chicago, IL November, 2009.

I170. Giger ML: Computer-aided diagnosis and quantitative image analysis of breast cancer. PathBio 2: IMAGE, University of Wisconsin-Madison, November, 2009.

I171. Giger ML: Computerized analysis of multimodality images for diagnosis, risk assessment, prognosis, and response to therapy. AOCR 2010, 13th Asian Oceanian Congress of Radiology, Taipei, Taiwan, March, 2010.

I172. Giger ML: Computerized analysis of multimodality breast images. AOCR 2010, 13th Asian Oceanian Congress of Radiology, Taipei, Taiwan, March, 2010.

I173. Giger ML: Computer-aided diagnosis and quantitative image analysis of breast cancer. Medical Physics Seminar, MD Anderson, Houston, TX, April, 2010

I174. Giger ML: Computer-aided diagnosis and quantitative image analysis of breast cancer. Hollingsworth Lectureship in Engineering, University of Texas, Austin, TX, April, 2010

I175. Giger ML: Research and Medical Physics, Medical Physics Student Research Retreat, MD Anderson, Houston, TX, July, 2010.

I176. Giger ML: Developer Perspectives. Joint FDA-MIPS Workshop on Methods for the Evaluation of Imaging and Computer-Assist Devices. Rockville, MD, July 2010.

I177. Giger ML: Computer-assisted decision systems in radiology – The hope, the hype, and the hard truth: A short history of CAD, RSNA Chicago, IL, November, 2010.

I178. Giger ML: Computer-aided diagnoisis (CADx) and beyond (prognosis and response to therapy), RSNA Chicago, IL, November, 2010.

I179. Giger ML: CAD for breast, lung, and colon cancer: Is this quantitative image analysis for clinical practice? (organizer and introduction). Controversy session. RSNA Chicago, IL, November, 2010.

I180. Giger ML: Building a fulfilling career: Balancing personal and professional life. AAPM/COMP annual meeting. Vancouver, Canada, August 2011.

I181. Giger ML: Imaging biomarkers (MRI). Amreican Roentgen Ray Society (ARRS) Chicago International Breast and Women's Imaging Symposium, Chicago, IL, October 2011.

I182. Giger ML: Computer-assisted decision systems in radiology – The hope, the hype, and the hard truth: A short history of CAD, RSNA Chicago, IL, November, 2011.

I183. Giger ML: Computer-aided diagnoisis (CADx) and beyond (prognosis and response to therapy), RSNA Chicago, IL, November, 2011.

I184. Giger ML: Quantitative Image-based Biomarkers in the Assessment, of Breast Cancer Risk, Diagnosis, Prognosis, and Response to Therapy, Carl J. Vyborny Memorial Lecture, Chicago, IL, January, 2012.

I185. Giger ML: Computerized Analysis of Multimodality Breast Images for Diagnosis, Risk Assessment, Prognosis, and Response to Therapy, JRC 2012, Yokohama, Japan, April, 2012.

I186. Giger ML: Computerized Analysis of Multimodality Breast Images for Diagnosis, Risk Assessment, Prognosis, and Response to Therapy, Gifu University, Gifu, Japan, April 2012.

I187. Giger ML: Medical Physics in USA, Kumamoto University, Kumamoto, Japan, April, 2012.

I188. Giger ML: Medical Physics in USA, Kyusyu University, Fukuoka, Japan, April, 2012.

I189. Giger ML: Computerized Analysis of Multimodality Breast Images for Diagnosis, Risk Assessment, Prognosis, and Response to Therapy, Kyusyu University, Fukuoka, Japan, April, 2012.

I190. Giger ML: Image-based biomarkers of breast cancer risk. The 2012 Breast Cancer Research Program Spring Annual Retreat, MD Anderson, Houston, Texas, April, 2012.

I191. Giger ML: Breast cancer, imaging, CAD, and quantitative image analysis. IAAP, Oak Brook, IL, May, 2012.

I192. Giger ML: Quantitative image analysis and data mining in image-based breast cancer biomarkers. University of Chicago Breast Cancer SPORE and the Institute for Translational medicine, Chicago, IL, June, 2012.

I193. Giger ML: Quantitative imaging of cancer for patient-specific diagnosis, phenotyping, and population-based discovery. Translation Research to Inform Modern Medicine: 2nd Joint Institutional Symposium (UChicago & NorthShore), Chicago, IL September, 2012.

I194. Giger ML: Image-based phenotyping. Imaging Investigator Workshop, ACRIN, Arlington, VA, October, 2012.

I195. Giger ML: Quantitative image-based biomarkers in the assessment of breast cancer risk, diagnosis, prognosis, and response to therapy. Ivy Plus STEM Symposium, Philadelphia, PA, October, 2012.

I196. Giger ML: Computer-aided diagnoisis (CADx) and beyond (prognosis and response to therapy), RSNA Chicago, IL, November, 2012.

I197. Giger ML: Quantitative image analysis and computer-aided diagnosis in breast cancer risk assessment, diagnosis, prognosis, and response to therapy. Keynote at Digital Imaging Computer Techniques and Applications (DICTA), Perth, Western Australia, December, 2012.

I198. Giger ML: Quantitative image analysis of multi-modality breast images: image-based phenotyping in breast cancer research. NorthShore University Healthsystem. Evanston, IL, January, 2013.

I199. Giger ML: Quantitative imaging biomarkers/phenotypes in the assessment of breast cancer risk, diagnosis, progrnosis, and response to therapy. Distinguished Lecturer Grand Rounds, Emory University, Department of Radiology and Imaging Sciences, Atlanta, GA, February, 2013.

I200. Giger ML: Progress in Image-based Biomarkers/Phenotypes for Breast Cancer Research Research in Progress Seminar (RIPS), Emory University, Department of Radiology and Imaging Sciences, Atlanta, GA, February, 2013.

I201. Giger ML: Imaging Genomics: Imaging Phenotypes in Breast Cancer Risk Assessment, Diagnosis, Prognosis, and Response to Therapy. IEEE Engineering in Medicine and Biology Society, San Francisco, CA, April, 2013.

I202. Giger ML: Imaging Genomics - Decoding Cancer with Imaging & Big Data - What can we do in the future?, NCI Workshop on Correlating Imaging Phenotypes with Genomic

Signatures, NIH Campus-Natcher, Bethesda, MD, June 2013.

I203. Giger ML: Decoding Breast Cancer with Imaging & Big Data: Imaging Phenotypes in Breast Cancer Risk Assessment, Diagnosis, Prognosis, and Response to Therapy, Stanford University, ISIS Seminar, Department of Radiology, Stanford, CA, July, 2013.

I204. Giger ML: Medical Imaging and Computers in the Diagnosis of Breast Cancer, Named Professor Lecture Series (as new A. N. Pritzker Professor), University of Chicago, Chicago, IL, November, 2013.

I205. Giger ML: Decoding Breast Cancer with Imaging & Big Data: Imaging Phenotypes in Breast Cancer Risk Assessment, Diagnosis, Prognosis, and Response to Therapy. Penn Center for Innovation in Personalized Breast Cancer Screening (PCIPS) seminar series, University of Pennsylvannia, Philadephia, PA, April 2014.

I206. Giger ML: Decoding Breast Cancer with Imaging & Big Data: Imaging Phenotypes in Breast Cancer Risk Assessment, Diagnosis, Prognosis, and Response to Therapy. CDM Research Colloquium, De Paul University, Chicago, IL May 2014.

I207. Giger ML: AAPM, QIBA, and Technology Assessment. Quantitative Imaging Biomarkers Alliance (QIBA) Annual Meeting, Arlington, VA, May 2014

I208. Giger ML: Molecular imaging and quantitative image analysis. NTU/ANL/IME Joint Meeting on Molecular Imaging, Taipei, Taiwan, May 2014.

I209. Giger ML: Update on women in science and quantitative image analysis/CAD. Women Leaders Program to Promote Well-being in Asia, Nagoya University, Nagoya, Japan. July 2014

I210. Giger ML: Image-based phenotying and genomics in the Quantitative Imaging Symposium: Genomics and Image-omics for Medical Physicists, AAPM, Austin, TX, July 2014.

I211. Giger ML: Why is metrology important in QI? In the Quantitative Imaging Metrology: What Should be Assessed and How? AAPM, Austin, TX, July 2014.

I212. Giger ML: Medical imaging and computers in the diagnosis of breast cancer. SPIE Optics & Photonics, PISCES session, San Diego, CA, August 2014.

I213. Giger ML: Decoding breast cancer with imaging and big data: Imaging phenotypes in breast cancer risk assessment, diagnosis, prognosis, and response to therapy. 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Theme Keynote Speaker, Chicago, IL, August 2014.

I214. Giger ML: Decoding breast cancer with imaging and big data: Imaging phenotypes in breast cancer risk assessment, diagnosis, prognosis, and response to therapy. 2014 Radiomics Meeting, Houston, TX, September 2014.

I215. Giger ML: Deciphering breast cancer with imaging, genomics, & big data.

Distinguished Lecture as part of the Biomedical Engineering Leadership Seminar Series. University of Florida, Gainesville, FL, November 2014.

I216. Giger ML: Decoding Breast Cancer with Quantitative Radiomics: Imaging Phenotypes in Breast Cancer Risk Assessment, Diagnosis, Prognosis, and Response to Therapy. Distinguished Speaker Seminar Series, Biomedical Engineering, University of California-Davis, Davis, CA, February 2015.

I217. Giger ML: Breast imaging modalities. Visiting Professor at Florida Hospital Radiology, Florida Hospital, Orlando, FL, February 2015.

I218. Giger ML: Computer-aided detection. Visiting Professor at Florida Hospital Radiology, Florida Hospital, Orlando, FL, February 2015.

I219. Giger ML: Decoding Breast Cancer with Quantitative Radiomics: Imaging Phenotypes in Breast Cancer Risk Assessment, Diagnosis, Prognosis, and Response to Therapy. Visiting Professor at Florida Hospital Radiology, Florida Hospital, Orlando, FL, February 2015.

I220. Giger ML: Clinical reader studies. Visiting Professor at Florida Hospital Radiology, Florida Hospital, Orlando, FL, February 2015.

I221. Giger ML: A STEM career: Deciphering breast cancer through computational medical image analysis. Keynote speaker at Girls STEM Day. College of Lake County, Grayslake, IL, February 2015.

I222. Giger ML: Deciphering Breast Cancer with Imaging, Genomics, & Big Data Imaging Phenotypes in Breast Cancer Risk Assessment, Diagnosis, Prognosis, and Response to Therapy. Dana Faber Modelfest, Boston, MA, April 2015.

I223. Giger ML: What to expect as an author and what it takes to be a good peer reviewer. 2015 Kathleen A. Zar Pre-Symposium Workshop, UChicago, Chicago, IL April 2015.

I224. Giger ML: Deciphering Breast Cancer with Quantitative Radiomics: Imaging Phenotypes in Breast Cancer Risk Assessment, Diagnosis, Prognosis, and Response to Therapy, Mount Sinai, New York City, NY May 2015.

I225. Giger ML: Deciphering Cancer Through Computational Medical Imaging. Disciplines, Technologies, and Algorithms. Franke Institute for the Humanities, UChicago Chicago, IL May 2015.

I226. Giger ML: Decoding Breast Cancer with Quantitative Radiomics & Radiogenomics: Imaging Phenotypes in Breast Cancer Risk Assessment, Diagnosis, Prognosis, and Response to Therapy (proffered abstract for poster, then invited to give one of the limited orals). TCGA 4th Scientific Symposium, NIH, Bethesda, MD, May 2015.

I227. Giger ML: Imaging and Quantitative Radiomics. ICAM Annual Conference, Argonne National Laboratory, May 2015.

I228. Giger ML: Building a fulfilling career in Medical Physics: Balancing personal and professional life, World Congress on Medical Physics and Biomedical Engineering (IUPESM), Toronto, Canada, June 2015.

I229. Giger ML: Multi-Modality Breast Imaging Radiomics of Tumors and Parenchymal Density & Texture, 7th International Workshop on Breast Densitometry and Cancer Risk Assessment, San Francisco, CA, June 2015.

I230. Giger ML: Quantitative Radiomics & Radiogenomics. Initiative for Early Lung Cancer Research on Treatment, ECLAP, Mount Sinai, New York City, NY, June 2015.

I231. Giger ML: Integrating Radiomics and Genomics. Invited Education Lecture at WMIC (World Molecular Imaging Congress), Honolulu, HI, September 2015.

I232. Giger ML: Deciphering Breast Cancer with Quantitative Radiomics & Imaging Genomics: Imaging Phenotypes in Breast Cancer Risk Assessment, Diagnosis, Prognosis, and Risk of Recurrence. Invited Spotlight Lecture at WMIC (World Molecular Imaging Congress), Honolulu, HI, September 2015.

I231. Giger ML: Deciphering Breast Cancer with Quantitative Radiomics. At MSKCC-IMRAS Retreat on Radiomics in Oncologic Imaging. Memorial Sloan Kettering Cancer Center, New York, NY, September 2015.

I231. Giger ML: Deciphering Breast Cancer with Quantitative Radiomics. Texas A&M, College Station, BME Department, TX, October 2015.

I232. Giger ML: An Overview of Radiomics. Radiological Society of North America (RSNA) annual meeting, Chicago, IL, December 2015

I233. Giger ML: Quantitative Radiomics in a Medical Physics Career. Duke University, Durham, NC, March 2016.

I234. Giger ML: Deciphering Breast Cancer with Quantitative Radiomics. Department of Public Health Sciences, University of Chicago, Chicago, IL, March 2016.

I235. Giger ML: Deciphering Breast Cancer with Quantitative Radiomics and Imaging Genomics. NorthShore University Health, Evanston, IL, April 2016.

I236. Giger ML: The Evolution of Radiomics and CT Screening for Lung Cancer. At the Quantitative Imaging Workshop XIII. Prevent Cancer Foundation. Bethesda, MD, June 2016.

I237. Giger ML: Deciphering Breast Cancer with Quantitative Radiomics and Imaging Genomics. 5th Chinese National Conference on Breast Imaging. (keynote). Tianjin, China, July 2016.

I238. Giger ML: Computer-Aided Diagnosis and Radiomics in Breast Cancer Imaging. 1st International Workshop on Biomedical Imaging and Sensing. (keynote). Chengdu, China, July 2016.

I239. Giger ML: Fostering a Successful Career in Research. 58th Annual Meeting & Exhibition of the AAPM, Washington, DC, August 2016.

I240. Giger ML: CAD and Radiomics in Breast Cancer Imaging. Plenary in the Signal, Image, and Data Processing track, SPIE Optics & Photonics, San Diego, CA, August 2016.

I241. Giger ML: Radiomics Revolution in Quantitative Imaging: Applications to Breast Cancer. AAPM Webinar Series – Advances in Medical Physics. Streamed from AAPM HQ, Alexandria, VA, October 2016.

I242. Giger ML: Radiomics and Deep Learning in Quantitative Disease Assessment. 35th International Conference on Screening for Lung Cancer. Icahn School of Medicine at Mount Sinai, New York, NY, November 2016.

I243. Giger ML: Preparing an Grant. Radiological Society of North America (RSNA) annual meeting, Chicago, IL, December 2016.

I244. Giger ML: Quantitative Radiomics, Big Data, and Deep Learning in Precision Medicine. RSNA/AAPM Symposium (plenary), Radiological Society of North America (RSNA) annual meeting, Chicago, IL, December 2016

I245. Giger ML: Status of CAD in Clinical Radiology. [In] Image Interpretation Sciece – Understanding What & How Radiologists See & Think. Radiological Society of North America (RSNA) annual meeting, Chicago, IL, December 2016

I246. Giger ML: Computer-Aided Diagnosis and Deep Learning in Breast Cancer Imaging. Joint 13th Asia Pacific Physics Conference and 22nd Australian Institute of Physics Congress (APPC-AIP). Brisbane, Australia, December 2016.

I247. Giger ML: Deciphering Breast Cancer with Quantitative Radiomics & Imaging Genomics. Distnguished Speaker, University of Miami, College of Engineering, Miami, FL, January 2017.

I248. Giger ML: Quantitative Imaging Phenotypes and Deep Learning in Precision Medicine. Hagler Institute Symposium, Texas A & M University, College Station, TX, February, 2017.

I249. Giger ML: Radiomics and Deep Learning in Breast MRI for Precision Medicine. MD Anderson Cancer Center, Houston, TX, March 2017.

I250. Giger ML: Opportunities for Multiple Applications of Quantitative Image Analysis Methods and Tools across Modalities and Clinical Tasks. NCI Quantitative Imaging Network (QIN) annual meeting, at NCI, Shady Grove, MD, April 2017.

I251. Giger ML: Imaging Genomics and Deep Learning. National Photonics Initiative (NPI) Workshop on Strategies for Improving Early Detection of Cancer and Response to Therapies through Imaging Technologies with focus on the Cancer Moonshot Initiative, Rockville, MD, April 2017.

I252. Giger ML: Radiomics and Deep Learningin Medical Imaging for Precision Medicine. Invited to give the 2017 John R. Cameron Symposium. University of Wisconsin – Madison, April 2017.

I253. Giger ML: Radiomics and Deep Learning: Potential for Changing the Early Detection of Cancer. Dialogue for Action on Cancer Screening and Prevention. Prevent Cancer Foundation. McLean, VA, April 2017.

I254. Giger ML: Quantitative Radiomics and Deep Learning in Cancer Imaging for Precision Medicine. Charles University, Prague, Czech Republic, April 2017.

I255. Giger ML: Radiomics and Deep Learning in Medical Imaging for Precision Medicine. Pritzker TECH interest group, Pritzker Medical School, University of Chicago, Chicago, IL May 2017

I257. Giger ML: A Research Career in Medical Physics: Skills Sets and Professionalization, 59th Annual Meeting & Exhibition of the AAPM, Denver, CO, August 2017.

I258. Giger ML: Deep Learning and Applications in Medical Imaging: Role of Deep Learning at Various Stages of Quantitative Image Analysis (Radiomics) for Cancer Assessment, 59th Annual Meeting & Exhibition of the AAPM, Denver, CO, August 2017.

I259. Giger ML: Medical Physics 3.0 in Design: Key Attributes of Scientific Excellence: Rigor, Innovation, and Relevance, 59th Annual Meeting & Exhibition of the AAPM, Denver, CO, August 2017.

I260. Giger ML: CAD, Radiomics, and Deep Learning in Breast Cancer Analysis, 6th Chinese National Conference on Breast Imaging, Tianjin Medical University Cancer Institute & Hospital, Tianjin, China, September, 2017.

I261. Giger ML: Computer Vision and Machine Learning in Breast Cancer Diagnosis, School of Precision Instrument and Optoelectronic Engineering, Tianjin University, September, 2017

I262. Giger ML: Radiomics and Deep Learning in Lung Imaging, 37th International Conference on Screening for Lung Cancer (I-ELCAP) and 5th Conference on Research for Early Lung Cancer Treatment (IELCART), Seattle, WA, September, 2017.

I263. Giger ML: Preparing an RO1Grant. Radiological Society of North America (RSNA) annual meeting, Chicago, IL, November 2017.

I264. Giger ML: An Overview of Radiomics. Radiological Society of North America (RSNA) annual meeting, Chicago, IL, November 2017.

I265. Giger ML: Overview of Deep Learning and Breast Imaging. (keynote) Radiological Society of North America (RSNA) annual meeting, Chicago, IL, November 2017.

I266. Giger ML: Deciphering Breast Cancer through Breast MRI, Radiomics, and Deep Learning. Distinguished speaker lecture, BME, University of Riverside, CA, January 2018.

I267. Giger ML: Deep Learning for Imaging Physics: An Introduction, SPIE Medical Imaging – Imaging Physics Conference. Houston, TX February 2018.

I268. Giger ML: Deciphering Breast Cancer through Breast MRI, Radiomics, and Deep Learning. SPIE Student Chapter. College Station, TX February 2018.

I269. Giger ML: Promise of Large Databases, Radiomics, and Deep Learning. 38th International Conference on Screening for Lung Cancer (I-ELCAP). New York, NY. March 2018.

I270. Giger ML: Deciphering Breast Cancer through Breast MRI, Radiomics, and Deep Learning. Physics Division Colloquium, Argonne National Laboratory, Argonne, IL March 2018.

I271. Giger ML: Perspectives on State of the Art Cancer Imaging Tool Development and Translation: Most Important Challenges for Imaging in Cancer. NCI CIP (Cancer Imaging Program) 20th anniversary. Rockville, MD April 2018.

I272. Giger ML: The Medical Physicist in the Era of Personalized Medicine: Deciphering Breast Cancer through Breast MRI, Radiomics, and Deep Learning. 10th Congress of the Italian Association of Medical Physics (AIFM), Bari, Italy April 2018.

I273. Giger ML: Radiomics and Deep Learning in Breast Cancer Diagnosis. In a major symposium at AACR, American Association for Cancer Research, Chicago, IL April 2018.

I274. Giger ML: SPIE, Photonics, and Machine Learning. Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany April 2018.

I275. Giger ML: Radiomics and Machine Learning in Breast Cancer Image Analysis. The 2018 Adamczyk Lecture, Case Western University, Department of Biomedical Engineering. Cleveland, Ohio, May 2018.

I276. Giger ML: Machine Learning, AI, and Radiomics – What is the role for QI? Quantitative Imaging Biomarkers Alliance (QIBA) Annual Meeting, Oak Brook, IL May 2018.

I277. Giger ML: Radiomics and Deep Learning on Breast MRI. Society of Breast MRI (SBMR), Washington DC, May 2018.

I278. Giger ML: Reaching the Potential of Radiomics. AAPM Science Council FOREM Practical Big Data Workshop, Ann Arbor, MI, June 2018.

I279. Giger ML: Deciphering Cancer through Imaging, Machine Learning, and Big Data. 6th Annual NCI Center for Strategic Scientific Initiatives (CSSI) Science Day. Porter Neuroscience Research Center, NIH Campus, Bethesda, MD, June 2018.

I280. Giger ML: Application of Computer Vision and Artificial Intelligence in Breast Cancer Detection/Treatment. FDA Mini-Symposium on Image Data, Machine Learning and Precision Medicine in Oncology. FDA, Silver Spring, Maryland, June 2018.

I281. Giger ML: Machine Learning in Breast Cancer Diagnosis and Management. ICFO – The Institute of Photonic Sciences, Mediterranean Technology Park, Collogquium -- dedicated session to Women in Science, Barcelona, Spain, July 2018.

I282. Giger ML: Machine Learning in Breast Cancer Diagnosis and Management. 50th Aniversario SEDOPTICA (Spanish Optical Society) meeting, Castellon, Spain, July 2018.

I283. Giger ML: Computerized Breast Image Analysis Using Deep Learning. 60th Annual Meeting & Exhibition of the AAPM, Nashville, TN, August 2018.

I284. Giger ML: Translation of Quantitative Imaging in Breast Cancer Image Analysis. 60th Annual Meeting & Exhibition of the AAPM, Nashville, TN, August 2018.

I285. El-Zein RA, Bedrosian I, Giger ML: Quantitative Image Analysis for Modeling Breast Cancer Risk. NIH NCI Division of Cancer Prevention, Consortium for Imaging and Biomarkers (CIB), 3rd Annual Meeting of the Principal Investigators, Shady Grove Campus, Rockville, MD, August, 2018.

I286. Giger ML: Writing an Impactful Manuscript for Publication. SPIE Student Program: Professional Development Speaker Series, Optics & Photonics, San Diego, August 2018.

I287. Giger ML: Deciphering Breast Cancer through Computer-Aided Diagnosis, Big Data, and Machine Learning. SPIE/COS – Photonics Asia, Beijing, China, October 2018.

I288. Giger ML: Computer-Aided Diagnosis, Big Data, and Machine Learning in Deciphering Breast Cancer. 7th Chinese National Conference on Breast Imaging, Tianjin Medical University, Tianjin, China, October 2018.

I289. Giger ML: Applying Machine Learning to Multi-disciplinary Precision Medicine Data Sets. (RC553) Radiological Society of North America (RSNA) annual meeting, Chicago, IL, November 2018.

I290. Giger ML: AI in Clinical Radiology. (RC425) Radiological Society of North America (RSNA) annual meeting, Chicago, IL, November 2018.

I291. Armato S, Giger ML: Texture Characterization. Quantitative CT (QIBA), Radiological Society of North America (RSNA) annual meeting, Chicago, IL, November 2018.

I292. Giger ML: Machine Learning in Breast Cancer Diagnosis and Management, OPTIC 2018 Conference, National Chiao Tung University, Tainan, Taiwan, December 2018.

I293. Giger ML: Quantitative Radiomics and Deep Learning in Breast Cancer Diagnosis. AIP (Australian Institute of Physics) 2018 Congress with AOS/ACOFT, Perth, Australia, December 2018.

I294. Giger ML: Quantitative Radiomics and Machine Learning in Breast Cancer Image Analysis, California Institute of Technology (Caltech), Department of Medical Engineering, Pasadea, CA January 2019.

I295. Giger ML: Quantitative Radiomics and Machine Learning in Breast Cancer Image Analysis, Biophotoincs Seminar, Vanderbilt University, Nashville, TN April 2019.

I296. Giger ML: Quantitative Radiomics and Machine Learning in Breast Cancer Image Analysis – Deciphering Cancer through Imaging, Machine Learning, and Big Data. National Cancer Institute (NCI) Big Data Scientist Tranining Enhancemet Program (BD-STEP), by webinar, April 2019.

I297. Giger ML: Potential of AI Approaches, 40th International Conference on Screening for Lung Cancer (I-ELCAP) and 8th Conference on Research for Early Lung Cancer Treatment (IELCART), New York, NY, April, 2019.

I298. Giger ML: AI in Medical Imaging. Preclinical Imaging Consortium Conference, Northwestern University, April 2019.

I299. Giger ML: Entreprenership and the Academician: The Story of QuantX. American Chemical Society Great Lakes Regional Meeting, Lisle, IL, May 2019

I300. Giger ML: Feature Analysis and Quantitative Biomarkers: Creating Biomarkers. AAPM Summer School, Burlington, VT, June 2019.

I301. Giger ML: Risk Prediction. AAPM Summer School, Burlington, VT, June 2019.

I302. Giger ML: Radiomics and Machine Learning in Predicting Response from Medical Imaging. 61th Annual Meeting & Exhibition of the AAPM, San Antoniuo, TX, July 2019.

I303. Giger ML: Opportunities, Challenges, and Solutions to use Big Data Applications with Quantitative Imaging, ASTRO – American Society for Radiation Oncology, Chicago, IL, Sept 2019.

I304. Giger ML: AI/Machine Learning in Medical Physics – Radiology Imaging Focus. 2019 Samulski Lectureship, Duke University, Durham, NC, Sept 2019.

I305. Giger ML: AI in Breast Imaging, Carnegie Mellon Forum on Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA, Sept 2019.

I306. Giger ML: Building a Lab: Collaborators – Making Team Science Work. Creating and Optimizing the Research Enterprise (CORE) Workshop, RSNA, Oak Brook, IL, October 2019.

I307. Giger ML: Making AI Work for You: Infrastructure Needs. Creating and Optimizing the Research Enterprise (CORE) Workshop, RSNA, Oak Brook, IL, October 2019.

I308. Giger ML: CAD, Radiomics, and AI in Breast Imaging. 2019 Chicago International Breast Course, Chicago, IL, November 2019

I309. Giger ML: Accelerating Clincal Adoption of Machine Intelligence Applications in Medical Imaging – SPIE perspective. NIBIB Workshop, Natcher Building, NIH Campus, Bethesda, MD, November 2019.

I310. Giger ML: Bringing AI in Breast Cancer Imaging from the Bench to the Bedside. In AI in Healthcare. Keynote in From Bench to Bedside – Research Symposium on Engineering in Healthcare, Johns Hopkins University, November 2019.

I311. Giger ML: AI for Breast Ultrasound and MRI. Radiological Society of North America (RSNA) annual meeting, Chicago, IL, December 2019.

I312. Giger ML: Radiomics: Promise and Challenges – Overview of Radiomics. Radiological Society of North America (RSNA) annual meeting, Chicago, IL, December 2019.

I313. Giger ML: AI-aided Breast Cancer Diagnosis: From Lab to Product. In AI in Medical Imaging program at SPIE Photonics West, San Francisco, CA, February 2020.

I314. Giger ML: Towards Understanding Perception in the Latest Era of AI in Medical Imaging. The Annual Harold L. Kundel Honorary Lecturer/ keynote speaker for MI105 – Image Perception, Observer Performance, and Technology Assessment, SPIE Medical Imaging, Houston, TX, February 2020.

I315. Giger ML: Artificial Intelligence in Breast Imaging. The 15th International Workshop on Breast Imaging (IWBI, formerly IWDM). Leuven, Belgium (remote), May 2020.

I316. Giger ML: Artificial Intelligence in Breast Imaging and a Career in Research and Academic Radiology. Grand Rounds, Northwestern University Department of Radiology, Chicago, IL, June 2020. (remote).

I317. Giger ML: Translation of Prior AI Research in Breast Cancer Imaging to Interrogate Thoracic Imaging of COVID-19. C3.ai DTI – Colloquium on Digital Transformation Science. July 2020 (remote).

I318. Giger ML and Crosy J: Explanatory AI – Understanding Medical Imaging AI. Science Council Session Data-Driven Automation and Decision Making and Explanatory AI. AAPM July 2020 (remote).

I319. Giger ML: Radiomics & Deep Learning in Radiogenomics and Diagnostic Imaging. Session on Advances in Radiomics and Genomics in Cancer Management. AAPM July 2020. (remote).

I320. Giger: AI in Medical Imaging. Coulter Seminar in Biomedical Engineerig, Joint Department of Biomedical Engineering UNC-Chapel Hill & C State University, September 2020 (remote).

I321. Giger ML: The Changing Role of AI in Medical Imaging. Keynote at SIIM CMIMI20, September 2020 (remote).

I322. Giger ML: AI, Databases, & MIDRC. MD Anderson Division of Diagnostic Imaging DIRSS Research Seminar, MD Anderson, Texas. September 2020 (remote)

I323. Giger ML: From Data to Decisions: Applied Artificial Intelligence in Oncology. Convergence in Oncology Summit 2020. Lausanne, Switzerland, September 2020 (remote).

I324. Giger ML: Datasets and AI for COVID-19 Diagnosis and Therapsutic Response. MD Anderson Leading Edge of Cancer Research Symposium, MD Anderson, October 2020 (remote).

I325. Giger ML: Radiomics and AI in Oncology. VA Center of Excellence Artificial intelligence for Medical Imaging (AIMI), Central Virginia VA Health Care System, October 2020 (remote).

I326. Giger ML: Metrology and QA Perspective: What are the challenges and hurdles hindering the validation and regulatory approval of AI algorithms for CT screening? Prevent Cancer Foundation Quantitative Imaging Workshop XVII, Washington, DC, October 2020 (remote).

I327. Giger ML: Machine Intelligence in Medical Imaging: Breast Cancer and COVID-19. Gulf Coast Consortia on Translational Imaging: Conference on Machine Learning and AI in Imaging. Texas, November 2020 (remote).

I328. Giger ML: AI in Medical Imaging: Breast Cancer and COVID-19. AAPM Midwest Chapter Fall Virtual Meeting. November 2020 (remote).

I329. Giger ML: Medical Imaging Domain-Expertise Machine Learning for Interrogation of COVID. Frontiers in Digital Transformation Science: Inaugural C3.ai Digital Transformation Institute Annual Research Symposium. January 2021 (remote).

I330. Giger ML: Machine Intelligence in Medical Imaging: Breast Cancer and COVID-19. University of California – Davis Biomedical Engeineering Seminar. January 2021 (remote).

I331. Giger ML: Machine Learning on MRI of Breast Cancer. [In] The Promises and Dark Sides of Artificial Intelligence in NMR, MRI and Neuroscience. GIRDM University of Rome, Italy. January 2021 (remote).

I332. Giger ML: MIDRC – Rapid Response to COVID-19 Pandemic. SPIE Presentations and Conversations in Medical Imaging. February 2021 (remote).

I333. Giger ML: Navigating your Career using the Switch. SPIE Women in Optics (WiO). February 2021 (remote).

I334. Giger ML: MIDRC. North American Deep Learning Initiatives: Medical Imaging and Beyond. Grand Rounds at University of Cincinati, March 2021 (remote).

I335. Giger ML: on Panel for Intersection of Healthcare and Technology: Machine Learning in Medical Imaging, WECode Conference, Harvard, March 2021 (remote).

I336. Giger ML: Journey to AI Research in Medical Imaging of Breast Cancer and COVID-19. CSIO Chandigarh, India SPIE Student Chapter, March 2021 (remote).

I337. Giger ML: Giger Lab Research and Vision of the Future of AI in Medical Imaging. US-South Korea-Japan International Dialogue: The Future of Medical AI, March 2021 (remote).

I338. Giger ML: Radiomics and Machine Learning of Breast Cancer in Diagnosis and Therapeutic Response. In Session on Artificial Inelligence in Cancer Imaging. AACR American Association for Cancer Research Annual Meeting. April 2021 (remote).

I339. Giger ML: Machine Learning in the Medical Imaging of Breast Cancer and COVID-19. AAPM UNYAPM -- Upstate New York AAPM Chapter talk in receiving their Lifetime Achievement Award. April 2021 (remote).

I340. Giger ML: Artifical Intelligence and How it is Shaping the Future of Radiology. Radiology Interest Group. Chicago, IL, April 2021 (remote).

I341. Giger ML: AI in COVID-19 and the Role of MIDRC. Aunt Minnie.com Spring 2021 Virtual Conference – Advances in AI. April 2021 (remote).

I342. Giger ML: Data repositories and AI in medical imaging; MIDRC. At Advancing Medical Care through Discovery in the Physical Sciences. Joint DOE/NIH workshop. July 2021 (remote).

I343. Giger ML: Large scale imaging studies – AI in medical imaging of breast cancer and COVID-19. CZI Medical Imaging Workshop, July 2021 (remote).

I344. Giger ML: Extending AAPM leadership to advance data science in the age of COVID-19. Joint-Council Session on Creativity in Medical Physics, AAPM annual meeting. July 2021 (remote).

I345. Giger ML: Overview of MIDRC – and AI of COVID-19. AAPM MIDRC Symposium, AAPM annual meeting. July 2021 (remote).

I346. Giger ML: Machine intelligence in medical imaging of breast cancer and COVID-19. Frontiers of Radiology Research Seminar, University of Washington (Seattle). August 2021 (remote).

I347. Giger ML: Update on MIDRC. Luminary Talk at Society for Imaging Informatics in Medicine (SIIM)'s 6th Annual Scientific Conference on Machine Intelligence in Medical Imaging (CMIMI). September 2021 (remote).

I348. Giger ML: MIDRC in Lessons from Current Multi-Institutional Repositories. AAPM Practical Big Data Workshop. September 2021 (remote).

I349. Giger ML and Fuhrman J: Explanatory AI – Clinical Innterpretability. AAPM Practical Big Data Workshop. September 2021 (remote).

I350. Giger ML: Resources needed to advance AI/ML in cancer imaging, COVID-19, and other diseases: data collection, annotations, harmonization, metrology, and sequestered datasets. NIH/FDA Next-Generation Sequencing and Radiomics Workshop. September 2021 (remote).

I351. Giger ML: Novel techniques and strategies that aim to optimize diagnosis via imaging. NASEM Advancing Excellence in Cancer Diagnosis: A Workshop. The National Academies of Science Engineering Medicine. October 2021 (remote)

I352. Giger ML: Radiomics and machine intelligence in medical imaging of breast cancer and COVID-19. Distinguished Guest Lecture Series. The Hong Kong Polytechnic University, Department of Health Technology and Informatics. October 2021 (remote).

I353. Giger ML: Data science and medical imaging. Keynote International Society for Ultrasound in ObGyn. ISUOG 2021 Congress. October 2021 (remote).

I354. Giger ML: Starting and maintaining a research lab/core: Image analytics and Informatics/Data Science. RSNA Creating and Optimizing the Research Enterprise (CORE) Workshop, RSNA Conference Center, Oak Brook, IL October 2021.

I355. Giger ML: Artificial intelligence in medical imaging of breast cancer and COVID-19. Beijing United Family Hospital (UFH) AI Imaging Forum, Beijing, November 2021 (remote).

I356. Giger ML: AI in cancer diagnosis and COVID-19. Visiting Professor in Radiation Oncology, MD Anderson. November 2021 (remote).

I357. Giger ML: MIDRC activities and overall accomplishments. Quantitative Imaging Working Group (QIWG). ECOG-ACRIN. November 2021 (remote).

I358. Giger ML: Development and testing of breast AI (Performing critical evaluation of AI systems). AI in Breast Imaging. Radiological Society of North America (RSNA) annual meeting, Chicago, IL, November 2021.

I359. Giger ML: Building a Laboratory. In Introduction to Academic Radiology for Scientists Seminar (ITARSc). Radiological Society of North America (RSNA) annual meeting, Chicago, IL, November 2021.

I360. Giger ML: Medical imaging and data resource center: a multi-society approach to advance research on COVID-19 and other diseases. Radiological Society of North America (RSNA) annual meeting, Chicago, IL, November 2021.

I361. Giger ML: NIBIB's Medical imaging and data resource center (MIDRC) at RSNA Industry AI Stage. Radiological Society of North America (RSNA) annual meeting, Chicago, IL, November 2021.

I362. Giger ML: Digital transformation leading to AI in medical imaging. AAPM Great Lakes Chapter talk. December 2021 (remote).

I363. Giger ML: AI in breast imaging & cancer. 7th International Conference on Radiation Medicine (ICRM 2022). IAEA. February 2022 (remote).

I364. Giger ML: An academic career in medical imaging and AI. In Scientists Advancing the Forfront, University of Chicago February 2022 (remote).

I365. Giger ML: Data science & AI in medical imaging of breast cancer and COVID-19. New England Chapter of the AAPM (NEAPPM), March 2022 (remote).

I366. Giger ML: Data science & machine intelligence in medical imaging of breast cancer and COVID-19. Department of Radiology Grand Rounds, Stanford University, March 25, 2022 (remote).

I367. Giger ML: Role of a medical imaging data commons in the development of AI of COVID-19. C3.ai DTI Research Symposium, Miami, FL, March 2022.

I368. Giger ML: AI in medical imaging of breast cancer and COVID-19. WiDS – Women in Data Science Chicago Chapter. Exploring Health & Science with Data Science March 11, 2022 (remote).

I369. Giger ML: Convergence of radiology and pathology. Artificial Intelligence and Computational Pathology. American Society for Investigative Pathology (ASIP) at Experimental Biology 2022 Pennsylvania Convention Center, April 2, 2022.

I370. Giger ML: Congratulations to you all on your future life as a medical physicist. Perelman School of Medicine at University of Pennsylvania Medical Physics Graduate Programs Graduation May 13, 2022 (remote).

I371. Giger ML: Pathways for translating AI/ML for quantitative imaging into practice – examples in breast cancer and COVID-19. NCI QIN annual meeting. May 2022 (remote).

I372. Giger ML: Large-scale AI initiatives to combat diseases – the MIDRC project. SIIM annual meeting, June 2022 (remote).

I373. Giger ML: Data science & machine intelligence in medical imaging. Luminary Talk at SIIM annual meeting, June 2022 (remote).

I374. Giger ML: MIDRC: Medical imaging and data resource center, NHLBI Workshop on Artificial Intelligence in Cardiovascular imaging: Translating science to patient care. June 2022 (remote)

I375. Giger ML: Breast x-ray in 2025: acquisition strategies and artificial intelligence techniques. ECR, July 2022.

I376. Giger ML: Teaching Medical Physics to Graduate Students Along Their Path to Becoming Independent Investigators" Celebrating Medical Physics Educators: Transformative leaders in Medical Physics. AAPM Annual Meeting, Washington DC. July 2022.

I377. Giger ML: MIDRC: AAPM Leadership in Medical Imaging and Data Science" in Celebrating the Recent Accomplishments of the AAPM. AAPM Annual Meeting, Washington DC. July 2022.

I378. Giger ML: Computer-aided decision making in medical diagnosis and therapy – The need for academic domain-expert medical physicists. University of Wisconsin Emerging Leaders Symposium, Madison, WI, August 2022.

I379. Giger ML: Impact of technology on lung cancer screening: Focus on translation from idea to clinical practice. 43rd International Conference on Screening for Lung Cancer & 11th Conference on Research for Early Lung Cancer Treatment, Mount Sinai, New York, September 2022.

I380. Giger ML: Update on AI/ML in medical imaging of breast cancer and COVID-19. The 81st Annual Meeting of the Japanese Cancer Association (JCA) Symposium: Clinical application of cancer research and its application to drug discovery based on AI science. Yokohama, Japan, September 29, 2022 (remote).

I381. Giger ML: Exploring MIDRC – Open imaging data commons for AI/ML advancements. Luminary presentation. C-MIMI October 2022

I382. Giger ML: AI in medical imaging of breast cancer and COVID-19. University of Rochester, October,2022.

I383. Giger ML: AI in medical imaging. Summit on AI in Society, Stevanovich Institute on the Formation of Knowledge. University of Chicago, October 2022

I384. Giger ML: AI/ML of breast imaging in cancer diagnosis and discovery. ISMRM Workshop Cancer Imaging: From Discovery to Diagnosis, Pacific Grove, CA, November 2022.

I385. Giger ML: Update on AI in medical imaging at the University of Chicago. The Dr. Robert Gillies Machine Learning Workshop in Image Analytics, Moffitt Cancer Center, Clearwater, FL, November 14-15, 2022.

I386. Giger ML: Preparing an R01 research application. RSNA 2022. NIH Grantsmanship Workshop, Chicago, IL November 2022.

I387. Giger ML: Building a laboratory. Introduction to academic radiology for scientists seminar (ITARSc). Chicago, IL RSNA November 2022.

I388. Giger ML: Overview of MIDRC. RSNA Educational Session. Chicago, IL RSNA November 2022.

I389. Giger ML: Medical physicists and radiologists collaborating in the development of breast cancer imaging and computer-aided diagnosis. RSNA/AAPM symposium: Together We Can Make a Difference. Chicago, IL RSNA November 2022.

I390. Giger ML: Development and testing of breast AI (Performing critical evaluation of AI systems). In AI in Breast Imaging Session, Chicago, IL RSNA November 2022.

I391. Giger ML: Transforming healthcare via AI in medical imaging of breast cancer and COVID-19. SPIE Phtonics West, San Francisco, CA. January 2023.

I392. Giger ML: AI in medical imaging of breast cancer and COVID-19 (spanning MRI, radiology, & mammography). Plenary. SPIE Photonics West, San Francisco, CA. January 2023.

Other Presentations (up to 1998)

Ll. **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 l-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.

Stopped listing in 1999.

Scientific Exhibits/Posters (up to 2002)

Sl. **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. 80th Assembly and Annual Meeting of RSNA, Chicago, Illinois, November 1994.

S19. Schmidt RA, Schreibman 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.

Stopped listing in 2003.

Patents (illustrating innovation, translation, and inventorship)

PA1. Doi K, Chan H-P, **Giger ML**: Method and system for enhancement and detection of abnormal anatomic regions in a digital image. U. S. Pat. No. 4907156, March 6, 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 21, 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 22, 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 16, 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 10, 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. 5,974,165, October 26, 1999.

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 3, 1998.

PA8. Bick U, **Giger ML**: Automated method and system for the segmentation of medical images. U. S. Pat. No. 5,452,367, September 19, 1995.

PA9. **Giger ML**, Doi K: Method and system for the computerized radiographic analysis of bone. U. S. Pat. No. 5,931,780, August, 3 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 9, 1999.

PA11. Bick U, **Giger ML**: Method and system for the detection of lesions in medical images. U.S. Pat. 6,185,320, February 6, 2001.

PA12. **Giger ML**, Zhang M, Lu P: Method and system for the detection of masses and parenchymal distortions in mammograms. U.S. Pat. No. 5,657,362, August 12, 1997.

PA13. Kupinski MA, **Giger ML**: Method and system for the segmentation and classification of lesions. 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, computer program product, and system for the automated analysis of lesions in magnetic resonance, mammogram and ultrasound images. U.S. Pat. 6,317,617, November 13, 2001.

PA17. Armato SA, **Giger ML**, Bick U: Methods and system for the segmentation of lung regions in lateral chest radiographs. U.S. Pat. 6,335,980, January 1, 2002.

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.

PA19. Armato SA, **Giger ML**, MacMahon H: Detecting costophrenic angles in chest radiographs. U.S. Pat. 6,483,934, November 19, 2002.

PA20. Jiang C, Chinander M, **Giger ML**: Method and system for the computerized analysis of bone mass. U.S. Pat. 6,442,287, August 27, 2002.

PA21. Gilhuijs K, **Giger ML**, Bick U: Method and system for the assessment of tumor extent. U.S. Pat. 6,112,112, August 29, 2000.

PA22. 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. 6,724,925, April 20, 2004.

PA23. Armato SG, MacMahon H, **Giger ML**: Automated method and system for the segmentation of lung regions in computed tomography scans. U.S. Pat. Pending, 09/760,854.

PA24. Armato SG, **Giger ML**, MacMahon H: Method, system and computer readable medium for the two-dimensional and three-dimensional detection of lesions in computed tomography scans. U.S. Pat. 6,898,303, May 24, 2005.

PA25. **Giger ML**, Vyborny CJ, Huo Z, Lan L: Method, system and computer readable medium for an intelligent search workstation for computer assisted interpretation of medical images. U.S. Pat. 6,901,156, May 31, 2005.

PA26. **Giger ML**, Vyborny CJ, Huo Z, Lan L: Method, system and computer readable medium for an intelligent search workstation for computer assisted interpretation of medical images. U.S. Pat. 7,184,582, February 27, 2007.

PA27. Drukker K, **Giger ML**, Horsch K, Vyborny CJ: Automated method and system for the detection of abnormalities in sonographic images. U.S. Pat. 6,855,114, February 15, 2005.

PA28. **Giger ML**, Chinander MR, Vokes T, Favus M: Automated method, system and computer program product for the diagnosis of bone disease on radiographic images. U.S. Pat. Pending 20030133601, July 17, 2003.

PA29. Drukker K, **Giger ML**: Computerized method and system for detecting and/or diagnosing lesions on ultrasound images using analysis of lesion shadows. U.S. Pat. Pending 20030161513, August 28, 2003.

PA30. **Giger ML**, Huo Z, Vyborny CJ: Automated method and system for risk-modulated computer-aided diagnosis. U.S. Pat. 7,123,762, October 17, 2006.

PA31. **Giger ML**, Wen HH, Lan L: Method, media, and system for feature-based correlation for lesions from multiple images. U.S. Pat. 7,298,881, November 20, 2007.

PA32. **Giger ML**, Bonta D: Automated method and system for advanced non-parametric classification of medical images and lesions. U.S. Pat. 7,298,883, November 20, 2007.

PA33. **Giger ML**, Bonta I, Nishikawa RM, Heimann R, Vyborny CJ: Automated method and system for computer-aided prognosis. U.S. Pat. 7,418,123, August 26, 2008.

PA34. Pan X, Zou Y, Yu L, Kao C-M, King M, **Giger ML**, Xia D, Halpern H, Pelizzari C, Sidky E, Cho S: Imaging system performing substantially exact reconstruction and using non-traditional trajectories. U.S. Patent 7,444,011, October 28, 2008.

PA35. Horsch K, **Giger ML,** Metz CE, Vyborny CJ, Lan L: Method, system, and medium for prevalence-based computerized analysis of medical images and information. U.S. Patent 7,769,215. August 3, 2010.

PA36. **Giger ML**, Li H: Method and system for fractal-based analysis of medical image texture. U.S. Patent 7,848,558, December 7, 2010.

PA37. Chen W, **Giger ML**, Newstead G: Method, system, and software product for automated identification of temporal pattern with high initial enhancement in dynamic magnetic resonance breast imaging. U.S. Patent 7,983,732 B2, July 19, 2011.

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Conflict of Interest (COI) Statement:

M.L.G. (a) is a stockholder in R2/Hologic, (b) was co-founder, equity holder, Board Member, officer, & scientific advisor in Quantitative Insights (whose product QuantX was cleared by FDA in 2017), which is now Qlarity Imaging, for which MLG serves as an advisor/consultant, (c) is a shareholder in Qview, and (d) receives royalties from Hologic, GE Medical Systems, MEDIAN Technologies, Riverain Medical, Mitsubishi, and Toshiba through the Polsky Center for Innovation and Entrepeneurship. It is the University of Chicago Conflict of Interest Policy that investigators disclose publicly actual or potential significant financial interest that would reasonably appear to be directly and significantly affected by the research activities.