

Curriculum Vitae

Yulei Jiang, Ph.D.

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Education:

B.S.	1986	Physics, Beijing University, Beijing, China
M.S.	1990	Physics, Bowling Green State University, Bowling Green, OH
Ph.D.	1997	Medical Physics, The University of Chicago, Chicago, IL

Professional Experience:

1986-1988	Research Associate in Physics, Beijing University
1990-1997	Graduate Research Assistant in Radiology, The University of Chicago
1997-1999	Instructor of Radiology, The University of Chicago
1997-1999	Instructor, Graduate Program on Medical Physics, The University of Chicago
1999-2006	Assistant Professor of Radiology, The University of Chicago
1997-2003	Assistant Professor, Graduate Program on Medical Physics, The University of Chicago
2003-2006	Assistant Professor, Committee on Medical Physics, The University of Chicago
2001-present	Member, The University of Chicago Comprehensive Cancer Research Center
2006-present	Associate Professor (with tenure) of Radiology, The University of Chicago
2006-present	Associate Professor, Committee on Medical Physics, The University of Chicago
2013-present	Section Chief, Section of Imaging Science, Analysis, Department of Radiology, The University of Chicago

Professional Associations:

American Association of Physicists in Medicine (AAPM)
The Society of Photo-Optical Instrumentation Engineering (SPIE)
Medical Image Perception Society (MIPS)
The American Association for the Advancement of Science (AAAS)

Awards and Honors:

- 1989 Bowling Green State University Overman Hall Award
- 1990-1991 University of Chicago Biological Sciences Division Graduate Fellowship
- 1994 Region 4 finalist, Whitaker Foundation Student Paper Competition, the 16th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Baltimore, MD.
(**Jiang Y**, Nishikawa RM, Wolverton DE, Giger ML, Doi K, Schmidt RA, Vyborny CJ. Mammographic feature analysis of clustered microcalcifications for classification of breast cancer and benign breast diseases.)
- 1997 Certificate of Merit Award, Scientific Exhibit, the 83rd Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL.
(Schmidt RA, Nishikawa RM, **Jiang Y**, Metz CE, Wolverton DE, Doi K. Can computers help radiologists decide who needs a breast biopsy?)
- 1998 Cum Laude Award, Scientific Exhibit, the 84th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL.
(**Jiang Y**, Nishikawa RM, Giger ML, Huo Z, Schmidt RA, Wolverton DE, et al. Computer-aided diagnosis (CAD) of breast lesions: An interactive demonstration.)
- 1999 Herbert M. Stauffer Award for Outstanding Paper in *Academic Radiology* 1999, the Best Basic Science Paper
(**Jiang Y**, Nishikawa RM, Schmidt RA, Metz CE, Giger ML, Doi K. Improving breast cancer diagnosis with computer-aided diagnosis. *Academic Radiology* 6:22-33, 1999.)
- 2000 Cum Laude Award, Scientific Exhibit, the 86th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL.
(Nishikawa RM, Giger ML, **Jiang Y**, Huo Z, Vyborny CJ, Jokich PM, et al. Implementation of computer-aided diagnosis (CAD) into the clinical mammography work flow.)
- 2001 Kurt Rossmann Award for Teaching Excellence, Graduate Program in Medical Physics, The University of Chicago.
- 2001 Certificate of Merit Award, Scientific Exhibit, the 87th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL.
(Giger ML, Nishikawa RM, Huo Z, **Jiang Y**, Horsch KJ, Hendrick RE, et al. Multi-modality workstation for computer-aided diagnosis (CAD) in breast imaging.)
- 2002 Excellence in Design Award, Educational Exhibit, the 88th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL.
(**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.)

- 2004 Certificate of Merit Award, InfoRad Exhibit, the 90th Scientific Assembly and Annual Meeting of the Radiological Society of North America, Chicago, IL. (Giger ML, Nishikawa RM, **Jiang Y**, Newstead GM, Schmidt RA, Metz CE, et al. Integration of multi-modality breast CAD into the clinical workflow.)
- 2015 The Academy of Radiology Research Distinguished Investigator Award

Research Grants:

Past:

1. NIH/NCI. **Jiang Y** PI, 30% effort. *LP-and ANN-based classifiers for breast cancer diagnosis*; subcontract to Technology/Engineering Management, Inc. 7/1/98-6/30/99. Total subcontract costs: \$19,799.
2. Cancer Research Foundation of America. **Jiang Y** PI, 15% effort. *A computer technique for improving the early detection of breast cancer*. 1/15/99-1/12/02. Total direct costs: \$32,000.
3. Illinois Department of Public Health. **Jiang Y** PI, 10% effort. *Development of a new computer technique for classification of breast lesions*. 7/1/99-6/30/02. Total direct costs: \$187,300.
4. American Cancer Society Institutional Award. **Jiang Y** PI, 0% effort. *Assessing prostate cancer progression with artificial neural network-based predictive models*. 12/1/01-11/30/02. Total direct costs: \$20,000.
5. US Army DAMD17-00-1-0197. **Jiang Y** PI, 50% effort. *Computer-aided diagnosis of digital mammograms*. 6/1/00-5/30/04. Total costs: \$235,938.
6. NIH 1R21 CA93989. **Jiang Y** PI, 9% effort. *Estimating neural network precision for cancer diagnosis*. 12/1/01-11/30/03. Total costs: \$367,993.
7. NIH 1R21 CA97308. **Jiang Y** PI, 6% effort. *Neural network prediction of prostate cancer progression*. 7/1/02-6/30/04. Total costs: \$292,295.
8. NIH 1R01 CA092361. **Jiang Y** PI, 10% effort. *Computer-aided diagnosis of breast lesions in mammograms*. 4/1/02-3/31/07. Total costs: \$1,521,385.
9. NIH 2R56 CA092361-06A1. **Jiang Y** PI, 50% effort. *Computer-aided diagnosis of breast lesions in mammograms*. 7/11/08-6/30/09. Total costs: \$302,891.
10. Illinois Department of Public Health. **Jiang Y** PI, 4% effort. *Demonstration of measuring ROC performance of routine clinical breast imaging*. 7/1/08-6/30/09. Total direct costs: \$50,000.
11. NIH 1R21 EB006466. **Jiang Y** PI, 33% effort. *Computer-aided Analysis of Histopathology Images of Prostate Cancer*. 6/15/07-5/31/10. Total costs: \$433,928.
12. DOD W81XWH-10-1-0570. Oto A, **Jiang Y**, Giger ML, co-PIs, 15% effort. *Computer aided diagnosis of prostate cancer with multi-parametric MR imaging*. 08/01/10-07/31/12. Total costs: \$702,000.

13. NIH 2R01 CA092361-06A2. **Jiang Y** PI, 25% effort. *Computer-aided diagnosis of breast lesions in mammograms*. 7/1/09-5/31/15. Total costs: \$1,566,750.
14. QView Medical, Inc. **Jiang Y** PI, 15% effort. *QView ROC Reader Observer Study*. 1/1/14-12/31/16. Total costs: \$279,000.
15. NIH 1R21CA181885-01. Pu Y, **Jiang Y**, co-PIs, 12% effort. *Developing a PET volumetric staging system for NSCLC: a complement to TNM staging*. 09/22/14-08/31/17. Total costs: \$390,282.

Current:

1. Delphinus Medical Technologies. **Jiang Y**, Giger ML, co-PIs, 2.5% effort. *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*. 8/13/15-8/12/20. Total costs: \$350,000.

Pending:

National and International Professional Activities:

Membership on National Advisory Boards:

2003-2005	Susan G. Komen Breast Cancer Foundation Research Grants Study Section Leader and Programmatic Review Panel
2004-2005	Susan G. Komen Breast Cancer Foundation Research Program Task Force
2004-2008	American College of Radiology Imaging Network (ACRIN) National Lung Screening Trial (NLST) Computer-Aided Diagnosis (CAD) Committee
2004-2009	US Food and Drug Administration (FDA) Center for Devices and Radiological Health (CDRH) Radiological Devices Panel, temporary voting member
2008-present	American Association of Medical Physicists (AAPM) Computer-aided Diagnosis Subcommittee (CADSC)
2010-present	US Food and Drug Administration (FDA) Center for Devices and Radiological Health (CDRH) Radiological Devices Panel, voting member

Grant Reviewer:

1999-present	Susan G. Komen Breast Cancer Foundation
2001-2002	National Institutes of Health (NIH) special study section
2002-present	US Army Medical Research and Materiel Command Breast Cancer Research Program
2003	Canadian Breast Cancer Foundation, Alberta/NWT Chapter
2004	National Cancer Institute (NCI) Program Project (P01) Study Section

2005	Nanotechnology Institute (Ben Franklin Technology Partners of Southeastern Pennsylvania)
2007	NIH BMIT study section, <i>ad hoc</i> reviewer
2008-2011	NIH Academic-Industry Partnership study section

Leadership Role in Scientific Conferences:

2001	Program Committee, Medical Image Perception Conference IX (MIPS)
2001	Workshop Chair, Medical Image Perception Conference IX (MIPS) Workshop on Computer-Aided Diagnosis
2001-2004	Program Committee, SPIE International Symposium on Medical Imaging Image Perception, Observer Performance, and Technology Assessment Conference
2004-2007	Co-Chair, SPIE International Symposium on Medical Imaging Image Perception, Observer Performance, and Technology Assessment Conference
2006-present	Program Committee, Computer Assistant Radiology and Surgery (CARS)
2007-2010	Physics Subcommittee, Scientific Program Committee (SPC), Radiological Society of North America (RSNA)
2015-present	Physics Subcommittee, Scientific Program Committee (SPC), Radiological Society of North America (RSNA)

Scientific Conference Session Chair/Moderator:

American Association of Physicists in Medicine (AAPM)
 Engineering in Medicine and Biology (EMBS)
 International Congress and Exhibition of Computer Assisted Radiology and Surgery (CARS)
 Medical Image Perception Conference (MIPS)
 Scientific Assembly and Annual Meeting of the Radiological Society of North America (RSNA)
 SPIE International Symposium on Medical Imaging Image Perception, Observer Performance, and Technology Assessment Conference

Scientific Conference Abstract Reviewer:

American Association of Physicists in Medicine (AAPM)
 Computer Assistant Radiology and Surgery (CARS)
 Engineering in Medicine and Biology (EMBS)
 International Joint Conference on Neural Networks (IJCNN)
 Radiological Society of North America (RSNA)
 SPIE International Symposium on Medical Imaging Image Perception, Observer Performance, and Technology Assessment Conference

Manuscript Reviewer:

Academic Radiology
 BMC (BioMed Central) Medical Imaging
 British Journal of Cancer

Clinical Breast Cancer

IEEE Transactions on Biomedical Engineering
 IEEE Transactions on Information Technology in BioMedicine
 IEEE Transactions on Medical Imaging
 IEEE Transactions on Nuclear Science
 International Journal of Pattern Recognition and Artificial Intelligence
 International Journal of Computer Assisted Radiology and Surgery
 Journal of Applied Clinical Medical Physics
 Journal of Digital Imaging
 Journal of Electronic Imaging
 Medical & Biological Engineering & Computing
 Medical Decision Making
 Medical Image Analysis
 Medical Physics (Guest Associate Editor)
 Physics in Medicine & Biology
 Radiology

Other International Activities:

2005-2009 Faculty member, Faculty of 1000 Medicine, Methods for Diagnostic and Therapeutic Studies Section

Teaching Activities:

1988-1990 Teaching Assistant
 Undergraduate physics laboratories
 Bowling Green State University

 1992, 1993 Teaching Assistant
 Two Medical Physics graduate courses
 The University of Chicago

 1997-2012 Course director
 Practicum in Medical Imaging I (Medical Physics 34200)
 The University of Chicago

 1998 Lecturer
 Physics of Mammography (Radiology 39100)
 The University of Chicago

 2013-present Course director
 Medical Imaging I (Medical Physics 38600)
 The University of Chicago

 1998-present Member, Curriculum Committee
 Committee on Medical Physics
 The University of Chicago

 2006-present Member, Library Committee
 Committee on Medical Physics
 The University of Chicago

- 2005-present Member, Library Committee
 Department of Radiology
 The University of Chicago
- 2006-2009 Cluster Group Leader
 Summer Research Program
 The Pritzker School of Medicine

Students/Trainees Supervised:

- 2000 Irfan Moinuddin
 Medical student (The University of Illinois at Chicago)
 Summer research on computer-aided diagnosis of breast lesions
- 2001-2003 Xiao Han
 College student (The University of Chicago)
 Research on prostate cancer
- 2001-2003 Sophie Paquerault, Ph.D.
 Research Associate
 Research on using BI-RADS for computer-aided diagnosis of breast lesions
 Currently FDA scientist
- 2002 Vicky Chen
 Medical student (The University of Chicago)
 Summer research on computer-aided diagnosis of benign breast lesions
 Currently radiology resident, the University of Chicago
- 2002-2003 Irene Hong
 College student (The University of Chicago)
 Research on mammogram database collection for computer-aided diagnosis
- 2002 Paul Hong
 College student (Northwestern University)
 Summer research on mammograms database for computer-aided diagnosis
- 2002 Fengmei Liu, MS,
 Computer scientist
 Support for research on artificial neural networks
 Currently computer scientist, Department of Medicine, University of Chicago
- 2002-2010 Richard Zur
 Graduate research assistant (Medical Physics)
 Dissertation research on classifier design for computer-aided diagnosis
 (Primary advisor)
- 2002-2010 Yahui Peng
 Graduate research assistant (Medical Physics)
 Dissertation research on prostate cancer
 (Primary advisor)
- 2002-2006 Bei Liu, Ph.D.
 Research Associate
 Research on theoretical modeling of methods for computer-aided diagnosis
- 2003 Rich Rana
 Medical student (The University of Chicago)
 Summer research on computer-aided diagnosis of digital mammograms

2003	Nicole R. Lunning College student (The University of Chicago) Summer research on digital mammograms
2003-2005	Emma Littleton Junior Research Technician Support for research on computer-aided diagnosis
2004	Khadijeh Kadivar Medical student (The University of Chicago) Summer research on computer-aided diagnosis of digital mammograms of benign breast lesions
2004	Meena Anand College student (Princeton University) Summer research on computer-aided diagnosis of digital mammograms of benign breast lesions
2004	Philip Smithback College student (The University of Chicago) Summer research on observer inattention in a detection task
2005	Daniel Gingold College student (The University of Chicago) Summer research on digital mammography database
2005	Brian Klein College student (The University of Chicago) Summer research on observer inattention in a detection task
2006	Kevin Miklasz College graduate (The University of Chicago) Summer research on digital mammography computer-aided diagnosis
2008	Mark Healy Medical student (The University of Chicago) Summer research on computer-aided analysis of histology images of the prostate
2009, 2010	Charlie Giger College student Summer research on prostate cancer histology image analysis
2010-2013	Yahui Peng, Ph.D. Post-doctoral Scholar Research on prostate MR image analysis, histology image analysis
2011-2012	Jianing Wang Illinois Institute of Technology Graduate student Research on computer-aided diagnosis (CAD)
2013-2014	Santosh Katwal, Ph.D. Post-doctoral Scholar Research on digital mammography computer-aided diagnosis
2013	Albert Yao High school student Summer research on prostate cancer image analysis

2014 Jared St John
 College graduate
 Summer research on image filter analysis

Original Peer-Reviewed Articles:

1. Ema T, Doi K, Nishikawa RM, **Jiang Y**, Papaioannou J. Image feature analysis and computer-aided diagnosis in mammography: reduction of false-positive clustered microcalcifications using local edge-gradient analysis. *Medical Physics* 22:161-169, 1995.
2. **Jiang Y**, Nishikawa RM, Wolverton DE, Metz CE, Giger ML, Schmidt RA, Vyborny CJ, Doi K. Malignant and benign clustered microcalcifications: Automated feature analysis and classification. *Radiology* 198:671-678, 1996.
3. **Jiang Y**, Metz CE, Nishikawa RM. A receiver operating characteristic partial area index for highly sensitive diagnostic tests. *Radiology* 201:745-750, 1996.
4. **Jiang Y**, Nishikawa RM, Schmidt RA, Metz CE, Giger ML, Doi K. Improving breast cancer diagnosis with computer-aided diagnosis. *Academic Radiology* 6:22-33, 1999.
5. Doi K, MacMahon H, Katsuragawa S, Nishikawa RM, **Jiang Y**. Computer-aided diagnosis in radiology: potential and pitfalls. *European Journal of Radiology* 31:97-109, 1999.
6. Beiden SV, Wagner RF, Campbell G, Metz CE, **Jiang Y**. Components-of-variance models for random-effects ROC analysis: The case of unequal variance structures across modalities. *Academic Radiology* 8:605-615, 2001.
7. **Jiang Y**, Nishikawa RM, Schmidt RA, Toledano AY, Doi K. The potential of computer-aided diagnosis (CAD) to reduce variability in radiologists' interpretation of mammograms. *Radiology* 220:787-794, 2001.
8. **Jiang Y**, Nishikawa RM, Papaioannou J. Dependence of computer classification of clustered microcalcifications as malignant or benign on the correct detection of microcalcifications. *Medical Physics* 28:1949-1957, 2001.
9. **Jiang Y**. Computer-aided diagnosis of breast cancer in mammography: evidence and potential. *Technology in Cancer Research and Treatment* 1:211-216, 2002.
10. Kong J, Li XJ, Gavin D, **Jiang Y**, Li YC. Targeted expression of human vitamin D receptor in the skin promotes the initiation of the postnatal hair follicle cycle and rescues the alopecia in vitamin D receptor null mice. *Journal of Investigative Dermatology* 118:631-638, 2002.
11. Salfity MF, Nishikawa RM, **Jiang Y**, Papaioannou J. The use of *a priori* information to improve the detection of microcalcifications on mammograms. *Medical Physics* 30:823-831, 2003.
12. **Jiang Y**. Uncertainty in the output of artificial neural networks. *IEEE Transactions on Medical Imaging* 22:913-921, 2003.

13. Liu B, Metz CE, **Jiang Y**. An ROC comparison of four methods of combining information from multiple images of the same patient. *Medical Physics* 31:2552-2563, 2004.
14. Paquerault S, Yarusso LM, Papaioannou J, **Jiang Y**, Nishikawa RM. Radial gradient-based segmentation of mammographic microcalcifications: observer evaluation and effect on CAD performance. *Medical Physics* 31:2648-2657, 2004.
15. Wei L, Yang Y, Nishikawa RM, **Jiang Y**. A study on several machine-learning methods for classification of malignant and benign clustered microcalcifications. *IEEE Transactions on Medical Imaging* 24:371-380, 2005.
16. Liu B, Metz CE, **Jiang Y**. Effect of correlation on combining diagnostic information from two images of the same patient. *Medical Physics* 32:3329-3338, 2005.
17. **Jiang Y**, Metz CE, Nishikawa RM, Schmidt RA. Comparison of independent double readings and computer-aided diagnosis (CAD) for the diagnosis of breast calcifications. *Academic Radiology* 13:84-94, 2006. Erratum in *Academic Radiology* 13:534-535, 2006.
18. **Jiang Y**, Metz CE. A quadratic model for combining quantitative diagnostic assessments from radiologist and computer in computer-aided diagnosis (CAD). *Academic Radiology* 13:140-151, 2006. Erratum in *Academic Radiology* 13:534, 2006.
19. Rana RS, **Jiang Y**, Schmidt RA, Nishikawa RM, Liu B. Independent evaluation of computer classification of malignant and benign calcifications in full-field digital mammograms. *Academic Radiology* 14:363-370, 2007.
20. **Jiang Y**, Miglioretti DL, Metz CE, Schmidt RA. Breast cancer detection rate: designing imaging trials to demonstrate improvements. *Radiology* 243:360-367, 2007.
21. Krupinski EA, **Jiang Y**. Evaluation of medical imaging systems. *Medical Physics* 35:645-659, 2008.
22. Peng Y, **Jiang Y**, Chuang S, Yang XJ. Computer-aided detection of prostate cancer on tissue sections. *Applied Immunohistochemistry and Molecular Morphology* 17:442-450, 2009.
23. Zur RM, **Jiang Y**, Pesce LL, Drukker K. Noise injection for training artificial neural networks: a comparison with weight decay and early stopping. *Medical Physics* 36:4810-4818, 2009.
24. **Jiang Y**, Metz CE. BI-RADS data should not be used to estimate ROC curves. *Radiology* 256:29-31, 2010.
25. Zur RM, Pesce LL, **Jiang Y**. The effect of two priors on Bayesian estimation of "proper" binormal ROC curves from common and degenerate datasets. *Academic Radiology* 17:969-979, 2010.
26. Oto A, Kayhan A, **Jiang Y**, Tretiakova M, Yang C, Antic T, Dahi F, Shalhav A, Karczmar G, Stadler WM. Prostate cancer: Differentiation of central gland prostate cancer from benign prostatic hyperplasia by using diffusion-weighted and dynamic contrast-enhanced MR imaging. *Radiology* 257:715-723, 2010.

27. Peng Y, **Jiang Y**, Eisengart L, Healy MA, Straus FH, Yang XJ. Computer-aided identification of prostatic adenocarcinoma: Segmentation of glandular structures. *Journal of Pathology Informatics* 2:33, 2011.
28. Horsch K, Pesce LL, Giger ML, Metz CE, **Jiang Y**. A scaling transformation for classifier output based on likelihood ratio: applications to a CAD workstation for diagnosis of breast cancer. *Medical Physics* 39:2787-2804, 2012.
29. Liu B, **Jiang Y**. A multi-target training method for artificial neural network with application to computer-aided diagnosis. *Medical Physics* 40:011908, 2013.
30. Schmid-Tannwald C, **Jiang Y**, Dahi F, Rist C, Sethi I, Oto A. Diffusion-weighted MR imaging of focal liver lesions in the left and right lobes: Is there a difference in ADC values? *Academic Radiology* 20:440-445, 2013.
31. Peng Y, **Jiang Y**, Yang C, Bancroft Brown J, Antic T, Sethi I, Schmid-Tannwald C, Giger ML, Eggener SE, Oto A. Quantitative analysis of multi-parametric prostate MR images: differentiation between prostate cancer and normal tissue and correlation with Gleason score—A computer-aided diagnosis development study. *Radiology* 267:787-796, 2013.
32. Soylu FN, Peng Y, **Jiang Y**, Wang S, Schmid-Tannwald C, Sethi I, Eggener S, Antic T, Oto A. Seminal vesicle invasion in prostate cancer: Evaluation by using multiparametric endorectal MR imaging. *Radiology* 267:797-806, 2013.
33. **Jiang Y**. On the shape of the population ROC curve. *Academic Radiology* 20:897-907, 2013.
34. Petrick N, Sahiner B, Armato, SG III, Bert A, Correale L, Delsanto S, Freedman MT, Fryd D, Gur D, Hadjiiski L, Huo Z, **Jiang Y**, Morra L, Paquerault S, Raykar V, Salganicoff M, Samuelson F, Summers RM, Tourassi G, Yoshida H, Zheng B, Zhou C, Chan HP. Evaluation of computer-aided detection and diagnosis systems. *Medical Physics* 40:087001, 2013.
35. Abe H, Schacht D, Kulkarni K, Shimauchi A, Yamaguchi K, Sennett CA, **Jiang Y**. Accuracy of axillary lymph node staging in breast cancer patients: An observer-performance study comparison of MRI and ultrasound. *Academic Radiology* 20(11):1399-1404, 2013.
36. Karademir I, Shen D, Peng Y, Liao S, **Jiang Y**, Yousuf A, Karczmar G, Sammet S, Wang S, Medved, M, Antic T, Eggener S, Oto A. Prostate volumes derived from MRI and volume-adjusted serum prostate-specific antigen: Correlation with Gleason score of prostate cancer. *AJR* 201(5):1041-1048, 2013.
37. Wang S, Peng Y, Medved M, Yousuf AN, Ivancevic MK, Karademir I, **Jiang Y**, Antic T, Sammet S, Oto A, Karczmar GS. Hybrid multidimensional T₂ and diffusion-weighted MRI for prostate cancer detection. *Journal of Magnetic Resonance Imaging* 39:781-788, 2014.
38. Hansford BG, Peng Y, **Jiang Y**, Al-Ahmadie H, Eggener S, Yousuf A, Oto A. Revisiting the central gland anatomy via MRI: Does the central gland extend below the level of verumontanum? *JMRI* 39:167-171, 2014.

39. Peng Y, **Jiang Y**, Antic T, Giger ML, Eggener SE, Oto A. Validation of quantitative analysis of multiparametric prostate MR images for prostate cancer detection and aggressiveness assessment: A cross-imager study. *Radiology* 271:461-471, 2014.
40. Peng Y, **Jiang Y**, Antic T, Sethi I, Schmid-Tannwald C, Eggener SE, Oto A. Apparent diffusion coefficient for prostate cancer imaging: Impact of B values. *AJR* 202(3):W247-253, 2014.
41. Schmid-Tannwald C, Dahi F, **Jiang Y**, Ivancevic MK, Rist C, Sethi I, Oommen J, Oto, A. DW-MRI of liver lesions: Can a single ADC-value represent the entire lesion? *Clinical Radiology* 69:492-498, 2014.
42. Liarski VM, Kaverina N, Chang A, Brandt D, Yanez D, Talasnik L, Carlesso G, Herbst R, Utset TO, Labno C, Peng Y, **Jiang Y**, Giger ML, Clark MR. Cell distance mapping identifies functional T follicular helper cells in inflamed human renal tissue. *Science Translation Medicine* 6(230):230-246, 2014.
43. Hansford BG, Peng Y, **Jiang Y**, Thomas S, Antic T, Karczmar G, Oto A. Dynamic contrast-enhanced MR imaging features of the normal central zone of the prostate. *Academic Radiology* 21(5):569-577, 2014.
44. Zhang H, Wroblewski K, **Jiang Y**, Penney BC, Appelbaum D, Simon CA, Salgia R, Pu Y. A New PET/CT volumetric prognostic index for non-small cell lung cancer. *Lung Cancer* 89:43-49, 2015.
45. Zur RM, Pesce LL, **Jiang Y**. Estimating screening-mammography receiver operating characteristic (ROC) curves from stratified random samples of screening mammograms: a simulation study. *Academic Radiology* 22:580-590, 2015.
46. Hansford BG, Peng Y, **Jiang Y**, Vannier MW, Antic T, Thomas S, McCann S, Oto A. Dynamic contrast enhanced MR imaging curve-type analysis: Is it helpful in the differentiation of prostate cancer from healthy peripheral zone? *Radiology* 275:448-457, 2015.
47. Sadinski M, Medved M, Karademir I, Wang S, Peng Y, **Jiang Y**, Sammet S, Karczmar G, Oto A. Short-term reproducibility of apparent diffusion coefficient estimated from diffusion weighted MRI of the prostate. *Abdominal Imaging* 40:2523-2528, 2015.
48. Obara P, Liu H, Wroblewski K, Zhang CP, Hou P, **Jiang Y**, Chen P, Pu Y. Quantification of metabolic tumor activity and burden in patients with non-small-cell lung cancer: Is manual adjustment of semiautomatic gradient-based measurements necessary? *Nuclear Medicine Communications* 36:782-789, 2015.
49. Peng Y, Shen D, Liao S, Turkbey B, Rais-Bahrami S, Wood B, Karademir I, Antic T, Yousef A, **Jiang Y**, Pinto PA, Choyke PL and Oto A. MRI-based prostate volume-adjusted prostate-specific antigen in the diagnosis of prostate cancer. *Journal of Magnetic Resonance Imaging* 2015.
50. Liu H, Chen P, Wroblewski K, Hou P, Zhang CP, **Jiang Y**, Pu Y. Consistency of metabolic tumor volume of non-small-cell lung cancer primary tumor measured using 18F-FDG PET/CT at two different tracer uptake times. *Nuclear Medicine Communications* 37:50-56, 2016.

51. Shang H, **Jiang Y**, Li F, MacMahon H, Wang J. ROC curve for extremely subtle lung nodules on chest radiographs confirmed by CT scan. *Academic Radiology* 23:297-303, 2016.
52. McCann SM, **Jiang Y**, Fan X, Wang J, Antic T, Prior F, VanderWeele D, Oto A. Quantitative multiparametric MRI features and PTEN expression of peripheral zone prostate cancer: A pilot study. *AJR* 206:559-565, 2016.
53. Giger ML, Inciardi M, Edwards A, Papaioannou J, Drukker K, **Jiang Y**, Brem R, Bancroft Brown, J. Automated breast ultrasound in breast cancer screening of women with dense breasts: Reader study on mammography-negative and mammography-positive cancers. *AJR* 206:1-10, 2016.
54. Sadinski M, Karczmar G, Peng Y, Wang S, **Jiang Y**, Medved M, Yousuf A, Antic T, Oto A. Pilot study of the use of hybrid multidimensional T₂-weighted imaging-DWI for the diagnosis of prostate cancer and evaluation of Gleason score. *AJR* 207: 592-598, 2016.
55. Abe H, Mori N, Tsuchiya K, Schacht DV, Pineda FD, **Jiang Y**, Karczmar GS. Kinetic analysis of benign and malignant breast lesions with ultrafast dynamic contrast-enhanced MRI: Comparison with standard kinetic assessment. *AJR* 207:1159-1166, 2016
56. Ko K, Wang J, Perper S, **Jiang Y**, Yanez D, Kaverina N, Ai J, Liarski VM, Chang A, Peng Y, Lan L, Westmoreland S, Olson L, Giger ML, Chun Wang L, Clark MR. Bcl-2 as a therapeutic target in human tubulointerstitial inflammation. *Arthritis Rheumatol.* 68:2740-2751, 2016.
57. **Jiang Y**, Inciardi MF, Edwards AV, Papaioannou J. Interpretation time using a concurrent-read computer-aided detection system for automated breast ultrasound in breast cancer screening of women with dense breast tissue. *AJR* 211:452-461, 2018.

Manuscripts Accepted or In Press:

Manuscripts Submitted or Under Review:

1. MacMahon H, Li F, **Jiang Y**, Armato SG. Accuracy of the Vancouver lung cancer risk prediction model compared with radiologists. *Journal of Thoracic Oncology* (Provisionally accepted 2018 but pending additional review).

Letters to the Editor:

1. **Jiang Y**, Nishikawa RM, Wolverton DE, Schmidt RA, Vyborny CJ. Letter to the editor, Re: *Radiology* 198:671-678, 1996. *Radiology* 201:581-582, 1996.
2. **Jiang Y**, Miglioretti DL, Metz CE, Schmidt RA. Letter to the editor: Author Response to Dr. Ciatto, Re: *Radiology* 243:360-367, 2007. *Radiology* published online <http://radiology.rsna.org/cgi/eletters/243/2/360> June 2007.
3. **Jiang Y**, Miglioretti DL, Metz CE, Schmidt RA. Letter to the editor: Author Response to Dr. Kopans, Re: *Radiology* 243:360-367, 2007. *Radiology* 246:645-646, 2008.
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Invited Presentations:

1. **Jiang Y**. Computer-aided diagnosis of breast lesions. Presented at the *Illinois Institute of Technology Electrical and Computer Engineering Department Seminar*, Chicago, IL, 1999.
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3. **Jiang Y**. Computer-aided diagnosis of breast cancer: Evidence and potentials. Presented at the *International Conference on Technology in Cancer Research and Treatment in the New Millennium*, Albany, NY, 2001.
4. **Jiang Y**. An overview of computer-aided diagnosis of clustered microcalcifications in mammograms. Presented at the *University of Chicago Department of Medicine Section of Hematology/Oncology Research Conference*, Chicago, IL, 2001.
5. **Jiang Y**. Computer-aided diagnosis of malignant and benign breast lesions. Presented at the *Medical Image Perception Conference IX*, Airlie Conference Center, Warrenton, VA, 2001.
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13. **Jiang Y.** Uncertainty in the output of artificial neural networks. Presented at the *2007 International Joint Conference on Neural Networks*, Orlando, FL, 2007.
14. **Jiang Y.** Computer-aided detection and computer-aided diagnosis. Presented at the *Electronic Healthcare Enterprise 2007—An Educational Series*, Toronto, Canada, 2007.
15. **Jiang Y.** Computer-aided detection and diagnosis: what we have learned so far? Presented at the *2008 Annual Meeting of the Society of Imaging Informatics in Medicine*, Seattle, WA, 2008.
16. **Jiang Y.** An update on computer-aided diagnosis (CAD): what's next? Presented at the *50th Annual Meeting of American Association of Physicists in Medicine*, Houston, TX, 2008.
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19. **Jiang Y.** Impact on the field of ROC analysis: A celebration of the life of Charles E. Metz, Ph.D., 1942-2012. Presented at the *SPIE 2013 Medical Imaging*, Orlando, FL, 2013.
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Non-Abstracted Proffered Presentations, Posters, and Scientific Exhibits:

1. **Jiang Y**, Chai M, Boughton RI. Quenching of ordinary superconductivity in thin films in contact with bulk 1-2-3 superconductor. Presented at the *Ohio Section Meeting of the American Physical Society*, Bowling Green, OH, 1990.
2. Doi K, Giger ML, MacMahon H, Hoffmann KR, Katsuragawa S, **Jiang Y**, et al. Clinical radiology and computer-aided diagnosis: potential partners in medical diagnosis? Scientific exhibit presented at the *76th Scientific Assembly and Annual Meeting of the Radiological Society of North America*, Chicago, IL, 1990.
3. **Jiang Y**, Nishikawa RM, Giger ML, Doi K, Schmidt RA, Vyborny CJ. Analysis of the contrast characteristics of mammographic microcalcifications for computer-aided diagnosis. Presented at the *Optical Engineering Midwest Conference*, Chicago, IL, 1992.
4. Giger ML, Nishikawa RM, Schmidt RA, Vyborny CJ, Lu P, **Jiang Y**, Huo Z, Papaioannou J, Wu Y, Cox S, Kunst R, Bick U, Rosculet K. Preliminary evaluation of an "intelligent" mammography workstation. Poster presented at the *Medical Imaging VII Conference*, Newport Beach, CA, 1993.
5. **Jiang Y**, Nishikawa RM, Wolverton DE, Giger ML, Doi K, Schmidt RA, Vyborny CJ. Mammographic feature analysis of clustered microcalcifications for classification of breast cancer and benign breast diseases. Presented at the *16th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Baltimore, MD, 1994. (Region 4 finalist in the Engineering in Medicine and Biology Society Whitaker Foundation Student Paper Competition)
6. **Jiang Y**, Nishikawa RM, Metz CE, Wolverton DE, Schmidt RA, Papaioannou J, Doi K. A computer-aided diagnostic scheme for classification of malignant and benign clustered microcalcifications in mammograms. Presented at the *Third International Workshop on Digital Mammography*, Chicago, IL, 1996.
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9. **Jiang Y**, Nishikawa RM, Schmidt RA, Metz CE, Giger ML, Doi K. Benefits of computer-aided diagnosis in mammographic diagnosis of malignant and benign clustered microcalcifications. Presented at the *4th International Workshop on Digital Mammography*, Nijmegen, The Netherlands, 1998.
10. **Jiang Y**, Nishikawa RM, Schmidt RA, Metz CE, Giger ML, Doi K. Improvement in radiologists' diagnosis of malignant and benign clustered microcalcifications by the use of computer-aided diagnosis (CAD). Presented at the *1st International Workshop on Computer-Aided Diagnosis*, Chicago, IL, 1998.

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12. **Jiang Y**, Nishikawa RM. Radiologists' ability of using computer-aided diagnosis (CAD) to improve breast biopsy recommendations. Presented at *SPIE International Symposium: Medical Imaging 1999*, San Diego, CA, 1999.
13. **Jiang Y**, Nishikawa RM, Schmidt RA, Toledano AY, Doi K. The potential of computer-aided diagnosis (CAD) to reduce variability in radiologists' interpretation of mammograms. Presented at the *Eighth Far West Image Perception Conference*, Morley, Alberta, Canada, 1999.
14. **Jiang Y**, Nishikawa RM, Schmidt RA, Metz CE, Doi K. Relative gains in diagnostic accuracy between computer-aided diagnosis and independent double reading. Presented at *SPIE International Symposium: Medical Imaging 2000*, San Diego, CA, 2000.
15. **Jiang Y**, Nishikawa RM, Venta LL, Maloney MM, Giger ML. Computer classification of malignant and benign microcalcifications in small-field digital mammograms. Presented at the *5th International Workshop on Digital Mammography*, Toronto, Canada, 2000.
16. **Jiang Y**, Nishikawa RM, Schmidt RA, Metz CE, Doi K. Multiple benefits of computer-aided diagnosis (CAD) in the diagnosis of malignant and benign breast lesions. Presented at the *World Congress on Medical Physics and Biomedical Engineering*, Chicago, IL, 2000.
17. **Jiang Y**, Metz CE. An optimal method for combining two correlated diagnostic assessments with application to computer-aided diagnosis. Presented at *SPIE International Symposium: Medical Imaging 2001*, San Diego, CA, 2001.
18. **Jiang Y**. Uncertainty in the output of artificial neural networks. Presented at *Medical Image Perception Conference IX*, Airlie Conference Center, Warrenton, VA, 2001.
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50. **Jiang Y**, Liu B. Training artificial neural network with multiple target values to approximate the ideal observer. Presented at *Medical Image Perception Conference X*, Durham, NC, 2003.
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53. **Jiang Y**, Sacks W, Metz CE. Update on an experiment simulating observer inattention in a detection task. Presented at *Medical Image Perception Conference XI*, Lake Windermere, UK, 2005.
54. Zur RM, **Jiang Y**. Two implementations of Bayesian artificial neural networks for computer-aided diagnosis. Presented at *Medical Image Perception Conference XI*, Lake Windermere, UK, 2005.
55. **Jiang Y**. A method for assessing the uncertainty in feature selection tasks. Presented at *SPIE International Symposium: Medical Imaging 2006*, San Diego, CA, 2006.
56. Zur RM, Pesce LL, **Jiang Y**, Metz CE. A Bayesian interpretation of the "proper" binormal ROC model using a uniform prior distribution for the area under the curve. Presented at *SPIE International Symposium: Medical Imaging 2007*, San Diego, CA, 2007.
57. **Jiang Y**. A Monte-Carlo simulation method to understand expert-panel consensus truth and double readings. Presented at *Medical Image Perception Conference XII*, Iowa City, IA, 2007.
58. **Jiang Y**. Analysis of double reading in an observer study. Presented at *SPIE International Symposium: Medical Imaging 2009*, Orlando, FL, 2009.
59. **Jiang Y**, Metz CE. BI-RADS data should not be used to estimate ROC curves. Presented at *Medical Image Perception Conference XIII*, Santa Barbara, CA, 2009.

60. **Jiang Y**, Metz CE. A simulation study of the shape of the population ROC curve. Presented at *Medical Image Perception Conference XIV*, Dublin, Ireland, 2011.
61. **Jiang Y**. Impact on the field of ROC analysis: A celebration of the life of Charles E. Metz, Ph.D., 1942-2012. Presented at the SPIE 2013 *Medical Imaging*, Orlando, FL, 2013.
62. Wang J, **Jiang Y**. A Monte Carlo simulation study of computer-aided diagnosis (CAD) technology assessment with dedicated test cases. Presented at *Medical Image Perception Conference XV*, Washington, DC, 2013.

Patents:

1. Nishikawa RM, **Jiang Y**, Ashizawa K, Doi K. Methods for improving the accuracy in differential diagnosis in radiologic examinations. US Patent 6,058,322.
2. Nishikawa RM, Salfity MF, **Jiang Y**. The use of *a priori* information to improve the detection of microcalcifications in mammograms. US Patent pending.