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CURRICULUM VITAE

Kalpana M. Kanal, Ph.D., DABR

ADDRESS: Department of Radiology
University of Washington Medical Center
1959 NE Pacific Avenue
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kkanal@u.washington.edu

PERSONAL: Born: February 22, 1968; Mumbai, India. United States Citizen.

EDUCATION:

1988 Physics, B.S.
Mithibhai College, University of Mumbai; Mumbai, India

1991 Physics, M.S.
University of Texas at Arlington; Arlington, Texas

1996 Radiological Sciences – Diagnostic Medical Physics, Ph.D.
University of Texas Health Science Center at San Antonio; San Antonio, Texas

POSTGRADUATE EDUCATION:

1998 Clinical Medical Physics Residency in Diagnostic Radiology
Mayo Clinic; Rochester, Minnesota

FACULTY POSITIONS:

2006 - present University of Washington, Seattle, Washington
Assistant Professor, Department of Radiology
Adjunct Assistant Professor, Department of Oral Medicine

2003 - 2006 Lecturer, Department of Radiology

HOSPITAL POSITIONS:

2000 - 2003 University of Washington, Seattle, Washington
Medical Physicist, Radiology

1998 - 2000 University of Minnesota, Minneapolis, Minnesota
Clinical Medical Physicist, Radiology

HONORS:

2006 Cum Laude award, Scientific Presentation
Annual Course of the Society of Computed Body Tomography and Magnetic Resonance, Phoenix, Arizona.

2000 First prize, Scientific Exhibit, Symposium for Computer Applications in Radiology, Philadelphia, Pennsylvania.

1996-1998 American Association of Physicists in Medicine, Imaging Residency fellowship Award, Mayo Clinic, Rochester, Minnesota

BOARD CERTIFICATION: American Board of Radiology
Diplomat of the American Board of Radiology (DABR)
1999 Specialty: Diagnostic Radiological Physics

PROFESSIONAL ORGANIZATIONS: Full Member, American Association of Physicists in Medicine (AAPM), (1999-present)
Member, American College of Radiology (ACR), (1996-present)
Member, Society of Computed Body Tomography and Magnetic Resonance (SCBTMR), (2006-present)
Member, Society of Computer Applications in Radiology (SCAR), (1996-2002)

TEACHING RESPONSIBILITIES: University of Washington, Seattle, Washington

2001 - present Department of Radiology: Course Director (2004-present)
Diagnostic Radiology Imaging Physics Course: Radiology resident instruction in the physics of diagnostic radiology and board exam review instruction. Website: http://courses.washington.edu/radxphys/PhysicsCourse.html

Department of Radiology: Credentialing program on "Minimizing Risks from Fluoroscopic X rays" is being offered to Physicians. A website outlining the information and examinations regarding this credentialing program was developed: http://courses.washington.edu/radxphys/FluoroCredentialing.html

Department of Radiology or Other Departments: Surgeons, Radiology Technologists and Nurses instruction in radiation safety as needed.

2006 - present Department of Radiology: Medical Student Clerkship lectures
Quarterly Medical Student Clerkship Physics lectures as part of the Medical Student Radiology Education Lecture Series.

2006 - 2008 Department of Oral Medicine, Dental School, Dental Student Physics lectures as part of the Oral M 520 course, Introduction to Oral Radiology offered each Fall.

1998-2000 University of Minnesota and VA hospital, Minneapolis, Minnesota
Department of Radiology: Full responsibility for the first year and second year radiology technologist course, "Radiologic Science for Technologists" in the Radiology Technology School.

SPECIAL NATIONAL RESPONSIBILITIES: *Member*, ABR Exam of the Future (EoF)/Core Exam Physics Committee (2009)
Chair, Medical Physics Education of Physicians Committee, American Association of Physicists in Medicine (2009-present)
CT Accreditation Physics Reviewer, American College of Radiology (2007-present)
Course Director, The Physics and Technology of Breast Imaging CME course, American Association of Physicists in Medicine Annual Meeting, (July 2007-July 2009)
Member, Physics Panel for question submissions for the Physics Section of the 2006 Diagnostic Radiology In-Training (DXIT) examination (2005-2008)

Session Moderator, CT and MRI session, American College of Medical Physics Annual Meeting, (May 2008)
Session Moderator, AAPM/RSNA Physics Tutorial on Equipment Selection:
Member, Subcommittee on Digital Mammography, Committee on Mammography Accreditation, American College of Radiology (2006-2007)
Member, Education and Training of Medical Physicists, American Association of Physicists in Medicine (2005-2007)
Course Director, Digital Mammography, Radiological Society of North America Annual Meeting
(2006)
Member, Blue Ribbon Panel on Radiation Dose in Medicine, American College of Radiology (2006)
Scientific Exhibit Review Panel Member, The Society of Computer Applications in Radiology, (2000)
Symposium Coordinator, Mammography 2000: Changing Technologies, Changing Requirements, University of Minnesota (2000)

SPECIAL LOCAL RESPONSIBILITY: *Member*, Education Committee, Department of Radiology, University of Washington (2004-present)
Member, Radiation Safety Committee, University of Washington (2002-present)
Chair, Faculty Council on Education Technology, University of Washington (2004-2006)
Senator (Radiology), Faculty Senate, University of Washington (2005-2006)
Member, Faculty Executive Committee, University of Washington (2004-2006)
Local Arrangements Committee, American Association of Physicists in Medicine, Annual Meeting, Seattle, WA, (2005)
Local Arrangements Committee, American Association of Physicists in Medicine Summer School: Accreditation Programs and the Medical Physicist, University of Washington (2001)

RESEARCH FUNDING:

(1) Status: ***Active***
Role: Co-Investigator (uncompensated)
Support Source: General Electric Company
Title: Quantification of lung fibrosis using Digital Tomosynthesis and Dual Energy of the chest
Duration: 9/2009 – 8/2011
Total Direct Costs: $43,728
Brief Description: The hypothesis is that digital tomosynthesis and Dual Energy can prove to be an alternative low radiation modality to assess and quantify pulmonary fibrosis

(2) Status: ***Active***
Role: Co-Investigator (uncompensated)
Support Source: General Electric Company
Title: Phase 1: A feasibility study to assess pulmonary vasculature and perfusion using dual energy radiography and digital tomosynthesis of the chest.

Duration: 9/2009 – 8/2011
Total Direct Costs: $37,835

Brief Description: The hypothesis is that digital chest radiography with dual energy and tomosynthesis can prove to be an alternative low radiation tool to assess pulmonary vasculature and perfusion.

(3) Status: ***Completed***
Role: Co-Investigator
Support Source: National Cancer Institute
Title: Digital Mammography Imaging Screening Trial
Duration: 10/2001 – 10/2003
Total Direct Costs: $798K
Brief Description: To compare the diagnostic performance of digital mammography and screen-film mammography, in a prospectively enrolled screening cohort of asymptomatic women, across all digital mammography machine types.

BIBLIOGRAPHY – REFERRED PUBLICATIONS IN SCIENTIFIC JOURNALS:

1. Liu F, **Kanal KM**, Stewart BK, Lehman CD. Effects of lesion positioning on digital magnification mammography, *Accepted by Academic Radiology*, January 2010.

2. Gunn ML, **Kanal KM**, Kolokythas O, Anzai Y. Radiation dose reduction using bismuth shielding on MDCT of the cervical spine, Does bismuth shielding with and without a cervical collar reduce dose?, *Journal of computer assisted tomography*, Nov-Dec;33(6):987-90, 2009.

3. King M, **Kanal KM**, Relyea-Chew A, Bittles M, Vavilala M, Hollingworth W. Radiation exposure from pediatric head CT: A bi-institutional study. *Pediatric Radiology*, 39:1059-1065, 2009.

4. Raelson C, **Kanal KM**, Vavilala M, Rivara F, Kim L, Stewart BK, Cohen W. Radiation dose and excess risk of cancer in children undergoing neuroangiography. *American Journal of Roentgenology*, American Journal of Roentgenology, 193:2352, 2009.

5. Nishikawa RM, Acharyya S, Gastonsis C, Pisano ED, Cole E, Marques HS, D'Orsi C, Farria D, **Kanal KM**, et al. Comparison of Softcopy and Hardcopy Reading for Full-Field Digital Mammography. *Radiology*, 251(1):41-49, April 2009.

6. Russell M, Anzai Y, **Kanal KM**, Rebeles FC, Fink J. Balancing radiation dose and image quality of neck CT: Comparison of Automated Tube Modulation Technique and Fixed mA Technique on 64 slice MDCT. *American Journal of NeuroRadiology*, 29: 727-731, 2008.

7. Hendrick RE, Cole EB, Pisano ED, Acharyya S, Marques H, Cohen M, Jong RA, Mawdsley G, **Kanal KM**, et al. Accuracy of soft-copy digital mammography versus that of screen-film mammography according to digital manufacturer: ACRIN DMIST retrospective multireader study. *Radiology*, 247 (1):38-48, 2008.

8. **Kanal, KM**, Stewart BK, Kolokythas O, and Shuman WP. 64 Slice CT: Impact of Operator-Selected Image Noise Index and Reconstruction Slice Thickness on Patient Radiation Dose. *American Journal of Roentgenology*, 189:219-225, 2007.

9. Stewart BK, **Kanal KM**, Perdue J, Mann FA. Computed Radiography Dose Data Mining and Surveillance as an Ongoing Quality Assurance Improvement Process. *American Journal of Roentgenology*, 189:7-11, 2007.

10. Yaffe MJ, Bloomquist AK, Mawdsley GE, Pisano ED, Hendrick RE, Fajardo LL, Boone JM, **Kanal KM**, et. al. Quality control for digital mammography: Part II recommendations from the ACRIN DMIST trial. *Medical Physics*, 33 (3):737-752, 2006.

11. Fullerton GD, **Kanal KM** and Cameron IL. On the osmotically unresponsive water compartment in cells. *Cell Biology International*, 30 (1):74-77, 2006.

12. Cameron IL, **Kanal KM** and Fullerton GD. Role of protein conformation and aggregation in pumping water in and out of a cell. *Cell Biology International*, 30 (1):78-85, 2006.

13. Fullerton GD, **Kanal KM** and Cameron IL. Osmotically unresponsive water fraction on proteins: Non-ideal osmotic pressure of bovine serum albumin as a function of pH and salt concentration. *Cell Biology International*, 30 (1):86-92, 2006.

14. Langer SG and **Kanal KM**. Spreadsheets for automated data collection, analysis, and report generation for diagnostic medical physics: publicly available on the world wide web. *Journal of Digital Imaging*, 15 (2):98-105, 2002.

15. **Kanal KM**, Hangiandreou NJ, Sykes AG, et. al. Evaluation of the accuracy of a continuous speech recognition software system in radiology. *Journal of Digital Imaging*, 14 (1):30-37, 2001.

16. McCollough CH, **Kanal KM**, Lannuti N, Ryan K. Experimental determination of section sensitivity profiles and image noise in electron beam computed tomography. *Medical Physics*, 26 (2):287-295, 1999.

17. O'Connor MK., **Kanal KM**, Gebhard MW and Rossman PJ. Comparison of four motion correction techniques in SPECT imaging of the heart: A cardiac phantom study. *Journal of Nuclear Medicine*, 39(12):2047-2034, 1998.

18. **Kanal KM**, Kofler JM, Groth DS. Comparison of selected ultrasound performance tests using conventional and magnified field of view. *Medical Physics*, 25 (5):642-647, 1998.

19. Cameron IL, **Kanal KM**, Keener CR, Fullerton GD. A mechanistic view of the non-ideal osmotic and motional behavior of intracellular water. *Cell Biology International*, 21(2):99-113, 1997.

20. Zimmerman RJ, **Kanal KM**, Sanders J, Cameron IL, Fullerton GD. Osmotic pressure measures of salt induced folding/unfolding of bovine serum albumin. *Journal of Biochemical and Biophysical Methods*, 30(2-3):113-131, 1995.

21. **Kanal KM**, Fullerton GD, Cameron IL. A study of the molecular sources of nonideal osmotic pressure of bovine serum albumin solutions as a function of pH. *Biophysical Journal*, 66(1):153-160, 1994.

22. Fullerton GD, Zimmerman RJ, **Kanal KM**, Floyd J, Cameron IL. Method to improve the accuracy of membrane osmometry measures of protein molecular weight. *Journal of Biochemical and Biophysical Methods*, 26(4):299-307, 1993.

23. **Kanal KM**, Ray AK and Howard IA. A correlation study of large potassium neutral clusters. *Physica Status Solidi (b)*, 171(1):131-140, 1992.

24. Ray AK, Howard IA, **Kanal KM**. Structure and binding in small neutral and cationic boron clusters. *Physical Review B*, 45(24):14247-14255, 1992.

25. Ray AK, **Kanal KM**, Howard IA. A correlation study of large potassium cationic clusters. *Physica Status Solidi (b)*, 167(2):465-475, 1991.

BIBLIOGRAPHY - PEER REVIEWED WEB-BASED PUBLICATION:

1. **Kanal KM**, Stewart BK, Gunn ML. CT Image Quality and Protocols – Web-Based Educational Physics Module for Radiology Residents. RSNA/AAPM Online Physics Modules, 2009. http://physics.rsna.org/default.asp

BIBLIOGRAPHY – NON-REFERRED PUBLICATIONS:

1. **Kanal KM** and Stewart BK. Digital's narrowing divide – Mammography. *Enterprise Imaging and Therapeutic Radiology Management*, 19 (5): 26-28, May 2009.

BIBLIOGRAPHY – SUBMITTED MANUCRIPTS IN SCIENTIFIC JOURNALS:

1. Wieseler KM, Bhargava P, **Kanal KM**, Vaidya S, Stewart BK, Dighe MK. Imaging during Pregnancy: Exam Appropriateness. *Submitted to Radiographics*, March 2010.

BIBLIOGRAPHY – SCIENTIFIC ABSTRACTS:

1. Gunn ML, **Kanal KM**, Stewart BK, CT Artifacts in the Obese Patient. American Roentgen Ray Society, Annual Meeting, San Diego, CA, May 2010.

2. Kohr J, Green D, **Kanal KM**, Gunn ML. Effect of Body Mass Index on Radiation Dose with Automatic Tube Current Modulation, Society of Computed Body Tomography and Magnetic Resonance, SCBT-MR Annual Course, San Diego, CA, March 2010.

3. Chung JH, **Kanal KM**, Wang J, Bhargava P, Gunn ML, Shuman WP. Optimal Noise Index in the Evaluation of Subtle Liver Lesions: Phantom and Clinical Evidence, Scientific presentation, The Radiological Society of North America, Annual Meeting, Chicago, December 2009.

4. **Kanal KM**, Gunn ML, Shuman WP, Kolokythas O. "To determine the degree of breast dose reduction when bismuth shields are applied concurrently with automated tube current modulation on a 64 channel CT scanner" The Radiological Society of North America, Annual Meeting, Chicago, December 2008.

5. Gunn ML, **Kanal KM**, Kolokythas O, Anzai Y. "Radiation dose to the thyroid gland and breast from MDCT of the cervical spine: Does bismuth shielding with and without a cervical collar reduce dose" The Radiological Society of North America, Annual Meeting, Chicago, December 2008.

6. Shuman WP, Branch KR, May J, Mitsumori LM, Kohlmyer S, **Kanal KM** et al. "Prospective Gating Versus Retrospective Gating of 64 Channel Cardiac CT: Comparison of patient dose, number of unevaluable coronary artery segments, and image quality" for The Radiological Society of North America, Annual Meeting, Chicago, December 2007.

7. **Kanal KM**, Stewart BK, Kolokythas O, and Shuman WP. "Development of a Noise Index Table Demonstrating Interrelationships Among Noise Level, Reconstruction Slice Thickness, and Radiation Dose in 64-slice CT" for The Radiological Society of North America, Annual Meeting, Chicago, December 2006.

8. Relyea-Chew A, Hollingworth W, **Kanal KM**. "Radiation Dose From Head CT In Pediatric Patients With Blunt Head Injury" for The Radiological Society of North America, Annual Meeting, Chicago, December 2006.

9. Henderick RE, Pisano ED, Cole EB, Cohen MA, Jong RA, **Kanal KM**, et. al. "ACRIN DMIST Retrospective Multi-reader Study Comparing the Accuracy of Softcopy Digital and Screen-Film Mammography by Digital Manufacturer" for The Radiological Society of North America, Annual Meeting, Chicago, December 2006.

10. Nishikawa RM, Acharyya S, Marques H, Cole EB, Gatsonis C, Pisano ED, D'Orsi C, Maidment A, Mahoney M, **Kanal KM** et. al. "Comparison of Softcopy and Hardcopy Reading of Full-Field Digital Mammograms: A DMIST Reader Study Conducted by the American College of Radiology Imaging Network (ACRIN)" for The Radiological Society of North America, Annual Meeting, Chicago, December 2006.

11. Russell MT, Fink JR, Rebeles F, **Kanal KM**, Ramos M, Anzai Y. "Balancing radiation dose and image quality: Clinical applications of Neck Volume CT" for the Annual American Society of Head and Neck Radiology Meeting (Phoenix, Arizona), September 2006.

12. Kinahan PE, Kohlmyer S, **Kanal KM**, Stewart BK, Kolokythas O, Warren B et. al. "64 slice Triple rule-out Cardiac CT: Impact of ECG-based Current Modulation and Lowered Heart Rate on Patient Radiation Dose" for the American Roentgen Ray Society, Annual Meeting, Vancouver, BC, May 2006.

13. **Kanal KM**, Stewart BK, Kolokythas O, and Shuman WP. "Development of a Noise Index Table Demonstrating Interrelationships Among Noise Level, Reconstruction Slice Thickness, and Radiation Dose in 64-slice CT" presented at the 9th annual course of the Society of Computed Body Tomography and Magnetic Resonance, Phoenix, April 2006. ***This presentation won the Cum Laude Monetary ($2500) Award for excellent scientific presentation***.

14. Yaffe MJ, Bloomquist AK, Mawdsley GE, Pisano ED, Hendrick RE, Fajardo LL, Boone JM, **Kanal KM**, et. al. "Development of a Standardized Quality Control Program for Digital Mammography using Results from the ACRIN DMIST Trial" presented at the Radiological Society of North America Annual Meeting, Chicago, November 2005.

15. **Kanal KM**, Stewart BK, Willis P. "Quality Assurance Methodology to Monitor Patient Dose in Interventional Radiography" presented at The American Association of Physicists in Medicine (AAPM) Annual Meeting in July 2005.

16. Stewart BK, **Kanal KM**, Perdue J. "Computed radiography dose data mining and surveillance as an ongoing quality assurance improvement process" presented at The American Association of Physicists in Medicine (AAPM) Annual Meeting in July 2005.

17. **Kanal KM**, Hangiandreou NJ, Sykes A, Eklund HE, Araoz PA, Leon JA et. al. "Evaluation of the accuracy of a continuous speech recognition software system in radiology" presented at The

Society for Computer Applications in Radiology, Annual Meeting, Philadelphia, June 2000. ***This scientific exhibit won first prize***.

18. **Kanal KM**, O'Connor MK., Gebhard MW and Rossman PJ. "Comparison of four motion correction techniques in SPECT imaging of the heart: A cardiac phantom study" presented at The Radiological Society of North America, Annual Meeting, Chicago, December 1997.

19. **Kanal KM**, Kofler J and Groth D. "Comparison of selected ultrasound performance tests using conventional and magnified field of view" presented at the American Association of Physicists in Medicine, Annual Meeting, Milwaukee, July 1997.

20. **Kanal KM**, McCollough CH, Lannuti N, Ryan K. "Analysis of slice sensitivity profiles and image noise in electron beam CT" presented at the American Association of Physicists in Medicine, North Central Chapter Meeting, Minneapolis, October 1996.

21. **Kanal KM**, Fullerton GD, Cameron IL. "Change in MR imaging contrast as a function of protein conformation" presented at the American Association of Physicists in Medicine, Annual Meeting, Boston, July 1995.

22. **Kanal KM**, Ray AK, Howard IA. "A study of molecular sources of nonideal osmotic pressure of bovine serum albumin solutions as a function of pH" presented at the Biophysics Society Annual Meeting, New Orleans, March 1994.

23. **Kanal KM**, Ray AK, Howard IA. "A correlation study of large potassium neutral and cationic clusters" presented at the American Physical Society Annual Meeting, Cincinnati, May 1990.

BIBLIOGRAPHY – SCIENTIFIC <u>ELECTRONIC</u> EDUCATION EXHIBITS:

1. Modica MJ, **Kanal KM**, Ramos M, Gunn ML, The Morbidly Obese Trauma Patient: Imaging Challenges and Solutions, The Radiological Society of North America, Annual Meeting, Chicago, December 2009. ***This poster got the Certificate of Merit Award***.

2. Wieseler KM, Bhargava P, **Kanal KM**, Vaidya S, Stewart BK, Sadro CT, Dighe MK. Imaging during Pregnancy: Exam Appropriateness. The Radiological Society of North America, Annual Meeting, Chicago, December 2009. ***This poster got the Certificate of Merit Award***

3. **Kanal KM**, Bhargava P, Stewart BK. "Physics Case of the Day – Bismuth Shielding" The Radiological Society of North America, Annual Meeting, Chicago, December 2008.

4. Gunn ML, Gross JA, **Kanal KM**. "64 and 16 channel MDCT adaptive tube current modulation: does CT scout order affect radiation dose" The Radiological Society of North America, Annual Meeting, Chicago, December 2008.

BIBLIOGRAPHY – SCIENTIFIC <u>POSTER</u> EDUCATION EXHIBITS:

1. Branch K, Shuman WP, **Kanal KM**, Alessio A, Caldwell J, Earls JP. Reduction in Estimated Lifetime Cancer Incidence and Mortality Using Cardiac Prospective ECG Triggered CT Compared to Retrospective Gated CT, The American College of Cardiology, Annual Meeting, Atlanta, March 2010.

2. **Kanal KM**, Stewart BK, Willis P. Quality Assurance Methodology to Monitor Patient Dose in Interventional Radiology, The American Association of Physicists in Medicine, Annual Meeting, Seattle, August 2005.

NATIONAL INVITED LECTURES:

1. A Review of CT Imaging for Physicists Seminar, Medical Technology Management Institute, (Location TBD), October 2010.

2. A Review of CT Imaging for Physicists Seminar, Medical Technology Management Institute, (LasVegas, NV), September 2009.

3. American Association of Physicists in Medicine Annual Meeting (Houston, Texas), The Physics and Technology of Breast Imaging Course, Digital Mammography Update: Design and Characteristics of Current Systems, July 2009.

4. American Association of Physicists in Medicine Annual Meeting (Houston, Texas), The Physics and Technology of Breast Imaging Course, Digital Mammography Update: Design and Characteristics of Current Systems, July 2008.

5. American College of Medical Physics Annual Meeting (Seattle, Washington), Diagnostic session, MDCT Technology and Image Quality, May 2008.

6. CT Scanner Anatomy, Image Formation and Image Quality, Imaging in Molecular Medicine – Joint Conference by AMI, RSNA, SNM and SMI, (Rhode Island, Providence), September 2007.

7. Annual Roentgen Ray Society Meeting (Orlando, Florida), ARRS Instructional Course on Competencies, Practice Based Learning: Safety Issues in Radiology – CT Dose Control, May 2007.

8. Radiological Society of North America Annual Meeting (Chicago, Illinois), The AAPM/RSNA Physics Tutorial on Equipment Selection: Digital Mammography, Overview of Quality Control in Digital Mammography, November 2006.

9. The Academy of Molecular Imaging, Annual Conference (Orlando, Florida), CT and PET/CT for NMTs: System Components, Operation, Image Formation, and Image Quality, March 21, 2006.

10. The Academy of Molecular Imaging, Annual Conference (Orlando, Florida), CT and PET/CT for NMTs: System Components, Operation, Image Formation, and Image Quality. March 20, 2005.

LOCAL INVITED LECTURES:

1. Emergency Radiology Course (CME), University of Washington Radiology (Seattle, WA), Radiation Dose in the ER, August 2009.

2. UW Medicine, School of Medicine, Imaging of Coronary Arteries and Ischemic Heart Disease and Cardiac CT Review Course (Seattle, Washington), Radiation Issues in Cardiac CT, February 2008.

3. CT Physics Update and Dosimetry Considerations: What you need to know, UW Radiology – 7th Annual Positron Emission Tomography Course (Seattle, Washington), June 2007.

4. UW Medicine, School of Medicine, Imaging of Coronary Arteries and Ischemic Heart Disease and Cardiac CT Review Course (Seattle, Washington), Radiation Issues in Cardiac CT, February 2007.

5. UW Annual Positron Emission Tomography Course (Seattle, Washington), CT Physics Update, What You Need to Know, June 2006.

6. Western Washington Mammography Fall Seminar (Seattle, Washington), Digital Mammography Technologist Quality Control, October 22, 2005.

7. Catalyst event at University of Washington, Topic: Educational Technologies for Your Courses: Designing a Useful Course Web Site, January 21, 2005.

MISCELLANEOUS – INVITED REVIEWER:

1. Kanal KM, ***Only contributor from USA to draft and review document*** **-** Quality Assurance Programme for Screen Film Mammography, International Atomic Energy Agency (IAEA) Human Health Series No.2, Vienna 2009.