

CURRICULUM VITAE

Kalpana M. Kanal, Ph.D., DABR

**ADDRESS:** Department of Radiology  
University of Washington Medical Center  
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**PERSONAL:** Born: February 22, 1968; Mumbai, India. United States Resident.

**EDUCATION:** Physics, B.S.  
1988 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:** Clinical Medical Physics Residency in Diagnostic Radiology  
1998 Mayo Clinic; Rochester, Minnesota

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

**FACULTY POSITIONS:** Lecturer, Department of Radiology  
University of Washington, Seattle, Washington

**AWARDS:** First prize for Scientific Exhibit at the Symposium for Computer Applications in Radiology, Philadelphia, June 2000.

**GRANTS and CONTRACTS:**

(1) Status: Non-Active, Investigator  
Role: MQSA Certified Mammography Medical Physicist (10%)  
Support Source: National Cancer Institute  
Title: Digital Mammography Imaging Screening Trial  
Duration: 10/2001 – 10/2003  
Total Direct Costs: \$797,600  
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.

**SPECIAL NATIONAL RESPONSIBILITY:** The Society of Computer Applications in Radiology, Scientific Exhibit Review Panel (2000)

Mammography 2000: Changing Technologies, Changing Requirements  
Symposium Coordinator, University of Minnesota (2000)  
Member, Physics Panel for question submissions for the Physics Section of the  
2006, Diagnostic Radiology In-Training (DXIT) examination (2005-present)  
Member, Education and Training of Medical Physicists, American Association of  
Physicists in Medicine (2005-present)

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

**PROFESSIONAL ORGANIZATIONS:** Full Member, American Association of Physicists in Medicine (AAPM), (1999-present)  
Member, Society of Computer Applications in Radiology (SCAR), (1996-2002)  
Member, American College of Radiology (ACR), (1996-present)

**JOURNAL REVIEWER:** American Journal of Roentgenology (2004-present)  
Radiographics (Radiological Society of North America), (2000-present)  
**Ad Hoc** Reviewer, Book Chapter on Computed Tomography for Encyclopedia of Medical Devices and Instrumentation, Wiley Publishers, (2005-present)

**TEACHING RESPONSIBILITIES:**  
University of 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 resident physics board exam review instruction. Website: <http://courses.washington.edu/radxphys/PhysicsCourse04-05.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: Radiology technologist and OR nurses instruction in radiation safety (ASRT approved 1 hour CME credit).

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

Department of Radiology: Full responsibility for the second year radiology technologist course, "Radiologic Science for Technologists" in the Radiology Technology School.

Mayo Clinic (1996-1998)

Department of Radiology: Radiology resident teaching in radiological physics.

University of Texas Health Science Center at San Antonio (Fall 1992, Fall 1994)

Medical Physics Graduate Program: Radiological Sciences graduate student teaching in Diagnostic Imaging and Health Physics.

University of Texas at Arlington (1989-1991)

Undergraduate Physics Laboratories: Responsible for conducting, organizing, and teaching the undergraduate physics students the laboratory class in various fields of physics.

#### BIBLIOGRAPHY – Peer Reviewed Publications:

1. Yaffe MJ, Bloomquist AK, Mawdsley GE, Pisano ED, Hendrick RE, Fajardo LL, Boone JM, Kanal KM, et. al. Quality control for digital mammography: Recommendations from the ACRIN DMIST Trial. Collaboration of several authors involved in the DMIST trial. This manuscript was submitted to the Journal *Medical Physics* in March 2005.
2. Langer S and Kanal K. 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), 2002.
3. 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), 2001.
4. 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), Feb. 1999.
5. 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), December 1998.
6. Kanal KM, Kofler JM, Groth DS. Comparison of selected ultrasound performance tests using conventional and magnified field of view. *Medical Physics*, 25 (5), May 1998.
7. 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(113), 1995.
8. 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(153), 1994.
9. 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(299), 1993.

10. Kanal KM, Ray AK and Howard IA. A correlation study of large potassium neutral clusters. *Physica Status Solidi (b)*, 171, 1992.
11. Ray AK, Howard IA, Kanal KM. Structure and binding in small neutral and cationic boron clusters. *Physical Review B*, 45(24), 1992.
12. Ray AK, Kanal KM, Howard IA. A correlation study of large potassium cationic clusters. *Physica Status Solidi (b)*, 167, 1991.

#### SCIENTIFIC ABSTRACTS:

1. Kanal KM, Stewart BK, Willis P. Poster Presentation on scientific abstract titled, "Quality Assurance Methodology to Monitor Patient Dose in Interventional Radiography" accepted for American Association of Physicists in Medicine (AAPM) Annual Meeting in July 2005.
2. Stewart BK, Kanal KM, Perdue J. Poster Presentation on scientific abstract titled, "Computed radiography dose data mining and surveillance as an ongoing quality assurance improvement process" accepted for American Association of Physicists in Medicine (AAPM) Annual Meeting in July 2005.
3. 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.
4. Comparison of four motion correlation techniques in SPECT imaging of the heart: a cardiac phantom study. Presented at the Radiological Society of North America, Annual Meeting, Chicago, December 1997.
5. 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.
6. 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.
7. 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.
8. A correlation study of large potassium neutral and cationic clusters. Presented at the American Physical Society Annual Meeting, Cincinnati, May 1990.
9. 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.

#### INVITED LECTURES:

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

2. The Academy of Molecular Imaging, Annual Conference (Orlando, Florida), "Lecture – CT for Nuclear Medicine Technologists", March 20, 2005.

**WORK EXPERIENCE:**

Lecturer, University of Washington (February 2003 – present)

Responsibilities include mammography quality control (primary responsibility), radiology equipment quality control, cardiac catheterization and special procedure x-ray equipment quality control, documentation, dosimetry calculations and any other activities related to the clinical application of medical physics between four hospitals.

MQSA Certified Medical Physicist, University of Washington (Sept 2000-February 2003)

Responsibilities include mammography quality control (primary responsibility), radiology equipment quality control, cardiac catheterization and special procedure x-ray equipment quality control, documentation, dosimetry calculations and any other activities related to the clinical application of medical physics between four hospitals.

Clinical Medical Physicist, University of Minnesota (May 1998-July 2000)

Responsibilities included quality control of all radiology modalities and any other activities related to the clinical aspects of medical physics between 3 hospitals

Clinical Medical Physics Residency in Diagnostic Radiology, Mayo Clinic (July 1996-May 1998)

Work experience gained in the areas of Ultrasound, MRI, CT, Nuclear Medicine, PACS, Radiography, Fluoroscopy and Mammography.

Improve the technologist's QA program-Mammography at University Hospital, San Antonio (Fall 1995).

Clinical Internship in Medical Physics, Medical and Radiation Physics, Inc., San Antonio (Fall 1993).