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A. Konstantinidis, Univ. College London (United Kingdom); T. Anaxagoras, Univ. of Lincoln (United Kingdom); M. Esposito, Univ. of Surrey (United Kingdom); N. Allinson, Univ. of Lincoln (United Kingdom); R. Speller, Univ. College London (United Kingdom)

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H. Bosmans, J. Nens, Univ. Hospitals Leuven (Belgium); L. Delzenne, Univ. de Liège (Belgium);

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K.-W. Shin, Univ. of Waterloo (Canada); K. Wang, Aptina Imaging Corp. (United States);
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A. Badal, U.S. Food and Drug Administration (United States); K. S. Karim, Univ. of Waterloo (Canada); A. Badano, U.S. Food and Drug Administration (United States)

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U. Shafique, K. S. Karim, Univ. of Waterloo (Canada)

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S. Abbaszadeh, N. Allec, K. S. Karim, Univ. of Waterloo (Canada)
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P. A. C. Takman, Royal Institute of Technology (Sweden) and Excillum AB (Sweden);
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   Robert M. Nishikawa, The University of Chicago (United States)

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Fortieth Anniversary of SPIE Medical Imaging Meeting

Robert M. Nishikawa*
Carl J. Vyborny Translation Laboratory for Breast Imaging Research
Department of Radiology, and the Committee on Medical Physics, The University of Chicago, 5841 S. Maryland Ave. MC-2026, Chicago, IL 60637

This meeting marked the 40th year from the first SPIE Medical Imaging meeting. This paper presents a brief summary of the 40-year history of the meeting, with an emphasis on the Physics Conference. That is, when the meeting split into multiple conferences, data are presented mostly for the Physics conference only.

The first conference was held in 1972 in Chicago and it was called: Application of Optical Instrumentation in Medicine.

“We have endeavored, by way of the seminar, to provide a communication link between those with expertise in the various technologies associated with image forming devices and those in the medical field who rely on the fruits of these technologies for many of their diagnostic tools...there is a genuine interest among those in the medical field for a better understanding of the fundamental technology of imaging systems.” William C. Zarnstroff, General Chairman

For the next 40 years, with the exception of 1978 the meeting was held annually.

The first 13 conferences were entitled: Application of Optical Instrumentation in Medicine, appended with a roman numeral. The 14th meeting (1986) was modified to recognize the growing importance of PACS to the meeting: Application of Optical Instrumentation in Medicine XIV and Picture Archiving and Communication Systems (PACS IV) for Medical Applications. The following year, the conference name changed to “Medical Imaging” as it is known today, although the first 6 were denoted by roman numerals. Starting in 1993, the year was appended to the title.

The meeting started as a single track, two-day conference, and now has 8 distinct conferences covering five days plus an additional day of courses.

In 1988, the proceedings were published in two volumes, 914A and 914B. The former covering physics, image processing, and perception and the latter display and PACS. The following year (1989) each of those two split in two so that there were now four conferences:

1. Medical Imaging III: Image Formation
2. Medical Imaging III: Image Capture and Display
3. Medical Imaging III: Image Processing
4. Medical Imaging III: PACS System Design and Evaluation

These sessions were partially overlapping and, thus, for the first time, the meeting had parallel session.

This configuration of conferences remained until 1994 when Image Perception and Physiology and Function from Multidimensional Images were added. In 1997, Ultrasonic Transducer Engineering was added. In 2007, Computer-Aided Diagnosis was added.

From 1976 to 1983, the meeting was held in conjunction with or preceding the American Roentgen Ray Society. As a result, the location of the meeting changed annually. Starting in 1985, the meeting was held in Newport Beach, CA, and this was home for the next 10 years, except in 1991, the meeting was held in San Jose in conjunction with the Electronic Imaging meeting. In 1995, the meeting was then moved to San Diego, and then returned once more to Newport Beach, before moving to San Diego till 2009. Since 2009 the meeting has been alternating between San Diego and Lake Buena Vista, FL.

In the Introduction to the proceedings in 1984, Chairman Roger Schneider wrote:

This meeting, the twelfth in the series … was intended to be a change in direction from recent meetings in the series, a reversion to the attack on fundamental problems in imaging which earlier meetings represented. We also desired to bring onto the floor a recognition that the scientific interest in imaging

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is more broad and active now than it was a decade ago and that substantial progress has been made in formulating at least the structure of an understanding of the conveyance of information to human observers through imaging channels. ... We recognized the current intense interest in development of medical systems based upon the most contemporary image communication and storage technologies, and included that topic. The design goal was to address the physics and statistics of image encoding by modality; and the processing, display, archiving, management, and psychophysical considerations independently of modality, as far as possible.

It took 2 years for this new emphasis to flourish. Beginning in 1986, the attendance and the number of papers increased rapidly (as can be seen in the plots below).

Finally, it is important to note that every year for the past 40 years, the Center for Devices and Radiological Health, FDA (formerly, the Bureau for Radiological Health) has been a cosponsor or supporting organization. Further, many members of the CDRH/BRH have helped organize the meeting, such as Robert Wagner, Robert Jennings, Roger Schneider, David Brown and several others. Their contributions to this meeting mirror the impact that the CDRH/BRH have had on the field.

![Attendance and Total Number of Papers over Time](image1.png)

![Proceedings Volume Number and # of Conferences over Time](image2.png)

**Figure 1.** These plots capture some of the statistics from the meeting over time.

### 1.1 Fun Facts

Bob Wagner dubbed 1984-1987, the Palindrome Years.

The first digital mammography paper and the first dual-energy mammography paper were presented in 1983.

The first computer-aided diagnosis (CAD) paper was presented in 1985.

The first Proceedings (Vol. 35) had a black cover and was hard bound. All subsequent Proceedings had a yellow cover and were soft bound.

The first posters were in 1988. Each poster had 3 full poster boards and wine was served at the poster session.
Although there was no “Medical Imaging” meeting in 1978, there was another medical imaging themed conference: Recent and Future Developments in Medical Imaging I; edited by Norman A. Baily.

In 2001, the proceedings were distributed on CD for the first time.

Table 1. Number of years serving as a Conference Chair (includes all Conferences) or serving on the Physics Committee (including being Chair). Years on Physics Committee includes committee membership when there was only a single conference and only the Physics Committee when there were multiple conferences.

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1.2 Summary of Each Meeting

Following is a brief summary of each meeting from 1972-2012. When there were multiple conferences at the meeting, the summary focuses mainly on the Physics Conference. I also have most of this information in an excel spreadsheet. It is available from the author to those who would like it.
Overview of the 40-Year History of the SPIE Medical Imaging Meeting

1972
Application of Optical Instrumentation in Medicine (In-depth-Seminar)
Chicago Nov 29-30
Vol. 35 29 papers  Attendance: n/a
Sponsors, Co-Sponsors & Supporting Organizations
SPIE; BRH; ASNR; SMM; UWMS; AAPM
Chairs
William C. Zarnstorff, William R. Hendee, Paul L. Carson
Program Committee
Not listed
Sessions
Electro-Optical Instrumentation - William R. Hendee
Image Analysis, Enhancement and Evaluation - Paul L. Carson
Holographic and Video Images - William R. Hendee
Special Topics - William C. Zarnstorff
Panel Discussion - Jack S. Krohmer

1973
Application of Optical Instrumentation in Medicine II
Chicago Nov 29-30
Vol. 43 35 papers  Attendance: n/a
Sponsors, Co-Sponsors & Supporting Organizations
SPIE; AAPM; ASNR; AAMI; BRH EMBG; OSA; SMM; SRE; SPSE;
Chairs
William R. Hendee, William C. Zarnstorff, Paul L. Carson
Program Committee
Not listed
Sessions
Nuclear Medicine Imaging
Image Enhancement and Pattern Recognition
Panel Discussion: Image Enhancement for Medical Diagnosis Can It Be Effective?
Special Topics
Image Intensifier Systems
Transmission, Storage, Retrieval and Reconstruction of Images
Panel Discussion: Performance Standards and Possible Field Evaluation of Image Intensifiers

1974
Application of Optical Instrumentation in Medicine III
Kansas City, MO Aug 1-2
Vol. 47 45 papers  Attendance: n/a
Sponsors, Co-Sponsors & Supporting Organizations
SPIE; BRH; AAPM, ARRS; EMBG
Chairs
Paul L. Carson, Edward L. Chaney, William R. Hendee
Program Committee
Not listed
Sessions
Transmission 3-Dimensional Image Reconstruction and Computerized Axial Tomography - William R. Hendee, Joseph Gallagher
Advanced Techniques of Imaging With Ultrasound - Paul L. Carson
Acoustic Exposure Determination In Diagnostic Ultrasound - James A. Rooney
Noise, Objective, and Psychophysical Measures - Joel E. Gray
Special Topics - Jacques Ovadia
Ray Tube Focal Spot Size and Intensity Distributions: Important Practical Considerations - Bengt E. Bjarngard
Automatic Brightness Control In Image-Intensified Fluoroscopy - William R. Hendee

1975
Application of Optical Instrumentation in Medicine IV
Atlanta, GA Sept. 25-27
Vol. 70 55 papers  Attendance: n/a
Sponsors, Co-Sponsors & Supporting Organizations
SPIE; BRH; AAPM, ARRS, ACR; SRE
Chairs
Joel E. Gray, William R. Hendee
Program Committee
Not listed
Sessions
Quality Assurance, Film Handling & Film Processing - Joel E. Gray
Loading, Heat Rating, Other Characteristics of X-Ray Tubes - Edward L. Chaney
Information Extraction & Utilization From Radiologic Images - Marvin E. Haskin
Quality Assurance In Diagnostic Radiology: Why Doesn't Every Department Have A Complete Program? Panel Discussion -
Quality Assurance for Diagnostic Radiologic Instrumentation - James J. Vucich
Exposure Initiation/Termination Mechanisms and Automatic Exposure Timers In Diagnostic Radiology - Robert G. Waggener
Rare Earth Intensifying Screens - E. Dale Trol
Panel Discussion: Performance Specifications for Diagnostic Radiologic Equipment - Gray-Scale Ultrasound Imaging & Tissue Identification - Paul L. Carson
Physical Evaluation of Computerized Axial Tomography - Raymond P. Rossi
Special Topics - Robert Rohrer
Performance Evaluation of Mammographic Imaging Systems - Gregory L. Dubuque
1976

Application of Optical Instrumentation in Medicine V
Washington, DC Sept. 16-19
Vol. 96 76 papers Attendance: n/a

Sponsors, Co-Sponsors & Supporting Organizations
SPIE; BRH; ARRS; SRE

Chairs

Program Committee
Same as Editors

Sessions
Quality Assurance in Diagnostic Radiology I - Raymond P. Rossi
Quality Assurance in Diagnostic Radiology II - Thomas Stone
Computed Tomography I - Norman A. Bailey
Radiographic Images and Dose - Arthur G. Haus
Computed Tomography II - Rodney A. Brooks
Computed Tomography III - Kenneth Weaver
Diagnostic Ultrasound I - Paul L. Carson
Quality Assurance in Diagnostic Radiology III - Robert K. Cacak
Current Topics in Mammography - Gregory Dubuque

1977

Application of Optical Instrumentation in Medicine VI
Boston, MA Sept. 25-27
Vol. 127 60 papers Attendance: n/a

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Chairs
Joel E. Gray, William R. Hendee

Program Committee
Robert F. Wagner, William Properzio, Arthur G. Haus, Joel Pierce Jones, Raymond Rossi

Sessions
The Laboratory/Clinical Interface in Image Evaluation - Robert Wagner
Sensitometry Up-Date - Joel Gray
Screen Film Systems and Photosensitive Materials - Arthur G. Haus
Approaches to Equipment Service, Equipment Specification and Performance Evaluation - Raymond P. Rossi
New Developments in Medical Imaging - William Hendee
Quality Control in Medical Imaging - William S. Properzio
Performance Characteristics of CT Scanners - Robert K. Cacak
Small Group Sessions on Special Topics - Joint Session with ARRS

1978

No Meeting

1979

Application of Optical Instrumentation in Medicine VII
Toronto, Canada Mar 25-27
Vol. 173 55 papers Attendance: n/a

Sponsors, Co-Sponsors & Supporting Organizations
SPIE; SPSE; ARRS; BRH; SRE

Chairs
Joel E. Gray

Program Committee

Sessions
Imaging Systems: Physical Evaluation - Joel Gray
Imaging Systems: Perception Evaluation - Joel Gray
Imaging Systems: Special Topics - Arthur Haus
Mammography - William Properzio
Special Topics - Raymond Rossi
Computed Tomography: Practical Considerations - William R. Hendee
Computed Tomography: Theoretical Considerations - William R. Hendee
X-Ray Imaging Research in Toronto - K. W. Taylor
Joint Session with the ARRS - Joel Gray; William R. Hendee; Harry Z. Mellins

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1980
Application of Optical Instrumentation in Medicine VIII
Las Vegas, NV
Apr 20-22
Vol. 233 45 papers Attendance: n/a
Sponsors, Co-Sponsors & Supporting Organizations
SPIE; SPSE; ARRS; BRH; SRE
Chairs
Joel Gray, Arthur G. Haus, William R. Hendee, William S. Properzio
Program Committee
Same as Editors
Sessions
Screen-Film Evaluation - Arthur G. Haus
Unconventional Imaging Techniques - Joel Gray
Special Topics - Gerald Cohen
New Concepts in Conventional Imaging Techniques - James A. Mulvaney
How Might Exposure Values Be Determined for Radiological Exams? - William S. Properzio
Joint Session with the ARRS - Joel Gray; Joseph Cahoun
1981
Application of Optical Instrumentation in Medicine IX
San Francisco, CA
Mar 22-24
Vol. 273 51 papers Attendance: n/a
Sponsors, Co-Sponsors & Supporting Organizations
SPIE; SPSE; AAPM; ARRS; BRH; SRE
Chairs
Joel E. Gray, Arthur G. Haus, William S. Properzio, James A. Mulvaney
Program Committee
Same as Editors
Sessions
Special Session: Nuclear Magnetic Resonance Imaging: Current Status - Leon Partain; A. Everette James, Jr.
Conventional Imaging Systems Evaluation - Arthur G. Haus
Digital Radiography - William S. Properzio
Quality Control - James A. Mulvaney
Nuclear Medicine - Joel E. Gray
Break-Out Session A: Nuclear Magnetic Resonance - C. Leon Partain
Break-Out Session B: Computed Tomography - Gary D. Fullerton
Break-Out Session C: Digital Imaging - William S. Properzio
Break-Out Session D: Conventional Imaging Systems Evaluation - Joel E. Gray
Joint Session with the ARRS - Arthur G. Haus; James F. Martin
Computerized Tomography - Gary D. Fullerton
Recording, Storage, and Processing of Images - Joel E. Gray
1982
Application of Optical Instrumentation in Medicine X
New Orleans
May 9-12
Vol. 347 58 papers Attendance: 300
Sponsors, Co-Sponsors & Supporting Organizations
SPIE; ARRS; AAPM; BRH; SPSE; SRE
Chairs
Gary D. Fullerton, Arthur G. Haus, William S. Properzio, James A. Mulvaney
Program Committee
Same as Editors
Sessions
Special Session on Digital Radiography - Benjamin A. Arnold; Andrew B. Chummy
Conventional Imaging Systems Evaluation - Arthur G. Haus
Digital Radiography - William S. Properzio
Computed Tomography - James A. Mulvaney
Conventional Imaging Systems Evaluation - Charles A. Kelsey
Break-Out Session A: Digital Radiography - William S. Properzio
Break-Out Session B: Conventional Imaging - James A. Mulvaney
Break-Out Session C: Nuclear Magnetic Resonance (NMR) Imaging - Gary D. Fullerton
Joint Session with the ARRS - John Tampas; Gary D. Fullerton
Digital Radiology (Cosponsored by The ARRS and SPIE) - M. Paul Capp; William R. Hendee
Integrated Systems for Analysis and Display of Radiologic Images - Michael J. Flynn
Nuclear Magnetic Resonance (NMR) Imaging - Raymond L. Namely
Nuclear Magnetic Resonance (NMR) (Cosponsored by ARRS and SPIE) - A. Everette James, Raymond L. Namely
1983
Application of Optical Instrumentation in Medicine XI
Atlanta
Apr 17-20
Vol. 419 41 papers Attendance: 296
Sponsors, Co-Sponsors & Supporting Organizations
SPIE; ARRS; AAPM; BRH SPSE; SRE
Chairs
Gary D. Fullerton
Program Committee
Arthur G. Haus, James A. Mulvaney, William Properzio
Sessions
Advances in Breast Imaging - Roger S. Powell
Conventional Imaging Systems Evaluation - Arthur G. Haus
Digital Radiography I - James A. Mulvaney
Image Performance Evaluation and Quality Assurance - William S. Properzio
Digital Radiography II - Stewart C. Bushong
Break-Out Session A: Nuclear Magnetic Resonance Imaging - Gary D. Fullerton
Break-Out Session B: Digital Radiography - William S. Properzio
Break-Out Session C: Conventional Imaging - James A. Mulvaney
Joint Session with SPIE and The ARRS - Melvin M. Figley; Gary D. Fullerton
New Modalities and Computers in Medical Imaging - Michael J. Flynn
1988
Medical Imaging II: Part A- Image Formation, Detection, Processing, and Interpretation
Newport Beach, CA Jan 31-Feb 5
Vol. 914A 158 papers (102 in Physics) Attendance: 573
Sponsors, Co-Sponsors & Supporting Organizations
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Chairs
Samuel J. Dwyer III, Roger H. Schneider
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Ronald L. Aronson; Gary T. Barnes; Harrison H. Barrett; Roger A. Bauman; Arthur Burgess; Arthur H. Carson; Jerry Cohen; Kunio Doi; Aaron Fenster; Leonard A. Fienk; Kenneth M. Hanson; William R. Hendee; David G. Hill; Steven C. Hori; H. K. Huang; Robert J. Jennings; Robert A. Kruger; Bruce Laslin; James L. Leith; Thomas R. Lewallen; Murray H. Loew; William C. Mortimore; Laura Lee Murphy; Orhan Nalcioglu; Stephen M. Pizer; Judith M.S. Preewll; Ronald R Price; Stephen J Reder; Hans Roehrig; Roger H Shannon; Rodney Shaw; Stephen W. Smith; Edward V. Staab; Stephen R. Thomas; Robert F. Wagner; Henry N. Wagner, Jr.; Jason S. Zielonka
Sessions
Future Potential of the Several Candidate Signals for Medical Imaging - Roger H. Schneider
Image Formation I - Robert F. Wagner / Harrison H. Barrett / Kunio Doi / Robert A. Kruger / Aaron Fenster / Hans Roehrig / Gary T. Barnes
Image Processing I - Arthur Burgess
Image Processing II- Chest and Cardiovascular - Jerry Cohen
Image Processing III- Head and Craniofacial - Kenneth M. Hanson
Image Processing IV- Tomographic and 3D Mapping and Interpretation - Orhan Nalcioglu
Image Processing Microscopy - Judith M. S. Preewll
Digital Medical Photography - Roger A. Bauman
Other Conferences
SPIE Part B- Image Data Management & Display - Samuel J. Dwyer III, Roger H. Schneider

1989
Medical Imaging III: Image Formation
Newport Beach, CA Jan 29-31
Vol. 1000 235 papers (51 in Physics) Attendance: 547
Sponsors, Co-Sponsors & Supporting Organizations
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Chairs
Samuel J. Dwyer III, R. Gilbert Jost M.D., Roger H. Schneider
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Image Formation V - Kunio Doi
Image Formation VI - Ronald R. Price
Other Conferences
Other Conferences

1990
Medical Imaging IV: Image Formation
Newport Beach, CA Feb 4-6
Vol. 1231 270 papers (60 in Physics) Attendance: 686
Sponsors, Co-Sponsors & Supporting Organizations
SPIE; AAPM; ACR; CDRH; NEMA
Chairs
Roger H. Schneider
Program Committee
Ronald L. Aronson; Harrison H. Barrett; Roger A. Bauman; David G. Brown; Arthur E. Burgess; Gerald Cohen; William Dallas; Kunio Doi; Aaron Fenster; Kenneth M. Hanson; David G. Hill; Robert Hendest; Steven C. Hori; H. K. Huang; Robert J. Jennings; R. Gilbert Jost; Yongmin Kim; Robert A. Kruger; Pei-Jan Paul Lin; Murray H. Loew; Richard L. Morin; Seong Ki Mun; Iman Nalcioglu; Thomas R. Nelson; David R. Pickens; Stephen M. Pizer; Judith M. S. Preewll; Hans Roehrig; Roger Schneider, Roger Shannon; Rodney Shaw; Stephen W. Smith; Edward V. Staab; Stephen R. Thomas; Robert F. Wagner...
2011

Medical Imaging 2011: Physics of Medical Imaging

Lake Buena Vista, FL  13–17 February
Vol. 7961  864 papers (204 in Physics)  Attendance: 1136

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Sessions
Keynote and Imaging and Health Economics - Norbert J. Pelc; Ehsan Samei
X-ray Imaging - John A. Rowlands; Christoph Hoeschen
Metrology - Robert M. Nishikawa; John Yorkston
Iterative and Statistical Reconstruction - Jinyi Qi; Guang-Hong Chen
Detectors I & II- John Yorkston; John A. Rowlands / Karim S. Karim; Mats Danielsson
Breast Imaging - Anders Tingberg; Stephen J. Glick
Tomosynthesis I: Reconstruction - John M. Sabol; Michael Grass
Tomosynthesis II - Despina Kontos; Anders Tingberg
X-ray Imaging: Phase Contrast Diffraction - Jeffrey H. Siewerdsen; Taly Gilat Schmidt
Image Reconstruction - Bruce R. Whiting; Katsuyuki Taguchi
CT III: Multi-energy - Thomas G. Flohr; John M. Sabol
Novel Systems - Mats Danielsson; Taly Gilat Schmidt
CT IV: Cone Beam - Maria Drangova; Marc Kachelriess
Dose - Iacovos S. Kyprianou; Hee-Joung Kim
Two Special Sessions on Dose with a Panel Discussion - Ehsan Samei; Dianna D. Cody / Christoph Hoeschen; Michael F. McNitt-Gray / Ehsan Samei
# 2012 Medical Imaging 2012: Physics of Medical Imaging

San Diego, CA  Feb 5-9  
Vol. 8313  909 papers (233 in Physics)  Attendance: ?

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Hilde Bosmans; Guang-Hong Chen; Dianna D Cody; Mats E Danielsson; Maria Drangova; Thomas G. Flohr; Stephen J. Glick; Michael Grass; Christoph Hoeschen; Marc Kachelriess; Karim S Karim; Hee-Joung Kim; Despina Kontos; Iacovos S. Kyprianou; Joseph Y Lo; Jinyi Qi; John A Rowlands; John M Sabol; Taly G. Schmidt; Jeffrey H. Siewerdsen; Anders Tingber; John Yorkston

## Sessions

**Keynote and 3D Breast Imaging** - Norbert J. Pelc; Robert M. Nishikawa  
3D Breast Imaging - Hilde Bosmans; Joseph Y. Lo  
Breast Multi-Energy/Photon Counting - Mats E. Danielsson; Stephen J. Glick  
Mammography - Anders Tingber; Despina Kontos  
X-Ray Imaging - Hee-Joung Kim; Karim S. Karim  
Small Animal Imaging - John Yorkston; Maria Drangova  
Photon Counting Systems and Techniques - Taly G. Schmidt; Jeffrey H. Siewerdsen  
General Radiography and Fluoroscopy - John A. Rowlands; Hee-Joung Kim  
Cone Beam CT - Iacovos S. Kyprianou; John Yorkston  
CT - Dianna D. Cody; Marc Kachelriess  
CT Detection Performance - Jinyi Qi; Bruce R. Whiting  
Dose - Christoph Hoeschen; Dianna D. Cody  
Reconstruction I & II - Guang-Hong Chen; Michael Grass/ Thomas Flohr; Jeff Siewerdsen  
Tomosynthesis Reconstruction - John M. Sabol; Iacovos S. Kyprianou

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<td>Robert C. Moth, John B. Weaver</td>
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<td>Image Perception, Observer Performance, and Technology Assessment</td>
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<td>Advanced PACS-based Imaging Informatics and Therapeutic Applications</td>
<td>William W. Boorin, Brent J. Liu</td>
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## Abbreviations

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<tr>
<td>AAMI</td>
<td>Association for the Advancement of Medical Instrumentation</td>
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<tr>
<td>AAPM</td>
<td>American Association of Physicists in Medicine</td>
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<tr>
<td>ACR</td>
<td>American College of Radiology</td>
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<tr>
<td>APS</td>
<td>American Physiological Society</td>
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<tr>
<td>ARRS</td>
<td>American Roentgen Ray Society</td>
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<tr>
<td>ASNR</td>
<td>American Society of Neuroradiology</td>
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<tr>
<td>BIOS</td>
<td>Biomedical Optics Society</td>
</tr>
<tr>
<td>BRH</td>
<td>Bureau of Radiological Health, Department of Health, Education And Welfare</td>
</tr>
<tr>
<td>CARS</td>
<td>Computer Assisted Radiology and Surgery</td>
</tr>
<tr>
<td>CDRH</td>
<td>Center for Devices and Radiological Health, FDA</td>
</tr>
<tr>
<td>DICOM</td>
<td>The DICOM Standards Committee</td>
</tr>
<tr>
<td>EFOMP</td>
<td>European Federation of Organizations for Medical Physics</td>
</tr>
<tr>
<td>EMBS</td>
<td>IEEE Engineering in Medicine and Biology Group</td>
</tr>
<tr>
<td>EMBS</td>
<td>IEEE—The Institute of Electrical and Electronics Engineers/Engineering in Medicine and Biology Society</td>
</tr>
<tr>
<td>IEEE-CS</td>
<td>IEEE Computer Society, Technical Committee on Computational Medicine</td>
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<tr>
<td>IRS</td>
<td>Institute for Regulatory Science</td>
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<tr>
<td>IS&amp;T</td>
<td>The Society for Imaging Science and Technology</td>
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<tr>
<td>JPL</td>
<td>Jet Propulsion Laboratory</td>
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<tr>
<td>MIPS</td>
<td>Medical Image Perception Society</td>
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<td>NEMA</td>
<td>National Electrical Manufacturers Association/Diagnostic Imaging and Therapy, Systems Division</td>
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<tr>
<td>OSA</td>
<td>The Optical Society of America</td>
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<tr>
<td>RISC</td>
<td>Radiology Information System Consortium</td>
</tr>
<tr>
<td>RSNA</td>
<td>Radiological Society of North America</td>
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<tr>
<td>SCAR</td>
<td>Society for Computer Applications in Radiology</td>
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<tr>
<td>SIIM</td>
<td>Society for Imaging Informatics in Medicine</td>
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<tr>
<td>SMII</td>
<td>The Society for Molecular Imaging</td>
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<tr>
<td>SNM</td>
<td>The Society of Nuclear Medicine</td>
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<tr>
<td>SPIE</td>
<td>The Society of Photo-Optical Instrumentation Engineers</td>
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<td>SPSE</td>
<td>The Society of Photographic Scientists and Engineers</td>
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<tr>
<td>SRE</td>
<td>Society for Radiological Engineering</td>
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<tr>
<td>UWMS</td>
<td>University of Wisconsin Medical School</td>
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<td>WMIS</td>
<td>World Molecular Imaging Society</td>
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