

Medical Imaging 2013

Physics of Medical Imaging

Robert M. Nishikawa
Bruce R. Whiting
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Editors

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Part Two

- 8668 24 **Testing realism of software breast phantoms: texture analysis of synthetic mammograms** [8668-74]
P. R. Bakic, B. Keller, Y. Zheng, Y. Wang, J. C. Gee, D. Kontos, A. D. A. Maidment, Univ. of Pennsylvania (United States)

SESSION 15 DOSE

- 8668 25 **Estimation of patient dose with standard and low-dose MDCT fluoroscopy protocols for lung biopsy** [8668-75]
F. Zanca, A. Jacobs, W. De Wever, W. Crijns, R. Oyen, H. Bosmans, UZ Leuven (Belgium)
- 8668 26 **Radiation dose reduction in dual-energy CT using Prior Image Constrained Compressed Sensing: image quality evaluation in virtual monochromatic imaging** [8668-76]
S. Brunner, J. Garrett, Y. Li, J. Tang, K. Pulfer, Univ. of Wisconsin-Madison (United States); J. Hsieh, GE Healthcare (United States); H. Rowley, G.-H. Chen, Univ. of Wisconsin-Madison (United States)
- 8668 27 **Dependence of radiation dose on area and volumetric mammographic breast density estimation** [8668-77]
H. Jing, B. Keller, J. Choi, R. Crescenzi, E. Conant, A. D. A. Maidment, D. Kontos, Perelman School of Medicine at the Univ. of Pennsylvania (United States)
- 8668 28 **A real-time radiation dose monitoring system for patients and staff during interventional fluoroscopy using a GPU-accelerated Monte Carlo simulator and an automatic 3D localization system based on a depth camera** [8668-78]
A. Badal, US Food and Drug Administration (United States); F. Zafar, H. Dong, US Food and Drug Administration (United States) and Univ. of Maryland Baltimore County (United States); A. Badano, US Food and Drug Administration (United States)
- 8668 29 **Projection-based dose metric: accuracy testing and applications for CT design** [8668-79]
X. Tian, GE Global Research Ctr. (United States) and Carl E. Ravin Advanced Imaging Labs. (United States); Z. Yin, B. De Man, GE Global Research Ctr. (United States); E. Samei, Carl E. Ravin Advanced Imaging Labs. (United States) and Duke Univ. Medical Physics Graduate Program (United States)
- 8668 2A **Organ dose in chest CT: effect of modulation scheme on estimation accuracy** [8668-80]
X. Li, Carl E. Ravin Advanced Imaging Labs. (United States) and Duke Univ. (United States); W. P. Segars, E. Samei, Carl E. Ravin Advanced Imaging Labs. (United States), Duke Univ. (United States), and Duke Univ. Medical Physics Graduate Program (United States)

POSTER SESSION: ALGORITHM

- 8668 2B **Task based assessment of a motion compensation algorithm via simulation of a moving stenotic vessel** [8668-81]
B. E. Nett, GE Healthcare (United States); J. D. Pack, GE Global Research Ctr. (United States); D. Okerlund, GE Healthcare (United States)

- 8668 2C **Grid artifact reduction based on homomorphic filtering in digital radiography imaging** [8668-82]
D. S. Kim, Hankuk Univ. of Foreign Studies (Korea, Republic of); S. Lee, J. K. Yoon, DRTECH Co. (Korea, Republic of)
- 8668 2D **Atlas-based linear volume-of-interest (ABL-VOI) image correction** [8668-83]
A. K. Maier, Siemens AG (Germany); Z. Jiang, J. Jordan, C. Riess, H. G. Hofmann, J. Hornegger, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany)
- 8668 2E **Design and analysis of a calibration-method for stereo-optical motion tracking in MRI using a virtual calibration phantom** [8668-84]
M. Hoßbach, Fraunhofer IGD (Germany); J. Gregori, Fraunhofer MEVIS (Germany); S. Wesarg, Fraunhofer IGD (Germany); M. Günther, Fraunhofer MEVIS (Germany)
- 8668 2F **Truncation correction for VOI C-arm CT using scattered radiation** [8668-85]
B. Bier, A. Maier, H. G. Hofmann, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); C. Schwemmer, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany) and Erlangen Graduate School in Advanced Optical Technologies (Germany); Y. Xia, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); T. Struffert, Universitätsklinikum Erlangen (Germany); J. Hornegger, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany)
- 8668 2G **A papillary muscle guided motion estimation method for gated cardiac imaging** [8668-86]
J. Wang, G. S. K. Fung, T. Feng, B. M. W. Tsui, Johns Hopkins Univ. (United States)
- 8668 2H **Noise reduction of low-dose computed tomography using the multi-resolution total variation minimization algorithm** [8668-87]
C.-T. Shih, National Tsing Hua Univ. (Taiwan); S.-J. Chang, Institute of Nuclear Energy Research (Taiwan); Y.-N. Liu, National Tsing Hua Univ. (Taiwan); J. Wu, China Medical Univ. (Taiwan)
- 8668 2I **Monte Carlo modeling of field angle-dependent spectra for x-ray imaging systems** [8668-88]
E. B. Gindele, Carestream Health, Inc. (United States)
- 8668 2J **Fast iterative beam hardening correction based on frequency splitting in computed tomography** [8668-89]
Q. Yang, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany) and Siemens AG (Germany); M. Elter, I. Schasiepen, N. Maass, Siemens AG (Germany); J. Hornegger, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany) and School in Advanced Optical Technologies (Germany)
- 8668 2K **Removing intra plane blurring in dental panoramas** [8668-90]
C. Hofmann, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); M. Knaup, German Cancer Research Ctr. (Germany); M. Kachelrieß, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany) and German Cancer Research Ctr. (Germany)

- 8668 2L **Cascaded-systems analyses of the DQE of double-Z x-ray detectors including photoelectric, coherent and incoherent interactions** [8668-91]
S. Yun, Robarts Research Institute (Canada), Univ. of Western Ontario (Canada), and Pusan National Univ (Korea, Republic of); J. Tanguay, Robarts Research Institute (Canada) and Univ. of Western Ontario (Canada); H. K. Kim, Pusan National Univ. (Korea, Republic of); I. A. Cunningham, Robarts Research Institute (Canada) and Univ. of Western Ontario (Canada)
- 8668 2M **Hybrid EID algorithm for PCD/EID-CT systems** [8668-92]
K. Taguchi, G. S. K. Fung, Q. Tang, J. Cammin, Johns Hopkins Univ. School of Medicine (United States)
- 8668 2N **Cardiac deformation indices derived from motion estimated x-ray computed tomography** [8668-93]
L. Jiang, Q. Tang, K. Taguchi, Johns Hopkins Univ. School of Medicine (United States)
- 8668 2O **Metal artifact reduction based on beam hardening correction and statistical iterative reconstruction for x-ray computed tomography** [8668-94]
Y. Zhang, X. Mou, Xi'an Jiaotong Univ. (China)

POSTER SESSION: CONE BEAM CT

- 8668 2P **A model-based volume restoration approach for Monte Carlo scatter correction in image reconstruction of cone beam CT with limited field of view** [8668-95]
G. Zhang, R. Jacobs, H. Bosmans, UZ Leuven (Belgium)
- 8668 2Q **A method to characterize the radiation output from a cone beam O-arm using a device for dose and dose profile scanning measurement** [8668-96]
L. Herrnsdorf, M. Söderberg, Lund Univ. (Sweden)
- 8668 2R **Volume of interest CT implemented with a dynamic bowtie filter** [8668-97]
T. P. Szczykutowicz, C. Mistretta, Univ. of Wisconsin-Madison (United States)
- 8668 2S **Radiation dose reduction and CNR enhancement in C-arm cone beam CT** [8668-100]
K. Niu, J. Tang, Univ. of Wisconsin-Madison (United States); K. Royalty, Siemens Medical Solutions (United States); O. Ozkan, C. Strother, B. Aagaard-Kienitz, K. A. Pulfer, G.-H. Chen, Univ. of Wisconsin-Madison (United States)
- 8668 2T **Motion detection in cone-beam computed tomography incorporating a geometric calibration approach** [8668-101]
R. D. Pua, B. Yoo, C. H. Kim, S. Cho, KAIST (Korea, Republic of)
- 8668 2U **Infinite impulse response filtering for cone beam tomography** [8668-102]
K. Barth, F. Dennerlein, T. Brunner, A. Fieselmann, R. Graumann, Siemens AG (Germany)
- 8668 2V **ML reconstruction of cone-beam projections acquired by a flat-panel rotational x-ray device** [8668-103]
T. Pfeiffer, R. Frysich, S. Gugel, G. Rose, Univ. of Magdeburg (Germany)

- 8668 2W **A new approach for prospectively gated cardiac rotational angiography** [8668-104]
S. De Buck, D. Dauwe, J.-Y. Wielandts, P. Claus, S. Janssens, H. Heidebuchel, D. Nuyens,
Katholieke Univ. Leuven (Belgium)
- 8668 2X **Simulation study of cone beam CT for visualizing cell clusters in breast biopsies** [8668-105]
C. Laamanen, R. J. LeClair, Laurentian Univ. (Canada)
- 8668 2Z **Single-scan energy-selective imaging on cone-beam CT: a preliminary study** [8668-107]
X. Dong, T. Niu, L. Zhu, Georgia Institute of Technology (United States)
- 8668 30 **An integrated x-ray/optical tomography system for pre-clinical radiation research**
[8668-108]
S. Eslami, Johns Hopkins Univ. (United States); Y. Yang, J. Wong, Johns Hopkins Univ. School
of Medicine (United States); M. S. Patterson, McMaster Univ. (Canada); I. Iordachita, Johns
Hopkins Univ. (United States)
- 8668 31 **Image reconstruction of arc cone-beam CT with reprojection: a preliminary study**
[8668-109]
S.-C. B. Lo, M. T. Freedman, Georgetown Univ. Medical Ctr. (United States)

POSTER SESSION: CONVENTIONAL CT

- 8668 33 **Evaluation of adaptation strengths of CARE Dose 4D in pediatric CT** [8668-111]
M. Söderberg, S. La, Lund Univ., Skåne Univ. Hospital (Sweden)
- 8668 35 **Alternative noise map estimation methods for CT images** [8668-113]
D. Shi, Toshiba Medical Research Institute USA, Inc. (United States)
- 8668 36 **FPGA-based forward and back-projection operators for tomographic reconstruction**
[8668-114]
K. Jin, Korea Institute of Industrial Technology (Korea, Republic of); S. Song, MDS
Technology Co. (Korea, Republic of)
- 8668 37 **Modelling and simulation of a respiratory motion monitor using a continuous wave Doppler
radar in near field** [8668-115]
F. Pfanner, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany) and Siemens AG
(Germany); T. Allmendinger, T. Flohr, Siemens AG (Germany); M. Kachelrieß, Friedrich-
Alexander-Univ. Erlangen-Nürnberg (Germany) and German Cancer Research Ctr.
(Germany)
- 8668 38 **Feasibility study on multiple fan-beam data acquisition for low-dose helical CT** [8668-116]
T. Lee, M. Park, Y. Lee, KAIST (Korea, Republic of); I. Kim, B. Han, Ebttech, Inc. (Korea,
Republic of); S. Cho, KAIST (Korea, Republic of)
- 8668 39 **Statistical CT noise reduction with multi-scale decomposition and penalized weighted least
square for incomplete projection data** [8668-118]
S. Tang, Emory Univ. School of Medicine (United States) and Xi'an Univ. of Posts and
Telecommunications (China); X. Tang, Emory Univ. School of Medicine (United States)

POSTER SESSION: CT RECONSTRUCTION

- 8668 3A **Bregman regularized statistical image reconstruction method and application to prior image constrained compressed sensing (PICCS)** [8668-119]
Y. Li, P. Thériault Lauzier, J. Tang, G.-H. Chen, Univ. of Wisconsin-Madison (United States)
- 8668 3B **A new padding scheme for local tomography in tomographic microscopy** [8668-120]
Y. Pan, F. De Carlo, Argonne National Lab. (United States)
- 8668 3C **Influence of metal segmentation on the quality of metal artifact reduction methods** [8668-121]
M. Stille, B. Kratz, J. Müller, Univ. of Lübeck (Germany); N. Maass, I. Schasiepen, M. Elter, Siemens AG (Germany); I. Weyers, T. M. Buzug, Univ. of Lübeck (Germany)
- 8668 3D **TV-Stokes strategy for sparse-view CT image reconstruction** [8668-122]
Y. Liu, L. Chen, H. Zhang, K. Wang, Stony Brook Univ., SUNY (United States); J. Ma, Southern Medical Univ. (China); Z. Liang, Stony Brook Univ., SUNY (United States)
- 8668 3E **A comparison study of sinogram- and image-domain penalized re-weighted least-squares approaches to noise reduction for low-dose cone-beam CT** [8668-123]
H. Zhang, Y. Liu, H. Han, Stony Brook Univ., SUNY (United States); J. Wang, Univ. of Texas Southwestern Medical Ctr. (United States); J. Ma, Stony Brook Univ., SUNY (United States) and Southern Medical Univ. (China); L. Li, City Univ. of New York, SUNY (United States); Z. Liang, Stony Brook Univ., SUNY (United States)
- 8668 3F **Background filtering for accuracy improvement in computed tomography with iterative region-of-interest reconstruction** [8668-124]
K. Yamakawa, S. Kojima, Hitachi Ltd. (Japan)
- 8668 3G **Co-registered image quality comparison in hybrid iterative reconstruction techniques: SAFIRE and SafeCT** [8668-125]
S. Lee, Massachusetts General Hospital (United States) and Yonsei Univ. (Korea, Republic of); A. Shima, S. Singh, M. K. Kalra, Massachusetts General Hospital (United States); H.-J. Kim, Yonsei Univ. (Korea, Republic of); S. Do, Massachusetts General Hospital (United States)
- 8668 3H **Iterative CT reconstruction using continuous model** [8668-126]
Y. Pan, D. Shi, A. A. Zamyatin, Toshiba Medical Research Institute USA, Inc. (United States)
- 8668 3I **Image reconstruction from limited-angle range projections** [8668-127]
N. Du, Y. Feng, A. M. Grigoryan, Univ. of Texas at San Antonio (United States)
- 8668 3J **Impact of noise level and edge sharpness of a prior image on the performance of Prior Image Constrained Compressed Sensing (PICCS)** [8668-128]
Y. Tao, J. Tang, M. Speidel, G.-H. Chen, Univ. of Wisconsin-Madison (United States)
- 8668 3K **Evaluation of reconstructed images from sparse data on the micro-CT system** [8668-129]
D.-H. Kim, H.-J. Kim, P.-H. Jeon, Yonsei Univ. (Korea, Republic of)
- 8668 3L **Low-dose CT reconstruction based on multiscale dictionary** [8668-130]
T. Bai, X. Mou, Q. Xu, Y. Zhang, Xi'an Jiaotong Univ. (China)

- 8668 3M **Detection of low-dose CT reconstruction artifacts using a bi-modal approach** [8668-131]
S. Mahmood, K. Mueller, Stony Brook Univ., SUNY (United States) and SUNY Korea (Korea, Republic of)
- 8668 3N **Truncation artifact correction by support recovery** [8668-132]
S. S. Hsieh, Stanford Univ. (United States); G. Cao, B. E. Nett, GE Healthcare (United States); N. J. Pelc, Stanford Univ. (United States)

POSTER SESSION: DETECTORS

- 8668 3O **User-friendly ultra-fast simulation of detector DQE(f)** [8668-133]
E. Abel, M. Sun, Varian Medical Systems Inc. (United States); D. Constantin, R. Fahrig, Stanford Univ. (United States); J. Star-Lack, Varian Medical Systems Inc. (United States)
- 8668 3P **Quantitative breast imaging using photon counting detector** [8668-23]
S. Han, D.-G. Kang, S. Kang, Y. Sung, Samsung Advanced Institute of Technology (Korea, Republic of)
- 8668 3Q **Application of organic semiconductors in amorphous selenium based photodetectors for high performance x-ray imaging** [8668-135]
S. Abbaszadeh, Z. Du, N. Allec, K. S. Karim, Univ. of Waterloo (Canada)
- 8668 3R **Spatial resolution characteristics of a-Se imaging detectors using Monte Carlo methods with detailed spatiotemporal transport of x-rays, electrons, and electron-hole pairs under applied bias** [8668-136]
Y. Fang, US Food and Drug Administration (United States) and Univ. of Waterloo (Canada); A. Badal, A. Badano, US Food and Drug Administration (United States); K. S. Karim, Univ. of Waterloo (Canada)
- 8668 3S **Fabrication and characterization of a novel x-ray silicon detector** [8668-137]
K.-W. Shin, K. S. Karim, Univ. of Waterloo (Canada)
- 8668 3T **High performance microstructured $\text{Lu}_2\text{O}_3\text{:Eu}$ thin film scintillator for x-ray computed tomography** [8668-138]
Z. Marton, H. B. Bhandari, C. Brecher, S. R. Miller, B. Singh, V. V. Nagarkar, Radiation Monitoring Devices, Inc. (United States)
- 8668 3U **Low dark current and high dynamic range a-Si:H MSM photodetector for large area medical imaging** [8668-139]
S. Ghanbarzadeh, S. Abbaszadeh, Univ. of Waterloo (Canada); M. Adachi, Univ. of Toronto (Canada) and Univ. of Waterloo (Canada); K. S. Karim, Univ. of Waterloo (Canada)
- 8668 3V **Investigating the optical diffusion capabilities of nanophosphors for use in medical imaging** [8668-224]
P. F. Liaparinos, I. S. Kandarakis, Technological Educational Institute of Athens (Greece)

- 8668 3W **Light emission efficiency of $\text{Lu}_2\text{O}_3\text{:Eu}$ nanophosphor scintillating screen under x-ray radiographic conditions** [8668-225]
I. E. Seferis, Medical School, Univ. of Patras (Greece); N. I. Kalyvas, I. G. Valais, C. M. Michail, P. F. Liaparinos, G. P. Fountos, Technological Educational Institute of Athens (Greece); E. Zych, Wroclaw Univ. (Poland); I. S. Kandarakis, Technological Educational Institute of Athens (Greece); G. S. Panayiotakis, Medical School, Univ. of Patras (Greece)

POSTER SESSION: DOSE

- 8668 3X **Expanded analysis of occupational dose in interventional and diagnostic fluoroscopy with the use of active dosimeters** [8668-141]
R. Bujila, C. Palmgren, A. Omar, A. Fransson, Karolinska Univ. Hospital (Sweden)
- 8668 3Y **Dose reduction in fluoroscopic interventions using a combination of a region of interest (ROI) x-ray attenuator and spatially different, temporally variable temporal filtering** [8668-142]
S. N. Swetadri Vasan, Univ. of Buffalo (United States) and Toshiba Stroke and Vascular Research Ctr., Univ. of Buffalo (United States); L. Pope, C. N. Ionita, Toshiba Stoke and Vascular Research Ctr., Univ. at Buffalo (United States); A. H. Titus, Univ. at Buffalo (United States) and Toshiba Stroke and Vascular Research Ctr., Univ. of Buffalo (United States); D. R. Bednarek, Toshiba Stoke and Vascular Research Ctr., Univ. at Buffalo (United States); S. Rudin, Univ. at Buffalo (United States) and Toshiba Stroke and Vascular Research Ctr., Univ. of Buffalo (United States)
- 8668 3Z **Updates in the real-time dose tracking system (DTS) to improve the accuracy in calculating the radiation dose to the patients skin during fluoroscopic procedures** [8668-143]
V. K. Rana, S. Rudin, D. R. Bednarek, Toshiba Stroke and Vascular Research Ctr., Univ. of Buffalo (United States)
- 8668 40 **Extraction of coronary angiographic information from low tube current HYPR-CT myocardial perfusion scans** [8668-144]
Y. Tao, M. Speidel, M. Van Lysel, G.-H. Chen, Univ. of Wisconsin-Madison (United States)
- 8668 41 **Image extrapolation for patient-specific CT dose determination based on scout images** [8668-145]
Q. Liang, L. A. DeWerd, Univ. of Wisconsin-Madison (United States)
- 8668 42 **An approach to correlate the CTDI_{vol} to organ dose for thorax and abdomen CT taking tube current modulation and patient size into account** [8668-146]
X. Lopez Rendon, F. Zanca, R. Oyen, H. Bosmans, UZ Leuven (Belgium)
- 8668 43 **Longitudinal study of radiation exposure in computed tomography with an in-house developed dose monitoring system** [8668-147]
B. Renger, E. J. Rummeny, P. B. Noël, Technische Univ. München (Germany)

- 8668 44 **Comparative dosimetry of radiography, tomosynthesis, and CT for chest imaging across 59 adult patients** [8668-148]
Y. Zhang, Duke Univ. Medical Physics Graduate Program (United States) and Carl E. Ravin Advanced Imaging Labs. (United States); X. Li, Carl E. Ravin Advanced Imaging Labs. (United States) and Duke Univ. (United States); W. P. Segars, E. Samei, Duke Univ. Medical Physics Graduate Program (United States), Carl E. Ravin Advanced Imaging Labs. (United States), and Duke Univ. (United States)

POSTER SESSION: IMAGING METHODS

- 8668 45 **Comparison of photon counting and conventional scintillation detectors in pinhole SPECT system for small animal imaging** [8668-149]
Y.-J. Lee, H.-J. Ryu, S.-J. Park, H.-J. Kim, Yonsei Univ. (Korea, Republic of)

Part Three

- 8668 46 **Non-invasive high-resolution tracking of human neuronal pathways: diffusion tensor imaging at 7T with 1.2 mm isotropic voxel size** [8668-150]
R. Lützkendorf, F. Hertel, Otto-von-Guericke-Univ. Magdeburg (Germany); R. Heidemann, Siemens Healthcare Sector (Germany); A. Thiel, OFFIS Oldenburg (Germany); M. Luchtmann, M. Plaumann, Otto-von-Guericke-Univ. Magdeburg (Germany); J. Stadler, Leibniz Institute for Neurobiology (Germany); S. Baecke, J. Bernarding, Otto-von-Guericke-Univ. Magdeburg (Germany)
- 8668 47 **Motion correction of rodent thoracic PET image using radioactive bead and MRI image** [8668-151]
J. W. Yu, Korea Institute of Radiological and Medical Sciences (Korea, Republic of) and Yonsei Univ. (Korea, Republic of); S.-K. Woo, Y. J. Lee, I. O. Ko, R. J. Yoo, J. H. Kang, B. I. Kim, Korea Institute of Radiological and Medical Sciences (Korea, Republic of); Y. H. Chung, Yonsei Univ. (Korea, Republic of); S. M. Lim, K. M. Kim, Korea Institute of Radiological and Medical Sciences (Korea, Republic of)
- 8668 49 **LASCA and PPG imaging for non-contact assessment of skin blood supply** [8668-153]
D. Jakovels, U. Rubins, J. Spigulis, Univ. of Latvia (Latvia)
- 8668 4A **Multispectral imaging for early diagnosis of melanoma** [8668-154]
A. Pelagotti, P. Ferrara, L. Pescitelli, C. Delfino, CNR-INO (Italy); G. Gerlini, Azienda Sanitaria Locale (Italy); A. Piva, Univ. of Florence (Italy); L. Borgognoni, Azienda Sanitaria Locale (Italy);
- 8668 4C **Improved DOT reconstruction by estimating the inclusion location using artificial neural network** [8668-156]
R. Patra, P. K. Dutta, Indian Institute of Technology Kharagpur (India)

- 8668 4D **Single-shot phase-shifting digital holography** [8668-157]
J. Zhang, Y. Xie, CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States) and Univ. of Electronic Science & Technology of China (China); G. Li, CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States); Y. Ye, Univ. of Electronic Science & Technology of China (China); B. E. A. Saleh, CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States)

POSTER SESSION: MAMMOGRAPHY

- 8668 4E **Pressure distribution in mammography: compression of breasts with malignant tumor masses (Cum Laude Poster Award)** [8668-158]
D. Förnvik, M. Dustler, I. Andersson, H. Brorson, P. Timberg, S. Zackrisson, A. Tingberg, Lund Univ., Skåne Univ. Hospital (Sweden)
- 8668 4F **Optimizing the acquisition parameters of a newly developed digital breast tomosynthesis system** [8668-159]
H.-S. Park, Y.-S. Kim, Yonsei Univ. (Korea, Republic of); J. Choi, Y.-W. Choi, Korea Electrotechnology Research Institute (Korea, Republic of); H.-J. Kim, Yonsei Univ. (Korea, Republic of)
- 8668 4G **Energy dispersive x-ray diffraction computed tomography of breast-simulating phantoms and a tissue sample** [8668-160]
S. M. Alkhateeb, Univ. of Surrey (United Kingdom) and King Abdulaziz Univ. (Saudi Arabia); M. H. Abdelkader, Univ. of Surrey (United Kingdom) and Ain Shams Univ. (Egypt); D. A. Bradley, Univ. of Surrey (United Kingdom); P. Seller, M. C. Veale, M. D. Wilson, Rutherford Appleton Lab. (United Kingdom); S. Pani, Univ. of Surrey (United Kingdom)
- 8668 4H **Mask collimation meets high-efficient data acquisition: a novel design of a low-dose-CT-scanner for breast-imaging** [8668-161]
C. Braun, O. Tischenko, Helmholtz Zentrum München GmbH (Germany); R. Giedl-Wagner, GFH GmbH (Germany); H. Schlattl, C. Hoeschen, Helmholtz Zentrum München GmbH (Germany)
- 8668 4I **The influence of position within the breast on microcalcification detectability in continuous tube motion digital breast tomosynthesis** [8668-162]
E. Shaheen, N. W. Marshall, H. Bosmans, UZ Leuven (Belgium)
- 8668 4J **Breast image registration by using non-linear local affine transformation** [8668-163]
F. Chen, P. Zheng, P. Xu, Delaware State Univ. (United States); A. D. A. Maidment, P. R. Bakic, Univ. of Pennsylvania (United States); D. D. Pokrajac, F. Liu, X. Shi, Delaware State Univ. (United States)
- 8668 4K **Reduction of patient dose in digital mammography: simulation of low-dose image using computed radiography system and flat panel detector system** [8668-164]
Y. Saito, Nagoya Univ. (Japan); M. Sakai, Nagoya Daini Red Cross Hospital (Japan); N. Fujita, Nagoya Univ. Hospital (Japan); Y. Kodera, Nagoya Univ. (Japan)

- 8668 4L **Estimating breast density with dual energy mammography: a simple model based on calibration phantoms** [8668-165]
H. Chung, L. Ikejimba, N. Kiarashi, E. Samei, Duke Univ. Medical Ctr. (United States);
M. Hoernig, Siemens Healthcare (Germany); J. Y. Lo, Duke Univ. Medical Ctr. (United States)

POSTER SESSION: METROLOGY

- 8668 4M **Are uniform phantoms sufficient to characterize the performance of iterative reconstruction in CT?** [8668-166]
J. Solomon, E. Samei, Carl E. Ravin Advanced Imaging Labs. (United States) and Duke Univ. (United States)
- 8668 4N **Noise power spectrum and modulation transfer function analysis of breast tomosynthesis imaging** [8668-167]
W. Zhou, L. Cong, Southern Illinois Univ. Carbondale (United States); X. Qian, Y. Z. Lee, The Univ. of North Carolina (United States); J. Lu, O. Zhou, The Univ. of North Carolina (United States) and The Lineberger Comprehensive Cancer Ctr. (United States); Y. Chen, Southern Illinois Univ. Carbondale (United States)
- 8668 4O **System sharpness (STF) analysis of HD-OCT in 3D space using standard MTF methods** [8668-168]
H. Scherer, R. Nebosis, M. Schulz, M. Weber, Agfa-Gevaert HealthCare GmbH (Germany)
- 8668 4P **Evaluation of nonlinear pre-sampled modulation transfer function in iterative reconstruction CT** [8668-169]
H. M. Jin, J. H. Kim, Seoul National Univ. (Korea, Republic of)
- 8668 4Q **An experimental study on the shift-variant MTF of CT systems using a simple cylindrical phantom** [8668-170]
S. Kam, H. Youn, H. K. Kim, Pusan National Univ. (Korea, Republic of); H. Jeon, Pusan National Univ. Yangsan Hospital (Korea, Republic of)
- 8668 4R **Characterisation of a breast tomosynthesis unit to simulate images** [8668-171]
A. Mackenzie, Royal Surrey County Hospital (United Kingdom); N. W. Marshall, UZ Leuven (Belgium); D. R. Dance, Royal Surrey County Hospital (United Kingdom); H. Bosmans, UZ Leuven (Belgium); K. C. Young, Royal Surrey County Hospital (United Kingdom)

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- 8668 4S **Characterization of spectral x-ray imaging for dental cone-beam computed tomography** [8668-174]
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