Tentative Program - Poster Sessions
* temporary list, not in final order by poster sessions

Analysis of scatter artifacts in cone-beam CT due to scattered radiation of metallic objects
Domenico Iuso, Robert Frysch, Tim Pfeiffer, Georg Rose
Otto von Guericke University, Institute for Medical Engineering, Magdeburg, Germany

A Sinogram Inpainting Method based on Generative Adversarial Network for Limited-angle Computed Tomography
Ziheng Li, Wenkun Zhang, Linyuan Wang, Ailong Cai, Ningning Liang, Bin Yan, Lei Li
National Digital Switching System Engineering & Technological Research Centre, Zhengzhou, Henan, China

Photon-counting CBCT Iterative Reconstruction for Adaptive Proton Therapy
Takashi Yamaguchi
Sumitomo Heavy Industries, Ltd., Yokosuka, Kanagawa, Japan

Simulation of 3D benchtop multi-pinhole x-ray fluorescence computed tomography with two novel geometries
Luzhen Deng, Biao Wei, Peng He, Jing Guo, Pengcheng Li, Peng Feng
a Key Laboratory of Optoelectronics Technology & System, Chongqing University, Ministry of Education, Chongqing, China
b Engineering Research Center of Industrial Computed Tomography Nondestructive Testing, Chongqing University, Ministry of Education, Chongqing, China
c Collaborative Innovation Center for Brain Science, Chongqing University, Chongqing, China

A fast gradient-based algorithm for image reconstruction in inverse geometry CT architecture with sparse distributed sources
Frédéric Jolivet, Clarisse Fournier, Andrea Brambilla
a CEA, LETI, Univ. Grenoble Alpes, MINATEC Campus, Grenoble, France

Clipping-Induced Bias Correction for Low-Dose CT Imaging
Kevin M. Brown
Philips Healthcare, Cleveland, OH, USA

Multislice anthropomorphic model observer for detectability evaluation on breast cone beam CT images
Minah Han, Jongduk Baek
School of Integrated Technology and Yonsei Institute of Convergence Technology, Yonsei University, Incheon, South Korea

CTL: Modular Open-source C++-Library for CT-Simulations
Tim Pfeiffer, Robert Frysch, Richard N. K. Bismark, Georg Rose
Otto von Guericke University Magdeburg, Institute for Medical Engineering, Magdeburg, Germany
Truncation artifacts caused by the patient table in polyenergetic statistical reconstruction on real C-arm CT data
Richard N.K. Bismark Georg Rose
University of Magdeburg, Institute for Medical Engineering, Magdeburg, Germany

Low dose photon counting CT reconstruction bias reduction with multi-energy alternating minimization algorithm
Jingwei Lu a, Shuangyue Zhang a, David G. Politte b, Joseph A. O’Sullivan a
a Washington University in St. Louis, Department of Electrical and Systems Engineering, St. Louis, MO, USA
b Washington University School of Medicine, Electronic Radiology Laboratory, Mallinckrodt Institute of Radiology, St. Louis, MO, USA

Noise reduction in photon-counting CT using frequency-dependent optimal weighting
Mats Persson a, b, Norbert J. Pelc a, b, c
a Department of Bioengineering, Stanford University, Stanford, CA, USA
b Department of Radiology, Stanford University, Stanford, CA, USA
c Department of Electrical Engineering, Stanford University, Stanford, CA, USA

Reduction of beam hardening induced metal artifacts using consistency conditions
Shiras Abdurahman, Robert Frysch, Georg Rose
Institute for Medical Engineering and Research Campus STIMULATE, Magdeburg, Germany

Bone sparsity model for computed tomography image reconstruction
Emil Y. Sidky a, Holly L. Stewart b, Christopher E. Kaucak b, C. Wayne McIlwraith b, Martine C. Duff c, Xiaochuan Pan a
a The University of Chicago, Department of Radiology, Chicago IL, USA
b Colorado State University, Department of Clinical Sciences, College of Veterinary Medicine and Biomedical Sciences, Fort Collins, CO, USA
c Savannah River National Laboratory, Aiken, SC, USA

Beam hardening correction using pair-wise fan beam consistency conditions
Shiras Abdurahman, Robert Frysch, Georg Rose
Institute for Medical Engineering and Research Campus STIMULATE, Magdeburg, Germany.

Edge-masked CT image reconstruction from limited data
Victor Churchill, Anne Gelb
a Dartmouth College, Department of Mathematics, Hanover, NH, USA

Real-time GPU implementation of a weighted filtered back-projection algorithm for stationary gantry CT reconstruction
William Thompson a, Edward Morton a, Alexander Katsevich b, c, Seongjin Yoon b, Michael Frenkel b
a Rapiscan Systems, Torrance, CA, USA
b iTomography Corp., Texas Medical Center Innovation Institute, Houston, TX, USA
c University of Central Florida, Mathematics Department, Orlando, FL, USA

K-edge imaging visualization of multi-material decomposition in CT using virtual mono-energetic images
Kevin C Ma, Thomas W Holmes, Amir Pourmorteza
Emory University, Department of Radiology and Imaging Sciences, Atlanta, GA, USA
Toward quantitative short-scan cone beam CT using FDK with equal weighting and image domain shading correction
Linxi Shi a, Lei Zhu b, Adam Wang a
a Department of Radiology, Stanford University, Stanford, CA, USA
b Department of Engineering and Applied Physics, University of Science and Technology of China, Hefei, China

Scatter correction using pair-wise fan beam consistency conditions
Shiras Abdurahman, Robert Frysch, Georg Rose
Institute for Medical Engineering and Research Campus STIMULATE, Magdeburg, Germany

Linear interpolation based structure preserved metal artifact reduction in x-ray computed tomography
Huisu Yoon, Kyoung-Yong Lee
Samsung Electronics, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

Curvature constraint based image reconstruction for limited-angle computed tomography
Xiao Xue a,b, Shusen Zhao a,b, Yunsong Zhao a,b, Peng Zhang a,b
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Fast Ordered Subsets Chambolle-Pock Algorithm for CT Reconstruction
Xiaojuan Deng a,b, Wenbin Xu a,b, Hongwei Lia b
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b Beijing Advanced Innovation Center for Imaging Technology, Capital Normal University, Beijing, China

Attenuation correction for x-ray fluorescence computed tomography (XFCT) utilizing transmission CT image
Siyuan Zhang a,b, Liang Li a,b, Zhiqiang Chen a
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Spectral CT reconstruction algorithm based on Adaptive tight frame wavelet and total variation
Huihua Kong a,b, Lei Lei a,b, Ping Chen b
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Multi-energy computed tomography reconstruction using an average image induced low-rank tensor decomposition with spatial-spectral total variation regularization
Lisha Yao a,b, Dong Zeng a,b, Zhaoying Bian a,b, Jianhua Ma a,b
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Statistical Iterative Material Image Reconstruction with Patch based Enhanced 3DTV Regularization for Photon Counting CT
Danyang Li a,b, Sui Li a,b, Dong Zeng a,b, Zhaoying Bian a,b, Jianhua Ma a,b
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Reducing high-density object artifacts with iterative image reconstruction in digital tomosynthesis
Hyeongseok Kim, Jongha Lee, Seungryong Cho
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Artifacts Reduction Method in 4DCBCT based on a Weighted Demons Registration Framework
Shaohua Zhi, Bangliang Jiang, Marc Kachelrieß, Xuanqin Mou
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A field of view based metal artifact reduction method with the presence of data truncation
Seungwon Choi, Seunghyuk Moon, Jongduk Baek
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Inverse-Geometry CT with Linearly Distributed Source and Detector: Stationary Configuration and Direct Filtered-Backprojection Reconstruction
Tao Zhang, Yuxiang Xing, Hewei Gao, Zhiqiang Chen, Li Zhang
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Enhanced spatial resolution in cone beam X-ray luminescence computed tomography using primal-dual Newton Conjugate Gradient method
Peng Gao, Junyan Rong, Tianshuai Liu, Hongbing Lu
Fourth Military Medical University, Xi’an, China

Efficient Nullspace-constrained Modifications of Incompletely Sampled CT Images
Robert Frysch, Sebastian Bannasch, Vojtěch Kulvait, Georg Rose
\textit{Otto von Guericke University Magdeburg, Institute for Medical Engineering, Magdeburg, Germany}

GCC-based extrapolation of truncated CBCT data with dimensionality-reduced extrapolation models
Daniel Punzet, Robert Frysch, Tim Pfeiffer, Oliver Beuing, Georg Rose
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Dynamic angle selection for few-view X-ray inspection of CAD based objects
Alice Presenti, Jan Sijbers, Jan De Beenhouwer
\textit{University of Antwerp, imec-Vision Lab, Department of Physics, Antwerp, Belgium}

A Fast Illumination Range Computation Algorithm for Helical Cardiac Cone Beam Reconstruction
Hongbin Guo, Qing Ye
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Spatial uniformity correction for MARS photon-counting detectors
Matthew Getzin, Mengzhou Li, David Rundle, Anthony P. Butler, Ge Wang
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Double-Helix Trajectory for Image Guided Radiation Therapy: Geometry and Image Reconstruction
Zhicong Yu, Chuanyong Bai, Daniel Gagnon
Imaging Technologies, Accuray Incorporated, Solon, OH, USA

Bone Induced Artifacts Elimination using Two-Step Convolutional Neural Network
Bin Su,a Yanyan Liu,a Yifeng Jiang,a Jianwei Fu,a Guotao Quana
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Study on spectral CT material decomposition via deep learning
Xiaochuan Wu, Peng He, Zourong Long, Pengcheng Li, Biao Wei and Peng Feng
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A deep learning approach for dual-energy CT imaging using single-energy CT data
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Evaluation of Image Quality of a Deep Learning Image Reconstruction Algorithm
Meghan Yue, Jie Tang, Brian E. Nett, Jiang Hsieh, Roy Nilsen, Jiahua Fan
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A Novel Transfer Learning Framework for Low-Dose CT
Hongming Shan,a Uwe Krugera, Ge Wanga
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Combination of CT Motion Simulation and Deep Convolutional Neural Networks with Transfer Learning to Recover Agatston Scores
Thomas Wesley Holmes, Kevin Ma, Amir Pourmorteza
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CNN-based virtual monochromatic imaging in spectral CT
Chuqing Feng,a,b Kejun Kang,a,b Yuxiang Xing,a,b
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Non-uniformity Correction for Photon-counting Detectors Using Double GANs
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Learned digital subtraction angiography (Deep DSA): Method and application to lower extremities
Elias Eulig,a Joscha Maier,a Michael Knaupa, Thomas Koenig,b Klaus Hördler,b and Marc Kachelrießa
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Quadratic Autoencoder for Low-Dose CT Denoising
Fenglei Fan, Hongming Shan, Ge Wang
Rensselaer Polytechnic Institute, Biomedical Imaging Center, Dep. of Biomedical Engineering, Troy, NY, USA
Low-dose Cerebral CT Perfusion Restoration via Non-Local Convolution Neural Network: Initial Study
Sui Li, Dong Zeng, Zhaoying Bian, Jianhua Ma
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Direct Image Reconstruction From Raw Measurement Data Using an Encoding Transform Refinement-and-Scaling Neural Network
William Whiteley, Jens Gregor
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A Hybrid Ring Artifact Reduction Algorithm Based on CNN in CT Images
Shaojie Chang, Xi Chen, Jiayu Duan, Xuanqin Mou
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Reconstructing interior transmission tomographic images with an offset-detector using deep neural network
Hoyeon Lee, Hyeongseok Kim, Seungryong Cho
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Information Retrieval in X-ray Imaging with Grating Interferometry Using Convolution Neural Network
Chengpeng Wu, Yuxiang Xing, Hewei Gao, Li Zhang, Xinbin Li, Shengping Wang
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A Spatial Information Incorporation Method for Irregular Sampling CT based on Deep Learning
Zaifeng Shi, Zhongqi Wang, Huilong Li, Jinzhuo Li, Qingjie Cao
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School of Mathematical Sciences, Tianjin Normal University, Tianjin, China

Projection Super-resolution Based on Convolutional Neural Network for Computed Tomography
Chao Tang, Wenkun Zhang, Ziheng Li, Ailong Cai, Linyuan Wang, Lei Li, Ningning Liang, Bin Yan
National Digital Switching System Engineering & Technological Research Centre, Henan, China

Medical (CT) Image Generation with Style
Arjun Krishna, Klaus Mueller
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Green’s one-step-late algorithm does not work for SPECT with attenuation correction
Larry Zeng
Weber State University, Department of Radiology, University of Utah, Salt Lake City, USA

Bulk motion detection and correction using list-mode data for cardiac PET imaging
Tao Sun, Yoann Petibon, Paul Han, Chao Ma, Sally J. W. Kim, Nathaniel M. Alpert, Georges El Fakhri, Jinsong Ouyang
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Department of Radiology, Harvard Medical School, Boston, MA, USA
Superiterative Image Reconstruction in PET
Pablo Galve, José Manuel Udias, Alejandro Lopez-Montes, and Joaquin L. Herrai
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Awake Preclinical Brain PET Imaging based on Point Sources
Fernando Arias-Valcayo, Joaquin L. Herrai, P. Galve, J. J. Vaquer, M. Desco, and José M. Udias
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EM-ML algorithm based on continuous-to-continuous model for PET
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Parametric image estimation using Residual simplified reference tissue model
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Reconstruction performance for long axial field-of-view PET scanners with large axial gaps
Margaret E. Daube-Witherspoon, Varsha Viswanath, Suleman Surti, Joel S. Karp
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Virtual clinical trials using 3D PET imaging
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Versatile regularisation toolkit for iterative image reconstruction with proximal splitting algorithms
Daniil Kazantsev, Edoardo Pasca, Mark Basham, Martin Turner, Matthias J. Ehrhardt, Kris Thielemans, Benjamin A. Thomas, Evgueni Ovtchinnikov, Philip J. Withers, Alun W. Ashton
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The Manchester X-Ray Imaging Facility, School of Materials, The University of Manchester, UK
Multi-streaming and multi-GPU optimization for a matched pair of Projector and Backprojector
Nicolas Georgina, Camille Chapdelaineab, Nicolas Gac, Ali Mohammad-Djafari, Estelle Parraa
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Fiber Assignment by Continuous Tracking for Parametric Fiber Reinforced Polymer Reconstruction
Tim Elberfelda, Jan De Beenhouwer, Jan Sijbersa
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elsa - an elegant framework for tomographic reconstruction
Tobias Lasser, Maximilian Hornunga, David Franka
a Technical University of Munich, Department of Informatics, Computer Aided Medical Procedures, Germany