Fully 3D 2011
Scientific Programme

The 11th International Meeting on

Fully Three-Dimensional Image Reconstruction in Radiology and Nuclear Medicine

and the 3rd Workshop on High Performance Image Reconstruction

July 11 − July 15, 2011, Potsdam, Germany

Conference Co-Chairs: Marc Kachelrieß (University of Erlangen-Nürnberg, Germany)
Magdalena Rafecas (University of València, Spain)

Workshop Co-Chairs: Klaus Mueller (Stony Brook University, USA)
Marc Kachelrieß (University of Erlangen-Nürnberg, Germany)

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We thank our sponsors for their important and valuable contributions.

We would like to thank the members of the scientific committee for their great work by taking the opportunity to mention them in alphabetical order:

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Monday July 11 (HPIR Workshop)

Oral Session: CT Imaging (08:00 – 09:30)

Chairs: Frédéric Noo, Jens Gregor

08:00 – 08:22 Introduction.

08:22 – 08:44 Stefan Sawall, Ludwig Ritschl, Michael Knaup, and Marc Kachelrieß: *Performance Comparison of OpenCL and CUDA by Benchmarking an Optimized Perspective Backprojection.*

08:44 – 09:06 Eric Papenhausen, Ziyi Zheng, and Klaus Mueller: *GPU–Accelerated Back–Projection Revisited: Squeezing Performance by Careful Tuning.*

09:06 – 09:28 Florian Pfanner, Michael Knaup, and Marc Kachelrieß: *High Performance Parallel Backprojection on FPGA.*

Coffee (09:30 – 10:00)

Oral Session: PET Imaging (10:00 – 12:00)

Chairs: Marc Kachelrieß, Jens Gregor

10:00 – 10:22 Moulay Ali Nassiri, Sami Hissoiny, Jean–François Carrier, and Philippe Després: *Fast GPU–Based Computation of the Sensitivity Matrix for a PET List–Mode OSEM Algorithm.*

10:22 – 10:44 Sungsoo Ha, Samuel Matej, and Klaus Mueller: *Efficiently GPU–Accelerating Long Kernel Convolutions in 3–D DIRECT TOF PET Reconstruction via Memory Cache Optimization.*

10:44 – 11:06 Jingyu Cui, Sven Prevrhal, Guillem Pratx, Lingxiong Shao, and Craig S. Levin: *Fully 3–D List–Mode Positron Emission Tomography Image Reconstruction on a Multi–GPU Cluster.*

11:06 – 11:28 Shoko Kinouchi, Taiga Yamaya, Eiji Yoshida, Hideaki Tashima, Hiroyuki Kudo, and Mikio Suga: *Multi–GPU Based Acceleration of a List–Mode DRAMA Toward Real–Time OpenPET Imaging.*

11:28 – 11:50 J. J. Scheins, L. F. Garcia Lucio, H. Herzog, and N. J. Shah: *Efficient, Symmetry–Driven SIMD Access Patterns for 3D PET Image Reconstruction Applicable for CPUs and GPUs.*

Lunch (12:00 – 13:30)

Oral Session: Fidelity (13:30 – 15:00)

Chairs: Ge Wang, Michael Knaup

13:30 – 13:52 Sven Steckmann, Matthias Baer, and Marc Kachelrieß: *Fast Bilateral Filtering of CT–Images.*

13:52 – 14:14 Ziyi Zheng, Wei Xu, and Klaus Mueller: *Performance Tuning for CUDA–Accelerated Neighborhood Denoising Filters.*

14:14 – 14:36 Meng Wu, and Jeffrey A. Fessler: *GPU Acceleration of 3D Forward and Backward Projection using Separable Footprints for X–Ray CT Image Reconstruction.*

14:36 – 14:58 Le Shen, and Yuxiang Xing: *Implementations of PI–Line Based FBP and BPF Algorithms on GPGPU.*

Coffee (15:00 – 15:30)

Oral Session: Iterative and Few–View CT (15:30 – 17:30)

Chairs: Klaus Mueller, Ge Wang

15:30 – 15:52 Jens Gregor: *Distributed Multi–Core Implementation of SIRT with Vectorized Matrix Kernel for Micro–CT.*

15:52 – 16:14 Rolf–Dieter Bippus, Thomas Köhler, Frank Bergner, Bernhard Brendel, Eberhard Hansis, and Roland Proksa: *Projector and Backprojector for Iterative CT Reconstruction with Blobs using CUDA.*

16:14 – 16:36 Junfeng Wu, Xuanqin Mou, and Yanbo Zhang: *A Fast Iterative Soft–Thresholding Algorithm for Few–View CT Reconstruction.*

16:36 – 16:58 Dmitri Matenine, Sami Hissoiny, and Philippe Després: *GPU–Accelerated Few–View CT Reconstruction using the OSC and TV Techniques.*

16:58 – 17:30 Workshop Adjourn and Preview.

Tuesday July 12 (Fully 3D Meeting)

Oral Session: CT Analytical (08:00 – 09:30)

Chairs: Bruno De Man, Yuxiang Xing

08:00 – 08:22 Frank Dennerlein: *Cone–Beam ROI Reconstruction using the Laplace Operator.*

08:22 – 08:44 A. V. Narasimhadhan, and Kasi Rajgopal: *A New Hybrid–FBP Inversion Algorithm with Inverse Distance Backprojection Weight for CT Reconstruction.*

08:44 – 09:06 Marta M. Betcke, and William R.B. Lionheart: *Two–Sheet Surface Rebinning Algorithm for Real Time Cone Beam Tomography.*

09:06 – 09:28 Marc Kachelrieß: *Interesting Detector Shapes for 3rd Generation CT.*

Coffee (09:30 – 10:00)

Oral Session: PET/SPECT Compton Analytical (10:00 – 12:00)

Chairs: Paul Kinahan, Grant Gullberg

10:00 – 10:22 Xavier Lojacono, Voichiţa Maxim, Andreas Zoglauer, Françoise Peyrin, and Rémy Prost: *A Filtered Backprojection Reconstruction Algorithm for Compton Camera.*

10:22 – 10:44 Harrison H. Barrett, and Roel Van Holen: *Analytical Singular–Value Decomposition of Three–Dimensional, Proximity–Based SPECT Systems.*

10:44 – 11:06 Lin Zhou, Kathleen Vunckx, and Johan Nuyts: *Multi–Pinhole SPECT Calibration: Influence of Data Noise and Systematic Orbit Deviation.*

11:06 – 11:28 Vladimir Y. Panin, Michel Defrise, and Michael E. Casey: *TOF Sinogram Missing Data Filling Method Based on John's Equation Consistency Conditions.*

11:28 – 11:50 Hideaki Tashima, Takayuki Katsunuma, Shoko Kinouchi, Mikio Suga, Takashi Obi, Hiroyuki Kudo, Hideo Murayama, and Taiga Yamaya: *Restoration of the Analytically Reconstructed OpenPET Images by the Method of Convex Projections.*

Lunch (12:00 – 13:30)

Oral Session: Dose/Spectral (13:30 – 15:00)

Chairs: Sarah Patch, Thomas Koehler

13:30 – 13:52 Wei Xu, and Klaus Mueller: *A Reference Image Database Approach for NLM Filter–Regularized CT Reconstruction.*

13:52 – 14:14 Maria Magnusson, Alexandr Malusek, Arif Muhammad, and Gudrun Alm Carlsson: *Determination of Quantitative Tissue Composition by Iterative Reconstruction on 3D DECT Volumes.*

14:14 – 14:36 Hao Gao, Hengyong Yu, and Ge Wang: *Multi–energy CT Based on a Prior Rank, Intensity and Sparsity Model (PRISM).*

14:36 – 14:58 Brian Nett, and Jiang Hsieh: *Image Space Beam Hardening Corrections: Considerations for Quantitative Myocardial Imaging.*

Coffee (15:00 – 15:30)

Poster Session: (15:30 – 17:30)

Chairs: Michael King, Stefaan Vandenberghe

- Johan Nuyts, and Roger Fulton: *Iterative CT Reconstruction with Correction for Known Rigid Motion.*
- Jochen Cammin, Parmeshwar Khurd, Ali Kamen, Qiulin Tang, Klaus J. Kirchberg, Christophe Chefd'Hotel, Herbert Bruder, and Katsuyuki Taguchi: *Combined Motion Estimation and Motion–Compensated FBP for Cardiac CT.*
- Zhengmin Li, and Birsen Yazici: *Acceleration of Image Reconstruction by Generalized Landweber's Iteration for X–Ray Cone–beam CT.*
- A. Bousse, S. Pedemonte, N. Fuin, D. Kazantsev, K. Erlandsson, S. Ourselin, S. Arridge, and B. F. Hutton: *Log–Normal Distribution–Based MAP–EM Algorithm for Edge Preserving Emission Tomography Reconstruction.*
- Julia Wicklein, Holger Kunze, Florian Vogt, Yiannis Kyriakou, and Willi A. Kalender: *An Object–Independent Measure for Improving Misalignment Correction in C–Arm CT.*

• Jiao Wang, Ken Sauer, Jean–Baptiste Thibault, Zhou Yu, and Charles Bouman: *Spectrally Focused Markov Random Field Image Modeling in 3D CT.*
• Ge Wang, Erik L Ritman, and Hengyong Yu: *BIG DIPPER – The First Gating–Free Dynamic Micro–CT System Design.*
• Daxin Shi, Yu Zou, and Alexander A. Zamyatin: *Weighted Simultaneous Algebraic Reconstruction Technique.*
• Arkadiusz Sitek, and Dan J. Kadrmas: *Compton Scatter and Randoms Corrections for Origin Ensembles 3D PET Reconstructions.*
• Y. M. Levakhina, R. L. Duschka, J. Barkhausen, and T. M. Buzug: *Digital Tomosynthesis of Hands using Simultaneous Algebraic Reconstruction Technique with Distance Driven Projector.*
• Hao Yan, Xuanqin Mou, Yanbo Zhang, and Maria Zankl: *Single–Scan Scatter Correction in CBCT by using Projection Correlation Based View Interpolation (PC–VI) and a Stationary Ring–Shaped Beam Stop Array (BSA).*
• Andrei V. Bronnikov: *A New Algorithm for Geometric Self–Calibration in Cone–Beam CT.*
• Shaojie Tang, Xiangyang Tang, and Yi Yang: *Improving Axial Image Reconstruction by Off–Centering ROI without Data Truncation and 3D Weighted Cone Beam FBP Algorithm.*
• Paola Solevi, Josep F. Oliver, John Gillam, and Magdalena Rafecas: *Image Reconstruction for AX–PET: Different Approaches to Histograming for Semi–Continuous Data.*
• Stefan Sawall, Michael Knaup, and Marc Kachelrieß: *An Adaptive Genetic Algorithm for Misalignment Estimation (AGAME) in Circular, Sequential and Spiral Cone–Beam Micro–CT.*
• Bruno De Man, Paul Fitzgerald, Kai Zeng, Maria Iatrou, Zhengmin Li, James Bennett, Hengyong Yu, and Ge Wang: *Cardiac CT: Advanced Architectures and Algorithms.*
• Sebastian Schöne, Thomas Kormoll, Georgy Shakirin, Wolfgang Enghardt, and Fine Fiedler: *Impact of the System Matrix Modeling Complexity on Reconstruction Quality in Compton Camera.*
• Hui Xue, Li Zhang, Yuxiang Xing, and Zhiqiang Chen: *An Iterative Reconstruction Technique for Metal Artifact Reduction.*
• Satoru Nakanishi, Michael D. Silver, and Alexander A. Zamyatin: *Low Dose CT Simulation using Experimental Noise Model.*
• J. L. Herraiz, J. J. Vaquero, L. Cussó, M. Desco, and J. M. Udias: *Automatic Cardiac Gating of Small–Animal PET from List–Mode Data.*
• Zhi Yang, Michael D. Silver, and Yasuhiro Noshi: *Adaptive Weighted Anisotropic Diffusion for Computed Tomography Denoising.*
• Khodor Koubar, Damien Vintache, Ziad El Bitar, Patrice Laquerriere, and David Brasse: *Analytical Simulation of a MicroCT System.*
• Long Zhang, Roel Van Holen, Steven Staelens, and Stefaan Vandenberghe: *Experimental PSF Modeling for Fully 3–D PET Reconstruction.*
• Jorge Cabello, John Gillam, and Magdalena Rafecas: *Quality Assessment of Monte Carlo Based System Response Matrices in PET.*
• Jingyan Xu, Si Chen, and Benjamin M.W. Tsui: *Total Variation Penalized Maximum–Likelihood Image Reconstruction for a Stationary Small Animal SPECT System.*
• W. van Aarle, K. Crombecq, I. Couckuyt, K. J. Batenburg, and J. Sijbers: *Efficient Parameter Estimation for Discrete Tomography using Adaptive Modeling.*

Wednesday July 13 (Fully 3D Meeting)

Oral Session: PET/SPECT Iterative I (08:00 – 09:30)

Chairs: Jeff Fessler, Johan Nuyts

08:00 – 08:22 Lijun Lu, Jianhua Ma, Jing Huang, Hua Zhang, Zhaoying Bian, Wufan Chen, and Zhengrong Liang: *Generalized Metrics Induced Anatomical Prior for MAP PET Image Reconstruction.*

08:22 – 08:44 D. Kazantsev, S. R. Arridge, S. Pedemonte, A. Bousse, B. F. Hutton, and S. Ourselin: *Robust Anisotropic Diffusion Prior with Anatomical Regularization for 3D SPECT Reconstruction.*

08:44 – 09:06 Gengsheng L. Zeng, and Grant T. Gullberg: *Null–Space Function Estimation for the Three–Dimensional Interior Problem.*

09:06 – 09:28 Qiu Huang, Tsutomu Zeniya, Yoshiyuki Hirano, Hiroyuki Kudo, Hidehiro Iida, and Grant T. Gullberg: *Evaluation of a Brain Imaging System with Combined Parallel Hole and Pinhole Collimation.*

Coffee (09:30 – 10:00)

Oral Session: CT Iterative (10:00 – 12:00)

Chairs: Katsuyuki Taguchi, Günter Lauritsch

10:00 – 10:22 Georgios I. Angelis, Julian C. Matthews, Pawel J. Markiewicz, Fotis A. Kotasidis, William R. Lionheart, and Andrew J. Reader: *Acceleration of Image–Based Resolution Modelling Reconstruction using an Expectation Maximization Nested Algorithm.*

10:22 – 10:44 J. Webster Stayman, Yoshito Otake, Ali Uneri, Jerry L. Prince, and Jeffrey H. Siewerdsen: *Likelihood–Based CT Reconstruction of Objects Containing Known Components.*

10:44 – 11:06 Qiong Xu, Hengyong Yu, Xuanqin Mou, and Ge Wang: *Dictionary Learning Based Low–Dose X–Ray CT Reconstruction.*

11:06 – 11:28 Jeffrey A. Fessler, and Donghwan Kim: *Axial Block Coordinate Descent (ABCD) Algorithm for X–Ray CT Image Reconstruction.*

11:28 – 11:50 Andrew D. Foland: *Design of the Discrete Skew Geometry and Iterative Reconstruction of the MV3D Scanner.*

Lunch (12:00 – 13:30)

Oral Session: PET/SPECT Iterative II (13:30 – 15:00)

Chairs: Jinyi Qi, Michael King

13:30 – 13:52 Rostyslav Boutchko, Bryan Reutter, and Grant T. Gullberg: *Image Reconstruction on Point Cloud–Based Tetrahedral Meshes in Small Animal SPECT with Pinhole Collimation.*

13:52 – 14:14 Colas Schretter, Jianyong Sun, and Leif Kobbelt: *Online Estimation of B–Spline Mixture Models from TOF–PET List–Mode Data.*

14:14 – 14:36 Yanfei Mao, and Gengsheng L. Zeng: *ML–EM Algorithm with Special Weighting for Zero–Valued Projections.*

14:36 – 14:58 Karol Brzeziński, John Gillam, Josep F. Oliver, Carlos Lacasta, and Magdalena Rafecas: *Multiple Resolution PET Data: Image Properties using the List–Mode ML–EM Reconstruction Algorithm.*

Coffee (15:00 – 15:30)

Poster Session: (15:30 – 17:30)

Chairs: Katsuyuki Taguchi, Jinyi Qi

- Taewon Lee, Jonghwan Min, and Seungryong Cho: *Optimization of Digital Breast Tomosynthesis using the Taguchi Method.*
- Zhi Yang, Alexander A. Zamyatin, and Naruomi Akino: *Effective Data–Domain Noise and Streak Reduction for X–Ray CT.*
- Pawel J. Markiewicz, Georgios I. Angelis, Fotis A. Kotasidis, William R. Lionheart, Andrew J. Reader, and Julian C. Matthews: *PET Phantom Design for Assessment of Quantitative Imaging of Arbitrary Planar Distributions.*

• Taek–Soo Lee, Grant T. Gullberg, and Benjamin M.W. Tsui: *Four–Dimensional MAP–RBI–EM Image Reconstruction Method with a 4D Motion Prior for 4D Gated Myocardial Perfusion SPECT.*
• Sathish Ramani, and Jeffrey A. Fessler: *Convergent Iterative CT Reconstruction with Sparsity–Based Regularization.*
• Anna Gabiger–Rose, Richard Rose, Matthias Kube, Peter Schmitt, and Robert Weigel: *Noise–Adaptive Bilateral Filtering of Projections for Computed Tomography.*
• John Gillam, Paola Solevi, Josep F. Oliver, and Magdalena Rafecas: *An Efficient Method of Reconstruction for AXPET Data: Simulated One–Pass List–Mode.*
• Ziyi Zheng, and Klaus Mueller: *Identifying Sets of Favorable Projections for Few–View Low–Dose Cone–Beam CT Scanning.*
• Joyeeta Mitra Mukherjee, and Michael A. King: *Investigation of Noise Correlations in SPECT Images Reconstructed with 3D Modeling of Spatial Resolution: Factors and their Impact.*
• Yuanyuan Liu, Jianping Cheng, Li Zhang, Hui Xue, Zhiqiang Chen, and Yuxiang Xing: *Dual Energy CT Imaging from Few–Views Data.*
• Wolfgang Wein, Alexander Ladikos, and Armin Baumgartner: *Self–Calibration of Geometric and Radiometric Parameters for Cone–Beam Computed Tomography.*
• Jens Gregor: *A Priority Queue Approach to Ordered Subsets.*
• William M. Thompson, and William R.B. Lionheart: *Optimisation of the Source Firing Pattern for Real Time Cone–Beam Tomography.*
• Robert Cierniak: *An Analytical Statistical Approach to the 3D Reconstruction Problem.*
• David Gendron, Yves Goussard, Benoit Hamelin, Jean–Pierre Dussault, Gilles Beaudoin, Guy Cloutier, Carl Chartrand–Lefebvre, Sofiane Hadjadj, and Gilles Soulez: *3D Iterative Helical Targeted CT. Application to Contrast–Enhanced Vascular Imaging.*
• Jan Kuntz, Marcus Brehm, Marc Kachelrieß, and Sönke Bartling: *Towards 4D Intervention Guidance using Compressed Sensing.*
• Hao Jia, Li Liang, Zhang Li, Chen Zhiqiang, and Kang Kejun: *Circular Cone–Beam CT Reconstruction from Transversely Truncated Projections with Half–Size Detector.*
• Hisashi Takahashi, Taiga Goto, Koichi Hirokawa, and Osamu Miyazaki: *Motion Tolerant Iterative Reconstruction Algorithm for Cone–Beam Helical CT Imaging.*
• Jakob H. Jørgensen, Per Christian Hansen, Emil Y. Sidky, Ingrid S. Reiser, and Xiaochuan Pan: *Toward Optimal X–Ray Flux Utilization in Breast CT.*
• Jianwen Chen, Ming Yan, Luminita A. Vese, John Villasenor, Alex Bui, and Jason Cong: *EM+TV for Reconstruction of Cone–Beam CT with Curved Detectors using GPU.*
• Yi Fan, Hongbin Zhu, Hongbing Lu, Jianhua Ma, and Zhengrong Liang: *An Adaptive Edge–Preserving Noise Suppression Approach for Low–Dose Cone–Beam Computed Tomography.*
• Xiangyang Tang, Shaojie Tang, and Yi Yang: *Improving Axial Image Reconstruction by Off–Centering ROI with Data Truncation and 3D Weighted Cone Beam DBPF Algorithm.*
• M. Magdics, B. Tóth, L. Szécsi, B. Csébfalvi, L. Szirmay–Kalos, Á. Szlavecz, G. Hesz, B. Benyó, Á. Cserkaszky, D. Légrády, Sz. Czifrus, A. Wirth, B. Kári, J. Lantos, G. Patay, D. Völgyes, P. Major, G. Németh, T. Bükki, and B. Domonkos: *Detector Modeling Techniques for Pre–Clinical 3D PET Reconstruction on the GPU.*
• Christoph Neukirchen: *An Extended Temporal Interpolation Approach for Dynamic Object Reconstruction.*
• Jean–Baptiste Thibault, Kai Zeng, Lin Fu, Zhou Yu, Thomas Benson, Bruno De Man, Ken Sauer, and Charles Bouman: *Parametric Model for Compensation of Partial Volume Effect in CT Iterative Reconstruction.*
• Hengyong Yu, and Ge Wang: *Finite Detector Based Projection Model for Super Resolution CT.*

Thursday July 14 (Fully 3D Meeting)

Oral Session: Phase–Contrast (08:00 – 09:30)

Chairs: Günter Lauritsch, Alexander Zamyatin

08:00 – 08:22 Andreas Malecki, Thomas Biernath, Martin Bech, Tobias Lasser, Guillaume Potdevin, and Franz Pfeiffer: *Towards the Reconstruction of 3D Orientation Information from Direction–Sensitive X–Ray Projections.*

08:22 – 08:44 Wenxiang Cong, and Ge Wang: *Analytic Model for X–Ray Dark–Field CT.*

08:44 – 09:06 Mingli Jin, Zhifeng Huang, Li Zhang, Ran Zhang, Hongxia Yin, Yunfu Liu, Zhenchang Wang, and Tiqiao Xiao: *Evaluation on Correction Factor for In–Line X–Ray Phase Contrast Computed Tomography.*

09:06 – 09:28 Thomas Köhler, Bernhard Brendel, and Ewald Roessl: *Iterative Reconstruction for Differential Phase Contrast Imaging: Theory and Initial Results.*

Coffee (09:30 – 10:00)

Oral Session: PET/SPECT Iterative III (10:00 – 12:00)

Chairs: Magdalena Rafecas, Stefaan Vandenberghe

10:00 – 10:22 Zhaoying Bian, Jianhua Ma, Jing Huang, Hua Zhang, Lijun Lu, Qianjin Feng, and Wufan Chen: *Regional Spatio–Temporal Prior Based Dynamic PET Reconstruction.*

10:22 – 10:44 Luis Mendes, Nuno Ferreira, and Claude Comtat: *A Multiscale/Multiframe Approach to 3D PET Data Reconstruction.*

10:44 – 11:06 Michel S. Tohme, Jian Zhou, and Jinyi Qi: *Fully 3D PET Image Reconstruction with a 4D Sinogram Blurring Kernel.*

11:06 – 11:28 Roel Van Holen, Brian W. Miller, Jared W. Moore, Stefaan Vandenberghe, and Harrison H. Barrett: *Object–Space Interpolation of SPECT System Matrices from Point–Source Measurements.*

11:28 – 11:50 Yanfei Mao, and Gengsheng L. Zeng: *Feasibility Study of Segmented–Parallel–Hole Collimator for Stationary Cardiac SPECT.*

Lunch (12:00 – 13:30)

Oral Session: Compressed Sensing/Sparse Reconstruction (13:30–15:30)

Chairs: Alexander Zamyatin, Bruno De Man

13:30 – 13:52 Hélène Langet, Cyril Riddell, Yves Trousset, Elisabeth Lahalle, Arthur Tenenhaus, Gilles Fleury, and Nikos Paragios: *Sparsity Constraints and Dedicated Acquisition Protocols for Improved Digital Subtraction Rotational Angiography.*

13:52 – 14:14 Bert Vandeghinste, Bart Goossens, Jan De Beenhouwer, Aleksandra Pizurica, Wilfried Philips, Stefaan Vandenberghe, and Steven Staelens: *Split–Bregman–Based Sparse–View CT Reconstruction.*

14:14 – 14:36 Jakob H. Jørgensen, Tobias L. Jensen, Per Christian Hansen, Søren H. Jensen, Emil Y. Sidky, and Xiaochuan Pan: *Accelerated Gradient Methods for Total–Variation–Based CT Image Reconstruction.*

14:36 – 14:58 Jianhua Ma, Lingling Tian, Jing Huang, Yi Fan, Gaohang Yu, Hongbing Lu, Wufan Chen, and Zhengrong Liang: *Low–Dose Computed Tomography Image Reconstruction by Alpha–Divergence Constrained Total Variation Minimization.*

14:58 – 15:20 Kevin M. Brown, Stanislav Žabić, and Thomas Koehler: *Comparison of ML Iterative Reconstruction and TV–Minimization for Noise Reduction in CT Images.*

Friday July 15 (Fully 3D Meeting)

Oral Session: Special (08:00 – 09:30)

Chairs: Thomas Koehler, Ge Wang

08:00 – 08:22 Sarah K. Patch: *Transducer Spatial Sensitivity in Thermoacoustic Image Reconstruction.*

08:22 – 08:44 Tom Roelandts, Kees Joost Batenburg, and Jan Sijbers: *PDART: A Partially Discrete Algorithm for the Reconstruction of Dense Particles.*

08:44 – 09:06 Archontis Giannakidis, and Grant T. Gullberg: *Tomographic Reconstruction of 3D Cardiac Diffusion Tensor Fields by Utilizing Reduced Number of Projection Measurements.*

09:06 – 09:28 Soo Mee Kim, Jae Sung Lee, Hee Seo, Jin Hyung Park, Chan Hyeong Kim, Chun Sik Lee, Soo–Jin Lee, and Dong Soo Lee: *Fully 3D and Accelerated Shift–Variant Resolution Recovery Reconstruction for Compton Camera.*

Coffee (09:30 – 10:00)

Oral Session: Motion/Cardiac (10:00 – 12:00)

Chairs: Zhiqiang Chen, Frédéric Noo

10:00 – 10:22 Christopher Rohkohl, Günter Lauritsch, and Joachim Hornegger: *Non–Periodic 3–D Motion Estimation and Reconstruction of Coronary Stents.*

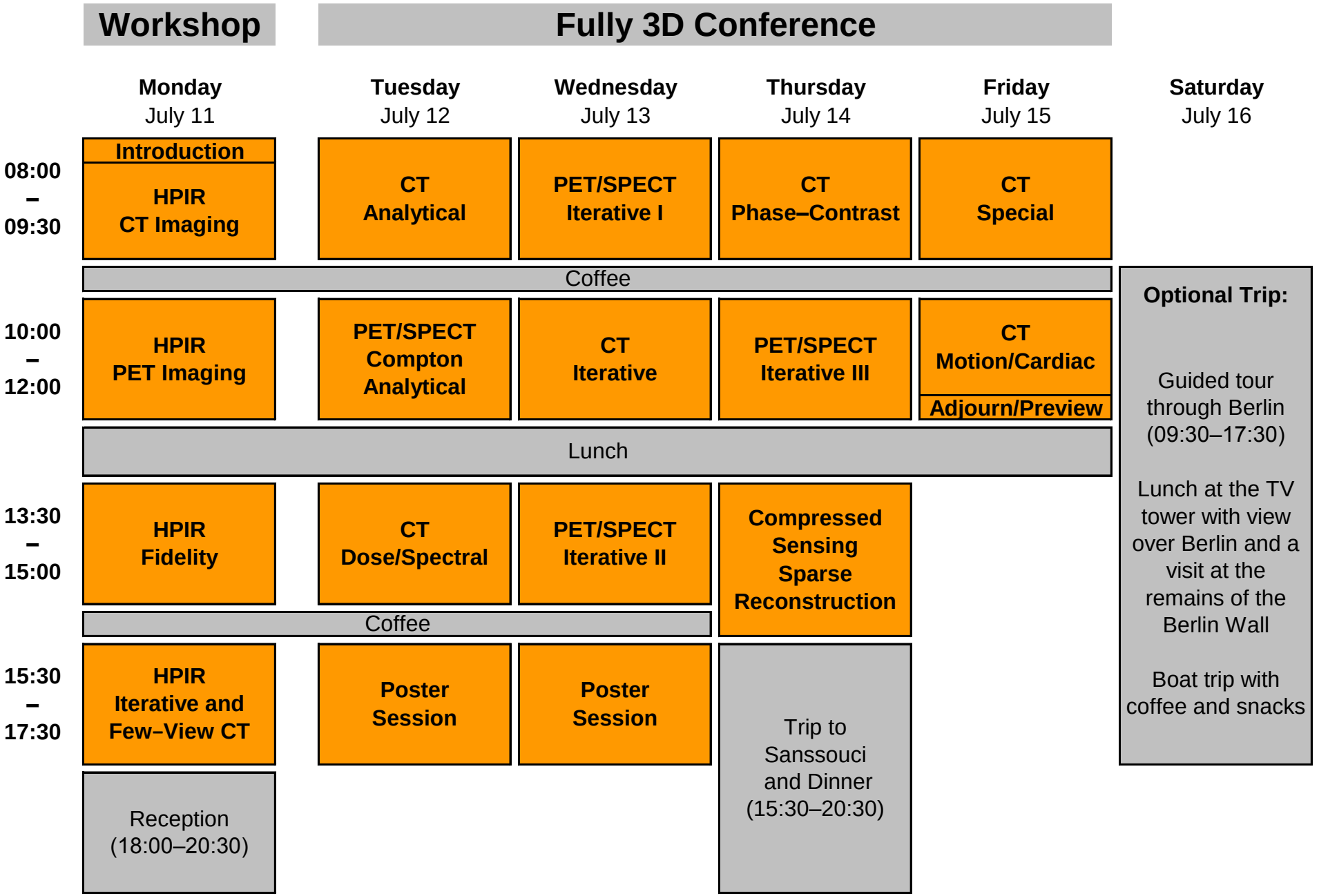
10:22 – 10:44 Zhou Yu, Jean–Baptiste Thibault, Jiao Wang, Charles A. Bouman, and Ken D. Sauer: *Kinetic Model for Motion Compensation in Computed Tomography.*

10:44 – 11:06 Qiulin Tang, Jochen Cammin, and Katsuyuki Taguchi: *A Fully Four–Dimensional, Iterative Motion Estimation and Compensation for Cardiac X–Ray Computed Tomography.*

11:06 – 11:28 Ludwig Ritschl, Stefan Sawall, and Marc Kachelrieß: *Iterative Phase Correlated Micro CT Image Reconstruction using Spatial and Temporal Sparsity.*

11:28 – 12:00 Meeting Adjourn and Preview for Fully3D 2013.

Lunch (12:00 – 13:30)


Workshop
Fully 3D Conference
Monday
July 11
Tuesday
July 12
Wednesday
July 13
Thursday
July 14
Friday
July 15
Saturday
July 16
08:00 – 09:30
10:00 – 12:00
13:30 – 15:00
15:30 – 17:30
Introduction
HPIR CT Imaging
CT Analytical
PET/SPECT Iterative I
CT Phase–Contrast
CT Special
Coffee
HPIR PET Imaging
PET/SPECT Compton Analytical
CT Iterative
PET/SPECT Iterative III
CT Motion/Cardiac
Adjourn/Preview
Lunch
HPIR Fidelity
CT Dose/Spectral
PET/SPECT Iterative II
Compressed Sensing Sparse Reconstruction
Coffee
HPIR Iterative and Few–View CT
Poster Session
Poster Session
Trip to Sanssouci and Dinner (15:30–20:30)
Reception (18:00–20:30)
Optional Trip:
Guided tour through Berlin (09:30–17:30)
Lunch at the TV tower with view over Berlin and a visit at the remains of the Berlin Wall
Boat trip with coffee and snacks