

DMIP Retreat 2008-2009 Program

April 27, 2009

7:30-8:00 Breakfast and warm-up (Wii)

8:00-8:15 Opening remarks—Emad Boctor

8:15-9:30 Paper session 1 (75 min: 5 × 15 min)

- Partial Volume Compensation for Gated Cardiac Imaging
— Yong Du, Igal Madar, and Eric C. Frey
- Optimization of Rb-82 PET acquisition and reconstruction protocol for myocardial perfusion defect detection
— Jing Tang, Arman Rahmim, Riikka Lautamäki, Martin Lodge, Frank Bengel, and Benjamin M.W. Tsui
- Evaluation of Scatter Effects in Phoswich Detector Modules of a Dedicated Small Animal PET Scanner
— Jianhua Yu, Martin Pomper and Benjamin Tsui
- An Iterative Method combining QPlanar and Registration to Improve Activity Estimates Accuracy
— Na Song, Bin He, and Eric. C. Frey
- Tracked Ultrasound Elasticity Imaging
— Pezhman Foughi, Gregory Hager, and Emad Boctor

9:30-9:45 Break

9:45-10:00 Overview Session (15 min)

- **Overview** of collaborative research projects in DMIP—Benjamin M. W. Tsui

10:00-11:00 Student Proposal Session (60 min: 3 × 10 min + 30 min breakout session)

- Collimator Design for SPECT Imaging of Radiotracers with Multiple-energy Gamma Photon Emission
— Si Chen
- Motion Estimation and Compensation for Cardiac CT
— Alia Khaled
- Improved Nerve-Sparing Laparoscopic Prostatectomy
— Ioana Fleming

11:00-11:30 Lawton Verner, Ph.D. (Haptics Laboratory, Johns Hopkins University)

- Pre-doctoral Fellowship Experience

11:30-12:30 Lunch Break

12:30-13:15 Paper Session 2 (45 min: 3 × 15 min)

- Radiation Doses in Pediatric Trauma Patients
— Mahadevappa Mahesh, Marissa Brunetti, Rosemary Nabaweesi, Susan Ziegfeld, Paul Locke, and Robert Brown
- Ablation Monitoring with a Regularized 3D Elastography Technique
— Hassan Rivaz, Ioana Fleming, Babak Matinfar, Omar Ahmad, Greg Hager, and Emad Boctor
- Enhanced Discrimination of Soft and Calcified Arterial Plaques Using Computed Tomography with a Multi-Energy-Bin Photon Counting X-ray Detector
— Xiaolan Wang, Jingyan Xu, Katsuyuki Taguchi, and Eric C. Frey

13:15-13:45 Prof. Jin Kang, Ph.D. (ECE Department Chair, and Director of Photonics and Optoelectronics Lab)

- All-Fiber Endoscopic Optical Imaging and Sensing Devices

13:45-14:00 Break

14:00-15:00 Post-Doc Proposal Session (60 min: 3 × 10 min + 30 min breakout session)

- Jigsaw US: Freehand 3D Ultrasound based on Full-DOF Features Registration
— Philipp Stolka
- Estimation of the motion of the heart in cardiac CT
— Jochen Cammin
- Developing Tool-tip Ultrasonic Transducer Micro-arrays for Monitoring Interventional Liver Therapies
— Clyde Clarke

15:00-15:10 Break

15:10-16:10 Faculty Proposal Session (60 min: 3 × 10 min + 30 min breakout session)

- Recipe to Bring Photon Counting CT Imaging into Clinics
— Katsuyuki Taguchi
- Spectra Optimization in Dual-kVp CT for Material Decomposition
— George Fung
- Development of a High-resolution SPECT Mammography System Using CZT Detector Modules
— Jingyan Xu

16:10-16:20 Break and Award judge discussion

16:20-16:35 Award presentation

16:35-16:45 Closing remarks—Benjamin M. W. Tsui

17:00- SPORT + GAME + FUN !!!