**Preliminary Program**

**Monday, May 6, 2013**

8:00 Registration

9:00 Welcome addresses and introductory lectures

**Recent Advances in PET-Instrumentation**
- 10:00 Design study of a PET-MRI with SiPM detectors (Belcari, Pisa)
- 10:15 Initial results of simultaneous PET/MR experiments with a silicon photomultiplier PET insert and 9.4-T high field MRI (Lee, Seoul)
- 10:30 PET/MRI insert using digital SiPMs: investigation of MR-compatibility (Wehner, Aachen)
- 10:45 Characterization of MR-compatible TOF-PET detectors based on digital SiPM (Busca, Milano)

11:00 SPAPlane: Embedded coincidence in a smart sensor network for PET applications (Charbon, Delft)

11:45 FPGA-based multi-channel Time-to-Digital Converter with high-resolution TOF system (Wehner, Aachen)

12:00 Industrial session

13:00 Lunch break

14:30 Keynote lecture
Technology for simultaneous PET/MR: Needs, trends and challenge
(Cherry, Davis)

**Small animal PET-MR & SPECT-MR**
- 15:00 Study of the link between arterial input functions of PET-PET and Gd-DTPA-MRI for pharmacokinetic modeling (Fouquet, Sherebrooke)
- 15:15 Comparison of first pass bolus AIFs extracted from sequential T-FDG PET and DSC-MRI of mice (Evans, Cambridge)
- 15:30 MR based PET attenuation correction in a combined small animal PET/MR scanner (Nagy, Stockholm)
- 15:45 Ultrasound time- and Dixon-based magnetic resonance attenuation correction (Bini, New York)
- 16:00 INSERT: development of a new multi-modality SPECT/MRI system (Meng, Urbana-Champaign)

16:30 Coffee break and poster viewing

16:00 INVITED: framework for the construction of a Monte Carlo simulated PET/MR image database (Thomas, London)

**Tuesday, May 7, 2013**

9:00 **Brain PET-MR: Methods**
- 9:00 MR based attenuation correction including cortical bone for PET/MR hybrid imaging (Navalpakkam, Erlangen)
- 9:15 An MRI-based estimation of gamma-ray attenuation coefficients with a motionless radiation source (Kawaguchi, Chiba)
- 9:30 Combined PET/MR brain imaging: a spatially dependent bias in PET activity results if bone attenuation is not accounted for (Andersen, Copenhagen)
- 9:45 Framework for the construction of a Monte Carlo simulated brain PET-MR image database (Thomas, London)

10:00 Coffee break and poster viewing

10:30 **Brain PET-MR: Applications**
- 10:00 Invited Lecture: (Leach, London)
- 10:20 Comparison of CBV using simultaneous ASL and H218O PET (Zhang, Jülich)
- 10:35 Comparison of [18F]fluorothymidine (FET) PET and perfusion weighted MR-imaging (PWI) in brain tumours (Filss, Jülich)
- 11:00 Evaluation of Philips Ingenuity PET/MR for neurological studies with an anatomical brain phantom (Teuho, Turku)

12:30 Lunch break

13:30 **Status of the bimodal molecular probes**
- 13:30 Invited Lecture: Concurrent MR and PET acquisition and reconstruction: Improved robustness and accuracy (Boada, New York)
- 13:45 Towards molecular PET/SPECT-MRI imaging (Sandford, London)
- 14:00 Exploiting multimodality imaging: Potential clinical applications (de Rosales, London)

13:00 **Whole-Body PET-MR: Methods**
- 14:00 Invited Lecture: (Quick, Erlangen)
- 14:20 Simultaneous PET/MR with continuous table motion (Braun, Erlangen)
- 14:35 Generation of 4D MR images based on 4D PET derived motion fields (Fayad), Brest)
- 14:50 A novel method that uses a combination of PET and MR Data for PET respiratory motion-correction (Balfour, London)
- 15:05 Evaluation of in vivo quantification accuracy of combined PET/MRI systems (Langner, Rossendorf)
- 15:20 PET/MR truncation compensation (Schramm, Rossendorf)
- 15:35 A method for attenuation correction for flexible MR coils in combined PET/MRI imaging (Eldib, New York)

15:50 Coffee break

16:15 **Whole-Body PET-MR: Methods and applications**
- 16:15 Invited Lecture: Clinical PET-MRI (Antoch, Düsseldorf)
- 16:35 Attenuation correction for TOF-PET with a limited number of stationary coincidence line-sources (Mollet, Ghent)
- 16:50 Supplemental transmission method for improved PET attenuation correction (Watson, Knoxville)
- 17:05 Performance of whole-body integrated 18F-FDG PET/MR in malignant bone lesions (Eiber, Munich)
- 17:20 Utility of a dedicated [F]-FDG-PET/MRI protocol for thoracic staging in lung cancer: comparison to [F]-FDG-PET/CT (Buchbinder, Düsseldorf)
- 17:35 First experiences on Philips Ingenuity TF PET/MR scanner in Turku (Lepomäki, Turku)

18:30 Closing address

19:00 Dinner at Erholungs-Gesellschaft Aachen 1837

Hotel Pullmann Aachen Quellenhof

**International advisory committee**
- G. Antoch (Düsseldorf)
- R. T. M. de Rosales (London)
- S. Cherry (Davis)
- J. van den Hoff (Rossendorf)
- C. Halldin (Stockholm)
- D. Viskis (Breast)
- H. Iida (Osaka)
- C. Zaragoza (Madrid)
- S. Majewski (Morgantown)
- S. Ziegler (Munich)
- D. Visikis (Breast)
- H. H. Coenen (Jülich)
- R. T. M. de Rosales (London)
- F. Mottaghy (Aachen)
- K. Ziemons (Jülich)

**Local organizing committee**
- H. Herzog (Jülich)
- N.J. Shah (Jülich)
- George Loudos (Athena)
- Alberto del Guerra (Pisa)

**Conference Chairs**
- N.J. Shah (Jülich)
- George Loudos (Athena)