



OROSEI

May 31 - June 4 2017

V MEDITERRANEAN WORKSHOP ON ADVANCED MOLECULAR IMAGING



*Multi Modality  
and MultiParametric Imaging  
in Advancing HealthCare*



## V. MEDITERRANEAN THEMATIC FORUM ON ADVANCED MOLECULAR IMAGING

### ***“Multi- modality and Multi-parametric Imaging in Advancing Healthcare”***

*May 31 to June 4, 2017, Orosei, Sardinia, Italy*

#### **Sessions Overview:**

##### **Day 1: *Wednesday, May 31***

- 08:30 – 09:00 Session 1.1: Welcome addresses
- 09:10 – 10:10 Session 1.1: Introductory Session
- 10:40 – 12:25 Session 1.2: Research concepts/activities
- 12:25 – 14:30 Lunch break / Poster session 1
- 14:30 – 18:25 Session 1.3: Diagnostic Imaging, theranostics and the “-omics”
- 18:25 – 19:30 Round table 1: The relation of academia and industry in the development of medical and molecular imaging technologies.

##### **Day 2: *Thursday, June 1***

- 08:30 – 10:30 Session 2.1: Neurodegenerative diseases & brain disorders
- 11:00 – 13:00 Session 2.2: Brain biomarkers & brain imaging initiatives
- 13:00 – 16:00 Lunch break / Poster session 2
- 16:00 – 18:35 Session 2.3: Brain imaging – new technologies
- 18:35 – 19:30 Round table 2: Molecular imaging and -omics: competition or complementarity for Precision medicine?

##### **Day 3: *Friday, June 2***

- 08:30 – 12:05 Session 3.1: New Technologies for Molecular Imaging
- 12:05 – 15:30 Lunch break / Contributions/Poster session 3
- 15:30 – 16:20 Session 3.2: Molecular Imaging in the diagnosis, treatment and follow up of breast cancer
- 16:20 – 17:20 Coffee Break / Poster session
- 17:20 – 18:35 Session 3.3: Technologies for breast imaging/diagnosis
- 18:35 – 19:35 Round table 3: Multimodality multiparametric imaging in cancer management: How can it be improved?

##### **Day 4: *Saturday, June 3***

- 09:00 – 10:55 Session 4.1: Molecular Imaging in the management of prostate cancer
- 11:30 – 19:00 Conference Excursion
- 20:00 – 24:00 Conference Dinner

##### **Day 5: *Sunday, June 4***

- 08:00 – 09:25 Session 5.1: Molecular Imaging in surgical interventions
- 09:55 – 11:05 Session 5.2: Molecular Imaging in hadron therapy monitoring
- 11:05 – 11:30 Closing remarks of chair

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**Day 1:                    Wednesday, May 31**

**08:30 – 09:00        Welcome Addresses**

**09:00 – 10:10        Session 1.1: Introductory Session (Moderator: Franco Garibaldi)**

**Nicolas Petrick**

Center for Devices and Radiological Health (CDRH), Food and Drug Administration (FDA)

*“FDA perspective on the role of FDA in the emerging field of precision medicine medical imaging” (35’)*

**Bernd Stowasser**, Sanofi-Aventis, on behalf of the European Federation of Pharmaceutical Industries and Associations (EFPIA):

*“Academic-Industry partnership: Can the IMI PPP model be extended/exported to medical imaging industry?” (35’)*

**10:10 – 10:40        Coffee break**

**10:40 – 12:00        Session 1.2: Research concepts/activities**

**Moderator: York Haemisch**

**Piotr Maniawski**, Philips Healthcare, on behalf of the Association of Imaging Producers and Equipment Suppliers (AIPES)

*“The AIPES organization and its role in supporting medical imaging development” (25’)*

**Marco Paganoni**, Univ. of Milano

*“ERAMIT” (25’)*

**Maurizio Conti**, Siemens Healthineers, Knoxville

*“Challenges and trends in molecular imaging, an industry research viewpoint” (30’)*

*“The role of radiotracers in modern diagnosis and expensive/advanced therapies” (TDB) (30’)*

**12:00 – 14:30        Lunch break / Poster session 1**

**14:30 – 16:15        Session 1.3: Diagnostic Imaging, theranostics and the “-omics”**

**Moderators: Bernd Pichler, Jonathan Disselhorst**

**David Townsend**, National University of Singapore *“PET/CT, PET/MR and Precision Medicine: some alternative facts” (35’)*

**Bernd Pichler**, Dept. of Pre-clinical imaging and Radiopharmacy, University of Tuebingen

*“Combining multiparametric imaging data with –omics information for precision medicine” (35’)*

**Constantin Lapa**, Nuclear Medicine, University of Wurzburg

*“Theranostics and multimodality imaging” (35’)*

**16:15 – 16:45        Coffee break**

**16:45 – 18:25        Jonathan A. Disselhorst**, University Tuebingen

*“Imaging Tumor Heterogeneity” (35’)*

**Paul Pevsner**,

*“How cost-effectiveness of a diagnostic medical imaging procedure is determined” (30’)*

**Roderic Pettigrew**

Director of the National Institute of Biomedical Imaging and Bioengineering (NIBIB)

*“Multimodality/Multiparametric Imaging and Precision Medicine” (35’)*

MEDAMI 2017 program V4

- 18:25 – 19:30**      **Round table 1:**  
**The relation of academia and industry in the development of medical and molecular imaging technologies. Chair: Paul. Lecoq, CERN**  
 Representatives of funding institutions, industries, MDs, physicists/technologists  
 Outcome: proposals for improvement of academia-industry relation
- Day 2:**            **Thursday, June 1**
- 08:30 – 10:30**      **Session 2.1: Neurodegenerative diseases & brain disorders**  
**Moderators: Vesna Sossi, Christer Halldin**  
**Charles R.G. Guttman**, Center for Neurological Imaging, Harvard Medical School  
*“Neurodegenerative diseases – an overview” (30’)*  
**Valentina Garibotto**, Neurological Imaging, University of Geneva  
*“Multimodal/multiparameter imaging – main modalities and applications: their link to biomarkers and personalized medicine” (30’)*  
**Martin Walter**, University of Tuebingen, Germany  
*“Multimodal imaging in psychiatry” (30’)*  
**Vesna Sossi**, University of British Columbia  
*“Brain Receptor Imaging” (30’)*
- 10:30 – 11:00**      **Coffee break**
- 11:00 – 13:00**      **Session 2.2: Brain biomarkers & brain imaging initiatives**  
**Moderators: Alberto Del Guerra, Jose’ Maria Benlloch**  
**Christer Halldin**, Karolinska Institutet, Stockholm:  
*“PET Radioligands for Neuroscience and Drug Development” (30’)*  
**Ilan Rabiner**, Chief Medical Officer, Head of Imaging Applications, Imanova Ltd., UK  
*“Building the “Three Pillars”- Imaging in early phase drug development” (30’)*  
**Paul M. Matthews**, Head of Brain Imaging Sciences, Imperial College, London  
*“Challenges and opportunities for brain imaging with large population datasets” (30’)*  
**Simone Sarasso**, Dept. of Biomedical Sciences, University of Milano  
*“Major brain initiatives” (30’)*
- 13:00 – 16:00**      **Lunch break / Poster session 2**
- 16:00 – 16:50**      **Session 2.3: Brain imaging – new technologies**  
**Moderators: Alberto Del Guerra, Jose’ Maria Benlloch**  
**Stan Majewski**, University of Virginia  
*“Dedicated PET brain imaging devices” (25’)*  
**Bernd Pichler**, Director, Dept. of Pre-clinical imaging and Radiopharmacy, University of Tuebingen  
*“Developments in MRI, MEG and EEG” (25’)*
- 16:50 – 17:20**      **Coffee break**
- 17:20 – 18:35**      **Session 2.3 cont**  
**Jose Maria Benlloch**, Institute of Molecular Imaging, University of Valencia  
*“Mindview: multimodal imaging of neurological disorders” (25’)*  
**Alberto del Guerra**, Department of Physics, University of Pisa  
*“A trimodality (EEG/MR/PET) scanner for brain imaging ”(25’)*

**Contributions (25")**

- 18:35 - 19:35**      **Round table 2:**  
**Molecular imaging and -omics: competition or complementarity for Precision medicine?** Chair: Vesna Sossi, UBC, Vancouver  
 Representatives of funding institutions, industries, MDs, physicists/technologists
- Day 3:**            **Friday, June 2**
- 08:30 – 09:55**      **Session 3.1: New Technologies for Molecular Imaging**  
**Moderator: Y. Haemisch**  
**Paul Lecoq**, CERN, Geneva  
*"The 10 ps TOF-PET challenge" (25')*  
**Dennis Schaart**, Department of Rad. Science & Technology, TU Delft  
*"Fundamentals of Ultrafast Timing" (25')*  
**Terry Jones**, University of California, Davis  
*"The Explorer project: a new paradigm in nuclear medicine?" (35')*  
**Piotr Maniawski**, Philips Healthcare, Cleveland  
*"Digital Photon Counting PET: technology powering precision molecular imaging" (30')*
- 10:25 – 10:55**      **Coffee break**
- 10:55 – 12:25**      **Session 3.1 cont**
- Bipin Singh**, RMD Watertown, Ma *"Photonic Crystal Enhances Scintillation Light Extraction: Can It Improve Timing Resolution?" (20')*  
**Claudio Piemonte**, FBK Trento  
*"ToF performance of FBK Silicon Photomultipliers coupled with scintillators for TOF-PET application" (25')*  
**Stefaan Tavernier**, PETsys Electronics SA, Lisbon:  
*"TOFPET II: The next generation ASIC for TOF-applications" (25')*  
**Gabriela Llosa**, Instituto de Fisica Corpuscular, University of Valencia  
*"From MACACO to MACACO II: a Compton telescope for hadron therapy treatment monitoring" (20')*  
**Ilaria Mattei**, INFN Milano: *"Characterisation of the secondary fast and ultrafast neutrons emitted in Particle Therapy with the MONDO experiment" (15')*
- 12:40 – 15.30**      **Lunch break / Poster session 3 Moderator: tbd**
- 15.30 – 16:20**      **Session 3.2: Molecular Imaging in the diagnosis, treatment and follow up of breast cancer** Moderators: Stan Majewski, Orazio Schillaci  
**Orazio Schillaci**, Università degli Studi di Tor Vergata, Roma  
*"The role of Nuclear Medicine in breast cancer management" (25')*  
**Michael O' Connor**, Mayo Clinic Rochester  
*"Breast cancer screening with single gamma and positron emitters" (25')*
- 16:20: – 17:20**      **Coffee break with posters**
- 17:20 – 18:10**      **Session 3.3: Technologies for breast imaging/diagnosis**  
 Mod Moderators: Stan Majewski, Orazio Schillaci

**Michel Herranz**, Univ. of Santiago de Compostela  
*"Dedicated breast PET (dbPET) in diagnosis and follow up of breast cancer - comparison, synergies and divergences with MRI" (25')*  
**Volkmar Schulz** (University of Aachen, DE)  
*"PET-MR dedicated detector for breast cancer diagnosis and follow – up" (25')*

**Contributions**

**18:30 – 19:30**      **Round table 3: Multimodality multiparametric imaging in cancer management: How can it be improved?** Chair: David Townsend, Singapore

**20:00**              Conference Dinner

**Day 4:**            **Saturday, June 3**

**08:00 – 9:40**      **Session 4.1: Molecular Imaging in the management of prostate cancer**  
**Moderators:** F. Garibaldi, Henk Van der Poel  
**Henk Van der Poel**, Amsterdam, Ne  
*"Multimodality Imaging in Surgery" (25')*  
**Valeria Panebianco**, Università degli Studi di Roma "La Sapienza"  
*"The role of multiparametric MR in the diagnosis and follow up of prostate cancer" (25')*  
**Tobias Maurer**, Klinikum rechts der Isar, TU Munich  
*"Shifting gears in Imaging - how PSMA-PET is about to change prostate cancer diagnosis" (25')*  
**Paul Lecoq**, CERN, Geneva  
*"ENDO-TOF-PET-US in the diagnosis and follow up of prostate cancer" (25')*

**9:40 – 10:10**      Coffee break

**10:10– 10:55**      **Franco Garibaldi**, AIB, Roma  
*"TOF-PET-MR in the diagnosis and follow up of the prostate cancer" (25')*  
**Nicoletta Protti**, INFN Pavia  
*"In vivo <sup>10</sup>B imaging and dose rate measurement for Boron Neutron Capture Therapy (BNCT) using Single Photon Emission Computed Tomography (BNCT-SPECT)" (20')*

**11:30**              Conference Excursion

**Day 5:**            **Sunday, June 4**

**08:00 – 9:25**      **Session 5.1: Molecular Imaging in surgical interventions**  
**Moderators:** Fijs Van Leuven, Tobias Maurer  
**Fijs van Leuven**, LUMC, Leiden  
*"Multimodality imaging techniques in surgery" (25')*  
**Tobias Maurer**, Klinikum rechts der Isar, TU Munich  
*"PSMA radioguided surgery – a novel technique for intraoperative detection of prostate cancer metastases"(20')*  
**Elana Solfaroli**, Università degli Studi di Roma "La Sapienza"  
*"Radioguided surgery with  $\beta$ -radiation: test on ex-vivo specimen" (20')*

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**Contribution**

- 9:25 – 9:55**      **Coffee break**
- 9:55 – 11:05**      **Session 5.2: Molecular Imaging in Hadron Therapy Monitoring**  
**Moderators: Fijs Van Leuven, Tobias Maurer**  
**Piergiorgio Cerello, INFN Torino**  
*“Imaging in hadron therapy” (25’)*  
**Francesco Pennazio, INFN Torino**  
*“The INSIDE project: hadron therapy monitoring with in-beam PET” (25’)*  
**Ilaria Mattei, INFN Milano: “Study of the radiation produced by therapeutic He, C and O ion beams impinging on a PMMA target for beam range monitoring purpose in Particle Therapy” (20’)**
- 11:05 – 11:30**      **Closing remarks (TBD)**
- 12:00**              **Departure (first bus leaves)**



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