

## NACP Symposium Programme

Saturday May 24

09:00–10:00 Registration with coffee and snacks (Logomo Hall 2)

10:00–12:30 Session 1 (Logomo Hall 1)

Imaging in Oncology

Chair: Mika Teräs and Ludvig Muren

Opening and Welcome -MikaTeräs, FI

NACP and Acta Oncologica - Ludvig Muren, DK

Keynote speaker: State of PET/MR - Jon Shah, GE

Nordic Vision

Norway: Role of dynamic imaging in oncology - Eirik Malinen

Finland: MR in external beam RT planning - Tiina Seppälä

Denmark: Styles of ART: Adaptive Radiotherapy - Ludvig Muren

Sweden: Particle Therapy, Uppsala experiences - Håkan Nyström

12:30–13:30 Lunch - Posters and opening of exhibition (Logomo Hall 2)

13:30-15:15 Session 2 (Logomo Hall 1)

Chair: Simo Hyödynmaa and Asger Greval Petersen

13:30–14:30 The best abstract from each country, a mix of RT and diagnostics

Norway: Pharmacokinetic modeling of dynamic <sup>18</sup>F-Choline PET reflects choline metabolism in breast carcinoma xenografts - Alexander Kristian

Finland: PET/CT in diffuse large B-cell lymphoma predicts tumor aggressiveness and chemotherapy response - Xingchen Wu

Denmark: Early experiences from clinical trial of daily adaptive plan selection in radiotherapy for urinary bladder cancer - Anne Vestergaard

Sweden: Cell survival and Tumour control probability for hypofractionated stereotactic treatments – a comparison between LQ and USC models - Emely Lindblom

14:30–15:15 NACP award reports

Brachytherapy of partial breast, experience from Moores Cancer Centre - Päivi Arponen-Esteves

Utilization of Monte Carlo methods in external beam RT quality assurance - Jarkko Ojala

15:15–15:45 Coffee and posters (Logomo Hall 2)

15:45-17:00 General assemblies Session 3 (Move 1, Move 2)

Nordic physicist meetings

17:00 Opening words – Professor Juhani Knuuti, Chairman of the organising Committee

17:10 Gadolin Lecture – Professor Jörg Steinbach, Helmholtz-Zentrum Dresden-Rossendorf

18:00- Get-together Party

19:30–23:00 NACP dinner

Academy Hall (near Turku Cathedral)

Best Poster Award

Announcement of the winner of the NACP Varian award 2014

# XIII Turku PET Symposium & The symposium of Nordic Association for Clinical Physics (NACP)

24 – 27 May 2014, Turku, Finland

## Final Programme & General Information

## Sunday May 25

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- 9:00-10:15 Session 4a (Move 1, parallel with 4b)  
New technologies in Radiation Therapy  
Chairs: Håkan Nyström and Jan Seppälä
- 9:00-9:15 The impact of CBCT reconstruction and calibration for dose calculation in radiotherapy of the head and neck regio – Ulrik Vindelev Elström
- 9:15-9:30 Clinical use of iterative 4D CBCT reconstructions to investigate lung tumor motion – Mai Lykkegaard Schmidt
- 9:30-9:45 Dynamic flattening filter for FFF beams – Hunor-Jeno Benedek
- 9:45-10:00 Comparison between conventional and FFF beams for VMAT of various treatment sites and plan complexities – Adam Peter Daniel Gasic
- 10:00-10:15 Evaluation of changes in water equivalent path length in proton therapy for lung cancer using 4D-CT – Oscar Casares
- 8:30-10:15 Session 4b (Move 2, parallel with 4a)  
MRI in Radiation Therapy  
Chair: Jon Shah and Tiina Seppälä
- 8:30-8:45 Evaluation of quantitative accuracy of the Philips ingenuity-TF PET/MR – Jens Maus
- 8:45-9:00 A Model to predict intra-fractional changes in adaptive radiotherapy for bladder cancer – Caroline Groenborg
- 9:00-9:15 MRI-based radiotherapy treatment planning of prostate cancer dose calculation accuracy in dual mode HU conversion pseudo-CT images – Juha P. Korhonen
- 9:15-9:30 Anatomy-deviation related dose distribution errors in CT/MR-planned prostate VMAT – Eva Onjukka
- 9:30-9:45 Tracer model selection for dynamic contrast-enhanced magnetic resonance imaging of locally advanced cervical cancer – Jesper Kallehauge
- 9:45-10:00 Evaluation of different mathematical models for diffusion weighted MR imaging of prostate cancer – Ivan Jambor
- 10:00-10:15 Rotating frame imaging of prostate cancer – Ivan Jambor
- 10:15–10:45 Coffee and posters (Logomo Hall 2)
- 10:45-12:30 Session 5a (Move 1, parallel with 5b)  
Treatment planning in Radiation Therapy  
Chairs: Gardar Myrdal and Eirik Malinen
- 10:45-11:00 The Composite objective value – a useful parameter for choosing optimal fallback radiotherapy treatment technique – Kristoffer Petersson
- 11:00-11:15 Dosimetry and radiobiological evaluation of manually and inversely optimized brachytherapy treatment planning – Tomas Palmqvist
- 11:15-11:30 Isocentric integration of IMRT and electron fields improves field junction dose uniformity in post-mastectomy radiotherapy – Pauliina Wright
- 11:30-11:45 CT-Planned internal mammary node radiotherapy in the DBCG-IMN study: benefit versus potential harmful effects – Lise Bech Thorsen
- 11:45-12:00 Are IMRT treatments in the head and neck region increasing the risk of the secondary cancers? – Oscar Ardenfors
- 12:00-12:15 Estimation of organ specific cancer risk following paediatric cranio-spinal irradiation with electron, photon and proton therapy – Camilla Hanquist Stokkevåg
- 12:15-12:30 Correlation between organ at risk volume and dose level-based volume in high-dose prostate radiotherapy – Assi Valve
- 10:45-12:30 Session 5b (Move 2, parallel with 5a)  
Nuclear Medicine physics  
Chair: Tommi Noponen and Cathrine Jonsson
- 10:45-11:15 Standardisation of oncological PET/CT studies – EANM EARL – Ronald Boellaard
- 11:15-11:30 Reproducibility of dynamic <sup>18</sup>F-FDG-PET data in breast cancer xenografts – Kathinka Pitman
- 11:30-11:45 Remote radiation monitoring of patients after post-thyroidectomy radiation treatment – Mikko Tenho
- 11:45-12:00 The effect of respiratory gating and reduced statistics on peak and maximum SUV evaluation – Tuomas Koivumäki
- 12:00-12:15 Avantomography: a compact, multipurpose PET demonstrator – Defne Us
- 12:15-12:30 Design and performance characteristic of digital photon counting based whole body PET/CT scanner – Antonis Kalemis
- 12:30–13:30 Lunch (Logomo Hall 2)
- 13:30-16:30 JOINT sessions with NACP and PET  
Instrumentation and modelling, see the program under PET Symposium Programme

# PET Symposium Programme (Logomo Hall 1)

## Saturday May 24

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- 9:00 Registration (Logomo Hall 2)  
17:00 Opening words – Professor Juhani Knuuti, Chairman of the organising Committee  
17:10 Gadolin Lecture – Professor Jörg Steinbach, Helmholtz-Zentrum Dresden-Rossendorf  
17:45-19:30 Get-together Party

## Sunday May 25

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- 8:00 Registration (Logomo Hall 2)  
9:00-10:15 Radionuclide Production and Radiochemistry I  
Chair: Olof Solin, FI and Suzanne Lapi, US  
9:00-9:30 <sup>13</sup>N-radiochemistry revisited – synthesis and utilization - Jordi Llop, ES  
9:30-10:00 PET-radiochemistry – Can we see the future from the past? – Olof Solin, FI  
10:00-10:15 Experience using radiolabeled core shell nanoparticles for multi-modal imaging – Domokos Máthé, HU  
10:15 Coffee and Radionuclide Production and Radiochemistry posters (Logomo Hall 2)  
10:45-12:30 Radionuclide Production and Radiochemistry II  
Chair: Jörgen Bergman, FI and Dirk Bender, DK  
10:45-11:15 Radiometals for PET and SPECT –the future – Suzanne Lapi, US  
11:15-11:45 <sup>18</sup>F-radiochemistry –What's up? –Thierry Billard, FR  
11:45-12:15 Short-lived PET-radiopharmaceuticals and GMP –where are we going? – Dirk Bender, DK  
12:15-12:30 <sup>64</sup>CU-labeling and biological evaluation of sarcophagine conjugates of [D-SER2, GLU3]-oxyntomodulin and [NLE14]exendin-4 – Cheng-Bin Yim, FI  
12:30 Lunch (Logomo Hall 2)  
13:00-13:30 Radionuclide Production and Radiochemistry posters (Logomo Hall 2)  
13:30-14:30 Instrumentation and modelling (joint session with NACP) I  
Chair: Mika Teräs, FI and Hidehiro Iida, JP  
13:30-14:15 Multimodality imaging in Oncology – Jörg van den Hoff, DE  
14:15-14:30 Lymphoma therapy assessment with the channeler ant model –Piergiorgio Cerello, IT  
14:30 Coffee and Instrumentation and modelling posters, Logomo Hall 2  
15:30-16:30 Instrumentation and modelling (joint session with NACP) II  
Chair: Mika Teräs and Hidehiro Iida  
15:00-15:30 Cluster input - Ronald Boellaard, NL  
15:30-16:00 Perfusion Imaging – Hidehiro Iida, JP  
16:00-16:15 Monte Carlo Simulations for In-Beam PET Monitoring in Hadron-Therapy – Pennazio Francesco, IT  
16:15-16:30 A Data-driven method for automatic extraction of a reference tissue kinetic from [<sup>11</sup>C]-(<sup>R</sup>)-PK11195 rodent brain scans – Sridharan S, UK

## Monday May 26

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- 9:00-10:15 Amino acid imaging in oncology I  
Chair: Heikki Minn, FI and Christian la Fougere, GE  
9:00-9:30 Role of FDOPA PET/CT in neuroendocrine tumors – Francoise Montavers, FR  
9:30-9:45 Initial experience of integrated PET/MR mammography in patients with invasive ductal carcinoma – lhn-ho Cho, CH  
9:45-10:00 Prospective evaluation of planar bone scintigraphy, SPECT, SPECT/CT, <sup>18</sup>F-NaF PET/CT and whole body 1.5T MRI, including DWI, for the detection of bone metastases in high risk breast and prostate cancer patients – Ivan Jambor, FI  
10:00-10:15 Feasibility of experimental BT4C glioma models for somatostatin receptor 2 targeted therapies – Aida Kiviniemi, FI  
10:15 Coffee and posters (Logomo Hall 2)  
10:45-12:30 Amino acid imaging in oncology II  
Chair: Jukka Kempainen, FI and Tore Bach-Gansmo, NO  
10:45-11:15 PET with F-ACBC. Not only the prostate – Tore Bach-Gansmo, NO  
11:15-11:45 The role of <sup>18</sup>F-FET in brain tumours – Christian la Fougere, GE  
11:45-12:15 Molecular imaging of focal prostate cancer - a radiation oncologist's view – Heikki Minn, FI  
12:15-12:30 H&N Tumor xenograft imaging with <sup>111</sup>In-cetuximab-F(ab)<sub>2</sub> microSPECT and <sup>18</sup>F-FDG PET before and after irradiation – Laura van Dijk, NL  
12:30 Lunch (Logomo Hall 2)  
13:30-14:30 Cardiology I  
Chair: Antti Saraste, FI and Rob Beanlands, CA  
13:30-14:00 Molecular imaging of cardiac disease – Frank Bengel, DE  
14:00-14:30 PET and PET/CT in the assessment of coronary artery disease - Danilo Neglia, IT  
14:30 Coffee and Cardiology posters (Logomo Hall 2)  
15:00-16:30 Cardiology II  
Chair: Juhani Knuuti, FI and Frank Bengel, DE  
15:00-15:20 The role of viability testing in heart failure – Rob Beanlands, CA  
15:20-15:40 The evaluation of cardiac metabolism in right heart failure and pulmonary hypertension – Lisa Mielniczuk, CA  
15:40-15:55 Mice myocardial blood flow response to hypercapnia for assessment of coronary endothelia function using micro-PET imaging – Etienne Croteau, CA  
15:55-16:10 Improved accuracy of Rubidium-82 PET compared to Thallium-201 SPECT for detection of obstructive coronary artery disease – initial results from the Alternative Radiopharmaceutical for Myocardial Imaging (ARMI) trial – Robert de Kemp, CA  
16:10-16:40 The future of imaging in cardiology – Jeroen J Bax, NL

# Information Technologies for Medical Imaging

## Tuesday May 27

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- 8:30-10:15 Metabolism and metabolic disorders  
Chair: Pirjo Nuutila, FI and Kirsi Virtanen, FI
- 8:30-9:00 Brown adipose tissue - Andre Carpentier, CA
- 9:00-9:30 Brown adipose tissue in obesity – Kirsi Virtanen, FI
- 9:30-9:45 Preclinical [<sup>18</sup>F]FDG PET/MR: the influence of thyroid dysfunction on the activity of brown adipose tissue (BAT) in mice – Mathias Kranz, GE
- 9:45-10:00 Bone marrow fat: a “novel” distinct fat depot – Tam Pham, FI
- 10:00-10:15 Comparison of <sup>68</sup>GA- AND <sup>18</sup>F-FDR-labeled siglec-9 peptide for imaging of VAP-1 positive vasculature at inflammation – Helena Ahtinen, FI
- 10:15 Coffee and Metabolism and metabolic disorders + Imaging of exercise responses + Neurotransmission posters (Logomo Hall 2)
- 10:45-12:30 Imaging of exercise responses  
Chair: Jarna Hannukainen, FI and Andreas Kjær, DK
- 10:45-11:15 What can imaging offer for the exercise rehabilitation in chronic disease – Andreas Kjær, DK
- 11:15-11:45 PET imaging of exercise responses – Turku experiences – Kari Kalliokoski, FI
- 11:45-12:00 Glucose uptake in brain and skeletal muscles are associated in patient with multiple sclerosis after walking – John Kindred, US
- 12:00-12:15 Moderate intensity training has more desirable effects on liver metabolism than high-intensity interval training in healthy, sedentary, middle aged men – Kumail Kumar Motiani, FI
- 12:15-12:30 Effects of exercise on skeletal muscle mass in frail elderly people – Shaila Ahsan, FI
- 12:30 Lunch (Logomo Hall 2)
- 13:00-13:30 Neurotransmission posters (Logomo Hall 2)
- 13:30-15:00 Neurotransmission  
Chair: Juha Rinne, FI and Chet Mathis, US
- 13:30-14:00 10 years of human amyloid imaging – Chet Mathis, US
- 14:00-14:30 Update from the INMiND project: Imaging Neuroinflammation in Neurodegenerative Diseases – Francisco López Picón
- 14:30-15:00 Mapping the connectome in brain diseases – Hilleke Hulshoff Pol, NL
- 15:00-15:15 Closing of the symposium – Juhani Knuuti, Chairman of the organizing committee

## Sunday May 25

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- 13:30-14:30 HANDS-ON IMAGING workshop by Andrew Crabb, US (GOTO 31)
- 13:30-14:30 DAY1: READY – examine, convert, import
- 14:30 Coffee (Logomo Hall 2)
- 15:00-16:00 DAY1: READY – examine, convert, import (continued)

## Monday May 26

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- 08:30-10:15 Mobile devices and cloud computing in medical imaging (Move 2)  
Chair: Sergey V. Nesterov, FI and Karri Niemelä, FI
- 08:30-09:25 Current trends and emerging paths in clouds and mobile devices for medical imaging – Karri Niemelä, FI
- 09:25-09:50 Long time experience of healthcare in cloud computing – Jan Bertling, SW
- 09:50-10:15 AW – Advanced visualization: One imaging solution across the enterprise – Nicolas Durand-Schaefer
- 10:15 Coffee (Logomo Hall 2)
- 10:30-12:30 HANDS-ON IMAGING workshop (GOTO 31)
- 10:30-12:30 DAY2: STEADY – edit, range, anonymize
- 12:30 Lunch (Logomo Hall 2)
- 13:30-14:30 Software development (Move 2)  
Chair: Jarkko Johansson, FI and Andrew Crabb, US
- 13:30-13:50 The current state of open source software in medical imaging – Andrew Crabb, US
- 13:50-14:10 Statistical exploration of molecular image biomarkers – PMOD to R interface – Krzysztof Mikołajczyk, CH
- 14:10-14:30 Possibilities and challenges of ERP Systems in PET imaging – Miika Parvio, FI
- 14:30 Coffee (Logomo Hall 2)
- 15:00-16:00 Software development (continued)
- 15:00-15:20 Batch processing with Matlab and in-house software – Harri Merisaari, FI
- 15:20-15:40 Imlook4d – Introducing an extendable research 4d analysis software – Jan Axelsson, SW
- 15:40-16:00 Workflows in PET imaging software development – Victor Ploskikh, RU
- 16:00-16:20 An automated algorithm for liver recognition in PET scans – Piergiorgio Cerello, IT

## Tuesday May 27

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- 10:30-12:30 HANDS-ON IMAGING workshop (GOTO 31)
- 10:30-12:30 DAY3: GO – dump, script, PACS

## GENERAL INFORMATION

### Symposium venue

The congress venue LOGOMO is an event center located next to the main railway station just a stone's throw from the city center. Street address is Köydenpunojankatu 14. Walking distance from the market square to Logomo is 1.5 – 2km.

Free wifi for the participants during the symposium:

**LogomoPublic: password: loGOMO2012**

### Symposium hotels

#### Hotel Scandic Julia

Eerikinkatu 4, 20100 Turku, Tel. +358 2 336 000, email: julia@scandichotels.com

#### Scandic Hotel Plaza

Yliopistonkatu 29, 20100 Turku, Tel. +358 2 33 200, email: plaza.turku@scandichotels.com

#### Sokos Hotel City Börs

Eerikinkatu 11, 20100 Turku, Tel. +358 2 337 381, email: myyntipalvelu.turku@sokoshotels.fi

#### Radisson Blu Marina Palace Hotel

Linnankatu 32, 20100 Turku, Tel. +358 20 1234 710, email: info.turku@radissonblu.com

#### Hotel Holiday Inn Turku

Eerikinkatu 28, 20100 Turku, Tel. +358 2 338 211, email: turku.holidayinn@restel.fi

### Registration on-site

The Congress Office will be ready to assist you at the symposium venue on Saturday, 24 May, at 09.00 – 19.30, and on the following days during the scientific programme. The phone number of the Congress Office during the congress is +358 (0)40 565 6716.

### Lunch and coffee

Lunch and coffee are included in the participants' registration fee. Lunch and coffee will be served in the exhibition (Logomo Hall 2) area on Sunday, Monday and Tuesday.

Your name badge is your ticket to lecture rooms, lunch and coffee servings. Please wear your badge throughout the symposium.

### Other services

**Smoking** Smoking is prohibited inside public buildings.

**Taxi** At Logomo you can ask the Congress Office to call you a taxi. Tel.+358(0)2 10041.

**Bus** Bus numbers 20 (direction Muhkuri) and 61 (direction Vienola) from the Market square go to Logomo. Bus numbers 8, 20 32, 42 and 100 stop at railway station, from the station there is a walking bridge over the railways and Logomo is after that 200m to right. Tickets can be bought from the driver, single ticket à 3.00 EUR. valid for 2 hours and one can travel freely within Turku city limits during that time. Extra night fee is 1.00 euros from 23:00 to 04:00. Remember to show the ticket to bus driver if changing the bus You can also purchase a tourist bus ticket for a longer period of time from the Turku Public Transport Service Office or from Turku Touring Tourist Information.

## SOCIAL PROGRAMME

### City Reception and Get-Together Party

Logomo (Symposium venue) **Saturday 24 May,**

**17.00 Opening words**

**17.10 Gadolin lecture**

**17.45 Aurinkobaletti performance**

**18.15 Welcoming words Riitta Liuksa, City of Turku**

**18.20-19.30 Get-together party**

Free participation for NACP and PET symposium delegates and registered accompanying persons.

Turku PET Symposium will start with a Gadolin Award lecture followed by a short contemporary dance performance by Turku-based Aurinkobaletti (AB Dance Company) and Get-Together Party. Come and meet old friends and make new ones. A light dinner and refreshments will be served. After refreshments NACP participants have a Dinner at the Academy House near by the Dome. Transport will be provided.

### Sauna Party

Metsä Jukola, Naantali

**Sunday, 25 May, at 18.15**

Free participation for NACP and PET symposium delegates, ticket 30 euros for accompanying persons: Pre-registration needed for all.

**Busses to Metsä-Jukola leave at 18.15 in front of Hotel Scandic Julia, Radisson Blu Marina Palace Hotel and Hotel Holiday Inn Turku and from the market square in front of the Orthodox Church. The busses from Metsä Jukola leave starting at 22.00 (last at 23.00).**

A traditional and very popular Sauna Party will be held on Sunday evening at Metsä Jukola in Naantali. During the evening you can bathe in sauna, swim in the sea, enjoy the beautiful scenery of archipelago and take part in different outdoor games. Buffet dinner is included.

This event will mainly take place outside if the weather permits so warm clothing is recommended. In case of rain, inside facilities will be available. Remember to bring also your swimsuit if you even remotely think of going into the chilly Baltic sea – following endorphins will make your evening! Towels will be provided.

### Congress Banquet

Panimoravintola Koulu, Brewery restaurant School, Eerikinkatu 18

**Monday, 26 May, at 19.00**

Free participation for PET symposium delegates, tickets 80 euros fee for accompanying persons: Pre-registration needed for all.

Dress code: Smart casual

We will enjoy a symposium dinner at Brewery restaurant Koulu (School) which is located in the centre of Turku (Eerikinkatu 18). The building served as an elementary school until the 80's and was then transformed into a restaurant and a venue for festivities and meetings. No homework will follow from Banquet as subjects will be dinner, music and magic!

# XIII Turku PET Symposium & NACP 2014 Symposium

Turku, 24-27 May 2014

## Venues

- 1 LOGOMO, the symposium venue, address: Köydenpunojankatu 14
- 2 Brewery restaurant Koulu, address: Eerikinkatu 18
- 3 Bus stop, bus No. 61 to Logomo
- 4 Bus stop, bus No. 20 to Logomo
- 5 The Orthodox Church (bus to Sauna Party)
- 6 Academy Hall (NACP dinner)

## Symposium hotels

- H1 Hotel Scandic Julia, address: Eerikinkatu 4
- H2 Sokos Hotel City Börs, address: Eerikinkatu 11
- H3 Scandic Hotel Plaza, address: Yliopistonkatu 29
- H4 Hotel Holiday Inn Turku, address: Eerikinkatu 28
- H5 Radisson Blu Marina Palace Hotel, address: Linnankatu 32

## Stations

- S1 Main railway station
- S2 Bus station
- S3 Kupittaa railway station
- S4 Ferry harbour

 Pedestrian route from Market Square to Logomo

