

BM1205 COST Action

INTERDISCIPLINARY WORKSHOP

**“LASER IMAGING FOR SKIN
CANCER DETECTION”**

amc Amsterdam, October 9th 2014



Sponsored by



INTERDISCIPLINARY WORKSHOP “LASER IMAGING FOR SKIN CANCER DETECTION”

Thursday, October 9th 2014, 13.30h

Purpose

COST Action BM1205 has as one of its main goals the advance in the understanding of laser imaging techniques and its deployment in the hospitals of Europe and Australia. Such deployment is many times hindered by the language, communication, and procedural bareers that both communities face when they try to meet each other. Both sides recognize the need and importance of the feedback and information received fom the other side, but communication is not always easy.

The goal of the workshop is to introduce the basics principles of clinical practice related with skin cancer from the medical to the laser science community. At the same time, the laser science community will present an overview of the basics of the more promising techniques at the research level, including the basic understanding of the physical phenomena, and the state of the art related to skin cancer detection.

Program

14.00 Foreword

Dragan Indjin, University of Leeds, United Kingdom

CLINICAL ASPECTS IN SKIN CANCER DIAGNOSIS AND PROGNOSIS

Chair: Santiago Royo

14:10 About Skin (anatomy, function, and ageing)

Peter Soyer, School of Medicine, U. Queensland, Australia

14:30 Skin cancer (melanoma, Non-melanoma skin cancer,). Implication of the diagnosis in Incidence, prevalence, prognosis, treatment and follow-up

Susana Puig, IDIBAPS, Barcelona

14:50 Dermoscopy/ Limits of the diagnostic procedures in the evaluation of skin tumors

Iris Zalaudek, Graz University, Austria

15:10 Histopathological aspects in skin cancer detection

Marija Buljan University Hospital Centre "Sestre milosrdnice", Zagreb, Croatia

15:30 Clinical application of RCM and OCT in dermatology

Josep Malvehy, Hospital Clinic i Provincial de Barcelona, Barcelona University, Spain

Networking coffee

LASER TECHNOLOGY APPLIED TO SKIN CANCER

Chair: Marija Buljan

16:30 Review of optical techniques used in skin cancer detection

Santiago Royo CD6, UPC-BarcelonaTech, Spain

16:50 Introduction to Reflectance Confocal Microscopy for Skin Cancer Detection.

Giuseppe Solomita MAVIG GmbH, Germany

17:10 Optical Coherence tomography

Daniel M. De Bruijn, Academic Medical Center, Amsterdam

17:30 Multispectral techniques applied to skin cancer

Janis Spigulis Univ. Latvia, Latvia

17:50 Multimodal imaging of skin cancer

Michael Schmitt, Friedrich-Schiller University Jena and Leibniz Institute of Photonic Technology, Jena, Germany

18:10 Laser feedback interferometry: biomedical applications

Aleksandar Rakic Univ. Queensland, Australia

18:30 Open discussion

19:00 Conclusion

Speakers in brief

Peter Soyer, Dermatology Research Centre, The University of Queensland, Brisbane, Australia



Professor H. Peter Soyer is an academic dermatologist with over 30 years experience in the field. He was appointed as the inaugural Chair in Dermatology by The University of Queensland (UQ) in 2007 and as Director of the Princess Alexandra Hospital (PAH) Dermatology Department in 2008. Professor Soyer is internationally recognised in the field of dermatology with special emphasis on dermatologic imaging (dermoscopy and reflectance confocal microscopy). He is a pioneer and world leader in the field of dermoscopy of pigmented skin lesions. He has co-lead the development of the morphologic classification system currently used worldwide and organised the 3rd World Congress of Dermoscopy in Brisbane in 2012

Susanna Puig, IDIBAPS, Barcelona, Spain



Dr. Susana Puig is the director of the research team “Melanoma: Imaging, genetics and immunology” with the publication of more than 160 scientific articles (with an Impact Factor >800 and an Index citation >3500), 2 dermoscopy books, more than 30 book chapters and one patent.

Iris Zalaudek, Medical University of Graz, Austria



Dr. Iris Zalaudek is Board certified Dermatologist and since 2008 Assistant Professor at the Division of Dermatology of the Medical University of Graz; Austria. Her main research fields are skin imaging techniques and dermato-oncology including skin cancer screening, diagnosis, topical and systemic treatment of advanced skin cancer. In addition, she has a special interest in translational research connecting clinical with basic research. She has a broad international network of collaborations and has gained profound experiences in fund raising and leading working groups as well as in conducting research projects and studies. Her combined publications have received an impact factor of 733 and a h-index value of 28 (by August 2014). At current, she is member of the management committee and work group leader of the EU_COST Action BM1205 with the title European Network for Skin Cancer Detection using Laser Imaging.

Marija Buljan, Hospital Centre "Sestre milosrdnice", Zagreb, Croatia



Marija Buljan is dermatovenereologist at the Department of Dermatology and Venereology, University Hospital Centre „Sestre milosrdnice“ in Zagreb, Croatia, where she has been working for ten years. Her special interest is dermatooncology, dermatosurgery, and dermoscopy with the emphasis on skin cancer and melanoma since the Department she is working at represents the Croatian Referral Melanoma Centre. She has published more than forty scientific and professional papers, mostly in the field of dermatooncology. In 2014, she was a co-chair of the international EADV (European Academy of Dermatology and Venereology) Fostering Trainee Course „Melanoma Updates and a Short Course on Dermoscopy“.

Josep Malvehy, Hospital Clínic i Provincial de Barcelona, Spain



Dr. Josep Malvehy is the director of the **Melanoma Unit** at the Hospital Clinic of Barcelona since 2003. He is a **consultant dermatologist** at the Dermatology Department of the Hospital Clinic of Barcelona and external consultant of the **Memorial Sloan Kettering Cancer Center** in New York (US) since 2013.

The main fields of expertise are skin tumors with main interest in diagnosis and treatment of malignant neoplasms of the skin (melanoma and non-melanoma skin cancer). He is author of more than 200 scientific articles, main editor of 3 books in diagnostics of skin cancer and autor of more than 30 book chapters

Santiago Royo, Centre for the Development of Sensors, Instruments and Systems (CD6), UPC-BarcelonaTech University, Barcelona, Spain



Santiago Royo is currently Associate Professor at UPC and Director of the Center for Sensor, Instruments and System Development (CD6), a research and innovation center in Optical Engineering in Terrassa, where seven spin-off and four start-up companies have been created. For twenty years he has participated and led research projects in optical metrology and engineering, leading him to publish over 50 full-text publications and 10 patents, five of them licensed to companies. He is co-founder of two photonics-based spin-off companies: SnellOptics (2002, Terrassa, Spain), devoted to marketing photometry solutions for smart cities and quality plastic optical components; and ObsTech SpA (2012, Santiago, Chile) commercializing systems for internet-controlled telescopes.

Giuseppe Solomita, Director VivaScope Systems, Mavig GmbH



Has been working in the field of International Sales starting in 1998 (Sales Manager - Sanyo Electric Ltd., Osaka) and moved on to Mavig GmbH, Munich, in 2007. Over fifteen years of experience in the competitive and fast moving market has strengthened the focus on customer's needs. As the Head of the VivaScope Systems department, he has built up a strong relationship with over 200 academic centers all over Europe, and has increased the adoption of the Vivascope technology in research and clinical applications through accredited ingenious training programs. He has set as the main focus of the VivaScope team, the increase in the awareness of the technology in domestic and international markets

Daniel M. De Bruijn, Academic Medical Center, Amsterdam



Daniel Martijn de Bruin (Martijn) studied Photonics and laser physics at Technisch College Ede from which he graduated in 2002. His graduation project was on the development of a clinical optical coherence tomography system for skin cancer diagnosis which he conducted at the former Laser Center of the Academic Medical Center (AMC) Amsterdam. Hereafter, he studied Molecular Biology at the University of Applied sciences Utrecht. He graduated at the Wellman Center for Photo-medicine, Harvard Medical School and Massachusetts General Hospital, where he developed a retinal optical frequency domain imaging system. He received his bachelor's degree in 2007 and went on to work as a Ph.D. candidate at the department of Biomedical Engineering & Physics (BMEP) at the Academic Medical Center (AMC) which resulted in this dissertation. While conducting his Ph.D. research, he studied Medical Biology and Biochemistry at the University of Amsterdam from which he received his master's degree in 2011. As from 2011, he is employed as a staff member and research associate at both the department of Urology and the department of Biomedical Engineering & Physics of the AMC where he initiates and guide translational research projects.

Janis Spigulis, Institute of Atomic Physics and Spectroscopy, University of Latvia



Janis Spigulis is professor at Faculty of Physics and Mathematics and head of the Biophotonics Lab at Institute of Atomic Physics and Spectroscopy, University of Latvia. J. Spigulis has a background in atomic physics, optoelectronics and fibre optics. His recent work is related to development of novel optical methods and devices for noninvasive clinical diagnostics and monitoring. The research results on biophotonics (photoplethysmography, optical skin assessment, novel devices) have been published in more than 100 papers and presented at numerous international conferences.

J. Spigulis was the founder and chairman of the SPIE Baltic Chapter (1994-2007), now he is SPIE Fellow and chairman of the Baltic Photonics Cluster. In 2012 J. Spigulis became academician of Latvian Academy of Sciences; he holds several prestigious awards, e.g. the "Grindex" award "Golden Owl" for outstanding research in Biomedical Optics (2007) and the Walther Zapp best inventor award for achievements in biophotonics and fiber optics (2013).

Full CV and more details can be found at www.lanet.lv/~spigulis

Michael Schmitt, Friedrich-Schiller University Jena and Leibniz Institute of Photonic Technology, Jena, Germany



Michael Schmitt, born in 1968, received his Ph.D. in chemistry from the University of Würzburg in 1998. From 1999 to 2000 he went for postgraduate studies to the Steacie Institute for Molecular Sciences at the National Research Council of Canada. He subsequently joined the group of Prof. Dr. W. Kiefer at the University of Würzburg, where he finished his habilitation in 2004. Since March 2004 he has been a research associate in the group of Prof. Dr. J. Popp at the Institute of Physical Chemistry at the Friedrich-Schiller-Universität Jena. His main research interests are focused on resonance Raman spectroscopy, non-linear spectroscopy and non-linear multimodal imaging for biomedical diagnostics.

Aleksandar D. Rakic School of Information Technology and Electrical Engineering, The University of Queensland, Australia

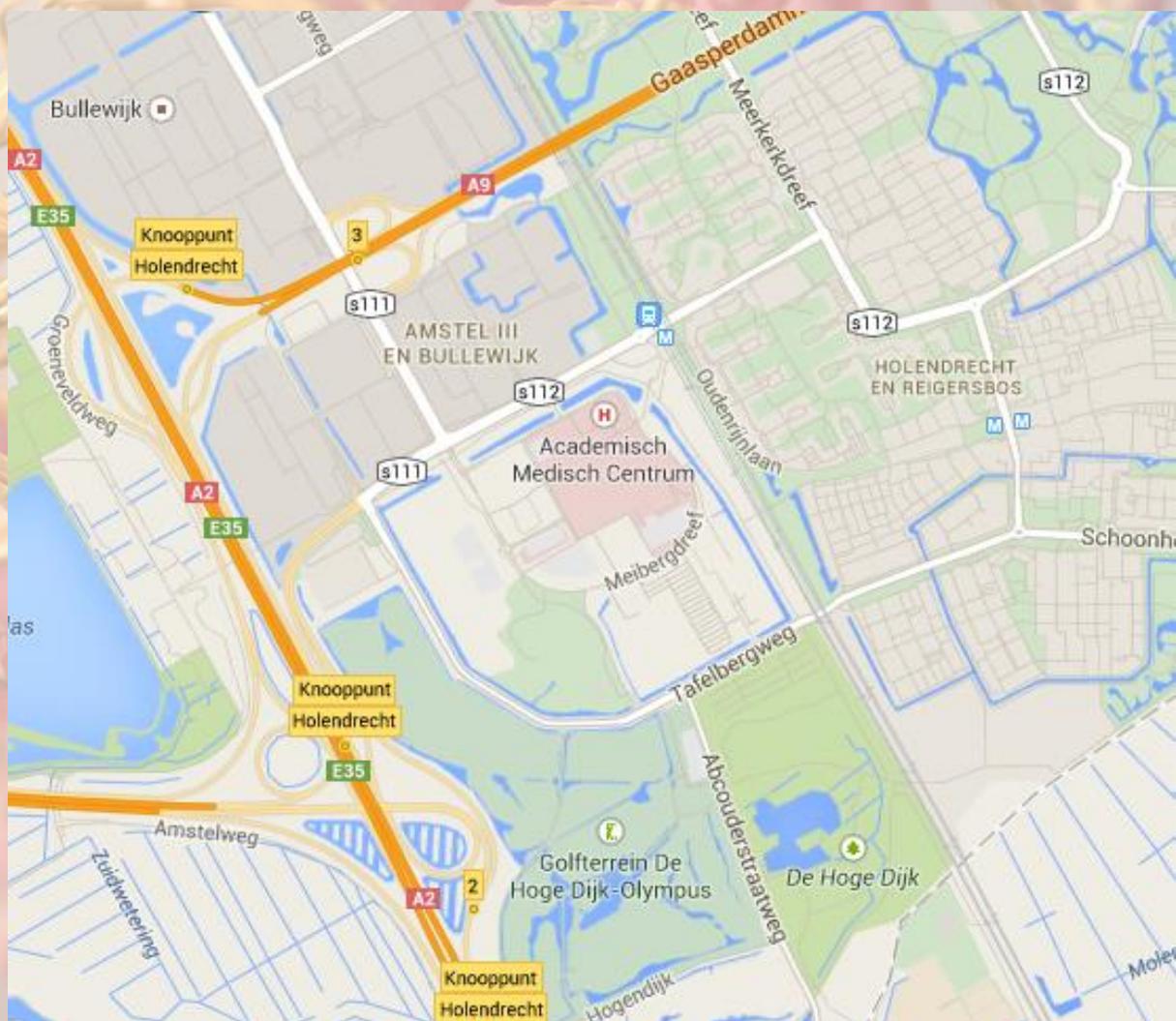


Aleksandar D. Rakic leads a cross-disciplinary team developing hardware and software for Laser-Feedback interferometry. In the past 10 years Dr Rakic pioneered the development of several world's first laser self-mixing interferometric sensors including systems based on monolithic laser-arrays, blue-green lasers, terahertz quantum cascade lasers and interband cascade lasers. Dr Rakic's current focus is on the development of sensing and imaging systems exploiting the THz spectrum for applications from security and defence to in vivo biomedical imaging. His other principal contributions relate to the design and characterization of surface-emitting optoelectronic devices (VCSELs and LEDs). He was appointed Invited Professor at the Universities of Toulouse and Leeds and is currently an Associate Professor of Photonics at The University of Queensland.

Venue

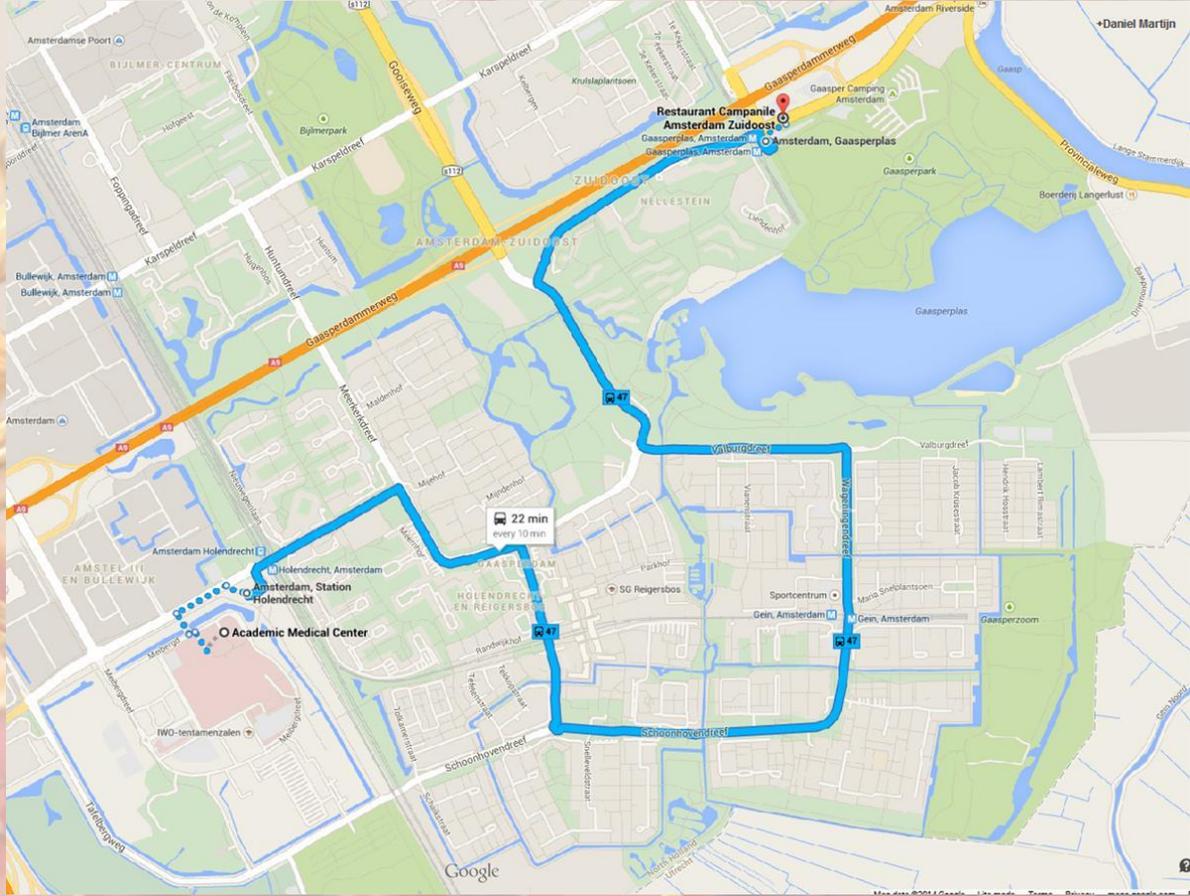
Academic Medical Center Amsterdam
Meibergdreef 9
1105 AZ, Amsterdam

<https://www.google.com.tw/maps/place/Academic+Medical+Center/@52.295843,4.957743,17z/data=!3m1!4b1!4m2!3m1!1s0x47c60b7dd32d66b5:0x70ffb64cca0f173?hl=en>

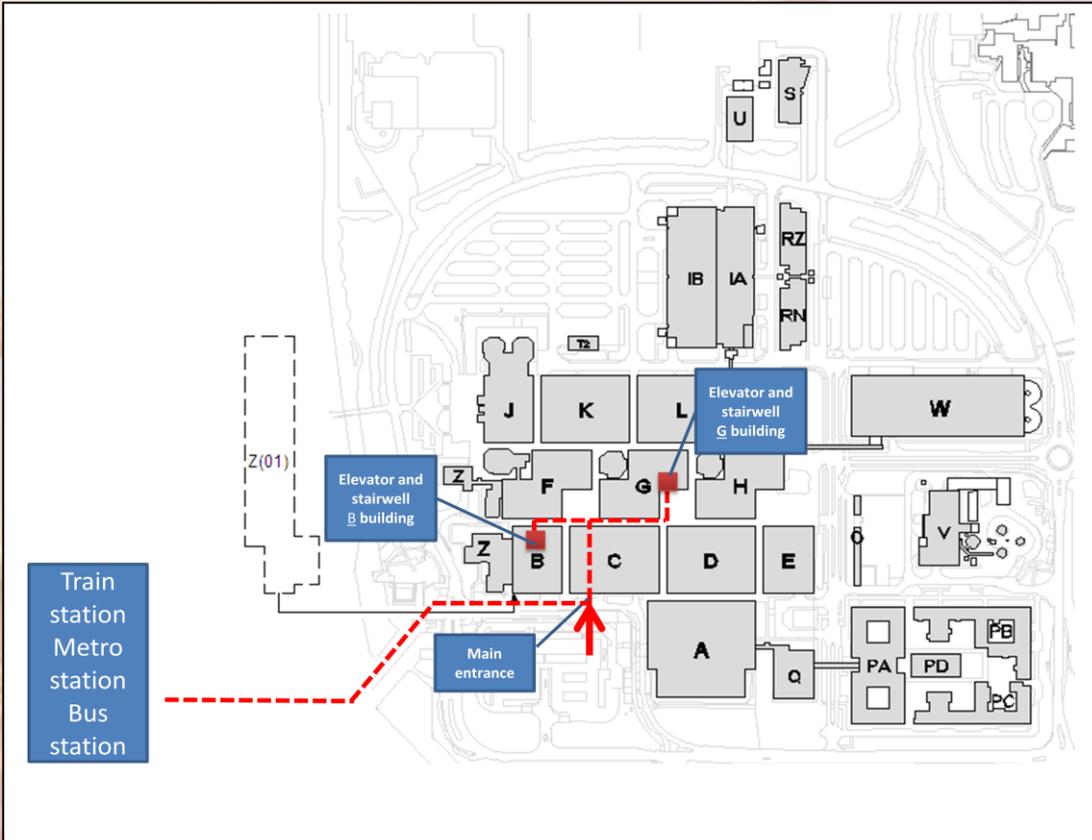


Suggested hotel

The suggested hotel (Campanile Amsterdam Zuidoost) is in close proximity of the AMC (about 3.4 km) and public transport goes directly from the hotel to the AMC Please use busline 47, it goes every 10 min, takes about 15 min and stops in front of the hotel and the AMC).



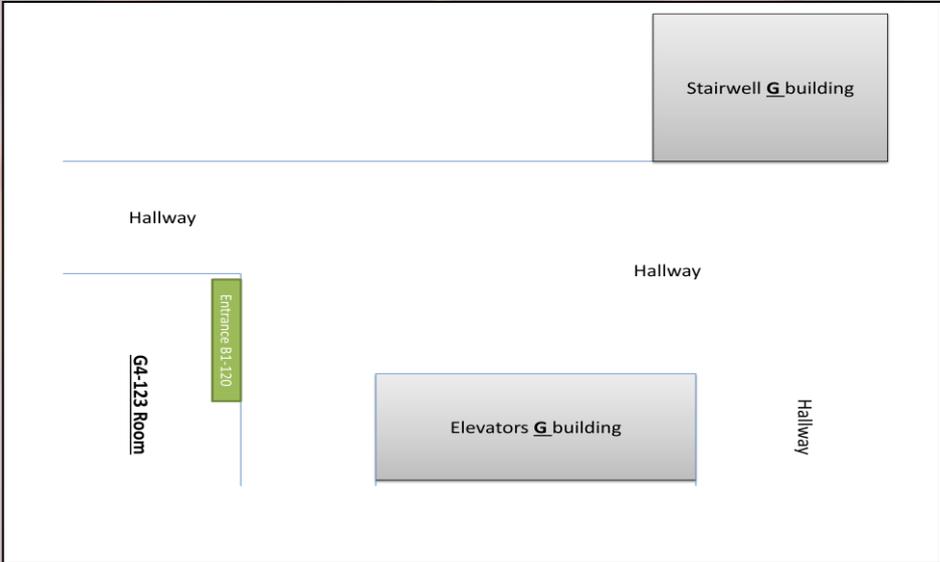
Once at AMC Amsterdam



Day 1, October 9th, Thursday, G4-123 room:

After entering the AMC building via the main entrance, continue following the hallway. Go right when you reach an open area with some stores and a restaurant until you walk into a second open area with stores and restaurants. Go left where you will find the G building elevators.

Take the elevator to the 4th floor, you will find the entrance of room G1-123 directly on your left hand as indicated.



For those attending the Management Committee meeting of BM1205 on Friday

Day 2, October 10th, Friday, B1-120 room: After entering the AMC building via the main entrance, continue following the hallway. Go left when you reach an open area with some stores and a restaurant. After 20 meters, you will find the elevator and stairwell to the B floor on your left.

Take the elevator to the 1st floor, you will find the entrance of room **B1-120** directly on your left hand as indicated

