

Report
on the
15th International Wolfsberg Meeting on Molecular Radiation Biology/Oncology
2017

Wolfsberg Castle, Ermatingen, Switzerland, June 17-19, 2017

Organizers

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Scientific Committee

Daniel Aebersold / CH; Jan Alsner / DK; Kerstin Borgmann / GER; Gerben Borst / NL; Martin Brown / USA; Jan Bussink / NL; Anthony Chalmers / UK; Rob Coppes / NL; Wolfgang Doerr / A; Ludwig Dubois / GER; Anna Dubrovskaja / GER; Vincent Grégoire / BE; Ester Hammond / UK; Paul Harari / USA; George Iliakis / GER; Penny Jeggo / UK; Michael Joiner / USA; Anne Kiltie / UK; Marianne Koritzinsky / CAN; Mechthild Krause / GER; Martin Lavin / AU; Markus Löbrich / GER; Peter Lukas / A; Gabriele Multhoff / GER; Eva Petermann / UK; Kasper Rouschop / NL; Brita Singers Sorensen / DK; Stéphane Supiot / FR; Randi Syljuasen / NO; Conchita Vens / NL; Marcel Verheij / NL; Marie-Cathérine Vozenin / CH; Daniel Zips / GER

From June 17-19, 2017 158 basic, translational and clinical scientists from 21 different countries worldwide attended the *15th International Wolfsberg Meeting on Molecular Radiation Biology/Oncology* to discuss the latest scientific achievements in radiation biology/oncology relevant for DNA repair and radiation-induced signaling mechanisms, molecular and microenvironmental aspects of tumor and radiation biology as well as biomarkers and targeting strategies for radiation oncology. To these topics in total 176 abstracts were submitted by the deadline of January 26, 2015. The submitted abstracts were anonymized and scored by 8-10 topic-specific reviewers being members of the Scientific Committee. According to the resulting topic specific abstract ranking list about 25 % of abstracts originally submitted had to be rejected due to space reasons.

The meeting was structured in 4 half-day sessions starting on Saturday, June 20, with Session 1, i.e. *the Young Investigators Platform*. In this session young investigators just reaching international scientific visibility have the chance to present their most interesting research on the basis of an *Invited Lecture* as well as a *Late-Breaking Abstract Lecture*. The *Invited Lecture*

entitled *Utilizing circulating tumor DNA in radiation oncology* was presented by Scott Bratman, Toronto. The *Late-Breaking Abstract Lecture* by Tord Hompland, Oslo, was focused on the analysis of oxygen consumption vs oxygen supply in more hypoxic tumor regions to optimize hypoxia imaging. The following presentations in this sessions were reserved for the ESTRO-Wolfsberg-Travel Awardees 2017 who described their award winning research in 15 min talks.

As in previous Meetings the topic-specific sessions were introduced by 2 keynote lectures presented by invited international leading scientists in the specified field. These lectures, which were focused on the more basic as well as more translational/clinical aspects were followed by topic specific poster-sessions, for which ample time is provided to allow intensive and detailed discussions at the posters. Each session was the closed by topic-specific proffered paper presentations. The following list indicates topic-specifically the names and titles of the invited keynote speakers, the number of posters presented and the names and titles of proffered paper speakers.

Keynote speakers, numbers of posters, and proffered paper speakers:

Topic 1: DNA Repair and Signaling

Keynote Speakers:

Stéphan Vagner, Paris, F: *Role of RNA binding proteins in the DNA damage response. (Unfortunately and due to family reasons Stéphan had to cancel his presentation on short notice)*

Frank S. Slack, Boston, USA: *Micro RNA based therapeutics in cancer.*

Number of posters presented: 43

Proffered Paper speakers:

Sandeep Burma, Dallas, USA: *Regulation of DNA end resection by EXO1.*

Kristopher Valerie, Richmond, USA: *ATM phosphorylates the PP2A subunit resulting in nuclear export spatiotemporal regulation of the DNA damage response.*

Stephen Harding, Philadelphia, USA. *Checkpoint slippage underlies activation of inflammatory signaling in epithelial cells.*

Topic 2: Influence of Microenvironmental Parameters on Radiation Responses of Normal and Tumor Tissue

Keynote Speakers:

Andy J. Minn, Philadelphia, USA: *Combination of cancer therapies with immune checkpoint blockade.*

Saskia J. Ellenbroek, Utrecht, NL: *Intravital imaging of the hallmarks of cancer*

Number of posters presented: 41

Proffered Paper speakers:

Ahn-G-One, Pohang, KOR: A novel role of tumor-associated macrophages (TAMs) in contributing to resistance to radiotherapy.

Anne Vehlow, Dresden, GER: Beta-1-integrin/KNK co-deactivation effectively targets adhesion- and stress-related adaptation radiochemoresistance in glioblastoma.

Gael Boivin, Epalinges, CH: Optimization of radio-immunotherapy schedule after immunophenotyping in a preclinical lung carcinoma model.

Topic 3: Biomarkers and Interventional Strategies in Radiation Oncology

Keynote Speakers:

Bern Pichler, Tübingen, GER: *Translation of preclinical multimodal imaging for personalized cancer therapy.*

Philippe Lambin, Maastricht, NL: *Radiomics: a window to biology?*

Number of posters presented: 31

Proffered Paper speakers:

Frank Pajonk, Los Angeles, USA: *Inhibition of radiation induced phenotype conversion as a novel strategy to increase the efficacy of radiation in GBM.*

Kaye Williams, Manchester, UK: *Monitoring post-radiotherapy inflammation by PET: Imaging validation and correlation with response.*

Melvin Chua, Singapore, SGP: *Genomic architecture of prostate cancer at recurrence following radiotherapy.*

Awards presented at the Wolfsberg Meeting 2017

Wolfsberg Poster Awards

Since the start of this Meetings Series the **Wolfsberg Poster Award** is a special highlight of the *Wolfsberg Meeting Series* and has become a prestigious award in molecular radiation biology/oncology research. Altogether, in the three topics a total of 115 posters were presented. Based on the evaluation of the topic specific poster jurors the following colleagues received the *Wolfsberg Poster Awards 2017*:

Topic 1:

Anthony Davies, Dallas, USA. Poster title: *Increasing radiotherapy responsiveness of mesothelioma by activating tumor specific cell death.*

Topic 2:

Kaspar Rouschop, Maastricht, NL. Poster title: *EGFRvIII expression triggers a metabolic dependency and therapeutic vulnerability sensitive to autophagy inhibition.*

Topic 3:

Klaus Dittmann, Tübingen, GER. Poster title: *Radiation-activated EGFR-kinase regulates stability of VEGF signaling-associated mRNAs by microRNA guided cNOT1-deacetylase activity.*

ESTRO-Wolfsberg Travel Awards

Based on an arrangement with ESTRO, the organizers could present in total 6 *ESTRO-Wolfsberg Travel Awards* to young researchers, i.e. PhD students who are ESTRO members and were first authors of their submitted abstracts. The awardees were selected based on the topic specific ranking of their abstracts. The following PhD-students were awarded:

- Peter W. Nagle, Groningen, NL. Abstract: *Low dose sensitivity of normal tissue stem cells and its potential clinical relevance.*
- Charlotte Degorre, Nantes, FR. Abstract: *Radiation-induced mitochondrial injuries and chronic activation of p53 leading to microvascular endothelial cell senescence.*
- Christian Naucke, Oslo, NO. Abstract: *Novel flow-cytometry-based compound screens for identification of promising combination treatments*
- Tom Keulers, Maastricht, NL. Abstract: *GABARAPL1 is required for hypoxia-induced extracellular vesicle secretion.*
- Fokko J. Huizing, Nijmegen, NL: Abstract: *Characterization of 111In-gerintuximab-F(ab')₂ as radiotracer for the imaging of carbonic anhydrase IX in head and neck xenografts.*
- Gael Boivin, Epalinges, CH. Abstract: *Optimization of radio-immunotherapy schedule after immunophenotyping in a preclinical lung carcinoma model.*

Adrian C. Begg Award 2017

This award was established in 2015 and is sponsored by *Xstrahl Ltd.*, UK. It honours the outstanding scientific and personal achievements of Prof. Adrian C. Begg in the field of molecular radiation biology and translational radiation oncology. In reflection of the exceptional support given by Adrian Begg to many young scientists, the award is presented to the most excellent young Wolfsberg poster author being a PhD-student or early postdoc. In 2017 this award was presented to Lara Barazzuol, Groningen, based on her poster entitled “*A coordinated response of adult neural stem cells to radiation-induced DNA-damage: spatial and age dependent differences*”. Lara received the award from the chairperson of the Award Committee, Prof. Fiona Stewart, Amsterdam, NL.

Wolfsberg Cup 2017

Traditionally the Wolfsberg Cup is always a special feature of the *Wolfsberg Meeting Serie* and as many previous meeting participants know it is the most challenging sports event in the world of radiation biology/oncology. The Wolfsberg Cup 2017 consisted of three widespread and well known sports disciplines *Ball Targeting*, *Weight Winding*, and *Volleyball-Goes-Grazy*.

The teams of the three scientific topics were outstandingly headed and coached by the Key-note speakers; thus, they performed and dealt excellently in the funny but nevertheless athletic demanding disciplines. However, as it happens to be in sports competitions with very different disciplines, the winner is usually the team which performs most constantly and has the right mixture of talented team members. Based on this traditional sports wisdom the performance of team Topic 1 *DNA-repair and Signaling* was absolutely outstanding and deserved very well the Wolfsberg Cup 2017. By the way, in the 20 year history of the *Wolfsberg Meeting Series* this was the first time ever that Team Topic 1 did win the prestigious coffee cups.

Conclusion

The 15th edition of the *Wolfsberg Meeting Series* again proofed that the structure of this conference series provides the ideal platform for multidisciplinary exchange of excellent scientific achievements and results, ideas and approaches in the context of molecular tumor as well as normal tissue biology and normal tissue biology. In the context of translational research the discussed achievements will help to develop new therapeutic approaches and strategies in radiation oncology.

Finally, the organizers would like to gratefully acknowledge the financial support of the 15th International Wolfsberg Meeting on Molecular Radiation Biology/Oncology 2017 by the institutions and scientific organizations listed below. Without their donations the meeting would not have been possible.

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