PMBTWorkshop 2023

Provisional program

Note that the exact titles and time slots of the presentations may be subject to change.

Thursday, 16 March 2023

8h30 - 8h45 **Registration**
Coffee and croissants

8h45 - 9h15 **Welcome address** - *Y. Prezado*

SESSION 1: Radiobiology
Chair: R. Griffin

9h15 - 10h45 **Invited presentations**

9h15 - 9h35 Overview of what we know and don't know
- *R. Griffin (University of Arkansas for Medical Sciences, USA)*

9h35 - 9h55 Review of radiobiological data from Institut Curie on proton and heavy ion MBRT - *A. Bertho & L. Iturri (Institut Curie, France)*

9h55 - 10h15 Review of radiobiological data from SNAKE
- *T. Schmid (Technical University of Munich, Germany)*

10h15 - 10h35 Radiobiological models for particle minibeams
- *J. Seco (DKFZ Heidelberg, Germany)*

10h35 - 10h45 Q&A

10h45 - 11h15 **Coffee break**

11h15 - 12h30 **Oral presentations from selected abstracts**

11h15 - 11h27 Application of equivalent uniform dose (EUD) for the prediction of normal and tumor cell survival after proton minibeam irradiation
- *J. Stolz et al. (Bundeswehr University Munich, Germany)*

11h27 - 11h39 The effect of Minibeam and Microbeam Radiation Therapy on tumor growth delay in an in vivo mouse model
- *N. Subramanian et al. (Technical University of Munich, Germany)*

11h39 - 11h51 Biological Models for a Preclinical Proton Minibeam Radiotherapy Facility - *J. Neubauer et al. (Technical University of Munich, Germany)*

11h51 - 12h03 New insights into proton minibeam radiation therapy in healthy and tumoral cells using synchrotron-based Fourier transform infrared microspectroscopy
- *R. Gonzalez-Vegas et al. (Autonomous University of Barcelona, Spain)*

12h03 - 12h15 Impact of spatially fractionated minibeams on the production of reactive oxygen species: a Monte Carlo study using TOPAS-nBio
- *T. Masilela et al. (Institut Curie, France)*

12h30 - 13h30 **Lunch break and poster session**

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continuation

SESSION 2: Technological aspects
Chair: J. Seco

13h30 - 14h15 **Invited presentations**

13h30 - 13h45 PMBT implementations at clinical centers
- *T. Schneider (Institut Curie, France)*

13h45 - 14h00 PMBT implementations at research centers and new perspectives
- *G. Dollinger (Bundeswehr University Munich, Germany)*

14h00 - 14h15 Q&A

14h15 - 15h00 **Oral presentations from selected abstracts**

14h15 - 14h27 Preclinical proton minibeam radiotherapy facility for small animal irradiation - *A. Rousseti et al. (Bundeswehr University Munich, Germany)*

14h27 - 14h39 Characterization of a novel preclinical proton minibeam set-up
- *M. Ahmed et al. (Helmholtz Center Munich, Germany)*

14h39 - 14h51 LhARA end station dosimetry - An Evaluation of Preclinical Studies of Minibeam Radiotherapy for design of the LhARA end-station
- *J. McGarrigle et al. (Imperial College London, UK)*

External vision and multidisciplinary discussion

15h00 - 16h00 **External vision**

Moderators: *J. Seco & Y. Prezado*

Invited experts: *M. Durante (GSI, Germany), M.-C. Vozenin (CHUV, Switzerland), R. Griffin (University of Arkansas for Medical Sciences, USA), G. Arduini (CERN, Switzerland), A. Lombardi (CERN, Switzerland) & G. Datzmann (Datzmann interact and innovate, Germany)*

16h00 - 16h30 **Coffee break**

16h30 - 17h30 **External vision**

Knowledge gaps
How to move forward?

20h00 - 22h30 **Gala dinner** *(location to be announced)*

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8h30 - 9h00 Coffee and croissants

SESSION 3: Physics and dosimetry
Chair: J. Eley

9h00 - 9h45 **Invited presentations**

9h00 - 9h15 Experimental dosimetry protocols for PMBT
- *I. Martínez-Rovira (Autonomous University of Barcelona, Spain)*

9h15 - 9h30 PMBT dose calculation - *L. de Marzi (Institut Curie, France)*

9h30 - 9h45 Q&A

9h45 - 10h45 **Oral presentations from selected abstracts**

9h45 - 9h57 CMOS Detector Robustness in pMBRT Dosimetry
- *S. Flynn et al. (National Physical Laboratory, University of Birmingham, UK)*

9h57 - 10h09 Dosimetry and in vitro studies using a novel and versatile mini-beam collimator - *C. Stengl et al. (DKFZ Heidelberg, Germany)*

10h09 - 10h21 Biological optimization of peak-to-valley dose ratio for pMBRT
- *H. Gao et al. (University of Kansas Medical Center, USA)*

10h21 - 10h33 Proton minibeam therapy is optimised by heterogeneous tumor doses and paves the way to proton FLASH therapy
- *J. Reindl et al. (Bundeswehr University Munich, Germany)*

10h45 - 11h15 **Coffee break**

SESSION 4: Medical aspects
Chair: E. Jouglar

11h15 - 11h45 **Invited presentations**

11h15 - 11h30 TITLE TO BE ANNOUNCED
- *S. Combs (Technical University of Munich, Germany)*

11h30 - 11h45 Q&A

11h45 - 12h15 **Oral presentations from selected abstracts**

11h45 - 11h57 LIGHT proton linac minibeam FLASH plans, compared to photon SRS, and to FLASH and nominal LIGHT proton plans, for treatment of brain metastases
- *A. Kolano et al. (ADAM SA, Switzerland)*

11h57 - 12h09 The dosimetric advantages of treating left partial breast indications with linac proton beams and minibeams versus cyclotron proton beams
- *K. O'Shea et al. (ADAM SA, Switzerland)*

12h15 - 12h30 **Presentation of *INanoTheRad*** - *S. Lacombe (University Paris-Saclay, France)*

12h30 - 13h30 **Lunch break and poster session**

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	Clinical perspectives and multidisciplinary discussion
13h30 - 14h30	**Clinical perspectives** Moderators: *E. Jouglar, R. Griffin, J. Eley & T. Schmid* Invited experts: *Y. Kirova (Institut Curie, France) & S. Tubin (MedAustron, Austria)*
14h30 - 15h30	**Interactive multidisciplinary discussion** Knowledge and technology gaps How to move towards clinical trials?
15h30 - 16h00	**Coffee break**
16h00 - 16h30	**Workshop conclusion** - *J. Reindl*