Workshop “Application of Microbeam in Cell Biology “

April 11-14th and April 26th, 2022

MedILS, Split, Croatia

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Northwestern University Feinberg School of Medicine, Chicago IL, USA

While radiation is commonly used to induce cellular damage, the usual sources of radiation lack the ability to target individual cells or specific components of a cell. A microbeam is a micrometer or sub-micrometer diameter beam of radiation, that allows damage to be precisely inflicted at specific locations within a biological target. In this way, the effect of radiation on specific cellular functions can be evaluated. Microbeam is particularly useful for studying cell-cell interactions in heterogeneous cellular populations since it can target single cells without reaching the neighboring cells.

Prof. Tatjana Paunesku is a Research Associate Professor at Northwestern University Feinberg School of Medicine, Radiation Oncology Department, in Chicago, USA. Her research interests include radiation biology and nanotechnology, as well as design and construction of novel research devices. These include a custom-made microbeam, as well as Bionanoprobe - a new instrument enabling high-throughput and high-resolution imaging that co-registers both biological material and nanoconstructs.

Workshop program

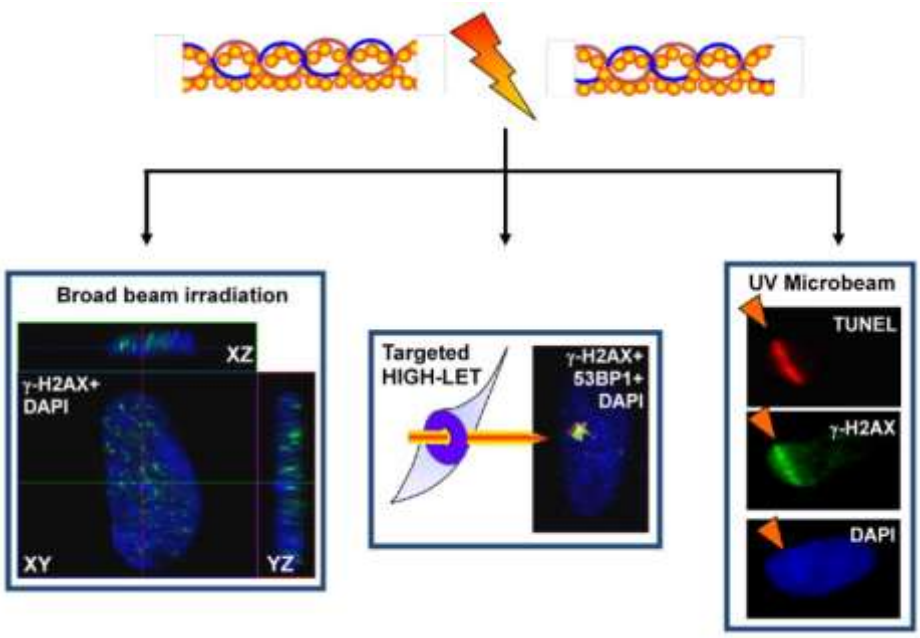
Day 1 (April 11th, beginning at 2 pm): Microbeam – introduction

Day 2 (April 12th, beginning at 2 pm): Analysis of three scientific articles where microbeam had been applied

Day 3 (April 13th, beginning at 2 pm): Examples of the data obtained at microbeam and data analysis

Day 4 (April 14th, beginning at 2 pm): Exercise in designing microbeam experiments

Day 5 (April 26th, beginning at 2 pm): Brainstorming – generation of ideas for experiments using microbeam (only for Biology of Robustness group)



Schettino et al, PMC Europe 2010

Free registration!

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