



**47th Annual Meeting of the  
European Radiation Research Society  
September 21st - 24th 2022  
Catania, Italy**

Sitoweb:  
<http://www.sirr2.it/errs2022/>  
Segreteria:  
[errs2022@sirr2.it](mailto:errs2022@sirr2.it)

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## PROGRAMME

Wednesday, September 21st

08:30-10:00 ERRS 2022 Registration

**09:00-10:00** Welcome Breakfast

10:00-10:30 Opening Ceremony and greetings from the Authorities

**10:30-11:30** Session Opening Lecture

CHAIRS:

*Francesca Ballarini and Georgia Terzoudi*

10:30 *Marco Durante*

**Heavy ions in therapy and space**

11:30-17:30 Session 1: SPACE RADIATION

CHAIRS:

*Francesca Ballarini and Georgia Terzoudi*

**11:30-12:15** Session Keynote Speaker

11:30 *Francis Cucinotta*

**Space Radiation Health Risks for Exploration Missions**

**12:15-12:40** Session ESA: Activity update

12:15 *Anna Fogtman*

**Astronaut radiation protection and space radiation research.**

**12:40-13:00** Session ASI: Activity update

12:40 *Valerio Vagelli, Marta Del Bianco, Francesca Ferranti, Silvia Mari, Claudia Pacelli, Sara Piccirillo and Vittorio Cotronei*

**Towards the definition of the ASI roadmap for space life sciences in human space exploration and prospectives on radiation-risk mitigation**

PRESENTER: *Valerio Vagelli*

**13:00-14:30** Lunch Break

14:30-15:00 Special Guest - Luca Parmitano (Remote connection)

CHAIRS:

*Sarah Baatout and Walter Tinganelli*

**15:00-15:30** Session Invited Speaker

15:00 *Timna Hitrec, Walter Tinganelli, Matteo Negrini, Giulia Babbi, Fabio Squarcio, Palma Simoniello, Giovanna Cenacchi, Marco Grillini, Valentina Papa, Antonietta D'Errico, Alessio Morganti, Fabrizio Romani, Gaetano Compagnone, Valentina Marchesano, Alexander Helm, Emiliana Piscitiello, Alessandra Occhinegro, Ludovico Taddei, Marco Luppi, Roberto Amici, Maximiliano Sioli, Antonio Zoccoli, Marco Duratne and Matteo Cerri*



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**Molecular mechanism for synthetic torpor-induced radioprotection: HIBRAD preliminary results**

PRESENTER: *Matteo Cerri*

**15:30-16:00** Session Oral Presentation

15:30 *Ricardo Luis Ramos, Mario Pietro Carante, Alessia Embriaco, Alfredo Ferrari, Paola Sala, Valerio Vercesi and Francesca Ballarini*

**Biological damage induced by space radiation: calculation of astronauts' doses and RBE for cell death and chromosome aberrations**

PRESENTER: *Ricardo Luis Ramos*

15:45 *Anggraeini Puspitasari, Matteo Cerri, Fabio Squarcio, Akihisa Takahashi, Yukari Yoshida, Kenji Hanamura, Martina Quartieri, Cristina Totis, Palma Simonello, Marco Durante and Walter Tinganelli*

**Adenosine Agonist treatment shows protective effects to C-ion irradiation**

PRESENTER: *Anggraeini Puspitasari*

**16:00-16:30** Coffee Break

**16:30-17:00** Session Invited Speaker

16:30 *Bjorn Baselet, S.F.D.S. Miranda and S. Baatout*

**Space: one small step for an immune cell, one giant leap for the human immune system**

PRESENTER: *Bjorn Baselet*

**17:00-17:30** Session Oral Presentations

17:00 *Emanuele Fiandrini, Nicola Tomassetti, Bruna Bertucci and Alejandro Reina Conde*

**Solar modulation modeling of the galactic proton flux measured by the AMS02 and PAMELA experiments**

PRESENTER: *Alejandro Reina Conde*

17:15 *Lorenzo Scavarda, Anna Fogtman and Leonardo Surdo*

**ERFNet Data Hub: a new access for the European space radiation research**

PRESENTER: *Lorenzo Scavarda*

**17:30-18:30** Session YIA SIRR: Young Investigator Award SIRR

CHAIRS:

*Peter Sminia and Palma Simoniello*

17:30 *Giulia Acocella, Silvia Siteni, Jerry Shay, Antonio Antoccia and Francesco Berardinelli*

**The nucleoside analogue 6-thio-2'-deoxyguanosine (6-thio-dG) sensitize breast cancer cells to ionizing radiation exposure**

PRESENTER: *Giulia Acocella*

17:40 *Federica Barbato, Francesco Berardinelli, Emanuela Micheli, Zulema Percario, Elisabetta*



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*Affabris and Antonella Sgura*

**DNA Damage induced by Ionizing radiation activates the innate immune response: study and characterization of the cGAS-STING pathway.**

PRESENTER: *Federica Barbato*

17:50 *Viviana Benfante, Alessandro Stefano, Albert Comelli, Paolo Giaccone, Francesco P Cammarata, Selene Richiusa, Fabrizio Scopelliti, Marco Pometti, Milene Ficarra, Anna Maria Pavone, Sebastiano Cosentino, Luca Morselli, Marco Verona, Elisa Vettorato, Antonino Tuttolomondo, Rosalba Parenti, Massimo Ippolito and Giorgio Russo*

**Innovative Evaluation Method on Biodistribution of a New [64Cu] Chelating Agent in a Murine Model Based on Radiomics**

PRESENTER: *Viviana Benfante*

18:00 *Valeria Pascali, Saverio Altieri, Diego Alberti, Valeria Bitonto, Sebastiano M. S. Micocci, Simonetta Geninatti, Annamaria Deagostino, Emanuele Azzi, Polyssena Renzi and Nicoletta Protti*

**First in vitro experiments and microdosimetric evaluations to investigate if the Neutron Capture reactions are effective in degrading  $\beta$ -amyloid aggregates**

PRESENTER: *Valeria Pascali*

18:10 *Valerio Ricciardi, Pavel Bláha, Raffaele Buompane, Mario Ciocca, Giuseppina Crescente, Giacomo Cuttone, Valerio Cosimo Elia, Angelica Facchetti, Lucio Gialanella, Katarina Michaličková, Giuseppe Porzio, Severina Pacifico and Lorenzo Manti*

**Proton-Boron-Fluorine Enhanced Protontherapy: first proof-of-principle experiments with monochromatic low-energy and clinical high-energy proton beams**

PRESENTER: *Valerio Ricciardi*

18:20 *Filippo Torrasi, Francesco Paolo Cammarata, Valentina Bravatà, Lucia Salvatorelli, Simona D'Aprile, Pierangela Giustetto, Alessandro Stefano, Giusi Irma Forte, Giuseppe Broggi, Marco Pometti, Fabrizio Scopelliti, Gaetano Giuseppe Magro, Massimo Ippolito, Nunzio Vicario, Giacomo Cuttone, Giorgio Russo and Rosalba Parenti*

**Proton boron capture therapy induces cell death and mitophagy in a heterotopic glioblastoma model**

PRESENTER: *Filippo Torrasi*

Thursday, September 22nd

08:30-11:15 Session 2: RADIATION PHYSICS AND CHEMISTRY

CHAIRS:

*Georgia Terzoudi and Mariagabriella Pugliese*

08:30-09:15 Session Keynote Speaker

08:30 *Carmen Villagrasa*

**Monte Carlo simulation of radio-induced DNA damage**



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**09:15-09:45 Session Invited Speaker**

09:15 *Emanuele Scifoni, Francesco Cordoni, Daria Boscolo, Marco Battestini, Michael Kraemer, Gianmarco Camazzola, Marta Missiaggia, Francesco Tommasino, Andrea Attili, Chiara La Tessa, M. Durante and Martina Fuss*

**Radiation Chemistry based modeling investigations of the FLASH mechanism**

PRESENTER: *Emanuele Scifoni*

**09:45-10:15 Session Oral Presentation**

09:45 *Elena Fogazzi, Paolo Farace, Diego Trevisan, Simon Rit, Stefano Lorentini, Roberto Righetto, Francesco Fracchiolla, Mara Bruzzi, Monica Scaringella, Marina Scarpa, Francesco Tommasino and Carlo Civinini*

**Characterizing the performance of a proton tomography system for x-ray CT cross-calibration**

PRESENTER: *Elena Fogazzi*

10:00 *Alessia Cemmi, Ilaria Di Sarcina, Beatrice D'Orsi, Carino Ferrante, Maria Oliviero, Jessica Scifo and Adriano Verna*

**Gamma radiation for Cultural Heritage preservation at Calliope Facility ENEA Casaccia R.C., Rome, Italy**

PRESENTER: *Alessia Cemmi*

**10:15-10:45 Coffee Break**

**10:45-11:15 Session Oral Presentation**

10:45 *Mariacristina Guarrera, Giada Petringa, Antonino Amato, Roberto Catalano, Alma Kurmanova, Antonio Massara, Gustavo Messina, Davide Passarello, Salvatore Tudisco, Emilio Zappalà and Giuseppe Antonio Pablo Cirrone*

**Dosimetric characterization of a new resin-coated silicon carbide detector**

PRESENTER: *Mariacristina Guarrera*

11:00 *Federico Palmacci, Saverio Altieri, Giacomo Benassi, Nicola Sarzi-Amadè, Silvia Zanettini, Nicola Zambelli and Nicoletta Protti*

**BNCT treatment verification by on-line prompt gamma measurement using CdZnTe (CZT) detectors**

PRESENTER: *Nicoletta Protti*

**11:15-12:15 Session AWARD: Bacq & Alexander - Carine Michiels**

11:15 *Carine Michiels*

**How cell biology and radiation physics met to boost radiotherapy**

12:15-13:15 Session ERRS: General Assembly

**13:15-14:30 Lunch Break**

**13:15-14:30 Session POSTER SESSION 1: (SR, RP&C and HE&RP&RC)**

*Harmen Bijwaard, Fleur Wit and Colinda Vroonland*



**Radiology during pregnancy: risks, radiation protection in medical practice, and communication with the patient**

PRESENTER: *Harmen Bijwaard*

*Lydia Bensemmane, Claire Squiban, Christelle Demarquay, Fabien Milliat and Christine Linard*

**Stromal Vascular Fraction mitigates radiation induced gastro-intestinal syndrome**

PRESENTER: *Lydia Bensemmane*

*Annika Hinrichs, Claudia Fournier, Gerhard Kraft and Andreas Maier*

**Radon progeny adsorption on facial masks**

PRESENTER: *Andreas Maier*

*Annika Hinrichs, Marie-Luise Heddrich, Oliver Palkowski, Alexander Müller, Gerhard Kraft, Claudia Fournier and Andreas Maier*

**Radon solubility in human blood and components**

PRESENTER: *Annika Hinrichs*

*Prabodha Kumar Meher, Lovisa Lundholm and Andrzej Wojcik*

**Interphase Fluorescence In Situ Hybridization (FISH) for interphase chromosomal aberration-based biological dosimetry**

PRESENTER: *Prabodha Kumar Meher*

*Ingunn Hanson and Nina Frederike Jeppesen Edin*

**Shielding of the femur reduces the severity of the gastrointestinal subsyndrome of ARS and increases survival in mice**

PRESENTER: *Ingunn Hanson*

*Helene Quelquejay, Chloe Brizais, Florence Bachelot, Theo Frechard, Chrystelle Ibanez, Benjamin Tournier and Teni Ebrahimian*

**Low doses of chronic <sup>137</sup>Cs contamination impairs olfactory capacity of mice with sexes differences**

PRESENTER: *Helene Quelquejay*

*Goran Riazi, Chloe Brizais, Hélène Quelquejay, Virginie Monceau, Damien Aubeleau, Dmitry Klovov, Hafid Ait-Oufella and Teni Ebrahimian*

**Effects of low and moderate doses of ionizing radiation on a aortic aneurysmal model of Angiotensin II infusion ApoE<sup>-/-</sup> mice**

PRESENTER: *Teni Ebrahimian*

*Hélène Quelquejay, Chloe Brizais, Florence Bachelot, Virginie Monceau, Tiphaine Jeanne, Goran Riazi, Florian Saliou, Stephane Grison, Guillaume Vares, Celine Gloaguen, Christelle Elie, Raphael Bo, Dmitry Klovov and Teni Ebrahimian*

**Low doses of chronic <sup>137</sup>Cs contamination effects on atherosclerosis**



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PRESENTER: *Teni Ebrahimian*

*Sylvie Lerchl, Julia Wiedemann, Andreas Maier, Franziska Papenfuß and Claudia Fournier*

**Radon exposures delay the development of psoriatic skin lesions in a mouse model**

PRESENTER: *Sylvie Lerchl*

*Imène Garali, Guillaume Vares, Stephane Grison, Holly Laakso and Dmitry Klovov*

**Capturing the complex biology of low-dose effects using multimodal data integration: analysis of pros and cons using a mouse model of colon cancer as a case example**

PRESENTER: *Dmitry Klovov*

*Lucie Ancel, Olivier Gabillot, Gaëtan Gruel, Marc Benderitter, Jean-Charles Martin, Maâmar Souidi, Mohamed Amine Benadjaoud and Stéphane Flamant*

**Omics molecular biomarkers of localized radiation injury in mice biofluids**

PRESENTER: *Lucie Ancel*

*Jessica Neubauer, Tarik Gencaslan, Eikaterini Rousseti, Gerd Datzmann, Michael Mayerhofer, Günther Dollinger and Judith Reindl*

**Design of a preclinical proton minibeam radiotherapy facility**

PRESENTER: *Jessica Neubauer*

*Francesca Barbaro, Luciano Canton, Mario Pietro Carante, Alessandro Colombi and Andrea Fontana*

**Model study of  $^{49}\text{Ti}(p,2p)n^{47}\text{Sc}$  and comparison with first production measurement within the LNL-REMIX experiment**

PRESENTER: *Francesca Barbaro*

*Alessandro Colombi, Francesca Barbaro, Luciano Canton, Mario Pietro Carante and Andrea Fontana*

**Comparison of  $\text{natGd}(p,x)$ ,  $^{155}\text{Gd}(p,n)$  and  $^{159}\text{Tb}(p,5n)$  reaction modeling for  $^{155}\text{Tb}$  production**

PRESENTER: *Alessandro Colombi*

*Delmon Arous, Jacob L. Lie, Bjørg V. Håland, Magnus Børsting, Nina F.J. Edin and Eirik Malinen*

**2D dosimetry for evaluation of in vitro clonogenic survival following exposure to spatially fractionated GRID radiation field**

PRESENTER: *Delmon Arous*

*Alessia Embriaco, Paola Martucci, Maria Pimpinella, Serenella Russo, Christian Fiandra, Vanessa De Coste, Pierino De Felice and Michele Stasi*

**Italian dosimetry audit: service for radiotherapy centres and a new study for non-reference conditions**

PRESENTER: *Alessia Embriaco*

*Marco Calvaruso, Luigi Minafra, Veronica La Regina, Filippo Torrisi, Gaia Pucci, Francesco P Cammarata, Valentina Bravatà, Giusi Irma Forte and Giorgio Russo*



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**Simulation of microgravity with random positioning machine induces promoting effects in Triple Negative Breast Cancer cells**

PRESENTER: *Marco Calvaruso*

*Alessandra Palma, Cinzia De Angelis, Sara Della Monaca, Valentina Dini, Sveva Grande, Antonella Rosi, Filip Vanhavere and Marc Benderitter*

**Recommendations for optimizing radiation protection of patients and health workers: results of the European Project MEDIRAD**

PRESENTER: *Alessandra Palma*

*Michael Discher, Kim Hyoungtaek, Jungil Lee, Céline Bassinet, Clemens Woda, Sergey Sholom and Paola Fattibene*

**Retrospective dosimetry using components of mobile phones**

PRESENTER: *Michael Discher*

*Clarice Patrono, Valentina Palma, Laura Kenzhina, Dina Biyakhmetova, Aygul Mamyrbayeva, Fail Zhamaldinov, Alessia Cemmi, Ilaria Di Sarcina, Enea Liguori and Antonella Testa*

**Validation and automation of a novel biological dosimetry method combining dicentric chromosome and micronucleus assays**

PRESENTER: *Clarice Patrono*

*Klara Insulander Björk, Rimon Thomas, Stellan Holgersson and Mats Isaksson*

**Experimental determination of concentration factors of Mn, Zn and I in the phytoplankton species *Phaeodactylum Tricornutum***

PRESENTER: *Klara Insulander Björk*

*Sveva Grande, Giorgia Stendardo, Cristina Nuccetelli, Alessandra Palma, Gennaro Venoso, Claudio Andenna, Carmine Zicari, Ilaria Bonanno, Giuseppe Frau, Cristina Canzi, Zito Felicia, Vicente Bruzzaniti, Bartolomeo Cassano, Giuseppe Iaccarino, Valeria Landoni, Federica Murtas, Rosa Sciuto and Paola Fattibene*

**Development of a real time reporting system for dose assessment of operators in abnormal events in nuclear medicine therapy: the SIREN project**

PRESENTER: *Sveva Grande*

*Riccardo Pagliarello, Elisabetta Bennici, Eugenio Benvenuto, Olivia De Murtas, Gianfranco Diretto, Ilaria Di Sarcina, Alessia Cemmi and Silvia Massa*

**Tomato hairy roots accumulating anthocyanins as a test bed for space food anti-oxidant properties**

PRESENTER: *Riccardo Pagliarello*

*Fabrizio Ambrosino, Giuseppe La Verde, Carlo Sabbarese, Vincenzo Roca, Flora Giudicepietro, Walter De Cesare and Mariagabriella Pugliese*

**Long 222-220Rn time series at Campi Flegrei caldera (southern Italy)**



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PRESENTER: *Fabrizio Ambrosino*

*Fabrizio Ambrosino, Mariagabriella Pugliese, Giuseppe La Verde, Carlo Sabbarese and Vincenzo Roca*  
**The first map of the radon potential of the Campania region and the radiological characterization of natural building materials**

PRESENTER: *Mariagabriella Pugliese*

*Séverine Chefson, Antoine Danvin, Catherine Galindo, Philippe Peaupardin, Delphine Jarnet, Laurent Bartolucci, Quentin Raffy and Nicolas Arbor*

**Quantification of the hydrated electron by scavengers and Geant4-DNA simulation**

PRESENTER: *Séverine Chefson*

*Aneta Węgierek-Ciuk, Michał Arabski, Karol Ciepluch, Kamil Brzóška, Halina Lisowska, Krzysztof Lis and Anna Lankoff*

**Coralynne radiosensitizes human lung A549 adenocarcinoma cells by upregulation of CDKN1A expression**

PRESENTER: *Aneta Węgierek-Ciuk*

*Jihang Yu, Wangshu Tu, Andrea Payne, Chris Rudyk, Sarita Cuadros Sanchez, Saadia Khilji, Premkumari Kumarathasan, Sanjeena Subedi, Brittany Haley, Alicia Wong, Catalina Anghel, Yi Wang and Vinita Chauhan*

**Adverse Outcome Pathways and Linkages to Genomic Signatures Relevant to Ionizing Radiation Injury**

PRESENTER: *Jihang Yu*

*Teena Haritwal, Omika Katoch and Paban Agrawala*

**Radiotherapy induced alteration in cytokine levels are mitigated by TSA in C57BL/6 mice**

PRESENTER: *Teena Haritwal*

*Francesco Manna, Mariagabriella Pugliese, Vittoria D'Avino, Cecilia Arrichiello, Francesca Buonanno and Paolo Muto*

**Verification of the accuracy of delivered dose by the treatment planning system for high-dose-rate skin brachytherapy through thermoluminescence dosimetry**

PRESENTER: *Francesco Manna*

*Giada Petringa, Giuseppe Antonio Pablo Cirrone, Roberto Catalano and Serena Fattori*

**Experimental and Monte Carlo simulation study of Linear Energy Transfer with heavy ions beams (4He, 16O and 12C) for future applications in ion-beam therapy**

PRESENTER: *Giada Petringa*

*Arman Romiani, Daniella Pettersson, Hana Bakr, Nishte Dello, Amin Al-Awar, Ganesh Umaphathy, Dan Lind, Ruth Palmer, Bengt Hallberg, Khalil Helou and Eva Forssell-Aronsson*

**Dose-response effects of Lu-177-octreotide and Lu-177-octreotate in neuroblastoma-bearing mice**





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PRESENTER: *Arman Romiani*

*Lukasz Cheda, Krzysztof Kilian, Lukasz Kiraga, Magdalena Krol and Zbigniew Rogulski*

**Isotope labelled ferritin – an alternative drug delivery system**

PRESENTER: *Lukasz Cheda*

*Vojtěch Chmil, Aleš Tichý, Alžběta Filipová, Jana Čížková and Jan Marek*

**From design to in vitro evaluation of potential radioprotectors**

PRESENTER: *Vojtěch Chmil*

*Ernesto Amato, Maria Giuseppina Bisogni, Esther Ciarrocchi, Giuseppe Antonio Pablo Cirrone, Angelica De Gregorio, Fabio Di Martino, Cristina D'Oca, Gaia Franciosini, Antonio Italiano, Michela Marafini, Maurizio Marrale, Maurizio Massa, Andrea Moggi, Marco Montefiori, Matteo Morrocchi, Jake Pensavalle, Giada Petring, Francesco Romano, Alessio Sarti, Giacomo Traini, Anna Vignati and Giuliana Milluzzo*

**Challenges and opportunities of ultra-high dose rate dosimetry for FLASH radiotherapy**

PRESENTER: *Giuliana Milluzzo*

*Jolanta Karpowicz, Krzysztof Gryz and Patryk Zradziński*

**Monitoring of the long-term trends in parameters of electromagnetic radiation in urban environment of Warszawa**

PRESENTER: *Jolanta Karpowicz*

*Laurie De Castro, Olivier Claude, Clara Gillot, Annabelle Manoury, Amnadine Sache, Frédéric Voyer, David Suhard, Christelle Elie, Virginie Monceau, Céline Bouvier-Capély, Chrystelle Ibanez and Yann Guéguen*

**Study of potentially renal cancerous effect of uranium in genetically-engineered mouse models: UKCAN project**

PRESENTER: *Yann Guéguen*

*Charlot Vandevoorde, Walter Tinganelli, Pavel Blaha, Julie Bolcaen, Willem Burger, Monique Engelbrecht, Randall Fisher, Amelia Jansen van Vuuren, Shankari Nair, Lorenzo Manti, Xanthene Miles, Anggraeini Puspitasari, Farzana Rahiman, Pasquale Silvestre, Palma Simoniello and Marco Durante*

**The cancer suppression mechanisms of elephants: An in vitro study to shed light on Peto's paradox**

PRESENTER: *Charlot Vandevoorde*

*Alma Kurmanova, Antonino Amato, Giuseppe Antonio Pablo Cirrone, Mariacristina Guarrera, Daniele Margarone, Salvatore Tudisco and Giada Petringa*

**A Monte Carlo simulation for estimation of percentage depth dose distribution using the PRAGUE detection system prototype**

PRESENTER: *Alma Kurmanova*



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*Eric Rutten, Stephen Barnard, Lourdes Cruz-Garcia, Katalin Lumniczky, Jayne Moquet, Tunde Szatmari and Christophe Badie*

**Extracellular vesicle mediated bystander effects in ionising radiation induced leukaemia**

PRESENTER: *Eric Rutten*

*Srishti Munjal Mehta, Brian Fish, Tracy Gasperetti, Jayashree Narayanan, Corinna Asang, Heather Himburg, Dirk Pleimes and Dana Valley*

**Imidazolyl Ethanamide Pentandioic Acid as a mitigator of Acute Radiation Syndrome in a Total Body Irradiation juvenile rat model**

PRESENTER: *Srishti Munjal Mehta*

14:30-16:15 Session 3: HEALTH EFFECTS AND RADIATION PROTECTION AND RADIATION COUNTERMEASURES

CHAIRS:

*Siamak Haghdoust and Francesco Berardinelli*

**14:30-15:15** Session Keynote Speaker

14:30 *Katalin Lumniczky, Ilona Csordás, Tünde Szatmári, Rita Hargitai, Dávid Kis, Eszter Szarka and Géza Sáfrány*

**The role of extracellular vesicles in mediating acute and late radiation effects in the bone marrow**

PRESENTER: *Katalin Lumniczky*

**15:15-15:45** Session Invited Speaker

15:15 *Teni Ebrahimian*

**Low doses ionizing radiation and vascular diseases**

**15:45-16:15** Session Oral Presentations

15:45 *Médéa Locquet, Dan Spoor, Anne Crijns, Piet Van Der Hast, A Eraso, F Guedea, Manuela Fiuza, Susanna Constantino Rosa Santos, Stephanie Combs, Kai Borm, Elie Mousseaux, Umit Gencer, Guy Frija, Elisabeth Cardis, Johannes Langendijk and Sophie Jacob*

**Early detection of subclinical left ventricular dysfunction by speckle-tracking echocardiography after radiation therapy for breast cancer: results from the MEDIRAD EARLY HEART study**

PRESENTER: *Médéa Locquet*

16:00 *Alžběta Filipová, Jana Čížková, Jan Marek, Vojtěch Chmil, Zuzana Šinkorová and Aleš Tichý*

**Development of new radioprotective substances: An untold story.**

PRESENTER: *Alžběta Filipová*

**16:15-16:45** Coffee Break

**16:45-17:45** Session YIA ERRS: Young Investigator Award ERRS

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*Sarah Baatout and Palma Simoniello*

16:45 *Sandra Bicher, Stephanie E Combs, Thomas E Schmid and Stefan Bartzsch*

**Microbeam radiation therapy induces a sparing effect of normal tissue cells through increased expression of ROS scavengers**

PRESENTER: *Sandra Bicher*

16:55 *Davide Cinat, Laura Kracht, Yi Wu, Inge R. Holtman, Lara Barazzuol and Rob P. Coppes*

**Single cell profiling identifies a differential transcriptomic response to photon versus proton irradiation in salivary gland organoids**

PRESENTER: *Davide Cinat*

17:05 *Ilona Csordás, Dávid Kis, Tünde Szatmári, Géza Sáfrány and Katalin Lumniczky*

**Ionizing radiation effect on the extracellular vesicle cargo**

PRESENTER: *Ilona Csordás*

17:15 *Gaia Franciosini, Angelica De Gregorio, Veronica De Liso, Micol De Simoni, Giuseppe Felici, Marta Fischetti, Federica Galante, Giulia Mariani, Michela Marafini, Annalisa Muscato, Matteo Pacitti, Alessio Sarti, Angelo Schiavi, Marco Toppi, Giacomo Traini and Vincenzo Patera*

**Development of a IORT Treatment Planning System using a GPU-based fast Monte Carlo**

PRESENTER: *Gaia Franciosini*

17:25 *Nicholas Rajan, Bjorn Baselet, Sarah Baatout, Anna Fogtman, Jonathan Scott and Roel Quintens*

**A systematic review of radiation biomarkers for the advancement of human space exploration.**

PRESENTER: *Nicholas Rajan*

17:35 *Mostafa Karimi Roshan, Sergey Belikov, Andrzej Wojcik and Lovisa Lundholm*

**NECTAR: A NEW APPROACH TO ADDRESS ALZHEIMER'S TREATMENT**

PRESENTER: *Mostafa Karimi Roshan*

17:45-18:00 Session AWARD CEREMONY: ERRS & SIRR Award Ceremony and group photo

18:00-19:00 Session SIRR: General Assembly

Friday, September 23rd

View this program: with session overview talk overview

08:30-10:15 Session 4: MOLECULAR AND CELLULAR EFFECTS - MODELING

CHAIRS:

*Francesca Ballarini and Geza Safrany*

**08:30-09:15** Session Keynote Speaker

08:30 *T. Friedrich*

**Describing and predicting radiation effects with parameter poor modeling**



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**09:15-09:45** Session Invited Speaker

09:15 *Andrea Attili, Emanuele Scifoni and Francesco Tommasino*

**From mutation induction to secondary cancer risk predictions in particle therapy: modelling through systematic data collection and Microdosimetric Kinetic Model**

PRESENTER: *Andrea Attili*

**09:45-10:15** Session Oral Presentations

09:45 *Anne-Sophie Wozny, Gersende Alphonse, Arnaud Gauthier, Céline Malésys, Virginie Varoquier, Delphine Vernos, Safa Louati, Philippe Lalle, Dominique Ardail, Michael Beuve and Claire Rodriguez-Lafrasse*

**The “Stealth-Bomber” paradigm: a conceptualization of the tumor cell response to carbon ion exposure**

PRESENTER: *Claire Rodriguez-Lafrasse*

10:00 *Alice Mentana, Yordenca Lamartiniere, Thierry Orsiere, Véronique Malard, Mickael Payet, Danielle Slomberg, Isabella Guardamagna, Leonardo Lonati, Christian Grisolia, Awadhesh Jha, Laurence Lebaron-Jacobs, Jerome Rose and Giorgio Baiocco*

**Tritiated micro-particles: modelling in-vitro exposure and biological effects**

PRESENTER: *Alice Mentana*

**10:15-10:45** Coffee Break

10:45-11:30 Session 4 -: MOLECULAR AND CELLULAR EFFECTS - EXPERIMENTAL

CHAIRS:

*Martin Falk and Antonio Antoccia*

**10:45-11:30** Session Keynote Speaker

10:45 *Andrzej Wojcik*

**Variability in cellular and individual response to radiation**

**11:30-12:00** Session Invited Speaker

11:30 *Angelica Facoetti*

**Carbon ion radiobiology: new insights in the molecular and cellular mechanisms of tumour control**

**12:00-12:30** Session Oral Presentations

12:00 *Dmitri Gudkov, Natalia Pomortseva, Natalia Shevtsova, Olexandr Kaglyan, Sergey Kireev, Andrian Iavniuk and Vladislav Drozdov*

**Cellular effects of long-term radiation exposure on aquatic biota within the Chernobyl exclusion zone**

PRESENTER: *Dmitri Gudkov*

12:15 *Mira Hammad, François Chevalier and Siamak Haghdoost*

**Effects of particle irradiation and oxidative stress response on survival and differentiation**



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**process of primary human stem cells**

PRESENTER: *Mira Hammad*

**12:30-13:30** Lunch Break

**12:30-13:30** Session POSTER SESSION 2: (MCE, TCR and NIR&ES)

*Gabriela Rydlova, Vera Vozandychova, Helena Rehulkova, Pavel Rehulka, Alena Myslivcova and Ales Tichy*

**Exploring human plasma proteome in context of radiation biomarkers.**

PRESENTER: *Ales Tichy*

*Ségolène Ladaigue, Valérie Buard, Georges Tarlet, Agnès François, Vincent Paget, Fabien Milliat and Olivier Guipaud*

**Role of protein glycosylation in radiation-induced immune cell recruitment**

PRESENTER: *Olivier Guipaud*

*Juliette Montanari, Mathieu Césaire, Antoine Gilbert and Francois Chevalier*

**Role of KRAS mutation on NSCLC resistance to x-rays, protons and carbon ions**

PRESENTER: *Juliette Montanari*

*Francesca Antonelli, Noemi Fiaschini, Paolo D'Atanasio, Alessandro Zambotti, Antonio Rinaldi and Mariateresa Mancuso*

**3D Tumor Models for Radiobiological Applications**

PRESENTER: *Francesca Antonelli*

*Valentina Dini, Alessandro Giordano, Esposito Giuseppe, Binelli Ludoviac, Battocchio Chiara, Scotognella Teresa and Venditti Iole*

**Gold nanorods and radioisotopes: future diagnostic and therapeutic applications in nuclear medicine. Preliminary in vitro radiobiological tests.**

PRESENTER: *Valentina Dini*

*Daria Boscolo*

**Biomedical Applications of Radioactive ion Beams: First results of the BARB project at GSI**

*Isabella Guardamagna, Maristella Maggi, Ombretta Iaria, Andrea Previtali, Virginia Uggé, Leonardo Lonati, Greta Pessino, Alice Mentana and Giorgio Baiocco*

**Combination of nutrient deprivation and X-ray exposure induce synergic effect**

PRESENTER: *Isabella Guardamagna*

*Wiktoria Krakowiak, Karolina Wójciuk, Michał Dorosz, Magdalena Płodowska, Aneta Węgierek-Ciuk, Andrzej Wójcik, Anna Lankoff and Halina Lisowska*

**The influence of the breast cancer cells sensitization by gold nanoparticles on the cell cycle distribution and the survivability rate in the case of Boron-Neutron Capture Therapy**



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PRESENTER: *Wiktoria Krakowiak*

*Thomas Ernst Schmid, Sandra Bicher, May Nguyen, Annique Dombrowsky, Franziska Treibel, Johanna Winter, Mabroor Ahmed, Stephanie E. Combs and Stefan Bartzsch*

**Biological dosimetry for microbeam radiation therapy (MRT)**

PRESENTER: *Thomas Ernst Schmid*

*Katalin Balázs, Zsuzsa S. Kocsis, Zsolt Jurányi, Géza Sáfrány and Katalin Lumniczky*

**The effect of low- and high-dose rate brachytherapy on the innate and adaptive immune system of prostate cancer patients**

PRESENTER: *Katalin Balázs*

*Elieen Beyls, Somara De Beul, Filomeen Haerynck, Victoria Bordon, Alina Ferster, Anne Vral and Ans Baeyens*

**Fibroblast-based radiosensitivity assessment for primary immunodeficiency patients**

PRESENTER: *Elieen Beyls*

*Magdalena Płodowska, Wiktoria Krakowiak, Aneta Węgierek-Ciuk, Anna Lankoff, Tomasz Kuszewski, Paweł Wołowicz, Andrzej Wójcik and Halina Lisowska*

**Variation in intra- and intercellular response to radiation-induced DNA damage**

PRESENTER: *Magdalena Płodowska*

*Olga Sokol, Daria Boscolo, Christian Graeff, Micol De Simoni, Felix Horst, Uli Weber, Laura Cella, Giuseppe Palma, Caterina Oliviero, Roberto Pacelli, Katia Parodi and Marco Durante*

**Margin reduction in particle therapy: potential benefits of using radioactive ion beams**

PRESENTER: *Olga Sokol*

*Sarah Eivers, Arthur Thomas-Joyeux, Mélissandre Gomot, Véronique Ménard, Dmitry Klokov and Guillaume Vares*

**Investigating transcriptional and translational responses to low-dose ionising radiation: towards an integrated low dose response model**

PRESENTER: *Sarah Eivers*

*Martina Quartieri, Anggraeini Puspitasari, Walter Tinganelli, Olga Sokol and Marco Durante*

**The role of hypoxia and radiation in the stemness of murine osteosarcoma cells**

PRESENTER: *Martina Quartieri*

*Milagrosa Lopez-Riego, Pamela Akuwudike, Lovisa Lundholm and Andrzej Wojcik*

**Short- and long-term effects on AHH-1 after low doses and dose rates of gamma radiation**

PRESENTER: *Milagrosa Lopez-Riego*

*Pamela Akuwudike, Milagrosa Lopez-Riego, József Ginter, Lei Cheng, Anna Wieczorek, Katarzyna Życieńska, Malgorzata Łysek-Gładysińska, Andrzej Wojcik, Beata Brzozowska and Lovisa Lundholm*



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**Mechanistic insights from high resolution DNA damage analysis to understand mixed high and low LET radiation exposure and its therapeutic potential**

PRESENTER: *Lovisa Lundholm*

*Zuzana Kocibalova, Prabodha Kumar Meher, Pamela Akuwudike, Andrzej Wojcik and Lovisa Lundholm*

**Study of molecular pathways involved in second cancer induction after radiotherapy**

PRESENTER: *Zuzana Kocibalova*

*Nicole Matejka, Sarah Rudigkeit, Matthias Sammer and Judith Reindl*

**Migration behavior of U87 glioblastoma cells after irradiation with varying LET**

PRESENTER: *Nicole Matejka*

*Olga Zlygosteva, Inga Solgård Juvkam, Hilde Galtung, Tine Merete Sjøland, Eirik Malinen and Nina Frederike Jeppesen Edin*

**Normal tissue effects in a murine model system from radiotherapy of the head and neck**

PRESENTER: *Olga Zlygosteva*

*Beata Pszczółkowska, Wioletta Olejarz, Mateusz Filipek, Adrianna Tartas, Grażyna Kubiak-Tomaszewska, Aleksandra Żońnierzak, Katarzyna Życieńska, Józef Ginter, Tomasz Lorenc and Beata Brzozowska*

**Exosome secretion and cellular response of DU145 and PC3 after exposure to alpha radiation**

PRESENTER: *Beata Pszczółkowska*

*Sarah Rudigkeit, Hai Huang, Julian Reindl, Helmut Mayer and Judith Reindl*

**CeCILE - intelligent detection, tracking and cell cycle evaluation of eukaryotic cells on phase-contrast live-cell videos**

PRESENTER: *Sarah Rudigkeit*

*Roxana Cristina Popescu, Wolfgang Doerr and Diana Savu*

**Improved cytotoxic effects of ionizing radiation in radioresistant tumor models using drug delivery nano-systems.**

PRESENTER: *Roxana Cristina Popescu*

*Simon Sioen, Louise D'Hondt, Klaus Bacher, Barbara Vanderstraeten, Dmitri Krysko, Anne Vral and Ans Baeyens*

**The DNA damage response of peripheral blood lymphocytes exposed to X-rays with different beam qualities and quantities.**

PRESENTER: *Simon Sioen*

*Magdalena Płodowska, Aneta Węgierek-Ciuk, Anna Lankoff, Paweł Wołowicz, Andrzej Wójcik and Halina Lisowska*

**Validation of FACS-based analysis of  $\gamma$ H2AX foci formation and decay in human peripheral blood lymphocytes and U2OS cells.**



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PRESENTER: *Halina Lisowska*

*Nadia Boroumand, Karine Elihn, Andrzej Wojcik and Lovisa Lundholm*

**Cancer-related changes in cells exposed to alpha radiation in combination with nicotine**

PRESENTER: *Nadia Boroumand*

*Veronica Varzi, Pietro Aprà, Mauro Falconieri, Emiliano Fratini, Daniela Giovannini, Mariateresa Mancuso, Lorenzo Mino, Paolo Olivero, Sofia Sturari, Giulia Tomagra, Simonetta Pazzaglia and Federico Picollo*

**Processed nanodiamonds as radiosensitizers for innovative applications in radiotherapy treatments**

PRESENTER: *Veronica Varzi*

*Réka Molnár, Emília Rita Szabó, Róbert Polanek, Tünde Tókécs, Dániel Varga, Miklós Erdélyi and Katalin Hideghéty*

**Analysis of  $\gamma$ H2AX distribution at nanoscale on glioblastoma cell line**

PRESENTER: *Réka Molnár*

*Soukaïna Kawni and Siamak Haghdooost*

**Cytogenetic effects of low and high LET radiation on TK6 cells**

PRESENTER: *Soukaïna Kawni*

*Mario Pietro Carante, Wioletta Kozłowska, Giulia Aricò, Alessia Embriaco, Alfredo Ferrari, Giuseppe Magro, Andrea Mairani, Ricardo Ramos, Paola Sala, Dietmar Georg and Francesca Ballarini*

**A new biophysical model for treatment-plan biological optimization in hadron therapy**

PRESENTER: *Mario Pietro Carante*

*Adrianna Tartas, Lovisa Lundholm, Harry Scherthan, Andrzej Wojcik and Beata Brzozowska*

**Investigation of DNA damage repair dynamics of NBS1 foci in U2OS cells exposed to mixed beams**

PRESENTER: *Adrianna Tartas*

*Martin Falk, Lucie Dobesova, Olga Kopečna, Eva Pagacova, Theresa Gier, Tomas Vicar, Iva Falkova, Felix Bestvater, Jiri Toufar, Michael Hausmann, Alena Bacikova, Pavel Kopel, Georg Hildenbrand and Radek Fedr*

**New insights into metal nanoparticle-mediated effects on chromatin organization at the micro- and nano-scale: Relevance for tumor cell radiosensitization**

PRESENTER: *Martin Falk*

*Anne-Sophie Wozny, Gersende Alphonse, Sarah Sebaï, Olésia Lole, Virginie Varoquier, Michael Beuve, Dominique Ardail and Claire Rodriguez-Lafrasse*

**Deciphering the role of the proteasome to explain the high biological efficacy of carbon ion irradiation**

PRESENTER: *Anne-Sophie Wozny*





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*Gaia Pucci, Giusi Irma Forte and Vincenzo Cavalieri*

**Evaluation of innovative radiotherapy treatments in zebrafish**

PRESENTER: *Gaia Pucci*

*Luigi Minafra, Valentina Bravatà, Francesco Paolo Cammarata, Marco Calvaruso, Gaia Pucci, Giorgio Russo and Giusi Irma Forte*

**Radioresistant primary breast cancer cells and hormone receptor status: looking for their main link.**

PRESENTER: *Luigi Minafra*

*Valentina Bravatà, Francesco Paolo Cammarata, Giusi Irma Forte, Luigi Minafra, Marco Calvaruso, Nunzio Vicario, Giacomo Cuttone, Rosalba Parenti and Giorgio Russo*

**RNA-Sequencing Analysis of Glioblastoma xenograft mice models proton boron capture therapy treated: a portrait of its molecular response.**

PRESENTER: *Valentina Bravatà*

*Cristiana Alberghina, Filippo Torrisi, Lucia Longhitano, Cesarina Giallongo, Grazia Scandura, Simona D'Aprile, Federica Maria Spitale, Stefania Mele, Giovanni Li Volti, Daniele Tibullo, Francesco Paolo Cammarata, Giorgio Russo, Nunzio Vicario and Rosalba Parenti*

**Tumor Microenvironment Alteration Induced By Radiotherapy Modifies Glioblastoma Cells Proliferation And Mitochondrial Fitness**

PRESENTER: *Cristiana Alberghina*

*Johann Matschke, Isabell Götting, Christoph Waterkamp, Daniel Hoffmann and Verena Jendrossek*

**Metabolic regulation of the radiation response in cancer cells: opportunities for biological radiotherapy individualization**

PRESENTER: *Verena Jendrossek*

*Oldrich Zahradnicek, Anna Jelinek Michaelidesova, Irina Danilova, Katerina Pachnerova Brabcova, Jana Vachelova, Pavel Kunderat, Jan Vilimovsky, Miroslav David, Vladimir Vondracek and Marie Davidkova*

**Tumour cell damage after proton irradiation in the presence of boron compounds**

PRESENTER: *Oldrich Zahradnicek*

*Sotiria Triantopoulou, Antonio Pantelias, Aggeliki Nikolakopoulou and Georgia Terzoudi*

**The use of the ATR inhibitor VE-821 as a potential tool for radiosensitivity estimation of cancer cell lines.**

PRESENTER: *Sotiria Triantopoulou*

*Quentin Raffy, Nicolas Ludwig, Catherine Galindo, Philippe Peaupardin, Antoine Danvin, Aurelia Arnone, Tamon Kusumoto, Satoshi Kodaira, Dominique Muller and Remi Barillon*

**Radiolysis of concentrated myoglobin by accelerated ions**

PRESENTER: *Quentin Raffy*



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*Chiara Galeaz, Giorgia Pellizzaro, Guendalina Tonidandel, Enrico Verroi, Michael Pancher and Alessandra Bisio*

**The lack of p21 sensitizes colon cancer cells to radiation-induced apoptosis.**

PRESENTER: *Alessandra Bisio*

*Jade Monaghan, Aidan D.Meade, Sinead Brennan, Hisham Mehanna, Tessa Fulton-Lieuw, Rachel Spruce, Janet Dunn, Matthew Dalby and Fiona M. Lyng*

**Raman spectroscopy of plasma for prediction of radiotherapy response in patients with HPV-positive head and neck cancer**

PRESENTER: *Jade Monaghan*

*Giuseppe La Verde, Valeria Panzetta, Marco La Commara, Paolo Netti, Fabrizio Ambrosino, Mariagabriella Pugliese and Mariagrazia Celentano*

**Radiation therapy affects cellular internalization of hyaluronic acid coated-nanoparticles into breast cancer**

PRESENTER: *Giuseppe La Verde*

*Monika Mietelska, Marcin Pietrzak, Beata Brzozowska and Zygmunt Szepliński*

**Nanodosimetry based radiobiological outcomes assessment**

PRESENTER: *Monika Mietelska*

*Szabolcs Polgár and Balázs Madas*

**Mathematical modelling of low dose hyper-radiosensitivity and induced radioresistance**

PRESENTER: *Szabolcs Polgár*

*Mikael Elvborn, Emman Shubbar, Khalil Helou and Eva Forssell-Aronsson*

**Hyper-fractionation of <sup>177</sup>Lu-octreotate increases the uptake in human GOT1 tumours in a mouse model**

PRESENTER: *Mikael Elvborn*

*Michele Ellender*

**Comparative studies of intestinal tumorigenesis in the ApcMin/+ mouse following acute or chronic gamma irradiation.**

*Martina Valenzuela, Valentina Pirota, Alice Trivieri, Filippo Doria, Erica Salvati, Eleonora Vertecchi, Filippo Acconcia, Francesco Berardinelli and Antonio Antocchia*

**Antiproliferative and radiosensitizing effects of the G4-ligand RHPS4 and its analogue 190 in breast cancer cells**

PRESENTER: *Francesco Berardinelli*

*Gabriela Winiarska, Adam Gądek, Wojciech Fidyk, Tomasz Rutkowski and Dorota Słonina*

**Chemopotentiating effects of low-dose fractionated radiation in normal fibroblasts from patients**



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**with head and neck cancer treated with LDFR combined with induction chemotherapy**

PRESENTER: *Gabriela Winiarska*

*Antoine Gilbert, Juliette Montanari, Kevin Commenchail, Siamak Haghdoost, Samuel Valable and Francois Chevalier*

**Hadrontherapy and PARP inhibitor effects on Chondrosarcoma JJ012 Cancer Stem Cells**

PRESENTER: *Siamak Haghdoost*

*Omid Azimzadeh*

**Activation of PPAR alpha by fenofibrate attenuates the effect of local heart high dose irradiation on the mouse cardiac proteome**

*Iva Falkova, Martin Falk, Olga Kopečna, Eva Pagacova, Martin Golan, Alena Bacikova, Irena Kratochvilova and Michael Hausmann*

**Freezing and thawing cells to radio-sensitize tumour cells**

PRESENTER: *Iva Falkova*

*Antoine Danvin, Abbas Nasreddine, Aurélie Arnone, Séverine Chefson, Catherine Galindo, Philippe Peaupardin, Nicolas Ludwig, Florent Kuntz, Laurent Bartolucci, Delphine Jarnet, Nicolas Arbor, Rémi Barillon, Mireille Del Nero and Quentin Raffy*

**Dose-rate effect towards Radiolysis of Water and small Protein Biomolecules**

PRESENTER: *Antoine Danvin*

*Otilija Keta, Vladana Petković, Francesco Cammarata, Giada Petringa, Pablo Cirrone, Giacomo Cuttone, Ivan Petrović and Aleksandra Ristić-Fira*

**Effects of 4He irradiation on cell cycle progression and induction of apoptosis in radioresistant cancer cell lines**

PRESENTER: *Otilija Keta*

*Vladana Petkovic, Otilija Keta, Francesco Cammarata, Giada Petringa, Pablo Cirrone, Giacomo Cuttone, Ivan Petrovic and Aleksandra Ristic Fira*

**Direct and indirect effects of proton and carbon ion irradiations on breast adenocarcinoma cells**

PRESENTER: *Vladana Petkovic*

*Dagmara Szeliga, Łukasz Sroka, Magdalena Głowala-Kosińska, Tomasz Rutkowski and Dorota Słonina*

**Mechanism of chemopotentiating effects of low-dose fractionated radiation in head and neck cancer cell lines**

PRESENTER: *Dagmara Szeliga*

*Michael Hausmann, Jonas Weidner, Myriam Schäfer, Olga Kopečná, Eva Pagáčová, Charlotte Neitzel, Ruth Winter, Hannes Hahn, Elias F. Fischer, Kim Küntzelmann, Laura Rozo Prado, Iva Falkova, Martin Falk and Götz Pilarczyk*

**The impact of chromatin architecture, its geometry and topology, on radiation induced damaging**



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**and following DNA repair processes**

PRESENTER: *Michael Hausmann*

*Fateme Farrokhi, Babak Shirani, Serena Fattori, Seyed Bijan Jia, Mohammad Ali Asgarian, Giada Petringa and G.A. Pablo Cirrone*

**A comparison of Geant4-DNA and TRAX-Chem toolkits to evaluate the effect of oxygen depletion in FLASH irradiation**

PRESENTER: *Fateme Farrokhi*

*Simonetta Croci, Luca Bruno, Massimo Manghi and Valentina Caorsi*

**Breast Cancer Cell Microtubules: Target for Ionizing Radiation Effect**

PRESENTER: *Simonetta Croci*

12:30-13:30 Session SIRR: Council

13:30-15:15 Session 5: TRANSLATIONAL AND CLINICAL RESEARCH - GENERAL

CHAIRS:

*Marc Benderitter and Francesco P Cammarata*

**13:30-14:15** Session Keynote Speaker

13:30 *Ester M. Hammond*

**Targeting radiobiological hypoxia to improve radiotherapy response**

**14:15-14:45** Session Invited Speaker

14:15 *Francesco Romano*

**Dosimetry for FLASH radiotherapy: challenges and recent developments**

**14:45-15:15** Session Oral Presentations

14:45 *Alexandra Charalampopoulou, Amelia Barcellini, Stefania Cesari, Lorenzo Cobianchi, Stefania Croce, Francesca Dal Mas, Antonia Cornaglia Icaro, Giovanni Battista Ivaldi, Marco Liotta, Silvia Molinelli, Ester Orlandi, Andrea Peloso, Marco Giuseppe Pullia, Paola Tabarelli De Fatis, Alessandro Vanoli and Angelica Facoetti*

**3D liver biological scaffolds: a promising approach for the evaluation of low and high LET radiation effects on radioresistant cell lines**

PRESENTER: *Alexandra Charalampopoulou*

15:00 *Verdiana Trappetti, Marine Potez, Cristian Fernandez-Palomo, Vladislav Volarevic, Paolo Pellicoli, Jennifer Fazzari, Michael Krisch, Olga A. Martin and Valentin Djonov*

**Double fraction of synchrotron Microbeam Radiation Therapy improves local control and triggers regression of locoregional metastasis in murine melanoma.**

PRESENTER: *Verdiana Trappetti*

**15:15-15:45** Coffee Break

15:45-17:30 Session 5 -: TRANSLATIONAL AND CLINICAL RESEARCH - FLASH THERAPY

CHAIRS:



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*Giorgio Russo and Peter Sminia*

**15:45-16:30** Session Keynote Speaker

15:45 *K. M. Prise*

**FLASH Radiotherapy: The start of a dose-rate revolution?**

**16:30-17:00** Session Invited Speaker

16:30 *Crister Ceberg*

**FLASH radiotherapy – towards clinical implementation**

**17:00-17:30** Session Oral Presentations

17:00 *Walter Tinganelli, Uli Weber, Anggraeni Puspitasari, Palma Simoniello, Amir Abdollahi, Julius Oppermann, Christoph Schuy, Alexander Helm, Claudia Fournier and Marco Durante*

**FLASH with carbon ions: tumor control, normal tissue sparing, and distal metastasis in a mouse osteosarcoma model**

PRESENTER: *Walter Tinganelli*

17:15 *Salome Paillas, Alejandro Suarez-Bonnet, Jia-Ling Ruan, Iain Tullis and Kristoffer Petersson*

**FLASH irradiation reduces radiation-induced skin and lung toxicity while being as efficient as conventional irradiation in antitumor response**

PRESENTER: *Salome Paillas*

20:30-23:30 Social Dinner (Optional)

Saturday, September 24th

View this program: with ssession overview talk overview

08:30-10:15 Session 6: NON-IONIZING RADIATION AND ENVIRONMENT STRESSOR

CHAIRS:

*Peter Sminia and Florigio Lista*

**08:30-09:15** Session Keynote Speaker

08:30 *Jolanta Karpowicz*

**Health and safety hazards in static magnetic field – work with MRI scanners versus work with MRI patients**

**09:15-09:45** Session Invited Speaker

09:15 *Darius Leszczynski*

**There might be much more to EMF/RF-EMF exposures than just the electromagnetic sensitivity**

**09:45-10:15** Session Oral Presentations

09:45 *Carmel Mothersill and Colin Seymour*

**Towards a holistic approach to radiation protection of biota: the role of non-targeted effects**



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PRESENTER: *Carmel Mothersill*

10:00 *Vanessa Vera Fain, Stefania De Sanctis, Valeria Franchini, Elisa Regalbuto, Anna Anselmo, Antonella Fortunato, Gaetano Alfano, Roberto Bei, Chiara Focaccetti, Monica Benvenuto, Luca Massaro, Antonella Sgura, Francesco Berardinelli, Jessica Marinaccio, Federica Barbato, Laura Masuelli, Marta Parazzini, Silvia Gallucci and Florigio Lista*

**Biological effects of in vitro exposure to continuous and pulsed 1,6 GHz radiofrequency**

PRESENTER: *Vanessa Vera Fain*

**10:15-10:45** Coffee Break

**10:45-11:35** Session YIA ERRS - 2: Young Investigator Award ERRS

CHAIRS:

*Palma Simoniello and Georgia Terzoudi*

10:45 *Nathalie Lövgren, Kristoffer Petersson, Rudi Labarbe, Lucian Hotoiu and Ingrid Fagerström Kristensen*

**In Silico Comparisons of FLASH Proton Therapy versus Conventional Dose Rate Treatment Plans**

PRESENTER: *Nathalie Lövgren*

10:55 *Kazuki Hasegawa, Ryo Saga, Eichi Tsuruga and Yoichiro Hosokawa*

**4-methylumbelliferone enhances the radiosensitivity of the radioresistant oral squamous cell carcinoma cells through hyaluronan synthesis 3 suppression**

PRESENTER: *Kazuki Hasegawa*

11:05 *Raghda Ramadan, Magy Sallam, Mohamed Mysara, Pieter-Jan Guns, An Aerts and Sarah Baatout*

**DNA methylation alterations in fractionally irradiated rats and breast cancer patients receiving radiotherapy**

PRESENTER: *Raghda Ramadan*

11:15 *Rima Salma, Soukaina Kawni, Bo Stenerlöv and Siamak Haghdooost*

**Targeting DNA repair and oxidative stress response pathways to overcome radioresistance of glioblastoma cancer stem cell**

PRESENTER: *Rima Salma*

11:25 *Yoshiaki Sato, Hironori Yoshino and Eichi Tsuruga*

**Role of DAP3 in cell cycle regulation in human lung adenocarcinoma cell lines exposed to ionizing radiation**

PRESENTER: *Yoshiaki Sato*

11:35-11:50 Session AWARD: ERRS 2022 - Best Poster

11:50-12:00 Session Closing: Closing

12:00-19:00 ETNA EXCURSIONS with alpine / volcanological guide (optional)



**47th Annual Meeting of the  
European Radiation Research Society  
September 21st - 24th 2022  
Catania, Italy**

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