Training School WG3 & WG4

Applications of genomic, cytometry and in silico studies to the study of drug sensitivity and resistance mechanisms – Clinical implications

Coimbra, Portugal (27th – 29th June 2022)

Day 1 – 27th June	
9h	Opening Session
9h20	**Training school scope** Overview of drug resistance mechanisms
9h45	**Lesson I** Cell Culture
10h45	*Coffee break*
11h	**Lesson II** Flow Cytometry
11h40	**Lesson III** Microscopy
12h20	**Lesson IV** Molecular Biology Approaches
13h	*Lunch Break*
14h30	**Lab Training** **LG I** – Viability and Proliferation Assays **LG II** – Flow cytometry Studies **LG III** – Microscopy Assays
18h00	End of Day

Day 2 – 28th June	
9h	**Lesson V** Image in MDR
9h40	**Lesson VI** Computational approach to trim targets
10h40	*Coffee break*
11h	**Lesson VII** *In Silico* studies ADMEtox
12h	**Round table - case discussion** NGS and Arrays Interpretation
13h	*Lunch Break*
14h30	**Lab Training** **LG IV** - Computational approach to trim targets **LG V** - *In Silico* studies ADMEtox
18h	End of Day

Day 3 – 29th June	
9h	**Lesson VIII** Intercellular transfer of MDR phenotype
9h40	**Lesson IX** Biomimetic models
10h20	**Training School highlights**
10h40	Closing Session
End of Training School	

STRATAGEM CA17104

Day 1 – 27th June	
9h	**Opening Session** – **Ana Bela Sarmento Ribeiro** *(Faculty of Medicine & iCBR/CIMAGO, University of Coimbra and CHUC, Portugal)* **Simona Saponara** *(Department of Life Sciences, University of Siena, Italy)* – ***ONLINE*** **Helena Vasconcelos** *(i3S & Faculty of Pharmacy, University of Porto, Portugal)* – ***ONLINE***
9h20	**Training school scope** – **Ana Bela Sarmento Ribeiro** *(Faculty of Medicine & iCBR/CIMAGO, University of Coimbra and CHUC, Portugal)* Overview of drug resistance mechanisms
9h45	**Lesson I – Dennis Collins** *(National Institute of Cellular Biotechnology, Dublin City University, Ireland)* Models of MDR studies: from cell culture to patients samples
10h45	*Coffee break*
11h	**Lesson II – Ana Cristina Gonçalves** *(Faculty of Medicine & iCBR/CIMAGO, University of Coimbra, Portugal)* Assessment of efficacy and safety of novel anticancer drugs using Flow Cytometry
11h40	**Lesson III – Henrique Girão** *(Faculty of Medicine & iCBR, University of Coimbra, Portugal)* Assessment of efficacy and safety of novel anticancer drugs using Fluorescence Microscopy
12h20	**Lesson IV – Ilda Ribeiro** *(Faculty of Medicine & iCBR/CIMAGO, University of Coimbra, Portugal)* Molecular Biology Approaches
13h	*Lunch Break*
14h30	**Lab Training** **Lab Group I – Raquel Alves** *(Faculty of Medicine & iCBR/CIMAGO, University of Coimbra, Portugal)* Viability and Proliferation Assays **Lab Group II – Ana Cristina Gonçalves** *(Faculty of Medicine & iCBR/CIMAGO, University of Coimbra, Portugal)* Flow cytometry Studies **Lab Group III – Teresa Rodrigues, Mónica Zuzarte** *(Faculty of Medicine & iCBR, University of Coimbra, Portugal)* Microscopy assays
18h00	End of Day

Day 2 – 28th June	
9h	**Lesson V – Filomena Botelho** *(Faculty of Medicine & iCBR/CIMAGO, University of Coimbra, Portugal)* Image in MDR studies
9h40	**Lesson VI – José Padron** *(Bioorganic Institute, University La Laguna, Spain)* A computational approach to trim cellular targets in anticancer drug discovery
10h40	*Coffee break*
11h00	**Lesson VII** - **Petko Alov** *(Institute of Biophysics & Biomedical Engineering, Bulgarian Academy of Sciences, Bulgaria)* In silico approaches to evaluate ADMETox properties of biologically active compounds
12h00	**Round table – Isabel Marques Carreira** *(Faculty of Medicine& iCBR/CIMAGO, University of Coimbra, Portugal),* **Javier De Las Rivas** *(University of Salamanca, Spain) and* **Thomas Mohr** *(Medical University of Vienna, Austria)* Big data analysis: The challenges on NGS and Arrays interpretation Isabel Marques Carreira – Clinical cases presentation Javier De Las Rivas and Thomas Mohr - Pitfalls and challenges on big data interpretation
13h	*Lunch Break*
14h30	**Lab Training** **Lab Group IV – José Padron** *(Bioorganic Institute, University La Laguna, Spain)* A computational approach to trim cellular targets in anticancer drug discovery **Lab Group V – Petko Alov** *(Institute of Biophysics & Biomedical Engineering, Bulgarian Academy of Sciences, Bulgaria)* In silico approaches to evaluate ADMETox properties of biologically active compounds
18h	End of Day

Day 3 – 29th June	
9h	**Lesson VIII** – **Helena Vasconcelos** *(i3S & Faculty of Pharmacy, University of Porto, Portugal)* How to study the intercellular transfer of MDR phenotype mediated by extracellular vesicles
9h40	**Lesson IX – Milica Pešić** (*National Institute of Republic of Serbia, University of Belgrade, Serbia)* Biomimetic models in MDR studies
10h20	**Training School highlights – Simona Saponara** *(Department of Life Sciences, University of Siena, Italy)*
10h40	**Closing Session – Ana Bela Sarmento Ribeiro** *(Faculty of Medicine & iCBR/CIMAGO, University of Coimbra and CHUC, Portugal)* **Simona Saponara** *(Department of Life Sciences, University of Siena, Italy)* **Dennis Collins** *(National Institute of Cellular Biotechnology, Dublin City University, Ireland)*