Precision Oncology
The Philippe Sabatier BioHealth Computing School

Optimising personalised cancer diagnosis and treatment

Monday 20 June → Friday 1st July 2022

esi European Scientific Institute

	20/06/2022	21/06/2022	22/06/2022	23/06/2022	24/06/2022	25/06/2022	26/06/2022	27/06/2022	28/06/2022	29/06/2022	30/06/2022	01/07/2022
MORNING	Welcome *B. Holland, J-F. Adam, S. Vandergooten*	Medical Physics challenges in diagnostic imaging and radiotherapy for personalised breast cancer management *J-F. Adam*	CERN *CERN DAY*	Classical endpoints, patient-reported outcomes and challenges of immune checkpoint inhibitors trials in oncology *A. Anota*	Radiotherapy & Nanoparticles *E. Porcel*	Morehisto: Tutorial *C. Deforceville, L. Bertsch*	OUTDOOR ACTIVITY		MicroRNA multi-targeting based therapy for Glioblastoma treatment *E. Cosset*	Cancer Prevention with greater precision *P. Basu*	Liquid biopsy biomarkers: Rationale, technological developments & clinical applications *F. Le Calvez-Kelm*	Final adjustments for pitching session *Participants (by group)*
	Objectives of the innovation / entrepreneurship sessions *M. Honorat*	Artificial intelligence in Oncology	✔ Ideasquare ✔ Knowledge transfer for medical applications ✔ Remote monitoring of health parameters ✔ Radioisotopes production at MEDICIS		Artificial intelligence in radiation therapy *D. Sarrut*			Multiparametric MRI imaging of cancer: preclinical developments *E. Barbier*	Multi-omics characterization of tumors *M. Foll*	⇧⇩ *P. Basu & M. Jenab*	Hands-on: Understanding risk and making public health decisions *F. Le Calvez-Kelm et al.*	Pitching session
	Ice-breaking activity *J-F. Granat*	*L. Licitra*	*M. Nordberg, A. Raimondo, R. Cittadini, T. Stora*	Introduction to Artificial Intelligence *M. Vakalopoulou*	→Business environment →Your project & its stakeholders *J-F. Granat & F. Bornard*			New tools in anatomo-pathology, DSP, multiplexing & hands-on *N. Gadot*	Deep learning model for cancer histopathology *E. Mathian*	Obesity and lifestyle risk factors for cancer development *M. Jenab*	Ethical issues of big data and AI in health *A. Bretel*	*Participants (by group) + Jury*
AFTERNOON	Presentation of students per group *ALL*	Artificial intelligence in radiation oncology – clinical applications *C. Robert*	✔ SynchroCyclotron ✔ Crystal clear	Applications to Health Care *M. Vakalopoulou*	Molecular profiling of pediatric cancers *R. Santiago*	→Go to market & introduction to finance →Launching plan & profitability		Clinical data design & Data sharing / interoperability *P. Saintigny*	scRNAseq & spatial transcriptomic : New tools to move all research projects forward *C. Degletagne*	Population attributable fractions: What if…? Estimating prevention potential	Ethical issues of big data and AI in health *(Cont'd)* *A. Bretel*	Jury deliberation *M. Honorat, V. Grégoire, J-F. Adam, B. Holland, J-F. Granat*
	Round table (MOREHISTO, TERAPET, RECKONECT) *D. Argenti, C. Vallgren, C. Boyault, M. Honorat*	→How to build the vision →From your idea to your projects *F. Bornard*	*S. Muhr, E. Auffray-Hillemanns*	→The business model →Develop your business model *C. Tarillon*	Intellectual properties: Challenges & method of protection *J-J. Berthelon*	*J-F. Granat*		Biomarkers & immunotherapy: ßig-h3 a new biomarker & immunological target in stromal cancer *A. Hennino*	Hands-on: Tumor map, scRNA seq, machine learning, web application *M. Foll, E. Mathian, C. Degletagne*	*M. Arnold*	→Pitch your project (rehearsal) *J-F. Granat*	Announcement & closing words *J-F. Adam, S. Vandergooten*
	Keynote lecture: Precision medicine for cancer therapy: 5-year forecast *P. Saintigny*	Team work *Participants (by group)*	Team work *Participants (by group)*	Team work *Participants (by group)*	Team work *Participants (by group)*	Team work *Participants (by group)*		→How to make effective presentation *J-F. Granat*	Synthetic lethality: A key therapeutic concept in precision oncology *C. Moyret-Lalle*	→Finalisation of your projects *F. Bornard*	Team work *Participants (by group)*	
								Team work *Participants (by group)*	Patient testimony *F. Pithon*	Team work *Participants (by group)*		
									Team work *Participants (by group)*			

- Clinical research
- Medical physics
- Biology, Gene expression
- Environment, prediction, prevention
- Innovation & Entrepreneurship *(coaching)*
- Team work (autonomy)