SHAPING THE FUTURE OF CANCER: TRANSFORMING CANCER DETECTION WITH ADVANCED TECHNOLOGIES

A Symposium on the exploration of Next-Gen Strategies in Early-Detection and Prevention of Cancer

CRIS Scientific Symposium 17th April 2024

Location: Fundación Ramón Areces | Vitruvio 5 | 28006 | Madrid

EVENT AGENDA:

The event will be structured into sessions, featuring keynote lectures and flash talks by young researchers. This setup aims to facilitate knowledge exchange, foster collaborations, and integrate new generations with leading researchers in their respective fields.

9:30 | **Registration**

10:00 | **Welcome and introduction from the President of CRIS Cancer**

| **SESSION 1: PERSPECTIVES FROM COMPUTATIONAL SCIENCES**

10:15 | **Keynote Talk 1** (40' + 10' Q&A)
AI Horizons: From societal transformations to innovationsin the fight against cancer

Prof. Miguel Luengo Oroz
Spotlab, Universidad Politécnica de Madrid

11:05 | **Flash Talk 1** (10' + 5' Q&A)
Transcriptomic technologies at single-cell resolution to identify metastatic drivers in prostate cancer

Dr. Isabel Mendizábal
CIC bioGUNE - Centro de Investigación Cooperativa en Biociencias
CRIS Post-Doc Talent Programme Awardee

11:20 | **Flash Talk 2** (10' + 5' Q&A)
Advancing Precision Oncology Through Computational Analysis of Medical Imaging

Dr. Raquel Pérez
Vall d'Hebrón Institute of Oncology
CRIS Traslational Physician Talent Programme Awardee

11:35 | **COFFEE BREAK**

| **SESSION 2: PERSPECTIVES FROM ENGINEERING AND TECHNOLOGY**

12:00 | **Keynote Talk 2** (40' + 10' Q&A)
A New Era of Precision Prevention Trial

Prof. Sarah Blagden
University of Oxford

12:50 | **Flash Talk 3** (10' + 5' Q&A)
Dissecting monoclonal gammopathies of none vs clinical significance

Dr. Bruno Paiva
Clínica Universidad de Navarra
CRIS Excellence Programme Awardee

13:05 | **Flash Talk 4** (10' + 5' Q&A)
Pancreatic cancer: why the cell of origin matters

Dr. Meritxell Rovira
Instituto de Investigación Biomédica de Bellvitge
CRIS Excellence Programme Awardee

13:30 | **LUNCH**

| **SESSION 3: PERSPECTIVES FROM PRECISION MEDICINE AND GENETICS**

14:30 | **Keynote Talk 3** (40' + 10' Q&A)
Liquid Biopsy: from Discovery to Clinical Application

Prof. Catherine Alix Panabières
Centre Hospitalier Universitaire de Montpellier

15:20 | **Flash Talk 5** (10' + 5' Q&A)
Next-generation genetic models for colorectal cancer prevention

Dr. Ceres Fernández
Instituto de Investigación de Santiago
CRIS Post-Doc Talent Awardee

15:35 | **Flash Talk 6** (10' + 5' Q&A)
ctDNA to drive precision medicine in colorectal cancer

Dr. Clara Montagut
Hospital del Mar Research Insitute Barcelona
CRIS Excellence Programme Awardee

16:00 | **ROUND TABLE WITH KEYNOTE SPEAKERS** (35')

Moderator: Prof. Kevin Harrington
Institute of Cancer Research / Royal Marsden Hospital

16:35 | **Summary and closing remarks** (10')

Prof. Kevin Harrington
Institute of Cancer Research / Royal Marsden Hospital

16:45 | **CLOSURE**

16:45 | **One to One Sessions**

19:00 | **CRIS RESEARCH PROGRAMMES AWARD CEREMONY**

MEET OUR ESTEEMED SPEAKERS:

SESSION 1: PERSPECTIVES FROM COMPUTATIONAL SCIENCES

| Prof. Miguel Luengo-Oroz:

Prof. Luengo-Oroz is a scientist and entrepreneur working on responsible AI for global public health. Founder and CEO of Spotlab.ai, a multi- modal AI platform for clinical research and universal diagnostics. He is professor at the Electronic Systems Engineering doctoral school of the Universidad Politécnica de Madrid. Prof. Luengo-Oroz is the former first Chief Data Scientist at the United Nations, where he worked for a decade bringing innovation to operations and policy in global health, humanitarian response, sustainable development, and human rights.
Prof. Luengo-Oroz is has been awarded as an Obama Foundation Leader, Ashoka fellow, and MIT TR35. He advises organizations on strategies to navigate macro trends and build responsible AI for humanity and the planet.

| Dr. Isabel Mendizábal:

Dr. Mendizabal has expertise in evolutionary genomics (PhD in Biomedicine at the Universitat Pompeu Fabra, Barcelona) and multiomic analyses of large-scale datasets (six-year postdoc at the Georgia Institute of Technology, Atlanta, USA). Dr. Mendizabal has made fundamental contributions into our understanding of the mechanisms that underlie complex diseases. Through the support of CRIS contra el cáncer, Dr. Mendizabal is currently applying computational approaches on multi-omic datasets to characterize prostate cancer aggressiveness.

Dr. Raquel Pérez-Lopez:
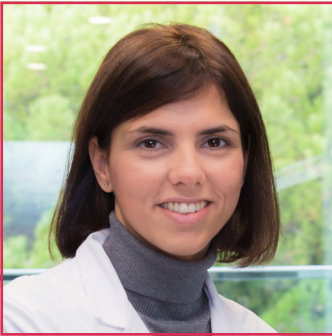
Dr. Raquel Perez-Lopez is an experienced academic radiologist trained in Barcelona, Spain, and at the Royal Marsden Hospital and the Institute of Cancer Research in London, UK. She completed a Master's degree in Medical Research at the University of Barcelona. Her PhD studies enabled her to identify the value of whole-body diffusion-weighted MRI as a prognostic and response biomarker of bone metastases in prostate cancer, which subsequently led to the successful completion of the first prospective clinical trial in this context. In late 2017, Raquel joined VHIO as the Team Leader of VHIO's Radiomics Group. Her expertise focuses on precision imaging in personalized medicine, achieved through the application of mathematical methods to image processing and harnessing the potential of AI in oncology.

SESSIÓN 2: PERSPECTIVES FROM COMPUTATIONAL SCIENCES

Prof. Sarah Blagden

Prof. Blagden is a clinician-scientist and Professor of Medical Oncology at the University of Oxford. She is director of Oxford's Cancer Trials Unit OCTO which conducts a portfolio of Precision Prevention and Early Cancer Detection Studies. This includes Studies exploring vaccines to prevent cancer in high risk individuals. Prof. Blagden also heads a laboratory exploring precancer biology and is founder and director of RNA Guardian Ltd, a company specialising in developing biomarkers for detecting precancers.
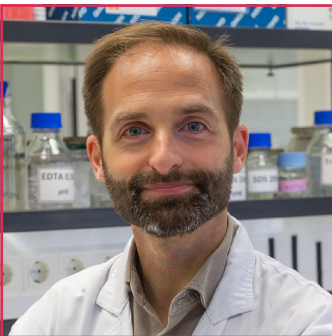
Dr. Bruno Paiva

Dr. Bruno Paiva is Director of the Flow Cytometry Platform and Director of the Monoclonal Gammopathies Research Laboratory, both at the centre for applied medical research (CIMA) University of Navarra, Pamplona, Spain, where he is also a research fellow of the Department of Haematology. He gained his Doctor of Pharmacy degree in in 2007 from the University of Coimbra, Portugal, and his PhD at the Medical School of the University of Salamanca, Spain.
Dr. Paiva's main area of expertise is the multidimensional flow cytometry analysis of haematological malignancies. His research focuses on immunogenomics to improve differential diagnosis, risk stratification, and monitoring of patients with monoclonal gammopathies and myeloid malignancies. Dr. Paiva's flow cytometry core is the referral laboratory for numerous Hospitals and has been the core of more than 30 national and international clinical trials in multiple myeloma and acute myeloid leukaemia.

Dr. Meritxell Rovira

Dr. Meritxell Rovira holds a PhD from University Pompeu Fabra (Spain). She pursued a first postdoctoral training at Johns Hopkins University-School of Medicine (USA) from 2007 to 2011, working under the supervision of Steven D Leach and Mike Parsons, to study adult pancreatic progenitors both in mouse and zebrafish animal models. In 2012, she came back to Spain with a co-funded Marie Curie Fellowship for her second postdoctoral training at IDIBAPS, to work under the supervision of Jorge Ferrer to study transcriptional and epigenetic mechanisms that underlie human pancreas formation. Since 2019, she has established her group at University of Barcelona/IDIBELL focusing her research on the field of pancreas regeneration and pancreatic cancer.

SESSION 3: PERSPECTIVES FROM PRECISION MEDICINE AND GENETICS

❚ Prof. Catherine Alix Panabières

Professor Catherine Alix-Panabières received her PhD degree in 1998 at the Institute of Virology, University Louis Pasteur, in Strasbourg in France. In 1999, she moved to Montpellier where she did a postdoctoral research at the University Medical Centre. Since 2022, she is also Visiting Professor at the University of Hamburg in Germany. During this last decade, Prof. Alix-Panabières has focused on optimizing new techniques of enrichment, detection and characterization of viable circulating tumor cells (CTCs) in patients with solid tumors. She is the expert for the EPISPOT technology that is used to detect viable CTCs in patients with breast, prostate, colon, head & neck cancer and melanoma. This technology has been recently improved to detect functional CTCs at the single cell level. Prof. Catherine Alix-Panabières & Pantel coined for the first time the term 'Liquid Biopsy' in 2010 (Trends Mol Med).

❚ Dr. Ceres Fernández Rozadilla

Dr. Ceres Fernandez Rozadilla is a Principal Investigator of the Genomic Medicine Group (GMX) at the Institute of Biomedical Research of Santiago (IDIS). Additionally, she is as the coordinator for Marie Skłodowska-Curie Actions (MSCA) Doctoral Networks (DN) 2021 ColoMARK, a doctoral network providing comprehensive training to up-and-coming scientists with a focus on identifying and developing novel colorectal cancer biomarkers using liquid biopsy approaches.
Dr. Ceres Fernández Rozadilla's work focuses on using genomics and other omics data to identify individuals at high risk of developing colorectal cancer. They also work on risk stratification strategies to complement current population screening programs.

❚ Dr. Clara Montagut

Dr. Clara Montagut graduated in Medicine and Surgery from the Universitat Autònoma de Barcelona (1999), Medical Oncologist and Md-PhD. She has worked at the Massachusetts General Hospital Cancer Center - Harvard School of Medicine in Boston (J. Settleman lab) and at Memorial Sloan Kettering Cancer Center, New York, on liquid biopsy in gastrointestinal malignancies (L.A. Diaz lab). Currently, she is Head of the Gastrointestinal Cancer Unit and leads a team of clinical and translational research in novel therapies and biomarkers in colorectal cancer at Hospital del Mar Research Institute in Barcelona. Dr. Montagut is also Professor at the Pompeu Fabra University in Barcelona.

MODERATOR AND DISCUSSION GUIDANCE

❚ Prof. Kevin Harrington

Prof. Kevin Harrington is an NIHR Senior Investigator and Head of the Division of Radiotherapy and Imaging at the Institute of Cancer Research (ICR)/Royal Marsden Hospital (RMH). He is the Director for the ICR/RM CRUK RadNet Centre of Excellence, Chair of the CRUK Advanced Radiotherapy Network (ART-NET) Network Accelerator, Chair of the ICR Wellcome Trust Clinical Training Programme and an Executive Board member for the CRUK ICR/Imperial Major Centre for Convergence Science. He is also an Honorary Consultant Clinical Oncologist at The Royal Marsden NHS Foundation Trust and at St George's Hospital, specialising in developing new treatments with a specific focus on head and neck cancer. He received the 2019 BAHNO President's Achievement Award and was the 2021 Semon Lecturer (Royal Society of Medicine). He has published >600 peer-reviewed publications and >50 book chapters. He was listed as a Clarivate Highly Cited Researcher in 2021 and 2022.