

ONCONET SUDOE

Workshop on MOLECULAR BIOLOGY, CANCER AND BIOINFORMATICS

Pamplona, 16th May, 2019Event location: Salón de actos en Navarrabiomed-FMS
Irunlarrea 3, 31008 Pamplona, Spain**Summary:**

Cancer is one of the commonest causes of patient death in the clinic and a complex disease occurring in multiple organs per system, multiple systems per organ, or both, in the body. Advances in high-throughput sequencing technologies have enabled cost-effective sequencing of a single human genome at an unprecedented rate, facilitating scientific endeavours never imagined possible before. These improvements have transformed the field of cancer genomics, allowing the complete molecular characterization of individual cancer genomes. However, the promise of unveiling the complexity of cancer has lent itself to yet another level of complexity, the task of managing and integrating the massive amount of data that is generated as part of such experiments. The availability of these data, and the insights they may provide into the biology of disease, has many in the research community excited about the possibility of expediting progress toward precision medicine—that is, tailoring prevention, diagnosis, and treatment based on the molecular characteristics of a patient's disease.

Additionally, bioinformatic algorithms and software, designed specifically for the analysis of cancer genomic data, are now able comprehensively to profile the mutations in a cancer sample, and cancer bioinformatics is expected to play a more important role in the identification and validation of biomarkers, specific to clinical phenotypes related to early diagnoses, measurements to monitor the progress of the disease and the response to therapy, and predictors for the improvement of patient's life quality. Of gene-, protein-, peptide-, chemical- or physic-based variables in cancer, biomarkers were investigated from a single one to multiple markers, from the expression to functional indication, and from the network to dynamic network.

Potential topics:

- Molecular basis of Cancer. Diagnostic and treatment techniques
- Liquid biopsy
- Personalised and precision medicine
- Multiomics cancer data integration
- Genetic and epigenetic alterations in cancer
- NGS applications in research and clinical practice
- Big data applications in cancer research
- Cancer bioinformatics

Target Audience:

Researchers (cancer researchers, informatics researchers, health services researchers, bioinformaticians), healthcare professionals (physicians, nurses, laboratory services, radiologists, hospital administrators, hospital practice designers, etc.), IT for health developers.

PRELIMINARY PROGRAMME

Thursday May 16th Workshop

09:00 **Registration**

09:30 **Opening session**

Workshop organizer: **Marisol Fragoso**. Management Director of Miguel Servet Foundation-Navarrabiomed
Antonio Viudez. Medical Oncology Service. Hospital Complex of Navarre

10:00 **Session 1: Molecular basis of Cancer. Diagnostic and treatment techniques**

Moderator: **David Guerrero**. Head of Molecular Pathology Research. Navarrabiomed

Beatriz Bellosillo. Head of Pathology Service. Hospital del Mar de Barcelona

Celso A. Reis. Head of the Glycobiology in Cancer Group. Institute of Molecular Pathology and Immunology of the University of Porto

Genis Parra. Data analyst. CNAG-CRG

11:00 **Coffee – Break**

11:30 **Round table 1: Liquid biopsy. Genetic and epigenetic alterations**

Moderator: **Marilia Dourado**. Faculty of Medicine. University of Coimbra

María Gallardo. Department of Biochemistry, Genetics and Immunology. University of Vigo

Alexandre Ferreira. Researcher. IPOPORTO

Gabriel Ortega. Researcher. IDISBA

12:30 **Session 2: High throughput technologies for the study of molecular alterations in breast, lung and pancreas cancer**

Moderator: **Marilia Dourado**. Faculty of Medicine. University of Coimbra

Ramon A. de Mello. Medical Oncology. University of Algarve

Pierre Cordelier. Research Director. University Paul Sabatier of Toulouse

David Guerrero. Head of Molecular Pathology Research. Navarrabiomed

13:30 **Lunch**

14:30 **Session 3: Databases sources for research . Integrated analysis of genomic and physiopathological data of TCGA: Genomic Epidemiology of Cancer**

Moderator: **Alberto Labarga**. Senior Bioinformatician in Bioinformatics Unit . Navarrabiomed

José Carlos Reyes. Director of the Genoma Biology Department. Cabimer

Pedro Carmona. Head of Bioinformatics Unit. Genyo

Enrique Carrillo. Group leader of the Computational Biology Group IMDEA

15:30 **Round Table 2: Big data and bioinformatics**

Moderator: **Alberto Labarga**. Senior Bioinformatician in Bioinformatics Unit. Navarrabiomed

David Gómez-Cabrero. Head of Bioinformatics Unit. Navarrabiomed

Eider Sánchez. CEO and co-founder. Naru Intelligence

Juan González. Senior Researcher. Institute of Aragon of Health Sciences

Simón Perera. Senior researcher; business developer. BIB

16:45 **Coffee - closing**