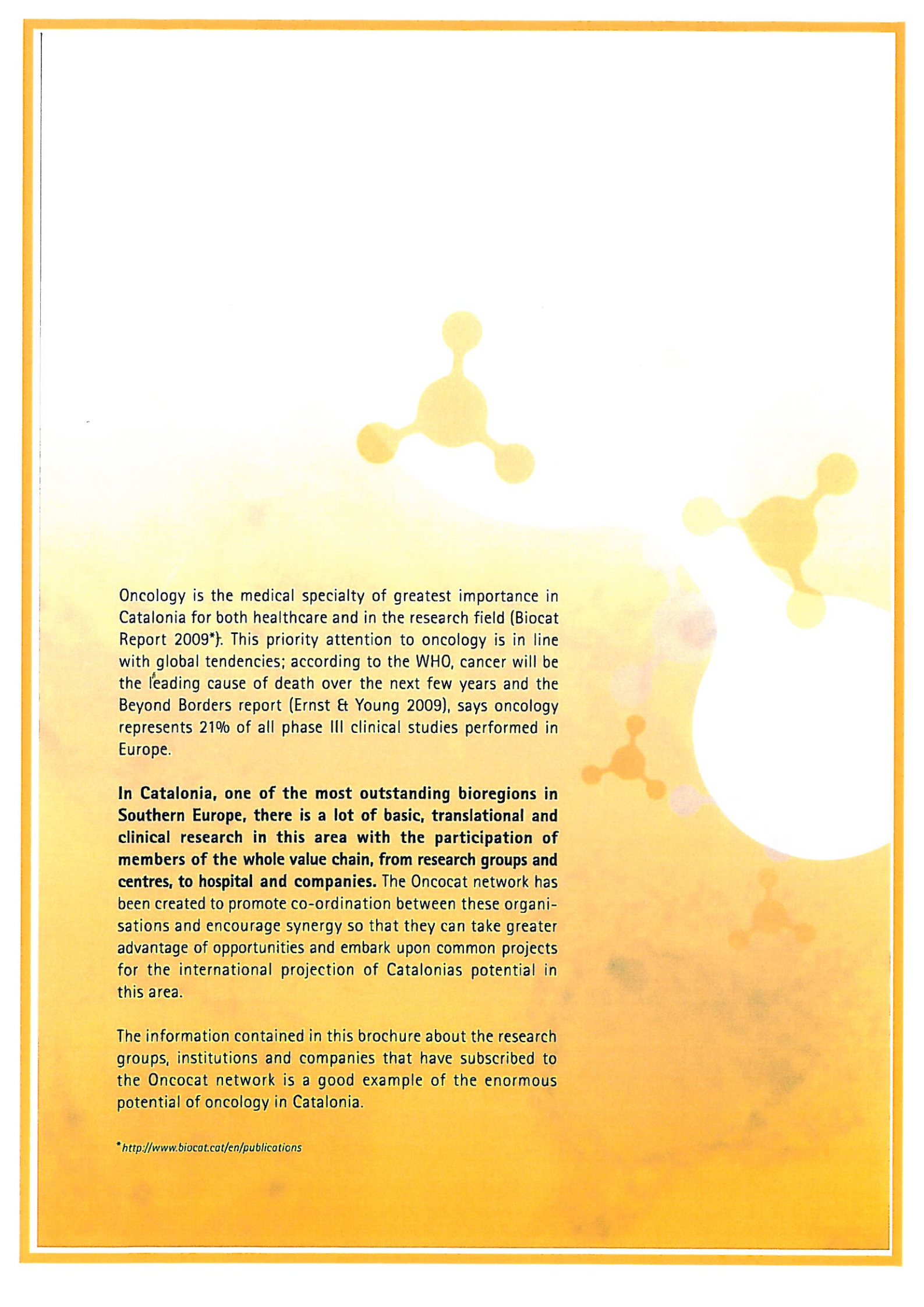


Oncocat

The Catalan Network  
of Oncology



Oncology is the medical specialty of greatest importance in Catalonia for both healthcare and in the research field (Biocat Report 2009\*). This priority attention to oncology is in line with global tendencies; according to the WHO, cancer will be the leading cause of death over the next few years and the Beyond Borders report (Ernst & Young 2009), says oncology represents 21% of all phase III clinical studies performed in Europe.

**In Catalonia, one of the most outstanding bioregions in Southern Europe, there is a lot of basic, translational and clinical research in this area with the participation of members of the whole value chain, from research groups and centres, to hospital and companies.** The Oncocat network has been created to promote co-ordination between these organisations and encourage synergy so that they can take greater advantage of opportunities and embark upon common projects for the international projection of Catalonia's potential in this area.

The information contained in this brochure about the research groups, institutions and companies that have subscribed to the Oncocat network is a good example of the enormous potential of oncology in Catalonia.

\*<http://www.biocat.cat/en/publications>

**ANTICANCER THERAPY GROUP (UB)**

Caries J. Ciudad

Web: [www.ub.edu/terapiamol/cancer/WelCome.html](http://www.ub.edu/terapiamol/cancer/WelCome.html) Mail: [ccuidad@ub.edu](mailto:ccuidad@ub.edu)

To study the regulation of genes involved in the resistance to chemotherapy detected by Functional Genomics. To investigate new alternative therapies using Polyamine Hairpins

Activity: Biotechnology, Human Health - Pharmacological or Biological Therapeutics

Technology: Genomics, Nanotechnology

**CHROMOSOMAL INSTABILITY IN CANCER GROUP (UAB)**

Rosa Miró, Immaculada Ponsa

Web: [www.uab.cat](http://www.uab.cat) Mail: [rosa.miro@uab.cat](mailto:rosa.miro@uab.cat), [imma.ponsa@uab.cat](mailto:imma.ponsa@uab.cat)

Numerical and structural chromosome instability in bladder cancer, colon cancer and other solid tumors. Role of copy number variations and uniparental disomy in colon cancer. Design of areoploidy detection tests

Activity: Human Health - Basic Research

Technology: Genomics, Others - Molecular cytogenetics

**RESEARCH GROUP (ICO-DIBELL)**

Josep M. Borràs

Web: [www.rrc.ub.edu](http://www.rrc.ub.edu) Mail: [jmborras@iconologia.net](mailto:jmborras@iconologia.net)

- Assessment of adherence to oral chemotherapy and endocrine therapy in cancer patients
- European Partnership Action against Cancer (EPAAC) WP7 Health Care Objective: Factors related to multidisciplinary cancer care and networks
- Analyzing population based clinical outcomes in rectal cancer

Activity: Human Health - Public health/cancer epidemiology and prevention

Technology: Biostatistics

**INORGANIC NANOPARTICLES GROUP (ICN)**

Victor Puntes

Web: [www.icn.cat](http://www.icn.cat) Mail: [vectorpunes@icn.cat](mailto:vectorpunes@icn.cat)

- Nanotoxicology
- Drug delivery of antitumoral drugs based on inorganic nanoparticles

Activity: Environment, Human Health - Pharmacological or Biological Therapeutics - Imaging Diagnosis, Animal Health - Pharmacological Therapeutics

Technology: Nanotechnology

**IQS-URL MOLECULAR ENGINEERING GROUP (GEM)**

Jose J. Borrell

Web: [www.gem.iqs.url.edu](http://www.gem.iqs.url.edu) Mail: [jborrell@iqs.url.edu](mailto:jborrell@iqs.url.edu)

Prodynamic Therapy of Cancer (PDI). Two important applications of this medical technology are the treatment of solid tumors and the treatment of localized infections, particularly from antibiotic-resistant microorganisms. Tyrosine kinase inhibitors (TKIs). Development of pyrido [2,3-d] pyrimidines which present a wide range of TK inhibitory activities, particularly as inhibitors for Chronic Myelogenous Leukemia (CM.)

Activity: Cosmetics, Fine Chemistry, Human Health - Pharmacological or Biological Therapeutics, Medical Devices

Technology: Bioinformatics, Optics/Photonics, Medical Chemistry

**BCN PEPTIDES**

Berta Ponsati Quidó

Web: [www.bcnpeptides.com](http://www.bcnpeptides.com) Mail: [bpsonsati@bcnpeptides.com](mailto:bpsonsati@bcnpeptides.com)

Peptides interest is increasing more and more in Oncology, in this area BCN Peptides has developed a family of somatostatin analogs and is developing a new Radiotracer for PET Image for tumors expressing Somatostatin receptors. Other RD areas include: Diabetic Retinopathy, Irritable Bowel Disease, and Pain

Activity: Biotechnology, Fine Chemistry, Human Health - Pharmacological or Biological Therapeutics - Imaging Diagnosis, Animal Health - Pharmacological or Biological Therapeutics

Technology: Biomaterials, Peptides/Proteins, Medicinal Chemistry

**ENDOR NANOTECHNOLOGIES**

Marc Rams

Web: [www.endornanotech.com](http://www.endornanotech.com) Mail: [Marc.rams@endornanotech.com](mailto:Marc.rams@endornanotech.com)

EDS lead program for therapeutics is an innovative delivery system for agents with great potential to be applied in oncology. EDS is an advanced delivery system for therapeutic agents both small molecules and biologicals (organic drugs, siRNA, proteins or monoclonal antibodies)

Activity: Human Health - Pharmacological or Biological Therapeutics - Medical Devices - In Vitro Diagnosis

Technology: Nanotechnology, Medicinal Chemistry

**HEREDITARY CANCER GROUP (ICO-DIBELL-IMPCC)**

Gabriel Capella

Web: [www.rrc.ub.edu](http://www.rrc.ub.edu) Mail: [gcapella@dibell.cat](mailto:gcapella@dibell.cat)

Molecular characterization of alleles of moderate risk predisposing to colorectal cancer (H307X as a model system). Search of new genes predisposing to familial breast and colorectal cancer. Risk quantification in neurofibromatosis. Psychological impact of genetic counseling

Activity: Biotechnology, Human Health - Pharmacological or Biological Therapeutics - In Vitro Diagnosis

Technology: In silico analysis, Biostatistics, Bioinformatics, Genomics, Proteomics

**INSTITUT DE MEDICINA PREDICTIVA I PERSONALITZADA DEL CÀNCER (IMPCC)**

Miquel Àngel Pujado, Manuel Peruchó

Web: [www.impcc.org](http://www.impcc.org) Mail: [map@impcc.org](mailto:map@impcc.org)

The mission of the IMPCC is to identify the molecular patterns and markers that allow prediction of the development of a cancer and its personalized treatment. The activities at the IMPCC concentrate on:

- The discovery of molecular markers for diagnostic and prognostic use
- The identification of the genetic and epigenetic variants that determine the resistance/susceptibility for cancer development
- The personalization of treatment by identifying the factors that will predict the response to treatment

Activity: Bioinformatics, Human Health - Pharmacological or Biological Therapeutics - Medical Devices - In vitro Diagnosis

Technology: In silico analysis, Bioinformatics, Genomics, Cancer Epigenetics

**IUCT**

Josep Castellà Bokard

Web: [www.iuct.com](http://www.iuct.com) Mail: [josep@iuct.net](mailto:josep@iuct.net)

IUCT's projects are devoted to the development of new technologies, products and processes for the Pharmaceutical, Fine Chemical and Biotechnological sectors. Relevant projects include drug discovery of new anticancer compounds by means of organic chemistry and red biotech.

Activity: Biotechnology, Environment, Fine Chemistry

Technology: Biomaterials, Bioprocesses, Genomics, Proteomics, Medical chemistry

**CELLULAR CYCLE AND CANCER GROUP (IDIBAPS)**

Unai Bachs

Web: [www.idibaps.org/](http://www.idibaps.org/) Mail: [obachs@ub.edu](mailto:obachs@ub.edu)

- Analysis of the mechanisms involved in tumorigenesis
- Identification of therapeutic targets in tumors
- Identification of tumoral biomarkers in biological fluids

Activity: Human Health - Pharmacological or Biological Therapeutics Other: Analysis of Molecular mechanics involved in oncogenesis

Technology: Bioprocesses, Genomics, Peptides/Proteins, Proteomics

**GENDIAG**

Manel Martínez, Eduardo Salas

Web: [www.gendiag.com](http://www.gendiag.com) Mail: [manel.martinez@gendiag.com](mailto:manel.martinez@gendiag.com), [Eduardo.salas@gendiag.com](mailto:Eduardo.salas@gendiag.com)

Gendiag is a biotech company whose objective is to facilitate a personalized medicine for the benefit of society at large, by setting up diagnostic tools and new therapeutic targets that will enable the development of innovative drugs.

Activity: Human Health - Medical devices - In Vitro Diagnosis

Technology: In silico analysis, Biostatistics, Bioinformatics, Genomics, Proteomics

**HOSPITAL UNIVERSITARI MUTUA TERRASSA**

Lluís Corra

Web: [www.mutuaterassa.cat](http://www.mutuaterassa.cat) Mail: [lcorra@mutuaterassa.es](mailto:lcorra@mutuaterassa.es)

- Phase II, III, IV Clinical Trials
- Determination of Molecular Targets (Kras, Braf...)

Activity: Human Health - Pharmacological or Biological Therapeutics

Technology:

**INTELLIGENT PHARMA**

Ignasi Belda

Web: [www.intelligentpharma.com](http://www.intelligentpharma.com) Mail: [ibelda@intelligentpharma.com](mailto:ibelda@intelligentpharma.com)

- Generic Computational technologies applied to drug discovery
- Personalized medicine tools for oncology

Activity: Bioinformatics, Biotechnology, Food &amp; Nutrition, Human Health - Pharmacological or Biological Therapeutics - E-health / eelectromedicine, Animal Health - Pharmacological or Biological Therapeutics

Technology: In silico analysis, Bioinformatics

**LABORATORY RESEARCH CANCER GROUP / ONCOLOGY PATHOLOGY RESEARCH GROUP (IRBLLEIDA, HOSPITAL ARNAU DE VILANOVA)**

Xavier Matias Guàrdia

Web: [www.irblleida.org](http://www.irblleida.org) Mail: [xmatias@arnau.scs.es](mailto:xmatias@arnau.scs.es)

The study of the pathological and molecular features of cancer (endometrium, thyroid, melanoma)

- Resistance to apoptosis/hypoxia/radiation therapy
- Signaling pathways involved in tumor progression
- Stem cell features
- Targeted therapies
- 3D cultures

Activity: Human Health - Pharmacological or Biological Therapeutics - In Vitro Diagnosis

Technology: Genomics, Proteomics

## LEITAT

Francisco Mijangos

Web: [www.leitat.org](http://www.leitat.org) Mail: [fmijangos@leitat.org](mailto:fmijangos@leitat.org)

- Integration of novel NANOparticle based technology for therapeutics and diagnosis of different types of cancer
- Biosensor for fast vaccine monitoring ONCOLOGICA. New Strategies based on biomarkers for cancer detection, prognosis, response prediction and the development of new treatments PTPRO. Development of anti-angiogenic peptides using Zera technology. ROBOCELL/ROBOCAT. Robotic Station for biocaracterization
- Characterization of predictive genetic models of response to anticancer drugs. systematic personalized therapeutic intervention. Project funded by the Spanish Government from the CDTI call Leader. Pangaea Biotech.
- NANOPOLYOR: Toxicological impact of nanomaterials.

Activity: Biotechnology, Environment, Food & Nutrition, Human Health - Pharmacological or Biological Therapeutics - Medical Devices - In Vitro Diagnosis - Imaging Diagnosis

Technology: Biomaterials, Bioprocesses, Bioremediation, Nanotechnology, Peptides/Proteins, Others - Monoclonal antibodies - Cellular models - In vivo models - ADME - Cellular safety models

## ONCOGENESIS AND ANTITUMOR DRUG GROUP

Ramon Mangués

Web: [www.santpau.cat](http://www.santpau.cat) Mail: [rmangues@santpau.cat](mailto:rmangues@santpau.cat)

Use of animal models of disseminated hematological and solid neoplasias to assess antimetastatic effect in preclinical drug development, preclinical development of vectors for targeted delivery of anti cancer therapy, and the study of specific gene alterations in metastagenesis

Activity: Biotechnology, Human Health - Pharmacological or Biological Therapeutics - In Vitro Diagnosis

Technology: Biostatistics, Bioinformatics, Genomics, Peptides/Proteins, Proteomics, Medical Chemistry, Others - Molecular Biology

## ORIZON

Carlos Buesa

Web: [www.orizon.com](http://www.orizon.com) Mail: [cbuesa@orizon.com](mailto:cbuesa@orizon.com)

Early diagnosis in endometrial cancer from uterine aspirates Epigenetic targets for the small molecule programs  
More than 700 compounds selective inhibitors of LSD1

Activity: Human Health - Pharmacological or Biological Therapeutics - In Vitro Diagnosis

Technology: In silico analysis, Biostatistics, Bioinformatics, Crystallography, Genomics, Peptides/Proteins, Proteomics, Medical chemistry

## RESEARCH GROUP (IF VALL D'HERRON)

Jaume Preventos

Web: [www.vho.net](http://www.vho.net) Mail: [preventos@ivhbreron.net](mailto:preventos@ivhbreron.net)

We work on the molecular basis of several cancers (endometrial, ovarian and prostate). Our aim is to identify new molecules in tissue specimens as well as in biofluids and metastasis, involved in the process of cell transformation that could be biomarkers of diagnosis, prognosis and predictive response to treatment, as well as be considered molecular targets for new therapeutic strategies.

Activity: Biotechnology, Human Health - Pharmacological or Biological Therapeutics - Medical Devices - In vitro diagnosis - Imaging Diagnosis

Technology: Biostatistics, Bioinformatics, Biomaterials, Genomics, Nanotechnology, Peptides/Proteins, Proteomics, Ortopic animal models

## THE INSTITUTE OF BIOMEDICINE OF THE UNIVERSITY OF BARCELONA (IBUB)

Eva Estebanez Perpiñá

Web: [www.ub.edu/ibub/eva\\_estebanez\\_nm1](http://www.ub.edu/ibub/eva_estebanez_nm1) Mail: [evestebanez@ub.edu](mailto:evestebanez@ub.edu)

- Nuclear receptors (NR) as therapeutic targets (Androgen, Thyroid and some Orphan receptors)
- Structure-based drug design - novel compounds against Androgen Receptor to treat resistant prostate cancer. Partnerships with various USA and EU Pharma companies
- Study Androgen Receptor aggregation on the rare neurodegenerative Kennedy disease

Activity: Human Health - Pharmacological or Biological Therapeutics. Therapeutic targets drug design based on X ray structures

Technology: Biophysics, Bioinformatics, Crystallography, Peptides/Proteins, Medicinal Chemistry

## MOLECULAR PHARMACOLOGY AND EXPERIMENTAL THERAPIES GROUP (UB-CIBER EHD)

Marcia Pastor-Anglada, Avela Maza

Web: [www.cibehd.org](http://www.cibehd.org), [www.rst.net](http://www.rst.net) Mail: [mpastor@ub.edu](mailto:mpastor@ub.edu), [amazo@ub.edu](mailto:amazo@ub.edu)

- Study of mechanisms determining drug bioavailability and drug-drug interactions
- Design of cellular models suitable for drug bioavailability and drug-drug interaction studies
- Identification of novel drug targets
- In vivo tumor models for drug screening

Activity: Biotechnology, Human Health - Pharmacological or Biological Therapeutics - In vitro diagnosis

Technology: Biophysics, Genomics, Proteomics, Medicinal Chemistry, Others - Cellular models - Animal models of human tumors

## ONCOLOGY INSTITUTE OF VALL D'HERRON (VHIO)

Alejandro Pina, Josep Taberner

Web: [www.vhio.net](http://www.vhio.net) Mail: [apina@vhio.net](mailto:apina@vhio.net), [jtaberner@vhio.net](mailto:jtaberner@vhio.net)

Cancer Genomics, Gene Expression & Cancer, Growth Factors, Proteomics, Stem Cells & Cancer, Tumor Biomarkers, Breast Cancer Program, Experimental Therapeutics, Mouse Models of Cancer Therapy, Molecular Pathology, Oncogenetics, Gastrointestinal Tumors, etc.

Activity: Bioinformatics, Biotechnology, Human Health - Pharmacological or Biological Therapeutics - Medical Devices - In Vitro Diagnosis

Technology: Biostatistics, Bioinformatics, Genomics, Peptides/Proteins, Proteomics, Medical Chemistry, Translational research, Molecularly guided early clinical trials, Pharmacodynamic/Pharmacokinetic modeling

## RESEARCH COOPERATION NETWORK IN CANCER (RETICC) INTEGRATIVE BIOCHEMISTRY AND CANCER THERAPY (IBUB)

Maria Cascante

Web: [www.bq.ub.edu/bq/reticcerca.htm](http://www.bq.ub.edu/bq/reticcerca.htm) Mail: [marcascante@ub.edu](mailto:marcascante@ub.edu)

- Metabolic flux analysis and cancer
- Characterization of tumor metabolic adaptations: application to the development of combined therapies
- Characterization and modeling of dietary effects mediated by gut microbiota on lipid metabolism

Activity: Bioinformatics, Biotechnology, Cosmetics, Fine Chemistry, Food & Nutrition, Human Health - Pharmacological or Biological Therapeutics - In Vitro Diagnosis - Systems biology

Technology: In silico analysis, Biophysics, Bioinformatics, Bioprocesses, Medical chemistry, Systems biology, Systems medicine, Metabolomics

## SUPRAMOLECULAR NANO-CHEMISTRY & MATERIALS GROUP (INSTITUT CATALÀ DE NANOTECNOLOGIA, ICN)

Daniel MasPOCH

Web: [www.nanoup.org](http://www.nanoup.org) Mail: [daniel.maspoch@icn.uab.es](mailto:daniel.maspoch@icn.uab.es)

- Assessment of the biocompatibility and toxicity of micro- and nanoparticles
- Use of nanoparticles as immunostimulant administration vehicle in species of interest in aquaculture
- Development of new technologies based on: phages for salmonella control

Activity: Biotechnology, Cosmetics, Food & Nutrition, Human Health - Pharmacological or Biological Therapeutics, Animal Health - Pharmacological or Biological Therapeutics

Technology: Nanotechnology, Biomaterials, Peptides/Proteins

## TRANSLATIONAL RESEARCH UNIT (ICO-Girona) - MOLECULAR ONCOLOGY GROUP (IdIBGI)

Javier A. Menéndez

Web: [www.oncologia.net](http://www.oncologia.net), [www.idbgi.org](http://www.idbgi.org) Mail: [jmenendez@oncologia.net](mailto:jmenendez@oncologia.net), [jmenendez@idbgi.org](mailto:jmenendez@idbgi.org)

- Cancer Cell Metabolism: Energy metabolism & energy sensors in human cancer pathogenesis, prevention and treatment
- Autophagy in cancer and aging
- Pre-clinical development of anti-cancer bio-compounds
- Mechanisms of resistance to molecular targeted oncology drugs

Activity: Biotechnology, Food & Nutrition, Human Health - Pharmacological or Biological Therapeutics - In Vitro Diagnosis - Others, Translational oncology research

Technology: Bioinformatics, Genomics, Proteomics, Others - Bio imaging

## NANO/ELECTRONICS & BIOSENSORS GROUP (INSTITUT CATALÀ DE NANOTECNOLOGIA, ICN)

Arián Merkoç

Web: [www.icn.cat/nanoelectronics-biosensors.php](http://www.icn.cat/nanoelectronics-biosensors.php) Mail: [arien.merkoec@uab.es](mailto:arien.merkoec@uab.es)

Development of low cost and efficient nanomaterials based sensors and biosensors including lab-on-a-chip for DNA, protein and cell detection with interest for cancer diagnostics and other related applications

Activity: Biotechnology, Environment, Human Health - In Vitro Diagnosis - Animal Health - Pharmacological or Biological Therapeutics

Technology: Biomaterials, Bioprocesses, Nanotechnology, Peptides/Proteins

## AMGEN

Jordi Martí

[www.amgen.es](http://www.amgen.es)

Amgen is a biotechnology pioneer company that discovers, develops and delivers innovative human therapeutics based on the improvements on cellular and molecular biology. Amgen's research lines are mainly focused in oncology, hematology, kidney disease, rheumatoid arthritis and other serious illnesses.

## HOSPITAL CLÍNIC

Enric Camps, Ferré Gaspar

[www.hospitalclinic.org](http://www.hospitalclinic.org)

Translational Research in Cancer, GI and Liver Diseases, Cardiovascular, Pulmonary Diseases, Neurosciences, Diabetes, Metabolic Diseases, Infectious Diseases, Surgery, Medical Imaging, Telemedicine, Health System Research.

## HOSPITAL DEL MAR

Joaquín Alzanel, Francesc Posas

[www.parcadesalutmar.cat](http://www.parcadesalutmar.cat)

This is an active, modern, university hospital situated in Barcelona's coastline. Being a professional all-rounder, the hospital has learnt, as part of the MAR Health Park, to become productive and efficient and to work as part of a team together with the city's different networks and healthcare centres. Thus it has always been principally involved in care work, but also having a permanent link with research via the IMIM (Hospital del Mar Research Institute).

## HOSPITAL SANT JOAN DE DÉU

Jaume Maza

[www.hsjo.net](http://www.hsjo.net)

The Hospital de Sant Joan de Déu (HSJD) is a private, non-profit organisation founded by the Order Hospitalari de Sant Joan de Déu. It is a highly specialised and technological hospital focused on woman, child and adolescent health. The hospital's main mission is to provide integrated healthcare services to its patients combining a humanitarian approach together with the development of new scientific breakthroughs.

## ICO

Rafel Rosell

<http://www.iconcologia.net>

The Oncology Catalan Institute is a centre highly specialized and advanced in oncology which offers in a coordinated way: diagnostic, treatment, prevention, research, and training. It has an area of hospitalization and several areas of therapeutic services to carry out its assisting activity.

## INSTITUT DE RECERCA BIOMÈDICA - IRB BARCELONA

Roger Gomis, Joan Guinovart

The Institute for Research in Biomedicine is a non-profit research organization devoted to basic biomedical research in Oncology, Structural and Computational Biology, Molecular Medicine, Cell and Developmental Biology and Chemistry.

## REIG JOFRÉ

Alicia Ostrga

[www.reigjofre.com](http://www.reigjofre.com)

The Reig Jofré Group is one of the leading industrial groups within the Spanish pharmaceutical market. The group devotes part of its activity to manufacturing and marketing a wide range of its own proprietary preparations, which include ethical products, as well as OTC items, cosmetics and dietetic and sanitary products.

## UB

Jaume Pladà

[www.ub.edu](http://www.ub.edu)

The University of Barcelona (UB) is Spain's leading research university. The UB has 109 departments and more than 5,000 full-time researchers, technicians and research assistants, most of whom work in the UB's 249 research groups as recognized and supported by the Catalan Government.