

**MOLECULAR ONCOLOGY MASTER - EDITION 2020-2021**

SUBJECT	CLASS	LECTURER
<b>MOLECULAR BASIS OF CANCER</b>	Keynote Session: From molecular oncology to personalized therapies: Changes in the clinical practice	MARIANO BARBACID
	Eukaryotic cell	MIGUEL A. LAFARGA COSCOJUELA
	The carcinogenesis process. Normal cells vs tumor cells	MIGUEL A. LAFARGA COSCOJUELA
	The human genome: genes and genetic code	JOSÉ FERNÁNDEZ PIQUERAS
	Epigenetics and Cancer	JOSÉ FERNÁNDEZ PIQUERAS
	Regulation of gene expression	MIGUEL FERNÁNDEZ MORENO
	Gene regulation of hormone expression	MIGUEL FERNÁNDEZ MORENO
	Metabolism, mitochondria and Cancer	JOSÉ MANUEL CUEZVA MARCOS
	Stem cells and Cancer stem cells (CSC). Cell reprogramming: Ips	MÓNICA LÓPEZ BARAHONA
	Stem cells, development and cancer	PABLO MENÉNDEZ
	Genes and Cancer I. Proto-oncogenes and oncogenes: discovering viral and human oncogenes	ALBERTO MUÑOZ TEROL
	Genes and Cancer II. Suppressor genes and genetic predisposition to cancer	JOSÉ FERNÁNDEZ PIQUERAS
	Mutations and DNA repair mechanism	LUIS BLANCO DÁVILA
<b>PROTO ONCOGENES AND ONCOGENES</b>	Oncogenes that code for growth factors and tyrosine-kinase receptors	JOAQUÍN ARRIBAS LÓPEZ
	The HER/c-ERBB family. Biology and implication in breast cancer	JOAQUÍN ARRIBAS LÓPEZ
	Oncogene RAS family, its adaptors and effectors	MARCOS MALUMBRES MARTÍNEZ
	Cell Cycle: retinoblastoma, cyclins, CDKs and cancer	MARCOS MALUMBRES MARTÍNEZ
	The MYC gene family	JAVIER LEÓN SERRANO
	Mitogen signal transduction. RET and the multiple endocrine neoplasia	JOSÉ MARÍA ROJAS CABAÑEROS
	Fusion gene BCR-ABL and other fusion oncogenes in myeloid leukemia	JUAN CRUZ CIGUDOSA GARCÍA
<b>TUMOR SUPPRESSOR GENES</b>	The PI3K-PTEN-AK-mTOR pathway: survival and cell growth	ALEX TOKER
	The BRCA genes in breast cancer	JAVIER BENÍTEZ ORTIZ
	TGF-beta: carcinogenesis effects	ISABEL FABREGAT ROMERO
	TGF-beta and gliomas	JOAN SEOANE SUÁREZ
	Hedgehog pathway and cancerogenesis	MIGUEL QUINTANILLA ÁVILA
	Tumor suppressor and senescence	MANUEL SERRANO
	Gene suppressor APC and the Wnt/beta-catenin pathway	ALBERTO MUÑOZ TEROL
	Mutations and DNA repair mechanism	LUIS BLANCO
	DNA repair genes. Mutator phenotype and epigenetics	MANUEL PERUCHO MARTÍNEZ
	The gene TP53: structure and biological activity. The TP53-MDM2-1RF pathway	IGNACIO PALMERO RODRÍGUEZ
	TP53: mutations and their effects	IGNACIO PALMERO RODRÍGUEZ
	Hypoxia and Cancer. Suppressor gene VHL	LUIS DEL PESO OVALLE
The Notch pathway in cancerogenesis	ISABEL FARIÑAS GÓMEZ	
<b>CELLULAR PROCESSES INVOLVED IN CARCINOGENESIS</b>	Molecular basis of metastasis	ALBERTO MUÑOZ TEROL
	Telomerase and cancer	MARÍA BLASCO
	Cell adhesion and cancer: E-cadherina. Epitelium-mesenchyme transition	MARÍA JESÚS LARRIBA MUÑOZ
	Cell migration: Integrins, c-MET	ALBERTO MUÑOZ TEROL
	Cancer immunology	VIKAS SUKHATME
	How the tumors evade the immune response?	MANUEL FRESNO ESCUDERO
	Inflammation and Cancer	MANUEL FRESNO ESCUDERO
	Apoptosis, necrosis, autophagy and cancer	JOAN GIL SANTANO
	Cannabinoids and cancer	MANUEL GUZMÁN PASTOR
	Chemokines and cancer	SANTOS MAÑES
	Angiogenesis and tumoral lymphangiogenesis	BENILDE JIMÉNEZ CUENCA
Mechanism of action of the antiangiogenic agents	BENILDE JIMÉNEZ CUENCA	
<b>MOLECULAR PATHOLOGY TECHNIQUES</b>	Molecular Pathology on Cancer Diagnostics	ANDREW BECK
	Introduction to special histopathology techniques	MARTA CAÑAMERO VAQUERO
	Introduction : Techniques based on DNA analysis	MERCEDES ROBLEDO BATANERO
	Sequencing cancer genomes	ORLANDO DOMÍNGUEZ LÓPEZ
	Introduction to massive sequencing techniques. Translational applications.	GONZALO GÓMEZ LÓPEZ
	Introduction. Techniques based on RNA analysis	MARGARITA SÁNCHEZ-BEATO
	The Silent Revolution: An introduction to microRNAs in cancer	FRANK SLACK
	MicroRNAs as molecular markers	NEREA MARTÍNEZ

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	Epigenetics	MANEL ESTELLER BADOSA
	Introduction to Proteomics	JAVIER MUÑOZ PERALTA
	Stratified Medicine (Biomarkers) or Personalized Medicine (Model-omics)?	NURIA MALATS RIERA
	Biobanks: old activity and young discipline	MANUEL MORENTE GALLEGRO
	Discovering genetic biomarkers for personalized cancer therapy	FATIMA AL-SHAHROUR NÚÑEZ
	Evaluation of the prognostic value of a marker. Survival Analysis. Modeling Disease Progression	Mª LUZ CALLE ROSINGANA
	Flow Cytometry	DOLORES MARTÍNEZ GARCÍA
<b>MOLECULAR PATHOLOGY IN THE CLINIC OF SOLID TUMOURS</b>	<b>Gynecological tumors</b>	
	Molecular stratification of breast cancer	CARLOS CALDAS
	Molecular Pathology of ovarian cancer	JOSE PALACIOS CALVO
	Molecular Pathology of endometrium cancer	XAVIER MATÍAS-GUIU GUÍA
	<b>Sarcomas</b>	
	Fusion genes in epithelial tumors and sarcomas: FISH, CGHarrays and Sequencing	JUAN CRUZ CIGUDOSA GARCÍA
	Sarcoma	ENRIQUE DE ALAVA CASADO
	<b>Lung cancer</b>	
	Molecular Diagnose of lung cancer	IGNACIO WISTUBA
	Molecular Pathology of Lung Cancer	MONSERRAT SANCHEZ-CESPEDES
	<b>Melanoma</b>	
	Molecular biology of melanoma	JOSE CARLOS GARCIA BORRON
	Melanoma, molecular diagnosis	JOSE LUIS RODRIGUEZ PERALTO
	Advances in the treatment of melanoma	JOSE ANTONIO LOPEZ MARTIN
	Dermatology in the context of new therapies for melanoma	PABLO ORTIZ
	<b>Colorectal cancer</b>	
	Colorectal Cancer: towards a molecular classification	GABRIEL CAPELLA MUNAR
	<b>Bladder cancer</b>	
	Bladder cancer: molecular pathology	FRANCISCO REAL ARRIBAS
	<b>Renal cancer</b>	
	Genomics of renal cancer: intratumoral heterogeneity and therapeutic implications	ANTONIO LOPEZ BELTRAN
	<b>Central nervous system</b>	
	CNS: Glial Tumors	AURELIO ARIZA FERNÁNDEZ
	Pediatric Gliomas: Genetic and Biology of the disease	TERESA RIBALTA FARRÉS
	<b>Endocrine tumors</b>	
	Molecular Pathology of Endocrine Tumors	MERCEDES ROBLEDO BATANERO
	<b>Mesotelioma</b>	
	Mesotelioma	FERNANDO LÓPEZ RÍOS
	<b>Pancreas cancer</b>	
	Short update in pancreatic cancer	MARIANO BARBACID MONTALBÁN
Pancreas cancer	FRANCISCO REAL ARRIBAS	
Advanced cancer: therapy selection based on mutations	JOSE PEDRO VAQUE DIEZ	
<b>MOLECULAR PATHOLOGY IN THE CLINIC OF HEMATOLOGICAL TUMORS</b>	Diffuse large B cell Lymphoma	SANTIAGO MONTES MORENO
	Clinical and Molecular facts in the Hodgkin lymphoma prognosis	CARLOS MONTALBAN
	Lymphoma Molecular diagnose	JUAN FERNANDO GARCÍA
	Chronic leukemia	FRANCESC BOSCH ALBAREDA
	Cytogenetic, molecular and epigenetic Biomarkers in myeloide leukemias	JUAN CRUZ CIGUDOSA GARCÍA
	Myeloma	NORMA GUTIÉRREZ GUTIÉRREZ
	Monoclonal Antibody production for use in research and lymphoproliferative diagnostic processes	GIOVANNA RONCADOR
	Acute Leukemia: example of a therapy lead by the diagnosis	MIGUEL ANGEL SANZ ALONSO
<b>METHODOLOGY IN CLINICAL RESEARCH IN ONCOLOGY</b>	Epidemiological method	JESÚS SAN ROMÁN MONTERO
	Scientific information and documentation	JUAN ANTONIO LÓPEZ
	Biostatistics applied to clinical trial design	PABLO FERNÁNDEZ
	Principles and foundations for research ethics	FRANCISCA TOMAR
	Informed consent	JESÚS SAN ROMÁN MONTERO
	Methodology and application in clinical research	JOSÉ JAVIER GARCÍA
	Clinical Trials in Oncology - Case Studies	ENRIQUE GRANDE PULIDO
	Use of biological material in clinical protocols. Creation of diagnostic kits	GABRIEL CAPELLÁ MUNAR

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	Histopathology and pharmacodynamics in treatment with molecular design agents	FEDERICO ROJO TODO
	Antibody engineering for therapeutic use	LUIS ÁNGEL FERNÁNDEZ HERRERO
	The contribution of molecular biology to clinical decision-making	EDUARDO DÍAZ RUBIO
<b>RISK FACTORS IN NEOPLASIAS</b>	Carcinogenic risk factors. Diet and Tobacco.	CARLOS GONZALEZ SVATETZ
	Alcohol and carcinogenesis. Molecular Mechanisms	ANA RAMÍREZ DE MOLINA
	Ionizing Radiation. Effect of Low Doses. Modifying factors.	JESUS ROMERO FERNÁNDEZ
	Virus and other infectious agents, and Cancer	SILVIA DE SANJOSE LLONGUERAS
	Human exposition to endocrine disruptors and cancer	NICOLAS OLEA SERRANO
	Mechanism of estrogen action	ANGEL NADAL NAVAJAS
	Carcinogens, genetic profiling	FRANCISCO REAL ARRIBAS
	Introduction to familial cancer. Entities with demonstrated mendelian inheritance	JAVIER BENITEZ ORTIZ
	Molecular Diagnosis. Diagnostic strategies.	MERCEDES ROBLEDO BATANERO
	Genetic counseling in familial cancer. Diagnostic problems	MIGUEL URIOSTE AZCORRA
	Challenges and opportunities in the integration of omics data in epidemiological studies	NURIA MALATS
<b>PHARMACOLOGY AND ANTI-TUMOUR AGENTS</b>	Introduction to drug discovery and development	FERNANDO PELAEZ PÉREZ
	Current state of lung cancer treatment: Conventional chemotherapies vs new targeted therapies	PILAR GARRIDO LÓPEZ
	Treatment with immunostimulatory antibodies	IGNACIO MELERO BERMEJO
	Genetic Therapy: antitumoral virotherapy in the clinic	JAVIER GARCIA CASTRO
	New concepts for the design of antitumoral inhibitors of the Ras-ERK pathway	PIERO CRESPO BARAJA
	Potential of the cell cycle regulators in the design of therapeutic drugs	MARCOS MALUMBRES MARTÍNEZ
	Molecular development and clinical implications of prostate cancer	DAVID OLMOS
	Pharmacogenetic and Pharmacogenomic in lung carcinoma model	MIQUEL TARON
	Histopathology and pharmacodynamic in the treatment with molecular design drugs	FEDERICO ROJO
	Engineering antibodies for therapeutic use	LUIS ÁNGEL FERNÁNDEZ
	TeraBiological therapies in the pre-op treatment breast cancer	JOSÉ MANUEL LÓPEZ VEGA
Role of the antiangiogenic therapy in tumoral progression and metastasis	ORIOL CASANOVAS CASANOVAS	
<b>NEW MOLECULAR THERAPIES</b>	Vitamin D and Cancer: Mechanism and Possibility of clinical use	ALBERTO MUÑOZ TEROL
	Selective metastatic CXCR4+ stem cell removal for the prevention of metastasis in human colorectal cancer	RAMON MANGUES BAFALLUY
	Embryonic reprogramming and Cancer	MANUEL SERRANO MARUGÁN
	Molecular biology behind the modulation of cellular radiosensibility	JESUS ROMERO FERNÁNDEZ
	Drugs blocking oncogenic stimulation	PERE GASCON VILAPLANA
	Apoptosis regulation in chronic lymphatic leukemia. New therapeutic targets.	JOAN GIL SANTANO
	Extracellular matrix, tumoral stroma and chaperones as drug targets	LUIS PAZ ARES RODRÍGUEZ
	New molecular therapies in pancreatic cancer	TERESA MACARULLA MERCADÉ
	Discover, validate and transfer to the clinic therapeutic targets in sarcomas	ENRIQUE DE ALAVA CASADO
	Energy protein metabolism: Rising targets in antitumoral therapy	JOSE MANUEL CUEZVA MARCOS
	Methodology and clinical research application	JOSÉ JAVIER GARCÍA
	Use of biological material in clinical protocols. Design of diagnostic tools.	GABRIEL CAPELLÁ