Core Facilities & Services

Genomics, Bioinformatics, Proteomics & Metabolomics

The Microarray Core Facility provides access to a full microarray service. This includes advice on experimental design and choice of technology platform, microarray manufacturing, labelling and hybridization, and image and data analysis. The facility supports Agilent and home-made microarray technologies. There is a Cluster of 6 PC's in the Genomics Facility with 1 GHz Pentium III dual processors, with a calculating capacity sufficient for all sequencing analyses and database services.
The Proteomics facility conducts 2D and 2D-DIGE electrophoresis analysis and spot quantification to detect differential expression between samples. The service also offers protein purification procedures through different chromatographic techniques, including FPLC.
The Metabolomics Core Resource at the IBMCP provides access to high-tech equipment necessary for chemical analysis of biological samples. The Service is available not only to IBMCP researchers, but also to external customers.

Genomics & Bioinformatics
Lorena Latorre *lolagar@ibmcp.upv.es*
Javier Forment *jforment@ibmcp.upv.es*

Proteomics
Susana Tárraga *sutarher@ibmcp.upv.es*

Metabolomics
Ana Espinosa *aespino@ibmcp.upv.es*

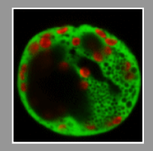
Greenhouses

The IBMCP has two Experimental Field Stations. The most recent one covers a surface area of 3,000 sq meters, and is one of the most technically advanced facilities in Spain to grow transgenic plants. It has a fully automated greenhouse surface of 1,500 sq meters in which all environmental parameters are controlled to ensure optimal conditions for plant growth. The remaining surface area is allocated to walk-in plant growth chambers, and other general uses.

Carlos Hernández *carherlo@ibmcp.upv.es*
Victoria Palau *mapafli@ibmcp.upv.es*

Microscopy

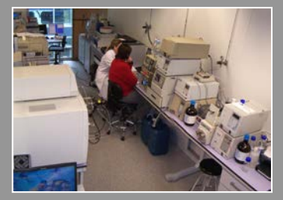
The Microscopy lab offers equipment and assistance to process plant tissue samples for analysis at multiple optical levels. Different microscopy techniques and sample processing protocols are available: fixing and embedding plant tissues in paraffin, mRNA *in situ* hybridization, specific staining of cellular components, confocal microscopy, bioluminescence assays, laser capture micro-dissection of cells, etc.



Mª Soledad Gascón *magasir@ibmcp.upv.es*

Plant hormones quantification

This service has a Q-Exactive Unit (Orbitrap) for the quantitative determination of plant hormones in small samples that reaches a sensitivity of 0,01ng/g (ABA, Jasmonic acid, Salicylic acid, cytokinins, gibberellins, etc.) and extend this service for the University community and to other public national and international Organizations.



Email: *hormonas@ibmcp.upv.es*

DNA Sequencing

The DNA Sequencing Service fulfilled the sequencing needs of not only the IBMCP, but also other research institutes, universities and hospitals in the Valencian Community. It also provides additional technical support to the Institute, including radioactive image analysis and quantitative PCR.

Eugenio Grau *egrau@ibmcp.upv.es*

Computing

The IBMCP Computer service maintains a file and printing server, a web and E-mail server, a database search station, and a server for accounting and administrative management. The service is acquainted with different operative systems, such as the full Windows range, MacOS, UNIX and LINUX.

Alexis González *falexis@ibmcp.upv.es*
Ramón Nogales *rnogales@ibmcp.upv.es*

Biological & Radiation Safety

Our Institute has been authorized as a Category-2 Radioactive Facility. This service is responsible for supervising the handling of multiple radioactive isotopes, disposing of radioactive waste and maintaining the Isotope Room where all tasks are carried out. Biological and Chemical safety is also supervised by this service.

Rafael Blay *rblay@ibmcp.upv.es*

Library

The Library offers free access to an important collection of Electronic Journals and Databases, Interlibrary Loan and other library services. As a University-CSIC Research Institute, our Library has free access to the full collection of the UPV & CSIC through their Networks.

Ramón Nogales *rnogales@ibmcp.upv.es*

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http://www.ibmcp.upv.es

Departments & Research lines

Plant Development & Hormone Action

Research in this area encompasses the characterization of genetic networks directing inflorescence, flower and fruit development in Arabidopsis, legumes and Solanaceae.
- Generation of genomic tools in legumes to study basic processes of reproductive development and to conduct comparative developmental and evolutionary studies.
- Biotechnological manipulation of flower and fruit morphogenesis in crop species.

Biology & biotechnology of reproductive development

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Luis A. Cañas *lcanas@ibmcp.upv.es*
Concha Gómez-Mena *cgomezm@ibmcp.upv.es*

Inflorescence architecture

Francisco Madueño *madueno@ibmcp.upv.es*

Molecular genetics of carpel & fruit development

Cristina Ferrándiz *cferrandiz@ibmcp.upv.es*

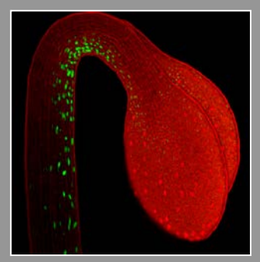
Given that hormones participate in the regulation of almost all processes in plant development, this research line is focused on the study and manipulation of hormone metabolism, and on the molecular genetic analysis of hormone signal transduction pathways, including the interaction with environmental signals

Hormonal regulation of fruit-set & development
Isabel López *ilopez@ibmcp.upv.es*

Abscisic acid signaling
Pedro L. Rodríguez *prodriguez@ibmcp.upv.es*

Hormonal regulation of crosstalk between defence & development
José León *jleon@ibmcp.upv.es*

Hormonal signaling of senescence & developnet of reproductive organs
Miguel A. Pérez-Amador *mpereza@ibmcp.upv.es*
María Dolores Gómez *mdgomez@ibmcp.upv.es*



Hormone signaling & plasticity
Miguel A. Blázquez *mblazquez@ibmcp.upv.es*
David Alabadí *dalabadi@bmcp.upv.es*

Induced resistance in Arabidopsis
Pablo Tornero *ptornero@ibmcp.upv.es*

Fine fitting of the hormonal responses
Alejandro Ferrando *aferrando@ibmcp.upv.es*

Regulation of cellular differentiation in plants
Maite Sanmartín *maite.sanmartin@ibmcp.upv.es*

Biotechnology & Plant Breeding of Cultivated Species

The main goal of this research line is the generation and application of different technologies for the genetic improvement of crop plants: establishment of *in vitro* culture and genetic transformation methodologies, development of Genomic and Metabolomic approaches to study agronomically important traits and their application to natural genetic variation, Molecular pharming and Metabolic engineering.

Fruit genomics & biotechnology
Antonio Granell *agranell@ibmcp.upv.es*
Diego Orzáez *dorzaez@ibmcp.upv.es*

Plant cell culture & genetic improvement
Vicente Moreno *vmoreno@ibmcp.upv.es*
Alejandro Atares *aatares@ibmcp.upv.es*

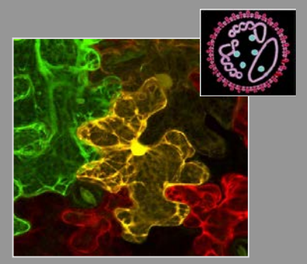
Molecular markers
Antonio Monforte *amonforte@ibmcp.upv.es*
Carlos Romero *romerocarsal@gmail.com*

Adaptative mechanisms in plants. Biotechnology of bioenergetic crops
Pablo Vera *vera@ibmcp.upv.es*

Biotechnology of citrics
Leandro Peña *lpenya@ibmcp.upv.es*

Molecular & Evolutionary Plant Virology

This research area is focused on the molecular biology of plant viruses and viroids, including the mechanisms underlying their replication, expression, movement, pathogenesis, and genome evolution:
- Molecular dissection of host-virus/viroid interactions
- Robust strategies for disease control that incorporate the dynamic nature of viral and viroidal populations
- Molecular methods for quick and reliable diagnosis of viruses and viroids affecting economically-relevant crops
- Transfer of results with added value to the biotechnology industry



Viroids: structure, function & evolution
Ricardo Flores *rflores@ibmcp.upv.es*

Plant molecular virology
Vicente Pallás *vpallas@ibmcp.upv.es*
Jesús A. Sánchez *jesanche@ibmcp.upv.es*
Frederic Aparicio *faparici@ibmcp.upv.es*

Molecular biology of viral & subviral plant pathogens
Carmen Hernández *cahernan@ibmcp.upv.es*

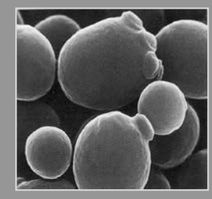
RNA-protein interactions in the infectious cycle of plant RNA pathogens
José Antonio Darós *jdaros@ibmcp.upv.es*

Functional genomics & biotechnology of non-coding RNAs
Marcos de la Peña *rivero@ibmcp.upv.es*

Mechanisms of Stress Responses in Plants

Abiotic stress

The main interest of this research line is to define the molecular mechanisms of the response and tolerance to abiotic stress generated by salt, drought, temperature (cold and high), acid and chemicals in plants. This knowledge should provide biotechnological tools for improving stress tolerance in agronomically-relevant crops. In addition, these approaches will unravel basic cellular mechanisms involved in the 'acute response' and adaptation to stress conditions.



Ion homeostasis, cellular stress & genomics

Ramón Serrano *rserrano@ibmcp.upv.es*
José Gadea *jgadeav@ibmcp.upv.es*
Regina Niñoles *renioro@upvnet.upv.es*

Regulation of plasma membrane transport proteins

Lynne Yenush *lynne@ibmcp.upv.es*

Abiotic stress tolerance in plants

Oscar Vicente *ovicente@ibmcp.upv.es*

Molecular regulatory circuits in response to abiotic stress

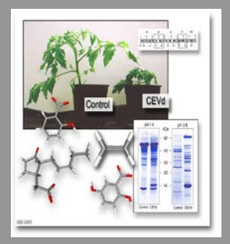
Amparo Pascual-Ahuir *apascual@ibmcp.upv.es*

Cell growth & molecular targets of abiotic stress

J. Miguel Mulet *jmmulet@ibmcp.upv.es*

Biotic stress

La línea de estrés biótico se centra en el estudio de los mecanismos que controlan la resistencia de las plantas a los patógenos e insectos utilizando aproximaciones bioquímicas y moleculares. El objetivo es determinar el papel señalizador de ciertos metabolitos y proteínas, diseccionando el sistema de defensa de la planta.



Signaling & response of plants to biotic stress

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José María Bellés *jmbelles@btc.upv.es*
Mª Purificación Lisón *plison@ibmcp.upv.es*
Mª Pilar López Gresa *mplopez@ceqa.upv.es*