



Universitat d'Alacant  
Universidad de Alicante

# University Research Institutes



GENERALITAT  
VALENCIANA

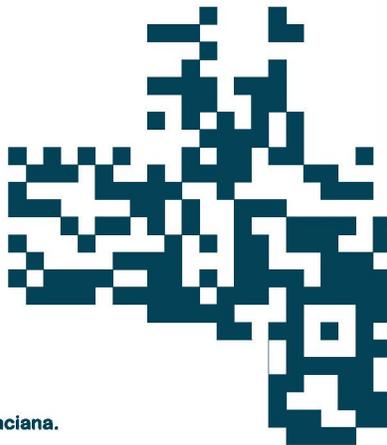
CONSELLERIA D'EDUCACIÓ,  
FORMACIÓ I OCUPACIÓ

Our university research institutes are essentially devoted to highly specialised scientific or technical research. In conjunction with basic and applied research, these centres promote and facilitate transfer of research results to the production sector in cooperation and in synergy with other agents within the Science and Technology System.

The University of Alicante currently boasts a total of 10 university research institutes and 5 interuniversity institutes, which have been created in collaboration with other universities in the Region of Valencia in order to harness shared scientific and technological interests across various fields.

This guide has been created to inform users about the basic elements that distinguish each of the research centres of excellence that the University of Alicante has made available to the Alicante Science Park. The result of this collaboration will ensure that any companies or institutions seeking to start up new collaborative projects, create mixed laboratories or roll out new initiatives requiring rigorous and pioneering scientific or technological research may do so wholly confident of success.

Each university research institute has its own **QR code** (quick response barcode), which provides users of smartphones and PC tablets with immediate access to the institute's individual website.





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# CHEMICAL PROCESSES ENGINEERING

The main objective of the Institute for Chemical Processes Engineering (IIPQ) is to provide solutions to questions that might arise in today's society related with chemical processes and also to contribute to the fair management of the impact of human activities. Consequently, one of the Institute's major aims is to cooperate with different public institutions and industries to improve or implement processes. The IIPQ's scientific and technological scope is wide-ranging, and its areas of applied research vary from the analysis of pollutant elements and processes for environmental management, including the development of new materials, to process optimization in diverse industrial sectors to enhance their competitiveness.

## FIELDS OF APPLICATION

- Agribusiness and fishing
- Biodiversity and landscape
- Biotechnology
- Chemical technology
- Chemistry
- Economic studies
- Energy
- Engineering, robotics and automatics
- Footwear
- Materials
- Pharmaceuticals, cosmetics and ophthalmology
- Pollution and environmental impact
- Territory organisation
- Textiles
- Toys and games
- Transport and automotive engineering
- Water resources
- Wood and furniture

## ASSOCIATED RESEARCH GROUPS

- Mass transfer and water quality control studies (ETMyCCA)
- Phase equilibrium calculation
- Phase equilibrium
- Polymer processing and pyrolysis
- Wastes, pyrolysis and combustion
- Water resources and sustainable development

<http://iipq.ua.es/>



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# COMPUTING RESEARCH

The University Institute for Computing Research boasts an excellent and enthusiastic team of over 100 researchers with first-rate experience in the various areas of computing knowledge. Its main objective is to further basic and applied research in the field of Computing and to promote technological development in close partnership with society and the business world. Driven by a philosophy of innovation and quality, its research lines run from design and industrial production through to service technologies for the information society and electronics, communications and computer technologies.

## FIELDS OF APPLICATION

- Agribusiness and fishing
- Art studies
- Computing, language and communication
- Construction and architecture
- Education
- Engineering, robotics and automatics
- Footwear
- Geological and geophysical studies
- Mathematics
- Medicine and healthcare
- Philological studies
- Pollution and environmental impact
- Stone and marble
- Textiles
- Toys and games
- Transport and automotive engineering
- Wood and furniture

## ASSOCIATED RESEARCH GROUPS

- Advanced computing technology – legal security
- Automatics, robotics and artificial vision
- Bio-inspired engineering and computing for healthcare
- Cryptology and computer security
- GroupM: networks and middleware
- High-performance and parallel computing (gCAPyP)
- Industrial computing and artificial intelligence
- Industrial computing and computer networks
- Language processing and information systems (GPLSI)
- Lucentia research group
- Mobile vision research laboratory (MVRLab)
- Pattern recognition and artificial intelligence
- Robotics and three-dimensional vision (RoViT)
- Signals, systems and telecommunication
- Transducens research group
- UniCAD: CAD/CAM/CAE research group of the University of Alicante
- Web engineering, applications and development (IWAD)





# ELECTROCHEMISTRY

The University Institute for Electrochemistry is a research centre aimed at theoretical and practical specialisation in Electrochemistry – both basic and applied – and at training specialist researchers in this field. Its intensive research activity ranges from studies into the basic aspects of Surface Electrochemistry through to the development of Industrial Electrochemistry projects. It is precisely these kinds of projects that encourage collaboration and provide a decisive boost to companies both at home and abroad. Also notable for their applied value are the contributions being made in the field of Electrochemistry with regard to electrocatalysis, modelling, semiconductors and new technological developments.

## FIELDS OF APPLICATION

- Biology
- Chemical technology
- Chemistry
- Energy
- Engineering, robotics and automatics
- Materials
- Medicine and healthcare
- Molecular biology and biotechnology
- Pharmaceuticals, cosmetics and ophthalmology
- Pollution and environmental impact
- Textiles
- Toys and games
- Transport and automotive engineering
- Water resources

## ASSOCIATED RESEARCH GROUPS

- Applied electrochemistry and electrocatalysis (LEQA)
- New technological development in electrochemistry: sonoelectrochemistry and bioelectrochemistry (NDTESB)
- Semiconductor photochemistry and electrochemistry group (GFES)
- Spectroelectrochemistry and modelling group (GEM)
- Surface electrochemistry (GES)

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# THE IBERO-AMERICAN CENTRE FOR BIODIVERSITY (CIBIO)

The Ibero-American Centre for Biodiversity (CIBIO) is the university institute dedicated to scientific and technological research into the conservation, analysis and management of biological diversity. Its intensive research activities range from studies into animal and plant diversity and the creation of databases and inventories of flora and fauna through to applied analysis in the fields of biogeography, biodiversity and ecology. It comprises an Associate Unit of Spain's CSIC scientific research council for studying insect-pathogen-plant interactions and biological control agents, and it runs the Torretes-Font Roja biological station in Ibi, whose activities include expanding its collections of ethno-botanical and agricultural interest, particularly those containing medicinal and aromatic plants from the Mediterranean region.

## FIELDS OF APPLICATION

- Agribusiness and fishing
- Biodiversity and landscape
- Biology
- Medicine and healthcare
- Molecular biology and biotechnology
- Pharmaceuticals, cosmetics and ophthalmology
- Pollution and environmental impact
- Territory organisation

## ASSOCIATED RESEARCH GROUPS

- Biodiversity and biotechnology applied to the biology of conservation
- Bionomics, systemics and applied research into diptera and hymenoptera
- Botany and plant conservation
- Environment, society and landscape (MedSPai)
- Vertebrate zoology



The Materials Institute of the University of Alicante, due to its multidisciplinary and multi-departmental composition, has the capacity for research in all the fields of Materials Science and Technology from fundamental to applied research. The Institute collaborates with the industrial sector with the aim of searching for applied solutions, ranging from the development of raw and new materials, to the processing and manufacture of finished products. It includes the development of useful materials for applications in the energy sector and control of pollution (adsorbents, catalysts, polymers, etc.). It also has an Associated Unit with the Spanish National Research Council (CSIC) related to the Theory of Condensed Matter. For the development of applied industrial research projects, it has access to the University of Alicante's pilot plants.

**FIELDS OF APPLICATION**

- Chemical technology
- Chemistry
- Construction and architecture
- Energy
- Footwear
- Materials
- Medicine and healthcare
- Pharmaceuticals, cosmetics and ophthalmology
- Physics
- Pollution and environmental impact
- Stone and marble
- Textiles
- Toys and games
- Transport and automotive engineering
- Water resources

**ASSOCIATED RESEARCH GROUPS**

- Advanced materials
- Carbon materials and the environment
- Condensed matter physics
- Charged particle interaction with matter
- Electrocatalysis and electrochemistry of polymers
- Quantum chemistry
- Mass atomic spectroscopy and analytical chemistry in extreme conditions
- Nanophysics group

<http://iuma.ua.es/>



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# ORGANIC SYNTHESIS

The overarching aim of the Institute for Organic Synthesis (ISO) is to promote excellence in research, largely seeking to apply the results of basic research to technological development and to the interests of the huge variety of productive sectors which rely upon organic synthesis. It collaborates with public and private entities on different projects relating to organic synthesis – projects aimed at discovering new methods, analysing catalytic processes, studying the derivatives of amino acids and peptides, and researching heterocyclic compounds. The fields of application for the results and the methodologies developed are those linked to fine chemistry and pharmaceutical chemistry. The ISO also boasts four honorary researchers, including two winners of the Nobel Prize for Chemistry.

## FIELDS OF APPLICATION

- Agribusiness and fishing
- Biology
- Chemical technology
- Chemistry
- Materials
- Medicine and healthcare
- Pharmaceuticals, cosmetics and ophthalmology
- Pollution and environmental impact

## ASSOCIATED RESEARCH GROUPS

- Catalytic processes in organic synthesis
- Derivatives of amino acids and peptides in organic synthesis
- Heterocycles
- New methodologies in organic synthesis





# PHYSICS APPLIED TO SCIENCES AND TECHNOLOGIES

The main aim of the University Institute of Physics Applied to Sciences and Technologies (IUFACyT) is to promote basic and applied research in various fields related with Physics such as Optics, Acoustics, Astrophysics and Geophysics. Given the fundamental nature of Physics as one of the pillars of science, together with the multidisciplinary and multi-departmental research staff working at the Institute, it can develop initiatives to enable scientific and technological advances in other experimental or health-related sciences. IUFACyT's work also involves practical applications of Physics in the fields of engineering, architecture, industry and education, making collaboration with IUFACyT a highly attractive option for the most dynamic and innovative business sectors as regards setting up projects to help increase competitiveness.

## FIELDS OF APPLICATION

- Computing, language and communication
- Construction and architecture
- Contamination and environmental impact
- Chemical technology
- Education
- Engineering, robotics and automatics
- Footwear
- Geological and geophysical studies
- Materials
- Mathematics
- Medicine and healthcare
- Pharmaceuticals, cosmetics and ophthalmology
- Physics
- Stone and marble
- Territory organisation
- Textiles
- Toys and games
- Wood and furniture

## ASSOCIATED RESEARCH GROUPS

- Applied acoustics
- Astronomy and astrophysics
- Holography and optical processing
- Optics and visual perception
- Optics and visual science
- Systems engineering and data transfer control
- Seismology, seismic hazard and signal processing in natural phenomena
- The teaching of science and technology
- Vision and colour

<http://iufacyt.ua.es/es/>



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## “RAMÓN MARGALEF” MULTIDISCIPLINARY INSTITUTE FOR ENVIRONMENTAL RESEARCH

The intensive research carried out at “Ramón Margalef” Multidisciplinary Institute for Environmental Research focuses on two main lines: deepening knowledge of living systems and their interaction with the environment and developing new methods and techniques for studying the environment and environmental problems, particularly those concerning desertification and the overexploitation of resources (including land), both on land and at sea. Its multidisciplinary nature has enabled the Institute to boost synergies between the various academic disciplines, promoting cooperation with public and private bodies by conducting studies into the management of protected spaces and the conservation of species, the organisation of territory, the restoration of degraded spaces and by assessing the environmental impact of certain human activities.

### FIELDS OF APPLICATION

- Agribusiness and fishing
- Biodiversity and landscape
- Biology
- Construction and architecture
- Chemical technology
- Education
- Geological and geophysical studies
- Marine studies
- Medicine and healthcare
- Molecular biology and biotechnology
- Pharmaceuticals, cosmetics and ophthalmology
- Pollution and environmental impact
- Stone and marble
- Tourism studies
- Territory organisation
- Water resources

### ASSOCIATED RESEARCH GROUPS

- Applied geology and hydrogeology
- Extremophile proteins
- Geodynamic evolution of the eastern Betic Cordillera and the Alicante marine platform
- Human and mammalian genetics (GHM)
- Human impact and the restoration of biodiversity: ecology of landscape
- Management of ecosystems and biodiversity (GEB)
- Marine biology
- Molecular microbiology
- Molecular microbial biology
- Neurobiology of the visual system and neurodegenerative disease therapy (NEUROVIS)
- Palaeo-environmental changes
- Phytopathology
- Plant proteomics and functional genomics
- Seismology-seismic hazard and signal processing in natural phenomena

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# TOURISM RESEARCH

The University Institute for Tourism Research is made up of a multidisciplinary team of researchers from a range of scientific disciplines and areas of knowledge. These experts are devoted to furthering basic and applied research in areas related to tourism activity. Over the years and in its experience as a scientific tourism research centre, this Institute has carried out national and international research projects and contracts which have facilitated cooperation and knowledge transfer between public authorities, businesses and researchers. The Institute acts as a new framework for collaboration between university research centres and the tourism sector, bridging the gap between the tourism research carried out at the University of Alicante and the needs of the public and private agents involved in this strategic activity.

## FIELDS OF APPLICATION

- Biodiversity and landscape
- Economic studies
- Legal studies
- Pollution and environmental impact
- Social studies
- Territory organisation
- Tourism studies
- Transport
- Water resources

## ASSOCIATED RESEARCH GROUPS

- Information systems and human resources in organisations (SIRHO)
- Planning and sustainable management in tourism
- Spanish landscapes and natural resources
- Territory and mobility. Labour and housing markets

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# WATER AND ENVIRONMENTAL SCIENCES

The mission of the University Institute of Water and Environmental Sciences is to improve knowledge and management of water resources and to analyse all aspects relating to the conservation and improvement of the environment. The Institute is run by teaching and research staff from the University of Alicante, who collaborate with experts from other public and private universities and institutions working on issues regarding the water management cycle or environmental sustainability. Its composition is notably multidisciplinary in nature, comprised of members from various fields of knowledge covering all the scientific, technical, economic and administrative sectors involved in the subject of water and the environment.

## FIELDS OF APPLICATION

- Agribusiness and fishing
- Biodiversity and landscape
- Biology
- Construction and architecture
- Chemical technology
- Economic studies
- Engineering, robotics and automatics
- Footwear
- Geological and geophysical studies
- Legal studies
- Marine studies
- Materials
- Molecular biology and biotechnology
- Pollution and environmental impact
- Social studies
- Stone and marble
- Territory organisation
- Textiles
- Tourism studies
- Toys and games
- Transport and automotive industry
- Water resources
- Wood and furniture

## ASSOCIATED RESEARCH GROUPS

- Applied plant physiology
- Building materials and construction systems
- Business taxation, land taxation and tax fraud (FISCALET)
- Design in engineering and technological development (DIDET)
- Geodynamic evolution of the eastern Betic Cordillera and the Alicante marine platform
- Human impact and the restoration of biodiversity: landscape ecology
- Hydraulic and environmental engineering (IngHA)
- Land engineering and structures (InTerEs)
- Marine biology
- Phase equilibrium
- Wastes, pyrolysis and combustion
- Water resources and sustainable development





UA Site

# APPLIED MODERN LANGUAGES

The Interuniversity Institute for Applied Modern Languages (IULMA) brings together the efforts of a broad group of specialists in various languages, all with an interest in the application of linguistics within professional and academic circles. Its main lines of research run from the creation of terminological databases applied to different industrial sectors through to intercultural communication and the specific language of business. The multidisciplinary nature of its make-up promotes the application of languages in fields as diverse as economics, jurisprudence, health sciences and information and communication technologies, to name but a few. The IULMA has sites at the University of Alicante, Jaume I University and the University of Valencia-*Estudi General*.

## FIELDS OF APPLICATION

- Art studies
- Biology
- Computing, language and communication
- Chemical technology
- Economic studies
- Education
- Footwear
- Historical studies
- Legal studies
- Materials
- Medicine and healthcare
- Molecular biology and biotechnology
- Pharmaceuticals, cosmetics and ophthalmology
- Philological studies
- Philosophical studies
- Pollution and environmental impact
- Stone and marble
- Tourism studies
- Toys and games

## ASSOCIATED RESEARCH GROUPS

- Critical analysis of multimodal discourse (ACDM)
- Immunology group
- Lexicology of languages for specific purposes and the teaching of the lexicon (LEXESP)
- Professional and academic English (IPA)
- EPA-IULMA
- Theory of law
- Translation: bibliographic sources, analysis and intercultural mediation
- University of Alicante group for the learning and acquisition of second and foreign languages (ACQUA)
- University of Alicante pragmatics and irony in Spanish study group (GRIALE)
- TRADSUAL (University of Alicante translation for dubbing and subtitling/overtitling group)

<http://www.iulma.es/>



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The Interuniversity Institute of Geography (IIG) runs several lines of research, most notably those lines aimed at analysing and explaining relationships between humans and environment, the effects of human intervention on the land and the territorial organisation required to reconcile the various uses that mankind makes of land. Of special note is the IIG's research into climate and water, heavy precipitation and drought, and its studies of plant populations, cartography and geographical information systems – work which has fostered an intense and fruitful collaboration with the various public authorities and with other public and private institutions and bodies. The IIG has sites at the University of Alicante and Jaume I University.

**FIELDS OF APPLICATION**

- Biodiversity and landscape
- Climate
- Economic studies
- Education
- Geographical information systems
- Historical studies
- Inland waters
- Pollution and environmental impact
- Social studies
- Territory organisation
- Water resources

**ASSOCIATED RESEARCH GROUPS**

- Climate and territory organisation
- Environment, society and landscape (MedSPai)
- Spanish landscapes and natural resources
- Water and territory





UA Site

# INTERNATIONAL ECONOMICS

The main objective of the Institute of International Economics (IEI) is to provide an open platform for research into issues concerning economics and its internationalisation (competitiveness, construction and property markets, water and natural resources, tourism, population, transport and logistics, employment, public finances and taxation, new technology, and so forth) from historical, current and future perspectives. The Institute's clear vocation for public service has led it to develop projects linked to public and private initiatives, to which it brings the analytical and methodological perspective expected of a university research centre. The IEI has sites at the University of Alicante, Jaume I University and the University of Valencia-*Estudi General*.

## FIELDS OF APPLICATION

- Economic studies
- Footwear
- Historical studies
- Social studies
- Stone and marble
- Territory organisation
- Tourism studies
- Transport and automotive industry

## ASSOCIATED RESEARCH GROUPS

- Business internationalisation and foreign trade
- Business taxation, land taxation and tax fraud (FISCALET)
- Planning and sustainable management in tourism
- Territory and mobility. Labour and housing markets
- The economics of tourism, natural resources and new technologies
- The Spanish economy and Francoism

<http://iei.ua.es/>



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UA Site

## SOCIAL DEVELOPMENT AND PEACE

The Interuniversity Institute for Social Development and Peace (IUDESP) was founded to conduct multidisciplinary research into issues concerning peace and development in the broadest sense of the words. Its main lines of research focus on the phenomena of direct violence (the origin and prevention of inter- and intra-state conflicts, gender violence), structural violence (inequality, poverty and social justice) and cultural violence (culture and education for peace, multiculturalism, and violence and the media), all including a gender perspective. The IUDESP has sites at the University of Alicante and Jaume I University.

### FIELDS OF APPLICATION

- Biodiversity and landscape
- Economic studies
- Education
- Legal studies
- Social studies
- Tourism studies

### ASSOCIATED RESEARCH GROUPS

- European observatory for social trends (OBETS)
- Quantitative methods for economics
- Peace and development study group (GEPYD)

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The specific aim of the Interuniversity Institute of Valencian Studies (IIFV) is the study of Valencian language and literature within the general framework of Catalanian language and literature. It is also responsible for providing linguistic and cultural advice in all areas relating to the Valencian context. The IIFV collaborates with the local and regional government and with other public and private entities on the publication of reports and rulings regarding linguistic matters, advising on research work, grammatical issues and lexicography. It has sites at the three Valencian universities with higher studies in philology: the University of Alicante, University of Valencia-*Estudi General* and Jaume I University.

**FIELDS OF APPLICATION**

- Art studies
- Computing, language and communication
- Education
- Philological studies
- Sociolinguistic studies
- Translation

**ASSOCIATED RESEARCH GROUPS**

- DIAVAL. Projecte diagnòstic del valencià
- Els escriptors i la impremta en el pas del segle XV al XVI
- Estudis Transversals: literatura i altres arts en les cultures mediterrànies
- Literatura catalana medieval (LICATMED)
- Recerca de la literatura contemporània
- Sociolingüística: planificació lingüística i educació
- Tradicions teatrals i dramàurgies contemporànies
- Traducció de clàssics valencians a llengües europees. Estudis literaris, lingüístics i traductològics comparats

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