

FA+UD

FACULDADE DE ARQUITETURA

+ URBANISMO E DESIGN

ULISBOA



CIAUD RESEARCH CENTRE FOR ARCHITECTURE URBANISM AND DESIGN **FA+UD**

RESEARCH CENTRE FOR ARCHITECTURE, URBANISM AND DESIGN CIAUD

FCT* CLASSIFICATION

Excelent

PRESIDENT

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CIAUD

The Research Centre for Architecture, Urbanism and Design (CIAUD) at the Faculty of Architecture, University of Lisbon (FA/ULisboa) was founded in 2006 and awarded the classification Excellent by the FCT in 2007. The Centre, whose work covers a range of themes, is composed of a tightly-knit, multidisciplinary team of 339 researchers (113 full-time staff and 226 collaborators) and the Advisory Board. The research team consists of members of the teaching staff and PhD students on FA/ULisboa courses and graduates from other schools. The Advisory Board is composed of researchers from outside the CIAUD and FA.

The main mission of the CIAUD is to promote the advancement of scientific, technological and artistic knowledge in the fields of architecture, urbanism, design and ergonomics, interacting with other disciplinary areas.

The executive side of the CIAUD centres on the Commission, which consists of the President and the coordinators of its four core departments.

The CIAUD also includes the FA/ULisboa Publications Centre and it works in close collaboration with the Consultancy Services Centre (CPS), Technology Transfer Office (GETCPI) and FA Incubator.

* Foundation for Science and Technology



Colour and Inclusivity

a Visual Communication
Design Project with Older People

Fernando Moreira da Silva

OBJECTIVES

The main objective of the CIAUD is to create a critical body of work and foster interaction between the various scientific areas of the FA/ULisboa, providing a framework for cutting-edge teaching whilst also contributing towards economic and social development.

With these aims in mind, it is the Centre's task to help researchers identify sources of funding, produce research proposals and manage fundamental and applied research projects in emerging areas.

It also promotes the establishment of partnerships between public and private national and foreign entities such as companies, research centres, laboratories, foundations, state institutions, local authorities and non-governmental organisations, involving research work, training and the dissemination of knowledge in the form of conferences, seminars and exhibitions, amongst other activities.

The CIAUD maintains close links with the FA Master's and PhD courses and post-doctoral studies, providing support for students who are developing research projects. It also provides stimulus for the work of these young researchers by deepening and extending their research fields, both through collective projects and by supervising individual research.

CORE DEPARTMENTS

CIAUD

ARCHITECTURE

COORDINATOR
Dr. Miguel Baptista-Bastos

The Architecture department is composed of 62 full-time researchers and 63 collaborators and is divided into six lines of research:

i) The Architecture of City and Place

– the architecture of the city corresponds to the themes of urban design, public spaces, building typology, plans and, in particular, urban structures and forms, or what Aldo Rossi termed “the discourse of urban facts”, and includes Philippe Panerai’s ‘urban project’, covering the various areas of urbanism. The architecture of place covers two themes: ‘sense of place’, from a semiotic perspective, taking “genius loci” and Norberg-Schulz’s “art of place” of as references, and the ‘garden’ as a form of cultural expression.

ii) Architecture

– the term “architecture” in this context refers to the actual construction of buildings, ranging from ideas and design origins to functional systems, spatial organisation, composition, language and tectonics. Naturally, the design field also includes the poetics of space, the interplay of light and shade and the sense of order. There is a special emphasis in this area on housing and research into new paradigms for housing.

iii) Technologies and Building Systems

– corresponding to all the themes inherent to the construction of buildings. In particular, the research focuses on non-conventional technologies which respond to new 21st century paradigms, specifically by exploring new materials that will promote research into new construction

systems. The research addresses two aspects in particular: rehabilitation in consolidated urban environments and the growth of housing in emerging countries. The former is related to urban rehabilitation, requalification and conservation, and the latter to the problem of building new low-cost housing.

iv) Ephemeral Architecture and Scenography

– the 21st century has been defined by a proliferation of events that require an architectural response. Their specific nature has opened up opportunities for studies, some already established, which represent a self-contained and very unusual field of research within the area of ephemeral constructions, which includes architecture. Scenography provides a broader field of research which, having begun in the theatre, has now been extended to television and cinema, amongst other areas, and therefore justifies the separate degree course offered by the FA.

v) Conservation, Rehabilitation and Heritage

– corresponding to two different approaches. Conservation focuses on research into methods and techniques, whereas rehabilitation is more generic and normative in nature. Conservation cannot be separated from construction techniques and thus intersects with the field of technology.

vi) Representation and Design

– covers a wide range of subjects related to design practices which, due to their specific nature, are not included in other research areas.

ARCHITECTURE DEPARTMENT

Coordinator: Dr. Miguel Baptista-Bastos

URBANISM DEPARTMENT

Coordinator: Dr. João Pedro Costa

DESIGN DEPARTMENT

Coordinator: Dr. Rita Almendra

ERGONOMICS DEPARTMENT

Coordinator: Dr. Francisco Rebelo

Visualisation and representation are practices which have their own particular characteristics and are associated with both logical-deductive thought processes and the deployment of more inductive and sensitive areas – according to what is being represented or visualised – which establish a type of visual, non-verbal communication unique to design thinking and ideas. This line of research therefore concentrates on matters associated with visualisation and representation in design, understood in its broader sense, ranging from drawing to computation and including all the geometric thought processes involved in the study of the cognitive and artistic processes which trigger such communicative phenomena. It also includes the theorisation and historiography of everything that may be considered representation and design in these areas of knowledge.

The work is structured within studies that address questions such as the architectural environment, heritage, technology, sustainability and design, focussing on different levels of complexity. Architectural and urban heritage is relevant here in relation to heritage of Portuguese origins, particularly in Africa and Brazil, whilst environmental concerns are essentially associated with bioclimatic architecture, a theme which the FA has pioneered.

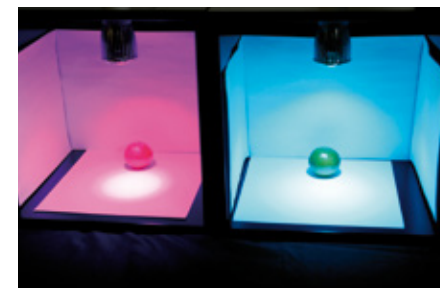
ADVISORY BOARD

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Research Group SUSTENTA



MED-CROMA - Colour Lab



URBANISM

Coordinator
Dr. João Pedro Costa

The Urbanism department is composed of 22 full-time researchers and 50 collaborators. Its work is organised into four main lines of research:

i) Urban Design and Morphology

– focussing on the investigation and study of urban forms, interpreting cities, their public and private spaces and dynamics and the conditions and rules for planning and development.

ii) Regional, Metropolitan and Landscape Development

– including projects and areas of interest relating to large areas and scales, namely regions, metropolitan areas, urban systems and ecosystem, their interpretation and planning.

iii) Urban Environmental Quality and Sustainable Development

– concerning projects which assess the sustainability of territories and the built environment, as well as the planning and management of various areas, including aspects such as mobility, comfort, housing and urban regeneration and rehabilitation.

iv) Planning, Governance and Territorial Cohesion

– focussing on the study and assessment of processes and policies, in particular participatory and collaborative processes and state policies, in different urban and territorial planning and strategic interventions designed to promote social development and spatial justice.

These lines of research include and represent the interests of researchers but also reflect the transdisciplinary nature of the department, as expressed in the different territorial scales and frameworks for work and research into urbanism.

ADVISORY BOARD

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Universitat Politècnica de Catalunya, Spain
Yves Cabannes
Faculty of the Built Environment, United Kingdom

FORMA URBIS Lab



GID - Research Group in Design

DESIGN

Coordinator
Dr. Rita Almendra

The Design department is composed of 21 full-time researchers and 110 collaborators. Research work in design is structured around three main lines of inquiry:

i) Product Design

– addressing different levels. The first level is associated with the design of instruments and tools for interpreting and understanding changes in the forms and standards required for planning various products. There is a strong focus on new materials and cutting-edge technologies for developing new or different products. The second level is directed towards action and design, with the aim of developing methodologies and techniques for creating models that can be developed and forms that can be tested and applied in different environments.

ii) Communication Design

– related to promoting quality and sustainability in the field of communication. Within this framework, the research interests focus on various aspects, such as design concepts for applied research, and the relationship between graphic design, web design and multimedia.

iii) Fashion Design

– aimed at developing conceptual tools and an understanding of the work involved in developing conceptual clothing, environmental assessment and sustainable development in the textile industry and fashion design.

The research areas are developed in different project contexts in relation to conceptualisation, technologies and product development.

There is an emphasis on the social component, in a humanist sense, already evident in many of the Centre's research projects, as a strategic and competitive element in terms of its capacity to intervene in society and its implications for the economic and social fabric. Communication processes underline and explain the relevance and importance of the research undertaken.

Strategies are promoted which encourage dialogue with production and distribution entities (industries and publishers), as well as potential users. Oneway of achieving this objective is the systematic production of prototypes of applications from previously developed and ongoing research, which are essential to securing support, obtaining relevant feedback on the needs and expectations of all involved, and validating the results.

Knowledge and reference bases are extended and deepened with greater methodological rigour. The projects, in general, are critically inserted within an international context, the complexities of the contemporary world and the relationships established between the tangible and the intangible universe.

The challenges and potential posed by new means of communication and production are confronted, evaluated and prospectively incorporated into research.

The design department fosters design innovation and the definition of new approaches to the discipline by exploring and using methodologies that are not restricted to conventional scientific research protocols.

It is intended that the lines of research cover and correspond to those established by national, European and international organisations and emerging global lines of academic and professional research.

ADVISORY BOARD

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School of Architecture and Design in London, United Kingdom

Sandy Black

University of the Arts London, United Kingdom

Sebastián García Garrido

Universidad de Málaga, Spain

ERGONOMICS

Coordinator

Dr. Francisco Rebelo

The recently created Ergonomics department is composed of 8 full-time researchers and 3 collaborators. Its work is developed along three main lines:

i) Optimisation of Human Interaction

– with the aim of developing and applying the principles of ergonomics based on a design perspective which centres on the user and the optimisation of consumer products and work environments. In this context, research related to the development and validation of interfaces for physical or information systems has been undertaken, involving the definition of functional requirements for products or work systems.

ii) Occupational Health and Safety

– focussing on the analysis of interactions between human beings and the physical environment and the optimisation of professional tools and working conditions, with a dual objective: a) to reduce the likelihood of accidents at work and the occurrence and development of occupational diseases; b) to reduce the gravity of the consequences resulting from both accidents and diseases. Risk assessment methods have also been studied, in order to identify strong and weak points, according to the nature of the risk under consideration.



ERGOLAB – Ergonomics Lab

iii) Analysis of Work Capacity and its Determinants

– focussing on determining the factors which influence change in this area. The study of work capacity and age in the workplace is one indicator of the various problems related to the determinants of labour and their impact on health and wellbeing. In this line of research, work capacity is seen as the balance between the demands of work and the resources of individuals. The identification of the main factors which influence changes in work capacity in older employees enables measures to be defined which aim to promote work capacity and maintain workers in organisations in a healthier way for longer.

The work is carried out by a multidisciplinary team (ergonomics, engineering, psychology, physiotherapy, architecture and design). The group has developed various projects with the aid of external funding. It collaborates with private companies (for example, Nokia-Siemens, Embraer, OGMA, VW Autoeuropa, ACECIA – Indústria de Componentes Automotivos Integrado, Bombardier and Amorim) and state organisations (for example, Portuguese hospitals and the Portuguese government, through the Portuguese Authority for Working Conditions).

In the past five years (2008–2012) the group has published 89 peer-reviewed articles, 18 of which have had an impact factor in leading ergonomics journals. It has also supervised 16 Master's projects, 3 PhD theses and 4 post-doctoral studies.

The recent inclusion of the Ergonomics group within the CIAUD aims to provide continuity for work that has been developed and has the following main objectives:

- To increase the number of peer-reviewed publications, in particular those with a high impact factor;
- To develop research projects in partnership with private companies and state organisations;
- To collaborate with other CIAUD core departments and groups, incorporating a user-centred design perspective into projects to be developed. ●



RESEARCH GROUPS

CIAUD

ARCHC 3D

Documentation and Conservation
and Restoration Studies Research Group
archc3d.fa.ulisboa.pt

The “ArchC_3D: Documentation and Conservation and Restoration Studies” research group has been functioning since 2011. It was created following a research project on the application of 3D documentation technologies, specifically laser scanning and digital photogrammetry, to conservation, rehabilitation and restoration. The main objective of the group is to develop 3D documentation and visualisation methodologies for conservation, on scales ranging from small architectural objects to urban areas.

FORMA URBIS LAB

formaurbislab.fa.ulisboa.pt

The “FORMA URBIS Lab” research group was founded in 2006 after the research project “A Rua em Portugal – Inventário Morfológico” (Streets in Portugal – a Morphological Inventory) was selected by the Portuguese Foundation for Science and Technology. It was created from the pluridisciplinary team which submitted the application, composed of teaching staff from the UTL Faculty of Architecture, with the addition of grant-holders from the project and Master's and PhD students engaged in research associated with the theme of urban form. It has developed a network of links with centres and research groups with shared or similar interests and with Portuguese and foreign researchers involved in its work as collaborators or consultants.

Its main objectives are to link previously developed, current and future projects with the aim of constructing a Morphological Atlas of the City in Portugal, to collaborate on projects developed by other research teams and groups whose work requires a knowledge, focus or information on the subject of urban form, and to host individual projects developed by its members or collaborators in this area of knowledge and research.

With regard to scientific interest, the FORMA URBIS Lab hosts the development of collective and individual research work on the general theme of urban form. The city is understood as an established object which gradually accumulates information and, from a long-term perspective, is moulded by projects, models and concrete operations in an ongoing, unfinished process. It aims to understand the processes by which the city, public space and built space are established and transformed. Within this body of ideas, studies on morphology and morphogenesis constitute the main line of research, although they are also related to aspects as varied as the processes involved in the formation of the urban fabric, its evolution, the characteristics and properties of urban forms and models and the approach to plans as configurations of the city.

ArcHC 3D

Documentation and Conservation
and Restoration Studies Research Group

FORMA URBIS Lab

GESTUAL

Socio-Territorial and Local Action
Study Group

SUSTENTA

Sustainability Group Laboratory

BEAT

Built Environment and Active Transportation

DESIGN AND COMPUTATION RESEARCH GROUP

COLOUR RESEARCH GROUP

MURBS

Metropolitan Areas and Forms
of Urbanisation Study Group

ErgoVR

Virtual Reality Research Group

GESTUAL

Socio-Territorial and Local Action Study Group
www.gestual.fa.ulisboa.pt

The “Gestual: Socio-Territorial and Local Action Study Group” was created informally in October 2007 at the beginning of a research project funded by the Portuguese Foundation for Science and Technology entitled “Reconverting and re-integrating illegal urban areas: socio-urban evaluation and integrated strategic planning solutions”. The objective was to add to the synergies created by this research project by drawing on other previous or ongoing projects and work as a reference for a new approach to recovering heritage.

Two essential concepts underpin the work of Gestual: reflexivity between theory and practice and between research and action, and social space, in Henri Lefebvre's terms. Two fundamental rights are associated with these concepts: the right to housing and the right to the city. The themes for research and action reflect on what is to be done

and how to do it, on the basis of two principles: the (re)qualification of the city and existing territories, involving particularly close consideration of peripheral areas, suburbs, margins and informal or illegal territories, and the involvement of local residents and citizens in making decisions about the place where they live. Gestual pays particular attention to Lusophone countries and cities but, in an increasingly global world, these are also cross-referenced with other areas.

Gestual brings together a group of people whose interests are reflected in these concepts, rights and principles and who are developing studies and measures from this perspective.

SUSTENTA

Sustainability Group Laboratory

Concepts in architecture, urbanism and design are changing in the light of the needs and challenges presented by the contemporary world and it has already become evident that in assessing the overall projected results of any of these practices, ecology and the concomitant idea of sustainability must now be included in the essential framework criteria.

It is therefore possible to extend the concept of ecology, as the study of the interaction between the various systems which support life on this planet and the environment, to all spheres of human activity and, with increasing relevance, to construction activities, of which architecture, urbanism and design are, in fact, practical, classifiable examples

The “Sustenta – Sustainability Group Laboratory” research group is dedicated to supporting projects, studies or any research activities within the context of “sustainable projects”. Its main objectives are: to promote the concept of sustainable design as a methodology for territorial intervention in terms of human occupation, use and consumerism, as an alternative to current economic production and consumer practices in architecture, urbanism and design; to establish

methods of analysis (and synthesis) that enable criteria to be defined for the assessment of human material production activities from an ecological perspective; to explore “green architecture” design methods and applications, establishing the principles for sustainable urban development; to investigate relationships between culture, logic and aesthetics in construction; to develop a network of links between education, civil society and economic agents.

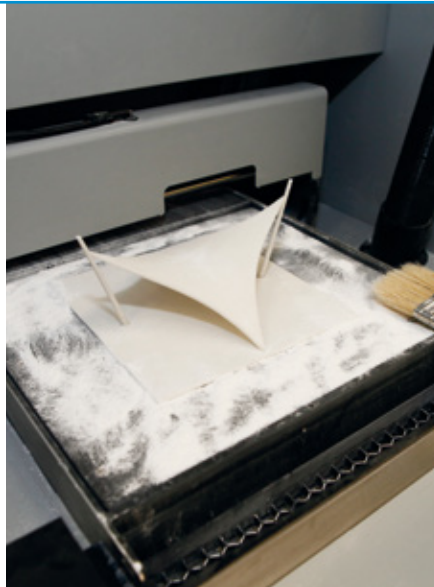
BEAT

Built Environment and Active Transportation

Urban mobility is closely linked to the urban characteristics of territories. The new paradigm for sustainable urban mobility has begun to emphasise the need to integrate territorial and transport planning in order to reduce dependence on cars and change the mode split by increasing the proportion of active modes, such as walking and cycling.

The “BEAT: Built Environment and Active Transportation” research group is engaged in research into the relationship between urban characteristics and the use of active transport, developing multimodal accessibility indicators that simultaneously reflect supply and functional distribution and the supply of transport, both in terms of infrastructures and transport systems, and may also be used as planning instruments. With regard to close relationships involving active transport, the group is developing joint research with other areas of knowledge, namely those linked to universal design, sports, public health and the study of active ageing.

In addition, a research project entitled “InLUT: Integration of Land Use and Transport in Medium-Sized Cities”, funded by the FCT, is being developed within the group, focusing on medium-sized Portuguese cities.



Rapid Prototyping Lab

DESIGN AND COMPUTATION GROUP

Design and Computation Research Group

The “Design and Computation Group” is an interdisciplinary research group which explores the boundaries between two formally distinct universes – design and computation. The group applies computational techniques to resolve design problems on a variety of scales, ranging from products to urban design and from architecture to regional planning.

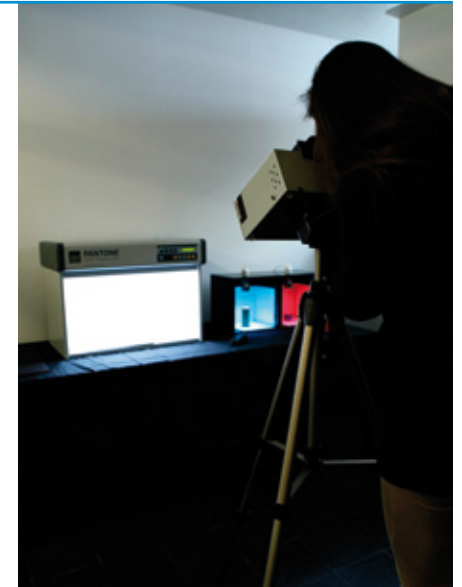
The Design and Computation Group research aims to explore the potential of a computational approach to design and provide innovative strategies that will enable researchers and academics to construct a solid methodology to support their design research.

Various research projects funded by the FCT have been developed within the group, such as “Alberti Digital” and “Tecton 3D”, in collaboration with other research centres including the INESC-ID and the Centre for Social Studies at the University of Coimbra.

COLOUR RESEARCH GROUP

The Colour Research Group, which is composed of researchers from the transversal fields of architecture, design and urbanism working in the field of chromatic phenomena, is developing innovative study projects destined to serve multiple purposes including the following: academic training and improvements to learning activities; industrial, aesthetic, cultural and social applications; technological developments; practical interventions in inclusive design and sustainable practical design interventions involving the environment and community living conditions; the identification of geographical diversity in cultural spaces; architectural rehabilitation; artistic experimentation; the definition of a precise lexical nomenclature for specific chromatic concepts.

The Colour Research Group projects are linked to the work developed by the LabCor – Colour Lab at the FA.



MED-CROMA – Colour Lab

MURBS

Metropolitan Areas and Forms of Urbanisation Study Group

murbs.fa.ulisboa.pt

The main objectives of the “Murbs: Metropolitan Areas and Forms of Urbanisation Study Group” are to develop research activities within the field of urbanism which focus on themes specifically related to issues concerning metropolitan areas and urban space, including the study of their morphology, origins, processes of change, planning and urban design.

The team includes teaching staff and researchers with previous research experience in these areas, particularly the Lisbon Metropolitan Area and comparative studies of phenomena associated with extensive urbanisation in various cities. The group provides continuity for the various research activities of its members, using the complementarity of their academic backgrounds to stimulate the development of new contributions to scientific knowledge in these areas.

The current research projects are:

- [1940-2011]: Forms of metropolitan space production in Lisbon
- COST, Gender, Science, Technology and Environment – genderSTE
- Recursos Mínimos/Minimal Resources.

ERGOVR

Virtual Reality Research Group

www.fmh.ulisboa.pt/ergovr

ErgoVR is a unit within the CIAUD Ergonomics Laboratory and is based in the FMH at the University of Lisbon. It is mainly involved in modelling virtual environments in order to study and optimise human interaction in ergonomic design.

ErgoVR was created in 2008 to support projects funded by the Portuguese Foundation for Science and Technology (FCT).

RESEARCH LABORATORIES

CIAUD

The CIAUD also possesses a range of resources that enable it to carry out its work, namely the:

- Support Office
- Library/Media Centre
- Audio-Visual Centres
- Cartography Lab
- Computer Centre
- Reprographics/Photocopying
- Workshops

In addition, a number of laboratories and the Publications and Communications Centre (GEC) are also an integral part of the CIAUD.

LPR

Rapid Prototyping Lab

The aim of the Rapid Prototyping Lab (LPR) is to enhance advanced training in architecture, urbanism and design through the use of information technologies.

It aims to foster an innovative approach to professional training in architecture, urbanism and design by using technology to reinforce traditional design studio teaching methods.

The traditional method offers the advantage of learning by resolving complex problems that demand creativity and an interdisciplinary approach.

In the proposed approach, the traditional physical environment of the studio is complemented by a virtual environment.

The LPR offers a range of equipment, including a laser cutter, 3D printer, vinyl cutting machine and large milling machine.

3D SCANNING LAB

The 3D Scanning Lab is a unit within the FA which offers a range of equipment that can be used in three-dimensional scanning processes. It was created after the equipment was acquired for the research project PTDC/AUR/66476/2006, funded by the FCT.



LPR
Rapid Prototyping Lab

3D Scanning Lab

Colour Lab

LAFIS
Photo and Synthesis Image Lab

Textile Development Lab

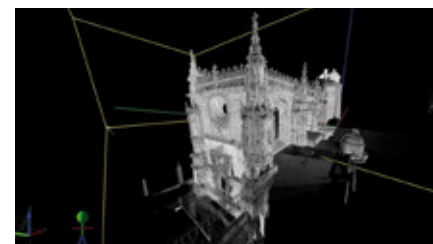
ERGOLAB
Ergonomics Lab

The laboratory was set up by the CIAUD "ArcHC_3D: Documentation and Conservation and Restoration Studies" research group. The project also involved acquiring experience and know-how in handling the equipment.

Its main mission is to support research work in the field of three-dimensional scanning applied to conservation, architecture and design, in addition to other possible areas.

The following equipment is available:

- a) 3D FARO – Focus 3D laser scanner
- b) Aerial photography system consisting of a helium balloon and photographic component
- c) Aerial photography system (mast).



COLOUR LAB

The Colour Lab provides FA teaching staff and researchers and external users with the opportunity to use two areas dedicated to the study and use of colour and light in experimentation, analysis, measurement and the application of light and colour to objects and spaces destined for human interaction, comfort and use:

- **EXPER•CROMA** – Colour and Space Perception Experimental Module, managed by Dr. Maria João Durão
- **MED•CROMA** – Chromatic Measurement and Analysis Module, managed by Dr. João Pernão.

The Colour Lab serves the following purposes:

- a) To promote study and experimentation in the field of colour and light;
- b) To disseminate the resulting knowledge;
- c) To promote the exchange of activities, leading to a deeper scientific understanding of colour and light;
- d) To provide the academic community (teaching staff, students, FA researchers) and other interested parties with the appropriate space and resources for the study and practical application of colour and light.

EXPER•CROMA – Colour and Space Perception Experimental Module

This space provides chromatic recognition and assessment tools that can be used in studies of psychological and perceptual effects, including Munsell colour samples, simulation programs to analyse architectural space, design objects and painting, and an extensive bibliography dedicated to research into colour in architecture, design and art, destined to provide a theoretical-practical and methodological basis for experiments and to support theses and dissertations.

MED-CROMA – Chromatic Measurement and Analysis Module

This objective of this area of the Colour Lab is to provide complementarity between theoretical content and experimentation in the analysis, measurement and application of light and colour to objects and spaces destined for human interaction, comfort and use.

It offers the use of laboratory equipment which includes a light box calibrated and certified in accordance with international EIC standards, a spectroradiometer and NCS colour boxes and samples. It also provides equipment and materials developed by Dr. João Pernão, including the DISMECOR-Perceptual Colour Measurement Device (FA patented), RGB boxes for comparing light in different colours, and a device for measuring the geometrical and geographical relationship between observer/surface/light source.

MED-CROMA is designed for use by students, teaching staff and FA researchers from the various courses and specialist areas, as well as external users working in the field of light and chromatic phenomena.

LAFIS Photo and Synthesis Image Lab

The LAFIS is characterised by the alternative way in which it proposes to develop themes applied to architecture, with two main aims: the identification of work with pragmatic and tangible dimensions to its objectives, and a multidisciplinary, integrated approach to addressing these objectives, promoting the incorporation of technical and technological matters on an advanced level.

The key objectives of the laboratory are:

- to promote the integration and full sharing of skills at university level, specifically those relating to computation and information technologies, exchanging information and experiences with other units within the FA, particularly other laboratories.



- to create working routines with teams that involve students and teaching staff in developing academic work and projects structured to provide challenges in terms of the use and implementation of information technologies in the following areas: the study and application of photo and image synthesis; the application and development of 3D modelling systems and computer-assisted design; computational and programming applications for geometry and imaging; the construction and development of databases; the publication and maintenance of online data.

The Photo and Synthesis Image Lab offers two main online tools, corresponding to two sections of the Light Table project: the MAMsys hyper-platform and 3Dsys, the former used to manage a bank of images and the latter to manage 3D digital files. The use of these tools is open to the public, with the aim of establishing a platform to display, catalogue and access work on photography and images.

Navigation of the MAMsys and 3Dsys applications is optimised by screen resolutions of 1280x1024px (with lower resolutions, the list of existing terms that can be consulted in the database are not visible).

lafis.fa.utl.pt/hiper_MAMsys

lafis.fa.utl.pt/hiper_MAMsys/3Dsys

TEXTILE DEVELOPMENT LAB

This laboratory is in the process of being installed and will consist of two core areas: Textile Design – managed by Dr. Gianni Montagna – and Textile Technology – managed by Dr. Cristina Figueiredo. The general objectives of the laboratory are:

- to create a collection of resources: for technical study (an archive) and to support teaching (work-related materials);
- scientific and academic development: to support research (Master's degrees, advanced studies, PhDs, post-doctoral work, projects);
- technical and scientific development: an external support service for the development of textile products for companies and industries (textile design for structures and surfaces).

ERGOLAB Ergonomics Lab

The Ergonomics Lab was created within the FMH/ Ulisboa at the end of the 1980s with the aim of providing support for research and work developed by students during traineeships. In recent years it has also played a role in integrating Master's and PhD students into existing ergonomics research projects and in responding to requests for collaboration in research with other universities and, consequently, projects funded by the European Community and the Portuguese Foundation for Science and Technology. Within this context, the mission of the Ergonomics Lab has been to develop theoretical and applied research to the study of human interaction, with a view to optimising production systems and consumer products.

The structuring of the ergonomics research, based on the chosen paths of the researchers, has led to the establishment of three main areas of investigation:

- optimisation of human interaction,
- health and safety at work,
- workload and work capacity.

The Ergonomics Lab research unit – ErgoVR – was created as the result of research projects developed within the field of optimising human interaction.

www.fmh.ulisboa.pt/ergovr

Research in the area of health and safety at work has centred on the analysis of interactions between humans and the physical environment. It focuses on the application of knowledge to improve working conditions, with the aim of obtaining more effective and reliable instruments that can be integrated into the occupational risk management process and are essential to any useful occupational health, hygiene and safety policy.

The characterisation and analysis of the characteristics of workers and employment systems, together with their respective interactions, are used to assess workload from an integrated perspective.

PUBLICATIONS CENTRE Coordinator: Dr. Pedro Janeiro

The Faculty of Architecture Publications Centre (CEFA) is the FA/ULisboa publisher and is composed of a group of people (teaching and non-teaching staff and students of the FA/ULisboa) committed to a publishing project whose main aims are to publish and distribute journals, books and other publications associated with architecture, urbanism, design, ergonomics and visual culture.

CURRENT RESEARCH PROJECTS

CIAUD

ARCHITECTURE DEPARTMENT

**ACADEMIC OBSERVATORY
FOR ARCHITECTURE PROJECTS**
Coordinator: Dr. Jorge Spencer

**APPLIED METHODS AND METHODOLOGIES
FOR ARCHITECTURE, URBANISM AND DESIGN**
Coordinator: Dr. Tânia Ramos

PTDC/AUR-URB/119340/2010
**POTENTIAL ECOLOGICAL LAND-USE
PLANNING: APPLICATIONS FOR PORTUGAL**
Coordinator: Dr. José Gorjão Jorge

PTDC/EEI-SII/3154/2012
**DIGITAL REPRESENTATIONS:
MODELLING THE 3rd. DIMENSION**
FA Coordinator: Dr. José Pinto Duarte
Overall Coordinator: Dr. Joaquim Jorge

PTDC/ATP-AQI/5355/2012
**OPTIMISATION OF DOCUMENTATION
WORKFLOWS IN THE REHABILITATION
OF BUILT STRUCTURES**
Coordinator: Dr. José Aguiar

PTDC/AUR-AQI/113587/2009
SEA ARCHITECTURES
Coordinator: Dr. José Gorjão Jorge

DESIGN DEPARTMENT

PTDC/AUR-AQI/115660/2009
**MODERN FURNISHING: THE WORK OF
THE FURNITURE ACQUISITION COMMISSION
UNDER THE DIRECTORATE-GENERAL
OF BUILDINGS AND NATIONAL MONUMENTS**
Coordinator: Dr. João Paulo Martins

SFRH/BD/66064/2009
**SMART CLOTHING AS A DESIGN TOOL
FOR PERFORMANCE SPORTS**
Coordinator: Gianni Montagna

SFRH/BD/61074/2009
**THE DIFFUSE IDENTITY OF METALLIC
MATERIALS: TOWARDS THE HOLISTIC
TEACHING OF MATERIALS IN HIGHER
EDUCATION DESIGN COURSES**
Coordinator: Pedro Paulo Eugénio de Oliveira

SFRH/BD/85018/2012
PERCEPT WALK
Coordinator: Miguel Aboim Borges

SFRH/BD/75706/2011
**THE STRATEGIC DESIGN IN THE SERVICES
SECTOR: IMPACT ON THE START-UP
SUB-SECTOR**
Coordinator: Teresa Serpa

**COLOUR.FASHION – INTERACTION BETWEEN
COLOUR AND THE HUMAN BEING THROUGH
CLOTHING**
Coordinator: Dr. Fernando Moreira da Silva

**CHROMATIC PLANNING FOR URBAN FURNITURE:
DEVELOPING A DESIGN METHODOLOGY**
Coordinator: Margarida Gamito

URBANISM DEPARTMENT

PTDC/AUR-URB/118612/2010
**PLANNING TOURISM SPACES
IN COASTAL AREAS (ESPACETUR)**
Coordinator: Dr. João Cabral

EXPL/ATP-EUR/1772/2012
**RELATIONAL SPACE AND PROMOTING
THE RIGHT TO THE CITY: EXPERIMENTAL
RESEARCH IN THE COVA DA MOURA NEIGH-
BOURHOOD IN THE GREATER LISBON AREA**
Coordinator: Dr. Júlia Carolino

PTDC/AUR-AQI/115688/2009
**CLIMATE AND HOUSING: THRESHOLDS
FOR HEALTHY LIVING**
Coordinator: Dr. Elisabete Freire

PTDC/AUR-URB/111013/2009
**INTEGRATION OF LAND USE AND TRANSPORT
IN MEDIUM-SIZED CITIES**
Coordinator: Dr. David Vale

PTDC/AUR-URB/111835/2009
**THE BUILT FABRIC IN THE PORTUGUESE CITY
– A MORPHOLOGICAL INVENTORY**
Coordinator: Dr. Carlos Dias Coelho

**RECONVERTING AND RE-INTEGRATING
ILLEGAL URBAN AREAS: SOCIO-URBAN
EVALUATION AND INTEGRATED STRATEGIC
PLANNING SOLUTIONS**
Coordinator: Dr. Isabel Raposo

**O TECIDO EDIFICADO DA CIDADE
PORTUGUESA – INVENTÁRIO MORFOLÓGICO**
Coordinator: Dr. Carlos Dias Coelho

**URBANISED ESTUARIES AND DELTAS:
TOWARDS INTEGRATED PLANNING AND
MANAGEMENT. A CASE STUDY OF LISBON**
Coordinator: Dr. João Pedro Costa

ERGONOMICS DEPARTMENT

PTDC/PSI/69462/2006
**USING VIRTUAL REALITY TO EVALUATE THE
EFFECTIVENESS OF SAFETY INFORMATION**
Coordinator: Dr. Francisco dos Santos Rebelo

PTDC/PSI-PCO/100148/2008
**SAFETY WARNINGS OF THE FUTURE:
VIRTUAL REALITY IN THE STUDY
OF TECHNOLOGY-BASED WARNINGS**
Coordinator: Dr. Francisco dos Santos Rebelo

ELECTRONIC EXHIBITIONS
Project funded by the European eTEN programme
Coordinator: Pararede

**INTEGRATED COMPONENTS FOR THE
AUTOMOTIVE INDUSTRY, ACE: INAUTO
DEVELOPMENT OF A SEAT MODEL FOR
AN AUTOMOTIVE VEHICLE**
Project financed by ACECIA
Coordinator: ACECIA

**2-BE-SAFE (2 - WHEELER
BEHAVIOUR AND SAFETY)**
Project financed under the 7th European
Framework Programme
Coordinator: INRETS

- TRANSVERSAL PROJECTS

TEMPO: TRANS-EUROPEAN MOBILITY PROJECT ON EDUCATION FOR SUSTAINABLE DEVELOPMENT

Coordinator: Dr. António Castelbranco

Funding: European Union, Educational Audiovisual and Culture Executive Agency (EACEA, Brussels), Erasmus Mundus Programme (Action 2 - Strand I - Lot 5)

Projeto 372283-1-2012-1-PT-ERA MUNDUS-EMA21, Grants 2012-2765.

Portal: tempo.fa.ulisboa.pt

INFINITY: International Fellowship IN transdisciplinary

Coordinator: Dr. António Castelbranco

Funding: European Union, Educational Audiovisual and Culture Executive Agency (EACEA, Brussels), Erasmus Mundus Programme (Action 2 - Strand I - Lot 5)

Projeto 545681-EM-1-2013-1-PT-ERA MUNDUS-EMA 21,

Grants 2013-2595.

Portal: infinity.fa.ulisboa.pt

RETHINK: Reform of Education

THru International Knowledge exchange

Coordinator: Dr. Oksana Turchanina

Funding: European Union, Educational Audiovisual and Culture Executive Agency (EACEA, Brussels),

Programa Tempus,

Projeto 544178-TEMPUS-1-2013-1-PT-TEMPUS-JPCR,

Grant 2013-5076/001-001

SCIENTIFIC OUTPUT

MAIN PHYSICAL INDICATORS OF ACHIEVEMENT (2012)

Publications

Books/book chapters	110
Articles in international journals	109
Articles in national journals	52

Papers

Papers delivered at international scientific meetings	397
Papers delivered at national scientific meetings	89

Organisation of seminars and conferences

159

Advanced training

PhD theses	43
Master's dissertations	87
Other	18
Models	24
Computer applications	5
Pilot installations	3
Laboratory prototypes	12
Patents	3



Future strategy

The CIAUD invests in continuity for the support it provides for research in its key areas, framed within its four core departments and their respective lines of research, both principal and transversal. It intends to reinforce trans- and interdisciplinary work, not only within the research centre itself, but also with similar national and international bodies, particularly those which are part of the University of Lisbon. To this end, it will promote support for projects undertaken as partnerships, linked to society and the business and industrial fabric.

The main work of the CIAUD will centre on providing direct support for collective and individual projects and research projects developed within the framework of PhD courses at the FA/ULisboa.

It will therefore be important to combine and connect the work of its researchers, whether full or part time) and foster the creation of groups with shared lines of inquiry, interests and methodologies, in order to establish links and complementarities and manage scientific and operational synergies.

It aims to continue to support the dissemination of the results of research work in national and international scientific meetings and in the lingua francas of scientific production (particularly English) with a clear globalising purpose, promoting collective and institutional visibility in its search for competitiveness and affirmation of excellence. However, it also aims to reinforce the importance of the Portuguese language and Portuguese production, given that this is acquiring greater significance in today's world. It will therefore continue to provide regular support for the publication of peer-reviewed articles with an impact factor in national and international journals, and for the dissemination of results in national and international conferences, the publication of books and the organisation of seminars and conferences.

The CIAUD will continue to support quality projects involving the creation of prototypes and the registration of ideas or patents, as well as the creation of new laboratories and the acquisition of new equipment essential to the implementation of its research projects and the challenges presented by current research. In addition, supporting the creation of start-ups and encouraging the business incubator is another Centre strategy.

MAIN SOURCES OF FUNDING

- Portuguese Foundation for Science and Technology
- 7th European Framework Programme
- Various European programmes
- Other national and international state and private organisations.

Some key publications

Duarte J.P. **Personalização de Habitação em Série: Uma Gramática Discursiva para as Casas da Malagueira do Siza**. Fundação Calouste Gulbenkian: Lisboa, 2007. Prefácio de Siza Vieira e William Mitchell.

Louro, Margarida, et al, **Casas para um Planeta Pequeno — Projeto Angola — Habitar XXI**, Lisboa, Editora Pandora, 2009, ISBN 978-989-95139-2-1

Costa, Joan & Raposo, Daniel, **A rebelião dos Signos — A Alma da Letra**, Lisboa, Editora Dinalivro, 2010, ISBN 978-972-576-533-3

Janeiro, Pedro António, **Origens e Destino da Imagem — Para uma Fenomenologia da Arquitetura Imaginada**, Lisboa, Editora Chiado, 2010, ISBN 978-989-8389-63-3

Jorge Cruz Pinto (Org.), **Open Research – Research and Development Projects of CIAUD**, Lisboa, Edição CIAUD/CEFA, 2010, ISBN 978-972-9346-07-1

Madeira Rodrigues, Ana Leonor & Janeiro, Pedro (Org.), **Linha do Horizonte 1**, Lisboa, CEFA, 2010, ISBN 978-972-9346-13-2

Rosa, Carlos, **Pictografia Olímpica — história e estilo gráfico**, Lisboa, Academia Olímpica de Portugal, 2010, ISBN 978-989-95267-5-4

Sousa Morais, João, **Mindelo — Património Urbano e Arquitectónico**, Lisboa, Editora Caleidoscópio, 2010, ISBN 978-989-658-074-2

Dá Mesquita, Marieta (Coord.), **Revistas de Arquitetura: Arquivo(s) da Modernidade**, Lisboa, Editora Caleidoscópio, 2011, ISBN 978-989-658-110-7

Duarte, Rui, **Arquitetura, Representação e Psicanálise**, Lisboa, Editora Caleidoscópio, 2011, ISBN 978-989-658-149-7

Rocha, Marco, **A Construção de uma Identidade — A Vogue Portuguesa**, Lisboa, Editora Caleidoscópio, 2011, ISBN 978-989-658-144-2

Sousa Morais, João, Lage, Luís & Malheiro, Joana, **Maputo – Património Arquitectónico**, Lisboa, Editora Caleidoscópio, 2011, ISBN 978-989-658-162-6

Trigueiros, Conceição, **Panóptico — As Ordens da Vigilância**, Lisboa, Editora Caleidoscópio, 2011, ISBN 978-989-658-109-1

Fernandes, José Manuel (Coord.), **Livro de Homenagem a Marieta Dá Mesquita — Actas do Colóquio Património Arquitectónico da Universidade Técnica de Lisboa: História e Valor**, Lisboa, Editora Caleidoscópio, 2012, ISBN 978-989-658-195-4

Fonte, Maria Manuela da, **Urbanismo e Arquitetura em Angola**, Lisboa, Editora Caleidoscópio, 2012, ISBN 978-989-658-169-5

Fragoso, Margarida, **Design Gráfico em Portugal — Formas e expressões da Cultura Visual do Século XX**, Lisboa, Editora Livros Horizonte, 2012, ISBN 978-972-24-1716-7



Madeira Rodrigues, Ana Leonor & Janeiro, Pedro (Org.), **Linha do Horizonte 2**, Lisboa, CEFA, 2012, ISSN 2182-5440

Mendes, Maria Manuela, **Ciganos — Identidade, Racismo, Discriminação**, Lisboa, Editora Caleidoscópio, 2012, ISBN 978-989-658-160-2

Mendes, Maria Manuela, et al, **A Cidade entre Bairros**, Lisboa, Editora Caleidoscópio, 2012, ISBN 978-989-658-163-3

Ramos, Tânia, **Bairros Planeados e Novos Modos de Vida — Olivais e Telheiras: que contribuições para o habitar sustentável?**, Lisboa, Editora Caleidoscópio, 2012, ISBN 978-989-658-177-0

Toussaint, Michel, **Da Arquitetura à Teoria — Teoria da Arquitetura na primeira metade do século XX**, Lisboa, Editora Caleidoscópio, 2012, ISBN 978-989-658-176-3

Costa, João Pedro, **Urbanismo e Adaptação às Alterações Climáticas — As Frentes de Água**, Lisboa, Editora Livros Horizonte, 2013, ISBN 978-972-24-1767-9

Dias Coelho, Carlos, et al, **Cadernos de Morfologia Urbana 1 — Os Elementos Urbanos**, Lisboa, Editora Argumentum, 2013, ISBN 978-972-8479-78-7

Bártolo, H.; Duarte, J.P.; Bártolo, P.; Roseta, F.; Alves, N.; Castro e Costa, E.; Mateus, A.; Quaresma, F.; Almeida, H.; Neves, J.P.; Lemos, A.; Craveiro, F.; Ramos, C.; Reis, I.; Durão, L.; Ferreira, T.; (eds.)

Green Design, Materials, and Manufacturing Processes. CRC Press/Balkema, Taylor and Francis, Boca Raton, FL, U.S.A., 2013.

Gil Pires, Amílcar, **A Quinta de Recreio em Portugal — Vilegiatura, Lugar e Arquitetura**, Lisboa, Editora Caleidoscópio, 2013, ISBN 978-989-658-245-6

Janeiro, Pedro, **Sul “Fra” — Delle Architetture e dei Disegni**, Itália, Edizione Arianna, 2013, ISBN 978-88-89943-99-1

Kong, Mário, **Harmonia e Proporção: Um Olhar sobre o Desenho Arquitectónico no Ocidente e no Oriente**, Lisboa, Editora Inside, 2013, ISBN 989-838-804-8

Loução, Dulce, **Paisagens Interiores para um Projeto em Arquitetura**, Lisboa, Editora Caleidoscópio, 2013, ISBN 978-989-658-226-5

Madeira Rodrigues, Ana Leonor & Janeiro, Pedro (Org.), **Linha do Horizonte 2**, Lisboa, CEFA, 2013, ISBN 978-972-9346-30-9

Moreira da Silva, Fernando, **Colour and Inclusivity — A Visual Communication Design Project with Older People**, Lisboa, Editora Caleidoscópio, 2013, ISBN 978-989-658-228-9

Moreira da Silva, Fernando (Org.), **CIAUD — 1.º Seminário de Investigação em Arquitetura, Urbanismo e Design**, Lisboa, Editora Caleidoscópio, 2013, ISBN 978-989-658-227-2



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RESEARCH CENTRE FOR ARCHITECTURE,
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