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UNIVERSIDADE
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ULISBOA ATLAS OF ASSOCIATE LABORATORIES

FROM LISBON
TO THE WORLD

Design: DREI | NC | june '23

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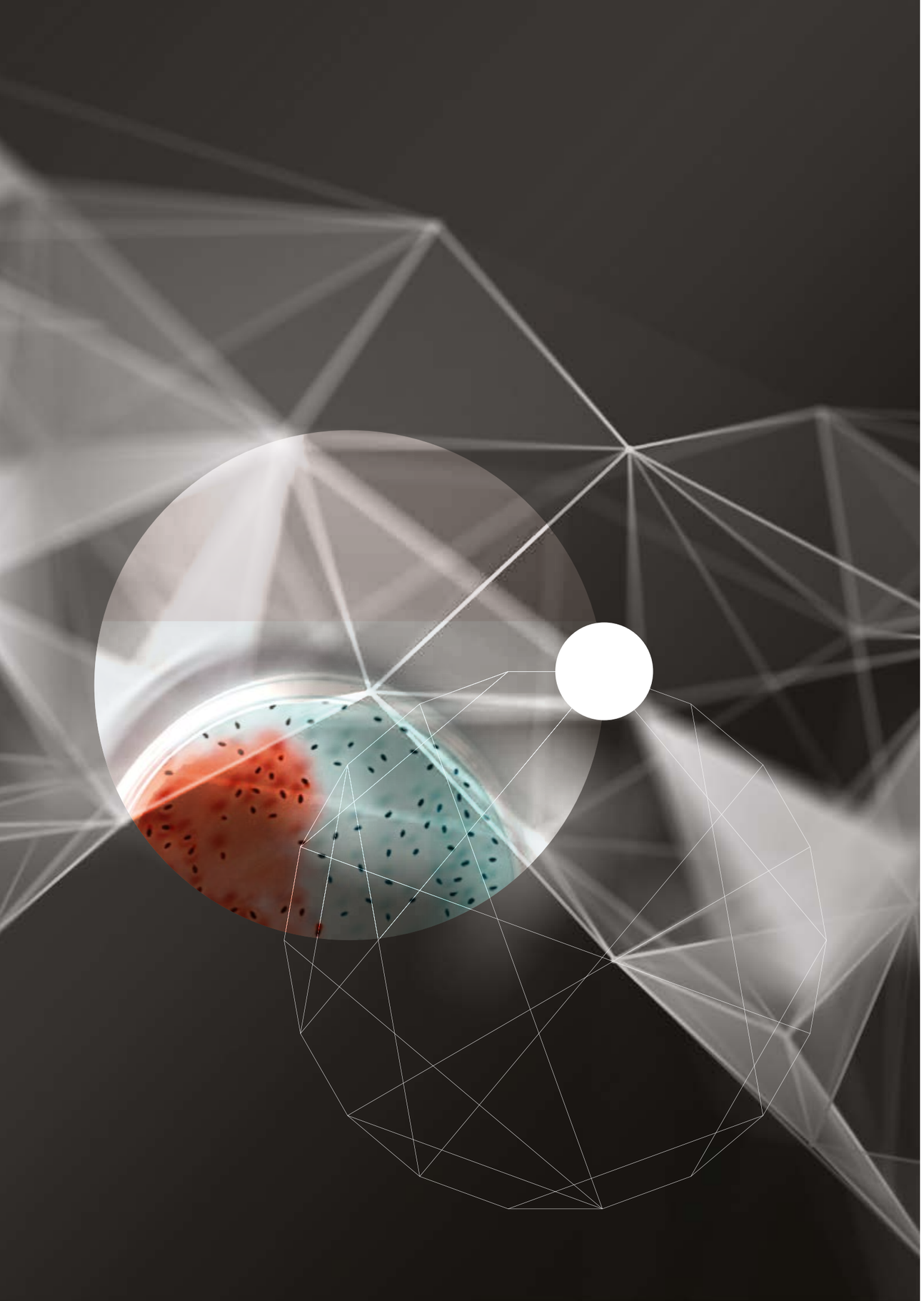

PREFACE

The ULisboa Atlas of Associate Laboratories serves as a guide to an essential component of the science and technology landscape at the University of Lisbon and in Portugal. With the University of Lisbon participation in 21 Associate Laboratories, 13 of which it leads, these laboratories cover diverse scientific domains and play a vital role in promoting collaboration, enhancing research capabilities, and supporting science-based policies in areas such as environmental sustainability, public health, and digital transition.

Accredited by the Fundação para a Ciência e a Tecnologia (FCT), these Associate Laboratories, along with R&D Units and State Laboratories, are recognized as integral parts of the National Science and Technology System. The purpose of this Atlas is to share the activities of these research and development actors at the University of Lisbon, fostering a comprehensive understanding of the system and facilitating collaborative synergies.

Similar to the ULisboa Atlas of Research Units released in 2022, this Atlas provides detailed profiles of each Associate Laboratory participated by the University of Lisbon. It offers insights into the diverse and dynamic science and technology ecosystem of the university, shedding light on its structure and reaffirming the institutional strong commitment to research and innovation as a fundamental part of its mission and strategic vision.

The Associate Laboratory status is granted to Research Units or consortia recognized for their robust research and development capabilities, excellence, and dedication to contributing to public policies. Beyond providing an institutional framework for research, technological development, and innovation, these laboratories also serve as interfaces with public administration, government, and society. They provide science-based information for decision-making and support studies that inform the design and implementation of science-based public policies.

While the Associate Laboratories may vary in terms of their founding R&D Units, organizational approaches, and scientific scope, they share common goals and commitments. These include fostering international collaboration, securing funding, promoting open science practices, supporting scientific employment, and offering expertise for consultation.

The ULisboa Atlas of Associate Laboratories presents an overview of the 21 participated laboratories, their constituent R&D Units, and the broad scientific domains they cover, spanning Agricultural Sciences, Natural Sciences, Medical and Health Sciences, Engineering and Technology Sciences, and Social Sciences. This Atlas will contribute to a better understanding of the research and development actors and activities at the University of Lisbon, illuminating its organizational structure and fostering closer connections with other sectors such as education, the economy, and society.

Cecília Rodrigues
Vice-Rector
University of Lisboa

EXECUTIVE SUMMARY

The ULisboa Atlas of Associate Laboratories presents a brief summary of each of the 21 Associate Laboratories and complements the already published ULisboa Atlas of Research Units (2022) that summarises the information regarding the 70 R&D Units with the participation of the University of Lisbon. Both publications are a contribution to understand the diversity and dynamics of our science and technology ecosystem and its architecture, and reflect the commitement to research as a central part of the mission and strategy at the University of Lisbon.

For the preparation of this Atlas, data was obtained from several sources: i) Fundação para a Ciência e a Tecnologia (FCT) Atlas of Associate Laboratories 2022; ii) Associate Laboratories websites; iii) FCT webpage.

The document gives a concise description of the 21 Associate Laboratories evaluated in 2020 by FCT and is organised by 5 broad scientific domains, including Agricultural Sciences, Engineering and Technology Sciences, Medical and Health Scienes, and Social Sciences, regarding description, strategic aims, activities and impact.

The Associate Laboratories with the participation of the University of Lisbon represent 53% of the Associate Laboratories funded by FCT; 4 (40% of the national total) had the maximum rating. They are distributed in 5 scientific domains with preponderance of the Natural Sciences, with 12 Associate Laboratories and 57% of the University of Lisbon total. In 13 of the 40 Associate Laboratories, the Lead R&D Unit has the participation of University of Lisbon (33% of the national total). The University of Lisbon participates with 28 R&D Units in the 40 Associate Laboratories.

The University of Lisbon hosts 4.576 integrated researchers, which represent about 47% of the 9.676 integrated researchers in Portugal considered by FCT. They are found mostly in Natural Sciences (2.459; 54%), followed by Medical and Health Sciences (786; 17%). The average dimension per Associate Laboratory with the participation of the University of Lisbon is 218 researchers.

In 2020-2023, FCT funded the Portuguese Associate Laboratories with about 23,708 M€ of annual complementary funding. Of that value, about 9,777 M€ (41% of the national total) were attributed to Associate Laboratories with the participation of University of Lisbon. Natural Sciences and Engineering and Technology Sciences are the two most funded scientific domains at the University of Lisbon with over 6,925 M€, which represents about 71% of the University of Lisbon total.

Overall, it is important to emphasize that the University of Lisbon plays a central role in the Portuguese research and innovation system, where FCT Associate Laboratories represent 53%, the researchers 47% and funding reaches 41% of the respective total.

Both Associate Laboratories and Research Units at the University of Lisbon promote open science, innovation and knowledge transfer, thus contributing to internationalization and having impact in a knowledge-based society.

OVERALL CHARACTERIZATION

Following the FCT definition, an Associate Laboratory is formed by one or more R&D Units (consortia), and must ensure, in a sustainable matter, three fundamental criteria: the response of public policies to scientific, health, social, environmental and economic challenges; the promotion of scientific or technical careers for doctorate holders, as well as the ability to attract talent to Portugal and the ability to diversify funding sources and increase the attraction of funding from the European Union or other international entities for R&D activities in Portugal.
The Statute of Associate Laboratory is attributed by dispatch of the member of the Government responsible for the area of science and technology, for a period of up to 10 years (with a 5-year mid-term evaluation) and aims to encourage the aggregation and organization of human and material resources with the quality and dimension necessary to respond to specific objectives of national scientific and technological policy [1].
FCT is responsible for conducting the accreditation through a selection process that resulted from a peer review assessment by external independent experts, and that was open to R&D Units or consortia of R&D Units with a merit classification of very good or excellent quality obtained in the last evaluation (2017-2018) and with a minimum number of 80 integrated researchers.

ASSOCIATE LABORATORIES AND FCT EVALUATION

In 2020, FCT launched the first open and competitive call for Associate Laboratories with an external evaluation of the applications. Starting in 2021, 40 Associate Laboratories were awarded with the statute in 6 different scientific domains.
The University of Lisbon had participation in 21 of those Laboratories, which represent 53% of all the Associate Laboratories approved and funded in Portugal. Of that total, 4 (40% of the national total) had the maximum rating (*figures 1 and 3*).

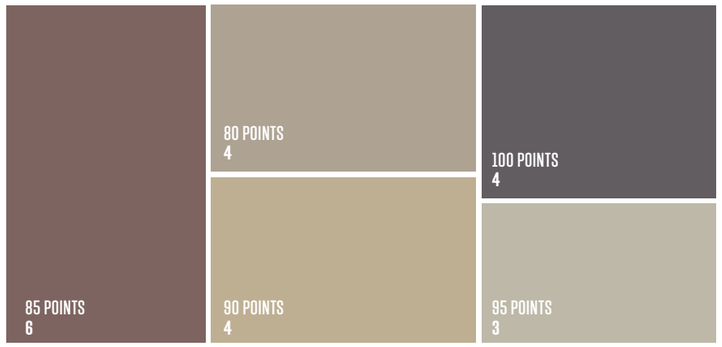

Figura 1: FCT evaluation (2020) of Associate Laboratories (ranging between 80 and 100 points)

[1] www.fct.pt/en/financiamento/programas-de-financiamento/instituicoes-de-id/laboratorios-associados/

The distribution of the Associate Laboratories in Portugal by scientific domain shows the highest number in Natural Sciences (15 Associate Laboratories, 38% of the total) and the lowest in Humanities (only one Associate Laboratory, 3%).
The distribution of the University of Lisbon Associate Laboratories by scientific domain also shows that the highest numbers are in Natural Sciences (12; 57%) and the lowest in Social Sciences (1; 5%) (*figure 2*). University of Lisbon does not have any Associate Laboratory in the scientific domain of Humanities.

Figure 2: Number of Associate Laboratories by scientific domain

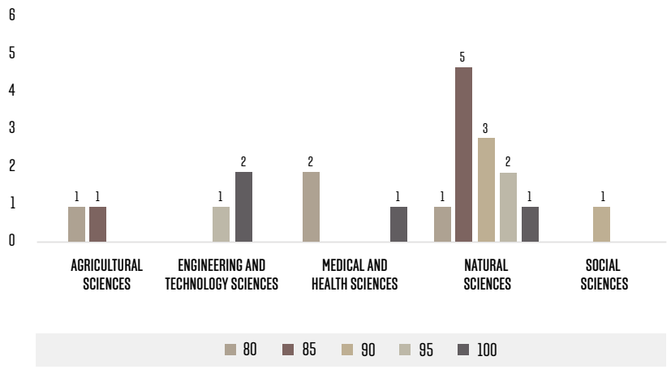

Figure 3: FCT evaluation (2020) of Associate Laboratories by scientific domain (ranging between 80 and 100 points)

In 13 of the 40 Associate Laboratories, the Lead R&D Unit has the participation of University of Lisbon (33% of the national total).
The Associate Laboratories integrate about 100 R&D Units. The University of Lisbon participates with 28 R&D Units in that total which represents about 26% (*table 1*).

Table 1: Lead and participant R&D Units of University of Lisbon

NAME	ACRONYM	LEAD R&D UNITS	PARTICIPANT R&D UNITS
AGRICULTURAL SCIENCES			
Associate Laboratory for Animal and Veterinary Sciences	**AL4Animals**	**Centre for Interdisciplinary Research in Animal Health (CIISA)**	--
Laboratory for Sustainable Land Use and Ecosystem Services	**TERRA**	**Forest Research Centre (CEF)**	• Centre of Geographical Studies (CEG • Environmental Health Institute (ISAMB • Linking Landscape, Environment, Agriculture and Food (LEAF)
ENGINEERING AND TECHNOLOGY SCIENCES			
Associate Laboratory of Energy, Transports and Aerospace	**LAETA**	--	• Mechanical Engineering Institute (IDMEC)
Institute of Telecommunications	**IT**	**Institute of Telecommunications (IT)**	--
Laboratory of Robotics and Engineering Systems	**LARSyS**	--	• Institute for Systems and Robotics - Lisbon (ISR) • Center for Innovation, Technology and Policy Research (IN+) • Interactive Technologies Institute (ITI) • Marine, Environment & Technology Center (MARETEC)
HEALTH AND MEDICAL SCIENCES			
Health Research Network: From the Lab to the Community	**RISE**	--	• Cardiovascular Centre at the University of Lisbon (CCUL)
Institute of Molecular Medicine João Lobo Antunes	**IMM**	**Institute of Molecular Medicine João Lobo Antunes (iMM)**	--
Translation and Innovation Towards Global Health	**REAL**	--	• Laboratory for Instrumentation, Biomedical Engineering and Radiation Physics (LIBPhys)
NATURAL SCIENCES			
Aquatic Research Infrastructure Network	**ARNET**	**Marine and Environmental Sciences Centre (MARE)**	--
Associated Laboratory for Green Chemistry – Clean Technologies and Processes	**LAQV/REQUIMTE**	--	• Glass and Ceramic for the Arts (VICARTE)
Centre for Environmental and Marine Studies	**CESAM**	**Centre for Environmental and Marine Studies (CESAM)**	--
Global Change and Sustainability Institute	**CHANGE**	--	• Centre for Ecology, Evolution and Environmental Changes (cE3c)
Institute for Plasmas and Nuclear Fusion	**IPFN**	**Institute for Plasmas and Nuclear Fusion (IPFN)**	--
Institute for Systems and Computer Engineering, Research and Development	**INESC-ID**	**Institute for Systems and Computer Engineering, Research and Development (INESC-ID)**	--
Institute Dom Luiz	**IDL**	**Institute Dom Luiz (IDL)**	--
Institute for Health and Bioeconomy	**I4HB**	**Institute for Bioengineering and Biosciences (IBB)**	• INESC Microsystems and Nanotechnologies (INESC-MN)
Institute of Molecular Sciences	**IMS**	**Structural Chemistry Centre (CQE)**	--
Laboratory for Instrumentation and Experimental Particle Physics	**LIP**	**Laboratory for Instrumentation and Experimental Particle Physics (LIP)**	--
Laboratory of Physics for Materials and Emergent Technologies	**LaPMET**	--	• Center of Physics and Engineering of Advanced Materials (CeFEMA)
Research Network in Biodiversity and Evolutionary Biology	**InBIO**	--	• Centre for Applied Ecology Baeta Neves (CEABN)
SOCIAL SCIENCES			
Institute of Social Sciences, University of Lisbon	**ICS**	**Institute of Social Sciences, University of Lisbon (ICS-ULisboa)**	--
TOTAL		**13**	**15**

RESEARCHERS

There are approximately 9700 researchers reported as integrated in all the 40 Associate Laboratories. The majority of those researchers can be found in Natural Sciences (40%) and in Enginnering and Technology Sciences (21%).
In the Associate Laboratories with the participation of the University of Lisbon, we have 4576 researchers, representing 47% of the national total. They are found mostly in Natural Sciences (2459; 54%), followed by Medical and Health Sciences (786; 17%). These two scientific domains togheter represent almost three-quarters (71%) of all the University of Lisbon researchers (*figure 4*).

Figure 4: Integrated researchers by scientific domain

The average dimension per Associate Laboratory in Portugal is 242 researchers, ranging from 192 researchers in Agricultural Sciences to 462 researchers in Humanities.
The Associate Laboratories with the participation the University of Lisbon have a slightly different average dimension with 218 researchers, ranging from 125 researchers in Social Sciences to 309 researchers in Agicultural Sciences domains (*figure 5*).

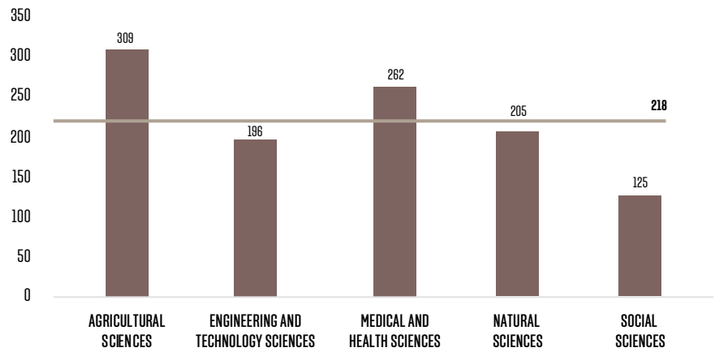

Figure 5: Average number of researchers by scientific domain

FUNDING

For the period 2021-2025, the activities of those Laboratories were funded with 23,708 M€ (annual complementary funding). Of that value, about 9,777 M€ (41% of the national total) were attributed to Associate Laboratories with the participation of ULisboa. Natural Sciences and Engineering and Technology Sciences are the two most funded scientific domains at the University of Lisbon with over 6,925 M€, which represents about 71% of the University of Lisbon total (*figure 6*).

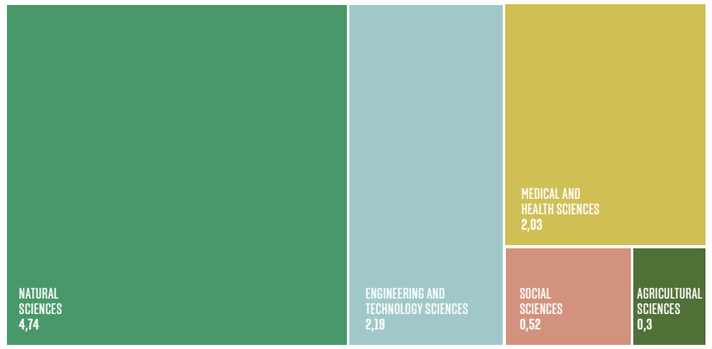

Figure 6: Annual complementary fundind (M€) by scientific domain

There are significant differences in the annual complementary funding awarded to researchers depending on the scientific domain. The average value is 4,16 k€ in Social Sciences and 0,48 k€ in Agricultural Sciences (*figure 7*). The average value granted to a researcher in Associated Laboratories with the participation of University of Lisbon is 2,14 k€.

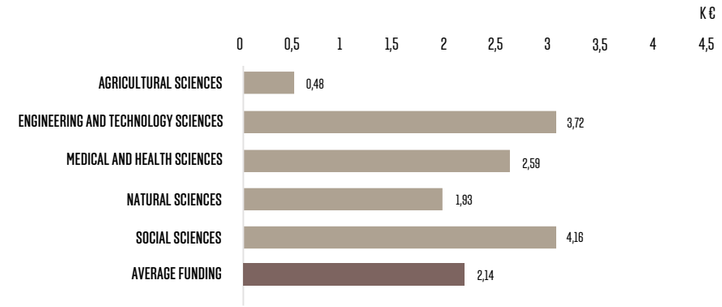

Figure 7: Annual complementary fundind (M€) per integrated researcher by scientific domain

Overall, the University of Lisbon plays a central role in the Portuguese research and innovation system, where FCT Associate Laboratories represent 53%, the researchers 47% and funding reaches 41% of the respective total in Portugal (*table 2*).

Table 2: Number and share of FCT Associate Laboratories, integrated researchers and complementary funding by scientific domain in Portugal and at the University of Lisbon

SCIENTIFIC DOMAIN	NUMBER OF ASSOCIATE LABORATORIES			INTEGRATED RESEARCHERS			ANNUAL COMPLEMENTARY FUNDING (M€)		
	PORTUGAL	ULISBOA	% ULISBOA	PORTUGAL	ULISBOA	% ULISBOA	PORTUGAL	ULISBOA	% ULISBOA
Agricultural Sciences	5	2	40	961	618	64	0,66	0,30	45
Engineering and Technology Sciences	10	3	30	2001	588	29	7,00	2,19	31
Humanities	1	0	0	462	0	0	0,11	0	0
Medical and Health Sciences	6	3	50	1678	786	47	7,38	2,03	28
Natural Sciences	15	12	80	3840	2459	64	7,46	4,74	64
Social Sciences	3	1	33	734	125	17	1,09	0,52	48
TOTAL	**40**	**21**	**53**	**9676**	**4576**	**47**	**23,71**	**9,78**	**41**

AGRICULTURAL SCIENCES

AL4AnimalS

Associate Laboratory since 2021

ASSOCIATE LABORATORY FOR ANIMAL AND VETERINARY SCIENCES

LEAD R&D UNIT

> Centre for Interdisciplinary Research in Animal Health (CIISA)

PARTICIPANT R&D UNITS

> Center for the Study of Animal Science (CECA)
> Veterinary and Animal Science Research Centre (CECAV)

SCIENTIFIC AREAS

Agriculture, forestry and fisheries; earth and related environmental sciences; agriculture biotechnology; social and economic geography; health sciences.

KEYWORDS

Sustainable land products and services; circular economy in land products processing; socioecological systems and territories; environmental health; natural capital, ecosystems and people.

80
(EM 100)
Evaluation (2020)

383
Integrated researchers

1.723.375€
Total annual funding (AL+ R&D Units 2021-2025)

75.000€
Annual complementary funding (2021-2025)

DESCRIPTION

AL4AnimalS aims to synergistically structure the activity of the 3 existing national R&D Centers (CIISA, CECA and CECAV) exclusively dedicated to animal and veterinary science. These sciences are instrumental in meeting the challenges posed by the United Nations' sustainable development objectives for 2020-30, the FAO and WHO mission statements, and the Ministry of Agriculture's agenda for innovation (Portugal 2020-30). The AL4AnimalS is organized in 3 thematic lines: In Green Animal Production, the challenge of sustainable animal production is met, with respect for animal welfare and the environment, simultaneously promoting consumer health, helping to improve the competitiveness of the livestock sector and valuing traditional products. In Emergent Diseases and Zoonosis, we aim to respond to the challenge of proactively controlling zoonosis and emergent animal diseases, where climate change may significantly increase their potential for emergence and/ or spread, through innovation in diagnostics and vaccine development. In Comparative and Translational Medicine and Biotechnology, we meet the challenge of innovating therapeutic solutions, in animal medicine and animal models of human disease, involving preclinical and clinical trials.

STRATEGICAL OBJECTIVES

Grounded on key partnerships with State Laboratories (INIAV, INSA), State Regulatory Agencies (DGAV) and an extensive network of collaborations, AL4AnimalS sets its main objective to develop science and knowledge directed to three major global challenges. The first challenge is put forward by the need to feed an ever-growing world Human population with safe and nutritious animal products. A second major challenge is met by the need to control emergent infectious animal diseases and zoonoses, which cause a devastating impact on production efficiency and public health. A third major challenge is the need to innovate novel therapeutic solutions for animal disease, which may be used as models to Human disease. All these major challenges are priority targets of public policies.
Additionally, to the objective of supporting public policies, AL4AnimalS goals include the production, dissemination and communication of high quality and societal impact research, promote training, mobility, and scientific employment, translate research into industry and society stakeholders, and secure funding and internationalization.

AREAS OF ACTIVITY

Thematic line Green Animal Production (GAP). The GAP thematic line aims to establish a national research-based network dedicated to improving the sustainability of the livestock sector: Increasing the sustainability of livestock production; Safe and Healthier Animal-Sourced Foods (ASF); and Management of Animal Genetic Resources.
Thematic line Emergent Infectious Diseases and Zoonoses. Innovation in diagnostics, therapeutics and vaccines for Emergent Infectious Diseases and Zoonoses.
Thematic line Comparative and Translational Medicine and Biotechnology. Development of innovative therapies and diagnostic tools through a comparative and translational approach.

COORDINATOR

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TERRA

Associate Laboratory since 25/02/2021

LABORATORY FOR SUSTAINABLE LAND USE AND ECOSYSTEM SERVICES

WWW.ISA.ULISBOA.PT/TERRA

LEAD R&D UNIT

> Forest Research Centre (CEF)

PARTICIPANT R&D UNITS

> Centre for Functional Ecology - Science for People & the Planet (CFE)
> Centre of Geographical Studies (CEG)
> Environmental Health Institute (ISAMB)
> Linking Landscape, Environment, Agriculture and Food (LEAF)

SCIENTIFIC AREAS

Agriculture, forestry and fisheries; earth and related environmental sciences; agriculture biotechnology; social and economic geography, health sciences.

KEYWORDS

Sustainable land products and services; circular economy in land products processing; socioecological systems and territories; environmental health; natural capital, ecosystems and people.

85
(EM 100)
Evaluation (2020)

449
Integrated researchers

2.008.614€
Total annual funding (AL+ R&D Units 2021-2025)

223.564€
Annual complementary funding (2021-2025)

DESCRIPTION

1. Natural capital and sustainable ecosystem services: to explore inter-links between biodiversity, ecological resilience and nature's contributions to people well-being. Exploring links between biodiversity, ecological resilience, and nature's contributions to people well-being, to provide a clear mechanistic understanding of current threats to biodiversity in terrestrial, freshwater and marine environments, their impacts on ecosystem functioning and resilience,
and effective ways to mitigate and reverse those impacts, including developing the sustainable use of ecosystem services.
2. Sustainable agriculture forestry and fisheries: harvesting food, wood, fibre and wildlife materials from land, soil and water while safeguarding the integrity of natural biological resources. Developing innovative community-based approaches for ecosystem management planning that may increase the efficiency and the effectiveness of food, wood, fibre and wildlife materials harvest scheduling while addressing ecological sustainability and intergenerational societal needs and demands, under scenarios of global change.
3. Products processing and circular economy: sustainable processing to reduce the environmental impact of land use and generate eco-friendly products. Delivering solutions and innovation towards sustainability of land-derived products' processing in support of national and European policies towards the competitiveness of a circular bioeconomy for the agrifood sector, while developing eco-efficient and zero-waste strategies
4. Society and environmental health: interactions between the physical and social environments and development of preventive and sustainable approaches. Focused on supporting policy decision that promotes an integrated and synergic perspective and action on human and planetary health. Human health conditions and well-being state are dependent of the sustainability of natural resources.
5. Socioecological systems, planning and policy: addresses climate change impact on society, adaptation to/and disaster risk management.This thematic line will address climate change impacts on society, and adaptation and disaster risk management, intertwined with societal and cultural dimensions in space and place, examining opportunities for changing entrenched resource-intensive patterns of contemporary society, while addressing strategies, policies and governance structures to achieve sustainable cities and regions.

STRATEGICAL OBJECTIVES

TERRA aims to deliver innovative socio-ecological scientific evidence in support of best management practices and policy decision-making towards sustainable land use and bio-circularity of its products, while tending to the human societies they support.

TERRA aims to link Sustainable and Healthy Landscapes to Human Well-being, and bridge rural with urban spaces. By adopting a problem-solving and a cooperative approach, TERRA intends to deliver tailored responses to policies and societal needs, within the frames of the Green Deal and SDG.
TERRA is a recent Laboratory, composed of five research centres belonging to three institutes from two universities. With a team of 400 highly qualified researchers TERRA perform complementary research and innovation and have unique skills in forest, riverine, agricultural and urban ecosystems, including territorial management and human health. TERRA has a background and expertise covering the gradient of land use systems and its degree of alteration.

AREAS OF ACTIVITY

TERRA intends to support national and international public policies from Ecosystem health to Human health. Particularly, at national level TERRA Lab can support the national policies for agriculture and forestry, fisheries and national conservation, environmental human health, and human development, with all the tools and knowledge available, and more to be developed.
Social sciences and humanities will be crucial to narrowing the understanding of the drivers and causes of biodiversity loss.
On the European context, the Lab TERRA through its centres, has strong links to the Green Deal initiative either using research funding or being involved in several networks. On a wider context, the TERRA Lab focus is deeply framed by the United Nations Sustainable Development Goals (SGDs) with several members of TERRA involved in the evaluation and implementation of the European instruments to tackle the SDGs.

COORDINATOR

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ENGINEERING AND TECHNOLOGY SCIENCES

LAETA

Associate Laboratory since 01/01/2006

ASSOCIATE LABORATORY OF ENERGY, TRANSPORTS AND AEROSPACE

LEAD R&D UNIT

> Associate Laboratory of Energy, Transports and Aeronautics (LAETA)

PARTICIPANT R&D UNITS

> Mechanical Engineering Institute (IDMEC)

SCIENTIFIC AREAS

Mechanical engineering.

KEYWORDS

Mechanical engineering; aerospace engineering; transport technologies; energy.

95
(EM 100)
Evaluation (2020)

276
Integrated researchers

1.673.502,60€
Total annual funding (AL+ R&D Units 2021-2025)

193.407,60€
Annual complementary funding (2021-2025)

DESCRIPTION

Created in 2006, LAETA is an Associate Laboratory in the fields of Energy, Transportation and Aerospace, which also addresses other emerging fields where its scientific knowledge, grounded on Mechanical, Materials and Aerospace Engineering, can be applied. The core of LAETA is a dynamic, connected community of 264 Integrated Researchers (IRs) and 255 PhD students, located in all regions of continental Portugal. This human capital has been of paramount importance for LAETA's success in the different dimensions of its activity.
For the period 2021-2030, LAETA's work program includes a set of actions focused on the support to the national scientific and technologic policy (NSCP), considering the specific needs of each of its main sectors concerning public policies, namely:

- Energy: to implement at local level the methodologies, tools and technologies most appropriate to effectively face the climate change, with a focus on the energy system, the management and recovery of natural systems, but also on the improvement of existing infrastructures.
- Transport: to promote the use of more sustainable transports, with a reduction of about 25% in greenhouse emission gases in 2030, when compared to 2005. It mainly focus on the vehicle's durability, recyclability and safety, contributing to the decarbonisation of the automotive, aeronautics and railroad sectors and, in parallel, to increase the competitiveness of the national companies operating in them.
- Aerospace: to accelerate the implementation of the Portugal Space 2030 Strategy, particularly in the area of 'Space Technologies', aiming to bring scientific and technological results to higher TRL levels, to increase the participation of Portugal in international scientific missions.
- Industry: to promote the adoption of enabling technologies, such as flexible industrial automation (e.g. robotics and cyber-physical systems), advanced materials processing (e.g. additive and hybrid processes), state-of-the-art ICT and Artificial Intelligence, aiming to increase the efficiency and resilience of the national industrial production.

STRATEGICAL OBJECTIVES

To secure effective support to public policies, by insuring that the R&I outputs of LAETA's multi-annual R&D program effectively support policy-making in its target sectors, namely Energy, Transports and Aerospace, and positively impact the resilience of the related industrial value-chains.

- To secure careers and employment for PhDs in LAETA's areas of intervention, creating attractive career development conditions, as experience plays a key role in supporting the implementation of public policies, in capturing international funds, and in establishing strategic international partnerships.
- To attract talent, by encouraging high-potential (inter) national young researchers to develop their career in LAETA's areas of specialization, thus building stable and high-performing R&I teams.
- To leverage international prominence and secure funding, by reinforcing targeted networking and dissemination activities among the several European organizations in which LAETA is involved.
- AREAS OF ACTIVITY
- Energy: Replacement of the most pollutant fossil technologies by low carbon technologies; Response to climate change and adaptation; Prevention and reduction of the impact of forest fires; New paradigm of inclusive, safe and sustainable cities.
- Transport: Sustainable Mobility - More sustainable transports and reduction of related GEE emissions; Consolidation of a technological base in advanced materials to support an innovative and competitive vehicles components industry; Circular Economy – Design of new products, processes and Services.
- Aerospace: Positioning in Space Technologies Development - Development, construction and operation of equipment, systems and infrastructures relevant for Space applications; capacity and skills through Space-related scientific research, innovation, education and scientific culture.
- Industry: Resilience of the industrial sector; Resources circularity and efficiency; Digitalisation; Human-centred manufacturing.

COORDINATOR

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IT

Associate Laboratory since 01/01/2001

INSTITUTE OF TELECOMMUNICATIONS

WWW.IT.PT

LEAD R&D UNIT

> Institute of Telecommunications (IT)

SCIENTIFIC AREAS

Radio technologies; optics and photonics; information and data science; networks and services; basic science and supporting technologies.

KEYWORDS

Telecommunications; information; electronics; technology.

100
(EM 100)
Evaluation (2020)

194
Integrated researchers

2.111.650€
Total annual funding (AL+ R&D Units 2021-2025)

928.400€
Annual complementary funding (2021-2025)

DESCRIPTION

The Instituto de Telecomunicações is a private, not-forprofit, multi-site association of six universities, one polytechnic institute and two private companies, which was granted the statute of Associated Laboratory in 2001. Having a wide national coverage, the three main sites of IT are located at Universidade de Aveiro, Universidade de Coimbra and Instituto Superior Técnico of the Universidade de Lisboa, but has also delegations at U-Porto, UBI-Covilhã and IP-Leiria.
IT is managed by a Board of Directors with individualized responsibilities regarding human resources, finances, planning and control and business development. IT scientific organization encompasses a Scientific Board, arranged in 16 clusters of research groups and an Advisory Board composed by a Scientific Committee and a Business Committee.
IT mission addresses the creation and dissemination of scientific knowledge, technology transfer and societal challenges on technologies of information, communication and electronics (TICE), with a strong emphasis on Telecommunications. Its research is organized around 4 Thematic Lines devoted to major TICE topics, and a 5th that supports the previous ones with fundamental research on basic sciences and enabling technologies. IT is a member of 2 Digital Innovation Hubs and co-promoter of a Technological Free Zone (ZLT).
IT activities are focused on both fundamental research on TICE, and on applied research, technology transfer aligned with portuguese societal challenges and public policies (e.g., Information and Communication Technologies, Digital Transition of the Economy, Defense, Mobility, Space, Education, and Health). Building on IT rich track-record on those challenges, IT strategic plan is focused on supporting related R&D, on continuing technology transfer and intellectual property through cooperative projects with industry. Additionally, IT will continue hosting and training MSc and PhD students, to feed national highly qualified work force on TICE, and continue supporting (with its own patents and laboratory facilities) the creation of technological startups.
Relying on top-level laboratories, 30 clerks and technicians as well as around 200 integrated researchers holding a PhD degree, IT is well prepared to respond to societal challenges as well as to support public policies in the rich field of TICE.

STRATEGICAL OBJECTIVES

The objectives of the LA Instituto de Telecomunicações concern the creation and dissemination of new knowledge and support advanced training and public policies in the broad field of the Technologies of Information, Communications and Electronics (TICE), with a special emphasis on Telecommunications, in close cooperation with its associated institutions. As an Associated Laboratory, IT objectives focus on addressing societal challenges and public policies by providing enabling TICE through transdisciplinary cooperation with specialists in relevant fields.
IT activities are organized around four thematic lines devoted to major TICE topics, namely wireless communications, optics and photonics, information and data sciences and networks and services, as well as a fifth that supports the previous ones with fundamental research on basic sciences and enabling technologies.

AREAS OF ACTIVITY

IT will support public policies putting at the service of public authorities a team of world class experts to answer identified challenges, as well as to continue supporting the creation and dissemination of technical and scientific culture, namely promoting the scientific literacy of the common citizen.
IT is committed to maintain a tight R&D unit, by joining competences of different experts from universities and polytechnics, contributing to the country's interior development and thus territorial cohesion, as well as to promote the name of Portugal in the international scientific fora.
Furthermore, IT will contribute with project results for solutions to societal challenges, not only in the specific fields of TICE, but also in other fields such as health, space, automation, digital transition of the economy, security, defense and sensor networks, protecting portuguese intellectual property rights, and looking forward to transfer the technology to the industry and nurturing start-ups.

- Aerospace: Positioning in Space Technologies Development - Development, construction and operation of equipment, systems and infrastructures relevant for Space applications; capacity and skills through Space-related scientific research, innovation, education and scientific culture.
- Industry: Resilience of the industrial sector; Resources circularity and efficiency;
- Digitalisation; Human-centred manufacturing.

COORDINATOR

José Carlos Pedro

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LARSyS

Associate Laboratory since 01/01/2001

LABORATORY OF ROBOTICS AND ENGINEERING SYSTEMS

LARSYS.PT

LEAD R&D UNIT

> Laboratory of Robotics and Engineering Systems (LARSyS)

PARTICIPANT R&D UNITS

> Institute for Systems and Robotics - Lisbon (ISR)
> Center for Innovation, Technology and Policy Research (IN+)
> Interactive Technologies Institute (ITI)
> Marine, Environment & Technology Center (MARETEC)

SCIENTIFIC AREAS

Electrical, electronics and computer engineering; computer science and information science; mechanical engineering; medical engineering; other humanities.

KEYWORDS

Robotics and cyber-physical systems; engineering systems; human computer interaction; environmental technologies.

100
(EM 100)
Evaluation (2020)

118
Integrated researchers

1.848.701,06€
Total annual funding (AL+ R&D Units 2021-2025)

1.064.861,06€
Annual complementary funding (2021-2025)

DESCRIPTION

The Laboratory of Robotics and Engineering Systems (LARSyS) was established in 2001 to conduct basic and applied research in engineering technologies while addressing societal challenges and supporting the public policies. Seeking to combine theoretical, practical, and socio-technical impacts, LARSyS has diversified its efforts and approaches to essential application domains from the oceans to aerospace, including disruptive digital technologies (such as advanced robotics and human-centric AI) and life sciences.
LARSyS brings together four R&D units to address the challenges across 5 thematic lines (AIR, OCEANS, URBAN, LIFE, and INTERACTION). Through this unique combination of research capacities, spanning across ten groups conducting specialized work in their core fields of expertise, LARSyS seeks an enhanced capacity to support public policies on a broad set of Portuguese and European societal challenges, by fostering research at new knowledge frontiers across different disciplines, while pursuing world-class excellence in R&D.
LARSyS's pursues a twofold mission: i) To conduct cutting-edge research fostering new knowledge at the forefront of science and technology; and ii) To transfer technology to the production system and society through end-users such as companies, public institutions, and policymakers. The two missions are closely interconnected because new technologies originate from new knowledge and discoveries while informing and influencing public policy. Transforming pioneering research ideas into applicable technologies that impact the world requires a strong effort to balance fundamental research, technology development, and public policy. The global nature of the public policy strategic challenges defined by the Portuguese Government is aligned with the European priorities of the Green Deal, the New European Bauhaus movement, and the European fit for the digital age as well as the major global concerns associated with climate change. These are areas where LARSyS is traditionally well suited to promote new knowledge in an international context that supports the overarching priorities of the European way of life such as an economy that works for people and a stronger influence in the world. LARSyS is synergistically well aligned with these national and European priorities and strategically placed to attract and retain international talent capable of promoting the networked institutional framework required to sustain their societal impact.

STRATEGICAL OBJECTIVES

Active intellectual collaboration among researchers with varied backgrounds and perspectives acquired in different kinds of science (e.g., experimental, computational, and theoretical), different sectors (university, industry, governmental and regional administration), and different regions;
Scientific research and technological development in emerging areas of interest in Robotics and Engineering Systems, through major research projects with national or international Universities, R&D institutions, and industrial companies;
The diffusion of scientific results through publications and by organizing seminars, conferences, exchange visiting programs, and scientific meetings at a national or international setting.
It also aims to provide education and research experience for graduate and undergraduate students, post-doctoral researchers, and industrial fellows by providing exposure to leading-edge research and introducing the students to large-scale collaborative research ventures.

AREAS OF ACTIVITY

Climate change: promoting the energy transition and the circular economy (OCEANS, URBAN, INTERACTION); promoting a new paradigm for cities and mobility (URBAN, INTERACTION); valuing the territory from the sea to the forest (OCEANS, AIR).
Demography and inequality: promoting education, aging with quality of life (LIFE, INTERACTION).
Digital Society: promoting digital skills, culture, Economy 4.0, administrative modernization and social protection in the transition (INTERACTION, URBAN, OCEANS, AIR).

COORDINATOR

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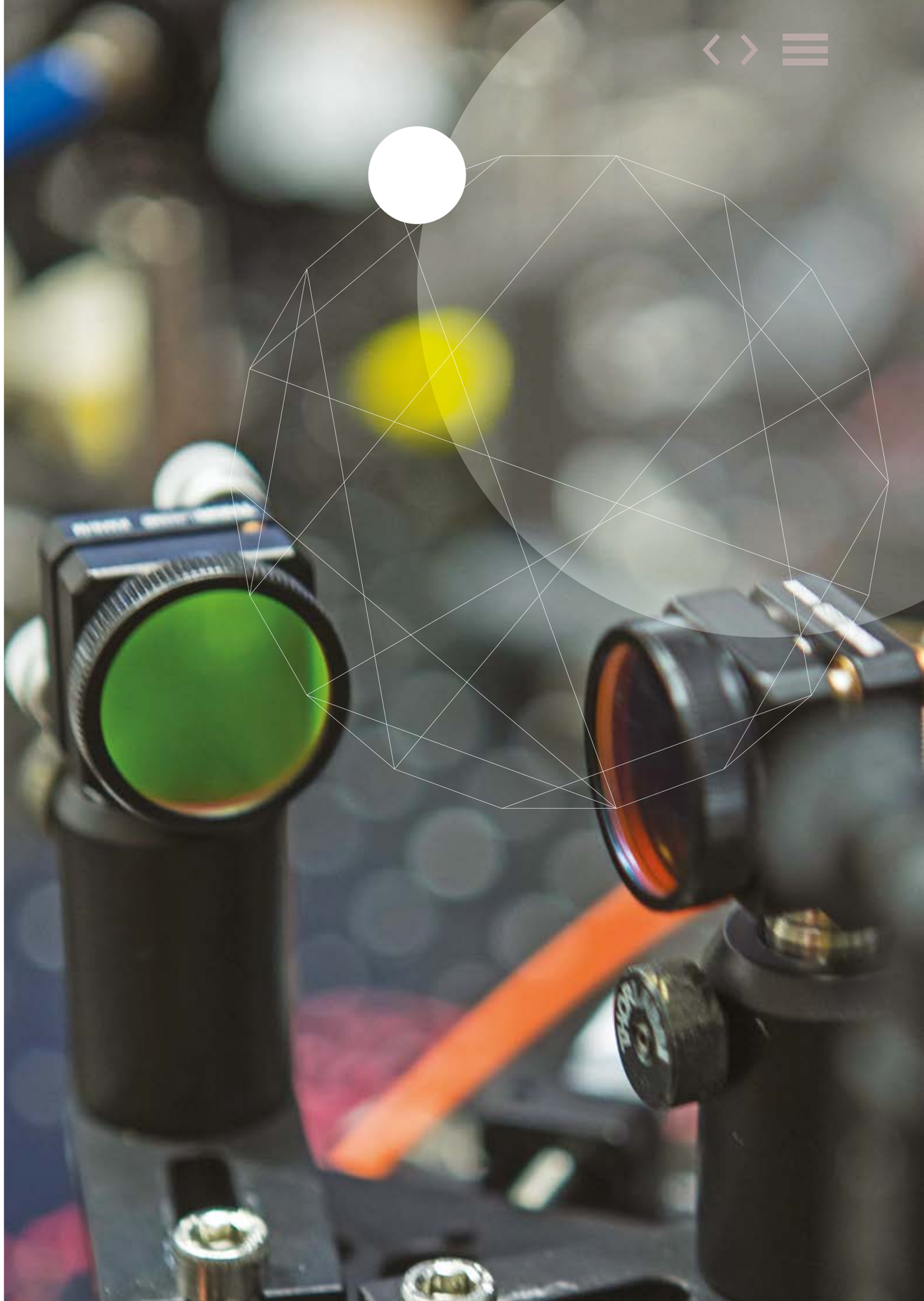

MEDICAL AND HEALTH SCIENCES

RISE

Associate Laboratory since 24/02/2021

HEALTH RESEARCH NETWORK: FROM THE LAB TO THE COMMUNITY

RISE-HEALTH.PT

LEAD R&D UNIT

> Center for Health Technology and Services Research (CINTESIS)

PARTICIPANT R&D UNITS

> Cardiovascular Centre at the University of Lisbon (CCUL)
> Cardiovascular Research and Development Center (UnIC)
> IPO Porto Research Center (CI-IPOP)

SCIENTIFIC AREAS

Clinical medicine; health sciences; basic medicine.

KEYWORDS

Clinical research; digital transformation; translational medicine; community health.

95
(EM 100)

Evaluation (2020)

276

Integrated researchers

1.673.502,6€

Total annual funding (AL+ R&D Units 2021-2025)

1.823.562,73€

Annual complementary funding (2021-2025)

DESCRIPTION

The scientific structure of RISE relies on 5 specific thematic lines, which articulate to take on its 5 public policy challenges:

TL1 - Clinical and Translational Research in Cardiovascular Sciences - Design to:

- Develop medical devices and new techniques in cardiovascular surgery and large animal models of cardiovascular diseases (CVD);
- Implement a National Cardiac Surgery Registry;
- Expand research on aging, cerebral autoregulation, the mechanisms of cerebrovascular disease, and the relationship between CVD in early life and upcoming adult cardiovascular risk.

TL2 - Clinical and Translational Research in Oncology - Design to:

- Promote the inclusion of research as an integral part of cancer patient care;
- Contribute to cancer management from prevention, optimization of diagnosis and treatment;
- Increment clinical research, including early-phase clinical trials on targeted therapies and immunotherapy;
- Develop bioimaging, bioinformatics, and outcome assessment tools;
- Contribute to internationally competitive translational and clinical cancer research.

TL3 - Clinical and Translational Research in Inflammatory and Degenerative Diseases - Design to:

- Conduct observational studies to identify biomarkers, to develop new approaches to disease prevention, diagnosis, and treatment;
- Monitor the effectiveness and safety of new and old therapies;
- Study the characteristics of patients with inflammatory and degenerative diseases by applying artificial intelligence and machine learning systems;

TL4 - Healthcare Policy, Technology and Digital Transformation - Design to Catalyse the transfer of knowledge from the main field of expertise of each TL and:

- Generate, analyse and synthesise evidence and information, promoting their strategic use for policy design and evaluation;
- Promote evidence-based decision-making and health policy in Portugal and elsewhere;
- Develop and evaluate patient-centred digital health technologies;
- Develop and promote the digital transformation in Portugal.

TL5 - Community Health and Societal Challenges - Design to:

- Set up clinical trials in the field of Nutrition;
- Promote observational studies to monitor nutrition status and environmental exposures, particularly in at-risk groups such as school-aged children, pregnant women, elderly, vegans, vegetarians, and obese patients;
- Identify policy opportunities, from prevention to disease management, that will help ensure obesity is tackled as a chronic disease.

STRATEGICAL OBJECTIVES

RISE's mission is to strengthen health research from the preclinical and clinical stages to the community level, fulfilling the Portuguese policy goals for science and technology.
Relying on solid human resources from clinical and translational researchers to healthcare professionals and on a physical infrastructure that merges academia and the healthcare system, RISE commits to meet three key sustainability goals:

- To promote scientific and technical careers for doctorates while ensuring talent attraction for Portugal.
- To support governmental entities in monitoring public policies addressed to scientific, health, social, environmental, and economic challenges.
- To increase and diversify funding sources from European Union and other international agencies.
- RISE aims to be the major catalyst in changing the landscape of Portugal's clinical, translational, and community research.

AREAS OF ACTIVITY

RISE is grounded on solid multidisciplinary expertise that spans data and decision analysis, evidence synthesis, health technology, healthcare economy, combined with scientific backgrounds and healthcare practice on cardiovascular, metabolic, cancer, and inflammatory diseases. On this ground, RISE is set to ensure the support, promotion and monitoring of public policies through 5 specific challenges: 1. Identification and introduction of critical problems onto the political agenda in health and healthcare; 2. Generation of evidence and information, and promotion of their strategic use to inform policy design and evaluation; 3. Provision of a robust infrastructure to monitor and evaluate implemented policies; 4. Proposal of alternative solutions for identified problems with implemented health policies; 5. Promotion of implementation of designed policies by leveraging knowledge transfer to the science and healthcare professionals and the Community.

COORDINATOR

Fernando Carlos de Landér Schmitt

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iMM

Associate Laboratory since 01/01/2021

INSTITUTE OF MOLECULAR MEDICINE JOÃO LOBO ANTUNES

IMM.MEDICINA.ULISBOA.PT

LEAD R&D UNIT

> Institute of Molecular Medicine João Lobo Antunes (IMM)

SCIENTIFIC AREAS

Health Sciences.

KEYWORDS

Molecular and cellular biology; development, ageing and cancer; infection and immunity; neurosciences and behavior.

100
(EM 100)

Evaluation (2020)

162

Integrated researchers

2.942.762,73€

Total annual funding (AL+ R&D Units 2021-2025)

1.823.562,73€

Annual complementary funding (2021-2025)

DESCRIPTION

iMM entails groundbreaking projects in order to increase the competitiveness of research in Portugal towards the European and international benchmarks of scientific excellence. iMM has an outstanding research portfolio with its 34 research groups organized in 4 Research Lines: Molecular and Cellular Biology; Development, Ageing and Cancer; Infection and Immunity; Neurosciences and Behavior. iMM's interdisciplinary approach ensures critical mass, and its scientific impact is reflected in over 300 original peer-reviewed publications in 2021 alone, and shared authorship with groups from 100+ countries worldwide.
iMM runs a MSc Program and an international PhD Program - LisbonBioMed – promoting multidisciplinarity, critical thinking and entrepreneurial attitudes towards biomedical research. Additionally, the scientific training of medical doctors within CAML renews the "teaching hospital" concept securing the essential compatibility of medical education & research & patient care. iMM's career structure for doctorates lays upon four core principles: Career development ensuring scientific freedom and progression/ retention based solely on merit, evaluation results and alignment with scientific strategy of iMM; Transparent and fair procedures for recruitment and progression; Tailored training and continuing professional development; Promotion of research culture.
iMM has a consistent diversification of funding applications, translated in app. 60% of the secured funding coming from international funding sources. The outstanding performance of iMM in H2020 makes it the #1 Portuguese research institute in terms of EU H2020 secured funding (€32M). Additionally, iMM has been the most successful Portuguese institution in the prestigious funding scheme la Caixa Health Research program (11 awarded grants in the 4 editions of the program).
iMM created a Technology Transfer Office in 2018 and, since then, iMM registered 80 new inventions, 103 patent applications, 16 patents licensed to companies, 110 collaborations with industry, and 13 startup companies. Three of these start-up companies raised more than 23 million euros in the last 2 years from leading European venture capital (VC) funds.
iMM has always invested in state-of-the-art infrastructures strongly contributing to the National Roadmap of Research Infrastructures (integrating 9 RIs and coordinating the National Network of Biobanks), and integrating European RI's - EATRIS, BBMRI, EuroBioimaging, EU-OPENSCREEN.

STRATEGICAL OBJECTIVES

iMM aims to nurture innovative ideas in basic, translational and clinical Biomedical Research, towards maximizing their impact on society. Since iMM's creation in 2002, our overarching mission has been defined by the promotion of scientific excellence, leveraged by top quality human resources (including through outstanding training programs) that are supported by state-of-the-art infrastructures, and knowledge transfer to the society. Hence, iMM's strategy is laid upon three major objectives:
1. Promote SCIENTIFIC EXCELLENCE to foster new and disruptive discoveries, creating room for bold initiatives that cannot be anticipated today.
2. Nurture ADVANCED TRAINING AND CAREER DEVELOPMENT enabling the most promising researchers to succeed in internationally competitive environments of academia, industry and clinical medicine.
3. Galvanize TRANSLATION FOR HUMAN HEALTH as we strongly advocate that outstanding science is the motor of groundbreaking applications.

AREAS OF ACTIVITY

iMM's activity within its Strategic Pillars - I. Scientific Excellence; II. Advanced Training & Career Development; III. Translation for Human Health - and Lines of Action – Lisbon Academic Medical Centre, Clinical Research Center, CoLife, CoLab, Public Engagement & Science Education - are strong and decisive contributors to public policies, namely:

- European - Prioritise investments and reforms in research and innovation;
- Improve access to excellent facilities and infrastructures;
- Transfer results to the economy;
- Strengthen mobility of researchers and free flow of knowledge and technology;
- National Transversal Domains;
- Innovation and Knowledge;
- Qualification, Training and Employment;
- Demographic sustainability;
- Regional Strategic Pillars;
- Qualification (Human Capital, Internationalization);
- New Technologies;
- Knowledge economy, open innovation, research and investment, specialization;
- Active Ageing;
- Regional Structuring projects;
- Schools for the world – international excellence centers;
- Precision Medicine.

COORDINATOR

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REAL

Associate Laboratory since 24/05/2021

TRANSLATION AND INNOVATION TOWARDS GLOBAL HEALTH

LEAD R&D UNIT

> Comprehensive Health Research Center - Research
> Education, Training and Innovation in Clinical research and Public Health (CHRC)

PARTICIPANT R&D UNITS

> Global Health and Tropical Medicine (GHTM)
> Laboratory for Instrumentation, Biomedical Engineering and Radiation Physics (LIBPhys)

SCIENTIFIC AREAS

Medical and health sciences - clinical medicine; medical and health sciences - health sciences; medical and health sciences - medical biotechnology; engineering and technology sciences - medical engineering.

KEYWORDS

Global health; public health; translational medicine; digital tranformation.

80
(EM 100)
Evaluation (2020)

241
Integrated researchers

1.715.993,60€
Total annual funding (AL+ R&D Units 2021-2025)

135.078,60€
Annual complementary funding (2021-2025)

DESCRIPTION

The Associated Laboratory in Translation and Innovation Towards Global Health (REAL) is a multidisciplinary, multi-institutional and highly collaborative new associated laboratory aiming at advancing translation science and medicine, in a bench-to-bedside approach, discovering and developing new diagnostic tools and treatments and ensuring that proven strategies for disease treatment and prevention are actually implemented within the community. The main strategic goal is to encourage and increase R&D activities, involving strategic national and international partners, seeking to increase the impact on global health, based on the various existing funding opportunities. To bridge the gap between science and populations needs, REAL will invest on policy making effort by working with national and international health authorities in order to effectively implement the discovered solutions. REAL is grounded in four pillars: 1) researchers career development; 2) strategic alliances with international and national, private and public institutions; 3) open science, fairness, confidentiality and trust; 4) Community/patient engagement, health education and dissemination.
REAL brings together 3 R&D Units: 1) Comprehensive Health Research Centre (CHRC), classified as excellent by Fundação para a Ciência e Tecnologia (FCT); 2) Global Health and Tropical Medicine (GHMT) also classified as excellent by FCT; and Laboratory for Instrumentation, Biomedical Engineering and Radiation Physics (LIBPhys), classified as very good by FCT.
REAL laboratory gathers 160 integrated PhD researchers that investigate, collaborate, innovate, teach and train across 5 thematic lines (I-V): I) Health Promotion through Life Course, Health Trajectories and Transitions, behavioral insight and inequalities; II) New therapies, biomarkers and personalized medicine in high burden and high mortality diseases; III) Global health in One Health; IV) Health policies, universal coverage, patient centered and efficient healthcare; V) Digital health, Medtech, Health Technology Assessment and access to the market.
REAL benefits and capitalizes from a strong and organized administrative department that provides support in financial and project management, legal and regulatory affairs, internal and external communication, and institutional and international relationships. We will build research capacity through our career development department, responsible for talent recruitment and retention, research exchange partnerships, identifying training opportunities offered by the medical and health science schools' members of our consortium. We have a long tradition of partnerships with primary care centers and hospitals, patient associations, several companies, non-profit organizations, and Portuguese Governmental Agencies that help us to accomplish our mission.

STRATEGICAL OBJECTIVES

- To emphasise research work produced by the several trans and interdisciplinary Research Groups. This cross transdisciplinary of research fields, will allow to discover new knowledge, resulting from the interceptions frontiers of each thematic line and related scientific areas.
- To prepare international research projects, accessing to funding opportunities to attracting funding from the European Union for R&D activities in Portugal.
- To implement active intellectual collaboration, networks and research platforms with other national and international centres, allowing the development of international networking.
- To invest in the approach with society in general, hospitals, companies and industry, focusing in knowledge transference to respond to respond to scientific, health, environmental, social and political challenges.
- To provide education and research experience, introducing students to large-scale collaborative research ventures.

AREAS OF ACTIVITY

Public Policy Issues, which will be addressed by REAL Activities:
- Clinical and information technology: improve the efficiency and timeliness of care delivery, as well as patients access to services and information
- Ageing populations: develop preventative strategies and technological innovations to people living longer across the world.
- Preventative care: develop new therapies to combat significant global health threats, such as Cancer and communicable disease outbreaks.
- Accreditation, standards and policy: strengthen the healthcare system through national policies and standards.
- Patient-based care: develop approaches and studies to educating patients and empowering to be involved in decisions about their care.
- Implement policies promoting healthy diets, physical activity, healthy aging, and health literacy tools.
- Promote mental health and healthy aging.
- Reduce inequalities between citizens in access to health, promoting social inclusion. Ensure health care, especially in situations of drug addiction, infectious diseases, and mental health.

Proposal of alternative solutions for identified problems with implemented health policies; 5. Promotion of implementation of designed policies by leveraging knowledge transfer to the science and healthcare professionals and the Community.

COORDINATOR

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NATURAL SCIENCES

ARNET

Associate Laboratory since 01/02/2021

AQUATIC RESEARCH INFRASTRUCTURE NETWORK

WWW.MARE-CENTRE.PT

LEAD R&D UNIT

> Marine and Environmental Sciences Centre (MARE)

PARTICIPANT R&D UNITS

> Centre for Marine and Environmental Research (CIMA UALG)
> Centre of Molecular and Environmental Biology (CBMA)

SCIENTIFIC AREAS

Earth and environmental sciences; biological sciences; agriculture, forestry and fisheries; environmental biotechnology; other natural sciences.

KEYWORDS

Watersheds, coastal systems and ocean; environment; natural and anthropogenic impacts; marine resources and biotechnology.

95
(EM 100)
Evaluation (2020)

324
Integrated researchers

1.900.956€
Total annual funding (AL+ R&D Units 2021-2025)

210.256€
Annual complementary funding (2021-2025)

DESCRIPTION

The Aquatic Research Network (ARNET) is a nationwide multi-institutional network that combines expertise in biologic and environmental sciences, allowing approaching scientifically and technologically all types of aquatic systems, in a context of global and regional changes and cumulative anthropogenic pressures, applying ecosystemand methodologically-oriented approaches.
ARNET's vision is to be an Associate Laboratory of reference in aquatic sciences based on a holistic and integrated approach from river basins to deep sea ecosystems, contributing to strengthened national and European scientific and technological policy instruments, while establishing itself as a leading driver on the role of Science and Innovation for social and economic development and wealth.
ARNET's mission is to enable science-policy-action exchanges, providing the best available scientific knowledge based in aquatic ecosystems for policy and management decisions with respect to blue and green growth. ARNET skills and capabilities, international scope, geographic coverage and research themes development makes this Associate Laboratory to stand out within the Portuguese scientific system and place itself as a key player within the European context.
ARNET's Strategic Plan is based on an efficient organizational model systematised into eight intervention axes: (1) Reinforcing RD&I; (2) Supporting public policy; (3) Disseminating research to international institutions; (4) Attracting funding (5) Networking; (6) Mobilizing high quality researchers; (7) Building Capacity of early career scientists and professionals; (8) Promoting public engagement and science communication. Each and all intervention axes support the achievement of the National Scientific and Technological Policy objectives, in particular the response of public policies to scientific, environmental, sanitary (environmental health), economic and social challenges. The scientific contributions are developed under five Thematic Lines (TL) linked to ARNET's objectives and societal challenges. Specifically: Scientific Challenge | TL1-Novel Approaches in Aquatic Exploration and Monitoring; Environmental Challenge | TL2-Environmental Sustainability under Global Change; Sanitary Challenge | TL3-Assessment and Management of Environmental Risks; Economic Challenge | TL4-Biotech- & Nature Based Solutions for Blue Economy; Social Challenge | TL5-Governance, Citizen Science and Ocean Literacy.

STRATEGICAL OBJECTIVES

ARNET aims at increasing the excellence, impact, and applicability of the scientific production related to marine and freshwater research, driven by five societal challenges: scientific, environmental, sanitary (environmental health), economic and social, that set the framework for ARNET's objectives: 1 - Support the development of scientific and technological approaches towards the sustainable use of aquatic ecosystems; 2 - Advance the knowledge on the functioning of aquatic ecosystems; 3 - Promote good ecological status of aquatic realms; 4 - Explore biotechnology and Nature-Based Solutions (NBS) to encourage better stewardship of aquatic resources; 5 - Promote participatory governance models and Ocean literacy.
In addition, two additional cross-cut objectives support ARNET actions: 6 - Drive international cooperation to advance education and training for a Blue Economy; 7- Build upon an international identity strategy based on dissemination, mobilization, funding and networking.

AREAS OF ACTIVITY

ARNET is committed to strengthen the science-policy interface through actions aligned with global, European, and national scientific and technological policy instruments relevant for aquatic environments. In particular, ARNET actions are aligned with five public policy areas: 1-Sustainability (e.g. UN SDGs, EU Green Deal); 2-Environmental conservation and monitoring (e.g. Biodiversity Strategy for 2030, OSPAR, Convention on Biological Diversity, MSFD, WFD, European IAS Regulation, Strategy for Plastics in a Circular Economy, Food and Nutritional Security Strategy); 3-Blue economy (e.g. Blue Growth Strategy, MSP Directive, Common Fisheries Policy, Farm to Fork Strategy, National Strategy for the Sea), 4-Open Science and Big Data (e.g. Global Ocean Observing System 2030 Strategy, Open Science Agenda), and 5-Research and Innovation (e.g. EU Framework Programme for Research and Innovation, EU Strategy Forum on Research Infrastructures, National Scientific and Technology Policy).

COORDINATOR

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LAQV/REQUIMTE

Associate Laboratory since 21/11/2021

ASSOCIATED LABORATORY FOR GREEN CHEMISTRY – CLEAN TECHNOLOGIES AND PROCESSES

LAQV.REQUIMTE.PT

LEAD R&D UNIT

> Associated Laboratory for Green Chemistry - Clean Technologies and Processes (REQUIMTE)

PARTICIPANT R&D UNITS

> Glass and Ceramic for the Arts (VICARTE)

SCIENTIFIC AREAS

Chemical sciences; chemical engineering; agricultural biotechnology; nanotechnology; other humanities.

KEYWORDS

Sustainable chemistry and clean processes; food science and technology; chemistry to health & wellbeing; cultural heritage.

95
(EM 100)
Evaluation (2020)

349
Integrated researchers

2.983.090,50€
Total annual funding (AL+ R&D Units 2021-2025)

843.255,50€
Annual complementary funding (2021-2025)

DESCRIPTION

The Laboratório Associado para a Química Verde | Associated Laboratory for Green Chemistry, LAQV, is the Portuguese Research Centre for Sustainable Chemistry, a key component of an imperative World Sustainable Development. As a science-driven institution, it produces high-quality research and participates in international networks and projects; a fundamental aspect is its participation in advanced education and training programs to a large international community of students. LAQV is a valuable partner in national industry and consumer associations, keeping its objectives aligned with political policies and research agenda established by the Portuguese Government and the strategic agenda of FCT-MCTES. To pursue the objectives established, LAQV is focused in five Thematic Lines: Chemistry Towards a Greener World; Food Science and Technology; Chemical Engineering for Sustainability; Chemistry to Health & Wellbeing; and Cultural Heritage. The strategy of LAQV crosses all policy agendas adopted at the national and international levels.
To tackle such compliance, LAQV working program is focused on different key points: investment in energy transition and sustainability, with a focus on renewable energies and circular economy; investment in the usefulness of marine resources, capitalizing on the broad Exclusive Economic Zone of Portugal, with several purposes, including for biomedical applications, following biorefining and sustainable sea mining; capitalizing on the impact of chemical and biotechnological discoveries for health by being the translation of conceptual models and research into operative devices and practices that contribute effectively to improve healthy life expectancy and wellbeing; investment in Co-Development R&D projects and Mobilizer Projects, in collaboration with several companies and technological centers; investment on the sustainability of the environment and of the agri-food chain by pursuing the protection and the sustainable exploitation of all ecosystems towards high-efficient resources within a circular economy. LAQV has also a full thematic line dedicated to Science and Culture, which is focused on the identification, preservation, dissemination, and promotion of the scientific and cultural heritage of Portugal. LAQV activities will continue to be focused on public policies, covering their transversal activities of education and training and the Research & Innovation Activities within cutting-edge topics of public interest.

STRATEGICAL OBJECTIVES

LAQV objectives are aligned with Public Policies Framework. Its activities, namely scientific, academic and technological are focused on areas of social and economic relevance. As such, LAQV members aim to contribute with their expertise to the definition of public policies, and to maximize the impact of these policies. With this purpose and with Chemistry as the underlying theme, LAQV set the following objectives:
- Create and develop sustainable procedures and technologies towards a circular and climate-neutral exploitation of natural resources – land and sea.
- Boost a cooperative research strategy towards a valued, healthy, and safe water and food supply.
- Provide processes and methodologies for Energy Transition and Sustainability.
- Converge and integrate top-notch research and expertise towards an effective improvement of healthy life expectancy and wellbeing.
- Use green and innovative processes towards the protection, enhancement, and conservation of Cultural Heritage.

AREAS OF ACTIVITY

LAQV has a two-way connection with (inter)national public policies: its objectives are established according to public policies, and also participates in management and leadership positions of associations, societies, and professional orders, which articulate with policy makers towards the definition of new public policies, covering the different fields of expertise of LAQV members, namely, Chemistry, Food Science, (Bio) Chemical Engineering, Health and Preservation of Cultural Heritage. LAQV has already been committed to complying with several strategies proposed by the Government, and its objectives cross several topics of public policies: i) urban science and cities for the future; ii) sea; iii) health and clinical; iv) industry and manufacturing; v) agri-food, forests and biodiversity; vi) science and culture. LAQV also contributes to the following national agenda: climate change, cultural heritage, circular economy, sustainable energy systems, and job qualification in Portugal.

COORDINATOR

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CESAM

Associate Laboratory since 01/01/2011

CENTRE FOR ENVIRONMENTAL AND MARINE STUDIES

WWW.CESAM-LA.PT

LEAD R&D UNIT

> Centre for Environmental and Marine Studies (CESAM)

SCIENTIFIC AREAS

Earth and environmental sciences; biological sciences; physics; chemistry.

KEYWORDS

Climate change and strategic planning; biodiversity and ecosystem-based management; sustainability, blue growth and circular economy; social challenges and advanced training.

85
(EM 100)
Evaluation (2020)

220
Integrated researchers

1.747.406,40€
Total annual funding (AL+ R&D Units 2021-2025)

409.806,40€
Annual complementary funding (2021-2025)

DESCRIPTION

CESAM is a Research Unit and Associated Laboratory organized in two poles, at the University of Aveiro and at the Faculty of Sciences of the University of Lisbon. CESAM´s support to public policies responds to existing and emerging challenges, following a multi-actor and multi-sectoral approach framed on 4 TL: Ecology & Functional Biodiversity, focused on the functional role of biodiversity, structure and processes of ecosystems, and the services they provide; Environment & Health, concerning the growing evidence of the role of the environment as a determinant of human health; Marine Ecosystems & Resources, focused on the complex interrelations between maritime activities, blue growth and marine environment; Integrated Environmental Systems, addressing institutional, behavioral, critical and adaptive economics towards sustainable development, management of natural capital and circular economy, and contributing to innovative products, services, models and processes that benefit the environment.
The CESAM main contributions are: i) Assessment and to the regulations of microplastics in the environment and to the long-term goal of Zero plastic litter generation; ii) Attractiveness of CESAM, Portugal-Centro Region and the country for internationally excellent and mobile highly promising young researchers and researchers with recognized expertise, namely in the field of socio-ecological sciences; iii) Support policies on wildfire risk assessment and management; measures and good practices for air quality and well-being; action plans for coastal areas vulnerability and risks; iv) Conservation of cetaceans and seabirds supporting the definition of new marine NATURA 2000 sites and enlargements of marine areas of pre-existing NATURA sites contributing to the application of the Habitats Directive and the Birds Directive in Portugal; v) Implementation of the WFD and REACH regulation; help to define a strategy for effect characterization within the pesticide ERA for amphibians; and provide authorities tools for decision-making in what concerns the aquatic ecosystems management and antibiotic prescription policies; vi) To reach the European Green Deal objectives and to contribute to the implementation of the UN 2030 Agenda for Sustainable Development, by fulfilling the 2025 milestones.

STRATEGICAL OBJECTIVES

CESAM's research covers the biosphere, atmosphere, hydrosphere, lithosphere and anthroposphere. Our mission is to develop leading international research on environmental and marine sciences, following a multi-actor and multisectoral approach, framed into 4 multidisciplinary Thematic Lines, and promoting scientific knowledge and the connection between science and policies: Ecology & Functional Biodiversity; Environment & Health; Marine Ecosystems & Resources; Integrated Environmental Systems. The main objective is to promote a more efficient use of terrestrial and aquatic (from catchment to the deep sea) environmental resources and a more competitive, resilient and sustainable economy. CESAM aims to develop transdisciplinary research and to promote international collaboration among researchers, innovators and students, and to foster the scientific, societal, environmental, economic and advanced training impact of its research.

AREAS OF ACTIVITY

CESAM is committed to give scientific support to public policies in environmental, health, social, and economic challenges. Namely:
i) Social & Scientific: National Strategy for Scientific and technical careers for PhDs;
ii) Environment & health: European Strategy for Plastics; EU REACH regulation updates on chemical substances;
iii) Climate: National Strategy for Adaptation to Climate Change; FCT Agenda for Climate Change; Portuguese Energy & Climate Plan; European Green Deal, for a sustainable transition towards a Europe climate neutral by 2050;
iv) Natural capital: Portuguese sectoral plan for the Natura 2000 network; National Strategy for Nature Conservation & Biodiversity 2030; FCT Agenda Agrofood, Forests and Biodiversity; National Ocean Strategy; Biodiversity Strategy 2030; UN Decade of Ocean Science for Sustainable Development; and
v) Environment & Economics: Portugal-Centro R&I strategy for smart specialisation; EU's 2020 Strategy for smart, sustainable and inclusive growth.

COORDINATOR

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CHANGE

Associate Laboratory since 01/01/2021

GLOBAL CHANGE AND SUSTAINABILITY INSTITUTE

LEAD R&D UNIT

> Mediterranean Institute for Agriculture, Environment and Development (MED)

PARTICIPANT R&D UNITS

> Center for Environmental and Sustainability Research (CENSE)
> Centre for Ecology, Evolution and Environmental Changes (cE3c)

SCIENTIFIC AREAS

Biological sciences; agriculture, forestry, and fisheries; earth and related environmental sciences; environmental engineering; social and economic geography.

KEYWORDS

Agro-food and forestry systems; sustainability of natural resources; circular economy and carbon neutrality; governance and territorial cohesion.

90
(EM 100)
Evaluation (2020)

325
Integrated researchers

1.997.886€
Total annual funding (AL+ R&D Units 2021-2025)

217.436€
Annual complementary funding (2021-2025)

DESCRIPTION

Global change is affecting the natural environment and people's livelihoods around the world. Ongoing environmental, demographic, and socio-political changes are shaping the 'where' and 'how' people will be able to live in the future. Tackling such increasingly interconnected drivers of change requires a rethink on how R&I, societal and political systems can be integrated to develop public policies and trigger private sector initiatives needed to mitigate and adapt to the effects of ongoing changes.
The recently approved "European Green Deal" establishes ambitious goals for turning global change challenges into opportunities, essentially by speeding up the transition into a truly sustainable economy while reducing the EU environmental footprint. Tackling these challenges will require that R&I units streamline the development of policies at national and European levels.
As the first Associate Laboratory fully dedicated to Global Change and Sustainability in Portugal, CHANGE aims to (1) becoming the go-to R&I hub for developing, evaluating and operationalizing policies at regional, national and international level; (2) attracting, training and retaining top-level international and national researchers tackling Global Change and Sustainability; and (3) achieving financial sustainability grounded on diversified funding from national and international sources, including both the private and public sectors. CHANGE is committed to support public policies that (i) safeguard and promote biodiversity and ecosystem services; (ii) ensure sustainable food and biomass systems, from production to consumption; (iii) ensure protection and regeneration of natural resources; (iv) promote a circular and carbon-neutral economy, and (v) strengthen territorial cohesion by reducing regional and social disparities. CHANGE will foster cross-disciplinary linkages, ultimately contributing to resilient environments, healthy people and sustainable economies.

STRATEGICAL OBJECTIVES

To effectively contribute to pressing global change and sustainability issues, CHANGE will be organized around five strategic science-policy-oriented objectives:

- Support policies for safeguarding and promoting biodiversity and ecosystem services.
- Support policies to ensure sustainable food and biomass systems.
- Support policies to ensure the preservation and regeneration of natural resources.
- Support policies that promote a circular and carbon-neutral economy.
- Support policies that strengthen territorial cohesion.

AREAS OF ACTIVITY

- Global Change and Sustainability.
- Agro-ecological and forestry systems.
- Natural resources management.
- Biodiversity and ecosystem services.
- Circular economy.
- Territorial cohesion.

COORDINATOR

Teresa Pinto Correia

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IPFN

Associate Laboratory since 01/01/2002

INSTITUTE FOR PLASMAS AND NUCLEAR FUSION

WWW.IPFN.TECNICO.ULISBOA.PT

LEAD R&D UNIT

> Institute for Plasmas and Nuclear Fusion (IPFN)

SCIENTIFIC AREAS

Physics.

KEYWORDS

Plasma science and engineering; nuclear fusion; intense lasers; photonics.

95
(EM 100)

Evaluation (2020)

87

Integrated researchers

1.465.665,05€

Total annual funding (AL+ R&D Units 2021-2025)

861.565,05€

Annual complementary funding (2021-2025)

DESCRIPTION

It is the core of IPFN mission to:
- Coordinate the Portuguese participation in the Euratom Fusion Programme and in the European Joint Undertaking for ITER and the Development of Fusion Energy (F4E).
- Participate in projects with the European Space Agency (ESA), related to studies of fundamental physics of space and astrophysical plasmas.
- Ensure the Portuguese participation in the European projects on new plasma accelerators.
- Develop the national technology in ultrashort, ultra-intense lasers for multidisciplinary applications.
- Ensure the Portuguese participation in European projects and networks on low-temperature plasma physics and engineering and to develop national competences in plasma-based key-enabling technologies for environmental, biological and energy applications and for novel nanostructured materials.
- Promote the development and research on ion solid interactions and ion beam technologies in multidisciplinary fields.
- Carry out research projects, service rendering, advanced training and outreach activities
- Collaborate in the graduate and post-graduate teaching in Plasma Physics and Engineering, Intense Lasers and Controlled Nuclear Fusion.

IPFN key highlights are:
- Joining the international endeavour for the energetic transition: IPFN nuclear fusion activities have been strongly focused on the work programme established on the Fusion roadmap for HorizonEurope and ITER construction, resulting on a successful contribution to the EU Fusion Programme.
- Plasma road to solar fuels: IPFN has been leading a research program embodying the theoretical, modelling and experimental investigation of plasma decomposition of CO_2.
- Territorial cohesion and development of peripheral areas: The national reach was strengthened by the creation of the IPFN Research Node at the University of Madeira in 2017 hosting the High-Pressure Plasmas Group (HPPG) is well-known internationally, in particular, for its work on high-pressure plasma-electrode interaction.
- High commitment to Scientific employment: the number of IPFN researchers with PhD has more than doubled from 37 in 2002 to 92 in 2019. IPFN has been truly remarkable in finding different opportunities to provide adequate contractual conditions to its researchers (beyond fellowships) keeping a strong engagement to the creation of scientific employment.
- Innovation society: IPFN follows multiple approaches including the development of experimental facilities in the areas of magnetic and inertial confinement nuclear fusion, intense lasers, environmental plasma engineering and Space exploration, providing a critical home base for the experimental activities carried out in EU larger facilities as well as to enhance cross-cutting activities in plasma physics theory and modelling, taking advantage of major leadership in advanced computing infrastructures.

STRATEGICAL OBJECTIVES

"Instituto de Plasmas e Fusão Nuclear" (IPFN) is a Research Unit of "Instituto Superior Técnico" (IST) with expertise in Plasma Physics, Controlled Nuclear Fusion, Lasers and Photonics and Advanced Computing. This wide and recognized expertise grants IPFN an important participation in landmark large-scale EU research projects and programmes (e.g. EUROfusion, JET, ITER, IFMIF-Dones, ELI, ESA and FET Open), through collaborations in the scientific and technical activities of these projects, and active presence on their governing boards. IPFN is one of the top Physics laboratories in the country (hosting researchers based at different Portuguese universities). IPFN has critical mass to foster scientific and technological excellence in an international context, providing a unique setting for world-class research, technological transfer and advanced training, with the required multidisciplinarity to be competitive in the participation to ambitious large-scale physics projects.

AREAS OF ACTIVITY

IPFN has two thematic lines designed to support its mission:
i) Controlled Nuclear Fusion, focused on the Euratom Fusion roadmap, with the goal to contribute to the ultimate challenge of fusion research which is the realization of electricity generation from magnetic confinement fusion within a reasonable time horizon; and
ii) Plasma Technologies and Intense Lasers, where we deepen knowledge of plasmas and their interaction with matter and energy, developing technologies with societal impact and exploiting relevant experimental infrastructures (the Plasma Engineering Laboratory, the laboratories of Intense Lasers and VOXEL, and the ESTHER Shock-Tube - the first ESA infrastructure in Portugal).
IPFN mission aims at contributing to major public policies on:
- Energetic transition and decarbonization.
- Territorial cohesion and development of peripheral areas
- Scientific employment.
- Innovation society.
- Advanced training.

IPFN active contribution results from the direct engagement and R&D activities of its researchers and the institutional commitment of IPFN with the different stakeholders relevant at the national and the European levels.

COORDINATOR

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INESC-ID

Associate Laboratory since 02/12/2004

INSTITUTE FOR SYSTEMS AND COMPUTER ENGINEERING, RESEARCH AND DEVELOPMENT

INESC-ID.PT

LEAD R&D UNIT

> Institute for Systems and computer Engineering, Research and Development (INESC-ID)

SCIENTIFIC AREAS

Artificial intelligence for individuals and society; automatic reasoning and reliable software; communication networks; distributed, parallel and secure systems; graphics and interaction; green energy and smart converters; high-performance computing architectures and systems; language and speech technologies; information and decision support systems; nano-electronic systems and circuits; sustainable power systems.

KEYWORDS

Digital transformation and citizenship; life and health technology; energy transition; security and privacy.

90
(EM 100)

Evaluation (2020)

97

Integrated researchers

810.207,90€

Total annual funding (AL+ R&D Units 2021-2025)

164.072,90€

Annual complementary funding (2021-2025)

DESCRIPTION

INESC-ID, "Instituto de Engenharia de Sistemas e Computadores: Investigação e Desenvolvimento em Lisboa" is a Research and Development and Innovation Organization (R&D+i) in the fields of Computer Science and Electrical and Computer Engineering. INESC-ID boasts more than one hundred PhD researchers and more than two hundred graduate students and fellowship recipients from several universities and polytechnic institutes. In 2013, INESC-ID was identified by FCT as one of the top 10 Portuguese research units attracting projects and funding from the European Union, a recognition that is still valid today.
- Research and development
> Development of projects, national and international, namely European, in the areas of the information society, with emphasis on the areas of computation, energy, electronics, telecommunications and information systems;
> Support to project development by companies and state agencies.
- Human resources training
> Support to carrying out the work leading to the achievement of academic degrees from the 2nd and 3rd Cycle (Master and Doctorate) and specialization courses, typically at a postgraduate level, for industry and services, from state and private sectors;
> Framework for R&D developed by interns including specialized training of employees of companies and public services through their reception at INESC-ID for periods that may range from a few months to a year.
- Services and Consultancy
> Consultancy in the definition, specification, execution and evaluation of projects by public and private entities;
> Expertise, analysis and evaluation of project execution reports executed by third parties;
> Support to calls for tenders from public entities, ranging from the establishment of of the bid procedures and specifications to the participation in the evaluation and expert committees;
> Elaboration of reports on specific matters called upon by government entities, encompassing technical subjects, best practices in a given area, evolution of a certain technology, among others;
> Support to the elaboration of public documents drawn by governmental entities, on the specification and characterisation of technical aspects of future or established public policies.

STRATEGICAL OBJECTIVES

i. Expand the set-up of inter-disciplinary projects;
ii. Reinforce the experimental infrastructures;
iii. Increase the internationalization, with the participation in research networks and the number of international post-doc and PhD students;
iv. Increase the technology-transfer activities;
v. Contribute with qualified people (BSc, MSc, and PhD), in cooperation with universities and schools;
vi. Improve the number and qualifications of the supporting staff;
vii. Improve internal quality assessment mechanisms.

AREAS OF ACTIVITY

i. Digital Transformation and Citizenship. Innovative and disruptive adoption of digital tools and methods by organizations, to support their core activities, and human resources in order to engage as efficient workers, informed customers and responsible citizens.
ii. Life and Health Technology. We cover a broad spectrum of applications and methodologies, from artificial intelligence to dynamic systems, through several projects and patents, including three spin-off companies, as well as a long partnership with hospitals and other institutions.
iii. Energy Transition. Supporting the public entities, industry and the government in the development of public policies for the energy sector, in particular for the power systems necessary transition towards sustainability.
iv. Security & Privacy. Support the European Commission, government, public entities and national companies in developing public policies and technological solutions for improving the security and privacy aspects of the Internet.

COORDINATOR

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IDL

Associate Laboratory since 03/12/2004

INSTITUTE DOM LUIZ

IDL.CIENCIAS.ULISBOA.PT

LEAD R&D UNIT

> Institute Dom Luiz (IDL)

SCIENTIFIC AREAS

Earth and Environmental Sciences; Other Natural Sciences; Physics; Environmental Engineering.

KEYWORDS

Climate Change; Natural Hazards; Natural resources; Energetic Transitions.

90
(EM 100)

Evaluation (2020)

97

Integrated researchers

871.716€

Total annual funding (AL+ R&D Units 2021-2025)

134.016€

Annual supplementary funding (2021-2025)

DESCRIPTION

IDL was established in 1853 as the main Portuguese Observatory in Meteorology and Geophysics and is still responsible for the longest series of climate and geophysics observational data. In 2004, IDL was nominated as an Associate Laboratory of FCT, merging the meteorology and geophysics group with a significant group of geologists and geodesists, and has since evolved into a comprehensive Earth System group, incorporating atmospheric, ocean and solid Earth scientists, together with researchers focused on environmental applications, including renewable energy.
IDL aims to be relevant not only in fundamental Earth System research, but also in applications and technologies that relate science with the main 21st century societal concerns: forecasting and adapting to climate change and to other major natural hazards, and establishing an environmentally sustainable supply of mineral raw materials, water and energy. Based at the University of Lisbon, IDL is also the home of research groups at 5 other Portuguese universities (UCoimbra, UTAD, UBI, ISEL, and UAlgarve), at the Portuguese Institute for the Ocean and Atmosphere (IPMA), at the Hydrograhic Institute and at the Madeira Oceanographic Observatory (OOM). IDL operates a number of relevant research infrastructures including a high-performance computing facility, a geomagnetic/paleomagnetic laboratory, rock and soil processing and analysis laboratories, advanced analytical laboratories for geochemistry (including electron microprobe, stable isotopes lab, mobile lab), a network of permanent and mobile seismic stations, a pool of mobile ocean bottom seismometers and magnetotellutic observatories, a network of mobile geodetic sensors, field geoelectric and magnetotelluric sounding equipment, and applied physics laboratories for renewable energy applications.
Through IPMA, IH and OOM, IDL researchers have access to the national meteorology, oceanography and geophysics monitoring networks and to national and global remote sensing data. IDL research is strongly rooted on a tradition of Earth and Environment teaching and research at BSc, MSc and PhD levels in Earth System Science and Sustainable Energy Systems.
IDL has 3 thematic lines:
1) Climate change: understanding and forecasting: The assessment of climate change at the regional and local scales requires the development of downscaling models and its analysis.
IDL leads that research in Portugal, pursuing with more advanced methodologies focused on high-resolution climate scenarios for mainland Portugal and the Portuguese Atlantic islands, including cutting-edge developments in atmosphere-ocean coupled studies, atmosphere-ocean-land interactions in sediment transport, innovation in the analysis of extreme events, and applications to climate sensitive sectors such as renewable energy, agriculture and forest management.
2) Geodynamics and hazards in the atlantic region: Geohazards are highly relevant in SW Iberia and in the Atlantic Macaronesia islands (Azores, Madeira, Canaries and Cabo Verde). IDL focus on better understanding of the evolution of the islands, through volcanism, tectonics, and external geodynamical forcing, increasingly employing a broad-scoping onshore-offshore approach. IDL is increasing its contribution to the development of the international Tsunami Warning System based in Lisbon, under the responsibility of IPMA, namely through an increased knowledge of source mechanisms, and the delivery of improved evidence-calibrated models for tsunami generation, propagation and inundation.
3) Earth resources for a sustainable development: The path to a sustainable future will be built on a better understanding of the Earth system, but also on the development of new strategies to attain, and sustain, human development goals.
IDL aims to contribute to both components, by promoting the development of specific geoscience advances in the identification and sustainable exploitation of Earth resources, and by combining these advances with environmental engineering approaches leading to a more efficient use of energy, water and raw materials.

STRATEGICAL OBJECTIVES

(1) Improve the understanding of climate change and other major Earth system hazards;
(2) Innovate in Earth Observation Systems;
(3) Optimize the exploration, exploitation and management of Earth resources.
(4) Accelerate the energy transition;
(5) Support the sustainable use of marine resources, from the coast to the deep ocean.

AREAS OF ACTIVITY

(1) Prepare for Climate Change. Understanding interannual-to-interdecadal climate variability and extremes for strategic planning.
(2) Increase society resilience to natural hazards. Improve forecasting, vulnerability and risk assessment.
(3) Seek sustainable mineral raw materials. Focus on increased synergies between geology, geochemistry and geophysics in the exploration and characterization of mineral resources.
(4) Build the new Energy Paradigm. Optimize the interaction of geosciences and engineering into sustainable energy solutions.
(5) Develop the new Ocean frontier. Link geosciences, other marine and environmental sciences, and economy in the understanding of the deep ocean.
(6) Innovate in advanced training. Post-graduate education, and its quick transference for Society and Economy, is an increasingly important added value activity for European and other Portuguese speaking countries, and key for the development of Portugal itself.

COORDINATOR

Pedro Miranda

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I4HB

Associate Laboratory since 01/01/2021

INSTITUTE FOR HEALTH AND BIOECONOMY

WWW.I4HB-LA.PT

LEAD R&D UNIT

> Institute for Bioengineering and Biosciences (IBB)

PARTICIPANT R&D UNITS

> Applied Molecular Biosciences Unit (UCIBIO)
> INESC Microsystems and Nanotechnologies (INESC-MN)

SCIENTIFIC AREAS

Biological sciences; industrial biotechnology; nanotechnology; health sciences; medical biotechnologies.

KEYWORDS

Innovative diagnostics, therapies and devices; tools for drug discovery & development pipeline; human safety and antimicrobial resistance; bioprocesses & circular economy.

85
(EM 100)

Evaluation (2020)

210

Integrated researchers

1.814.930,54€

Total annual funding (AL+ R&D Units 2021-2025)

430.430,54€

Annual complementary funding (2021-2025)

DESCRIPTION

The i4HB mission is to become a leading interdisciplinary Institute, to address societal demands and provide knowledge and sustainable technological solutions to improve the wellbeing of the population. Through world class R&D, i4HB will foster the development of integrated knowledge to support innovation in Public Policies at the leading-edge of research and education with major impact in the Health and the Bioeconomy sectors.
The TL1, Platforms for Drug Discovery and Development, is implemented to support public policies that reinforce investment in the Health sector. The production of innovative drugs and therapeutic strategies, the increase in the number of patents, the reinforcement of advanced training, and the attraction of international consortia for the development of new clinical solutions have been identified as key objectives to transform Portugal in an international Hub in Health Sciences, a "factory of Europe" according to the Portuguese Economic and Social Recovery Plan (PESRP) for 2020-2030.
The TL2, Advanced Diagnostics and Therapeutics, is aligned with the public policies in the Health sector, within the Portuguese Plan of Recovery and Resilience (PRR), which focuses public investment on the scientific system, namely manufacturing of high value and innovative medical products and devices.
The TL3, Human Health and Environmental Safety, is aligned with the National Investment Programme for Disease Prevention, another key pillar of the PESRP, which focuses on the prevention of highly prevalent diseases through changes in nutritional and lifestyle-related behaviors, by promoting the consumption of healthier food products, particularly those free of noxious and carcinogenic pesticides and other toxicants.
The TL4, Bioresources Valorization and Bioproducts Production, is aligned with Sustainable Bioeconomy, which has been highlighted as a key pillar for the development of the PESRP. In particular, the plan stresses that public policies and investments should be designed to leverage Portugal's i) scientific know-how, ii) highly trained pool of human resources and iii) well established research centers in the area, to support the reindustrialization of the country. To implement the strategic plan, qualified human resources are of utmost importance. To attract and retain talent, three main actions are envisaged: (i) seed money; (ii) career planning, coaching, and training; (iii) incentives to external funding application. A focused effort will be implemented to increase research funds from private and International sources and promote technology transfer and valorization. Cooperation with Industry will be fostered through already-established trustful contacts and key partners. The vision, objectives, and implementation plan of i4HB will put it in the national and international forefront of science.

STRATEGICAL OBJECTIVES

i4HB mission is aligned with three strategic objectives:
(1) promote and secure scientific employment by actively supporting excellence in advanced training of human resources (HRs) and by attracting and retaining talent in Portugal;
(2) prioritize internationalization of R&D and economic exploitation activities through the increase and diversification of international and private funding sources;
(3) reinforce excellence and impact in R&D through strategic and robust collaborations and partnerships with the private sector, public or private institutions, in a continuous support of public policies.
i4HB strategy is implemented around 4 Thematic Lines: (TL1) Platforms for Drug Development and Discovery; (TL2) Advanced Diagnostics and Therapies; (TL3) Human Health and Environmental Safety; (TL4) Bioresources Valorization and Bioproducts Production.

AREAS OF ACTIVITY

i4HB aims to promote the development of integrated knowledge, research and education to support innovation in Public Policies with an impact in the Health Sector and the Bioeconomy. In particular, the development of innovative treatments, including new drugs and medical products or the development of methodologies to assess xenobiotic toxicity and improve human and environmental health, as well as the development of processes and applications for the enhancement of bioresources and production of bioproducts.
The strategic plan is supported by 3 Strategic objectives:
OBJECTIVE 1 – Promote and SECURE SCIENTIFIC EMPLOYMENT, actively support the ADVANCED TRAINING of human resources with a global impact, attracting TALENT to Portugal.
OBJECTIVE 2 – Contribute to the INTERNATIONALIZATION of the scientific operation and increase the DIVERSIFICATION OF FUNDING, in particular from EU R&D programs and other International Entities.
OBJECTIVE 3 – REINFORCE EXCELLENCE in R&D in collaboration with the private sector, and public or private institutions to continue to support PUBLIC POLICIES.

COORDINATOR

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IMS

Associate Laboratory since 01/01/2021

INSTITUTE OF MOLECULAR SCIENCES

CQE.TECNICO.ULISBOA.PT

LEAD R&D UNIT

> Structural Chemistry Centre (CQE)

PARTICIPANT R&D UNITS

> Chemistry Research Unit of University of Porto (CIQUP)
> Coimbra Chemistry Center (CQC)

SCIENTIFIC AREAS

Earth and environmental sciences; other natural sciences; physics; environmental engineering.

KEYWORDS

Climate change; natural hazards; natural resources; energetic transitions.

85
(EM 100)
Evaluation (2020)

312
Integrated researchers

2.329.149,00€
Total annual funding (AL+ R&D Units 2021-2025)

241.974,00€
Annual complementary funding (2021-2025)

DESCRIPTION

The multi-disciplinarity and inter-disciplinarity character of IMS enables the development of both blue-sky and applied research lines aimed to provide solutions of specific societal challenges that can be confronted using chemistry and molecular-based tools.
The organization of IMS as three R&D units sharing five thematic lines (TLs) is an integrated, multidisciplinary and flexible concept: i) all research groups from the R&D units are encouraged to develop research work contributing to meet the ambitions of the TLs; ii) thematic lines are not compartmentalized: instead, they overlap in multiple research areas (e.g. a novel nano-structured material (MATsoft) can have its most important applications in pollution control or clean water (H2Oenv)); iii) collaborations between R&D units are expected to solve specific challenges posed by a given TL from different perspectives in a synergistic manner.

STRATEGICAL OBJECTIVES

1) MATsoft (Materials, soft matter and nanoscience): The TL Materials, Soft Matter and Nanosciences (MATsoft) gathers complementary and multidisciplinary expertise from dynamic research groups in the three research units of IMS, that work in different areas of materials chemistry, nanosciences, materials science and engineering, strongly underpinned in powerful research infrastructures and instrumental platforms. MATsoft researchers address a wide range of themes, not only from a fundamental curiosity-driven approach, deeply rooted in molecular sciences, but also targeting applications, transfer of knowledge, intellectual property and response to direct societal challenges.
2) MEDlife (Medicinal, biological and biophysical chemistry for health): The Medicinal, Biological and Biophysical Chemistry for Health (MEDlife) TL interprets the HEALTH societal challenges as the agora where atomos are brought together to enable life and create medicines. Briefly, MEDlife research is dedicated to: Investigate the causes and mechanisms underlying health and disease, including the toxicities induced by exposure to endogenous and exogenous chemical agents; Develop sustainable solutions to detect, treat and manage diseases, especially those with unmet medical needs; Translate the innovation by licensing patents to pharma/biotech companies and by fostering the creation of start-ups.
3) H2Oenv (Technologies for water, environment and energy): This TL aims at advancing technologies and promoting innovation to address challenges at the water-energyenvironment nexus: the access to clean water and energy are critical to economic growth and sustainable development and otherwise providing clean water and energy has important environmental impacts. Understanding the complex links between chemistry and molecular sciences and water, energy and the environment is key to delivering cutting edge technologies to solve the challenges in these three critical areas, providing a unique opportunity to strengthen the dialogue with key policy makers, stakeholders and industries.
4) SYNcat (Synthesis, catalysis and chemical processes): SYNcat is the thematic line that recognizes in catalysis and green chemistry the greatest contribution of Chemistry to meet the goals of the 2030 Agenda for Sustainable Development. Catalysis is vital to the development and strengthening of a sustainable industry, and crucial to the economy as it impacts directly on pressing technological, environmental and social problems. The main goal of SYNcat is the development of sustainable and economically efficient synthetic and catalytic processes/strategies towards value-added products for all economy sectors, in a constant effort to mitigate pollution, as well as to save energy.
5) CHEMfocus (Fundamentals and awareness): The strengthening of R&D activities at basic and fundamental levels is an important objective of any LA, as clearly stated in the new set of directives regulating the nature and goals of LAs. In the description of other four thematic lines it is obvious the relationship between the chemical sciences, the molecular-based tools they provide, and the solution to different societal challenges addressed by different public policies. CHEMfocus addresses the fundamental issue of how to develop, transform and update those molecular-based tools (the essence of Chemistry). It provides a scientific foundation to the other four thematic lines and it will also channel part of its research towards the awareness of Chemistry in the present-day society.

AREAS OF ACTIVITY

The public policies developed at IMS within the context of scientific research include i) innovation, ii) technology transfer, iii) advanced education, iv) scientific careers, v) international cooperation, vi) exploration of natural resources, vii) climate change and neutral energetic transitions, or viii) fundraising and diversification. Those policies are also encapsulated in the Sustainable Development Goals (SDGs) introduced by the UN 2030 Agenda. Research at IMS include: new molecules for a new pharma (SDG3: good health); the monitoring of emerging and priority contaminants (SDG6: clean water); new energy-efficient fluids and materials (SDG7: clean energy); new synthetic and catalytic routes (SDG9 and SDG12: circular economy, green chemistry); CO2 capture and usage, ozone chemistry (SDG13: climate action); biogeochemistry in extreme (arctic) and transitional water systems (SDG14: life below water); (bio)sensing and environment remediation (SDG15: life on land).

COORDINATOR

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LIP

Associate Laboratory since 01/01/2001

LABORATORY FOR INSTRUMENTATION AND EXPERIMENTAL PARTICLE PHYSICS

WWW.LIP.PT

LEAD R&D UNIT

> Laboratory for Instrumentation and Experimental Particle Physics (LIP)

SCIENTIFIC AREAS

Physics; other engineering sciences and technologies; health sciences; computer sciences and information sciences.

KEYWORDS

Particle and astroparticle physics; Health and space technologies; computing and information technologies; science and technology for societal challenges.

80
(EM 100)
Evaluation (2020)

94
Integrated researchers

1.465.390,90€
Total annual funding (AL+ R&D Units 2021-2025)

898.140,90€
Annual complementary funding (2021-2025)

DESCRIPTION

The Laboratory for Instrumentation and Experimental Particle Physics is the reference institution for particle physics and associated technologies and the reference partner of CERN in Portugal. LIP is an Associate Laboratory since 2001. It has grown increasingly multidisciplinary, and participates in some of the largest computing infrastructures and projects at European level. LIP brings together about 200 members, including close to 100 PhD researchers, 40 technical and administrative staff, and over 70 graduate students. LIP is nation-wide, with nodes in Lisboa, Coimbra and Braga, in close collaboration with the local universities. The associates of LIP are FCT, the Universities of Lisboa, Coimbra and Minho, IST, FCUL and ANIMEE.
LIP is engaged to specific objectives that support public policies in several sectors, following a strategic plan in which four thematic lines are considered: 1) Particle and Astroparticle Physics; 2) Instrumentation, Healthcare and Space; 3) Computing and Information Technologies; 4) Science and Society. While the first three lines translate LIP's scientific and technological competence areas into societal contributions, the fourth integrates and boosts the transversal efforts of the other lines, mainly by putting in place a structured framework that allows to push further their knowledge transfer, technology transfer, education and outreach actions. R&D activities at LIP have the support of LIP's Research Infrastructures (computing facilities, detectors and electronics labs, mechanical workshop), which also provide services to external entities, and of LIP's Competence Centres, overarching structures creating a pool of knowledge that eases R&D and fosters knowledge transfer into the non-academic sector. LIP has direct links with Scientific Infrastructures included in the National Roadmap: is the technical coordinator of the National Distributed Computing Infrastructure (INCD); is a founding member of ProtoTera; is the main technological partner in several projects of the National Brain Imaging Network (BIN); works with the Portuguese Space Agency (PT Space), ESA and national and international industrial and academic partners. These links concern research areas that are part of thematic lines 2 and 3 and have the potential to improve both the quality of life (reinforcing the quality of health, education and research networks) and the economy (improving the competitiveness of Portuguese companies).

STRATEGICAL OBJECTIVES

LIP aims at making impactful contributions by meeting the following objectives:
- Develop excellent fundamental research in particle and astroparticle physics, as the reference laboratory and the reference partner of CERN in Portugal.
- Develop excellent research in the areas of application of particle physics' instruments and methods, namely healthcare, space exploration, and data science.
- Develop excellent research in scientific computing and information technologies, (cloud, high performance and high throughput computing, artificial intelligence) remaining a partner in the main Infrastructures and projects at National and European level
- Engage with society in many different ways: contribute to the development, and qualification of the Portuguese innovation sector, promote digital competences and technology accessibility, focus on science and technology culture and education, inspire the younger generations to pursue careers in science and technology.

AREAS OF ACTIVITY

LIP is committed to strategic objectives that support public policies in several sectors:
- Science: contributing to advance the boundaries of knowledge and to the excellence and internationalization of Portuguese science; Meet the goals established in the Portugal-CERN agreements.
- Health: through the application of particle physics technologies to develop more effective and accessible diagnoses and treatments tools and techniques, in particular for cancer treatment and medical imaging.
- Economy: contributing to strengthen the link between the science and innovation sectors, boosting qualification, internationalisation and productivity.
- Social: promoting science and technology education and digital competences for social inclusion; contributing to eliminate discrimination in education at all levels.
- Environment: directly supporting the use of computing and storage capacity by the national environment and climate research community; as part of ESA's Earth monitoring programme.

COORDINATOR

Mário Pimenta

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LaPMET

Associate Laboratory since 01/01/2021

LABORATORY OF PHYSICS FOR MATERIALS AND EMERGENT TECHNOLOGIES

LEAD R&D UNIT

> Institute of Physics for Advanced Materiais, Nanotechnology and Photonics - University of Porto (IFIMUP)

PARTICIPANT R&D UNITS

> Center of Physics and Engineering of Advanced Materials (CeFEMA)
> Physics Center of Minho and Porto Universities (CF-UMUP)

SCIENTIFIC AREAS

Physics; materials engineering; nanotechnology; chemistry; other engineering sciences and technologies.

KEYWORDS

Physics of quantum materials and technologies; advanced materials for energy; new materials/processes for health and environment; physics and technology of sensing; physics education and outreach.

85
(EM 100)
Evaluation (2020)

148
Integrated researchers

1.131.321€
Total annual funding (AL+ R&D Units 2021-2025)

153.246€
Annual complementary funding (2021-2025)

DESCRIPTION

The Laboratory of Physics for Materials and Emergent Technologies (LaPMET) associated laboratory initiative has created new far reaching opportunities and synergies for the involved partners, providing a unique networking environment in our country for a transversal approach in the field of Physics of Materials for Emergent Technologies. LaPMET offers unique expertise in Quantum materials and Quantum Technologies, Advanced materials, processes and technologies for energy, health and environment, as well as new technologies for sensing, grounded in the vast experience of the partners.
The associated Laboratory Mission is, using Physics and Material science insight, to enhance scientific knowledge in the fields of Quantum materials, Quantum communications, photonics, nanoscience and nanotechnology, performing research, advanced training and services to the scientific community and industry.
LaPMET VISION stands as an interdisciplinary and multidisciplinary laboratory of excellence with high international impact on research and innovation, maintaining active exchange programs with research centres, universities, industry and other worldwide facilities, creating value for the society, warranting the institution long-term Sustainability, and ensuring own scientific and technical careers for its researchers.
LaPMET structures its intervention in four main thematic lines which are the driving vectors for excellent scientific research, for which Emergent new Technologies are foreseen, namely: 1) Quantum Materials and Quantum Technologies; 2) Advanced Materials and Processes for Energy; 3) Advanced Materials and Technologies for Health and Environment and 4) New principles and Technologies for Sensing. These areas were selected as the ones where obvious synergies exist that leverage new far reaching opportunities for international funding.
The Associated Laboratory promotes high quality training programs in Portugal, both educationally and technically-oriented, in its core areas, also directed for their application. In this way, it contributes to the fulfilment of public policies ranging from Science, Technology and Innovation, Sustainable Development, and to Transfer and Valorisation of Knowledge.

STRATEGICAL OBJECTIVES

The Laboratory of Physics for Materials and Emergent Technologies (LaPMET), binds its action to the following objectives:
1. Assume international leadership in the areas of Quantum materials, Quantum Technologies and advanced materials;
2. Attract funding from European R&D actions and from technological-intense industries, ensuring diversified long-term financing.
3. Recruit and train the best human resources within the laboratory core areas (Condensed Matter, Material Science, Quantum Materials and Technologies).
4. Lead the national R&D strategy in Material Science and Nanotechnology.
5. Organize regular activities aimed at knowledge dissemination, education and training at different levels (post-graduation, graduation and general public) reinforcing the role of Physics and Materials in society.
6. Be a strong dynamic agent for the private sector by incentivizing joint ventures, promoting join project calls, startup creation, promoting a pipeline between Science and Technology.

AREAS OF ACTIVITY

LaPMET promotes activities in the support for the pursuit of Public Policies to Incentive the production and use of renewable energy, advanced training of human resources, public policy to strengthen digital skills and support for national and European initiatives within the scope of respective strategies for quantum materials and technologies.

COORDINATOR

João Pedro Araújo

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InBIO

Associate Laboratory since 01/01/2011

RESEARCH NETWORK IN BIODIVERSITY AND EVOLUTIONARY BIOLOGY

INBIO-LA.PT

LEAD R&D UNIT

>Research Network in Biodiversity and Evolutionary Biology (InBIO)

PARTICIPANT R&D UNITS

> Research Centre in Biodiversity and Genetic Resources (CIBIO)
> Centre for Applied Ecology Baeta Neves (CEABN)

SCIENTIFIC AREAS

Biodiversity; evolutionary biology.

KEYWORDS

Biodiversity; conservation and evolutionary biology; genomics; landscape ecology and planning.

100
(EM 100)
Evaluation (2020)

196
Integrated researchers

1.418.655€
Total annual funding (AL+ R&D Units 2021-2025)

174.530€
Annual complementary funding (2021-2025)

DESCRIPTION

InBIO is an Associated Laboratory (AL) established in 2011, upon formal recognition of its key position to advise the Portuguese State in public policies related to the conservation and management of biodiversity and the environment. It involves a partnership between CIBIO – Research Centre in Biodiversity and Genetic Resources, hosted by the Universities of Porto (headquarters), Azores and Lisbon, and CEABN – Centre for Applied Ecology Baeta Neves, hosted by the University of Lisbon. Besides the main hosting institutions, there are integrated researchers from other universities, polytechnic institutes, state laboratories and the public administration.
The vision of InBIO is to firmly establish itself as a strong, competitive, and internationally recognized network of excellence in the fields of evolutionary biology, biodiversity (including agrobiodiversity), and socialecological research, integrating all levels of biological organization from genes to ecosystems. Research at InBIO aims to advance knowledge on the origins and maintenance of biodiversity to apply this knowledge to address societal challenges related to climate and land-use changes, environmental degradation, the loss and sustainable use of biodiversity and agrobiodiversity, and the management, restoration and sustainable use of ecosystems and their services. InBIO research is strongly aligned with national and international goals and is particularly well-positioned to meet the challenges and opportunities created by European Green Deal and ensuing strategies such as the EU 2030 Biodiversity Strategy and the Farm to Fork Strategy. Research at InBIO is also closely aligned with the 2030 Agenda for Sustainable Development of the United Nations, with strong contributions for a number of its Sustainable Development Goals (SDG), with a particular emphasis on SDG 13 (Climate Action), SGD 14 (Life below Water) and SDG 15 (Life on Land). Research at InBIO has a high level of internationalization, with the institution and its researchers being tightly connected in collaborative networks with tens of top universities and research centres worldwide. Furthermore, research at InBIO has a global scope, involving projects in all continents but Antarctica, though with a strong focus on the Mediterranean Basin, Africa, and Portuguese-speaking countries. This has led to the development of a network of TwinLabs, mainly in Africa, which promotes scientific research and capacity building.

STRATEGICAL OBJECTIVES

To accomplish its Vision and Mission, InBIO AL will pursue the following strategic objectives:
• Advance scientific knowledge in the fields of biodiversity and evolutionary biology, with a special emphasis on understanding the processes that lead to present-day patterns of biological diversity and the principles governing the spatial partitioning of genotypic and phenotypic variation.
• Improve and integrate ecologic, taxonomic and biogeographic knowledge at different scales, focusing in particular on the Iberian and Mediterranean biological heritage.
• Apply scientific knowledge to propose conservation priorities and management tools to national and international conservation authorities.
• Use scientific data from wild and domestic breeds to improve species management through collaborations with local authorities.
• Provide top level education programs in evolutionary and conservation biology.
• Foster public awareness, understanding and appreciation of biodiversity, by communicating scientific results and promoting outreach activities.

AREAS OF ACTIVITY

InBIO AL have the following focus areas:
• Research. InBIO is committed to developing high quality research in the areas of biodiversity and evolutionary biology, aiming to become a key player in this field at AN international level.
• Advanced training. InBIO fosters an intelectually stimulating learning environment and provides cutting-edge research facilities for training young researchers and professionals.
• Science Communication and Outreach. InBIO is devoted to bridge the gap between science and society, raising awareness on new scientific developments, promoting public scientific culture and responsible research and innovation.
• Services and technology transfer. InBIO conducts continuous efforts to develop and increase effective collaborations and knowledge transfer to relevant partners form the public, private and business sectors.
• InBIO currently harbours 34 RESEARCH GROUPS, whose activity is structured upon THREE MAIN RESEARCH LINES, covering the whole research field:
• EVOLUTION, GENETICS & GENOMICS. Understanding biogeographic patterns, the formation of new species and hybridization, adaptation, domestication and co-evolution.
• BIODIVERSITY, ECOLOGY & CONSERVATION. Understanding the mechanisms driving species persistence and diversity from local communities to the global scale, and to inform biodiversity conservation strategies.
• SUSTAINABILITY, ECOSYSTEMS & THE ENVIRONMENT. Understanding how human actions interact with natural processes to affect ecosystems and the environment at large, and to find practical solutions to promote the sustainable.

COORDINATOR

Nuno Ferrand de Almeida

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SOCIAL SCIENCES

ICS-ULISBOA

Associate Laboratory since 01/01/2002

INSTITUTE OF SOCIAL SCIENCES, UNIVERSITY OF LISBON

WWW.ICS.ULISBOA.PT

LEAD R&D UNIT

> Institute of Social Sciences, University of Lisbon (ICS-ULisboa)

SCIENTIFIC AREAS

Anthropology; political science; economy; geography; history; social psychology; sociology.

KEYWORDS

Social sciences; sustainability; inclusion and citizenship; memories and legacies.

90
(EM 100)
Evaluation (2020)

125
Integrated researchers

1.182.835,79€
Total annual funding (AL+ R&D Units 2021-2025)

519.985,79€
Annual complementary funding (2021-2025)

DESCRIPTION

ICS is devoted to scientific research, post-graduate teaching and outreach activities, with a particular emphasis on public engagement with society and informing public policies. Working in the fields of anthropology, political science, economics, geography, history, social psychology and sociology, ICS: 1) carries out top interdisciplinary research on contemporary societies; 2) places internationalization at the heart of its strategy, supporting and rewarding internationalization, taking part in international funding programmes, and basing its recruitment and evaluation strategy on open and competitive processes; 3) supports rigorous research by organizing key infrastructures for gathering, handling, preserving and disseminating data: PASSDA (National Infrastructure Roadmap), ICS-Iscte Polling Laboratory, XLab Experimental Laboratory, ICS Observatories, Social History Archive, publishing infrastructure; 4) focuses on doctoral and post-graduate teaching and life-long training for non-academic publics; 5) promotes diverse outreach strategies: engaging with media and social networks, dissemination through publications and events for wider publics, collaboration in public and civil society initiatives, open science platform.
The objectives underpinning ICS' commitment to support public policies will be put into practice through four Thematic Lines which strategically coordinate policy-relevant knowledge production and public engagement. Key strategies to accomplish these objectives also include strong institutional support to infrastructure drivers, to a wide range of gateways for co-creation and outreach, and to investment in teaching and training activities.
ICS' Thematic Lines address societal challenges related to Sustainability, Citizenship, Inclusion and Vulnerabilities, Memory and Legacies. Building on ICS' consolidated research and public engagement agenda, each TL will also take up novel research topics and policy issues, driven by emerging social problems and current public policy agendas. New risks and emerging threats to societies, cultures and public health in an era of planetary turbulence, such as those brought upon the world by the COVID-19 pandemic, are major cross-cutting issues embedded in the thematic lines. The latter will contribute to 3 main scientific and public policy agendas over the next years: FCT scientific agendas; UN Agenda 2030 and the Sustainable Development Goals; Horizon Europe 2021-2027.

STRATEGICAL OBJECTIVES

- Innovative and top-ranking SSH research, with bridges between disciplines, research institutions and other actors, both fundamental and oriented to the demands of society, on the challenges of sustainability, citizenship, social inclusion and vulnerability, memory and legacies.
- Applied knowledge and relevant contributions on problems of national and global concern, informing and advancing evidence-based public policies.
- Doctoral and post-graduate teaching, life-long training for non-academic publics and ongoing training for researchers and technical staff.
- Dialogue between science and society, "open science" and knowledge dissemination, incentivizing varied outreach and public engagement strategies.
- International projection of knowledge produced, attracting talented students and researchers and funding, supporting internationalization of careers, research, and collaborative networks.
- Key infrastructures for gathering, handling, preserving and disseminating SSH data.

AREAS OF ACTIVITY

Sustainability: promoting the transition to more sustainable societies. Topics: climate action, energy transition and risks; sustainable production and consumption; urbanization and cities; engagement with science.
Citizenship: reducing political inequalities and advancing effective, accountable, and inclusive institutions of governance. Topics: rights and political equality, democratic representation and participation, quality of governance.
Inclusion and Vulnerabilities: examining barriers to social inclusion and effects of demographic, social and economic transformations. Topics: children, youth and families; vulnerability and inequality in life transitions; gender and sexuality; human and non-human animal relations.
Memory and Legacies: historical and anthropological reflexivity for designing fairer public policies. Topics: heritage and archives; socio-economic roots and structures, policies and discourses; social and racialized representations.

COORDINATOR

Karin Wall

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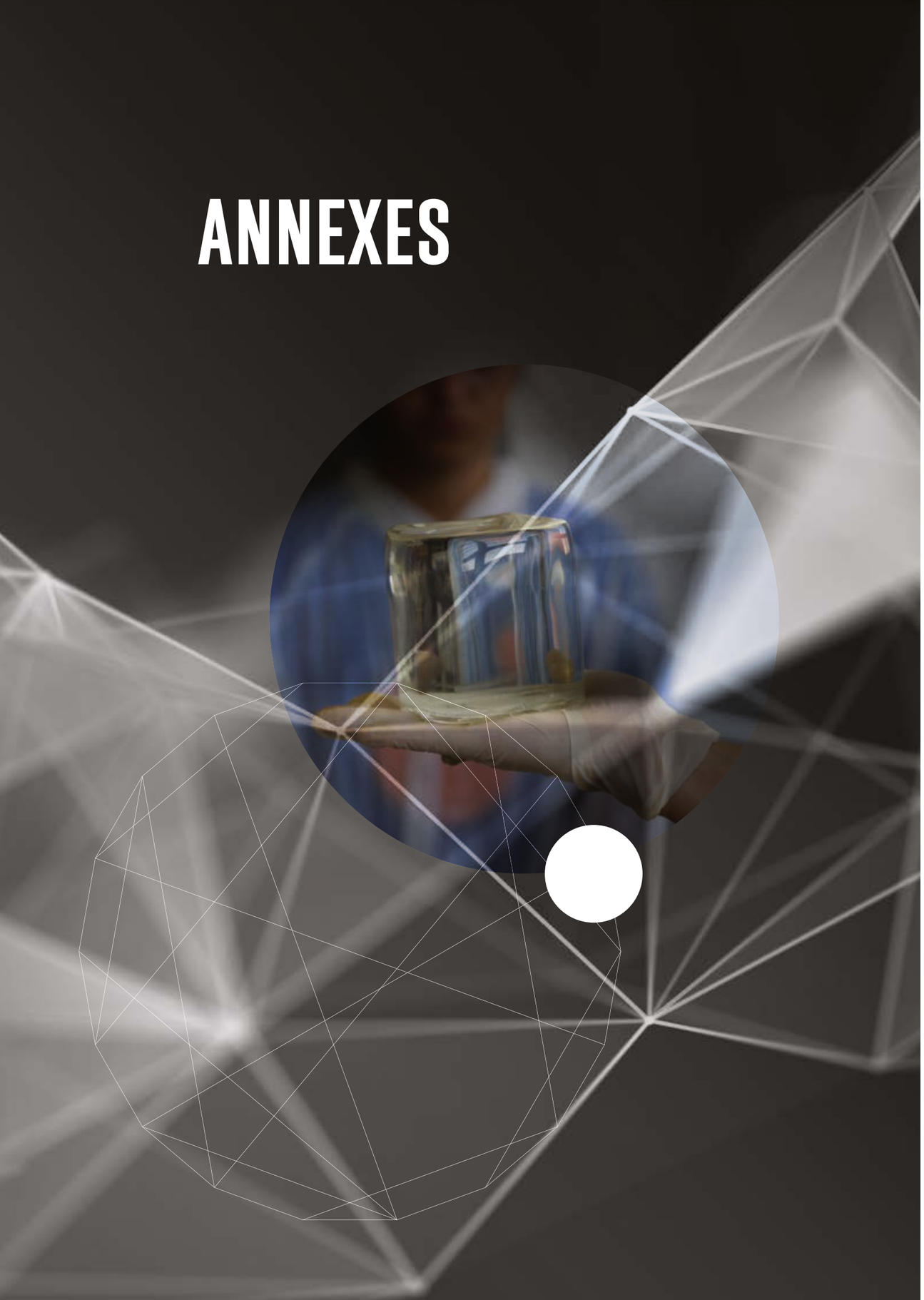

ANNEXES

ULISBOA ASSOCIATE LABORATORIES CONTACTS

NAME	ACRONYM	COORDINATOR	E-MAIL
AGRICULTURAL SCIENCES			
Associate Laboratory for Animal and Veterinary Sciences	**AL4AnimalS**	Luís Lopes da Costa	lcosta@fmv.ulisboa.pt
Laboratory for Sustainable Land Use and Ecosystem Services	**TERRA**	Maria Teresa Ferreira	terferreira@isa.ulisboa.pt
ENGINEERING AND TECHNOLOGY SCIENCES			
Associate Laboratory of Energy, Transports and Aerospace	**LAETA**	Pedro Manuel de Castro Camanho	pcamanho@fe.up.pt
Institute of Telecommunications	**IT**	José Carlos Pedro	jcpit@av.it.pt
Laboratory of Robotics and Engineering Systems	**LARSyS**	José Santos-Victor	jasv@isr.tecnico.ulisboa.pt
MEDICAL AND HEALTH SCIENCES			
Health Research Network: from the Lab to the Community	**RISE**	Fernando Carlos de Landér Schmitt	rise@med.up.pt
Institute of Molecular Medicine João Lobo Antunes	**iMM**	Maria Manuel Dias da Mota	mmota@medicina.ulisboa.pt
Translation and Innovation Towards Global Health	**REAL**	Helena Canhão	helena.canhao@nms.unl.pt
NATURAL SCIENCES			
Aquatic Research Infrastructure Network	**ARNET**	João Carlos Marques	jcmimar@uc.pt
Associated Laboratory for Green Chemistry – Clean Technologies and Processes	**LAQV/REQUIMTE**	Baltazar de Castro	bcastro@fc.up.pt
Centre for Environmental and Marine Studies	**CESAM**	Amadeu Mortágua Velho da Maia Soares	cesam@ua.pt
Global Change and Sustainability Institute	**CHANGE**	Teresa Pinto Correia	mtpc@uevora.pt
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SOCIAL SCIENCES			
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ULISBOA ATLAS OF ASSOCIATE LABORATORIES

EDITION
University of Lisbon, Institucional Studies
and Planning Office

DESIGN
External and International Relations Department

PRINT RUN
200

ISBN
978-989-8928-81-8

LEGAL DEPOSIT
517506/23
Soartes - Artes Gráficas, Lda

DATE
June 2023