Annual Report

2024

imed
Research Institute
for Medicines

No Breakthrough
is too small.

2023
— 2024

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Contents

Foreword

message from the coordinator

JOÃO GONÇALVES
Coordinator, imed

With the closing of 2024, we reach the end of a cycle at imed. This cycle was guided by the idea that breakthrough is too small. And this motivated a complete restructuration of the institute scientific architecture. With the creation of 3 highly collaborative research Hubs and based on 30 research laboratories specializing in chemistry, biology, and pharmaceutical sciences.

During this period, imed focused on research, training, translational, and outreach initiatives. Our scientists published 1123 articles indexed in the Journal of Citation Reports acting as corresponding authors in 58% of them. Owing to their multidisciplinary nature, these outputs covered all areas related to drug discovery, design, and development, with 63% indexed in the first quartile of their respective scientific areas. The institute boasts an extensive network of international collaborations, resulting in joint publications that represented 50% of iMed's productivity during this period, and organized a series of joint online seminar sessions with leading international institutions. iMed is deeply committed to training activities. During this period, our scientists concluded the supervision of 453 master's theses and 83 PhD theses. In 2024, 137 PhD students were studying at iMed, supported by PhD grants from FCT (53%), industry, international research projects, or specific initiatives, such as the EU-Marie Curie ETN program (44%). We forged important partnerships with industry for technology development and contracted research, aligned with the ultimate goal of translating our findings into tangible

benefits for patients. Additionally, we conducted research projects and provided a range of services with and for hospitals (≈2600 patients/year). Notably, we played a critical role in the pandemic response, performing over 70,000 COVID-19 tests as part of frontline defense efforts. The translation of our applied research was embodied in the form of IP and entrepreneurial activities. During this period, we filed 39 patent applications, funded six start-up companies, and developed products, technologies, and emerging therapies that reached the market and advanced phases of pharmaceutical development.

These activities were supported by our capacity to attract funds from national and international competitive calls. In this period, the institute budget increased 45% to 27.7MEuros with the contribution of funds secured from international calls such as La Caixa Banking grants, NATO, and a variety of EU initiatives that increased by 80%. This period was also marked by a strong investment (640K euros) to establish and reinforce core facilities (mass spec, bioimaging flow, cytometry) within the institute and collaboration between imed scientists with internal calls for joint research projects (720K euros).

The career development plan of our researchers is fundamental to the success of imed. During this period, we recruited 15 researchers through the DL57 norm and 14 CEEC, and our host institution was able to integrate 12 new assistant professors.

iMed is deeply engaged in society at various levels. Our scientists actively participated in numerous outreach activities and organized meetings. Finally, the leadership of imed scientists was recognized with numerous awards and positions on the boards of different institutions.

Based on these achievements, we close this cycle with a sense of mission accomplished and look to the future with enthusiasm and commitment to continue contributing to the improvement of human health.

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1. imed Organization

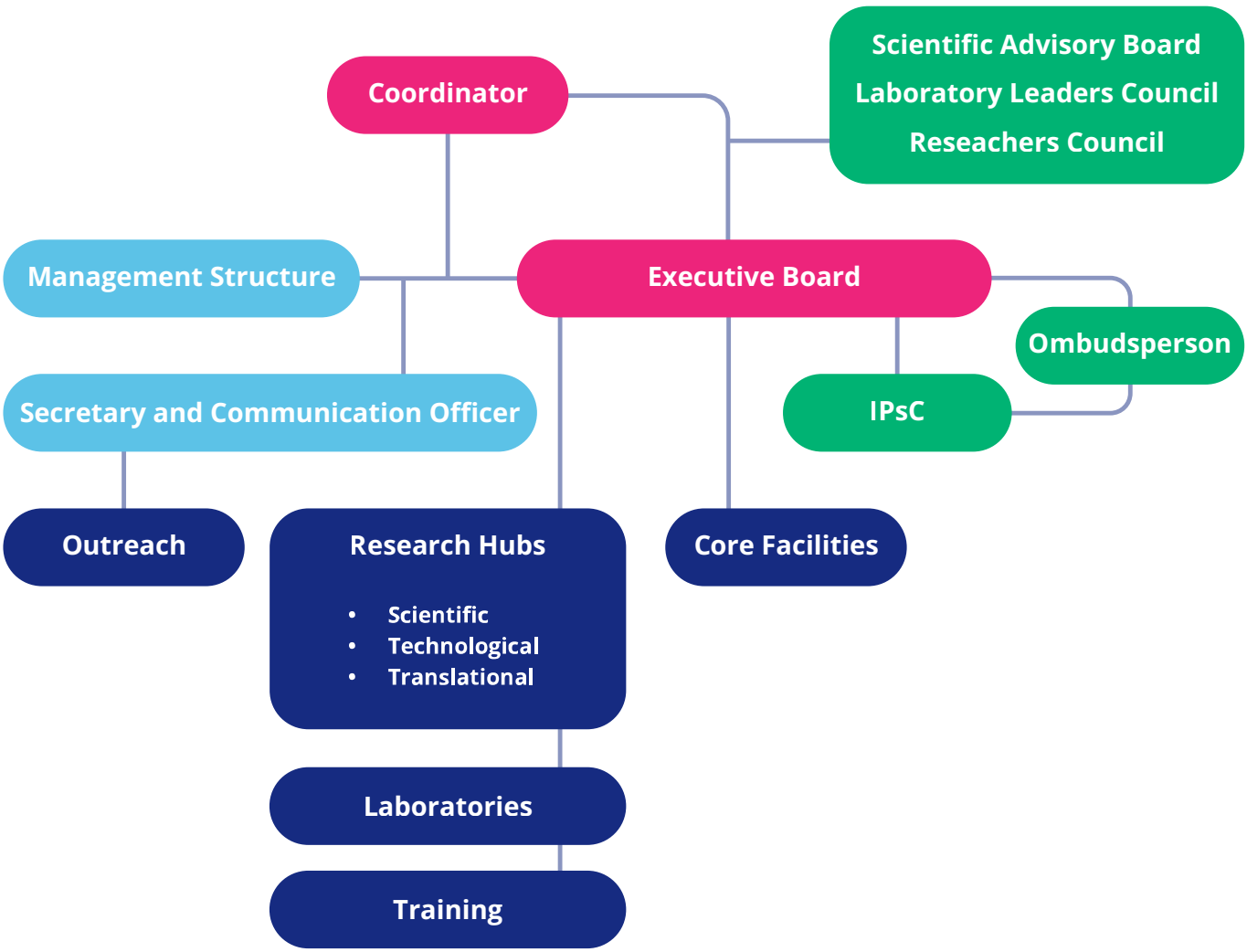
imed structure

Scientific Advisory Board

imed structure

Our multidisciplinary research unit brings together 194 researchers across 30 laboratories, spanning chemistry, biology, and pharmaceutical sciences. Laboratory leaders, nominated by the laboratory doctors, are responsible for electing the institute coordinator and overseeing the activities of the Executive Board (EB).

The EB plays a key role in defining the institute's culture and values. It supervises imed's daily operations and ensures that initiatives from the strategic plan are implemented. João Gonçalves coordinates the EB and serves as the main liaison between imed researchers, our host institution, (FFUL), and Fundação para a Ciência e Tecnologia. He is supported by Adelaide Fernandes, Helena Florindo, Rui Castro, and Pedro Góis, who are responsible for coordinating the activities of the research hubs, liaising with Imed's Post-Graduate Students Commission (IPSC), and managing the institute's training, communication, and outreach programs.



Scientific Advisory Board

The imed Executive Board is composed of distinguished international scientists, ensuring that the institute's strategic direction serves both science and society.

PROF. RONIT SATCHI-FAINARO

Head, Cancer Research and Nanomedicine Laboratory

The Hermann and Kurt Lion Chair in Nanosciences and Nanotechnologies,

Director, Cancer Biology Research Center

Department of Physiology and Pharmacology

Sackler Faculty of Medicine, Sagol School of Neuroscience, Tel Aviv University, Israel

PROF. NUNO MAULIDE

Full Professor of Organic Synthesis at the University of Vienna and adjunct PI at CeMM

DR. PAULO FONTOURA

Global Head and SVP Neuroscience, Immunology, Ophthalmology, Infectious and Rare Diseases at Roche

PROF. NADIM BOU-HABIB

Lecturer at the Nova School of Business and Economics

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2. Scientific Structure

Research Hubs & Laboratories

imed Laboratories

The imed research model is driven by 30 laboratories that integrate perspectives and methodologies from chemistry, biology, and pharmaceutical sciences to address key questions in health sciences. Our teams focus on uncovering molecules, molecular mechanisms, and technologies with the potential to be translated into breakthrough healthcare solutions.

The laboratories reflect a broad range of scientific interests and operate as flexible, collaborative spaces where knowledge and instrumentation are shared to stimulate interaction and innovation. This collaborative environment underpins a wide spectrum of research activities, strengthening our Scientific, Technological, and Translational Hubs.

Research Hubs & Laboratories

imed's Scientific Hub integrates chemistry, biology, and pharmaceutical sciences to advance pioneering approaches for the prevention, detection, and treatment of major health challenges. Our research is structured around four priority areas—oncology, neurodegenerative disorders, metabolic diseases, and infectious diseases—where multidisciplinary teams combine fundamental discoveries with translational innovation to deliver new healthcare solutions.

Oncology

In oncology, our mission is to generate innovative solutions for cancer patients through transformative scientific advances. By deepening the understanding of the molecular mechanisms underlying tumor initiation and progression, we identify novel druggable targets and design strategies for therapeutic intervention. imed's cancer program integrates biochemistry, molecular and cell biology, and immunology with chemistry, nanotechnology, and biotechnology, fostering translation of fundamental insights into novel diagnostic tools, preventive strategies, and therapies.

Leading Laboratories:

- Drug Delivery & Immunoengineering
- Neurovascular
- Natural Products Chemistry
- Medicinal Organic Chemistry
- Computational Medicinal Chemistry

Neurodegenerative disorders

Research in neurodegenerative diseases focuses on conditions such as Alzheimer's, Parkinson's, Amyotrophic Lateral Sclerosis, and Multiple Sclerosis, which are characterized by progressive loss of central nervous system structure and function. Although defined by distinct proteinopathies and regional vulnerabilities, these disorders share convergent processes, including neuroinflammation, glial reactivity, and neuronal dysfunction. Our strategy aims to dissect the molecular basis of these processes, thereby enabling the rational design of therapeutic interventions. By bringing together neuroscientists, biophysicists, and chemists, we work to uncover novel mechanisms of disease onset and progression, while also pursuing early biomarkers, innovative therapeutic targets, and preventive strategies.

Leading Laboratories:

- Central Nervous System, Blood and Peripheral Inflammation
- Neuroinflammation, Signalling and Neurodegeneration
- Stem Cell Bioenergetics and Neurodegeneration
- Toxicology, Biomarkers & Risk Assessment

Metabolic diseases

Research in metabolic diseases , is grounded on the recognition that metabolic dysregulation underlies a wide spectrum of pathologies, from rare inherited disorders to common diseases such as diabetes, cancer, and liver disease. We study enzymes, transporters, and molecular pathways that regulate protein, carbohydrate, and lipid metabolism, aiming to uncover mechanisms of disease pathogenesis and identify therapeutic targets. Using biochemical, biophysical, cellular, and animal models, our teams characterize novel mechanisms of dysfunction that may be translated into druggable targets. In parallel, through collaborations with industry, we synthesize and screen candidate molecules and develop innovative medical devices aimed at restoring metabolic balance.

Leading Laboratories:

- Cell Function and Therapeutic Targeting
- Membrane Transporters in Health & Disease
- Metabolism, Genetics and Proteins in Health & Disease
- Liver Disease Diagnostics and Therapeutics

Infectious diseases

Infectious disease research we work at imed addresses both long-standing and emerging threats, with a strong focus on understanding host–pathogen interactions. Our goal is to develop multipronged approaches to infection control, combining molecular insights with translational strategies to curb disease progression and transmission. Efforts encompass the design of new vaccines, therapeutics, and diagnostic tools, with emphasis on global health priorities such as malaria, HIV, COVID-19, tuberculosis, fungal, and parasitic infections. Through coordinated and collaborative programs, we aim to contribute to prevention, early detection, and clinical management of infectious diseases that continue to pose major public health challenges.

Leading Laboratories:

- Phage Biology Research and Infection Control
- Host-Pathogen Interactions
- Pathogen Genome Bioinformatics and Computational Biology
- Bacterial Pathogenomics and Drug Resistance
- HIV evolution, epidemiology, and prevention

Technological Hub

Within the **Technological Hub**, we are strongly committed to translating advanced scientific knowledge and cutting-edge technologies into breakthrough healthcare solutions that enable societies to live longer, healthier lives. Built on a vibrant network of partnerships between our scientific community, the pharmaceutical and biotechnology sectors, and healthcare providers, this hub plays a pivotal role in transforming innovative research into impactful products and life-saving medicines.

Emerging technologies

In the field of emerging technologies, recent advances in biology have deepened our understanding of the molecular basis of complex diseases and created unique opportunities to accelerate the translation of fundamental discoveries into healthcare innovation. At imed, we are developing emerging technologies that integrate chemistry, biology, and pharmaceutical sciences, with the goal of converting scientific breakthroughs into new diagnostic and therapeutic options. Our research spans cancer, neurodegenerative, metabolic, and infectious diseases, with a strong emphasis on tools and approaches that can be rapidly deployed into clinical practice.

Leading Laboratories:

- Advanced Technologies for Drug Delivery
- Bioorganic Chemistry
- Advanced Cell Models for Predictive Toxicology & Cell-based Therapies
- Molecular Microbiology and Biotechnology
- Pharmaceutical Bioengineering, Biotechnology & Bioproducts
- Chemical Biology
- Medicinal Chemistry

Translational Hub

Within the **Translational Hub** we are committed to advancing pharmacotherapy innovation and ensuring access for people living with illness. By converging fundamental scientific discoveries into applied research, we aim to develop disruptive translational strategies that generate tangible benefits for human health.

This mission is powered by close collaboration between imed and a wide network of partners across the healthcare ecosystem—including policymakers, clinicians, allied healthcare professionals, patients, and their representative organizations. Through these joint efforts, we strengthen the bridge between science and society, ensuring that innovative therapies and healthcare solutions can reach those who need them most.

Leading Laboratories:

- Systems Integration Pharmacology, Clinical & Regulatory Science
- Pharmacy Practice & Health Communication

Health Care Sector

The provision of healthcare through new drugs, medical devices, and innovative services is essential to building a healthier society. At imed, our scientists are dedicated to empowering the healthcare sector by generating knowledge that supports health promotion, disease prevention, and the optimization of medicines. In doing so, we contribute to improving patient outcomes while reinforcing the sustainability and effectiveness of healthcare systems.

Leading Laboratories:

- Pharmaceutical Care and Clinical Pharmacy
- Pharmaceutical Development

Pharma Industry

The pharmaceutical industry plays a decisive role in unravelling innovative therapeutic options to prevent diseases and cure or alleviate patients. At imed, our researchers maintain strong collaborations with both national and international pharmaceutical partners to accelerate the translation of advanced research and technologies into market-ready solutions. These partnerships aim to improve patient health, expand access to innovation, and reduce the societal burden of human disease.

Leading Laboratories:

- Pharmaceutical Engineering and Manufacturing

In line with this program, we will intensify efforts to promote interaction across different areas of knowledge and strengthen intramural collaborations. This approach will ensure that all Principal Investigators and research groups are actively engaged and able to contribute to each research line within the new Scientific Strategic Project.

imed Laboratories

Advanced Cell Models for Predictive Toxicology & Cell-based Therapies

We are a multidisciplinary research team with expertise in cell and tissue engineering, regenerative medicine, toxicology, and cancer pharmacology. Our work is centered on the development and application of advanced 3D in vitro models to support the creation of new cell-based therapeutics, as well as to investigate drug metabolism and disease mechanisms (e.g., liver diseases, skin pathologies, lung cancer).

In 2024, **the aCellTox group actively contributed to a roadmap proposal designed to improve the management of drug-induced liver injury (DILI) and supported the establishment of both positive and negative control drugs for the validation of in vitro hepatotoxicity models. Additionally, we identified novel ERCC1-XPF and XPG inhibitors with the potential to enhance cisplatin-based therapies for non-small cell lung cancer.**

Leader: Joana Miranda

Advanced Technologies for Drug Delivery

Our core challenge lies in delivering bioactive entities precisely at cellular and intracellular targets through advanced technologies. To address this, we develop innovative delivery systems tailored for clinically relevant scenarios, making use of both conventional and novel materials while exploring invasive and non-invasive administration routes.

In 2024, **the group achieved significant progress across several research fronts. We developed novel strategies for the topical treatment of cutaneous leishmaniasis based on sustainable natural products, contributing to more accessible and eco-friendly therapeutic options. In parallel, a green-synthesis method was established to produce Zn-Mg layered hydroxide nanoparticles, reinforcing our commitment to environmentally responsible innovation. Furthermore, we designed a mucosal nanovaccine against Helicobacter pylori, proposed as a promising prophylactic candidate to protect against gastrointestinal mucosal pathogens.**

Leader: António Almeida

Bacterial Pathogenomics and Drug Resistance

Our research is dedicated to the molecular epidemiology, clinical impact of strain diversity, and laboratory diagnosis of infectious diseases caused by bacterial pathogens, with a particular focus on mycobacteria and Gram-negative bacteria. A central aim of our work is to translate genomic diversity and in-depth knowledge of resistance mechanisms into the development of novel products and computational tools.

In 2024, **the laboratory advanced this mission by conducting a comprehensive genomic and functional analysis of ADP-ribosyltransferase–coding genes in Klebsiella pneumoniae. In parallel, we successfully integrated the microevolutionary trajectories of Mycobacterium tuberculosis leading to drug resistance with pharmacokinetic models, thereby enhancing the characterization of their clinical significance and public health implications.**

Leader: Isabel Portugal

Bioorganic Chemistry

The Bioorganic Chemistry Laboratory operates at the intersection of organic chemistry and biology, with a focus on discovering and intensifying more sustainable synthetic methodologies. These approaches, often developed in close collaboration with biomedical laboratories, are designed to address pressing biological challenges in infectious diseases, oncology, and inflammation.

In 2024, **the group successfully scaled up the total synthesis of the highly bioactive natural marine compound (–)-Agelastatin A, achieving the process in just two synthetic steps under flow conditions. Additionally, we developed new synthetic routes to access highly functionalized structures derived from furanic platforms, further advancing the use of biomass-derived synthons in sustainable chemistry.**

Leader: Carlos Afonso

Cell Function and Therapeutic Targeting

Our research focuses on identifying mechanism-based molecular targets to guide drug discovery and biomarker development in inflammation, degenerative, and oncogenic diseases. We specifically investigate cell signaling pathways and their crosstalk with metabolism and interorgan communication, integrating cellular and molecular technologies with preclinical and patient-derived models to accelerate translation from bench to bedside.

In 2024, **we made significant progress in understanding disease pathogenesis, qualifying biomarkers, and ranking murine models according to their similarity to human disease and translational potential. Notably, we demonstrated that AAV-CYP46A1 gene therapy ameliorates the Niemann–Pick type C (NPC) phenotype and uncovered shared pathological mechanisms with Parkinson's disease, highlighting novel avenues for therapeutic intervention.**

Leader: Cecília Rodrigues

Central Nervous System, Blood and Peripheral Inflammation

The laboratory investigates the role of inflammation in the onset and progression of neurodevelopmental and neurodegenerative disorders, with a particular focus on the interplay between central nervous system (CNS)–centered neuroinflammation and peripheral inflammatory responses.

***In 2024*, we made several key findings: (1) microglial reactivity is altered in an in vitro model of ARSACS; (2) microglial synaptic pruning is increased in Multiple Sclerosis-associated cognitive impairment; (3) aging influences the phenotype of murine models of Multiple Sclerosis; (4) obesity exacerbates disease phenotype in the EAE model; and (5) microglial responses may differ depending on whether cells are derived from PBMCs or iPSCs.**

Leader: Adelaide Fernandes

Chemical Biology

Chemical biology provides unique opportunities to rationally manipulate biological processes and is poised to play a key role in addressing current unmet medical needs. Our laboratory focuses on the development of innovative chemical technologies for constructing functional molecules and on applying these methods to generate therapeutic bioconjugates and small-molecule probes.

***In 2024*, our efforts centered on the discovery of new technologies for synthesizing functional fluorescent dyes for bioimaging, as well as novel chemical strategies for the preparation of biologically useful molecules. In 2023, we prepared a small library of 20 fluorescent BASHY dyes using a versatile reaction protocol and assessed their chemical stability in aqueous media. These data informed the development of a multivariate linear free energy relationship model, which enabled the prediction of a new BASHY dye and revealed previously uncharacterized mechanisms controlling the stability of this dye platform. The optimized dye was successfully applied in live-cell imaging experiments and in zebrafish larvae. Additionally, we investigated the reactivity of (hetero)arylamides in the Chan–Evans–Lam reaction with arylalkenyl boron reagents.**

Leader: Pedro Gois

Computational Medicinal Chemistry

Our research focuses on designing and applying computational protocols and algorithms to gain insight into biologically and chemically relevant systems with pharmacological importance. This knowledge is leveraged to rationally design and repurpose potential therapeutic agents for the treatment of human diseases. We employ a wide array of computational approaches, including virtual screening, docking, homology and pharmacophore modeling, molecular dynamics, quantum chemistry, cheminformatics, and machine learning.

***In 2024*, the group developed two software tools—LigExtract, with an associated article already accepted for publication, and ProtLigModel, which has been published—both of which are publicly available on GitHub. In addition, the team identified three compounds demonstrating significant activity relevant to Alzheimer's disease and the circadian cycle, highlighting the translational potential of our computational strategies.**

Leader: Rita Guedes

Drug Delivery & Immunoengineering

Our research focuses on elucidating the mechanisms of cellular dynamics, crosstalk, and signaling networks to identify novel targets that guide the design of translational nanotechnology-based systems for drug delivery, imaging, and immunotherapy in clinically relevant contexts such as cancer, inflammation, infectious, and genetic diseases.

***In 2024*, the BioNanoSciences Laboratory made several key advances. We demonstrated a synergistic KRAS nanovaccine strategy, showing that selenium nanoparticles significantly enhance the therapeutic efficacy of a KRAS nanovaccine in breast cancer, resulting in improved immune activation and tumor inhibition. This approach establishes a foundation for advanced metal-based nanovaccine platforms in oncology. We also developed a next-generation intranasal COVID-19 nanovaccine, combining multiepitope PD-L1–siRNA delivery to elicit robust systemic and mucosal immunity against SARS-CoV-2. This needle-free platform represents a promising, scalable approach for safe and effective immunotherapy against COVID-19 and potential future respiratory pathogens. Furthermore, our work revealed how nanovaccines can be engineered to enhance vaccine efficacy by reshaping germinal center (GC) and modulating T follicular helper (Tfh) cell activity, promoting stronger and longer-lasting immune responses. These insights provide a basis for the development of next-generation vaccines with improved immunological precision and durability.**

Leader: Helena Florindo

HIV evolution, epidemiology, and prevention

Our primary areas of activity include: (a) the epidemiology, drug resistance, and evolution of HIV, HCV, and HBV; (b) HIV-2 infection, encompassing diagnosis, pathogenesis, natural history, and neutralizing antibody responses; (c) the design and preclinical evaluation of HIV vaccines and microbicides; and (d) the design and preclinical assessment of antiviral drugs.

***In 2024*, our research documented a rising prevalence of resistance to reverse transcriptase (RT) inhibitors among both treated and untreated adults living with HIV in Cape Verde, alongside emerging resistance to LPV/r and DTG in treated individuals. We also demonstrated that point-of-care**

(PoC) test-and-treat strategies for HIV at birth are feasible in resource-limited settings such as Tanzania and Mozambique, resulting in clinically significant reductions in early infant mortality.

Leader: Nuno Taveira

Host-Pathogen Interactions

Microbial pathogens have evolved sophisticated strategies to interact with their hosts, deploying diverse virulence factors to manipulate host-cell responses for invasion, survival, and replication. Understanding these host–pathogen interactions not only inform the development of novel therapeutic approaches but also provides powerful tools to probe fundamental aspects of cellular physiology and immunology. Our research aims to define the molecular details of these interactions and identify potential targets that can be modulated from both the host and pathogen sides. Key pathogens under investigation include Mycobacterium tuberculosis and other mycobacteria, HIV, influenza virus, SARS-CoV-2, and other emerging viruses. The group also offers expertise in assessing the antimicrobial activity of novel compounds against these pathogens.

***In 2024*, the group advanced several research fronts. We developed drug delivery systems designed to manipulate cathepsin protease inhibitors for controlling HIV and M. tuberculosis during coinfection. A 3D cell culture model of the tuberculosis granuloma was validated to accelerate the translation of in vitro screening results for antibiotics and immunomodulators. We also investigated conserved proteins from influenza viruses, coronaviruses, and dengue viruses as potential antiviral targets. Additionally, new and optimized compounds were tested for activity against influenza, SARS-CoV-2, and M. tuberculosis, reinforcing the translational potential of our approaches.**

Leader: Elsa Anes

Liver Disease Diagnostics and Therapeutics

The Liver Disease Diagnostics and Therapeutics Laboratory investigate the role of microRNAs (miRNAs/miRs) and other modulators of gene expression in liver disease pathogenesis, with the ultimate goal of harnessing them for diagnosis, treatment, monitoring, and prevention.

Our research focuses on understanding how alterations in complex miRNA regulatory networks contribute to human disease, particularly chronic liver conditions associated with metabolic syndrome, while exploring their potential as circulating biomarkers and therapeutic targets.

***In 2024*, the group characterized the miRNA profile of serum extracellular vesicles (EVs) from patients with metabolic dysfunction–associated steatotic liver disease (MASLD), aiming to identify candidate biomarkers for disease staging. In parallel, we investigated EV-associated miRNAs with diagnostic potential for the early detection of hepatocellular carcinoma within the MASLD context, applying a liquid biopsy approach.**

Leader: Rui Castro

Medicinal Chemistry

Our laboratory focuses on developing molecular technologies aimed at curing human diseases and accelerating drug discovery. Our research program employs chemistry-driven approaches to explore biological systems and modulate target–ligand interactions involved in infection, cancer, and neurodegenerative disorders.

***In 2024* a novel chemotype capable of targeting the electron transport chain of Mycobacterium tuberculosis, through the inhibition of two key enzymes, was discovered. This chemotype presents a good safety profile regarding the toxicity for human cell lines was also developed. An innovative targeted drug delivery systems to hypoxic tumours was also developed. This system was designed for selective activation by tumoral endogenous reductases and release of the DNA-alkylating methyldiazonium ion via a self-immolative mechanism. Finally, the group has contributed machine learning tools to accelerate drug discovery, namely the design of inorganic nanoparticles.**

Leader: Rui Moreira

Medicinal Organic Chemistry

Our research focuses on the design and synthesis of small molecules targeting therapeutically relevant pathways. To this end, we develop and apply novel chemical methodologies for library synthesis, while exploring structure–activity relationships, metabolic stability, and the identification of metabolites for the most promising lead compounds.

***In 2024*, we advanced several key projects. Fluorescent SLMP53-1–based probes were developed to investigate the intracellular behavior of wild-type and mutant p53, demonstrating efficient uptake, endoplasmic reticulum localization, and anti-tumor activity. In parallel, we designed a new series of triazene-based hybrid molecules with antimicrobial properties, as well as novel dinitrobenzamides that exhibited strong antimycobacterial activity.**

Leader: Maria M. M. Santos

Metabolism, Genetics and Proteins in Health & Disease

The MetGenPro Group investigates the interface between cell metabolism and gene expression, focusing on how molecular genetics and alterations in metabolic pathways or enzyme structure/function respond to drugs, gene variants, and disease states. Our work spans from fundamental biomedical research to translational applications in personalized medicine, aiming to improve diagnosis, prognosis, and therapy.

***In 2024*, we contributed to the clinical and molecular characterization of European galactosaemic patients, validated a strategy for designing small molecules targeting the most common MCAD variant through structural insights into protein interactions, and developed an expression system for SIRT4, advancing its exploration as a therapeutic target in mitochondrial regulation.**

Leader: Paula Leandro

Membrane Transporters in Health & Disease

Our group investigates membrane transport proteins in living organisms, exploring their role as biomarkers and therapeutic targets. We identify the mechanisms of their regulation and dysfunction in disease, while identifying and characterizing chemical modulators to assess their kinetics and pharmacological potential in the treatment of metabolic disorders, inflammation, and cancer.

***In 2024*, we constructed a scFv library anti-AQP9 to tackle pathologies where this protein is overexpressed, such as inflammatory diseases; identified gold-based compounds as novel inhibitors of aquaporin-3 peroxiporin activity and characterized their potential as anti-tumoral agents in melanoma; and investigated the impact of aquaporins in tumor signaling pathways in pancreatic cancer.**

Leader: Graça Soveral

Molecular Microbiology and Biotechnology

The Molecular Microbiology and Biotechnology laboratory aims to develop new strategies of antibody engineering and synthetic biology for the advance of new biopharmaceuticals by interrogating the immune humoral and cellular responses in infectious diseases and biologic therapies.

***In 2024* our laboratory focuses on developing molecular technologies aimed at curing human diseases and accelerating drug discovery. Our research program employs chemistry-driven approaches to explore biological systems and modulate target–ligand interactions involved in infection, cancer, and neurodegenerative disorders.**

Leader: João Gonçalves

NanoMedicines and Biomedical Imaging

The NanoBIG group specializes in developing and validating innovative therapies for cancer, with a focus on metallic nanoparticles and lipid/polymeric-based delivery systems. The group also explores repurposing antibiotics for MRSA management using lipid-based nanosystems and investigates natural products for treating skin disorders, advancing healthcare through state-of-the-art in vitro and in vivo studies.

***In 2024*, NanoBIG further strengthened its research on these fronts, progressing the design and testing of nanoparticle-based cancer therapies, optimizing lipid-based antibiotic delivery systems for resistant infections, and advancing natural-product-based approaches for dermatological applications.**

Leader: Catarina Pinto Reis

Natural Products Chemistry

The Natural Products Chemistry group focuses on identifying and developing novel hit and lead drug candidates from natural sources, through the isolation and molecular derivatization of bioactive chemical scaffolds derived from plants.

***In 2024*, we discovered an indole alkaloid derivative that emerged as a first-in-class inhibitor of homologous recombination DNA repair, effectively targeting pancreatic tumor growth, metastasis, and drug resistance. Its binding mode was elucidated through fluorescence quenching, circular dichroism, and computational studies. Additionally, nitrogen-containing natural compound derivatives were shown to reverse multidrug resistance in cancer cells.**

Leader: Maria José Umbelino Ferreira

Neuroinflammation, Signaling and Neuroregeneration

Neuro focuses on neurodevelopmental disabilities, genetic susceptibilities, neuroinflammation, and ageing processes that disrupt homeostasis and predispose neurodegeneration. Our research explores how glial phenotypes, neuro-immune dysregulation, and paracrine stress contribute to disease onset and

progression. The ultimate goal is to identify early biomarkers for non-invasive diagnosis, develop patient-specific stratification tools for disease modelling, and improve healthcare outcomes.

***In 2024*, we demonstrated that exosomes loaded with miR-124-3p exhibit neuro-immune benefits in Alzheimer's disease (AD) microfluidic systems and 5xFAD mouse models, where age, regional, and temporal variations in genes and miRNA expression reflect those seen in AD patients. Additionally, we showed that Riluzole and selected small molecules provide significant therapeutic benefits in Amyotrophic Lateral Sclerosis (ALS), both in TDP-43 mouse models and in ALS patient lymphoblasts.**

Leader: Dora Brites

Neurovascular

The Neurovascular Lab investigates the blood–brain barrier (BBB) in neuropathology, considering it as (i) a source of peripheral biomarkers reflecting brain dysfunction, (ii) a therapeutic target for modulation to prevent disease onset and progression, and (iii) a major obstacle to achieving effective drug concentrations in the brain.

***In 2024*, we demonstrated the ability of Mediterranean diet bioactives to cross the BBB, providing a mechanistic basis for dietary neuroprotection. We profiled the transport and modulation of circulating (poly) phenol metabolites at the BBB, as well as their brain bioavailability. Furthermore, we showed that encapsulating the polyphenol resveratrol in exosomes protects it from metabolization, enhances BBB permeation, and strengthens its anti-proliferative activity.**

Leader: Maria Alexandra Brito

Phage Biology Research and Infection Control

The PhaBRIC lab investigates fundamental biological questions on phage–bacteria interactions, with a major focus on understanding how phage proteins disrupt the bacterial cell envelope and leveraging this knowledge to design innovative strategies against antibiotic-resistant pathogens.

***In 2024*, the lab advanced its research on phages and phage-derived products to combat bacterial infections, including those caused by antibiotic-resistant strains. These efforts contributed to FCT-funded projects such as phages4ACB (biopreservation, 2022.04043.PTDC) and AntibacML (AI-driven antibiotic discovery, 2022.03752.PTDC). In addition, the lab initiated a new probiotic-based project for controlled antimicrobial release, which secured FCT funding in 2025 (2023.12038.PEX).**

Leader: Carlos São-José

Pharmacy Practice & Health Communication

The PhP& HC Lab stands out for its research in clinical pharmaceutical communication, professional practices in healthcare, and patient engagement. Recent studies focus on deprescribing, telepharmacy, and professional ethics, promoting a more humanistic and person-centered approach pharmacy.

***In 2024* we have engaged in significant work related to hospital pharmacists' practice, shedding light on their crucial role in patient care. Another notable achievement was the comprehensive retrospective cohort study examining the medication usage and care of older individuals in long-term care facilities. Additionally, the exploration of ethical principles among practicing community pharmacists in Portugal raised awareness and potential concerns, contributing to the ongoing discourse on professional conduct in pharmacy practice.**

Leader: Afonso Cavaco

Pharmaceutical Care and Clinical Pharmacy

Our laboratory focuses on education, research, and on the implementation of advanced pharmaceutical care, with a focus on health promotion, disease prevention, and medicines optimization. Key areas of interest include medication adherence and medication review, early identification of suspects of non-communicable diseases (NCDs), health promotion through pharmacy-based interventions, and the development of services to address inappropriate use of medication.

***In 2024*, our lab secured FCT funding for an exploratory study on healthcare access among people experiencing homelessness, marking the start of this new research area. We expanded our team with a psychologist specialized in drug use policy and civil society engagement, and a psychiatrist focused on mental health in vulnerable populations. Internationally, we co-led the MMM24 project on blood pressure and atrial fibrillation awareness, partnering nationally with the Portuguese Society of Hypertension and Ezfy. Strengthening this collaboration, Ezfy's director—also president of the National Association of Pharmacies—joined the lab to support projects on pharmacist-led advanced services. We launched the Council of Europe guideline on Medication Review, set to influence pharmacy practice and policy across Europe, and contributed to WHO's Global Guidelines for Viral Hepatitis Service Delivery in Prisons. Finally, we sustained existing partnerships and initiated new ones, including with the Scottish Government, University of Pisa, and the Portuguese Directorate-General for Reintegration and Prison Services, submitting joint Horizon funding proposals.**

Leader: Filipa Alves da Costa

Pharmaceutical Development

Our group organizes its activities around three main research areas: the development of innovative and sustainable drug delivery systems (DDS) and technologies for disease prevention and treatment optimization (cosmetics, medical devices and medicines), the characterization of product quality, and the evaluation of safety and efficacy from the lab to society.

***In 2024*, we strengthened collaborations with startups, SMEs, hospitals, and pharmacies to promote impactful innovation. We secured two Portugal 2030 projects, building on two PRRs from 2023,**

both focused on sustainable and personalized delivery systems, while research on 3D printing for tailored drug platforms remained a key focus.

Leader: Joana Marto

Pharmaceutical Engineering and Manufacturing

The PhEMLab focuses on the fundamental sciences underpinning the design, optimization, and manufacturing of bulk pharmaceutical dosage forms. The lab specializes in solid-state pharmaceutical materials characterization, particle engineering, development of drug product manufacturing processes—including continuous production and 3D printing—modelling, and advanced real-time high-throughput monitoring. PhEMLab maintains strong collaborations with the pharmaceutical industry to translate research into practical applications.

***In 2024*, the lab advanced several key areas: the development of coextrusion and spheronization as a novel method to produce structurally complex pellets; thorough physical characterization of filaments for low- and high-temperature FDM 3D printing; and the use of the solid/liquid ratio to enable mechanistic studies of continuous wet granulation.**

Leader: João Almeida Lopes

Pharmaceutical Bioengineering, Biotechnology & Bioproducts

PharmaBB focuses on innovative research at the interface of bioengineering and biotechnology, aiming to advance disease prevention, health promotion, and overall well-being. The group integrates diverse expertise to expand knowledge in the sustainable manufacturing of bioactive compounds, biofabrication of (bio)materials, and development of gene/drug delivery platforms for (bio)therapeutics targeting infectious diseases, cancer, and neuroprotection, as well as applications in medical devices, biomedical products, and food.

***In 2024*, the group achieved several key milestones: enhancing the antimicrobial activity of biomaterials through 3D printing, enabling the design of 3D-printed wound dressings; developing a sustainable enzymatic process to produce bioactive compounds with improved bioavailability; advancing RNA technologies using enzyme-derived lipoamino acids; and producing trehalose lipids via a sustainable approach. Additionally, the lab provided important insights into the quality and regulatory standards for manufacturing clinical-grade iPSC Master Cell Banks in accordance with EU and US guidelines.**

Leader: Maria H. Ribeiro

Stem Cell Bioenergetics and Neuroregeneration

Our laboratory investigates the role of bioenergetics in regulating neural stem cell (NSC) fate in the adult brain. By integrating stem cell biology and metabolism, we aim to uncover key checkpoint mechanisms and identify molecules that enhance the neuroregenerative potential of NSCs throughout adulthood.

***In 2024*, we completed a study on how systemic signals influence the regenerative properties of the NSC secretome. We focused on obesity-associated miR-21, revealing its impact on NSC homeostasis and brain plasticity, and demonstrated how preconditioning mesenchymal stem cell-derived extracellular vesicles can modulate NSC fate and neuromodulatory functions.**

Leader: Susana Solá

Systems Integration Pharmacology, Clinical & Regulatory Science

Our group supports integrative systems pharmacology research, developing innovative pharmacological tools for both non-clinical and clinical pipelines. We focus on predicting and modelling preventive or therapeutic effects through a translational approach, grounded in state-of-the-art principles and regulatory science guidance.

***In 2024*, the group achieved several key milestones: publishing 30 papers on new substances and herbal/food products, complemented by the lab's expertise in pharmacodynamics, pharmacokinetics, pharmacoepidemiology, and regulatory science; establishing the China-Portugal International Joint Laboratory in Herbal Medicines in collaboration with the University of Traditional Chinese Medicine of Jiangxi; and participating in the multi-national European Horizon 2020 project MORE-Europa.**

Leader: João Rocha

Toxicology, Biomarkers & Risk Assessment

Our laboratory investigates the environmental occurrence and human exposure to xenobiotics of global concern to Environment and Public Health, examining their modes of action to identify novel biomarkers that support human and environmental risk assessment and to develop innovative technologies and therapies.

***In 2024*, our research focused on the risk assessment of microplastics, particularly in drinking water, and on applying toxicology to pharmacology. Notably, we explored the use of thimerosal (a mercury derivative) to control glioblastoma, demonstrating that TmHg, alone or in combination with temozolomide, can reduce neoangiogenesis and slow ameliorate glioblastoma progression.**

Leader: Cristina Carvalho

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3. imed Training Structure

Undergraduate course

Master program

Doctoral students

Committed to training the next generation of scientists at the interface of chemistry, biology, and pharmaceutical sciences, imed researchers provide comprehensive educational opportunities spanning undergraduate, master's, doctoral, and post-doctoral levels.

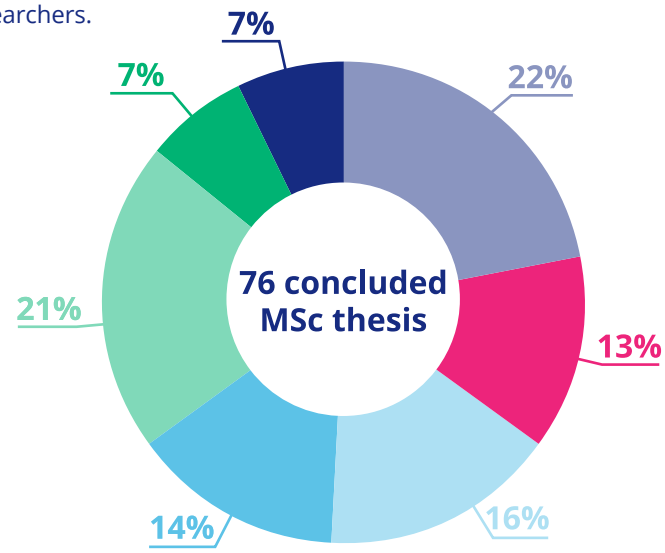
Undergraduate course

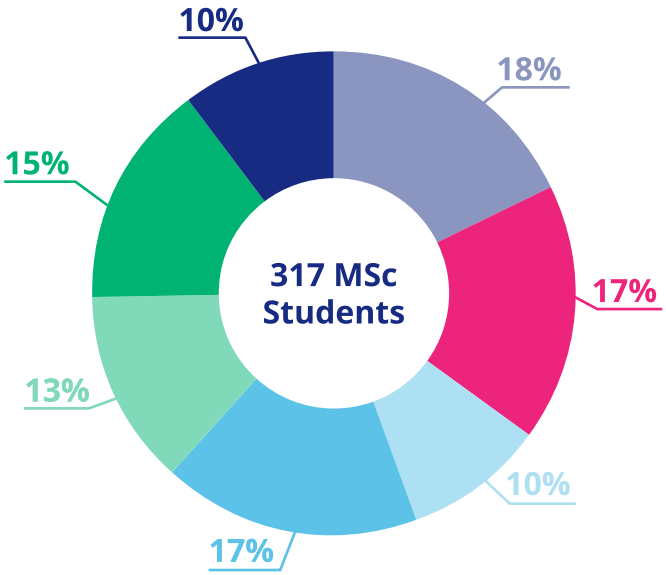
The majority of imed researchers contribute to teaching within the Department of Pharmaceutical Sciences and Medicines and the Department of Pharmacy, Pharmacology, and Health Technologies at the Faculty of Pharmacy, Universidade de Lisboa. Their teaching activities cover a wide range of disciplines within the Integrated Master in Pharmaceutical Sciences. Additionally, most imed laboratories offer positions for undergraduate students to gain hands-on research experience. In 2024, several undergraduate students began their scientific training and research careers at imed laboratories, marking the first step in fostering the next generation of researchers.

Master program

In addition to these responsibilities, imed scientists play a leading role in most faculty master's programs. Their involvement includes both the teaching of individual courses and the supervision of master's theses. In 2024, 76 master's students successfully completed their studies under the guidance of imed researchers.

Throughout the year, imed scientists coordinated several master's courses, which were attended by a total of 317 students:





- Clinical Analysis
- Regulation and evacuation of Medicines and Health Products
- Food Quality and Health
- Biopharmaceutical Sciences
- Pharmaceutical Engineering
- Medicinal Chemistry and Biopharmaceuticals
- Pharmaceutical Chemistry and Therapeutic / advance cosmetology

Advance Cosmetology

Coordinator: Helena Margarida Ribeiro and Joana Marto

The Master in Cosmetic Sciences (MCA) provides a comprehensive overview of cosmetics, covering regulatory aspects as well as the development, production, quality control, and consumer counseling for all product categories. This sector combines high economic value with significant technical, scientific, and regulatory complexity, involving researchers, manufacturers, consumers, and regulatory authorities, and plays an important role in healthcare. The MCA aims to prepare students with the skills demanded by society, including teamwork, information selection and synthesis, critical thinking, and problem-solving initiative. The program fosters flexible learning strategies, placing students in cognitive contexts tailored to achieve the intended learning objectives.

Biopharmaceutical Sciences

Coordinator: Cecília Rodrigues

The program expands the traditional scope of biopharmaceutical sciences by providing a multidisciplinary foundation focused on the discovery phase of drug development. Students study molecular mechanisms of disease, therapeutic targets, biomarkers, and advanced therapies. The curriculum trains graduates to analyze and solve complex problems, fostering creativity and independence, while preparing them to become skilled investigators and knowledgeable professionals. It also encourages critical discussion of recent scientific advances and hands-on experience with cutting-edge experimental technologies.

Food Quality and Health

Coordinator: Maria Eduardo Figueira

This course is designed to support the acquisition and updating of professional and scientific skills in the field, aiming to enhance food quality and safety in Portugal. These competencies are essential for safeguarding public health and ensuring compliance with European Union standards.

Laboratory Medicine

Coordinator: Maria Cristina Marques

The course provides comprehensive and up-to-date training across the scientific domains of clinical analysis, with a strong laboratory component to develop practical skills for disease prevention, diagnosis, and monitoring, while fostering professional specialization. It also supports academic preparation for pursuing advanced studies in different scientific areas of clinical analysis.

Medicinal and Biopharmaceutical Chemistry

Coordinator: Maria José Umbelino

Pharmaceutical Chemistry, a core discipline within Pharmaceutical Sciences, is fundamental for understanding the drug discovery and development process. Known as Medicinal Chemistry in Anglo-Saxon and Northern European countries, and Pharmaceutical Chemistry in Southern and Central Europe, it is internationally recognized as a cross-disciplinary field. It integrates knowledge from chemistry, biology, and pharmacology to guide the development of new therapeutic agents based on their molecular targets and mechanisms of action.

Pharmaceutical Engineering

Coordinator: António Almeida

The program aims to train professionals skilled in the latest tools for designing, operating, and managing manufacturing processes, as well as ensuring quality control across the product life cycle—including chemical or biological active substances, drug products, and health products. Graduates are prepared to drive technological innovation, enhance industrial competitiveness, lead in specific pharmaceutical areas, and contribute to addressing public health challenges in both established and emerging therapeutic fields.

Regulation and Evaluation of Medicines and Health Product

Coordinator: Maria Beatriz da Silva Lima

This course is designed to expand knowledge of regulatory frameworks, laws, and directives, as well as science-based approaches for marketing authorization in European Union for Medicinal Human Medicines and Veterinary Medicines. It also covers legislation related to health products derived from medicinal plants, medical devices, patent law, price regulation, and other relevant regulatory aspects.

Doctoral students

imed scientists play a central role in the PhD in Pharmacy Program at the Faculty of Pharmacy, Universidade de Lisboa, through direct supervision of candidates and the organization of postgraduate courses. In 2024, imed researchers recruited 24 new PhD students, while 17 successfully completed their studies. Currently, 137 students are enrolled in the PhD program, supported by FCT funding (73) and other schemes, including collaborations with industry and patient associations (64).

imed scientists are actively engaged in postgraduate training and contribute to the following advanced doctoral programs:

Advanced Research Methods in Health and Pharmacy Practice

Coordinator: Afonso Miguel Cavaco; Filipa Alves da Costa

Laboratory: Pharmacy Practice & Health Communication; Public Health & Medicines Use

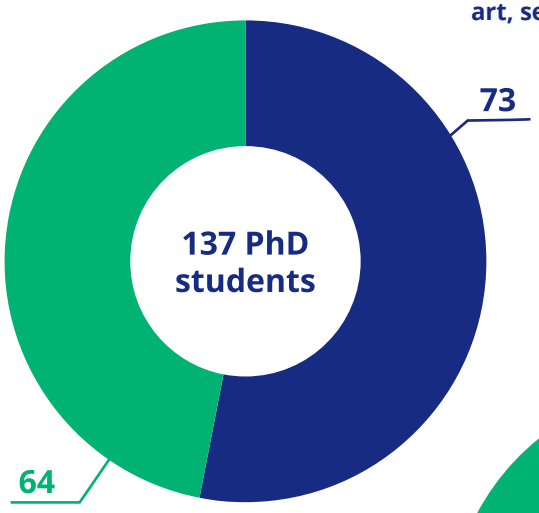
Pharmacy practice is a key area within health services research, focusing on the pharmacist's role in promoting the safe and effective use of medicines and medical devices. Research in this field employs diverse methodologies, combining traditional epidemiological approaches—such as observational and experimental studies—with techniques from the social sciences. This integrated approach allows a person-centered understanding of the experiences of people living with illness who rely on medicines and medical devices to maintain health and well-being. For pharmacy doctoral students, gaining expertise in health services research is essential for designing rigorous research projects. This includes reviewing the state of the art, selecting appropriate study designs, collecting and analyzing data, and generating high-quality evidence that advances pharmacy practice and informs patient-centered healthcare.

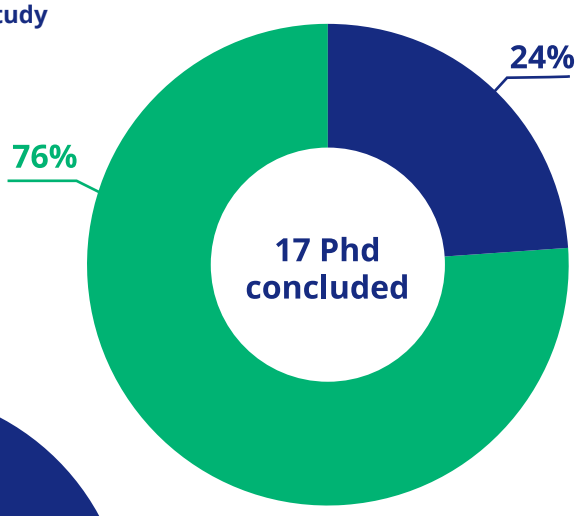
Advanced Topics in Medicinal Chemistry and chemical biology

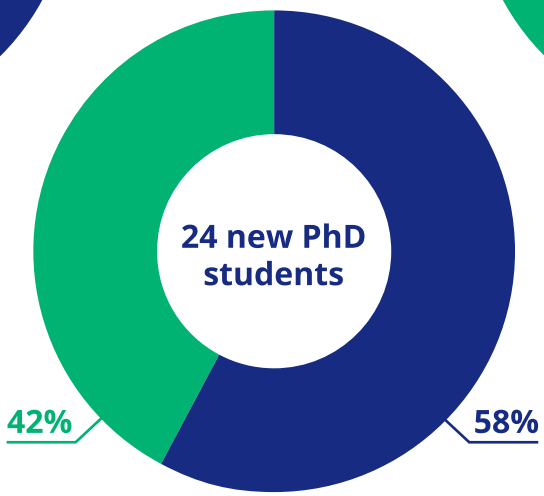
Coordinator: Rui Moreira

Laboratory: Medicinal Chemistry

This advanced specialization course is designed for students enrolled in the PhD in Pharmacy program. The flexible curriculum spans a wide range of courses taught by chemists, pharmacists, biologists, and industrial medicinal chemists. It provides a solid foundation in core chemistry, complemented by in-depth knowledge of medicinal chemistry and chemical biology, equipping students with the expertise required for innovative research in drug discovery and development.







FCT
non-FCT (industry + others)

Advanced Drug Delivery

Coordinator: António Almeida; Helena Florindo

Laboratory: Advanced Technologies for Drug Delivery; Drug Delivery & Immunoengineering

Part of the PhD Programme in Pharmacy, this course provides comprehensive training in the development of advanced medicinal products. It covers key aspects that determine drug behavior in the human or animal body, from fundamental principles to strategies for overcoming physiological barriers, including innovative technological and therapeutic applications. The course is held at the Research Institute for Medicines (imed. ULisboa), Faculty of Pharmacy, Universidade de Lisboa, and while primarily aimed at PhD students, it is also open to members of the broader academic and scientific community. Registration is free but mandatory. The program enhances students' expertise in discovering potential biotherapeutics, optimizing drug production and monitoring, and translating therapies into clinical practice.

Advanced Analytical Tools: Multiple Applications for Mass Spectrometry

Coordinator: Maria Rosário Bronze; Noélia Duarte

Laboratory: Natural Products Chemistry

Mass Spectrometry (MS) is a cutting-edge analytical technique distinguished by its exceptional selectivity, low detection limits, speed, and broad range of applications. Over the past two decades, rapid progress in ionization methods and mass analysers has driven the development of new instrumentation, greatly expanding the scope of MS applications. Today, MS plays a central role in health-related fields such as proteomics, lipidomics, metabolomics, foodomics, drug discovery, environmental monitoring, and forensic and toxicological sciences.

This course provides an overview of the fundamental principles and instrumentation of MS, with a particular focus on recent advancements and their applications.

Multidisciplinary Project-based Learning in Pharmacy

Coordinator: André Santos; Isabel Rivera; Maria M.M Santos

Laboratory: Cell Function and Therapeutic Targeting; Bacterial Pathogenomics and Drug Resistance; Medicinal Organic Chemistry

This course, integrated in the Doctor of Pharmacy Program, challenges students to think beyond their comfort zones and apply multidisciplinary perspectives to address real-world problems, such as emerging pandemic diseases. Students from diverse backgrounds—chemistry, biology, and pharmaceutical sciences—are grouped together to foster dynamic discussions and collaborative problem solving. The outcome is the development of an integrated project designed to provide innovative solutions to the proposed challenge. By engaging with multi- and translational disciplines, students strengthen their critical thinking, communication, and teamwork skills, while expanding their professional networks. Held at the Research Institute for Medicines (imed.ULisboa), Faculty of Pharmacy, Universidade de Lisboa, the course plays a pivotal role in shaping scientific maturity and independence, laying the groundwork for the following stages of their PhD programs.

Molecular Biomarkers and Technologies

Coordinator: Elsa Rodrigues

Laboratory: Cell Function and Therapeutic Targeting

Biomarkers have become central to drug discovery and development, providing critical insights into mechanisms of action, efficacy, safety, and disease progression. They also support disease diagnosis, patient selection, and the design of clinical trials, paving the way for personalized medicine. This course addresses the latest advances in clinical and translational biomarkers, including strategies for patient selection and therapy response prediction, liquid biopsy and cell-free DNA, companion diagnostics, assay development and validation, and biomarker-driven clinical trials. Particular attention is given to the integration of personalized medicine into clinical practice. In addition, the course explores the rapidly evolving field of digital health and its impact on drug and diagnostic development. Topics include digital biomarkers in clinical trials, the role of biosensors and wearables as clinical endpoints, mobile health technologies, and novel applications in point-of-care testing and remote patient monitoring.

Advances in Neuropharmaceutics

Coordinator: Adelaide Fernandes

Laboratory: Central Nervous System, Blood, and Peripheral Inflammation; Neuroinflammation, Signaling and Neuroregeneration; Neurovascular

Neuropharmaceutics focuses on identifying therapeutic targets in neurological diseases and translating these findings into novel drugs and therapies. Neurological disorders pose a major burden on society due to their high prevalence and associated healthcare costs. At the same time, the pharmaceutical industry ranks central nervous system (CNS) disorders as its second-highest research and investment priority, after cancer. This course highlights the importance of neuropharmaceutics as a key field for doctoral students, providing advanced knowledge in target discovery, drug design, therapeutic development, and the clinical use of medicines for CNS disorders.

Pathogen Multiomics and Bioinformatics

Coordinator: João Perdigão

Laboratory: Bacterial Pathogenomics and Drug Resistance

The Pathogen Multiomics and Bioinformatics advanced course is organized into six modules, covering the full spectrum from the basics of NGS data and quality control to genome-wide association studies in diverse pathogens. The program combines a strong theoretical foundation with extensive practical sessions, which constitute most of the training. Participants will develop a solid understanding of the analytical concepts and methodologies required to process and translate the large datasets generated by NGS platforms, while systematically reinforcing the theoretical principles that support these approaches.

Redox Signaling and Redox Systems in Health and Disease: implications for drug design and development

Coordinator: Vasco Branco

Laboratory: Toxicology, Biomarkers & Risk Assessment

Signalling mediated by reactive oxygen species (ROS) plays a central role of signal transduction various cellular processes such as cell death, differentiation, and inflammation. However, the boundary between physiological redox signalling and harmful oxidative stress is narrow, with redox homeostasis depending on finely tuned enzymatic systems. These systems regulate ROS levels and the redox state of critical protein residues (e.g., cysteines), which are essential for signal transduction. Disruptions in redox signalling contribute to the development of various diseases, including cancer and neurodegenerative disorders. Importantly, the reactive nature of cysteine- and selenocysteine-containing redox enzymes makes them promising therapeutic targets, as they can be inhibited by electrophilic compounds. This advanced course explores these mechanisms in depth, highlighting their relevance for drug design and development and offering insights of broad interest to PhD students in Pharmacy.

Stem Cell Technologies

Coordinator: Susana Solá

Laboratory: Stem Cell Bioenergetics and Neuroregeneration

Stem cell–based therapies are rapidly advancing, with growing investment from pharmaceutical companies to develop innovative treatments for severe human diseases. These include cancer and neurological disorders such as multiple sclerosis, Alzheimer's and Parkinson's disease, mood disorders, brain tumours, and stroke. Despite significant progress in understanding stem cell biology, important challenges remain in translating these advances into effective therapies for brain-related disorders. This course aims to stimulate scientific interest and foster critical discussion on stem cell technologies, with the goal of accelerating the successful translation of discoveries from bench to bedside.

Topical and Transdermal Delivery

Coordinator: Sandra Simões

Laboratory: Advanced Technologies for Drug Delivery

Topical and transdermal drug delivery systems play a pivotal role in the development of innovative and effective therapeutics. However, the barrier function of the stratum corneum has significantly limited the number of molecules successfully formulated for transcutaneous delivery. Over the past decades, various strategies have been explored to enhance skin permeation of poorly absorbable compounds. While passive approaches offer only limited potential for macromolecule delivery, the field continues to evolve with promising alternatives. Research in topical and transdermal delivery is therefore both highly challenging and full of opportunity, offering a patient-friendly, painless, and non-invasive route of drug administration that supports improved compliance.

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4. Resources

Facilities

New equipment

The **imed research ecosystem** is supported by 30 laboratories spanning chemistry, biology, and pharmaceutical sciences. All research groups benefit from cutting-edge laboratory facilities and share scientific platforms, which include the following:

Facilities

imed offers state-of-the-art facilities and world-class services that foster the discovery of new medical treatments and drive advances in health sciences. Equipped with the latest technologies and high-performance instrumentation, these facilities enable research and services at the forefront of modern science.

In addition to infrastructure, imed provides a wide range of specialized services, including drug discovery and development, advanced imaging, and flow cytometry. Our mission is to advance healthcare through innovation, research, and collaboration. To this end, imed facilities are accessible to the broader scientific and healthcare community, as well as to partners in the pharmaceutical and industrial sectors.

Animal Facility

Head: Maria Manuela Gaspar

Laboratory: Advanced Technologies for Drug Delivery

The Animal Facility plays a central role in supporting the discovery and development of innovative medicines for both human and veterinary health. It provides housing and experimental resources for approximately 500 small rodents (rats and mice) and includes specialized rooms for animal maintenance, experimental procedures (such as minor surgeries and dissections), and metabolic studies. Dedicated support rooms ensure proper cleaning, sterilization of cages and equipment, and storage of food and bedding. A wide range of rodent models are established and routinely available, including models of infection, acute and chronic inflammation, xenograft and metastatic tumours, non-alcoholic fatty liver disease, neurodegenerative disorders, as well as biodistribution and toxicity studies. Additional models may be developed upon request and contractual agreement with external entities. The Facility provides both technical and scientific support, assisting investigators in protocol development, refinement of experimental procedures, small surgery techniques, and husbandry services such as daily feeding, watering, and cage maintenance.

Licensed by the **Direção-Geral de Alimentação e Veterinária (DGAV)**, the national authority responsible for implementing legislation on the protection of animals used for scientific purposes, the Facility ensures that all experiments comply with the highest ethical and legal standards. Every study must be submitted for review by the **Animal Welfare Board (ORBEA – Orgão de Bem-Estar Animal)** at the Faculty of Pharmacy, Universidade de Lisboa (Regulation 806/2016), and subsequently approved by DGAV. All personnel are certified to conduct animal experimentation, and procedures strictly follow the **EU Directive 2010/63/EU** and relevant Portuguese laws (DR 113/2013, 2880/2015, Portaria 260/2016, and 1/2019).

imed is committed to the principles of the **3Rs—Replacement, Reduction, and Refinement**—to ensure both the ethical use of animals and the highest quality of research. Alternatives such as computer modelling, cell culture, and bacterial systems are implemented whenever possible, guaranteeing that animals are used only when necessary and always under humane conditions.

Biosafety Level 3

Head: Quirina Santos Costa

Laboratory: Host-Pathogen Interactions

The Biosafety Level 3 (BSL-3) Facility is dedicated to research involving biological agents requiring high-containment measures. It was specifically designed to minimize risks of exposure for personnel and the environment, in full compliance with European and Portuguese regulations. All users must complete specialized BSL-3 training and adhere to strict operational rules and biosafety guidelines.

The facility includes an anteroom for personnel and material preparation, as well as a main procedure room fully equipped with advanced instrumentation. Available equipment includes three vertical laminar flow cabinets (type A2 and type B2), three CO_2 incubators (Hera Cell), one standard incubator, two benchtop centrifuges (Eppendorf), a benchtop ultracentrifuge (Beckman), an aerosol-tight microfuge (Eppendorf), a Tecan Infinite 200 multimode microplate reader, water baths, freezers, refrigerators, optical and inverted phase-contrast microscopes (Leica), and a dedicated double-door pass-through autoclave (Matachana).

Cell Culture

Head: Joana Amaral; Rui Silva

Laboratory: Cell Function and Therapeutic Targeting; Neuroinflammation, Signalling and Neuroregeneration

The Cell Culture Facility provides dedicated laboratory spaces equipped with the controlled environment and specialized instruments required for a broad range of cell and tissue culture procedures—from cell line and tissue sample maintenance to advanced manipulation, observation, and data analysis. Routine mycoplasma testing of mammalian cell lines is also available. The facility includes laminar flow hoods (Esco, Class II Type A2), CO_2 incubators (Hera Cell), inverted microscopes (Zeiss) with imaging systems (Leica), and essential support equipment such as automated cell counters, centrifuges, water baths, refrigerators, and freezers. Fluorescence and bright-field microscopes (Zeiss) with dedicated Leica cameras are also available, alongside an Invitrogen EVOS™ FL Auto 2 system for fully automated, multi-channel fluorescence and transmitted light imaging.

For high-throughput applications, the facility offers a Multidrop Combi Reagent Dispenser (Thermo Scientific) for plate formats from 6 to 1536 wells, a GloMax®-Multi+ Multimode Reader (Promega) compatible with 6 to 384-well plates and equipped with luminometer, fluorescence, UV/visible absorbance modules, and dual injectors (6–96 wells), as well as an xCELLigence RTCA SP (ACEA Biosciences) for real-time, label-free impedance-based cell analysis in 96-well format.

Research supported by the facility includes the biological evaluation of cell function, focusing on the role of transgenes and the cytotoxic or cytoprotective activities of synthetic and natural compounds. Studies are conducted in a variety of cell models, including immortalized human, monkey, rat, and mouse cell lines; rat and mouse embryonic stem cells; primary cultures (liver and brain, rat and mouse); and organotypic cultures.

Confocal Microscopy

Head: Liana Silva

Laboratory: Drug Delivery & Immunoengineering

The Confocal Microscopy Facility supports cutting-edge research at imed by providing specialized training, imaging services, and advanced bioimage analysis. Its activities are centred on three main areas: sample preparation, confocal image acquisition, and data processing using Aivia, a powerful AI-driven image analysis software. The facility houses a Leica TCS SP8 laser scanning confocal microscope, a fully motorized high-resolution inverted system designed for fluorescence imaging. The accompanying DMi8 fluorescence microscope includes a motorized stage with fast z-movement (Leica Super Z Galvo stage), four solid-state lasers (405, 488, 552, 638 nm), four detectors (one high-sensitivity HyD and three PMTs), a transmitted light detector with CCD camera, three dry objectives (5x, 10x, 20x), and two oil-immersion objectives (40x, 63x). Unlike conventional widefield microscopy, confocal optics eliminate scattered and out-of-focus light, producing high-contrast optical sections. The system enables multiple imaging modalities, including 2D acquisition, z-stacks, multi-position imaging, tile scanning/ image stitching for large samples, and time-lapse experiments.

Computer Assisted Drug Design

Head: Rita Guedes

Laboratory: Computational Medicinal Chemistry

The Computer Assisted Drug Design Facility is powered by a Linux-based high-performance computing cluster with 424 CPU cores, 4–8 GB per CPU/GPU, and 2 TB per node. It is equipped with state-of-the-art software tailored for molecular modelling, molecular dynamics, virtual screening, and de novo drug design.

In addition to computational resources, the facility provides technical support at every stage of research—from guidance in experimental design to advanced data analysis—enabling researchers to accelerate discovery and innovation in drug development.

Flow Cytometry

Head: Catarina Godinho Santos

Staff: Miguel Cardoso

Laboratory: Molecular Microbiology and Biotechnology

The Flow Cytometry Facility at imed houses a Cytek® Aurora full-spectrum flow cytometer paired with a dedicated workstation running SpectroFlo® software for sample acquisition and data analysis. Unlike conventional cytometers, this spectral system supports unique fluorochrome combinations and excels at analysing highly autofluorescent cells.

The instrument is a compact, air-cooled benchtop cytometer equipped with 4 lasers (Violet, Blue, Yellow-Green, Red), 48 fluorescence detection channels, and 3 scatter channels (blue laser FSC, blue laser SSC, violet laser SSC). A high-throughput sample loader, compatible with 96-well plates, enables automated sample delivery and acquisition.

For downstream analysis, an independent workstation is available upon booking, offering access to SpectroFlo® and FCS Express™ 7 software. Researchers may also request technical support in panel design, experimental planning, sample preparation, acquisition, and data analysis.

Gene and Protein Expression

Head: Rui Castro

Laboratory: Liver Disease Diagnostics and Therapeutics

The Gene and Protein Expression Facility at imed is equipped with cutting-edge technologies for high-throughput, accurate, and sensitive analysis of gene and protein expression, enabling researchers to explore molecular mechanisms underlying biological processes.

The facility includes equipment for sample quality assessment and quantification, such as the Qubit 4 fluorometer and NanoDrop 2000c spectrophotometer (ThermoFisher Scientific), as well as microplate readers (Multiskan FC and Varioskan LUX multimode reader, ThermoFisher Scientific) equipped with a flexible range of measurement technologies including absorbance, fluorescence, luminescence, AlphaScreen, and Time-resolved Fluorescence.

Protein analysis is supported by standard and mini-gel electrophoresis systems (Bio-Rad and ThermoFisher Scientific), transfer systems (Trans-Blot Turbo, Bio-Rad; iBlot 2, ThermoFisher Scientific), and imaging systems (ChemiDoc MP, Bio-Rad; iBright CL750 and iBright FL1500, ThermoFisher Scientific) for fluorescent, chemiluminescent, and colorimetric detection of proteins and nucleic acids.

Gene expression studies utilize end-point thermocyclers (Bio-Rad and ThermoFisher Scientific) and real-time PCR systems, including the Applied Biosystems 7300 and QuantStudio 7 Flex Real-Time PCR Systems. The later enable high-throughput quantitative gene expression with 384-well microfluidic formats, predesigned or custom card arrays, multiplexing with up to 21 filter combinations, and fast real-time acquisition.

The facility offers personalized guidance and training for experiment design, data acquisition, and analysis, as well as services including RNA and protein isolation, quantification and quality control, expression profiling, and comprehensive data interpretation.

Mass Spectrometry

Head: Maria do Rosário Bronze and Fábio Santos

Laboratory: Chemical Biology

The Mass Spectrometry Facility, integrated into the National Mass Spectrometry Network, provides advanced analytical capabilities for chemical and biological research.

It houses a Triple Quadruple mass spectrometer (Micromass Quattro Micro API, Waters) equipped with electrospray ionization (ESI) atmospheric pressure chemical ionization (APCI) sources, as well as an Ion-Trap mass spectrometer (LCQ-Fleet, Thermo) dedicated to protein and biological conjugate characterization.

The facility enables identification and quantification of small molecules in complex matrices, including biological fluids and natural product extracts. Users can access services on a "do-it-yourself" basis or self-service, for long-term studies, after initial training. A full-service support can also be provided by the facility technician.

Molecular BioScreening

Head: Vanda Marques and Cecília Rodrigues

Laboratory: Cell Function and Therapeutic Targeting

The Molecular BioScreening Facility at imed provides an integrated platform for cell-based medium- to high-throughput screening of small molecules—both natural and synthetic—as well as biologics. It offers a wide range of assays, including untargeted phenotypic approaches, using human and non-human cell lines, primary cells, stem cells, and organoids that closely replicate human biology.

Primary screening services are customized and optimized to meet specific experimental objectives. These include assays for adherent and 3D cell cultures in 96- and 384-well formats, with applications such as IC50 and EC50 determination, drug interaction evaluation, and cell death profiling (apoptosis, necroptosis, and ferroptosis).

The facility is equipped with advanced instrumentation and automation to support diverse assay technologies. Key equipment includes an automated liquid handling platform for 6- to 1536-well plates (Thermo Scientific), multi-label plate readers, and real-time label-free impedance-based cell analysis using the xCELLigence RTCA SP system (ACEA Biosciences).

Available to both internal and external researchers, the Molecular BioScreening Facility collaborates with academic, biotechnology, and pharmaceutical partners, providing tailored solutions to meet specific bioscreening needs.

By combining physiologically relevant cell models, phenotypic screening, and live-cell functional assays, this facility plays a vital role in driving the discovery and development of innovative therapeutic agents.

Nuclear Magnetic Spectroscopy

Head: Noélia Duarte

Laboratory: Natural Products Chemistry

Nuclear Magnetic Resonance (NMR) spectroscopy is a powerful analytical technique with broad applications across multiple scientific fields, including chemistry, biochemistry, medicine, physics, materials science, and geology. The NMR Facility at imed is equipped with a Bruker® Biospin Fourier 300 MHz (7.1 T) spectrometer, featuring a 1H & 13C (5 mm) probe and an autosampler SampleXpress Lite. This state-of-the-art system supports both R&D projects and advanced training activities.

The facility routinely performs **1D and 2D NMR experiments** for the structural elucidation of small molecules derived from synthetic or natural sources, as well as **kinetic studies** to explore reaction mechanisms. Additional applications include **metabolite identification, metabolic profiling**, and **compound quantification** in drug development.

In addition to offering basic user training for in-house data collection and processing, the facility provides **specialized services** to both academic institutions and the pharmaceutical industry, fostering innovation and collaboration in drug discovery and development.

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5. Scientific Development

Human resources

Research funding

Research outputs & actions

Internationalization

Human resources

In December 2024, more than 600 people were working at imed: 168 principal investigators, 22 researchers (including postdoctoral and CEEC), 137 PhD students, 317 MSc students.

Recruitment policy

At imed, our mission is to foster an environment that drives innovation and breakthroughs in health sciences, ultimately benefiting society. Achieving this goal requires attracting and retaining top researchers who work collaboratively across disciplines.

As a research centre within the Faculty of Pharmacy, Universidade de Lisboa, our recruitment strategy is fully aligned with that of the host institution. In 2024, several new researchers were recruited, successfully integrating into the imed community and contributing to its scientific growth and impact.

Research funding

In 2024, imed scientists continued to demonstrate strong performance in securing competitive funding, ensuring the institute's sustained growth and ability to drive impactful research. By the end of the year, imed's available budget reached €3.6 million, reflecting a balanced and diversified portfolio of funding sources.

This success was made possible through:

- National competitive grants: **€2.259 million**
- International competitive calls: **€1.230 million**
- Industry collaborations and contracted research services: **€68,380**

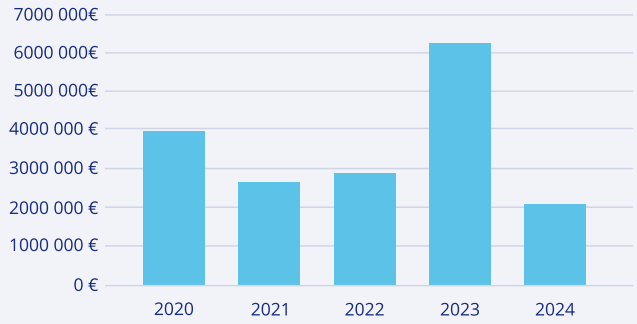
These figures underscore imed's strategic commitment to strengthening its knowledge transfer capacity, expanding collaboration with industry, and enhancing its international presence.

As of December 31, 2024, imed was engaged in:

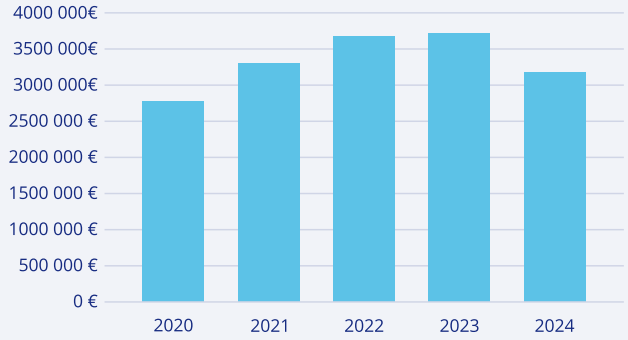
- 24 active national projects as coordinator and 10 as partner
- 11 active international projects as coordinator and 19 as partner
- 3 funded contracts with the private sector

The institute's overall budget also integrates support from the Fundação para a Ciência e Tecnologia (FCT), including pluriannual R&D unit funding, researcher contracts, and PhD scholarships, as well as project-specific financial support. This stable funding framework enables imed to maintain a robust research ecosystem and continue advancing health sciences at both the national and international levels.

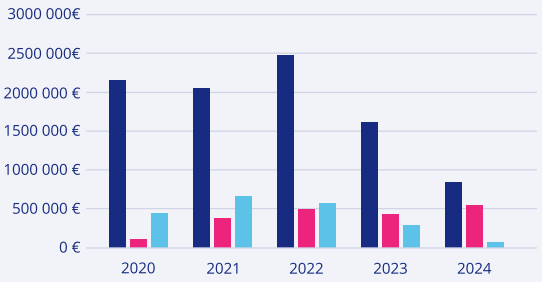
Awarded funds per year



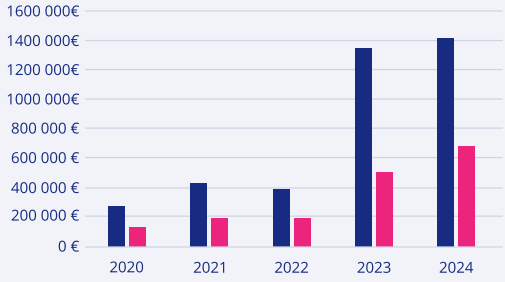
Total available funds



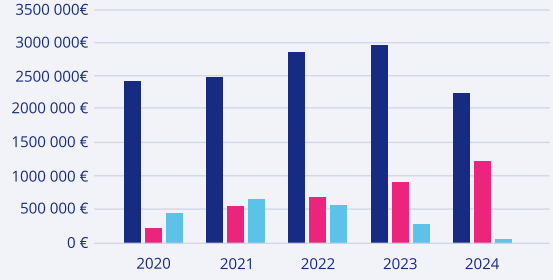
Coordinator



Partner



Total available fundings



List of projects starting in 2024

National projects - Coordinator

***Limosilactobacillus* colonization resistance against *Staphylococci* in MASLD**

Foundation for Science and Technology (2023.10188.CBM)

PI: André Santos

Systematic approach to 3D printing of personalized medicines

Foundation for Science and Technology (2023.10199.CBM)

PI: João Pinto

International projects - Coordinator

Fragment based drug design strategies

EU-OPENSCREEN (ERIC Training)

PI: Tiago Rodrigues

Precision medicine in biliary tract cancer

COST Actions (CA 22125)

PI: Marta Afonso

Testing targeted drug therapy in metabolic liver disease

"la Caixa" Foundation (LCF/PR/HR21/52410028)

PI: Cecília Rodrigues

Serum microRNAs as biomarkers of metabolic dysfunction-associated steatotic liver disease and progression towards cholangiocarcinoma

United European Gastroenterology

PI: André Simão

Application of AI/ML to optimize the formation of TB drug intermediates

Bill & Melinda Gates Foundation (INV-071403)

PI: Tiago Rodrigues

National - Partner

Ciência Viva no Laboratório – Ocupação Científica de Jovens nas Férias, Edição de 2023

Ciência Viva no Laboratório 2023

PI: Adelaide Fernandes

MEDIPRINT

FEDER (14409)

PI: Joana Marto

SafeMed

FEDER (14326)

PI: Joana Marto

International - Partner

Precision immune nanosized therapy (PINT) targeting the tumour-immune-stromal cell interactions against pancreatic cancer

"la Caixa" Foundation (HR24-00968)

PI: Helena Florindo

IMProving User experience, Long-term sustainability and Services of EU-OPENSCREEN

Horizon Europe (HORIZON-INFRA-2023-DEV-01 (GA 101132028))

PI: Rui Moreira

Strengthening Translational Research for Improved Metabolic Health

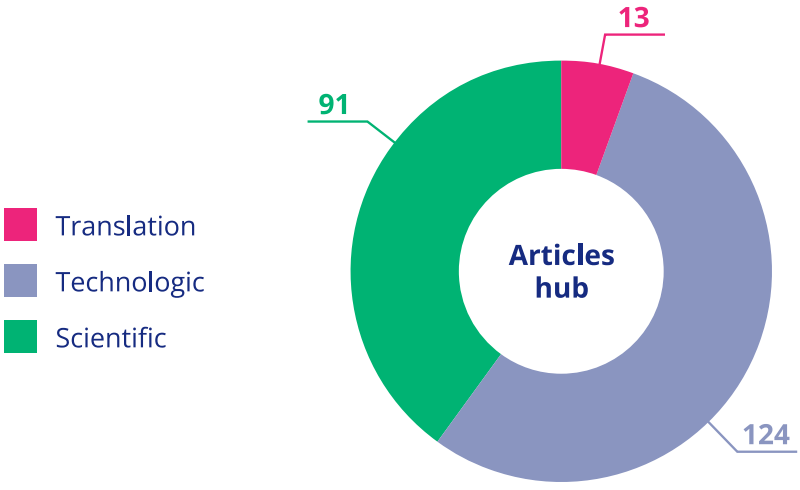
Horizon Europe (HORIZON-WIDERA-2023-ACCESS-02 (GA 101159400))

PI: Cecília Rodrigues

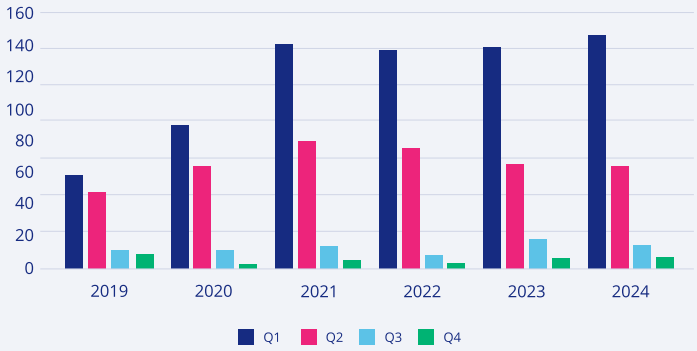
Research outputs & actions

Scientific publications and actions

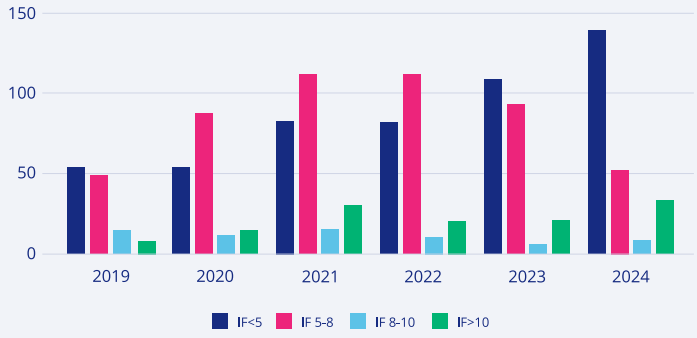
In 2024, imed continued to demonstrate a strong scientific output, reflecting the institute's commitment to excellence in research and collaboration. Over the year, a total of 233 articles were published in Journal Citation Reports (JCR)-indexed journals, including 170 original research papers and 58 review articles, highlighting the institute's active role in advancing knowledge across its research areas. These publications are closely aligned with the activities of the three recently established research Hubs, with contributions distributed as follows: 40% from the Scientific Hub, 54% from the Technologic Hub, and 6% from the Translational Hub. Notably, 63% of these articles were published in journals indexed in the first quartile (Q1), underscoring the high quality and impact of imed's research. In addition, 58% of all publications featured imed scientists as corresponding authors, reflecting strong leadership and independence within the research community. Collaborative efforts between different imed laboratories accounted for 11% of total publications, reinforcing the institute's strategy to foster internal cooperation and multidisciplinary research. A significant milestone in 2024 was the rise in publications in top-tier journals, with 14% of papers published in journals with an Impact Factor (IF) greater than 10. Many of these high-impact studies were led by imed principal investigators, demonstrating that imed researchers are internationally competitive and capable of leading cutting-edge research projects.



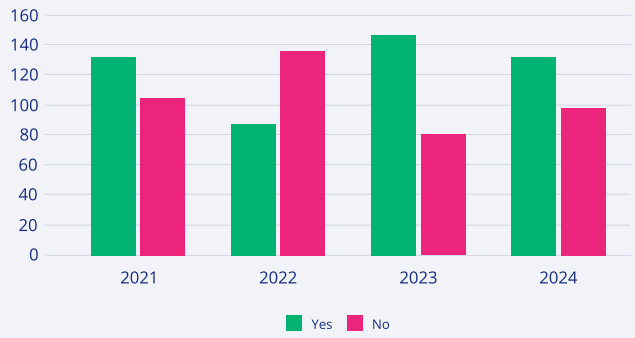
Article Quartile



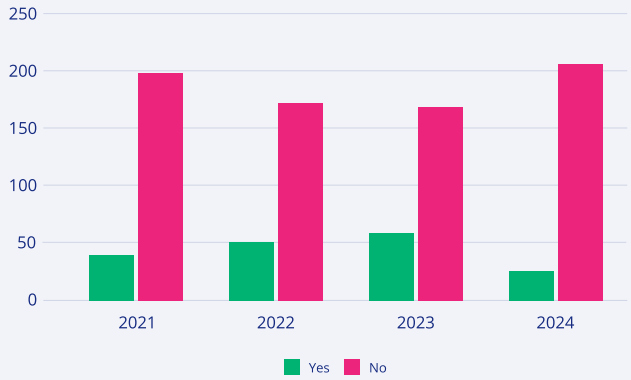
Impact factor



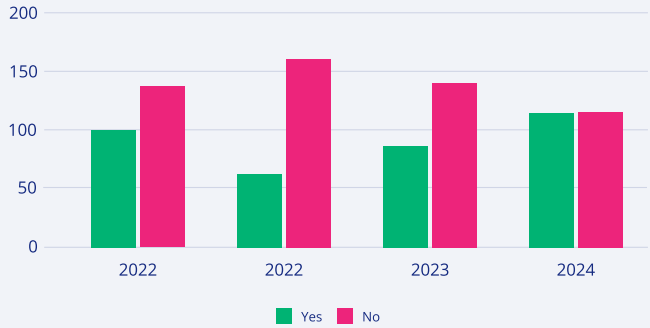
imed as corresponding article author



imed groups CoLab



Articles with international CoLab



Research highlights

imed's research program is driven by the goal of discovering molecules, mechanisms, and technologies that can be translated into innovative healthcare solutions. By integrating expertise across chemistry, biology, and pharmaceutical sciences, our multidisciplinary teams address critical scientific challenges in health sciences with a strong focus on innovation and translation.

The institute's diverse capacities span a broad range of research activities, supporting the mission of its Scientific, Technological, and Translational Hubs.

Scientific Hub

Within the Scientific Hub, researchers work at the interface of fundamental and applied science, developing novel strategies, tools, and methodologies aimed at preventing, detecting, and treating major health conditions, including cancer, neurodegenerative, metabolic, and infectious diseases. This integrated approach fosters the discovery of transformative solutions with the potential to improve patient care and public health outcomes.

Selected publications from the Scientific Hub

Glucocorticoid receptor-dependent therapeutic efficacy of tauroursodeoxycholic acid in preclinical models of spinocerebellar ataxia type 3

https://www.jci.org/articles/view/162246

3D -printed aerogels as theranostic implants monitored by fluorescence bioimaging

https://doi.org/10.1016/j.bioactmat.2024.07.033

An unbiased ranking of murine dietary models based on their proximity to human metabolic dysfunction-associated steatotic liver disease (MASLD)

https://www.nature.com/articles/s42255-024-01043-6

Technological Hub

Within the Technological Hub, we focus on transforming scientific discoveries into innovative chemical, biotechnological, and pharmaceutical technologies with the potential to drive breakthrough healthcare solutions. Our efforts are aimed at bridging the gap between fundamental research and practical applications, fostering innovation that can significantly impact patient care and health outcomes.

Selected publications from the Technological Hub

A large-scale machine learning analysis of inorganic nanoparticles in preclinical cancer research

https://www.nature.com/articles/s41565-024-01673-7

Multifunctional Nanovaccine Sensitizes Breast Cancer to Immune Checkpoint Therapy

https://advanced.onlinelibrary.wiley.com/doi/full/10.1002/adfm.202401749

Proximity-driven site-specific cyclization of phage-displayed peptides

https://www.nature.com/articles/s41467-024-51610-4

Translational Hub

Within the **Translational Hub** we are dedicated to advancing pharmacotherapy innovation and improving patient access by conducting disruptive translational research that translates fundamental scientific discoveries into applied solutions for human health. This work is driven by collaborative efforts with diverse stakeholders across the healthcare sector, including policymakers, clinicians, allied health professionals, and patient organizations, ensuring that our research addresses real-world healthcare needs.

Selected publications from the Translational Hub

imed scientists contributed 63 review and perspective articles covering cutting-edge research across the different imed hubs. The following list highlights a selection of these contributions.

Quality Studies on Cynometra iripa Leaf and Bark as Herbal Medicines

https://agsjournals.onlinelibrary.wiley.com/doi/10.1111/jgs.18953

Trends in orphan medicinal products approvals in the European Union between 2010-2022

https://ojrd.biomedcentral.com/articles/10.1186/s13023-024-03095-z

Evaluation of Clinical Communication in Pharmacy Undergraduates in Brazil: A Multicentric Study

https://www.sciencedirect.com/science/article/pii/S000294592400545X

Control Compounds for Preclinical Drug-Induced Liver Injury Assessment: Consensus-driven systematic review by the ProEuroDILI Network

https://www.journal-of-hepatology.eu/article/S0168-8278(24)00325-8/fulltext

Spatial metabolomics and its application in the liver

https://journals.lww.com/hep/fulltext/2024/05000/spatial_metabolomics_and_its_application_in_the.21.aspx

Antimicrobial Peptides: A Promising Alternative to Conventional Antimicrobials for Combating Polymicrobial Biofilms

https://advanced.onlinelibrary.wiley.com/doi/full/10.1002/advs.202410893

Intellectual property

Protecting intellectual property through patents is essential for fostering innovation and strengthening partnerships with the private sector. At imed, we focus on translating our research into commercially valuable technologies and/or products. In 2024, the institute submitted 3 national and 7 international patent applications.

National

PT117644- Diogo Magalhães e Silva, Rui Moreira, Francisca Lopes, Cecília Rodrigues, Vanda Marques. 16-12-2021. "1,2,4,5-tetraoxane compounds, a drug delivery system based in said compounds useful in diagnoses and therapy, and methods thereof".

PTC/19/000206- ERCC1-XPF complex inhibitor compounds and the use thereof in the treatment of cancer. Rita Guedes

PCT/IB2021/058241- New pharmaceutical compounds, methods and uses thereof. Maria José Umbelino.

International

WO2019/054891 A3 (Granted in US 11,273,152 B2; Japan JP7255785B2)- TRPV2 antagonists. T. Rodrigues, C. Baker, J. Conde, G. J. L. Bernardes.

US Patent Application number: 18285394- Nanovaccines for treatment of viral diseases. Satchi-Fainaro R, Florindo H.

EP4448107- Diogo Magalhães e Silva, Rui Moreira, Francisca Lopes, Cecília Rodrigues, Vanda Marques. DRUG DELIVERY SYSTEMS BASED ON ENDOPEROXIDES USEFUL IN DIAGNOSIS AND THERAPY, AND METHODS THEREOF.

EP24223312.0- ERCC1-XPF complex inhibitor compounds and the use thereof in the treatment of cancer. Nuno Gil; Nuno Oliveira, Rita Manguinhas; Rita Guedes, Patrícia Serra and Rafael Rosell

EP24220085.5- Zinc-magnesium layered hydroxide nanoparticles for periodontitis and/or peri-implants and a method to obtain the same. Martin A, Bettencourt A, Gomes P, Santos C.

EP4448107- Drug delivery systems based on endoperoxides useful in diagnosis and therapy, and methods thereof. D Magalhães e Silva, R Moreira, F Lopes, C Rodrigues, V Marques.

US Patent App. 2024/0294567 A1- Fluorinated and alkylated bile acids. M Finch, CB Munshi, CMP Rodrigues, D Lucas.

Book chapters

Book chapters serve as a key platform for organizing and disseminating scientific knowledge to a broad audience. In 2024, imed scientists contributed 8 chapters covering a wide range of topics relevant to the development of innovative medicines.

Armando J L Pombeiro, Kamran T Mahmudov, M Fátima C Guedes da Silva; Series on Chemistry, Energy and the Environment: Synthesis and Applications in Chemistry and Materials, Volume 12: Enzymatic and Organic Systems, World Scientific Publishing Company, 2024, Pages: 472. https://doi.org/10.1142/13309-vol12, Chapter 18: Pyridinium Salts as Valuable Synthetic Building Blocks, Filipa Siopa and Carlos A. M. Afonso, pages 185-217.https://doi.org/10.1142/9789811283215_0018

Rebelo-de Andrade H, Oliveira J. Breve cronologia de Ricardo Jorge: ligação à Saúde Pública e à função do Instituto Central de Higiene.

Rebelo-de-Andrade H, Oliveira J, Almeida F, Abreu Santos C (eds). 2024. Instituto Nacional de Saúde Doutor Ricardo Jorge: 125 ano de Compromisso com a Saúde. Lisboa: INSA. [ISBN:978-989-9236-01-1].

Rebelo-de Andrade H, Oliveira J. Do Instituto Central de Higiene ao Instituto Nacional de Saúde Doutor Ricardo Jorge. Rebelo-de-Andrade H, Oliveira J, Almeida F, Abreu Santos C (eds). 2024. Instituto Nacional de Saúde Doutor Ricardo Jorge: 125 ano de Compromisso com a Saúde. Lisboa: INSA. [ISBN:978-989-9236-01-1].

Gama Marques, J.; Henriques-Calado, J.; Schumacher, M.M. (Editors) Mental Illness and Neuropsychiatry of the Homeless: Psychosis, Personality, Drug Abuse, and Other Brain Disorders. Lausanne, Frontiers Media SA: 2024

Elias R, Gomes P, Portugal I, Perdigão J. Virulence Evolution of Bacterial Species. in Phylogenomics: Foundations, Methods, and Pathogen analysis Ed. Mokrousov I, Shitikov E. 1st Edition, May 17, 2024 Elsevier ISBN: 9780323998864

RoConstança Lourenço, Maria Luisa Andrade Mateus. Celiac Disease – Symptoms, Diagnosis and Treatment. Generis Publishing, 2024. ISBN: 979-8-89248-591-3 (https://www.generis-publishing.com/book.php?title=celiac-disease-2103)

Perrine Saiz, Nuno Taveira, Ricardo Alves. Probiotics in oral health and disease: a systematic review. In: Ricardo Castro Alves, José João Mendes and Ana Cristina Mano Azul (Editors). 2024. New Techniques, Materials and Technologies in Dentistry. MDPI books, P. 44-62. ISBN 978-3-7258-0097-1 (Hbk), doi. org/10.3390/books978-3-7258-0098-8.

Natalia Aniceto, Alex Freitas, Taravat Ghafourian. ADMET modeling I: Modelling ADME/Tox for Drug Discovery in the Age of Data, in Springer Handbook of Chem- and Bioinformatics. 2024. Springer. (in press)

Internationalization

Tackling today's health challenges demands a multidisciplinary approach, often requiring highly collaborative international teams. In 2024, imed researchers continued to demonstrate strong commitment to internationalization, reflected in both competitive international funding and high-impact publications.

International collaborations

Throughout 2024, imed researchers strengthened their network of partnerships with prestigious international institutions. The following list highlights some of the key international organizations that maintained active collaborations with imed scientists during the year.

Universidad de Huelva

Universite Paris Saclay

INRAE

Max Planck Society

University of Eastern Finland

European Molecular Biology Laboratory (EMBL)

University of Eastern Finland

University of Gottingen

Newcastle University – UK

Helmholtz Association

German Center for Neurodegenerative Diseases (DZNE)

University of Genoa

University of Amsterdam

Universite de Bordeaux

Institut National de la Sante et de la Recherche Medicale (Inserm)

Université de Montréal

AGreen Food Laboratory Health Sciences Department, Magna Græcia University

Institute of Organic Chemistry with Centre of Phytochemistry, Bulgarian Academy of Sciences

Department of Medical Biology, Medical University of Lodz

Department of Medical Microbiology, Albert Szent-Györgyi Health Center, Albert Szent-Györgyi Medical School, University of Szeged

Department of Chemical Engineering, Cyprus University of Technology

University of Munich

University of Santiago de Compostela

Instituto Tecnológico de Costa Rica

Centro de Investigación en Ciencia e Ingeniería de Materiales (CICIMA)

Rudjer Boskovic Inst, Div Mol Med, Zagreb, Croatia

Tel Aviv University

University of Parma

University of Torino

University of Groningen

São Paulo State University

University of Helsinki

Instituto Nazionale di Genetica Molecolare

University of Glasgow

Institut Curie

Technical University of Munich

University of Florence

The University of Texas at Austin

Kazimierz Wielki University

PSL Research University

Università degli studi di Milano

Louvain Drug Research Institute

University Federal of Goiás

Universidade Estadual de São Paulo

London School of Hygiene and Tropical Medicine

Global Burden of Diseases

University of Bologna

Universitat de Barcelona

Complutense University School of Medicine

University of Edinburgh

Universidad de Málaga

University of Melbourne

University of Ljubljana

Dr. Rosell Oncology Institute

Duke University School of Medicine (USA)

Methodology Working Party of the EMA Committee for Medicinal Products for Human Use

The Spanish Agency of Medicines and Medical Devices

Slovak Academy of Sciences; Centre of Experimental Medicine, SAS; Institute of Experimental Pharmacology & Toxicology, SAS

International Iberian Nanotechnology Laboratory

Global Medical Affairs, bioMérieux

Lab Consultancy, bioMérieux, bioMérieux SA

Department of Zoology, Faculty of Biological Sciences, University of Rajshahi

Department of Biochemistry and Pharmacology, School of Medicine, University of Marília (UNIMAR)

Division of Pharmacoepidemiology and Clinical Pharmacology, Utrecht Institute for Pharmaceutical Sciences (UIPS), Utrecht University, Utrecht

Bonn University

Michael Aschner - Department of Molecular Pharmacology, Albert Einstein College of Medicine

Research Centre for Natural Resources, Environment and Society (CERNAS), and Life Quality Research Centre (CIEQV)

Laboratory of Hygiene and Environmental Protection, School of Medicine, Democritus University of Thrace

Department of Life Sciences, School of Sciences, University of Nicosia

Department of Nutritional Sciences, King's College London

Agriculture School, Polytechnic University of Santarém

Research Centre for Natural Resources, Environment and Society (CERNAS)

Life Quality Research Centre (CIEQV)

Institute of Clinical Physiology, National Research Council (CNR)

Faculty of Veterinary Medicine, University of Forestry

University of Szeged, Hungary

University of Chemistry and Technology Prague, Czech Republic.

Universite de Bejaia

University, Mainz, Germany

University of Lodz, Poland

University of Belgrade, Serbia

PSL - Paris ChemieTec

Centre for Cooperative Research in Biosciences (CIC bioGUNE), Basque Research and Technology Alliance (BRTA)

Centro de Investigación Biomédica en Red de Enfermedades Hepáticas y Digestivas (CIBERehd), Carlos III National Health Institute

IIS Hospital La Fe and Department of Biochemistry and Molecular Biology, University of Valencia

Institut d'Investigacions Biomèdiques August Pi I Sunyer (IDIBAPS)

Instituto de Investigaciones Sanitarias de Navarra-IdiSNA

Biofisika Institute (UPV/EHU, CSIC) and Department of Biochemistry and Molecular Biology, University of the Basque Country (UPV/EHU)

Instituto de Investigación Sanitaria Gregorio Marañón (IiSGM)

Department of Internal Medicine III, University Hospital RWTH Aachen

University of Pittsburgh Liver Research Centre

Ecole Polytechnique Fédérale de Lausanne

Biodonostia Health Research Institute, Donostia University Hospital, University of the Basque Country (UPV/EHU)

University of Navarra

Institut d'Investigació Biomèdica Sant Pau (IIB Sant Pau)

CIBER de Diabetes y Enfermedades Metabólicas Asociadas, Instituto de Salud Carlos III, Barcelona, Spain; Business Department

Participation in international projects (ongoing in 2024)

Protease-guided tumour targeting tools to revolutionize cancer diagnosis and treatment

Horizon Europe

PI: Rui Moreira

Discovering chronic inflammation biomarkers that define key stages in the Healthy-to-NASH (non-alcoholic steatohepatitis) transition to inform early prevention and treatment strategies

Horizon Europe

PI: Joana Moreira

Targeting Circadian Clock Dysfunction in Alzheimer's Disease

Horizon Europe

PI: Rita Guedes

From fragments to high affinity binders interfacing integrated structural biology, medicinal chemistry and artificial intelligence

Horizon Europe

PI: Tiago Rodrigues

More Effectively Using Registries to suppOrt PAtient-centered Regulatory and HTA decision-making

Horizon Europe

PI: Bruno Sepodes

Next Generation Vaccines against Gastrointestinal Mucosal Pathogens, using Helicobacter pylori as Model Pathogen

Horizon Europe

PI: António Almeida

Accelerating drug repurposing for rare neurological, neurometabolic and neuromuscular disorders by exploiting SIMilarities in clinical and molecular PATHology

Horizon Europe

PI: Sofia de Oliveira Martins

FUnctional Nucleic Acids as Versatile SMart BUilding BLocks in Non-ConventIonal SolvenTs

Horizon Europe

PI: Carlos Afonso

IMProving User experience, Long-term sustainability and Services of EU-OPENSCREEN

Horizon Europe

PI: Rui Moreira

Strengthening Translational Research for Improved Metabolic Health

Horizon Europe

PI: Cecília Rodrigues

Unite! Seed fund for Teaching and Learning

Horizon Europe

PI: Maria Henriques Ribeiro

National R&D, Production, Marketing and Distribution Platform for Innovative Biopharmaceuticals

PRR - Plano de Recuperação e Resiliência (PRR28)

PI: João Gonçalves

Plataforma de Valorização, Industrialização e Inovação Comercial para o AgroAlimentar

PRR - Plano de Recuperação e Resiliência (PRR 37)

PI: Joana Marto / Helena Ribeiro

TEC4GREEN

PRR - Plano de Recuperação e Resiliência (PRR 13)

PI: Joana Marto / Helena Ribeiro

Iron-triggered technologies as a novel targeted therapy for cancer

"la Caixa" Foundation (CI22-00103)

PI: Diogo Magalhães e Silva

Rifabutin liposomes: a novel nanotechnological strategy for effective treatment of systemic methicilin-resistant staphylococus aureus infections

Phospholipid Research Centre

PI: Manuela Gaspar

Focused ion technology for nanotechnology

COST Actions (CA 19140)

PI: Catarina Reis

Fragment based drug design strategies

EU-OPENSCREEN (CA 22125)

PI: Tiago Rodrigues

Precision medicine in biliary tract cancer

COST Actions (CA 22125)

PI: Marta Afonso

Pipeline for discovery of CDK4/6 inhibitors for metastatic breast cancer treatment

Pfizer

PI: Alexandra Brito

RIPK3 biology and targeting in metabolic liver disease

"la Caixa" Foundation

PI: Cecília Rodrigues

Targeting TDP-43 with protein kinase inhibitors: a effective and measurable therapy for ALS

"la Caixa" Foundation

PI: Dora Brites

Protecting the brain from metastatic breast cancer

"la Caixa" Foundation

PI: João Gonçalves

Multifunctional nano-immunotherapy against breast brain metastases

"la Caixa" Foundation

PI: Helena Florindo

Valorização sustentável das plantas endógenas do Parque Natural da Serra da Estrela para aplicações na indústria farmacêutica

"la Caixa" Foundation

PI: João Lopes

Testing targeted drug therapy in metabolic liver disease

"la Caixa" Foundation

PI: Cecília Rodrigues

Testing targeted drug therapy in Serum microRNAs as biomarkers of metabolic dysfunction-associated steatotic liver disease and progression towards cholangiocarcinoma

United European Gastroenterology

PI: André Simão

Precision immune nanosized therapy (PINT) targeting the tumour-immune-stromal cell interactions against pancreatic cancer

"la Caixa" Foundation

PI: Helena Florindo

Application of AI/ML to optimize the formation of TB drug intermediates

Bill & Melinda Gates Foundation

PI: Tiago Rodrigues

Microbiome manipulation to reduce pyscho-pathology in multiple sclerosis

Biocodex Microbiota Foundation

PI: Adelaide Fernandes

Participation in national and international networks

imed researchers are actively involved in numerous national and international networks that foster transnational collaboration and aim to address key scientific challenges. The following list highlights some of the networks that included imed scientists in 2024.

EU-OPENSCREEN

In 2024, imed continued its role as a partner site of EU-OPENSCREEN, Europe's largest high-performance screening network. This collaboration supports the development of novel molecular tool compounds and early therapeutic candidates in close interaction with external users across diverse life science disciplines.

VectorB2B

imed strengthened its involvement as a founding member of VectorB2B, a non-profit association providing integrated CDMO/CRO services to support drug development programs. VectorB2B brings together seven entities: imed.ULisboa – Faculty of Pharmacy, Universidade de Lisboa; Faculty of Medicine, Universidade de Lisboa; Faculty of Veterinary Medicine, Universidade de Lisboa; Universidade de Coimbra; Medinfar; BeVaG; and TechnoPhage. This partnership combines complementary academic and biotech expertise, creating a robust knowledge and innovation hub for biological therapeutics, spanning drug discovery, toxicology, chemistry manufacturing and controls (CMC), and CRO services.

Research Group of the International Association in Healthcare

Participation in rEACH (Research Group of the International Association in Healthcare)

EIT-Health@ULisboa

Representative and contact-point for FFULisboa (Rui Silva).

E2BRN

E2BRN – European Epidermal Barrier Research Network. Since 2015 (imed: Sandra Simões)

DURABLE EU4Health 2021 Work Program

Delivering Unified Research Alliance of Biomedical and Public Health Laboratories Against Epidemics – (Helena Rebelo de Andrade)

Science for Peace and Security (SPS) Programme

Biofriendly Decontamination of Chemical Warfare Agents (Science for Peace and Security (SPS) Programme, project SPS G5713), NATO. PI: C Afonso

UT Austin Portugal Program

Functionalization of microRNAs using photoresponsive nanopores as a new therapeutic strategy for fatty liver (2022.15502.UTA)

Marie Skłodowska-Curie Innovative Training Networks (MSCA ITN)

HORIZON-MSCA-2024-DN-01-01 – endALS - Interdisciplinary Training for Novel Biological Models and Pharmacological Interventions for Amyotrophic Lateral Sclerosis (submitted in Nov 2024).

FFUL/iMed.ULisboa: Dora Brites, Ana Rita Vaz

— MSCA Doctoral Networks 2021. Targeting Circadian Clock Dysfunction for Alzheimer's Disease (TClock4AD) (2022-2027). 101072895.

PI: Laura Bolognesi, Bologna; Team Member: Rita Guedes

HORIZON-MSCA-2021-DN-01-OncoProTools - Protease-guided tumour targeting tools to revolutionize cancer diagnosis and treatment.2022-26

imed: Rui Moreira

Horizon Europe

Vax2Muc – Next generation vaccines against gastrointestinal mucosal pathogens, using Helicobacter pylori as model pathogen, Grant Agreement N°101080486; 2023-2028

imed: António Almeida; Lídia Gonçalves). https://www.vax2muc.eu.

SIMPATHIC Consortium – Horizon Europe program funded project comprises 22 partners, including research teams from academic centres in Europe and Canada, European patient and training organizations, companies, and collaborating with pan-European research infrastructure platforms for medicines repurposing

EATRIS, REMEDi4ALL, REPO4EU

Biomass4Synthons – Straightening training, research and innovation capacities in the valorisation of bio-renewable resources (H2020-WIDESPREAD-2018-2020/H2020-WIDESPREAD-2020-5, Twinning Programme, project number 951996)

PI: C Afonso

FUnctional Nucleic Acids as Versatile SMart BUilding BLocks in Non-ConventIonal SolvenTs (FUNAMBULIST), HORIZON-EIC-2022-PATHFINDEROPEN-01, Project number 101099652

PI Thomas Schafer (UNIVERSIDAD DEL PAIS VASCO)

Horizon-Widera

HORIZON-CSA-2023-ACCESS-02 Proposal number: 10115940 0–STRIMHealth - Strengthening Translational Research for Improved Metabolic Health 2024-27

imed: Cecilia Rodrigues

HORIZON-WIDERA-2023-ACCESS-03-01 - Raise excellence in Research & Science & Innovation in HEI for widening countries 2023-2028

PharmaBB-imed: Maria H. Ribeiro

European Research Infrastructure Consortium (ERIC)

EU-OPENSCREEN – Partner Site for Medicinal Chemistry – (imed: Rui Moreira). Suported by EU-Project IMProving User experience, Long-term sustainability and Services of EU-OPENSCREEN (IMPULSE) 2024–2027

imed: Tiago Rodrigues e Rui Moreira

European Cooperation in Science and Technology (COST)

Action CA20121 - Bench to bedside transition for pharmacological regulation of NRF2 in non-communicable diseases 2021-2025

imed: Andreia Neves Carvalho, Margarida Castro-Caldas

Action CA22125 - Precision medicine in biliary tract cancer (Precision-BTC-Network) 2023-2027

imed: Marta Afonso - Awarding coordinator; National management committee member

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Action CA21108 - NETSKINMODELS - European Network for Skin Engineering and Modeling 2022-2026

imed: Sandra Simões, Manuela Carvalheiro, Ana Catarina Severiano

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Action CA19124 - Rethinking Packaging for Circular and Sustainable Food Supply Chains of the Future" (CIRCUL-A-BILITY) 2021-2025

imed: Ana Bettencourt

Action CA21111

Actions CA21135

Actions CA22103

Action CA2212 - Precision medicine in biliary tract cancer (Precision-BTC-Network

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Action CA23146 - European vascular liver diseases network (EURO-VALDI-NET)

Action CA19140 - Focused Ion Technology for Nanomaterials (FIT4NANO).

imed: Catarina Reis

Action CA17140 - Nano2Clinic Cancer Nanomedicine - from the bench to the bedside, 2018-2023

imed: Manuela Gaspar; Catarina Reis

Action 15216 (https://www.cost.eu/actions/CA15216)

imed: Catarina Reis

Action 23132 (https://www.cost.eu/actions/CA23132)

imed: Catarina Reis

Action CA21154 - Translational control in Cancer European Network (TRANSLACORE)

imed: Graça Soveral

Action CA17104 - New diagnostic and therapeutic tools against multidrug resistant tumors (STRATAGEM - PANDORA)

imed: Graça Soveral

Action CA20121 - Bench to bedside transition for pharmacological regulation of NRF2 in noncommunicable diseases (BenBedPhar)

imed: Inês V. da Silva

Action CA21135 - Modelling immunotherapy response and toxicity in cancer (IMMUNO-model)

imed: Inês V. da Silva

Action CA19105 - EpiLipidNET: Pan-European Network in Lipidomics and EpiLipidomics

imed: Liana C Silva

Action CA20140 - CorEuStem: The European Network for Stem Cell Core

imed: Joana Miranda

Action CA20121 – BenBedPhar: Bench to bedside transition for pharmacological regulation of NRF2 in noncommunicable diseases

imed: Joana Miranda, Nuno Oliveira and Joana Rodrigues

Action CA21108 – NETSKINMODELS: European Network for Skin Engineering and Modeling

imed: Sérgio Camões

Action CA21149 – ACRYRED: Reducing acrylamide exposure of consumers by a cereals supply-chain approach targeting asparagine

imed: Nuno Oliveira

Action CA21154 – TRANSLACORE: Translational control in Cancer European Network

imed: Nuno Oliveira

Action CA21147 - ENOTTA - European Network on Optimising Treatment with Therapeutic Antibodies in chronic inflammatory diseases. (Approval date – 27/05/2022, Start date – 03/11/2022, End date – 02/11/2026)

Action CA19124 - "Rethinking Packaging for Circular and Sustainable Food supply chains of the Future" (CIRCUL-A-BILITY) 2020-24

PharmaBB-imed: Isabel Ribeiro

Action CA21145 - "European Network for diagnosis and treatment of antibiotic-resistant bacterial infections (EURESTOP)"

imed: Maria Santos

Action CA20121 – Bench to bedside transition for pharmacological regulation of NRF2 in non-communicable diseases 2021-2025

imed: Andreia Neves Carvalho, Margarida Castro-Caldas

Action CA22125 – Precision medicine in biliary tract cancer (Precision-BTC-Network) 2023-2027

imed: Marta Afonso - Awarding coordinator; National management committee member

Action CA19124 - Rethinking Packaging for Circular and Sustainable Food supply chains of the Future (CIRCUL-A-BILITY) 2021-2025

imed: Ana Bettencourt

Action CA21108 - European Network for Skin Engineering and Modelling (NETSKINMODELS), 2021-2025, Portuguese Management Committee.

imed: Sandra Simões; Manuela Carvalheiro

Fundação la Caixa

DRUGS4ALS - Targeting TDP-43 with protein kinase inhibitors: an effective and measurable therapy for ALS

imed: FFUL/imed.ULisboa: Dora Brites, 2021-2025

UNITE! University Network for Innovation, technology and Engineering

European Universities Erasmus-Intensification of prior deep institutional transnational cooperation:

ERASMUS-EDU-2022-EUR-UNIV-1: Unite! University Network for Innovation, Technology and Engineering - 2022-2026

imed: Maria H. Ribeiro

European & Developing Countries Clinical Trials Partnership (EDCTP)

Collaborator, responsible for Work Package 5 and Member of the executive board of European & Developing Countries Clinical Trials Partnership (EDCTP), EU, funded project RIA2016MC-1615; PI: Ilesh Jani, National Institute of Health, Mozambique; Start date: 01/06/2018; end date: 31/05/2024 (iMed: Nuno Taveira).

Bio-Hub

National R&D Platform for Production, Commercialization and Distribution of Innovative Biopharmaceuticals

imed: João Gonçalves

BiotechPharma Network for advancement of Biologics – EFPIA

imed: João Gonçalves

BioEurope – VectorB2B

imed: João Gonçalves

Europharm - Vector B2B

imed: João Gonçalves

Publication with international teams

In 2024, 50% of imed.ULisboa publications stemmed from ongoing projects with international collaborators. Below are examples showcasing some of the outcomes of these partnerships.

Global burden of bacterial antimicrobial resistance 1990-2021: a systematic analysis with forecasts to 2050

https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(24)01867-1/fulltext

Proximity-driven site-specific cyclization of phage-displayed peptides

https://www.nature.com/articles/s41467-024-51610-4

GBD 2021 Nervous System Disorders Collaborators. 2024. Global, regional, and national burden of disorders affecting the nervous system, 1990-2021: a systematic analysis for the Global Burden of Disease Study 2021

https://www.thelancet.com/journals/laneur/article/PIIS1474-4422(24)00038-3/fulltext

ANNUAL REPORT 2024

6. Leadership & Recognition

Participation in national & international institutions

Prizes and recognitions

Participation in national & international institutions

imed.ULisboa scientists actively contribute to the governance of both national and international institutions. The list below highlights some of their key roles and activities.

International

Adelaide Fernandes

Committee member of the Ataxia Advisory Committee for Therapeutics (ACT)

https://ataxia-global-initiative.net/resources/ataxia-act/

Maria Alexandra Brito

Secretary of the European Federation of Experimental Morphology

https://efem.eu/council-of-delegates/

Maria Alexandra Brito

Coordinator of the Award Committee of the European Federation of Experimental Morphology

https://efem.eu/about-the-efem/award-committee/

Isabel Rivera

Member of the Steering Committee of GalNet (The Galactosemia Network)

https://www.galactosemianetwork.org/

Margarida F.B. Silva

Advisory Board Deputy of ERNDIM (European Research Network for evaluation and improvement of screening, Diagnosis, and treatment of Inherited disorders of Metabolism) created for the Quality Assurance in Laboratory Testing for Inborn Errors of Metabolism

https://www.erndim.org/

Dora Brites

Member Directory ALZFORUM – Networking for a Cure.

https://www.alzforum.org/member-directory/dora-brites

Associate Editor for Frontiers in Cellular Neuroscience – Non-neuronal cells

https://www.frontiersin.org/journals/cellular-neuroscience/editors

Editorial Board Member of Cells, MDPI

https://www.mdpi.com/journal/cells

Review Editor for Frontiers in Pharmacology – Experimental Pharmacology and Drug Discovery

https://www.frontiersin.org/journals/pharmacology/sections/experimental-pharmacology-and-drug-discovery

Project evaluation of applicants to Fonds de la Recherche Scientifique – FNRS

https://www.frs-fnrs.be/fr/

Evaluation Report and Consensus Rapporteur of COST Actions (European Cooperation in Science & Technology)

https://www.cost.eu/

Ana Rita Vaz

Associate Editor of Frontiers in Neuropharmacology

https://www.frontiersin.org/journals/pharmacology/editors

Review Editor of Frontiers in Cellular Neuroscience – Non-neuronal cells

https://www.frontiersin.org/journals/cellular-neuroscience/editors

Rui FM Silva

Associate Editor of Frontiers in Neuropharmacology, Non-Neuronal Cells

https://www.frontiersin.org/journals/cellular-neuroscience/sections/non-neuronal-cells/editors

Editorial Board member of Antioxidants, MDPI

https://www.mdpi.com/journal/antioxidants/editors?search=rui

Gonçalo Garcia

Review Editor in Frontiers in Molecular Neuroscience (Section: Brain Disease Mechanisms)

https://www.frontiersin.org/journals/molecular-neuroscience/sections/brain-disease-mechanisms

Topic Coordinator "Noncoding RNAs in Neurodegenerative Disorders: From Current Insights and Future Directions to Translational Modelling and Therapeutic Approaches" Frontiers in Neuroscience, ISSN: 1662-453XSection: Translational Neuroscience

https://www.frontiersin.org/research-topics/45489/noncoding-rnas-in-neurodegenerative-disorders-from-current-insights-and-future-directions-to-translational-modeling-and-therapeutic-approaches/magazine

António Almeida

Quality Expert of the European Medicines Agency (EMA)

https://www.ema.europa.eu/en/about-us/how-we-work/european-medicines-regulatory-network/european-experts?f%5B0%5D=ema_expert_full_name%3Aalmeida

Ana Bettencourt

Technical Advisor of the ISO Technical Committees, ISO/TC 150 SC - Implants for Surgery; ISO/TC 194 - Biological and clinical evaluation of medical devices

https://www.iso.org/committee/54508.html

Technical-scientific consulting services within the Legal Framework for Medical Devices in Cape Verde (ERIS), covering the "Draft Documents" for "Medical Devices", "In Vitro Diagnostic Medical Devices" and "Good Distribution Practices "

Madalena Pimentel

Guest Editor of Viruses for the Special Issue "Bacteriophage Lytic Proteins"

https://www.mdpi.com/journal/viruses/special_issues/978ECU4P0M

Associate Editor of Frontiers in Microbiology, section Antimicrobials, Resistance and Chemotherapy

https://www.frontiersin.org/journals/microbiology/sections/antimicrobials-resistance-and-chemotherapy

Member of the Reviewer Board of Viruses

https://www.mdpi.com/journal/viruses/submission_reviewers

Carlos São-José

Guest Associate Editor for Frontiers in Microbiology (section Virology) and Review Editor for Frontiers in Microbiology (section of Antimicrobials, Resistance and Chemotherapy) and Frontiers in Molecular Biosciences (section of Molecular Diagnostics and Therapeutics)

https://loop.frontiersin.org/people/294385/overview

Member of the Editorial board of the journal Microorganisms (section Molecular Microbiology and Immunology)

https://www.mdpi.com/journal/microorganisms/sectioneditors/molecular_microbiol_immunol?page_no=2

Guest Editor of Microorganisms, Special Issue: Bacteriophage-host Cell Interactions: from Biology to the Control of Bacterial Infection

https://www.mdpi.com/journal/microorganisms/special_issues/KS3GAE2P91

Cecília Rodrigues

Associate editor, Hepatology

https://onlinelibrary.wiley.com/doi/pdf/10.1002/hep.31923

Executive editor, Journal of Physiology and Biochemistry

https://link.springer.com/journal/13105/editorial-board

Editorial Board, Journal of Hepatology

https://www.sciencedirect.com/journal/journal-of-hepatology/about/editorial-board

Cristina Almeida

Member of the Risk Assessment Committee (RAC) of the European Chemicals Agency (ECHA) in the Agency (ECHA, European Chemical Agency) in the working group on the European Directive on the Quality of Water intended for Human Consumption (DWD WG65)

https://echa.europa.eu/pt/about-us/who-we-are/committee-for-risk-assessment/members-of-the-rac-drinking-water-working-group

Vasco Branco

External Expert of the European Food Safety Authority (EFSA), 2023-2027 - call for Scientific and Technical Support - Various Scientific and Communication Profiles - EOI/EFSA/2022/01

https://www.efsa.europa.eu/en

Reserve list for the Contaminants Panel (CONTAM) of the European Food Safety Authority (EFSA)

https://www.efsa.europa.eu/en/science/scientific-committee-and-panels/contam

Cristina Carvalho

Reviewer of Swedish Research Council - Basic Medicine

https://www.vr.se/english/analysis/reports/our-reports/2025-04-03-quality-and-impact-of-research-in-basic-medicine-in-sweden.html

Elsa Anes

EU commission evaluation of European Innovation Council, EIC-Pathfinder

https://eic.ec.europa.eu/eic-funding-opportunities/eic-pathfinder_en

EU commission evaluation of Research Innovation Agency (RIA) HORIZON-JU-GH-EDCTP32024-01-two-stage: Tackling Antimicrobial Resistance (AMR)

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-ju-gh-edctp3-2024-01-04-two-stage

Commission evaluation of grants Wellcome Trust: Discovery Award Malawi-Liverpool- Wellcome Research Programme (MLW)

https://wellcome.org/research-funding/schemes/wellcome-discovery-awards

Filipa Alves da Costa

Executive Committee Board Member, International Society for Medication Adherence (ESPACOMP) and Co-chair of the Research, Policy and Implementation Committee of ESPACOMP

Vice-President, Social and Administrative Pharmacy Section, International Pharmaceutical Federation

Honorary Member of Pharmaceutical Care Network Europe

Ema Paulino

Secretary of the Board at the World Pharmacy Council (WPC)

Catarina Luz Oliveira

Member of the European Association of Hospital Pharmacists Antimicrobial Resistance Working Group

Ana Araújo

Health data scientist at the Data Analytics and Methods Task Force of the European Medicines Agency

Ruben Viegas

Member of Youth4Health network, a special initiative of the WHO Regional Director for Europe

Graça Soveral

Chair and Member of the Executive Committee of the Federation of European Biochemical Societies (FEBS)

https://www.febs.org/about/organization-and-governance/febs-executive-committee/

Member of the Council of the IUBMB (International Union of Biochemistry and Molecular Biology)

https://iubmb.org/

Helena Margarida Ribeiro

Technical Committee Chairperson – ISO Cosmetics

Joana Marques Marto

Technical Committee member – ISO Cosmetics

Pedro Contreiras Pinto

Technical Committee member – ISO Cosmetics

Joana Miranda

Chair of Communication Subcommittee of the Federation of European Toxicologists & European Societies of Toxicology (EUROTOX)

João Gonçalves

Member of the Administration Boad of Vector B2B – Collaborative Laboratory

https://vectorb2b.com

Member of the Administration Boad of Bio-Hub – National R&D Platform

https://www.bio-hub.pt/

João Pinto

President of the Pharmaceutical Solid State Research Cluster

https://pssrc.org/wordpress/

Team Leader (workstream on Education, Training and Dissemination) of the International Pharmaceutical 3D Printing Initiative

https://pharma3dpi.org/home

Luis Gouveia

WHO, Member of the Expert Committee on Specifications for Pharmaceutical Preparations, International Pharmacopoeia - Ph.Int

WHO, Senior Quality assessor at the WHO Prequalification of Essential Medicines Program

EMA, Member Methodology European Specialised Expert Community, European Medicines Agency

EDA - Egypt Drug Agency, Key technical advisor on Regulatory Assessment, 2024

Olga Silva

China-Portugal International Joint Laboratory in Herbal Medicines in collaboration with the University of Traditional Chinese Medicine of Jiangxi.

International Expert of the Advisory Committee of Experts of the Scientific and Industrial Park of traditional Chinese medicine for Cooperation between Guangdong and Macau

Expert on ISO TC254 projects of Macau TCM University, TCM Xangai University, Mongolia. TCM University, TCM Jiangxi University, and IMPLAD

João Rocha

Member of the Committee for Orphan Medicinal Products (COMP)

European Medicines Agency (EMA)

Member of the Healthcare Professionals Working Party (HCPWP)

European Medicines Agency (EMA)

Clinical Pharmacology Expert

European Medicines Agency (EMA)

Bruno Sepodes

Chair of the Committee of Human Medicinal Products (CHMP)

European Medicines Agency

Member (Portugal) of the Committee or Human Medicinal Products (CHMP)

European Medicines Agency

Member (Portugal) of the Committee of Advanced Therapies (CAT)

European Medicines Agency

Co-Chair of the Emergency Task Force (ETF)

European Medicines Agency

Member of the Assembly and Representative of the Assembly at the Management Committee

ICH – International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use

Henrique Silva

National Representative of the Latin Society for Vascular Research (LIAC)

Paulo Paixão

Member of the Committee or Human Medicinal Products (CHMP)

European Medicines Agency

Member of the Methodological Working Party

European Medicines Agency

Member of the Expert Working Group of the ICH M13 bioequivalence Guideline

Expert representing the EMA on the development of the International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH) M13 Guideline on Bioequivalence for Immediate-Release Solid Oral Dosage Forms

Carla Torre

Co-opted Member (Pharmacoepidemiology expert) nominated by the European Commission

Committee or Human Medicinal Products (CHMP) European Medicines Agency (EMA)

Member of the Pharmacovigilance Risk Assessment Committee (PRAC) European Medicines Agency

Member of the Methodology Working Party (MWP) European Medicines Agency

Beatriz Silva Lima

Chief Editor in Frontiers in Regulatory Science (Frontiers in Medicine)

Maria H. Ribeiro

College of Food, Farming and Foresty (F3) - Coordinating Council

College of Chemistry of ULisboa (CQUL) - Executive Committee For Pedagogical Affairs

Rui Moreira

Past-President and member of the executive commission of the European Federation for Medicinal Chemistry and Chemical Biology

https://www.efmc.info/

Tiago Rodrigues

Full Member of the Acceleration Consortium, University of Toronto, Canada

https://acceleration.utoronto.ca/

Maria José U. Ferreira

President and member of the executive committee of the Phytochemical Society of Europe

https://new.phytochemicalsociety.org/

Alexandra Paulo

Member of the Evaluation Panel of Italian Association for Cancer Research Individual Grants.

Member of Editorial Board of Scientific Reports

Maria Santos

EIC Accelerator remote evaluator - HORIZON-EIC-2024-ACCELERATOR-02 – European Innovation Council (EIC), 2024

Foreign faculty member of the Ph.D. Programme in Research Methods in Science and Technology of the University of Urbino, 05/2024-present

Member of the International Advisory Board of ChemMedChem (Wiley-VCH)

Nuno Taveira

Member of the executive board of European & Developing Countries Clinical Trials Partnership (EDCTP), EU, funded project RIA2016MC-1615; PI: Ilesh Jani, National Institute of Health, Mozambique; Start date: 01/06/2018; end date: 31/05/2024

Editorial board member of several journal (International Journal of Molecular Sciences, Frontiers in Pharmacology, Frontiers in Cellular and Infection Microbiology, Frontiers in Virology and Diagnostic)

Rita Guedes

European Commission Evaluator - EIC Pathfinder

Paul Ehrlich MedChem Euro PhD Network

Rui Castro

Scientific Committee member of European Association for the Study of the Liver (EASL) -

https://easl.eu

Basic Science Taskforce Coordinator of European Association for the Study of the Liver (EASL) -

https://easl.eu

UEG's representative at the European Medicines Agency (EMA) Healthcare Professionals' Working Party (HCPWP)

https://www.ema.europa.eu/en/committees/working-parties-other-groups/chmp/healthcare-professionals-working-party

Associate Editor, Journal of Hepatology

Susana Solá

Evaluator of the Horizon Europe Framework Programme (HORIZON) – the Marie Skłodowska-Curie Postdoctoral Fellowships (MSCA-PF). Call: MSCA Postdoctoral Fellowships -European Fellowships (HORIZON-MSCA-2024-PF-01)

Member of the Editorial Board of Scientific Reports: Cellular Plasticity Collection

https://www.nature.com/collections/hdaaagbgjc

Member of the Editorial Board of Antioxidants

Member of the Editorial Board of Scientific Reports – Category: Stem Cells and Development

https://www.nature.com/srep/about/editors#medicine_section

Member of the Editorial Board of Antioxidants - Special Issue on: Redox Signaling Regulation in Neurological Disorders

National

Adelaide Fernandes

Member of the board of Portuguese Glial Network

https://redeglial.weebly.com/about.html

Maria Alexandra Brito

Vice-President of the Fiscal Council of the Portuguese Anatomical Society

https://sociedadeanatomica.pt/sap-aap/corpos-sociais/

Isabel Rivera

President of the General Assembly of Sociedade Portuguesa de Doenças Metabólicas

https://www.spdm.org.pt/

Paula Leandro

President of the Supervisory Board of Sociedade Portuguesa de Doenças Metabólicas

https://www.spdm.org.pt/

Margarida F. B. Silva and Paula Leandro

Participation in Multidisciplinary Working Groups (medical doctors, biochemists, and nutritionists) focusing in updating patient´s protocols, collaboration in training activities and multicentre scientific production (Margarida Silva– Fatty acid β-oxidation disorders; Paula Leandro - Aminoacidophaties)

Rui FM Silva

Account Administrator from the Faculdade de Farmácia da Universidade de Lisboa webpage on "EU Funding & Tenders"

Cristina Sampayo

Expert member at Direção Geral de Alimentação e Veterinária (DGAV)

https://www.dgav.pt/

Cristina M. M. Almeida

Member of the Technical Committee CT 72, Water Quality, of the Portuguese Environment Agency (APA) in its capacity as Sectoral Standardisation Body (ONS/DGA), in coordination with the Portuguese Institute for Quality (IPQ)

https://storagewebsiteipq.blob.core.windows.net/website/CT-072-3.pdf

External expert for the fellowship "Garantia da Qualidade na Educação e Formação Profissional" (EQAVET)

Dora Brites

Member of the Advisory Board of the Mind-Brain College

https://colegiomente-cerebro.ulisboa.pt

Member of The Portuguese Glial Network Board

https://redeglial.weebly.com/

António Almeida

President of the Scientific Board, Faculdade de Farmácia, Universidade de Lisboa

https://www.ff.ulisboa.pt/orgaos-de-governo/#conselhocientfico

Quality Expert of the Committee for Medicines Evaluation (CAM), Instituto Nacional da Farmácia e do Medicamento (INFARMED)

https://diariodarepublica.pt/dr/detalhe/despacho/487-2017-105717962

Member of Steering Committee, Laboratório Nacional do Medicamento (LNM)

https://lm.exercito.pt

Nuno Oliveira

Coordinator of the toxicology section of the Portuguese Society of Pharmacology

https://spfarmacologia.pt/

Ana Bettencourt

Technical Advisor of the Comissão Técnica, Instituto Português da Qualidade: CT 194 (Nanotecnologias) e CT 87 (Tecnologias para a Saúde)

Sandra Simões

Member of Rede Nacional de Órgãos Responsáveis pelo Bem estar dos Animais

https://redeorbea.spcal.pt/page1.html

Catarina Pinto Reis

Member of IBEB board, FCUL

https://ibeb.ciencias.ulisboa.pt/catarina-pinto-reis/

Cecilia Rodrigues

Vice-rector, University of Lisbon

https://www.ulisboa.pt/en/membro-equipa/cecilia-maria-pereira-rodrigues

Board of Trustees, GIMM

https://gimm.pt/gimm/leadership-and-structure/

Cristina Almeida

Member of the Working Group (WG) 'Medicines and the Environment' created by the OF (Portuguese Pharmacists' Association), dedicated to the impact of medicines on the environment

https://www.ordemfarmaceuticos.pt/pt/noticias/novo-grupo-de-trabalho-dedicado-ao-medicamento-e-ambiente/

Member of the Technical Commission CT 072, Water Quality, Sub-Commission SC02 - Physical, Chemical and Biochemical Methods (Analytical Methods, of the Portuguese Environment Agency (APA)

https://www.ipq.pt/normalizacao/comissoes-tecnicas-de-normalizacao/comissoes-tecnicas/

Cristina Carvalho

Perito da DGAV (Despacho n º 28-G-2015 – GAMV)

https://www.dgav.pt/medicamentos/conteudo/medicamentos-veterinarios/area-regulamentar-gamv-biologicos-nao-biologicos-ensaios-clinicos/gamv/

José Miguel Azevedo-Pereira

Member of the Board of the Portuguese Society of Virology (SPV)

https://www.spv.pt/

Member of the Infectious Diseases Working Group of the Transversal Health Thematic Network - "Rede SAÚDE", of the University of Lisbon

https://www.ulisboa.pt/info/redesaude

Quirina Santos Costa

Biosafety office - Biosafety Level 3 (BSL-3) Laboratory

https://imed.ulisboa.pt/facilities/

Participating Member of the Technical Certification Committee for BSL-2 and BSL-3 Laboratories: CT 207 | ISO 35001 (Portuguese Institute for Quality - IPQ): Project for the TRANSLATION of ISO 20387:2018 Standard. Project GT-Translation FDIS ISO 20387:2020

Member of the Technical Committee of the Portuguese Laboratory Network for Biosafety (Lab-PTBioNet), representing the Biosafety Level 3 Laboratory of the Faculty of Pharmacy, University of Lisbon

http://www.labptbionet.ibmc.up.pt/membros

Full Member of the Tropical College CTROP.ULisboa

https://www.ctrop.ulisboa.pt/estrutura

Member of the working group of the National External Quality Assessment Program, INSARJ: PNAEQ Expert – Laboratory Safety and for Parasitic Morphology

Ema Paulino

President of the Board of the Portuguese National Association of Pharmacies (ANF)

President of the Board of Directors of Farminveste

Vice-President of Board of Directors at CUF

General Director and Professional and Scientific Coordinator of Ezfy

Member of the Executive Committee at Business Confederation of Portugal (Confederação Empresarial de Portugal - CIP)

President of the Supervisory Board at AlumniFFUL

Catarina Luz Oliveira

President of the General Assembly of the Portuguese Association of Hospital Pharmacists

Member of the Committee responsible for the proposal of a Competence in Clinical Research, Pharmacists' Society

Founding and permanent member of the "Prémio Almofariz, Farmácia Hospitalar do Ano"

Diana Costa

Deputy Secretary-General at Portuguese Pharmaceutical Society

Member of the Administration Council of Health Foundation – National Health Service

Secretary of the Board at AlumniFFUL

Ruben Viegas

President of fiscal council for Portuguese Association of Young Pharmacists

Raquel Inez

Clinical Innovation Project Specialist at Lusíadas Saúde

Maria Inês Teodoro

Epidemiology and RWE Researcher at Instituto de Saúde Baseada na Evidência

Helena F. Florindo

Member of the Medicines Evaluation Committee at INFARMED, 2024

Member of the Technical Committee for Seasonal Vaccination at DGS, Ministry of Health, 2024

Member of the Veterinary Medicines Evaluation Committee at DGAV, 2024

Member (nominated FP/ULisboa representative), "Hub Innovation, Entrepreneurship and Impact", ULisboa, Portugal

Member (nominated FP/ULisboa representative), "Associação Desenvolvimento do Centro Académico de Medicina de Lisboa", founded by the Hospital Universitário de Santa Maria, a Faculty of Medicine of the ULisboa and the Instituto de Medicina Molecular (IMM), Portugal

Joana Marques Marto

INFARMED - National specialist on the quality assessment of drugs.

Sociedade Portuguesa de Ciências Cosmetológicas – Secretary

Pedro Contreiras Pinto

INFARMED - National specialist on the PK assessment of drugs

Joana Miranda

Board member of Portuguese Society for Stem Cells and Cellular Therapy, SPCE-TC

http://spce-tc.org/

President of the Fiscal Council of Portuguese Society of Pharmacology (SPF)

https://spfarmacologia.pt/

Nuno Oliveira

Coordinator of the Toxicology Section of the Portuguese Society of Pharmacology (SPF)

https://spfarmacologia.pt/

João Lopes

President of the Directive Board of the Sociedade Portuguesa de Ciências Farmacêuticas

Member of the Steering Committee of the Analytical Chemistry Division of Sociedade Portuguesa de Química

Olga Silva

Chairman of the CT212 Technical Committee of the Portuguese Quality Institute

Representative of Portugal in the ISO/TC249 Standards

Participant on project CT-luso Project, devoted to trainning on reg sci within PALOPS

João Rocha

Member of Medicines Evaluation Board (CAM)

INFARMED I.P.

Member of the Committee of Pharmacy and Therapeutics (CFT)

Regional Health Administration (ARS - Lisboa e Vale do Tejo)

Member of the Supervising Board of the Pharmacovigilance Unit of Lisboa, Setúbal e Santarém

Bruno Sepodes

Member of Medicines Evaluation Board (CAM)

INFARMED I.P.

Paulo Paixão

Member of Medicines Evaluation Board (CAM)

INFARMED I.P.

Portuguese Local coordination of the RedIF (Red Ibero-Americana de Farmacometria)

Rui Pinto

Member of the Medicines Evaluation Committee

INFARMED - Ministry of Health Portugal

Expert of Evaluation of Plant Protection Products

DGAV - Ministry of Agriculture Portugal

Member of the External Advisory Board

Health & Technology Research Centre – Lisbon

Member of the Board of the Order of Pharmacists

Carla Torre

Member of Medicines Evaluation Board (CAM)

INFARMED I.P.

Member of the Supervising Board of the Pharmacovigilance Unit of Lisboa, Setúbal e Santarém

Beatriz Silva Lima

Member of Advisory Board of AICIB - Agency for Clinical Research and Biomedical Innovation

Participant on project CT-luso Project, devoted to training on reg sci within PALOPS

Maria Santos

Co-coordinator and Evaluator of PhD fellowship proposals submitted to the Chemistry and Chemical Engineering panel, Fundação para a Ciência e Tecnologia (2024 Call for PhD Scholarships)

Ana Paula Francisco

Member of the Committee for Evaluation of Medicines- Infarmed Autoridade Nacional do Medicamento e Produtos de Saúde IP, Portugal - (imed:)

Nuno Taveira

Founder and CEO of BSL Pharmaceutics, a startup company.

Coordinator of the PhD program in Biomedical Sciences at the Instituto Universitário Egas Moniz, Portugal.

João António

Direção do Grupo de Químicos Jovens da SPQ

https://jovens.spq.pt/direcao

Pedro Góis

Deputy General Secretary – Portuguese Chemical Society (SPQ)

https://www.spq.pt/

Supervision council of Portuguese pharmacists' association

https://ordemfarmaceuticos.pt/pt/

Susana Solá

Member of the Coordinating Committee and the working group on aging in the redeSAÚDE, ULisboa

Member of the Governing Board of the Portuguese Society for Stem Cells and Cell Therapies

Coordinator of the Section: Stem Cell and Science

http://spce-tc.org/about-spce-tc/governing-board/

Member of the Executive Commission of the Mind-Brain College of ULisboa

https://sites.google.com/edu.ulisboa.pt/mind-brain-ulisboa

Prizes & recognitions

imed.ULisboa scientists received several distinctions in recognition of their scientific achievements and societal contributions. The list below highlights some of these awards.

Alexandre Neto

Best Oral Communication at XV imed.ULisboa Postgraduate Students Meeting. July 11-12, 2024, Lisbon. Presentation entitled "The harsh influence of Obesity on Multiple Sclerosis pathology: findings from an in vivo study"

Catarina Barros

Best Poster Pitch at XV imed.ULisboa Postgraduate Students Meeting. July 11-12, 2024, Lisbon. Poster entitled "Cognitive Impairment in Multiple Sclerosis: the role of microglia in synapse elimination"

André Ferreira da Silva

Best Poster Presentation at Congresso Nacional dos Farmacêuticos. November 21-23, 2024, Lisbon. Poster entitled "Abordagem nanotecnológica da etiologia microbiana da doença de Alzheimer"

Garcia AR, Zhao N, Brito MA, Searson PC.

Development of a physiological and anatomically relevant human blood-brain barrier based on 3D tissue engineering

Best oral communication. LVI Reunião da Sociedade Anatómica Portuguesa, Faculdade de Medicina de Lisboa, April 20, 2024

https://sociedadeanatomica.pt/lvi-reuniao-cientifica-da-sap-aap-20-de-abril-de-2024/

Major-Rodrigues C, Garcia AR, Malhó R, Botelho HM, Brito MA.

Development and Characterization of Spheroids of Triple-Negative Breast Cancer Cells with Brain Tropism: a 3D Platform for Drug Discovery

Best oral communication (category B, preliminary results and outlook, 2nd place). III European Students Symposium on Anatomical Research, Varna, Bulgaria, October 10, 2024

https://efem.eu/european-student-symposium-on-anatomical-research-award-ceremony/

Garcia AR, Zhao N, Brito MA, Searson PC.

Innovative 3D Tumor-Microvessel Platform for Metastatic Cancer Research: Focus on Breast Cancer

Best oral communication (category A, classical research talk). III European Students Symposium on Anatomical Research, Varna, Bulgaria, October 10, 2024

https://efem.eu/european-student-symposium-on-anatomical-research-award-ceremony/

Major-Rodrigues C

Travel grant from the European Federation of Experimental Morphology to attend the III European Students Symposium on Anatomical Research, Varna, Bulgaria, October 10, 2024

https://www.mu-varna.bg/EN/Pages/xii-mezhdunaroden-simpozium-po-klinichna-anatomiya-i-iii-evropeyski-studentski-simpozium-po-anataomichni-izsledvaniya-zapoc.aspx

Garcia AR.

Travel grant from the European Federation of Experimental Morphology to attend the III European Students Symposium on Anatomical Research, Varna, Bulgaria, October 10, 2024

https://www.mu-varna.bg/EN/Pages/xii-mezhdunaroden-simpozium-po-klinichna-anatomiya-i-iii-evropeyski-studentski-simpozium-po-anataomichni-izsledvaniya-zapoc.aspx

Ana Paula Leandro

Prize for best published work, attributed by "Sociedade Portuguesa de Doenças Metabólicas" (SPDM)

https://www.spdm.org.pt/bolsas/bolsas-atribuidas/bolsas-spdm-apoio-%C3%A0-publica%C3%A7%C3%A3o-cient%C3%ADfica/

Pádua MS, Mello-Sampayo C; Lourenço M; Lopes PA.

First data on behavioral assessment in Alzheimer's disease 5xFAD mice fed sustainable DHA-enriched diets

Best oral communication in 3rd Meeting of the Associated Laboratory for Animal and Veterinary Science (AL4AnimalS), November 29-30, 2024, Lisbon, Portugal

António Almeida

World's Top 2% Scientists list - Updated science-wide author databases of standardized citation indicators, J. Baas, K. Boyack e J. P.A. Ioannidis, University of Stanford, 2024

https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/5

Maria Manuela Gaspar

Ranking do "World's Top 2% Scientists" 2024

Catarina Pinto Reis

Ranking "World's Top 2% Scientists" 2024 - August 2024 data-update for "Updated science-wide author databases of standardized citation indicators" Ioannidis, John P.A. (2024), "August 2024 data-update for "Updated science-wide author databases of standardized citation indicators"", Elsevier Data Repository, V7, doi: 10.17632/btchxktzyw.7

Trigo G, Coelho M, Ferreira CB, Melosini M, Lehmann IS, Reis CP, Gaspar MM, Santos S.

Most Notable Articles International Journal of Molecular Sciences.

Exploring the Biological Activity of Phytocannabinoid Formulations for Skin Health Care: A Special Focus on Molecular Pathways. International Journal of Molecular Sciences. 2024; 25(23):13142

https://doi.org/10.3390/ijms252313142

Cecília Rodrigues

World's Top 2% Scientists 2024 Ranking Stanford University & Elsevier

Membro correspondente da Classe de Ciências da Academia das Ciências de Lisboa, 2024

Helena F. Florindo

Lowy Distinguished Guest Professor for the academic year 2024/2025, Tel Aviv University

Controlled Release Society, College of Fellows

Prémios Científicos Universidade de Lisboa/Caixa Geral de Depósitos, Área Científica Saúde

Bárbara Carreira

Best panel communication

B. Carreira, A.I. Matos, C. Peres, R.A. Acúrcio, L. I. F. Moura, A. Bonomo, R. Kleiner, D. Vaskovich-Koubi, S. Pozzi, R. Satchi-Fainaro and Multivalent nanoplatform for vascular regulation of host immunity. CRS 2022 Annual Meeting & Expo. July 11-15, 2022, Montreal, Canada

Rita Acúrcio

Best oral communication

Acúrcio RC, Sanchez IC, Moura LIF, Vicent MJ, Satchi-Fainaro R, Florindo HF. (2024) From cold to hot: Nanotechnology-based immunotherapy driving effective PDAC anti-tumor response. XVth Spanish-Portuguese Conference on Controlled Drug Delivery, February 14-16th, Lisbon, Portugal

Joana Marques Marto

World's Top 2% Scientists list - University of Stanford, 2024

Catarina Trigo

SPF EUROTOX 2024 Bursary from Portuguese Society of Pharmacology (SPF), to attend EUROTOX 2024 – 58th Congress of the European Societies of Toxicology, Denmark, Copenhagen. The awarded work was the Abstract entitled "Unveiling the therapeutic potential of MSC-derived conditioned media and exosomes towards COVID-19-induced neurological sequelae", 2024

Bruno Sepodes

Elected by unanimity by the representative members of the CHMP as Chair of the Committee

Ana Catarina Godinho

FLxFlow - The Lisbon Flow Cytometry Network

https://flxflow.pt

Maria H. Ribeiro

World's Top 2% Scientists 2024 Ranking, Stanford University and Elsevier editor

Ruben Vicente-Saez, Antti Rousi, Rosa Lönneborg, Federica Capelutti, Mauro Paschetta...Anna Rovira, Maria H. Ribeiro

Creating a European Open Science and Innovation University – Best oral presentation award at Unite! Dialogue in Darmstadt, Germany, 2024-09-25

Martin Ebber, Sandra Shoen, Maria H. Ribeiro, Ruben Vicente Saez

OER courses-Open Science – Best Poster award at Unite! Dialogue in Darmstadt, Germany, 2024-09-24

Maria José U. Ferreira

Bluepharma Innovation Award 2023/ University of Coimbra Bluepharma (Jun 1024)- (team member)

Honourable Mention Innovation Pedro Oliveira 2024-Exame Informática (team member)

R. J. F. Ferreira

Scholarship to participate in the "43rd Advanced Course of Medicinal Chemistry and Seminar for PhD students" (Urbino., Italy), offered by the European School of Medicinal Chemistry (ESMEC) and the European Federation for Medicinal Chemistry and Chemical Biology (EFMC)

Selected participant for the second EURESTOP Training School (Eco-friendly synthesis of targeted antimicrobial peptides and small molecules), March 25-27th, 2024, at Sapienza University & Unitelma University in Rome (Italy)

Tiago Rodrigues

World's top 2% scientists 2024 ranking, Stanford University and Elsevier (Chemistry)

Nuno Taveira

Project reference: 17777; start date: 01/2023; end date: 12/2025. Title: Spiro-β-lactams as broad-spectrum host-directed drugs for RNA respiratory viruses. Sponsor: Programa Génese, Gilead, Portugal. Role: Co-PI. €27,000

Project reference: 17863; start date: 01/2023; end date: 12/2024. Title: Development and evaluation of an RNA vaccine against HIV-1 and HIV-2.

Sponsor: Programa Génese, Gilead, Portugal. Role: Co-PI. €21,000

Vicente Ledesma

15th ENQO & 8th ENQT in Faro, 2024. "Structure and Ligand-Based Strategies to Discover Novel Orexin Receptor Modulators: Targeting the Circadian Clock and Alzheimer's Disease". (Best Poster)

Vicente Ledesma & Diana Assis

BioSolveIT Scientific Challenge Spring 2024, Best Project Award (International challenge)

Diana Assis

Best Abstract Award for Oral Communication at the 4th Biophysics Festival (2024)

Rodrigo Alves

1st EFMC-YSN Virtual Poster Session: "A Computational Dual Targeting Approach to TIGIT and PD-L1 for Cancer Therapy", 26th November 2024 (Best Poster/Pitch Prize)

2nd School of Chemoinformatics in Latin America: "A ligand-based drug design approach for the identification of novel TIGIT inhibitors in cancer therapy", 4th-6th December 2024 (2nd Best Flash)

Diogo Fernandes

Best presentation in a moderated poster session. Title: miR-21 ablation rescues skeletal muscle function in a mouse model of metabolic dysfunction-associated steatotic liver disease. United European Gastroenterology Week 2024, Vienna, Austria

Bruna Pires

How does a high-fat diet disturb neurons? clues of miR-21 mechanism in the obese brain

Work selected among the top 3 in basic science at imed Summit 2024

Fundação AstraZeneca Innovate Competition. Universidade NOVA de Lisboa, Portugal

ANNUAL REPORT 2024

7. Communication, Dissemination & Outreach

Communication & dissemination of results

Outreach activities

Other selected activities

imed on the news

The European Charter for Researchers emphasizes the importance of researchers actively engaging in the communication of science to society. In 2024, iMed.ULisboa continued to strengthen this commitment through a wide range of initiatives focused on communication, dissemination, and public outreach.

Communication & dissemination of results

Website and social media

The imed.ULisboa website remained the central platform for sharing information with the public. It was regularly updated with content covering the institute's research areas, publications, research groups, facilities, job opportunities, training programs, and other activities that highlight imed.ULisboa's achievements.

These efforts were reinforced by an active presence on social media - including Facebook, LinkedIn, and X (formerly Twitter) - ensuring broad and timely dissemination of news and updates to both the scientific community and the general public.

Conferences

In addition to publishing in peer-reviewed journals, imed.ULisboa researchers actively presented their findings at international conferences and local scientific meetings, fostering dialogue, collaboration, and the exchange of knowledge within the broader research community.

Imed post-graduate students (ipSC)

The institute's postgraduate students played a key role in communication and dissemination activities by organizing the 15th imed.ULisboa Meeting, held on 11–12 July 2024.

This event brought together over 100 postgraduate students, featuring oral and poster presentations, as well as plenary lectures, and served as a valuable platform to promote scientific exchange and collaboration within the institute.

Outreach activities

imed.ULisboa remains dedicated to engaging with society by promoting scientific literacy and inspiring curiosity about research. Through various outreach initiatives, the institute continues to welcome students and the general public into its laboratories, offering them hands-on experiences and opportunities to learn about cutting-edge scientific discoveries.

As part of the International Brain Awareness Week, several activities were organized to promote neuroscience education and raise public awareness about brain research. These included interactive sessions such as “Pequenos Neurocientistas” and “Disfrutar das Neurociências na Escola”, as well as talks on brain health and neurological diseases in multiple schools across Lisbon, Setúbal, Amadora, and Silves. The initiative “Os Neurocientistas vão às Escolas” also brought researchers into classrooms, fostering direct In collaboration with Ciência Viva, imed.ULisboa once again participated in the program “Ciência Viva no Laboratório – Ocupação Científica de Jovens nas Férias”, hosting high school students for hands-on experimental activities. Throughout a full week, students explored areas such as neuroscience and antibiotic resistance, gaining valuable experience in laboratory techniques and scientific thinking.

The institute was also actively involved in the European Researchers’ Night, held on September 27, 2024, at the Museum of Natural History and Science. This year’s contribution included interactive exhibits on antimicrobial drug resistance and sustainable neuroscience, offering the public a closer look at cutting-edge research and real-world challenges.

Additional outreach events included participation in Dia Aberto da FFULisboa and Verão na ULisboa, where imed.ULisboa researchers and students presented activities related to pharmaceutical sciences, encouraging young people to explore careers in research. Members of the PharmaBB group were also present at major public engagement events such as Unlimited Future 2024, Futurália, and the FFULisboa Master’s Open Day, showcasing the diverse opportunities within the field of pharmaceutical sciences.

Finally, imed.ULisboa researchers contributed to science dissemination through public lectures, seminars, and media interviews, such as a TV feature on neurodegenerative diseases and regenerative medicine, further strengthening the institute’s mission to connect science with society.

imed on the news

In 2024, imed.ULisboa and its researchers were featured in various media outlets and public events, helping to raise awareness of important scientific topics and bringing research closer to the general public.

Newspaper coverage:

Jornal Público published an article discussing a possible link between mycotoxins and a foodborne outbreak associated with cornbread.

Read the article

Science communication event:

Participation in Tertúlia Sérgio Ribeiro, organized by Academia Asas and the Municipality of Ourém, aimed at promoting science communication and public engagement.

More information

Television interview:

Interview on CNN Portugal on World AIDS Day (December 1, 2024), highlighting Portugal's achievements in meeting global HIV control targets.

Watch the interview

imed

Research Institute for Medicines

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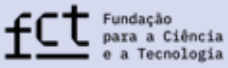

imed is a FCT funded research centre UIDB/04138/2020; UIDP/04138/2020 but we don’t act alone. Every in-house member at imed advances our purpose but we also collaborate with some distinguished external partners.


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