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Experience

2022 Post-Graduate Course in Higher Education Pedagogy

2021

Instituto de Educação (IE), Universidade de Lisboa (ULisboa), Lisbon, Portugal

- The graduate program in Higher Education Pedagogy aims to train a competent higher education teacher, capable of developing and evaluating their own practices and create favorable conditions for improving the quality of learning of its students.
- To this end, the course is organized around two major interconnected fields of training which are: teaching and learning in higher education, centered on the teacher's role as a support for student learning; and development of professional practice, centered on the teacher's role as a subject capable of developing self- and hetero-observational practices, thus improving their own teaching and assessment methods.

Present Postdoctoral Research Grant (BIPD)

2021

NOVA Lisbon University, *Instituto de Higiene e Medicina Tropical (IHMT-NOVA)*, Lisbon, Portugal

Project: PTDC/CVT-CVT/0228/2020 "DogIPM - Immune precision medicine as a new opportunity to control canine trypanosomatid diseases" financed by the *Fundação para a Ciência e Tecnologia I.P. (FCT)*

- Differentiate dendritic cells (DCs) from non-infected mouse bone marrow precursors and from peripheral blood mononuclear cells (PBMC) of clinically healthy dogs.
- Stimulate DCs with antigens from *T. cruzi* and *L. infantum* and identify molecular and functional changes through a genomic approach and multiparametric flow cytometry. Produce and characterize parasitic antigens from axenic parasite culture.
- Analyze the immune and cytotoxic activity of T cells from healthy and infected animals after exposure to DCs previously stimulated with parasitic antigens through multiparametric flow cytometry, qPCR and colorimetric assays.
- Investigate the effectiveness of previously stimulated DCs in targeting and reprogramming T cell activity through preclinical prophylactic and therapeutic studies in a rodent model. These studies involve ELISA, qPCR, immunophenotyping of T cells, by multiparametric flow cytometry.
- Additionally, participate in the production of manuscripts for publication, participate in scientific meetings, participate in the organization of workshops and seminar, participate in scientific dissemination events, and technically and scientifically support students and other researchers.

Present Researcher

2011

Research Institute for Medicines and Pharmaceutical Sciences, Faculty of Pharmacy, University of Lisbon (Laboratory of Systems Integration Pharmacology, Clinical & Regulatory Science), Lisbon (Portugal)

- Elaboration and publication of scientific articles in high-impact peer reviewed journals.
- Conceptualize scientific projects for national and international grant application.
- Laboratory oversight of students working towards Master and PhD thesis.
- Bi-weekly participation in a Seminar for 2nd cycle students.
- Collaborated with the Department of Sciences and Technology of Biomass, Mechanical Engineering and Resource Sustainability Centre at the Faculty of Sciences and Technology at the *Universidade NOVA de Lisboa*, performing vegetable extract compound identification through HPLC, LCMS-MS, spectrophotometric assay techniques, and antioxidant activity through DPPH.
- Collaborated with Higher Institute of Agronomy, University of Lisbon to test plant and fruit extracts on human *in vitro* colorectal cell lines (HT-29) and determining minimum inhibitory concentrations, wound assays, quantification of the gelatinolytic activity of MMP-9 and MMP-2 enzymes via EnzChek Kit, and substrate zymography.
- Performed *in vivo* models of TNBS-induced colitis in mice, type II collagen-induced rheumatoid arthritis, and tested the impact of plant and fruit extracts, and evaluated their anti-inflammatory activity on a model of

acute inflammation – specifically rat paw oedema – at the University's Laboratory of Pharmacology and Bromatology.

- Awarded funding to design and create an information system for medical devices developed between the University of Lisbon's Faculty of Pharmacy (iMed.UL) and Infarmed (National Authority of Medicines and Health Products).
- Developed and implemented experimental protocols alongside the Research Institute for Medicines and Pharmacological Sciences for the pharmaceutical industry by regularly performing tests on pharmaceutical products, evaluated abnormal toxicity of drugs on infant and adult rats, and collaborated with the WHO in the execution of a study on the abnormal toxicity of various batches of anti-malarial drugs on rats.

Present 2020 Scientific Director (Senior Partner)

Prime Matter Consulting Lda., Lisbon, Portugal

International multidisciplinary consulting firm dedicated to management, political, and scientific consulting, operating in businesses, investment firms, hedge funds, family offices, academic institutions, national research bodies, and non-governmental organizations.

- Responsible for all scientific projects, ensuring management as well development of strategies for scientists to transition from laboratories to the business world, as well as improve upon established experimental protocols and logistical processes.
- Assess grant applications, evaluate international projects, classify PhD fellowship candidates, review scientific journal submissions, consult on best practices as well as ways to improve publication acceptance rates and citeability.

2020 Postdoctoral Researcher (Project Management)

Instituto Gulbenkian Ciência (IGC); Oeiras, Portugal

Project: LISBOA-01-0145-FEDER-030892 "Macrophages and sympathetic neurons in obesity" co-financed by Lisboa 2020, Portugal 2020, FEDER and FCT/MCTES

Principal Investigator: Prof. Dr. Ana Domingos, Associate Professor of Neuroscience at the University of Oxford's Department of Physiology, Anatomy & Genetics

- Managed research, design and oversight of small-scale projects, including grant/prize applications.
- Adapted existing and developed novel scientific techniques and experimental protocols.

2019 2015 PhD in Pharmacy (Food Science)

Programme in Medicines and Pharmaceutical Innovation (i3DU); Faculty of Pharmacy, *Universidade de Lisboa*, Portugal

Thesis (translated title): "Evaluation of the role of *Diospyros kaki* L. (Persimmon) extract in the prevention of inflammation and cancer."

- Doctorate awarded with honors and distinction, coordinated by Professor Dr. Maria Eduardo Figueira and Professor Dr. Maria do Rosário Bronze.
- **Awarded 2015 PhD fellowship by the Dean of *Universidade de Lisboa*, Prof. Dr. António Cruz Serra.**
- Advanced Training Proofs Public Presentation for the PhD in Pharmacy (specialty in Bromatological Sciences) Jury Evaluation: **Excellent, 95% (19/20 point scale)**, May 2016.
- FCT PhD Programme i3DU Advanced Courses: International Intensive Course on Cancer Biology: Advances in Epidemiology, Etiology & Therapy, January 2018 | Advanced Drug Delivery, March 2016 | Medicinal Chemistry, February 2016 | Biopharmaceuticals and Advanced Therapies, September-October 2015 | Biomarkers and Assay Development, September 2015.

2009 2007 MSc Biochemistry

Institute of Experimental Pathology, Faculty of Medicine, University of Coimbra, Portugal

Final average of 80% (16/20 point scale)

Coursework: Metals in Medicine and the Environment, Infection and Immunity, Biology of Drug Abuse, Bioelectrochemistry, Metabolism, Bioentrepreneurship and Business Creation, among others. Please consult the link for complete coursework.

Thesis: "Morphological Evaluation of the Liver in the Experimental Administration of Dimethylhydrazine"

- Rat and mice necropsy: collection and recording of necropsy data; digital photography during necropsy in experimental pathology; macroscopic and microscopic evaluation of rat livers; internal and external habits of laboratory animals.
- Rat and mice handling: oral/intraperitoneal administration; subcutaneous introduction of biomaterials.
- Preparation of tissues for light microscopy observation: collection, fixation, dehydration, diaphanization, inclusion, microtomy, classic and special staining techniques in histology, including immunohistochemistry.
- Laboratory leadership: Master's degree with strong theoretical & practical components, as well as the monitoring of students within laboratory practices.

2005
2000

BSc Biochemistry

Faculty of Sciences and Technology, University of Coimbra, Portugal

Coursework: General Chemistry, Organic Chemistry, Biochemical Technology, Molecular Biology, Analytical Biochemistry, Physical Biochemistry, Inorganic Biochemistry, General Microbiology, Bioelectrochemistry, Vegetal Biotechnology, Instrumental Methods of Analysis, Industrial Microbiology, among others. Please see link for complete coursework.

Skills

Languages Portuguese (Mother Tongue); English (Proficient User); Spanish (Independent User)

Expert Evaluator

Contracted Expert: Project Peer Reviewer and Lead Evaluator of the **Science Fund of the Republic of Serbia** (14 Projects); **Malta Council for Science and Technology** 2021-2025 Member of Proposals Evaluation Board (6 Projects); Martí-Franquès COFUND Fellowship 2020-2022 Expert Evaluator – **Universitat Rovira i Virgili** (24 Candidates) and Interview External Evaluator (15 candidates).

Registered Expert: European Food Safety Authority (EFSA) Expert for Scientific and Technical Support - Novel Foods & Nutrient Sources, and Various Scientific Profiles; European Commission Expert; Portuguese National Innovation Agency (ANI) Expert; Expert for the Research Council of Lithuania; European Joint Programme for Rare Diseases Expert; Cyprus Research and Innovation Foundation Evaluator; Technology Agency of the Czech Republic Expert Evaluator; European Cooperation in Science & Technology (COST) Scientific Expert; National Research Foundation of Ukraine (NRFU) Expert; Poland National Agency for Academic Exchange Expert.

Publications

1. Zorita D, Ayvaz H, Cabaroglu T, Akyildiz A, Pala CU; Temizkan R, Agcam E, Durazzo A, Lucarini M, Ayvaz Z, **Direito R** (2022) "Anthocyanins: their metabolic digestion, bioavailability, therapeutic effects, current pharmaceutical/industrial use, and innovation potential." *Food Chemistry: X (Q1: Analytical Chemistry | Food Science)*, pending review
2. Barbalho S, **Direito R**, et al. (2022) "Ginkgo Biloba in the aging process: a narrative review." *Antioxidants (Q1: Biochemistry | Molecular Biology)*, 11(3), 525, DOI: [10.3390/antiox11030525](https://doi.org/10.3390/antiox11030525)
3. Mota J, **Direito R**, Rocha J, Fernandes J, Sepodes B, Figueira ME, Raymundo A, Lima A, Ferreira RB (2021) "Lupinus albus protein components inhibit MMP-2 and MMP-9 gelatinolytic activity *in vitro* and *in vivo*." *International Journal of Molecular Sciences (Q1: Inorganic Chemistry)*, 22 (24), 13286, DOI: [10.3390/ijms222413286](https://doi.org/10.3390/ijms222413286)
4. **Direito R**, Rocha J, Sepodes B, Figueira ME (2021) "From Diospyros kaki L. (persimmon) phytochemical profile and health impact to new product perspectives and waste valorization." *Nutrients (Q1: Food Science | Nutrition and Dietetics)*, 13 (9), DOI: [10.3390/nu13093283](https://doi.org/10.3390/nu13093283)
5. **Direito R**, Rocha J, Sepodes B, Figueira ME (2021) "Phenolic Compounds Impact on Rheumatoid Arthritis, Inflammatory Bowel Disease and Microbiota Modulation." *Pharmaceutics (Q1: Pharmaceutical Science)*, 13 (145), DOI: [10.3390/pharmaceutics13020145](https://doi.org/10.3390/pharmaceutics13020145)
6. Rocha J, Leandro R, **Direito R**, Gonçalves M, Duarte MP, Fernandes A, Sepodes B, Figueira ME (2020) "Attenuation of Colonic Injury and Inflammation by Administration of a Phenolic Extract of Summer Savory

- (*Satureja Hortensis* L.) in Experimental Inflammatory Bowel Disease in Mice.” *Applied Sciences* (Q2: Process Chemistry and Technology), 10 (23), 8465. DOI: [10.3390/app10238465](https://doi.org/10.3390/app10238465)
7. Mendes C, Rocha J, **Direito R**, Fernandes A, Sepodes B, Figueira ME, Ribeiro M (2019) “Anti-inflammatory activity of grapefruit juice in an *in vivo* model of ulcerative colitis: Comparability studies of unprocessed and bioprocessed juices.” *Journal of Functional Foods* (Q1: Food Science | Medicine - Miscellaneous), 63. DOI: [10.1016/j.jff.2019.103564](https://doi.org/10.1016/j.jff.2019.103564)
 8. Rocha J, **Direito R**, Lima A, Mota J, Gonçalves M, Duarte M, Solas J, Peniche BF, Fernandes A, Pinto R, Ferreira RB, Sepodes B, Figueira ME (2019) “Reduction of inflammation and colon injury by a Pennyroyal phenolic extract in experimental inflammatory bowel disease in mice.” *Biomedicine & Pharmacotherapy* (Q1: Pharmacology | Medicine - Miscellaneous), 118 (10). DOI: [10.1016/j.biopha.2019.109351](https://doi.org/10.1016/j.biopha.2019.109351)
 9. **Direito R**, Rocha J, Lima A, Gonçalves MM, Duarte MP, Mateus V, Sousa C, Fernandes A, Pinto R, Boavida Ferreira R, Sepodes B, Figueira ME (2019). “Reduction of Inflammation and Colon Injury by a Spearmint Phenolic Extract in Experimental Bowel Disease in Mice”. On the cover of Special issue “Biological Efficacy of Natural Products against Noncommunicable Diseases”, *Medicines*, 6 (2), 65. DOI: [10.3390/medicines6020065](https://doi.org/10.3390/medicines6020065)
 10. **Direito R**, Reis C, Roque L, Gonçalves M, Sanches-Silva A, Gaspar M, Pinto R, Rocha J, Sepodes B, Bronze MR, Figueira ME (2019). “Phytosomes with Persimmon (*Diospyros kaki* L.) Extract: Preparation and Preliminary Demonstration of *in vivo* Tolerability”. Special issue “Bioinspired Design in Drug Delivery”, *Pharmaceutics* (Q1: Pharmaceutical Science), 11 (6), 296. DOI: [10.3390/pharmaceutics11060296](https://doi.org/10.3390/pharmaceutics11060296)
 11. **Direito R**, Rocha J, Serra AT, Fernandes A, Freitas M, Fernandes E, Pinto R, Bronze R, Sepodes B, Figueira ME (2020) “Anti-inflammatory effects of persimmon (*Diospyros kaki* L.) in experimental rodent rheumatoid arthritis”. *Journal of Dietary Supplements* (Q2: Food Science). 17 (6), 663-683, DOI: [10.1080/19390211.2019.1645256](https://doi.org/10.1080/19390211.2019.1645256)
 12. Câmara MB, Ferreira J, Coelho A, Feliciano R, Silva A, Mecha E, Bronze MR, **Direito R**, Sepodes B, Figueira ME. (2019): 2. Chemical Characterization and Evaluation of the Biological Activity of Raspberry (*Rubus Idaeus* L.). Contribution to the Development of a Health Claim (title translated): The Production of Knowledge in Agrarian and Environmental Sciences 2 (translated *A produção do Conhecimento nas Ciências Agrárias e Ambientais* 2), Atena Editora, pp. 9-21, DOI: [10.22533/at.ed.8521926042](https://doi.org/10.22533/at.ed.8521926042)
 13. Mota AH, **Direito R**, Carrasco MP, Rijo P, Ascensão L, Viana AS, Rocha J, Figueira ME, Rodrigues MJ, Custódio L, Kuplennik N, Sosnik A, Almeida AJ, Gaspar MM, Reis CP (2019) “Combination of hyaluronic acid and PLGA particles as hybrid systems for viscosupplementation in osteoarthritis.” *International Journal of Pharmaceutics* (Q1: Pharmaceutical Science), 559: 13-22. DOI: [10.1016/j.ijpharm.2019.01.017](https://doi.org/10.1016/j.ijpharm.2019.01.017)
 14. Vieira da Silva SA, Clemente A, Rocha J, **Direito R**, Marques HC, Sepodes B, Figueira ME, Ribeiro MH (2018) “Anti-inflammatory effect of limonin from cyclodextrin (un)processed orange juices in *in vivo* acute inflammation and chronic rheumatoid arthritis models.” *Journal of Functional Foods* (Q1: Food Science | Medicine - Miscellaneous), 49: 146-153. DOI: [10.1016/j.jff.2018.08.024](https://doi.org/10.1016/j.jff.2018.08.024)
 15. **Direito R**, Lima A, Rocha J, Ferreira RB, Mota J, Rebelo P, Fernandes A, Pinto R, Alves P, Bronze R, Sepodes B, Figueira ME (2017) “Dyospiros kaki phenolics inhibit colitis and colon cancer cell proliferation, but not gelatinase activities.” *Journal of Nutritional Biochemistry* (Q1: Nutrition and Dietetics | Biochemistry | Clinical Biochemistry | Endocrinology, Diabetes and Metabolism), 46: 100-108. DOI: [10.1016/j.jnutbio.2017.03.002](https://doi.org/10.1016/j.jnutbio.2017.03.002)
 16. Figueira ME, Oliveira M, **Direito R**, Rocha J, Alves P, Serra AT, Duarte C, Bronze MR, Fernandes A, Brites D, Freitas M, Fernandes E, Sepodes B (2016) “Protective effects of a blueberry extract in acute inflammation and collagen-induced arthritis in the rat.” *Biomedicine & Pharmacotherapy* (Q1: Pharmacology | Medicine - Miscellaneous), 83: 1191-1202. DOI: [10.1016/j.biopha.2016.08.040](https://doi.org/10.1016/j.biopha.2016.08.040)
 17. Silva S, Sepodes B, Rocha J, **Direito R**, Fernandes A, Brites D, Freitas M, Fernandes E, Bronze MR, Figueira ME (2015) “Protective effects of hydroxytyrosol-supplemented refined olive oil in animal models of acute inflammation and rheumatoid arthritis.” *Journal of Nutritional Biochemistry* (Q1: Nutrition and Dietetics | Biochemistry | Clinical Biochemistry | Endocrinology, Diabetes and Metabolism), 26 (4): 360-368. DOI: [10.1016/j.jnutbio.2014.11.011](https://doi.org/10.1016/j.jnutbio.2014.11.011). PMID: 25620693
 18. Figueira ME, Câmara MB, **Direito R**, Rocha J, Serra AT, Duarte C, Freitas M, Fernandes E, Marques MC, Bronze MR, Sepodes B (2014) “Chemical characterization of a red raspberry fruit extract and evaluation of its pharmacological effects in experimental models of acute inflammation and collagen-induced arthritis.” *Food & Function* (Q1: Food Science | Medicine - Miscellaneous), 5 (12): 3241-3251. DOI: [10.1039/C4FO00376D](https://doi.org/10.1039/C4FO00376D). PMID: 25322288

19. Alves G, Fortunato A, Sousa J, **Direito R**, Almeida A, Rocha M, Falcão A, Soares-da-Silva P (2010) "Enantioselective assay for therapeutic drug monitoring of eslicarbazepine acetate: No interference with carbamazepine and its metabolites". *Therapeutic Drug Monitoring (Q2: Pharmacology)*, 32(4):512-516. DOI: [10.1097/FTD.0b013e3181e5c855](https://doi.org/10.1097/FTD.0b013e3181e5c855). PMID: 20592643.

Job-related skills

- Online Course on Stem Cell Technologies 2021, Faculty of Pharmacy, Universidade de Lisboa, November 8-12, 2021.
- Course in Experimental Design and Analysis of Data for Research with Animals, 20-22 January 2021, 20 hours, administered by the Institute for Health Research and Innovation (i3S), Universidade do Porto, Portugal
- SPCAL (Portuguese Society of Animal Laboratory Sciences) Category B (FELASA) Course in Laboratory Animal Science, July-September 2019, and accredited as an "Investigator" by Portugal's Food and Veterinary Directorate General
- Board of Reviewers: Pharmaceuticals, Pharmaceutics; Editorial Board: Pharmaceutics
- Editor of Special Issue "Nanotechnology and Natural Products: Plant Bioactive Compounds for Drug Delivery", Pharmaceutics, MDPI, September 2021
- Publons (Web of Science) Certified Reviewer with 50+ Verified Reviews performed since 2020: Antioxidants, Applied Sciences, Biology, Biomolecules, Brain Sciences, Food & Function, Food Research International, Foods, Heliyon, International Journal of Dermatology, International Journal of Molecular Sciences, Israel Journal of Plant Sciences, Life, Materials, Molecules, Nutrients, Pharmaceuticals, Pharmaceutics, and Plants.
- Software: InVivoStat, GraphPrism, EndNote, and Microsoft Office (Word, Excel, and PowerPoint)
- Experience with the following devices: Hitachi 917[®], Roche[™]; Reflotron[®], Mannheim Boehringer[™] (Dry Chemistry); Ciba Corning 855[®] & Ciba Corning 614 Nalk[®], Bayer[™]; ABL 555[®], Radiometer Copenhagen[™]; Combur10Test M[®] by Roche[™] (Urinalysis) and Miditron[®] readings; Hemogram testing with Cell-Dyn 3700[®] & Cell-Dyn 3500[®], Abbott[™] Diagnostics; Coagulation testing with ACL 7000[®] & ACL advance, Beckman Coulter[™], as well as OPTION4[®] from bioMérieux[™]: Prothrombin Time, Partial Thromboplastin Time & Thrombin Time; Immulite 2000[®] & Immulite 1000[®] from DPCTM, Elecsys 2010[®] from Roche[™], Kryptor[®] from Farma APSTM & Behring Nephelometer 100[®]; EXPO 32 ADC software; Cytometer: Coulter EPICS[®] XL - MCL; Fixer: Coulter[®] Multi-Q-PREP
- Equipment training for Cobas C111 from specialist Cristina Baia, Roche Diagnostic Systems Ltd. 05-2013
- Smear Techniques; Manual cell & platelets count in a Neubauer Chamber; Leukocyte formula with distinction of young shapes; Differential cytological stains: Wright, Myeloperoxidase, Sudan Black, Periodic Acid & Schiff's reagent, Acid Phosphatase, Leukocyte Alkaline Phosphatase, & Perl's staining; Immunological determination of fibrin degradation products.
- Microbiological analysis: urine, purulent, vaginal, pharyngeal, ear & nasal exudates, expectoration, blood, faeces, bronchial aspirates & washings, cerebrospinal fluid; direct examinations, stains, culture mediums, isolation & identification of microorganisms, including in galleries by biochemical methods, application of serologic methods, antibiotic sensitivity tests.
- Manual measurements through RIA, IRMA, ELISA techniques; Determinations by ion exchange chromatography; Electrophoresis on agarose gel and immunofixation of serum proteins; Blood typing via ABO and Rh; Search for autoantibodies and alloantibodies with subsequent identification; Compatibility tests; Human antiglobulin techniques, application of enzymes and selectively reactive mediums; Direct antiglobulin test and indirect antiglobulin test; Irradiation of blood components.

Teaching Experience

- 2022: Master's in Food Quality, Seminar, Faculty of Pharmacy, University of Lisbon (3 hours)
- 2021: Master's in Biomedical Sciences, Immunology Unit, Institute of Hygiene and Tropical Medicine, *Universidade NOVA de Lisboa* (4 hours)
- 2020-2021 Postgraduate Course on Laboratory Animal Sciences – Category B, Faculty of Pharmacy, University of Lisbon, and SPCAL (Portuguese Society of Laboratory Animal Sciences) (22 hours)
- 2020 January: MSc Clinical Nutrition, Faculty of Medicine, University of Lisbon Course: Quality Control and Food Toxicology (15 hours)

Supervisory Experience

4th year project students at University of Lisbon:

- Bruno Peniche (2017/18) "Effect of spearmint extract administration on a murine model of ulcerative colitis and evaluation of its antiproliferative effect in colon cancer cells". Faculty of Pharmacy (Coord.: Prof. Dr. João Rocha)
- Catarina Sousa (2017/18) "Chemical characterization of a spearmint extract and evaluation of its antioxidant and local anti-inflammatory activities". Faculty of Pharmacy (Coord.: Prof. Dr. Maria Eduardo Figueira)
- João Raposo (2012) "Evaluation of anti-inflammatory activity of persimmon extract (*Diospyros kaki*, L.) in a model of rheumatoid arthritis" Faculty of Pharmacy (Coord.: Prof. Dr. Bruno Sepodes)
- Pedro Borga (2012) "Evaluation of anti-inflammatory activity of oil supplemented with hydroxytyrosol on an animal model of rheumatoid arthritis" Faculty of Pharmacy (Coord.: Prof. Dr. Maria do Rosário Bronze)
- César Cunha Ferreira (2012) "Evaluation of anti-inflammatory activity of oil refined with A016/12QR on an animal model of rheumatoid arthritis" Faculty of Pharmacy (Coord.: Prof. Dr. Maria Eduardo Figueira)

Erasmus students at University of Lisbon:

- Cristina Casado Arellano, Erasmus Spain (2014) Conducted at Faculty of Pharmacy, Food Science Laboratory (Coord.: Prof. Dr. Maria Eduardo Figueira)
- Tammye Grassi Morais, Erasmus Brazil (2013/14) Graduate Food Sciences student from University of São Paulo (Piracicaba campus), Department of Agribusiness, Food, and Nutrition. "Evaluation of anti-inflammatory activity of blueberry extract in rheumatoid arthritis" (Coord.: Prof. Dr. Maria Eduardo Figueira)
- Suzan Blima, Erasmus Brazil (2013) "Evaluation of anti-inflammatory effect of raspberry extract in a model of chronic inflammation of Rheumatoid Arthritis." Developed an experiential internship report for the University of São Paulo Food Sciences course, Department of Agribusiness, Food, and Nutrition. Carried out at Faculty of Pharmacy, University of Lisbon (Coord.: Prof. Dr. Maria Eduardo Figueira)

Master's thesis experimental work:

- Rita Poeira (2020) in Pharmacy, Faculty of Pharmacy, University of Coimbra (Advisor: Prof. Dr. Fernando Ramos, University of Coimbra; Co-Advisor: Prof. Dr. Maria Eduardo Figueira, University of Lisbon)
- Cátia Sofia Feitor Da Costa (2020) in Pharmacy, Faculty of Pharmacy, University of Lisbon (Advisor: Prof. Dr. Maria Eduardo Figueira; Co-Advisor: Prof. Dr. Cecília Rodrigues)
- Joana Mota in Biotechnology (2016) "Deflamin Bioactivity - A new MMP-9 inhibitory protein extracted from *Lupinus albus* L." NOVA University of Lisbon and Higher Institute of Agronomy, University of Lisbon (Advisor: Prof. Dr. António Sebastião Rodrigues, NOVA Medical School, NOVA University of Lisbon)
- Raquel Leandro in Technology and Food Safety (2015): "Evaluation of the anti-inflammatory, antioxidant and antimicrobial potential of savoury, coriander and parsley." FFUL, University of Lisbon (Advisor: Prof. Dr. Maria Paula Duarte, Faculty of Sciences and Technology, NOVA University of Lisbon)
- Mónica Oliveira in Quality Control and Food Toxicology (2013): "Evaluation of the anti-inflammatory effect of phenolic compounds present in the blueberry on a rheumatoid arthritis animal model" FFUL, University of Lisbon (Advisor: Prof. Dr. Maria Eduardo Figueira)
- Ana Clemente in Quality Control and Food Toxicology (2013): "Bioconversion and Bioactivity of Limonoids in Citruses" FFUL, University of Lisbon (Advisor: Prof. Dr. Maria Henriques Ribeiro)
- António Varela Cabral in Experimental Pathology (2009): "Puncture evaluation in experimental hyperthyroidism." FMUC, University of Coimbra (Advisor: Prof. Dr. António Cabrita)

Research Collaborations

Doctoral thesis experimental work:

- Ana Henriques Mota in Pharmaceutical Technology (currently undergoing) at the Faculty of Pharmacy at the University of Lisbon (Advisor: Prof. Dr. Ana Catarina Pinto Reis)
- Liliana Serrano in Biochemistry (currently undergoing) at the Department of Sciences and Technology of Biomass, Mechanical Engineering and Resource Sustainability Centre at the Faculty of Sciences and

Technology at Universidade NOVA de Lisboa (Advisor: Prof. Dr. Margarida Gonçalves, FNL, Lisbon)

- Vanessa Faisca in Pharmacology (2018): “Pharmacological modulation of inflammation associated with inflammatory bowel disease - study in an animal model” FFUL, University of Lisbon (Advisor: Prof. Dr. Bruno Sepodes; Co-advisor: Prof. Dr. Rui Pinto)
- João Rocha in Pharmacology (2013): “Inflammation and cytoprotective mechanisms in lung injury models” Faculty of Pharmacy, University of Lisbon (Advisor: Prof. Dr. Bruno Sepodes; Co-advisor: Prof. Dr. Helder Mota-Filipe)
- José Batista e Carmo in Biomedical Science from FMUC (2008/09): “Drinks and colorectal neoplasia - experimental study” Faculty of Medicine, University of Coimbra (Advisor: Prof. Dr. António Cabrita)

Abstracts

- Poster: Valério-Bolas A, Meunier M, **Direito R**, Palma-Marques J, Lobo L, Rodrigues A, Ferreira R, Cardoso I, Alexandre-Pires G, Pereira da Fonseca I, Santos-Gomes G (2021) “Leishmania infantum e L. amazonensis induzem a maturação de células dendríticas e o recrutamento de Linfócitos T ativadas.” XII Jornadas Científicas IHMT. 10 December 2021. IHMT, Rua da Junqueira, Lisbon, Portugal
- Communication: **Direito R**, Rocha J, Gonçalves M, Duarte MP, Mateus V, Sousa C, Fernandes A, Pinto R, Sepodes B, Figueira ME (2021) “Reduction of inflammation and colon injury by a Spearmint phenolic extract in experimental bowel disease in mice” at 51.^a Reunião da Sociedade Portuguesa de Farmacologia, 39.^a Reunião de Farmacologia Clínica e 20.^a Reunião de Toxicologia at Faculty of Pharmacy - Universidade de Lisboa, 17-19 February, Lisbon, Portugal
- Communication: **Direito R**, Rocha J, Leandro R, Duarte MP, Fernandes A, Sepodes B, Figueira ME (2020) “Reduction of inflammation and colon injury by a *Satureja hortensis* L. (Savory) phenolic extract in experimental inflammatory bowel disease in mice” at the Iberphenol International Conference, 5-6 November, Coimbra, Portugal
- Communication: Mota AH, **Direito R**, Gaspar MM, Simões S, Pereira C, Fattal E, Almeida A, Reis CP (2020) “Nanocarriers with *Sambucus nigra* L. extract for anti-inflammatory activity” at 12th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, 23-26 March, Vienna, Austria
- Communication: Mota AH, Andrade J, **Direito R**, Rodrigues MJ, Silva AB, Kuplennikf N, Bronze MR, Duarte N, Custodio L, Sosnik A, Rocha J, Figueira ME, Gaspar MM, Simões S, Carvalheiro M, Ascensão L, Viana AS, Fattal E, Almeida A, Reis CP (2020) “Skin Delivery of *Sambucus nigra* L. extracts through nanocarriers” at 5th World Congress & Expo on Pharmaceutics & Drug Delivery Systems, 10-11 February, Lisbon, Portugal
- Communication: **Direito R**, Reis C, Gaspar M, Gonçalves M, Pinto R, Rocha J, Sepodes B, Bronze MR, Figueira ME (2019) “Phytosomes with Persimmon (*Diospyros kaki*, L.) Extract: Preparation and Preliminary Demonstration of *in vivo* Tolerability” at 13th World Congress on Polyphenols Applications, 30 September-1 October, Valletta, Malta
- Communication: Ferreira JB, Mota J, Lima A, **Direito R**, Rocha J, Figueira ME, Raymundo A, Ferreira RB, Guimarães A, Moreira A (2019) “Deflamin, a Non-Toxic Oglimer from Lupinus Albus Seeds, Resists Digestion and Inhibits Colitis by Targeting MMP-9 Activity *in vitro* and *in vivo*” at World Congress of Gastroenterology, 21-24 September, Istanbul, Turkey
- Poster: Mota AH, **Direito R**, Duarte N, Bronze MR; Silva AB, Figueira ME, Fattal E, Almeida A, Reis C (2019) “Nanocarriers with *Sambucus nigra* L. Extracts for Skin Applications” at 26th International Conference on Bioencapsulation, 27-29 August, Strasbourg, France
- Communication: **Direito R**, Rocha J, Fernandes A, Sepodes B, Bronze MR, Figueira ME (2019) “Evaluation of the Anti-Inflammatory Activity of a Persimmon (*Diospyros kaki*, L.) Extract in Colitis and Rheumatoid Arthritis Rodent Models” at Natural Products in Drug Discovery and Human Health conference organized by Portuguese Chemistry Society at FFUL 28-31 July, Lisbon, Portugal
- Communication: **Direito R**, Reis C, Roque L, Gaspar M, Rocha J, Sepodes B, Bronze MR, Figueira ME (2019) “Phytosomes with Persimmon (*Diospyros kaki* L.) Extract: Preparation, Characterization and *In Vivo* Preliminary Tolerability” at 3rd Edition of the Master activity of the Lusophone Academy of Pharmaceutical Sciences, hosted by the Portuguese Foundation for Communications, 17-21 June, Lisbon, Portugal
- Communication: **Direito R**, Reis C, Roque L, Gonçalves M, Rocha J, Sepodes B, Lima B, Bronze MR, Figueira ME (2018) “Phytosomes with *Diospyros kaki* Phenolic Extract: Preparation and Characterization” at the 10th iMed.ULisboa and 3rd i3du Postgraduate Students Meeting 24-25 July, Lisbon, Portugal
- Communication: **Direito R**, Lima A, Rocha J, Ferreira RB, Mota J, Rebelo P, Fernandes A, Pinto R, Alves

P, Bronze R, Sepodes B, Figueira ME (2017) "Dyospiros kaki phenolics inhibit colitis and colon cancer cell proliferation, but not gelatinase activities." at Annual Reunion of the Portuguese Pharmacology Society, 2-4 February, Coimbra, Portugal

- Poster: Mendes C, **Direito R**, Rocha J, Sepodes B, Figueira ME, Ribeiro M (2016) "Intestinal Anti-inflammatory Activity of Grapefruit Juice in a Model of Rat Colitis." Best Analytical Poster award in "Bioactives Conference: Food Bioactives and Health" at John Innes Conference Centre in Norwich Research Park, September, organized by the Nutrition Society, Edinburgh, Scotland
- Poster: Cardoso FL, Rocha J, Pereira P, Fernandes A, Vaz AR, **Direito R**, Palmela I, Sepodes B, Brites D (2014) "Inflammation associated events and neurovascular disruption in neonatal sepsis." Barriers of the CNS Gordon Research Conference Expanding the Understanding of CNS Barriers in Health and Disease, 15-20 June, Colby-Sawyer College New London
- Communication: Cardoso FL, Herz J, Rocha J, Pereira P, Fernandes A, Vaz AR, **Direito R**, Sepodes B, McGavern DB, Brito MA, Brites D (2014) "Transient and Lasting Neurodegenerative Effects of Chronic Systemic Inflammation in Early Neonatal Mice." 6th iMed.UL Postgraduate Students Meeting 2 July, Lisbon, Portugal
- Communication: Maria Alexandra Brito (University of Lisbon) (2014) "A Look at the Blood-Brain Barrier in Neonatal Jaundice." Barriers of the CNS Gordon Research Conference Expanding the Understanding of CNS Barriers in Health and Disease, 15-20 June, Colby-Sawyer College New London
- Communication: Suzan Blima Paulino Leite (2013) "Evaluation of the anti-inflammatory effect of raspberry extract in a model of paw oedema", in the 21st International Symposium of Scientific Initiation at USP – SIICUSP, with the collaboration of Cassius Francisco de Andrade Freitas and **Rosa Direito**, under the orientation of Maria Eduardo da Costa Morgado Figueira, in Agricultural Sciences at USP's Piracicaba campus, 24-25 October, São Paulo, Brazil
- Communication: Rocha J, Barateiro A, Fernandes A, Raposo J, **Direito R**, Figueira ME, Pinto R, Thiemermann C, Mota-Filipe H, Sepodes B (2013) "Glycogen synthase kinase-3 inhibition reduces liver, neuromuscular and lung injury caused by burn injury in the rat." European Shock Society 15th biennial conference
- Poster: Cardoso FL, Rocha J, Pereira P, Fernandes A, Vaz AR, **Direito R**, Palmela I, Sepodes B, Brites D, Brito MA (2013) "Neonatal sepsis changes the pattern of microvascular coverage by astrocytes and microglia." 5th Postgraduate iMed.UL Students Meeting, 18 July, Lisbon, Portugal
- Communication: Cardoso FL, Rocha J, Pereira P, Fernandes A, Vaz AR, **Direito R**, Palmela I, Sepodes B, Brito MA, Brites D (2013) "Neonatal Exposure to LPS Alters Microvascular and Glial Patterns in Different Brain Regions." 13th ESNI Course, 3-6 July, Porto, Portugal
- Communication: **Direito R**, Rocha J, Bronze MR, Marques C, Sepodes B, Figueira ME (2013) "Evaluation of the anti-inflammatory activity of a persimmon (*Diospyros kaki*, L.) extract in an animal (Wistar rats) model of rheumatoid arthritis." 43rd Annual Meeting of the Portuguese Pharmacological Society; 31st Clinical Pharmacology Meeting; UMIB, ICBAS-University of Porto, 6-8 February, Porto, Portugal
- Poster: Cardoso FL, Rocha J, Pereira P, Fernandes A, Vaz AR, **Direito R**, Palmela I, Sepodes B, Brites D, Brito MA (2013) "Neonatal Systemic Inflammation Differently Alters Regional Brain Microvasculature." Beating the Blood-Brain & Other Blood Barriers Workshop, 6-8 February, Lisbon, Portugal
- Communication: Cardoso FL, Rocha J, Pereira P, Fernandes A, Vaz AR, **Direito R**, Palmela I, Sepodes B, Brites D, Brito MA (2012) "Systemic Inflammation in the Neonatal Period Causes Microvasculature Alterations that May Differ Between Brain Regions and Neonatal Age." 4th Postgraduate iMed.UL Students Meeting, 20 December, Lisbon, Portugal
- Poster: Freitas C, Ferreira A, Mecha E, **Direito R**, Bronze MR, Figueira ME (2011) "Phenolic compounds in raspberry samples – possible contribution to biological activity." Iberoamerican Conference at the Faculty of Pharmacy, Lisbon, Portugal
- Poster: Ferreira A, Freitas C, Pinto R, **Direito R**, Mecha E, Bronze MR, Figueira ME (2011) "The effect of raspberry in the postprandial inflammation in healthy humans" in June, 2011, Barcelona, Spain
- Poster: Fortuna A, **Direito R**, Alves G, Sousa J, Falcão A, Cabrita A (2010) "Morphological evaluation of rat liver tissue after the subcutaneous injection of 1,2-dimethylhydrazine". 16th World Congress of Basic and Clinical Pharmacology", 17-23 July, Copenhagen, Denmark

Seminars

- Spectator of dozens of scientific webinars and events between 2020-2021 during COVID-19 pandemic
- Participated in the Training Course on “Implicit Bias – Mitigating Bias in Academic Recruiting” organized by MFP-COFUND programme, Universitat Rovira i Virgili, 9 December, 2020
- Participated in the seminar “Microbiome Research: What does this mean for the future of food and healthy diets” by Prof. Rob Knight at the University of Lisbon, 24 July, 2019, Lisbon, Portugal
- Participated in the workshop “How to design a research project” with Prof. Dr. Cecilia Rodrigues at the Faculty of Pharmacy at the University of Lisbon, 10 July, 2019, Lisbon, Portugal
- Participated in the 2017 *RedeAgro* Cycle of Conferences on “Resource Sustainability and Food Scarcity: Perspectives and Challenges” at Faculty of Pharmacy, University of Lisbon, 22 June, 2017, Lisbon, Portugal
- Participated in the 4th Annual Conference for the Interdisciplinary Network on Health “redeSAÚDE” at the University of Lisbon, 4 May, 2017, Lisbon, Portugal
- Participated in “Educational Program of Excellence on CDG: Think Metabolic, Think CDG”, an initiative from the Portuguese Association for CDG and related Rare Metabolic Diseases (APCDG) at the University of Lisbon’s Faculty of Medicine, 26 February, 2016, Lisbon, Portugal
- Participated in the first “Foods for Health and Wellness Perspectives in Oncology Symposium”, 9 October, 2014, Infarmed Auditorium (National Authority for Medications and Health Products, Lisbon); Organized by Maria Eduardo Figueira; Scientific commission: Figueira ME, Sepodes B, Ravasco P, Alves P
- Internal presentation at the Institute of Experimental Pathology at FMUC (2009) of the article (PMID: 12671184 [PubMed - indexed for MEDLINE]): “Insulin resistance and its contribution to colon carcinogenesis” (2003) Komninou D, Ayonote A, Richie JP Jr, Rigas B. *Exp Biol Med* (Maywood). 228(4):396-405. FMUC, University of Coimbra (Advisor: Professor Dr António Cabrita)
- Participated in “Basic Techniques Course in Experimental Pathology – Complementary Procedures”, from the Institute of Experimental Pathology at Faculty of Medicine, University of Coimbra, 11 July, 2009, Portugal
- Participated in Medical Molecular Pathology course – Course I, from the Institute of Pathology at the University of Coimbra’s Faculty of Medicine, 28-29 May, 2009, Coimbra, Portugal.
- Participated in an “Experimental Pathology Techniques Basic Course – Necropsy and Lymphoid Tissues” from the Institute of Experimental Pathology at the University of Coimbra’s Faculty of Medicine, 17-18 April, 2009, Coimbra, Portugal.
- Participated in “Oncology Updates 2009” at the Faculty of Medicine of Coimbra, Portugal.
- Participated in “Clinical/Laboratory Sessions” for the Clinical Pathology Service of IPOFG-CROC regarding the “Comparative study of equipment for coagulation studies” as well as “Haemoglobinopathies”, 2004-2005
- Participated in the course “Continuous Training in Laboratory Haemostasis”, organized by PortugalBioforma and by the Department for Continuous Training of the Regional Section of Porto of the Order of Pharmacists, 21 April, 2005, in Porto, Portugal
- Participated in the 2nd Symposium of Clinical Analysis and Public Health “Microbiology in Clinical Analysis”, organized by Fernando Pessoa University, 21 October, 2004, in Porto, Portugal.