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Gender: Male **Date of birth:** 11/09/2003 **Nationality:** Portuguese

ABOUT ME

I am a college student currently taking a Master's Degree in Biomedical Research at NOVA Medical School (NMS), after proudly graduating from a major in Biomedical Sciences at Universidade do Algarve (UAlg). With all the knowledge basis and soft skills i have been acquiring over the years, during my academic and personal life, i have the ambition to start a professional career as a Biomedical Scientist, with a profound interest in regenerative medicine, mostly applied to neurosciences. With this in mind, i am mostly driven by my innate curiosity and resilience, compeling me to get out of my comfort zone and expand it, even when it means to ask for help from friends, relatives or peers.

EDUCATION AND TRAINING

[04/10/2021 – 18/07/2024]

Bachelor of Sciences (BSc)

Faculdade de Medicina e Ciências Biomédicas - Universidade do Algarve https://www.ualg.pt/

City: Faro | **Country:** Portugal | **Field(s) of study:** Health and welfare: ● *Inter-disciplinary programmes and qualifications involving health and welfare* ● *Therapy and rehabilitation* ● *Traditional and complementary medicine and therapy ;* Natural sciences, mathematics and statistics: ● *Biochemistry* ● *Natural sciences, mathematics and statistics not elsewhere classified* | **Final grade:** A (18 valores) | **Level in EQF:** EQF level 6

The Bachelor of Biomedical Sciences offers a multidisciplinary formation that allows students to participate in various programs and projects related to fundamental applied biomedical research, technological or diagnostic development.

[16/09/2024 – Current]

Master of Science (MSc)

NOVA Medical School - Universidade NOVA de Lisboa https://www.nms.unl.pt/pt-pt/faculdade

City: Lisbon | **Country:** Portugal | **Field(s) of study:** Health and welfare: ● *Medical diagnostic and treatment technology* ● *Traditional and complementary medicine and therapy*

The International Master's Degree of Biomedical Research (NBR) allows for the development of a solid, combined knowledge with analytical and problem-solving skills related to the field of biomedicine, in a totally international learning environment.

LANGUAGE SKILLS

Mother tongue(s): Portuguese

Other language(s):

English

LISTENING B2 **READING** B2 **WRITING** B2

SPOKEN PRODUCTION B2 **SPOKEN INTERACTION** B1

Spanish

LISTENING B1 **READING** B2 **WRITING** A2

SPOKEN PRODUCTION A2 **SPOKEN INTERACTION** A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS

Microsoft Office | FIJI - ImageJ | GraphPad | Usage of the internet as a tool for research and scientific communication | Appreciation for teamwork | Good oral and written communication skills | Adaptative skills towards new softwares and methodologies

CONFERENCES AND SEMINARS

[19/03/2024 – 23/03/2024] **XIV National Journey of Biomedical Sciences** Covilhã

PROJECTS

[18/04/2024 – 18/07/2024] **Analysis of Mineralization Phenotypes in Zebrafish Larvae Expressing a Dominant Negative MGP Mutant**

Matrix Gla Protein (MGP) is a vitamin K-dependent protein that exists in all vertebrates, including humans, exerting an inhibitory function of bone mineralization and vascular calcification *in vivo*. MGP loss of function in humans, caused by genetic mutations/ polymorphisms, is responsible for the manifestation of a phenotype characteristic of Keutel Syndrome (KS). This disease consists of an autossomal recessive genetic disorder that causes a distinct set of symptoms and complications in human individuals due to the occurrence of ectopic calcifications in blood vessels and soft tissues. By submitting zebrafish (*Danio rerio*) larvae to a "dominant negative" competition through expression of mutant forms of MGP, administrated via microinjection, it was possible to analyse the consequence of those mutations on the development of bone structures, such as the operculum.

[10/03/2025 – 01/04/2025] **Lab Rotation: Lysosome exocytosis in breast cancer cell invasion**

Triple negative breast cancer (TNBC), one of the distinct molecular subtypes of BC, is known for its high aggressiveness, potential to form metastasis, and poor prognosis, mostly due to the capability of cancer cells to migrate and invade adjacent non-tumoral tissues. Degradation of the extracellular matrix by cathepsins, metalloproteinases and other lysosomal enzymes can promote cancer progression and metastasis formation. Besides being degradative organelles, lysosomes are also able to undergo exocytosis. Lysosomal transport between the cell periphery and the perinuclear region, a process implicated in lysosome exocytosis, is known to be regulated by proteins belonging to the Ras GTPase superfamily, including RAS-related in brain protein 7a (RAB7A) and ADP-ribosylation factor-like 8b (ARL8B). In this lab rotation, we showed that the silencing of RAB7A expression in TNBC cells in vitro, either by using shRNA or siRNA, leads to an increased rate of lysosome exocytosis and an enlargement of endocytic vesicles and/or lysosomes in the perinuclear region.

[28/04/2025 – 27/05/2025] **Lab Rotation: Therapeutic effects of carotid body cryodestruction in a mouse model of Parkinson's disease**

Parkinson's disease (PD) is a neurodegenerative synucleinopathy, characterized by a progressive loss of dopaminergic neurons in the substantia nigra pars compacta (SNpc) region of the brain, and widespread aggregation of alpha-synuclein (αSyn) in surviving neurons. Aging has been addressed as a major risk factor for PD development, although other peripheral disorders, such as type 2 diabetes mellitus (T2DM), have been epidemiologically associated with PD patients. Both T2DM and PD are associated with impaired glucose tolerance and increased insulin resistance, which together lead to an

increased chemosensitivity of carotid bodies (CBs). In this lab rotation, we propose that surgical ablation of both CBs, through precise cryodestruction with liquid nitrogen, may counteract the pathological overactivation of CBs and have therapeutical effects in treating αSyn-overexpressing (Thy1- αSyn) mouse models of PD.

[02/09/2025 – Current]

CD9 as a Key Regulator of Inflammatory-Mediated Neuropathic Pain Following Spinal Cord Injury

Spinal cord injury (SCI) disrupts the blood-spinal cord barrier (BSCB), promoting inflammation-mediated impairment of regeneration and chronic complications like neuropathic pain (NP). Previous lab results show CD9 upregulation, peaking at 7 days post-injury (dpi), mainly in endothelial cells (ECs) and pericytes. At 7 dpi, CD9 was also found to be upregulated in immune cells. Additionally, CD9 knockout (KO) mice exhibited altered inflammatory profiles associated with a reduced locomotor recovery, but improved thermal sensitivity (allodynia), compared to wild-type (WT) controls. Given the known function of CD9 in modulating immune cell trafficking from the BSCB into the spinal parenchyma, my thesis project focuses on understanding the role of CD9 in modulating inflammatory responses post-SCI and its contribution to the development of NP and allodynia.

COMMUNICATION AND INTERPERSONAL SKILLS

Emotional intelligence and active listening with peers

Good social skills and friendly posture in work environments

ORGANISATIONAL SKILLS

Good time management and organization skills regarding my personal and academic life

TRANSLATIONAL AND SOFT SKILLS

Competent judgement and decision-making skills applied to impactful academic, professional and personal scenarios

Prone to offer help and support to friends and peers, without also denying help from them when needed