Performance Report

Analysis of the report on scientific, pedagogical, and other relevant activities

1. Scientific Performance

My scientific work focuses on the interface between **Genetics, Genomics, and Molecular Ecology**, with particular emphasis on genetic diversity in invertebrates and the role of soil macrofauna in ecological processes. Over the past years, I have published extensively in leading international journals in Evolutionary Biology, Genetics, and Ecology (e.g., *Global Change Biology*, *Molecular Phylogenetics and Evolution*, *BMC Genetics*, *Soil Biology & Biochemistry*). My highest-impact publication, in *Global Change Biology*, listed me as **senior author**, underlining my scientific leadership. In total, my research has involved collaborations with **more than 250 co-authors worldwide**, reflecting the highly multidisciplinary nature of my work that spans genetics, soil ecology, ecotoxicology, and molecular biology.

I have consistently combined my research output with the ability to attract competitive funding at both national and international levels. Across my career, I have contributed to securing **over €48M in competitive research funding**, of which ~**€5.5M** were directly allocated to the University of Coimbra. Importantly, as **PI or PI at UC**, I have secured **more than €1.0M** directly for UC, including the prestigious **FCT Scientific Employment Stimulus (2018)** and two recent international initiatives: **BENCHMARKS (Horizon Europe)** and the **La Caixa Monte Regen Hub**.

As **Researcher and Work Package Leader** in European and national consortia, I have contributed to **large-scale projects totalling more than €28M**, with approximately **€4.7M allocated to UC**. These achievements demonstrate not only my ability to attract funding directly, but also my capacity to enhance the University's visibility and strengthen its role within major international collaborative frameworks such as **Horizon Europe**.

My engagement with the **scientific community** extends beyond research projects. I have organized thematic sessions at international conferences (including Horizon Europe project meetings), served as a reviewer for leading journals, and acted as an evaluator of research proposals. I have also participated in academic juries, scientific committees, and editorial work. These activities highlight my recognition within the international scientific community and the trust placed in my expertise.

Finally, I have contributed to the **training and supervision of young researchers**, including PhD and MSc students as well as research fellows. I place particular emphasis on **open science practices, reproducibility, and interdisciplinarity**, encouraging early-career researchers to integrate into international networks. This mentorship and capacity-building activity is central to my vision of sustainable research, ensuring continuity and long-term impact of scientific knowledge.

2. Teaching Performance

My teaching activities span undergraduate, Master's, and doctoral levels, reflecting a sustained engagement with both foundational and advanced training. At the **University of Coimbra**, I have lectured in multiple programmes, including the **BSc in Biology** and international Master's degrees such as the **MSc in Applied Ecology** and the **MSc in Ecology**. Courses I have taught cover a wide spectrum, from **Biostatistics** and **Field Techniques in Ecology** to specialized modules on **Advanced Topics in Applied Ecology** and **Mediterranean Ecosystems**. In total, I regularly contribute with **more than 60 hours of direct teaching per academic year**, complemented by field-based training and laboratory supervision. My teaching approach integrates traditional lectures with active learning strategies, practical assignments, and fieldwork, ensuring that students gain both conceptual understanding and hands-on skills. I was the **modulee leader for several modules at Unversity of South Wales** (on subjects such as **biostatistics, ecology and conservation biology/genetics**), however as a research assistant at UC I am ot legally allowed to lead curricular units or courses according to portuguese law.

Beyond formal teaching, I have invested considerably in the **supervision of graduate and postgraduate researchers**. I am currently the **main supervisor of two PhD candidates** (in Biosciences, Ecology, at the University of Coimbra) and **co-supervisor of one additional PhD project**. I also act as **line manager for two MSc-trained technicians** employed in the BENCHMARKS Horizon Europe project, ensuring high-quality molecular and laboratory workflows. At the MSc level, I have supervised and co-supervised numerous dissertations, while at the undergraduate level I have guided final-year projects. These supervisory roles not only highlight my commitment to capacity building but also my ability to integrate students into international projects and consortia, providing them with unique opportunities to develop interdisciplinary expertise.

My pedagogical contributions are complemented by a commitment to **innovation and internationalization**. I have consistently incorporated **open science practices, reproducible workflows, and bioinformatics training** into the curriculum, equipping students with essential skills for modern biological research. I also foster links between teaching and research by embedding ongoing Horizon Europe and FCT projects into course content and student projects, thereby strengthening the bridge between academia and real-world applications. This integration ensures that teaching remains current, impactful, and directly connected to the evolving challenges of genetics, genomics, and ecology.

3. Other Relevant Activities

In addition to my scientific and teaching contributions, I have actively engaged in activities that strengthen the mission of the university and its connection with society. My involvement spans **scientific management, outreach, knowledge transfer, and service to the academic community**, reflecting a holistic approach to academia.

I have played an active role in **scientific management and coordination**, serving in committees and as task leader within Horizon Europe consortia, where I contribute to the strategic alignment of international soil health research. I have also co-organized international workshops and conference sessions, including within the framework of the **BENCHMARKS project**, which aims to harmonize methodologies for soil biodiversity monitoring. These roles underscore my ability to coordinate across institutions and disciplines, and to represent the University of Coimbra at the European level.

My career is also characterized by **outreach and science communication**. I have participated in citizen science initiatives, such as projects linking soil biodiversity and ecosystem services to local communities, and contributed to raising public awareness of soil health and environmental sustainability. These activities include public talks, interviews, and engagement with schools and associations, demonstrating a commitment to translating scientific knowledge into societal impact.

I have been involved in **knowledge transfer and applied collaborations**, contributing expertise in soil genomics and molecular ecology to projects with agricultural and environmental stakeholders. Examples include partnerships under **PRR and FCT projects**, where my work has addressed practical challenges such as soil management, biodiversity conservation, and sustainable agriculture. These initiatives strengthen the interface between academic research and policy, industry, and society.

Furthermore, I have contributed to the broader scientific community through **peer review and project evaluation**. I have reviewed articles for international journals, evaluated grant applications for funding bodies, and served on academic juries for MSc and PhD degrees. These contributions reflect recognition of my expertise and reinforce the role of the University of Coimbra in international research networks.

Finally, I have received **distinctions for my academic and outreach activities**, including awards for excellence in teaching and competitive recognitions from funding agencies and professional societies. These honors highlight the impact of my work not only within academia but also in the broader context of higher education and research-driven innovation.

Overall, these activities illustrate my sustained commitment to supporting the **institutional mission of the University**, combining scientific excellence with societal engagement and international visibility.