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01 Introducing myself

My name is Pedro Santos Neves and I work in the High Performance Computing team at the Center for Information Technology at the University of Groningen, the Netherlands. I originally studied Biology and obtained a **PhD in Evolutionary Biology and Community Ecology** with a focus on theory and computational methods.



Pedro Santos Neves
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02 My role in the MultiXscale project

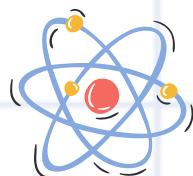
As part of my role at the University of Groningen, I am also a member of the MultiXscale project, where I work on the development of the **European Environment for Scientific Software Installations (EESSI)**, a shared software stack that is available at HPC sites in Europe and beyond. Because EESSI can be used on large computing clusters, workstations, personal computers, and even cloud platforms, researchers can be confident they have the optimised software they need wherever they need. Installing software for so many types of systems can be challenging, especially given the rapid pace at which new technologies and programs become available, but we handle that so that researchers can focus on what they do best.

We work together with our colleagues in the MultiXscale project who develop scientific software in fields as diverse as **supercapacitors and fluid dynamics**. I find it really exciting to collaborate with them, because their expertise spans many interesting topics and informs us about diverse workflows and processes in software development. I also try to draw on my past research experience to look at EESSI from an end-user's perspective. This way I hope to contribute to the development of EESSI with real-world applications in mind.

03 Impact of my work

I believe this collaboration with scientific research communities and HPC site administrators is one of the main strengths of EESSI, which contributes to its adoption by computing centres and research software developers outside of the MultiXscale project. One example that comes to mind is the very **fruitful collaboration** with the team operating the **EuroHPC JU system Deucalion**, which features less common hardware. This results in extra work for the user support team, because there are fewer resources available for installing software on this hardware. By working together with the Deucalion team, we learn from their expertise, use the resources they provide us with to build the software, and in turn we give them and their users a large and fully optimised software stack. The open-source nature of EESSI also means that anyone can contribute to the project, which helps improve it and create a sustainable community.

In the future, the volume of research software is sure to keep increasing rapidly, and novel technologies will become available; this will require **new methods and management tools**. Our work can contribute to making the workload of user support teams more manageable, and ease the technical challenges that end-users face when switching between systems and applications. This is becoming more important by the day, as users increasingly need to deploy their software on different systems for collaboration and reproducibility.



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Looking ahead

The most rewarding aspect of my work is collaborating with so many passionate colleagues from different backgrounds who share the goal of **supporting researchers and technical staff**. I believe EESSI has the potential to lower the barrier to entry for researchers into large-scale computing. Lastly, I think the collaboration within MultiXscale is a great demonstration of how important it is for HPC teams to work with research software developers.