



Facultad de Informática
Universidad Complutense de Madrid

ANUNCIO DE CONFERENCIA

POSGRADO

Taming the Exascale Software Development Beast

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Sala de Grados – jueves 8 de octubre de 2026 – 15:30

Entrada libre hasta completar el aforo

Resumen:

As high-performance computing moves toward the exascale era, developing software that can efficiently exploit increasingly large and complex machines has become a major challenge. Simply adding more cores does not automatically improve scientific performance; what matters is whether applications remain efficient as computational resources and problem sizes grow. In this talk, Prof. Samuel Xavier de Souza will discuss why scalability requires a different perspective from traditional single-run performance analysis, and why it is essential to identify where and when efficiency begins to degrade in large parallel applications. The presentation will introduce the PaScaL Suite, a set of tools for automated, hierarchical scalability profiling and visualization. By combining multi-run analysis with intuitive visual exploration, PaScaL helps developers uncover scalability trends, locate inefficient code regions, and better understand how parallel applications behave as machines and workloads scale.

Sobre Samuel Xavier de Souza:

Associate Professor at Universidade Federal do Rio Grande do Norte (2009-Present).

Computer Engineering degree from Universidade Federal do Rio Grande do Norte (2000) and Doctor in Electrical Engineering degree from Katholieke Universiteit Leuven (2007), worked for IMEC (2001-2002) and for the Vlaams Supercomputer Centrum (2008).

Led and collaborated in several national and international cooperation projects, with researchers from University of Bristol, Université de Mons, Università di Pisa, University of Queensland, École Polytechnique Fédérale de Lausanne, École Polytechnique de Montréal, and Imperial College London.

PI or co-PI of 15 funded projects, including 2 with international funding and 5 with the industry, totalling over US\$ 12M in acquired grants.

Founded in 2013 and currently leads the Laboratory of Parallel Architectures for Signal Processing. Founded in 2016 and currently directs NPAD, UFRN's high performance computing center, used by over 600 researchers resulting so far in over 200 journal publications. Founded the startup Ycodify in 2021.

IEEE Senior Member (2019) and Royal Society-Newton Advanced Fellow (2016).