



# LA SECCIÓN DE CIENCIAS MATEMÁTICAS DE LA REAL ACADEMIA DE CIENCIAS EXACTAS, FÍSICAS Y NATURALES DE ESPAÑA

*se complace en invitarle a la sesión científica pública*

**“RISC-V and open hardware: opportunity and challenge for the EU”**

*impartida por el Académico Correspondiente*

**Prof. D. Mateo Valero Cortés**

*Director del Centro Nacional de Supercomputación (BSC)*

La sesión se celebrará en formato telemático, emitida a través del canal youtube de la Corporación.

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18.15 horas

Retransmisión en directo en



## Resumen de la sesión

Over the last 3 decades, we have witnessed a transition from closed software ecosystems being the foundation for HPC, enterprise, and business to open source software ecosystems based on Linux. However, when examining hardware, current commercial off the shelf solutions are closed hardware ecosystems. We describe how Europe can exploit its resources, targeting research and development for technological independence. Some of the rules have changed. This has produced a shift from abundant transistors to efficient use of transistors. Thus, to truly meet the power and performance requirements, we must specialize the hardware.

Mirroring the same model as Linux, RISC-V has followed a similar development path and has enjoyed significant industrial and academic adoption. Like Linux before it, the RISC-V ecosystem can become the *de facto* open hardware platform of the future. This enables the co-design of the RISC-V hardware and the entire software stack, creating a better overall solution than the closed hardware approach that is done today. As Europe HPC recognized in the past with Linux, Europe has the opportunity to lead the change, creating a full stack solution for everything from supercomputers to IoT devices.

In this scientific session, first, we will provide background on HPC computing and how BSC has shaped the current state of the art in HPC. Using RISC-V as an instrument, we provide a vision for the future and a collection of current research and innovation projects, infrastructure, and the community that are building the foundation for the future. This is a new opportunity for Europe to lead the way to an HPC Future that is Wide Open!