So you want to be one of Europe’s leading supercomputing experts?

Interested in doing a world-class master’s in high-performance computing (HPC)? An EU-backed project has just launched a call for applications.

The EU-funded EUMaster4HPC project has set up a pioneering pan-European Master of Science programme to nurture Europe’s next generation of HPC experts. It has launched a call for applications to the master’s programme for students interested in computer science or in solving engineering and scientific problems using supercomputers.

“HPC is a rapidly growing field of research and development that has a strong potential for driving economic growth,” notes Prof. Pascal Bouvry of EUMaster4HPC project coordinator University of Luxembourg in a Projects Info Pack highlighting nine projects that are helping to advance supercomputing in Europe. EUMaster4HPC and the other featured projects are part of the European High Performance Computing Joint Undertaking (EuroHPC JU), a collaboration between the EU, 31 European countries and three private partners striving to make Europe a world leader in supercomputing.

Gaining world-class qualifications

The EUMaster4HPC master’s programme is offering students the opportunity to gain unique qualifications and career prospects in HPC, with the added perk of living and studying in different European cities. Prof. Bouvry explains the programme’s
importance: “Without professionals educated in HPC and such related fields as data science and artificial intelligence, Europe risks missing this unique opportunity to advance its Digital Single Market.”

The call for applications was launched on 1 December 2022 and is ongoing in consecutive application periods (1 to 14 December and 16 December to 28 February 2023, with more periods to follow). As reported in a press release [1] posted on the EuroHPC JU website, the master’s course begins in the autumn of 2023 and will be delivered at eight different universities in Bulgaria, France, Germany, Italy, Luxembourg, Spain, Sweden and Switzerland. Students begin the programme at the university of their choice (out of the eight) and then relocate to another university in the second year based on their specialisation.

**Learning outcomes galore**

The programme will empower students with cutting-edge knowledge, skills and competences in HPC and HPC-related technologies. Knowledge will be gained in the following: mathematical modelling and algorithms; statistics, parallel programming and parallel architecture; and advanced research topics and applications in HPC for science and engineering. Students will acquire applied and research skills in AI, high-performance data analytics and computational linear algebra, among other areas. Skills will also be gained in fields including parallel programming, distributed systems, software engineering, processors and HPC architecture design, memory hierarchy, networking, and cloud design and deployment.

Additionally, the acquisition of soft skills will ease students’ entry into the job market and help them to develop research topics and writing proposals and critically analyse problems. Competences will include the ability to generate new ideas and manage complex problems in HPC, adapt quickly to a multicultural working environment and work independently.

Details on entry requirements, the application procedure, scholarships, tuition and the study programme can be found on the [EUMaster4HPC website](#).

EUMaster4HPC (European Master for High Performance Computing) ends in December 2025.

For more information, please see: [EUMaster4HPC project website](#), [EuroHPC JU website](#)

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Last update: 14 December 2022