



SPACE CoE NEWSLETTER

Dear readers,

As we enter the autumn season, we are pleased to share the latest edition of the SPACE Centre of Excellence newsletter and highlights from our community. Over the past months, we have continued advancing our mission: enabling widely used European HPC codes in astronomy and cosmology to exploit EuroHPC JU pre-exascale systems efficiently and preparing these applications for the transition to exascale computing and beyond. Discover project activities, scientific achievements, publications, and upcoming events to meet and engage with the SPACE CoE community or see our [website](#).

Your SPACE CoE

Latest events

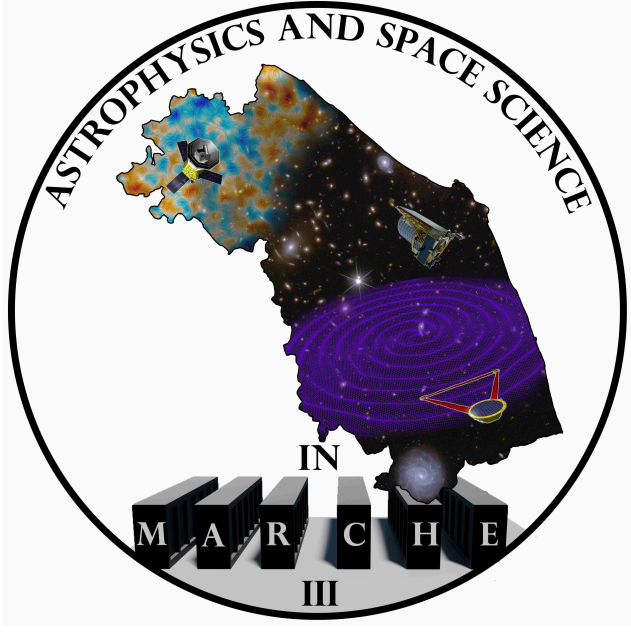
ML4ASTRO3, Valletta (Malta), 31 August – 4 September 2026



The 3rd International Conference on Machine Learning for Astrophysics brought together more than 100 researchers working at the intersection of machine learning, artificial intelligence, and astrophysics, providing a stimulating forum to discuss new methods, scientific results, and emerging challenges in the big data era of astronomy. SPACE CoE partners, Pablo Agustin Martin Torres and Marta Barroso from BSC, presented their talk: "Generalizing ICL Predictions Across Simulations: A Velocity Dispersion-Based Deep Learning Approach," which investigates a deep-learning approach to infer intracluster light from velocity-dispersion maps of simulated galaxy clusters.

[Find out more about ML4ASTRO3](#)

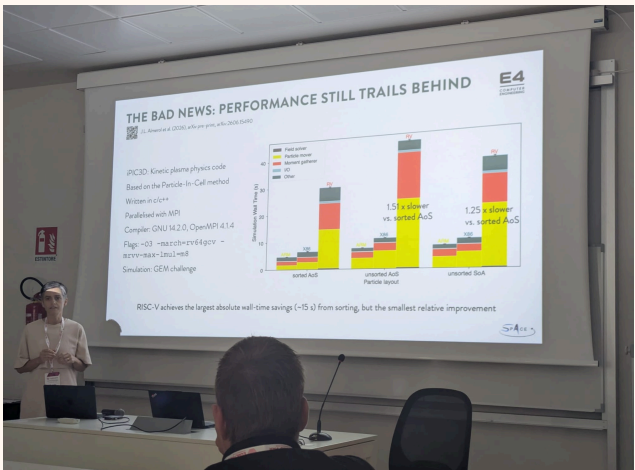
Astrophysics and Space Science in Marche III: Big Bang, Big stars, Big Computers, Jesi (Italy), 31 August – 4 September 2026



[More about the conference](#)

The conference connected three key areas of research: theoretical modelling, high-performance computing, and advanced data analysis. Topics included theories of inflation, dark matter and modified gravity, large-scale simulations, use of AI and statistical techniques. Alessandro Romeo from CINECA gave a talk: "Preparing Cosmological Simulations for heterogeneous European clusters: CINECA's Contributions to OpenGadget within the SPACE-CoE," and he participated in the discussion session "Academia Meets Industry: Turning Research into Real-World Impact".

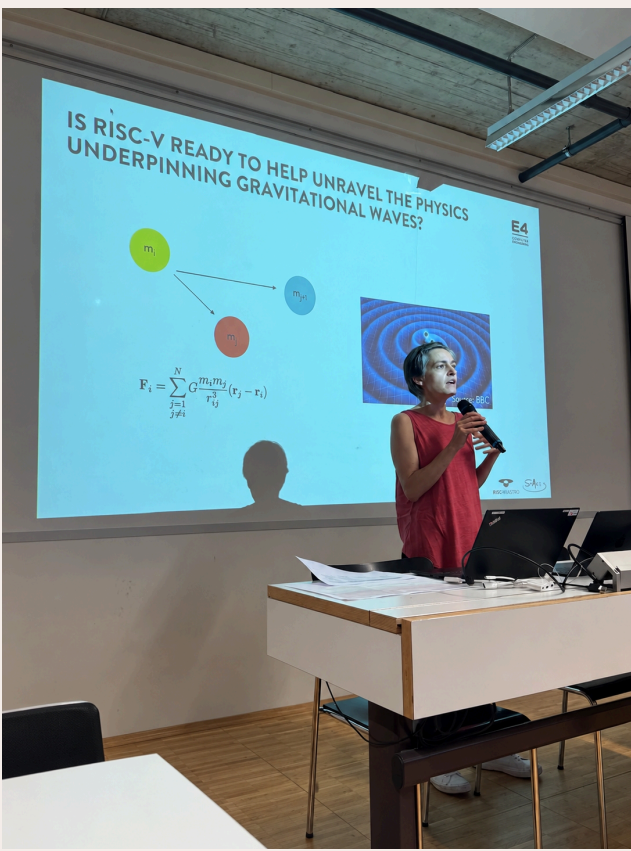
EURO-PAR 2026, Pisa (Italy), 24–28 August 2026



At the end of August, Euro-Par 2026 brought together researchers, practitioners, and students from across Europe and beyond to discuss the latest developments in parallel and distributed computing. The conference covered a broad range of topics, from algorithms, architectures, programming models, to exascale systems, and cloud-to-edge computing, providing a platform for scientific exchange and collaboration across the HPC community. Elisabetta Boella from E4 Computer Engineering gave a keynote at the Minisymposium PEPSC 1: "Semi-implicit PIC codes on current and next-generation supercomputers: lessons learned and future directions".

[More about EURO-PAR 2026](#)

PASC26, Bern (Switzerland), 29 June – 1 July 2026



[More about PASC26](#)

The Platform for Advanced Scientific Computing Conference took place at the University of Bern and PHBern with the main theme "Building Trust in Science through HPC Co-Design". The event brought together 403 participants from 28 countries and facilitated the exchange of knowledge in scientific computing and computational science, with a strong focus on methods, tools, algorithms, workflows, application challenges, and novel techniques in the context of scientific HPC use. Elisabetta Boella, representing E4 Computer Engineering, presented a talk in the industry session titled "Exploring Tenstorrent RISC-V accelerators for high-performance scientific computing: an N-body case study".

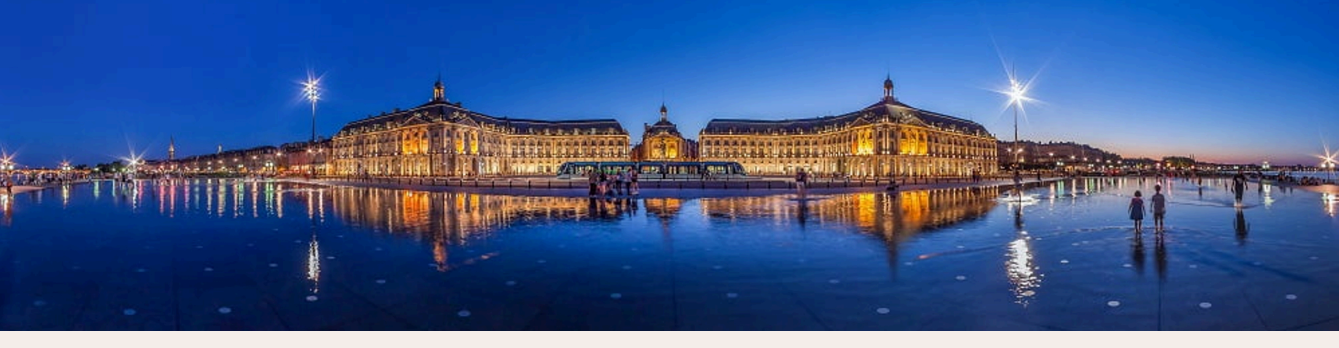
SPIE, Copenhagen (Denmark), 5–10 July 2026



The National Institute for Astrophysics (INAF), a partner of the SPACE Centre of Excellence, participated in the SPIE Astronomical Telescopes + Instrumentation 2026 conference, which took place from 5 to 10 July in Copenhagen. During the conference, Eva Sciacca presented the activities and achievements of the SPACE project, and at the INAF exhibition booth she also demonstrated immersive Virtual Reality applications for exploring and analysing astronomical datasets, highlighting how advanced visualisation technologies can support scientific discovery and data-intensive research.

[More about SPIE 2026](#)

ASTRONUM 2026, Bordeaux (France), 29 June – 3 July 2026



The 18th International Conference on Numerical Modeling of Space Plasma Flows took place from 29 June to 3 July 2026 at the Centre de Congrès Cité Mondiale in Bordeaux. The programme covered topics including advanced numerical methods for space and astrophysical flows, large-scale simulations, magnetohydrodynamics, and software for plasma flows. Andrea Mignone from the University of Turin took this opportunity to present a talk: "gPLUTO: a GPU-ready multi-physics framework for astrophysical plasma simulations".

[More about ASTRONUM 2026](#)

IWSG 2026, Catania (Italy), 22–26 June 2026



At the end of June, the INAF Astrophysical Observatory of Catania hosted the 18th International Workshop on Science Gateways. Researchers, developers, infrastructure providers, and domain scientists from around the world gathered to discuss the future of digital research environments. Attendees explored topics ranging from AI for science, research infrastructures, and scientific workflows to FAIR data, cloud technologies, and the evolving role of Science Gateways in enabling accessible and collaborative research. The workshop has fostered inspiring discussions, new connections, and opportunities for future collaborations across disciplines and international communities.

[More about IWSG 2026](#)

[Proceedings](#)

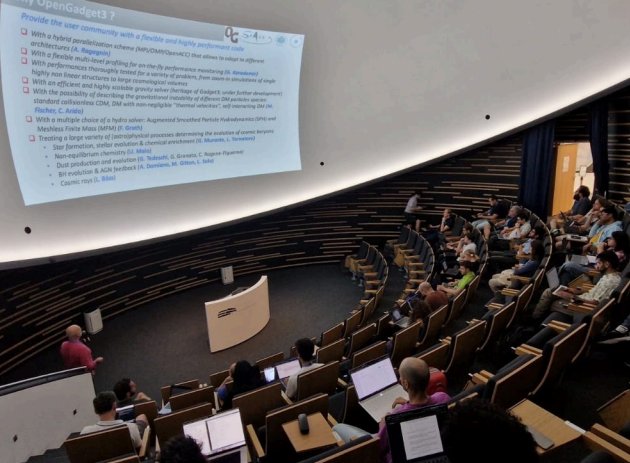
ISC 2026 High Performance, Hamburg (Germany), 22–26 June 2026



ISC High Performance 2026 drew 4,035 attendees from 64 countries and featured 188 exhibitors from 26 countries. The event took place in Hamburg from June 22 to 26, 2026, and brought together the global communities of high-performance computing, artificial intelligence, and quantum technologies. Under the theme “Connecting the Dots”, the event offered five days of tutorials, conference sessions, workshops, networking opportunities, and Europe’s largest HPC exhibition. The SPACE CoE results on co-design were presented in the "Arm HPC User Group workshop" and the "Readiness of HPC Extreme-scaling Applications workshop".

[ISC 2026 High Performance](#)

PLUTO/OpenGadget3 Symposium, Heidelberg (Germany), 15–19 June 2026

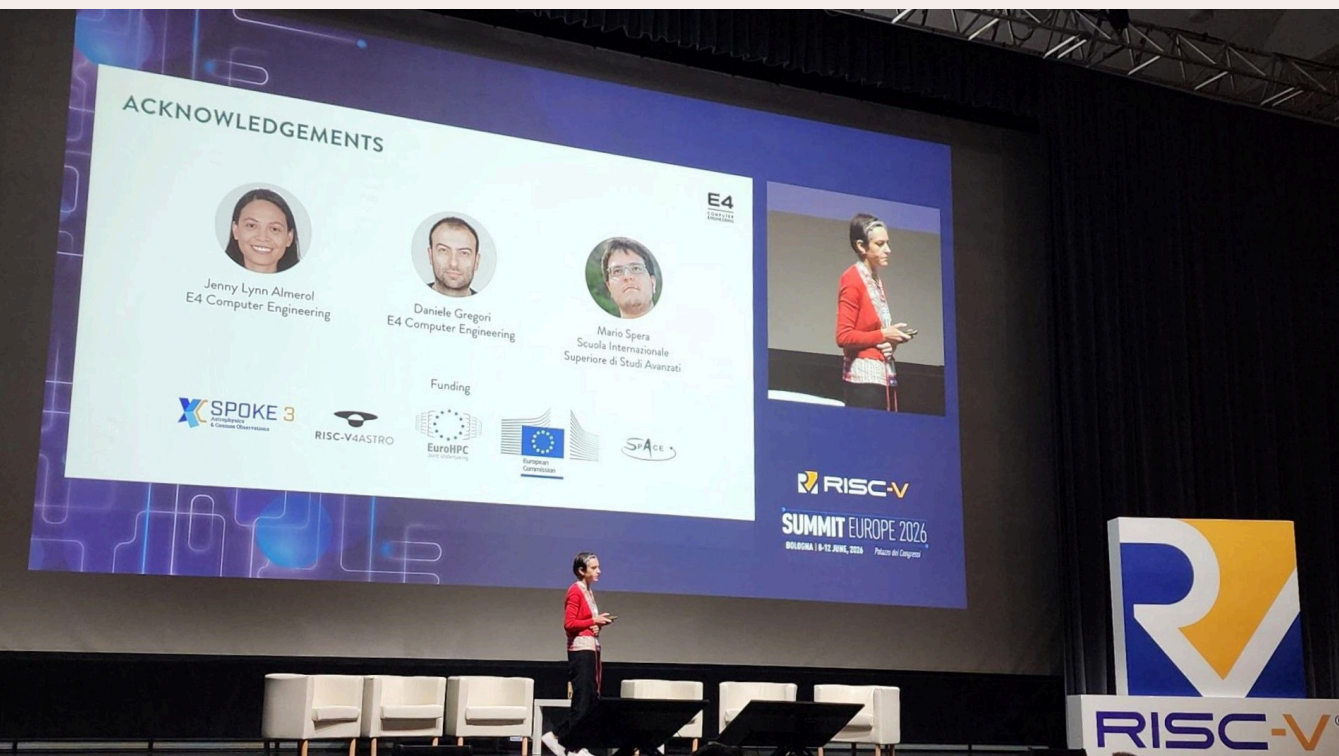


The partners of SPACE CoE organised an HPC Summer School in mid-June, which was held as part of the first joint PLUTO/OpenGadget3 Symposium at the House of Astronomy in Heidelberg. The conference brought together developers, experienced power-users, and beginners of two flagship astrophysical simulation codes – PLUTO and OpenGadget3. The main objective of the symposium was twofold: to allow experienced researchers to showcase the numerical codes' advanced computational capabilities and to provide beginners with practical strategies to optimise simulation efficiency on high-performance computing infrastructures.

[More about the symposium](#)

[Presentations](#)

RISC-V summit Europe 2026, Bologna (Italy), 8–12 June 2026



The RISC-V Summit Europe 2026 took place in Bologna, and it brought together representatives from industry, government, research, academia, and the wider RISC-V ecosystem to discuss the future of computing innovation based on RISC-V. The summit combined industrial and academic perspectives, providing participants with opportunities to explore both commercial and research applications of RISC-V and to exchange ideas on its growing role in European computing. Elisabetta Boella from E4 Computer Engineering gave a contributive talk: "Evaluating Tenstorrent RISC-V Accelerators for High Performance Scientific Computing," and at the end of August she also participated in an invited talk in the Women in HPC workshop titled "RISC-V for HPC: How Ready Are We?"

[More about RISC-V summit Europe 2026](#)

Seminar at Politecnico di Torino, Turin (Italy), 4 June 2026



Politecnico di Torino organised a seminar named "Exascale computing to accelerate discoveries in astrophysics and space plasma physics". The seminar was held by Andrea Mignone from the University of Turin and explored how numerical simulations had transformed the study of the Universe and how the next generation of high-performance computing systems could create new opportunities for astronomical discovery. It covered applications ranging from plasma physics to cosmological structure formation, while also addressing the unprecedented scale and substantial technical complexity of future HPC systems.

[More about the seminar](#)

Upcoming events

EuroHPC User Days 2026

22–24 September 2026 | Dublin (Ireland)



[More about the conference](#)

The EuroHPC User Days 2026 take place in Dublin from 22 to 24 September. The event is organised by the EuroHPC Joint Undertaking, and attendees will be able to showcase EuroHPC projects that have used European HPC, quantum computing, and AI supercomputing resources, share best practices in the development of these projects, gather feedback from EuroHPC users, and engage with potential new users. The activities of SPACE CoE will be presented via a poster by Nitin Shukla from CINECA. Come by and find out more about the SPACE project!

ITADATA2026

10–12 November 2026 | Bari (Italy)



The Italian conference on big data and data science is at its fifth edition and aims to discuss and shape the future of big data and data science in Italy and abroad, considering the multidisciplinary, complex, heterogeneous, and data-centric environment in which modern distributed systems operate. During the 3rd edition of the Special Workshop on Scientific HPC in the pre-Exascale era, partners from INAF and BSC will present the SPACE activities related to in-situ post-analysis and visualisation of cosmological simulations on exascale systems.

[Stay tuned](#)

SC26

15–20 November 2026 | Chicago (USA)



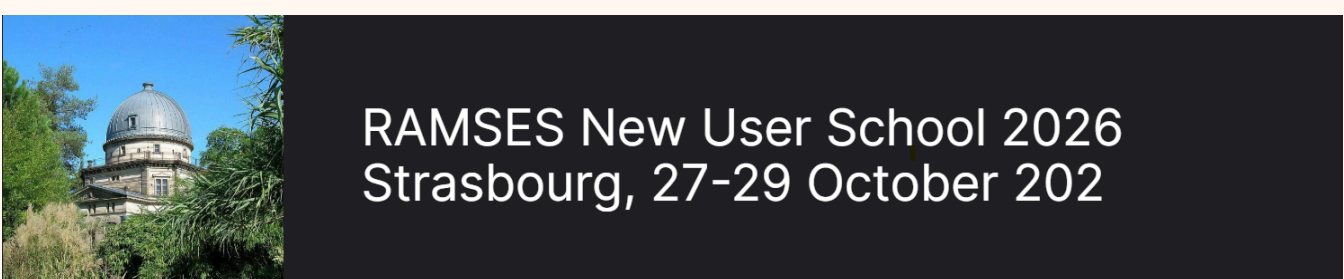
[Register](#)

The international conference for high-performance computing, networking, storage, and analysis will take place in mid-November in Chicago. The SPACE CoE partners, the National Institute for Astrophysics (INAF), CINECA, and IT4Innovations will use this opportunity to promote the SPACE activities via their booths. Visit us at booths 256, 453, and 4062 and find out more about SPACE CoE.

Training opportunities

RAMSES New User School 2026

27–29 October 2026 | Strasbourg (France)



The RAMSES service national d’observation is organising a new user school for the RAMSES code, aimed at PhD students, postdocs, engineers, and faculty with an interest in computational astrophysics and numerical simulations. The programme contains a quick refresher on numerical schemes for astrophysical plasmas, fundamentals of HPC, compiling RAMSES for parallel use, and hands-on project work focused on dense-core collapse, forced turbulence, idealised galaxies, and cosmological volumes.

[Find out more](#)

You can check the latest training courses and materials on our website [here](#). The majority of our training events can be found on the [SPACE CoE YouTube channel](#).

Latest publications

[Dynamical friction and massive black hole orbits: Analytical predictions and numerical solutions](#)

[On the Limits of Performance Portability in Directive-Based GPU Programming | Proceedings of the 23rd ACM International Conference on Computing Frontiers: Workshops and Special Sessions](#)

[Towards User-Friendly HPC: A Web Platform for Hybrid Workflows](#)

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Acknowledgement

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Disclaimer

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