

[Home](#) / [Archives](#) /[Vol. 14 \(2024\): Digital Presentation and Preservation of Cultural and Scientific Heritage](#) / [Project Papers](#)

HPC Ecosystem and Competences in Bulgaria

Emanouil Atanasov

Institute of Information and Communication Technologies, Bulgarian Academy of Sciences, Sofia, Bulgaria

Aneta Karaivanova

Institute of Information and Communication Technologies, Bulgarian Academy of Sciences, Sofia, Bulgaria

Todor Gurov

Institute of Information and Communication Technologies, Bulgarian Academy of Sciences, Sofia, Bulgaria

DOI: <https://doi.org/10.55630/dipp.2024.14.30>**Keywords:** HPC , Supercomputer, Competences, EuroCC2

Abstract

In short, the current status of the HPC ecosystem in Bulgaria includes diverse modern hardware (including two supercomputers from the TOP500 list – Discoverer and HEMUS, as well as multiple HPC clusters), and extensive expertise in HPC and the adjacent fields. The competencies and expertise were acquired during a multitude of successful EU projects, as well as leadership and participation in high-profile national programmes and projects with industry/SMEs. Experience in negotiating and managing contracts with different sources of funding and for the use of both equipment and expertise has been gathered. In this paper, we discuss the new developments in the HPC Ecosystem, supported by the acquisition of the HEMUS supercomputer in 2023, as well as our design choices and optimization approaches.

References

Atanasov, E., Gurov, T., & Karaivanova, A. (2023). Towards Effective Bulgarian Competence Centre in High Performance Computing – Service Portfolio and Competences. Digital Presentation and Preservation of Cultural and Scientific Heritage, 13, 333–340.

<https://doi.org/10.55630/dipp.2023.13.35>

Avitohol supercomputer. (202). <https://top500.org/system/178609>

Blue Gene/P Solution. (2024). <https://www.top500.org/system/176516>

Discoverer system. (2024). <https://www.top500.org/system/179948>

EuroCC ACCESS. (2024). <https://www.eurocc-access.eu/>

EuroHPC JU. (2024). https://eurohpc-ju.europa.eu/supercomputers/oursupercomputers_en

GEANT Network. (2024). <https://network.geant.org>

HEMUS. (202). <https://www.top500.org/system/180208>

NCC Bulgaria. (2024). <http://eurocc-bulgaria.bg/>

Slurm manager. (2024). <https://slurm.schedmd.com>

Sterling, T., Brodowicz, M., & Anderson, M. (2017). High Performance Computing: Modern Systems and Practices. Elsevier.

Desislava Paneva-Marinova
Radoslav Pavlov • Peter Stanchev
Detelin Luchev
Editors

Digital Presentation and Preservation of Cultural and Scientific Heritage

International Conference

Burgas, Bulgaria
26-29 September, 2024

Proceedings

Under the patronage of



Volume 14

 PDF

Published

2024-09-05

How to Cite

Atanassov, E., Karaivanova, A., & Gurov, T. (2024). HPC Ecosystem and Competences in Bulgaria. *Digital Presentation and Preservation of Cultural and Scientific Heritage*, 14, 301–310. <https://doi.org/10.55630/dipp.2024.14.30>

More Citation Formats

Issue

[Vol. 14 \(2024\): Digital Presentation and Preservation of Cultural and Scientific Heritage](#)

Section

Project Papers

License

Copyright (c) 2024 Digital Presentation and Preservation of Cultural and Scientific Heritage

This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License](#).

Most read articles by the same author(s)

- Peter Stanchev, Aneta Karaivanova, Yanita Zherkova, Hristiyaniya Klisarova, Jordan Iliev, Radoslav Pavlov, Georgi Simeonov, [The 14th National Information Day: Open Science, Open Data, Open Access, Bulgarian Open Science Cloud, Digital Presentation and Preservation of Cultural and Scientific Heritage: Vol. 13 \(2023\): Digital Presentation and Preservation of Cultural and Scientific Heritage](#)
- Peter Stanchev, Aneta Karaivanova, Yanita Zherkova, Mikaela Stancheva, Jordan Iliev, Desislava Paneva-Marinova, Georgi Simeonov, [The 15th National Information Day: Open Science, Open Data, Open Access, Bulgarian Open Science Cloud, Digital Presentation and Preservation of Cultural and Scientific Heritage: Vol. 14 \(2024\): Digital Presentation and Preservation of Cultural and Scientific Heritage](#)
- Peter Stanchev, Aneta Karaivanova, Yanita Zherkova, Hristiyaniya Klisarova, Radoslav Pavlov, Georgi Simeonov, [The 13th National Information Day: Open Science, Open Data, Open Access, Bulgarian Open Science Cloud, Digital Presentation and Preservation of Cultural and Scientific Heritage: Vol. 12 \(2022\): Digital Presentation and Preservation of Cultural and Scientific Heritage](#)
- Aneta Karaivanova, Emanouil Atanassov, Todor Gurov, Peter Stanchev, Georgi Simeonov, [Bulgarian Contribution to the Open Science Services in NI4OS-Europe, Digital Presentation](#)

[and Preservation of Cultural and Scientific Heritage: Vol. 12 \(2022\): Digital Presentation and Preservation of Cultural and Scientific Heritage](#)

- Emanouil Atanasov, Todor Gurov, Aneta Karaivanova, [Towards Effective Bulgarian Competence Centre in High Performance Computing – Service Portfolio and Competences](#), [Digital Presentation and Preservation of Cultural and Scientific Heritage: Vol. 13 \(2023\): Digital Presentation and Preservation of Cultural and Scientific Heritage](#)
- Aneta Karaivanova, Emanouil Atanasov, Todor Gurov, [On the HPC/HPDA/AI Competences in Bulgaria](#), [Digital Presentation and Preservation of Cultural and Scientific Heritage: Vol. 12 \(2022\): Digital Presentation and Preservation of Cultural and Scientific Heritage](#)
- Peter Stanchev, Hristiyaniya Ancheva, Aneta Karaivanova, [The 12th National Information Day: Open Science, Open Data, Open Access, Bulgarian Open Science Cloud](#), [Digital Presentation and Preservation of Cultural and Scientific Heritage: Vol. 11 \(2021\): Digital Presentation and Preservation of Cultural and Scientific Heritage](#)
- Emanouil Atanasov, Aneta Karaivanova, Sofiya Ivanovska, Mariya Durchova, [A Monte Carlo Method for Image Classification Using SVM](#), [Digital Presentation and Preservation of Cultural and Scientific Heritage: Vol. 11 \(2021\): Digital Presentation and Preservation of Cultural and Scientific Heritage](#)
- Silvi-Maria Gurova, Aneta Karaivanova, [Fast Monte Carlo Method for Condition Number Estimation](#), [Digital Presentation and Preservation of Cultural and Scientific Heritage: Vol. 11 \(2021\): Digital Presentation and Preservation of Cultural and Scientific Heritage](#)

Desislava Paneva-Marinova
Radoslav Pavlov • Peter Stanchev
Detelin Luchev
Editors

**Digital Presentation and Preservation of
Cultural and Scientific Heritage**

International Conference

Burgas, Bulgaria
26-29 September, 2024

Proceedings

Under the patronage of



Volume 14

ISSN: **1314-4006 (Print)**

eISSN: **2535-0366 (Online)**

Frequency: **1 issue per year**

DiPP Proceedings is full text indexed in [Central and Eastern European Online Library](#), Open Academic Journals Index and [Google Scholar](#). It is indexed/abstracted in:

SCOPUS (2011 -);

Web of Science (2018 -);

VINITI;

CINECA (Codice rivista: E244939);

Index Copernicus International;

Directory of Open Access Scholarly Resources (ROAD);

Scientific Indexing Services - SIS Impact Factor;

ResearchBib Academic Resource Index;

Eurasian Scientific Journal Index, and other data bases.

[Crossref](#)

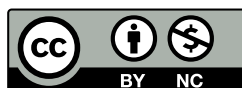
[BulDML](#)

[DOAJ](#)



WEB OF SCIENCE™

Scopus®



Tel: +359 2 979 28 74

E-mail: dipp@math.bas.bg

Platform &
workflow by
OJS / PKP