16th Workshop on Parallel Programming and Run-Time Management Techniques for Many-Core Architectures

14th Workshop on Design Tools and Architectures for Multicore Embedded Computing Platforms

PARMA-DITAM 2025, January 22, 2025, Barcelona, Spain

Edited by
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Preface

This volume collects the papers presented at the 16th Workshop on Parallel Programming and Run-Time Management Techniques for Many-core Architectures, and the 14th Workshop on Design Tools and Architectures for Multicore Embedded Computing Platforms (PARMA-DITAM 2025). The workshop is co-located with the 2025 edition of the HiPEAC conference and was held on the 22nd of January, 2025, that took place in Barcelona, Spain.

The current trend towards many-core and the emerging accelerator-based architecture requires a global rethinking of software and hardware design, which turn out to be more than ever before strongly entangled.

The PARMA-DITAM workshop focuses on many-core architectures, parallel programming models, design space exploration, tools and run-time management techniques to exploit the features and boost the performance of such (possibly heterogeneous, (re-)programmable and/or (re-)configurable) many-core processor architectures from embedded to high performance computing platforms and cyber physical systems.

The scope of the PARMA-DITAM workshop includes the following topics:

- T1: Parallel programming models, languages, and applications for many-core platforms
- T2: Compiler and virtualization techniques for novel computing architectures
- T3: Run-time modeling, monitoring, adaptivity, power and memory management
- T4: Design of heterogeneous and reconfigurable many-core architectures
- T5: Methodologies, design tools, and high-level synthesis for heterogeneous architectures
- T6: Hardware/software co-design and design space exploration
- T7: Case studies, success stories and applications applying T1–T6

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