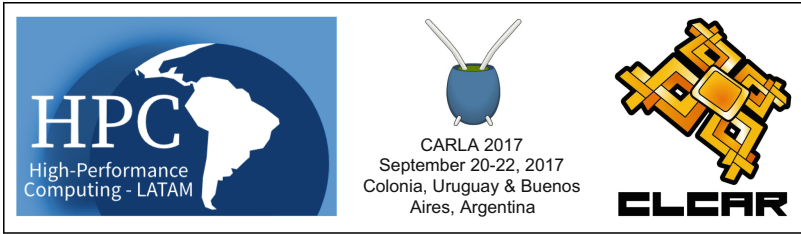


## Preface



High-performance computing (HPC) is a dynamic field that combines the use of innovative computing technologies and algorithms with advances in a broad range of scientific, technical, and industrial areas. Latin America shares the global enthusiasm embracing and pushing forward HPC. New challenges coming from the use of the computing capabilities of massive multicores, accelerators, cluster platforms, cloud federations, and the new perspectives of Internet of Things resources all help to promote the research and innovation in this area.

Building on the success of the previous editions of CARLA, the High-Performance Computing Latin America Conference (and former HPCLATAM and CLCAR Conferences), the tenth edition was organized in Buenos Aires and Colonia jointly by Universidad de Buenos Aires (Argentina) and Universidad de la República (Uruguay).

The main goal of the CARLA conference is to provide a forum fostering the growth of the HPC community in Latin America, through the exchange and dissemination of new ideas, techniques, and research in HPC. In 2017, CARLA featured invited talks from academia and industry, full-paper sessions presenting mature work, and new ideas in research and industrial applications including: distributed systems, parallel algorithms and concurrency; GPU and MIC computing; mobile, grid, and cloud computing; big data, data management, and visualization; scientific computing applications; architecture, infrastructure, and HPC data center; HPC computing education and outreach; industrial solutions. Satellite events co-located with CARLA 2017 included the meeting of the Cloud Computing for Smart-City Energy Management (CC-SEM STIC-AmSud) Project, Red SCALAC (Servicios de Computación Avanzada para Latinoamérica y el Caribe), and RICAP CYTED (Red Iberoamericana de Computación de Altas Prestaciones). More than 100 researchers, students, technicians, practitioners, and representatives of industry, technology, and state companies and organizations (from more than 20 countries in Latin America, Europe, Asia, and Oceania) attended the event.

This book introduces the top contributions presented at CARLA 2017, covering all the aforementioned topics. As organizers, we think the articles are valuable contributions to the development of HPC in Latin America.

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