

2024 23rd International Symposium on Parallel and Distributed Computing (ISPDC 2024)

**Chur, Switzerland
8-10 July 2024**



**IEEE Catalog Number: CFP24337-POD
ISBN: 979-8-3503-6920-5**

**Copyright © 2024 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP24337-POD
ISBN (Print-On-Demand):	979-8-3503-6920-5
ISBN (Online):	979-8-3503-6919-9
ISSN:	2379-5352

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

High-Performance Simulations for Urban Planning: Implementing Parallel Distributed Multi-Agent Systems in MATSim.....	1
<i>Janek Laudan, Paul Heinrich, Kai Nagel</i>	
Real-Time Routing in Traffic Simulations: A Distributed Event Processing Approach	9
<i>Paul Heinrich, Janek Laudan, Kai Nagel</i>	
Voxelization of Moving Deformable Geometries on GPU	14
<i>Ronith Kumar, Raman Deep, Dip Sankar Banerjee, Nipun Arora</i>	
Design and Development of XiveNet: A Hybrid CAN Research Testbed	22
<i>William Luke Lambert, Sheikh Ghafoor, Haley Burnell, Brennan Huber, Farah Kandah, Anthony Skjellum</i>	
Distributed, Continuous and Real-Time Trajectory Similarity Search	30
<i>Salman Ahmed Shaikh, Hiroyuki Kitagawa, Akiyoshi Matono</i>	
Developing AI Applications for the HPC-Cloud Continuum with ColonyOS	38
<i>Johan Kristiansson, Thor Wikfeldt</i>	
Toward Profiling IoT Processes for Remote Service Attestation.....	46
<i>William A. Johnson, John Housley, Sheikh Ghafoor, Stacy Prowell</i>	
Ensemble-Based System Benchmarking for HPC	54
<i>Anna Fuchs, Jannek Squar, Michael Kuhn</i>	
Short Paper: Evaluation of Stdpar Compilers on a Kernel Matrix Assembly and a BLAS Level 3 SYMM Kernel.....	62
<i>Marcel Breyer, Alexander Van Craen, Dirk Pflüger</i>	
SmartShip: Data Decoding Optimization for Onboard AI Anomaly Detection.....	67
<i>Pavle Ivanovic, Alexander Windmann, Philipp Neumann</i>	
Towards End-To-End Compression in Lustre.....	72
<i>Anna Fuchs, Jannek Squar, Michael Kuhn</i>	
A Scheduling Algorithm for Hyperledger Fabric Based on Transaction Batch Processing	80
<i>Junyu Jia, Ou Wu, Shanshan Li, Rufe Ma, He Zhang</i>	
Energy Optimization Through a Multidimensional Distributed Scheduling Approach.....	88
<i>Humberto Valera, Leonel Isaac Guerrero Giraldo, Carlos Alejandro Sivira Muñoz, Alan Alfredo Rojas Marroquin, Lucas Aguilar Damas, Marc Dalmau, Philippe Roose, Yudit Cardinale</i>	
Large-Scale Graphs Community Detection Using Spark GraphFrames.....	95
<i>Elena-Simona Apostol, Adrian-Cosmin Cojocaru, Ciprian-Octavian Truica</i>	
CAA: A Concurrent AA Tree Via Logical Ordering	100
<i>Kapil Kumar Attinagaramu, Praveen Alapati</i>	
Scalable Compact NUMA-Aware Lock	108
<i>Brahmaiah Gandham, Praveen Alapati</i>	

Towards Green HPC Job Outsourcing: Energy Models for Molecular Dynamics Simulations on Three Clusters.....	116
<i>Ruben Horn, Philipp Neumann</i>	

A Methodology for Computing Irrational Numbers.....	124
<i>Thomas Keller, Michael Burch, Heiko Rölke</i>	

Author Index