

9th IEEE Workshop on Parallel / Distributed Combinatorics and Optimization (PDCO 2019)

Introduction

PDCO 2019, Rio de Janeiro, Brasil, is the 9th edition of the IEEE Workshop on Parallel / Distributed Computing and Optimization held in conjunction with the 33rd IEEE International Parallel and Distributed Processing Symposium. The PDCO Workshop comes from the recent merging of the Parallel Computing and Optimization (PCO) and Nature Inspired Distributed Computing (NIDISC) workshops. The previous editions of the Workshop PDCO were held in Anchorage USA 2011, Shanghai China 2012, Boston USA 2013, Phoenix USA 2014, Hyderabad India 2015, Chicago USA 2016, Orlando USA 2017 and Vancouver Canada 2018. This series of Workshops has been very successful in the past years with many attendees and prestigious keynote speakers like Laurence T. Yang, Dimitri Bertsekas, Alex Pothen and Keqin Li. For this 9th edition, we have the pleasure to have a keynote by Dr. Anne Benoit, ENS Lyon, France.

Scope

The IEEE Workshop on Parallel / Distributed Combinatorics and Optimization aims at providing a forum for scientific researchers and engineers on recent advances in the field of parallel or distributed computing for difficult combinatorial optimization problems, like 0-1 multidimensional knapsack problems, cutting stock problems, scheduling problems, large scale linear programming problems, nonlinear optimization problems and global optimization problems. Emphasis is placed on new techniques for the solution of these difficult problems like cooperative methods for integer programming problems. Techniques based on metaheuristics and nature-inspired paradigms are considered. Aspects related to Combinatorial Scientific Computing (CSC) are considered. In particular, we solicit submissions of original manuscripts on sparse matrix computations, graph algorithm and original parallel or distributed algorithms. The use of new approaches in parallel and distributed computing like GPU, MIC, FPGA, volunteer computing are considered. Application to cloud computing, planning, logistics, manufacturing, finance, telecommunications and computational biology are considered.

Message from the General Chairs

We would like to express our gratitude to all those who contributed to the success of this 9th edition of the PDCO workshop. We would like to deeply thank the steering committee members for their help and guidance. We also would like to express our sincere appreciation to the program committee members, program committee chairs, and reviewers for their time and expertise. They have selected seven high-quality papers that provide a good theoretical and practical overview of combinatorics and optimization techniques and their efficient usage on parallel/distributed platforms. We also would like to thank all the authors for submitting their contributions and sharing their research with the parallel/distributed combinatorics and optimization community. Finally, we are grateful to the IPDPS organizing committee and workshop chairs for their support and IEEE Computer Society for producing these proceedings.

General Chairs:

Grégoire Danoy, University of Luxembourg, Luxembourg
Didier El Baz, team CDA, LAAS-CNRS, France

Program Chairs:

Vincent Boyer, University of Nuevo Leon, Mexico
Bernabé Dorronsoro, Universidad de Cádiz, Spain

Program Committee:

A. Bendjoudi, CERIST, Algiers, Algeria
J. J. Durillo, Leibniz Supercomputer Center, Munich, Germany

M. Halappanavar, Pacific Northwest National Laboratory, USA
K. Li, State University of New York, USA
N. Melab, University of Lille, France
M. Menai, King Saud University, Saudi Arabia
A. Nakib, University Paris 12, France
C. Phillips, Sandia National Laboratories, USA
B. Plazolles, LAAS-CNRS, France
G. Ch. Sirakoulis, Democritus University of Thrace, Greece
G. Spezzano, University of Calabria, Italy
A. Tchernykh, CICESE Research Center, Mexico
S. Varrette, University of Luxembourg, Luxembourg
F. Xhafa, Polytechnic University of Catalonia, Spain
L.T. Yang, St Francis Xavier University, Canada

Steering Committee:

Pascal Bouvry, University of Luxembourg, Luxembourg (co-chair)
Didier El Baz, team CDA, LAAS-CNRS, France (co-chair)
El-Ghazali Talbi, University of Lille, INRIA, CNRS, France
Albert Y. Zomaya, The University of Sydney, Australia