2013 IEEE 27th International Symposium on Parallel & Distributed Processing Workshops and PhD Forum

The 16th International Workshop on Nature Inspired Distributed Computing

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I. Preface

This section contains the papers presented at the 16^{th} International Workshop on Nature Inspired Distributed Computing (NIDISC2013) held in conjunction with the 27th IEEE/ACM International Parallel and Distributed Processing Symposium (IPDPS2013), May 20-24 2013, Boston, Massachusetts, USA. NIDISC aims to provide an opportunity for researchers to explore the connection between biology, nature-inspired techniques, metaheuristics and the development of solutions to problems that arise in communications, parallel and distributed processing and other application areas.

It is well known that techniques inspired by biological phenomena can provide efficient solutions to a wide variety of problems in parallel computing and, more generally, in computer science. A vast literature exists on bio- and nature-inspired approaches for solving an impressive array of optimization and machine learning problems in all key areas of parallel processing and computer science. Rather remarkably, most of the nature-inspired techniques and related paradigms are inherently parallel. Thus, solutions based on such methods can be conveniently implemented on parallel architectures.

In response to the call for papers of this workshop, a variety of papers in these topics was received from Europe, USA, Australia, North Africa, Middle-East and South America, hence qualifying NIDISC as an actual international workshop. The workshop chairs have carefully considered the suitability of the topics for the workshop and also ranked the manuscripts on their original contributions. As a result, 11 manuscripts are selected to be presented in the NIDISC 2013 workshop and to be included in these workshop proceedings. This collection of papers is a good sample of the theoretical and practical aspects of the research in nature inspired techniques and paradigms applied to the area of parallel computing and metaheuristics. The accepted papers span across a variety of topics ranging from dynamic resource allocation in P2P-VoD systems to energy-efficient broadcasting protocol tuning in MANETs and C-source code obfuscator optimization. The program also includes an invited keynote by Prof. H.J. Siegel from Colorado State University (CSU) entitled *Energy-Aware Robust Resource Management for Parallel Computing Systems*.

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