

Editorial: Computing 2065

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We do not try to predict the future but contemplate on a role of computing in future technologies and envisage would be things to occur. Future of computing is polymorph and elusive.

Opinions presented in this special issue are that the future is ‘existence in computation’ (Selim Akl), artificial neural networks (Steve Furber), re-programming the matter (Hector Zenil), non-beneficialness of technology (Arnold L. Rosenberg), networks (Eddie Cheng and colleagues), reversibility (Kenichi Morita), big data (Rodrigo F. de Mello, and colleagues), making computers based on the processes which are hard to simulate (Vladik Kreinovich).

When discussing the future it does not really matter what you say but it matters who you are. Leading authors of this special issue are super-stars.

Steve Furber was a principal designed of BBC Microcomputer and the ARM 32-bit RISC microprocessor, both of which earned Acorn Computers a Queen’s Award for Technology, his research interests include neural systems engineering, systems-on-chip and asynchronous systems; his most cited work is a book on principles of asynchronous circuit design [8].

Selim Akl’s research interests are in algorithm design and analysis, in particular for problems in parallel computing and unconventional computation; his most cited work is on a cryptography based scheme for controlling access to data in an organization where hierarchy is represented by a partially ordered set [1].

Arnold L. Rosenberg focuses on scheduling complex computations for modern task-hungry, dynamically heterogeneous computing platforms, and the algorithms of ant-inspired multi-robot systems; his most cited paper is on efficient algorithms for detecting repeated patterns in string, trees and arrays [6].

Kenichi Morita works on reversible computation, cellular automata, Turing machines, grammars and array languages, his most cited paper is about computational universality of one-dimensional reversible cellular automata [7].

Hector Zenil is a ‘computational natural scientist’ studying computability and causality leading to algorithmic information dynamics; his most cited work is on the algorithmic complexity for short strings related to the behavior of small Turing machines [3].

Eddie Cheng works in combinatorial optimization, integer and linear programming, and network analysis; his most cited paper was on routing and scheduling problem [2].

Vladik Kreinovich studies interval computations, intelligent control (including fuzzy and neural approaches), reasoning under uncertainty; his most cited work is an overview on computing with uncertain numbers [5].

Rodrigo F. de Mello’s research interests focus on time series analysis, time series prediction, machine learning, load Balancing; his most cited work is on evolution of scheduling approaches, focusing on distributed environments [4].

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