INVITED LECTURE
TUESDAY DECEMBER 17, 2019
7pm, KALAMARIA PREMISES, ETHNIKIS ANTISTASIS 16

Title: The Difficulty of Concurrent Computing and How to Alleviate it

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Abstract: We are well into the era of multi-core architectures and as the applications' demands are still growing, we soon expect to see the first many-cores which will feature many hundreds or thousands of cores. Refactoring software to introduce as much parallelism as possible is therefore of crucial importance in order to take advantage of the massively parallel nature of current and future multi-core and many-core machines. A major obstacle in this direction comes from the difficulty of achieving efficient synchronization and communication between threads that run concurrently. This lecture aims to alleviate this difficulty by presenting state-of-the-art synchronization mechanisms and highly-efficient fundamental concurrent data structures.

Panagiota Fatourou is an Associate Professor at the Department of Computer Science of the University of Crete, Greece and the Institute of Computer Science (ICS) of the Foundation for Research and Technology - Hellas (FORTH). She has been a visiting Professor at the School of Computer and Communication Sciences, École Polytechnique Fédérale de Lausanne in Switzerland. Prior to joining the University of Crete and FORTH ICS, she was a full-time faculty member at the Department of Computer Science & Engineering of the University of Ioannina. She has worked as a postdoc at Max-Planck Institut für Informatik, Saarbrücken, Germany, and at the Computer Science Department of the University of Toronto, Canada. Panagiota Fatourou is the chair of the ACM Europe Council. She has served as the editor of the Distributed Computing Column of the Bulletin of the European Association for Theoretical Computer Science (BEATCS) and as the General Chair of the ACM Symposium on Principles of Distributed Computing (PODC 2013). She is a member-at-large of the steering committee of the ACM Symposium on Principles of Distributed Computing (PODC) and she has served in the steering committee of the International Conference on Principles of Distributed Systems (OPODIS). She has participated in the PC of 38 conferences. She has been an ACM Distinguished Speaker. Panagiota Fatourou has been the coordinator of a Marie-Curie Initial Training Network and she has participated in many additional research and development projects mostly funded by the European Commission. Her research interests focus on the theory of parallel and distributed computing. Her research work appears in the most prestigious conferences and journals in her field.