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DESCRIPTION

*Theoretical Computer Science* is mathematical and abstract in spirit, but it derives its motivation from practical and everyday computation. Its aim is to understand the nature of computation and, as a consequence of this understanding, provide more efficient methodologies. All papers introducing or studying mathematical, logic and formal concepts and methods are welcome, provided that their motivation is clearly drawn from the field of computing.

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Papers published in *Theoretical Computer Science* are grouped in three sections according to their nature. The first section ‘Algorithms, automata, complexity and games’ is devoted to the study of algorithms and their complexity using analytical, combinatorial or probabilistic methods. It includes the whole field of abstract complexity (i.e. all the results about the hierarchies that can be defined using Turing machines), the whole field of automata and language theory (including automata on infinite words and infinitary languages), the whole field of geometrical (graphic) applications and the whole field of measurement of system performance using statistical methods.

The second section, ‘Logic, semantics and theory of programming’, is devoted to formal methods to check properties of programs or implement formally described languages; it contains all papers dealing with semantics of sequential and parallel programming languages. All formal methods treating these problems are published in this section, including rewriting techniques, abstract data types, automatic theorem proving, calculi such as SCP or CCS, Petri nets, new logic calculi and developments in categorical methods.

The third section, ‘Natural Computing’, is devoted to the study of computing occurring in nature and computing inspired by nature. In the rapidly evolving field of computer science, natural computing plays an important role as the catalyst for the synergy of human designed computing with the computing going on in nature. This synergy leads to a deeper and broader understanding of the nature of computation. Although natural computing is concerned also with experiments and applications, this section of Theoretical Computer Science is focused on the theoretical aspects of natural computing with clear relevance to computing. Among others, it will contain papers dealing with the theoretical issues in evolutionary computing, neural networks, molecular computing, and quantum computing.

*Theoretical Computer Science* will now publish high-quality advanced introductions. Advanced introductions should cover a focused topic within the scope of TCS at a level that would be appropriate
for a scientist who is new to the topic and wishes to gain an up-to-date understanding. Articles should be self-contained, including motivation and basic definitions, and proceed to advanced material and/or open problems which may - but need not - include new results. Sufficient references should be given to provide the reader with entry points to the research literature on the topic as well as the origins of the main ideas. Submissions will be judged on the quality of the content and presentation as well as the timeliness of the topic.

AUDIENCE

Researchers in the Theoretical Aspects of Computer Science.

IMPACT FACTOR

2018: 0.718 © Clarivate Analytics Journal Citation Reports 2019

ABSTRACTING AND INDEXING

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Computer Abstracts
Engineering Index
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Introduction

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The practice of peer review is to ensure that good science is published. It is an objective process at the heart of good scholarly publishing and is carried out by all reputable scientific journals. Our referees therefore play a vital role in maintaining the high standards of Theoretical Computer Science and all manuscripts are peer reviewed following the procedure outlined below.

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The Editor-in-Chief first screens all manuscripts. It is possible but almost unprecedented for an exceptional manuscript to be accepted at this stage. Those rejected at this stage are insufficiently original, have serious scientific flaws, have poor grammar or English language, or are outside the aims and scope of the journal.

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- Fits the scope of *Theoretical Computer Science*
- Is clearly presented, including linguistic quality
- Correctly references previous relevant work

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State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

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The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

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If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

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