



Integration, The VLSI Journal

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Dr. F.V. Fernandez, Editor-in-Chief



Special Issue on Hardware for Bioinformatics Applications

Description:

Bioinformatics is a research field that proposes algorithms and statistical techniques to allow efficient interpretation, classification and understanding of biological datasets. These applications are in the general benefit of mankind. The datasets typically consist of huge numbers of DNA, RNA, or protein sequences. Sequence alignment is used to assemble the datasets for analysis. Comparisons of homologous sequences, gene finding, and prediction of gene expression are the most common techniques used on assembled datasets; however, analysis of such datasets have many applications throughout all fields of biology. The down-side of bioinformatics-related applications is that they need a humongous computational effort to be executed. Therefore, a lot of research effort is being channeled towards the development of special-purpose hardware accelerators and dedicated parallel processors that allow for efficient execution of this kind of applications.

This special issue is dedicated to put together a collection of scientific and technical contribution to the field of Efficient Hardware for DNA-related Applications, including parallel architectures of hardware accelerators, special-purpose processors, embedded systems, System-On-Chip and Network-On-Chip based implementations dedicated to Bioinformatics. Therefore, we seek original manuscripts for a Special Issue on Hardware for Bioinformatics Applications and related topics.

Submission:

Manuscripts should be submitted online at <http://ees.elsevier.com/vlsi> by **February 29, 2011**. When choosing Article Type, please select “**Special Issue Hardware for Bioinformatics**”. All manuscripts should conform to the standard formats as indicated in the “Guide for Authors” at <http://www.elsevier.com/locate/vlsi>. All papers will be rigorously reviewed by at least three reviewers based on the quality: originality, high scientific quality, well organized and clearly written, sufficient support for assertions and conclusions.

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