Novel design schemes for low-complexity digital filtering

Digital filtering is a useful algorithm that appears in many Digital Signal Processing (DSP) applications, including mobile communications, audio and speech processing, instrumentation, image processing, among others. Since today's society increasingly demands multi-functional, mobile, battery-powered devices, it is necessary to perform this ubiquitous signal processing operation at higher speed and with lower consumptions of power and chip area. In this sense, traditional design techniques are no longer practical and new methods must be developed.

This special session will be focused on novel design schemes for low-complexity digital filters that result in a proper balance among the aforementioned conflicting requirements. Topics of interest for this session include (but are not limited to):

- Subfilter-based design of digital filters with low computational complexity.
- Nature-inspired algorithms for digital filters.
- Multirate-based digital filtering structures.
- Low-complexity shift-and-add (multiplierless) arithmetic blocks with constant coefficients.
- Time-multiplexed multiplierless digital filtering blocks.

General information regarding manuscript submission, important dates, conference fees, local accommodation can be found at the ROPEC page at http://ropec.org.

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Special session organizers.