

**Optics Communications Special Issue on
*Optical Pulse Shaping, Arbitrary Waveform Generation,
and Pulse Characterization***

Submission start

1 September 2010

Submission Deadline

15 December 2010

Guest Editors

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Scope

Techniques for generating, controlling, manipulating, and measuring ultrashort optical pulses and specialized waveforms have become increasingly important in many scientific areas including, among others, ultrahigh speed optical communications, photonic signal processing, studies on the transient and nonlinear properties of materials or molecules, and biophotonics. For example, photonic techniques to generate ultrabroadband radio-frequency (RF) waveforms can overcome electronic bandwidth limitations; the waveforms can then be used to support higher data transmission rate and increased tolerance to multipath interference in radio-over-fiber and wireless communications. In addition to generating specialized waveforms, it is equally important to be capable of their characterization, especially in terms of obtaining phase information. The purpose of this special issue is to provide a snapshot of the state-of-the-art in optical pulse shaping and arbitrary waveform generation, as well as optical pulse characterization.

Fundamentals, enabling technologies, new techniques, and applications will be covered. Topics considered include, but are not limited to, the following:

- Novel approaches, e.g., based on nonlinear effects or that exploit space/frequency-to-time mapping, for pulse shaping, high repetition rate pulse train generation, and arbitrary waveform generation,
- Enabling technologies including grating-based and planar waveguide devices, as well as fully integrated devices,
- Photonic generations of ultrawideband and RF waveforms as well as 100Gbps and beyond multilevel modulation format- and OFDM-based optical signals,
- Applications in broadband communications, material characterization, biophotonics, etc.

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Shaping, Arbitrary Waveform Generation, and Pulse Characterization. Likewise, during the submission process, please select “***Optical Pulse Shaping Special issue***” for the article type and the section/category. All submissions, including invited ones, will be reviewed in accordance with the normal procedures of the journal.