

Call for papers
IEEE Signal Processing Magazine

Special Issue on
**Signal Processing in the Encrypted Domain:
when Cryptography Meets Signal Processing**

Computing with signals that are encrypted or otherwise hidden (often referred to as S.P.E.D. for signal processing in the encrypted domain) is a fascinating challenge that has caught the attention of a large number of researchers. In the last 5 years theoretical and practical advances in this field have been impressive, thus contributing to bring S.P.E.D. technology closer to real life requirements. As a matter of fact, the usage of S.P.E.D. techniques in real-world applications starts being viable, at least in cases where a suitable trade-off between efficiency and security is possible. The goal of this special issue is to introduce the readers of the Signal Processing Magazine to this new exciting and challenging discipline, providing them with the basic primitives S.P.E.D. relies on, and presenting the latest developments in the field, with particular attention to the role that the signal processing community may play in this field.

Tutorial and survey papers, as well as papers illustrating the applications of S.P.E.D. techniques in in selected scenarios are solicited. The topics covered by the special issue include (but are not limited to):

- Cryptographic foundations
 - Homomorphic encryption
 - Garbled circuits
 - Security against active adversaries
 - Multi-party computation for fuzzy signals
 - Novel primitives for S.P.E.D.
- S.P.E.D. models
 - Security models
 - Signal representation in finite rings
 - Complexity models
 - Automatic construction of S.P.E.D. protocols
 - S.P.E.D. implementation of signal processing primitives
- Applications
 - e-health
 - Biometric template protection
 - Digital rights management
 - Privacy protection
 - Anonymous search
 - Data mining
 - Cloud computing
 - Network security
- Other approaches to private signal processing
 - Anonymization
 - Differential privacy
 - Selective encryption
 - Compression of encrypted signals

Submission procedure Prospective authors should submit a 4 page white paper to the IEEE Signal Processing Magazine online manuscript submission website at <http://mc.manuscriptcentral.com/spmag-ieee>. Please consult <http://www.signalprocessingsociety.org/publications/periodicals/spm/> for instructions on how preparing the white paper. Relevance to signal processing and the tutorial value of the paper are key selection criteria.

White paper due: **April 15, 2012**
Invitation notification: **May 7, 2012**
Manuscript due: **July 15, 2012**
Acceptance Notification: **August 31, 2012**

Revised Manuscript due: **September 30, 2012**
Final Acceptance Notification: **October 31, 2012**
Final Manuscript due: **November 20, 2012**
Publication date: **March 2013**

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