Cognitive modelling and learning for advanced signal analysis and understanding (COAST)

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Cognitive modelling and learning has become a new trend for advanced signal analysis, especially for semantic content extraction and understanding. Various approaches have been proposed in recent years to address a range of underlying challenges, including data acquisition, denoising, feature extraction, dimensionality reduction, restoration, data compression, segmentation, detection and classification. In addition, fusion and Big Data mining is also receiving growing attention for enhanced modelling and analysis.

With rapid developments in machine learning, signal processing and big data analysis techniques, in particular compressed sensing, deep learning and multi-kernel based modelling, there are exciting new opportunities for exploiting these advances for semantic signal analysis and understanding in a range of inter-disciplinary research areas. Relevant applications can currently be found in fields ranging from communications, energy and manufacturing to health, security, remote sensing and numerous other fields. As a result, it is timely to summarise recent progress and advancements, including new models, algorithms and innovative applications, particularly those that are focussed on scalability, quality, efficiency and efficacy of solutions. To this end, in this Special Session, we aim to solicit state-of-the-art contributions, and also provide a forum for both academic and industrial research community to report progress and exchange findings.

We are particularly interested in fundamental models, algorithms, integrated solutions and novel applications as well as benchmark data and methods for performance assessment. Researchers in all areas of cognitive signal processing and analysis are invited to this special session.

**Scope**

Topics of interest include:

- Cognitive models & deep learning
- Sparse and compressive sensing
- New features and models
- Swarm intelligence & data fusion
- Denoising & blind signal detection
- Segmentation & classification
- Emerging applications
- Content based indexing & retrieval
- Performance analysis/evaluation

**Organizing Committee**

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**Important Dates**

Submission: 05/03/2017 (extended).

Camera Ready: 17/06/2017.

**Notification:** 25/05/2017.

**More Information**

A special issue in one of the SCI journals is being planned and will be announced later. Additional information for paper formatting and preparation can be found at the European Signal Processing Conference 2017 website [http://www.eusipco2017.org/](http://www.eusipco2017.org/).