



Call for Papers
INFORMATION FUSION
Special Issue on

“Localized Algorithms for Information Fusion in Resource-Constrained Networks”

The Information Fusion Journal (IFJ), an Elsevier publication, is planning a special issue devoted to Localized Algorithms for Information Fusion in Resource-Constrained Networks. Resource-Constrained Networks (RCNs) include a wide variety of networks in which resources – such as processing, communication, and energy – are limited. Examples of RCNs include ad hoc networks, sensor networks, mobile networks, and pervasive systems. In RCNs, the tradeoff between data quality and resource usage (especially energy) is a major concern. In this case, Localized Algorithms and Information Fusion are particularly interesting for RCNs, since the development of efficient practical solutions and algorithms is possibly the most challenging task for such networks. On one hand, Localized Algorithms are special distributed algorithms in which only a subset of nodes partakes in the network tasks, such as data acquisition, processing, and communication. On the other hand, Information Fusion is often used for improving the quality of data being transmitted in these networks. Thus, Localized Algorithms for Information Fusion must deal with the challenge of working with partial views, or incomplete data, to provide accurate results at reduced cost.

This special issue will cover a broad range of aspects of Localized Algorithms for Information Fusion in RCNs, including ad hoc and mobile networks, wireless sensor networks, networked pervasive systems. We seek technical papers describing original (previously unpublished in any form or forum) ideas, groundbreaking results, and quantified system experiences. We especially encourage submissions that highlight practical deployments of RCNs, new application domains, and critical surveys of the state-of-the-art. Topics of interest for this special issue include, but are not limited to:

- *In-network query processing and data storage;*
- *Localized signal processing;*
- *Localized estimation, reasoning, and inference;*
- *Localized information fusion for time synchronization,*
- *Localized information fusion for location discovery and location-based services;*
- *Localized information fusion for reliability and fault tolerance;*
- *Localized information fusion for communication protocols at all layers (medium access control, scheduling, routing, transport, and application);*
- *Quality-aware resource management using localized information fusion;*
- *Mobility control and coordination;*
- *Optimization techniques for localized information fusion in homogeneous and heterogeneous RCNs;*
- *Localized information fusion for data compression and distributed source coding;*

Manuscripts must describe original, completed, and unpublished work not currently under review by any other journal, magazine, or conference.

Submission Instructions

*Prospective authors should follow the Information Fusion (Elsevier) journal manuscript format described at <http://www.elsevier.com/locate/inffus>. Manuscripts should be submitted electronically online at <http://ees.elsevier.com/inffus>. In the submission process, the authors should clearly indicate that the submission is to be considered for this special issue. Manuscripts must be in single-column format, double-spaced, at least 11 pt fonts, and should not exceed 25 pages including figures, tables, algorithms, and references. **Simultaneously, please also send without fail an electronic copy (PDF only), to the Guest Editor(s) listed below.***



Submission Deadline: February 28, 2010

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