Call for Papers

Special Issue on "How Can Multimedia Help Ecology?"

Multimedia Systems Journal, Springer

With the recent progress in digital cameras and sensors, as well as in network bandwidth and information storage capacities, the production of multimedia data has become an easy task. This has resulted in a huge amount of multimedia available on the web, in broadcast data streams, or in personal and professional databases. This explosion of multimedia data has created the urgent need for efficient organization, browsing and retrieval tools. It has also generated new possibilities for exploiting multimedia data in diverse and specialized applications that can significantly gain from the analysis and understanding of such data. Whilst a large number of multimedia analysis and understanding techniques have been developed specifically for investigating events and behaviors in human-centered applications, such as sports and surveillance, relatively little attention has been paid to the understanding of ecology-related multimedia content. On the other hand, ecology is nowadays being considered an interdisciplinary, collaborative and data intensive science and as such discovering, integrating and analyzing heterogeneous data are of key importance for researchers to address complex questions ranging from single particles to animals to the biosphere. This has led to the proliferation of ecology-related multimedia content. For instance, many Terabytes of data (videos, images and audio recordings) of monitoring forest animals and fish are being continuously collected with the help of cameras capturing birds' nests, wolves, badgers, foxes etc. The continuous collection of multimedia data for pollution monitoring is another important example. The automated analysis of such multimedia data poses new challenges, and the results of such analyses are of great interest to investigators such as biologists in their strive towards monitoring and analyzing the natural environment, promoting its preservation, and understanding the behavior and interactions of the living organisms (insects, animals, etc.) that are part of it.

This special issue will present and report on the most recent methods for the management, processing, interpretation, and visualization of multimedia data recorded for monitoring ecological systems with aim to provide powerful tools to make ecologists understand and model different aspects of life: from interactions among small organisms to processes spanning the entire planet.

Topics of interest for this special issue include, but are not limited to:

- Ecological Multimedia Content Analysis and Processing
- Ecological Multimedia Indexing and Retrieval
- Computer Vision for Ecological Video/Image Processing
- Animals and Insects Behavior and Event Understanding
- Video and Signal Based Surveillance of Ecological Sites
- Participatory and Social Environmental Media Analysis
- Multimedia Systems and Middleware for Ecological Data
- Summarization, browsing and organization of ecological content
- Interfaces, presentation, integration and visualization tools of ecological data
- Semantic Web approaches for ecological data sharing and representation

Paper submission deadline: March 15, 2014.
(Results of first review round: June 15, 2014; Revised manuscripts due: September 15, 2014; Final decisions: November 30, 2014)
Submissions for this special issue must follow the standard submission guidelines of the Multimedia Systems Journal. Submissions are made through https://www.editorialmanager.com/mmsj/. In submitting a manuscript to this special issue, the authors acknowledge that no paper substantially similar in content has been published or submitted for publication elsewhere.

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