

## Standardisation in Semantic Image Annotation and Interaction



On **31 August 2015**, in **Nice**, Côte d'Azur, at **EUSIPCO 2015** (the 2015 European Signal Processing Conference), **Frederik Temmermans** (Vrije Universiteit Brussel ? iMinds, Belgium), **Jaime Delgado** (Universitat Politècnica de Catalunya, Spain) and **Mario Döllner** (University of applied science FH Kufstein/Tirol, Austria) will present a tutorial on Standardisation in Semantic Image Annotation and Interaction.

The experts target the general public interested in **interoperable metadata management**, **interoperable access to image** and **semantic image descriptions**. They will mainly focus on standardisation efforts related to such topics. The presented content is highly relevant for application developers (mobile, web, native) dealing with image content as well as content providers (e.g. providers of high resolution imagery, cultural heritage contents etc.)

Contemporary mobile or web-based applications interact with images in various ways. Multiple platforms or applications manipulate the same content. Too often, this leads to frustrating side effects. Annotations may be not retained when an image is moved from one platform to another or metadata might be not processed correctly because a different schema or vocabulary is used. These problems can be avoided by using the right tools and standards. The tutorial will cover three parts in order to provide insights in the domain of semantic image annotations and its interlinking and to show how to avoid the aforementioned problems.

**The first part** will give a general introduction to **linked data** and **image annotations**. It will survey the main state-of-the-art concepts in the domain of image annotation and indexing. Modern semantic image annotation representations in research will be briefly covered, which include **RDF/Ontology** as well as **XML** based approaches. The main focus will be pointed on **Linked Media** concepts in the domain of images.

**The second part** will highlight **interoperability issues in image metadata management** and introduce standardised solutions. While presenting an overview of different initiatives (**JPEG**, **MPEG**, **W3C**), the main focus will be pointed on the **Joint Photographic Experts Group** (JPEG, ISO/IEC JTC1/SC29/WG1), which released a new standard on next generation image metadata. The main goal of the standard is to provide a simple and uniform way of annotating JPEG images with metadata compliant to the Linked Data principles.

**The last part** of the tutorial will focus on interaction with images and how to take advantage once images are correctly annotated, to bridge the gap between **image data and semantics**. A basic type of interaction with images is image search. Semantic annotations allow language independent search and enriched search by linking with external resources. Usage of standardised query languages and APIs allow distributed search over multiple platforms. Also, the concept of visual search and the relation with automated annotations will be handled. Again, the main focus will be on supporting standards such as **JPEG's JPSearch framework**.

For further info on the tutorial, please contact **Dr Frederik Temmermans**: [femmerm@etro.vub.ac.be](mailto:femmerm@etro.vub.ac.be)



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**About the conference:**

The 2015 European Signal Processing Conference (EUSIPCO 2015) is the 23rd of its kind organised by the European Association for Signal Processing (**EURASIP**). The conference will be held at the Nice Congress Centre, in Nice, France, and is hosted by **EURECOM** in collaboration with partners of the **campus SophiaTech** (Université Nice Sophia Antipolis, INRIA and CNRS I3S). The focus will be on **signal processing theory, algorithms and applications**. Visit the [EUSIPCO 2015 website](#)