

## Volume 6 - Issue 3, 2006 - My Opinion

### Interview with Prof. Davide Caramella

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#### Interviewee

**Prof. Davide Caramella**

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#### **Tell Us About Your Professional Background.**

I am an Academic Radiologist at the University of Pisa. My main clinical role is in the area of imaging and intervention in oncology. Since several years ago, I have also been involved in research projects concerning information technology applications in radiology. This gave me the opportunity to explore various issues about teleradiology, PACS systems, advanced image processing and internet applications for radiology. Throughout my fifteen years of activity in this field, I occupied different responsibilities at both a national and international level; in particular I was President of EuroPACS and am presently the Scientific Director of EuroRad.

#### **How did You Come to be Involved With e-Learning Initiatives?**

When we first wanted to publish scientific content on our university website, it became clear that the hypermedia capabilities of the internet can be ideally exploited for preparing teaching materials for radiology. We therefore initially prepared a resource devoted to the diagnosis and interventions of liver lesions, and we had considerable positive feedback from both physicians and patients. I was therefore encouraged to participate in the European Project 'EURORAD' that started in 1997 by Prof. Robert Sigal, with the aim of establishing the first peer-reviewed pan-European database of teaching files.

#### **How can PACS Improve the Quality of and Access to Teaching Files?**

PACS provides a complete clinical archive of our patients. Those who have clinical histories of imaging findings that are unusual or rare can be easily converted into electronic teaching files. In fact, the images are already in digital format, multimodality examinations are often available and in all cases the radiological report contains the relevant information. Such a multimedia teaching file can be kept within the local system to be used as reference by the local radiologists or can be shared with others via the network.

#### **What sorts of informatics are necessary to support an e-Learning system, and what are the costs involved?**

As a matter of fact, PACS providers might add e-learning tools at virtually no additional costs to themselves, and consequently for the users. The issue is that the vendors must realise that we radiologists are getting more and more impatient with systems that do not allow radiologists to access the PACS archive by search criteria different from just the name of the patients, and do not provide functions such as "personal scientific archive". It looks like in the future, these aspects will have a relevant impact on the selection of the PACS vendor.

#### **What do You Envisage for the Future of PACS, and Related Teleradiology and e-Learning?**

PACS are more and more regarded as a regional facility as opposed to the traditional view of PACS being a resource for distributing images and reports within the hospital. This is due to many factors; hospitals are merging on a regional basis to decrease costs, patients are often seen in different facilities in their region, and subspecialty competence is not homogeneously distributed, etc. As a consequence in the future, where regional PACS systems are concerned, teleradiology will be just another PACS function and will progressively be used not only for telereporting but also for e-Learning.

#### **What Future Developments are Envisaged for the Continued Growth of EURORAD?**

EURORAD recently obtained a grant from pharmaceutical company Bracco, in recognition of the educational value of our teaching files, that are published only after having gone through rigorous peer-review implemented by the EURORAD Editorial Board. In the future EURORAD should be integrated in the general process of continuing medical education in radiology. There is no doubt that publishing a EURORAD case, or accessing to a certain number of published cases, allows the radiologist to focus on specific topics and to hone his or her radiological skills.

#### **What are the Real Benefits for Users of e-Learning Tools Such as EURORAD?**

The main advantage is that e-Learning resources have no limitation in terms of number and size of image. In an article published on a printed journal you can have up to a dozen images which usually have "jpeg quality". On the other hand, our department has made available on the web (<http://62.101.69.100:8080/archive/index.jsp>), an educational resource which contains hundreds of entire diagnostic examinations (up to more than 100 images) in full DICOM format. They can be downloaded and even added to the local archive as reference cases. Limitations of e-Learning are non-existent, when the comparison is made with printed teaching material. On the other hand there are possible limitations if we compare e-Learning with traditional "oral" interactive teaching. The importance of the physical presence of the teacher cannot be underestimated, and this presence will be less frequent as e-Learning applications will have widespread availability.

Published on : Fri, 30 Jun 2006