

## **Ari Ide-Ektessabi, Professor, Graduate School of Engineering, Kyoto University. (Japan)**

His field of research was designing systems of charged particle beams for fabrication and analysis of surfaces and materials. He joined Kyoto University as an associate professor in 1991 and as a professor from 2001. He was the leader of six major projects related to the application of advanced technology in ***Advanced High Resolution Imaging Technology for Conservation of Important artifacts in Libraries and Archives.***

### **Lecture: A brief review on high-resolution digitization of cultural heritage in Japan and China**

For more than one decade, we have been engaged in research and development of equipment for safe digitization of cultural heritage assets. The technology has already been applied on various sites in China, Korea, United Kingdom, Italy, Spain, United States, Australia, Hong Kong, Philippines, Egypt, Iran, Myanmar, and widely in Japan for the cases of world's most important cultural assets. In this talk, we will give a report of the analytical imaging of cultural heritage from our experience in digitizing more than 10000 large objects, in more than 60 different projects, of three different categories. In this talk we also bring into discussion the problems of intellectual property rights associated with the high quality digitization and introduce some important projects that has been done by our group during 2015.

1. Ultra high-resolution trichromatic scanning which in some cases used in tandem with IR imaging simultaneously. In the past, it was used to scan objects as large as 3 m by 10 m.
2. Ultra high-resolution transmission light scanning for historical glass plates and films.
3. Multispectral imaging (8 filters or more) with the same spatial resolution as the trichromatic scanner. Using spectral images captured with different filters, we could reconstruct the spectral reflectance curve within spot sizes of about 20 micrometer (1200 dpi).
4. Polarized light imaging for detailed investigation on the technologies related to gold, silver, and other metallic elements with shiny surface characteristics typically found in Japanese and Chinese cultural heritage.

Intellectual Property Rights related to digital images is an important subject that should be considered in all of the above activities. This subject will be discussed according to our on the site experiences.