



EUROPEAN ACADEMY
of Sciences and Arts

COLLOQUIUM of the Global p-XRF Network with European Academy of Sciences & Arts



Colloquia on portable X-Ray Fluorescence September 30th 2026, 05:00-07:00 pm CET

Dr. Elizabeth H. Paris

"Understanding Metal Objects and Metalworking at Mayapan: A perspective from portable XRF Spectrometry"

Abstract:

At the Postclassic period (A.D. 1100–1450) city of Mayapan, Yucatan, Mexico, skilled craftspersons developed an elaborate local tradition of copper-alloy metalworking that utilized and adapted materials, techniques and technologies from West and Central Mexico. Through extensive long-distance exchange networks, Mayapan's local inhabitants were able to access a wide range of metal trade goods, and selectively recast them into small bells, ingots, and other objects, leaving behind metallurgical ceramics such as mold fragments and blowpipe tips. This presentation discusses the analysis of a large sample of metal objects from Mayapan using a portable XRF spectrometer, providing insight into the range of copper alloys imported and recast at Mayapan, and particular alloys seemingly favored by local metalworkers. It also highlights the contributions of portable XRF spectrometry for large-scale, non-destructive analysis of archaeological metal objects, as well as the particular challenges posed by metal items.

Dr. Jennifer Meanwell

"Portable X-Ray Fluorescence and the Investigation of Metallurgical Ceramics at Mayapan, Mexico"

Abstract:

Archaeologists interested in craft production frequently build interpretations from a limited array of surviving objects, but the availability of production debris allows for a significantly enriched range of analyses and interpretations. Particularly in the case of metallurgical ceramics, these items are rarely recovered archaeologically, and therefore finding ways to study them non-destructively is even more important. In the case of Mayapan, portable XRF data provided a first-pass analytical technique to identify probable metallurgical ceramics at the site and offered a way to selectively sample the collection for export and further investigation. In this presentation, we discuss the methodology behind our research and what we have learned about metallurgical production through the study of the unique collection of metallurgical ceramics present at Mayapan.

Led by the network and endorsed by the European Academy of Sciences & Arts/STEMAC Expert Group, we are organizing a series of online colloquia to explore the use of pXRF in archaeology and cultural heritage. The colloquia aim to provide a platform for knowledge exchange, featuring expert presentations from both the natural sciences and the humanities. Each session will include 30-minute talks by specialists from archaeology and natural sciences, followed by a 30-minute discussion. Topics include:

- Resources and guidance for the XRF community
- Case studies and exemplary applications
- Opportunities for knowledge exchange

Recordings of the colloquia will be available, and participants can submit case study reviews for publication in PEASA (www.peasa.eu).

Contact us:

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