

The characterisation and classification of archaeological glass samples using multi-elemental analysis

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The aim of this project is to use analytical techniques to examine the materials used to make glass as well as to classify glass into groups using trace elemental analysis with a view to provenancing the glass. The main objectives would be:

1. Identify the major and minor component material of analysed glass samples.
2. Classify the glass into categories using major and trace elements that they contain.
3. Identify elements associated with the colour, translucency or opaqueness of the glass, e.g. copper, antimony, tin, iron etc.
4. Compile a database of excavated archaeological glass samples.
5. Compile a database of results from analysed samples against which future samples can be compared.
6. Use the data from the analysed samples to investigate the social context in which they were created and used, in particular examining trade routes and past economies.

The methodology for this thesis will include desk research and lab-based use of different analytical instruments to analyse samples of glass from different sources. It is hoped to analyse as much archaeologically sourced glass as is possible and the majority of the focus of the study will be on finds from Ireland. Glass was a much-valued commodity in past societies and analysis of it when found in archaeological contexts can provide important information on trading routes, economies and more.

The desk-based research will include researching the historical and archaeological evidence for the production and use of glass throughout the world, although with a particular focus on Ireland. Work that has previously been done on glass using scientific techniques but particularly XRF will be examined and compared to the study. Information will also be compiled of finds of glass from archaeological contexts in Ireland. The project is interdisciplinary; using the scientific analysis but also putting the results into a social context.

Suitable candidate

The successful candidate should:

- hold an honours degree in Archaeology or Archaeological Science (at least a 2:1H)
- have experience in the analysis of glass (archaeological or non-archaeological) using XRF
- have scientific training in the use of analytical instrumentation
- have a good knowledge of the role of glass in prehistoric and historic Ireland and overseas