

Archeological Chemistry

2023 AAS/ARAS Training Program

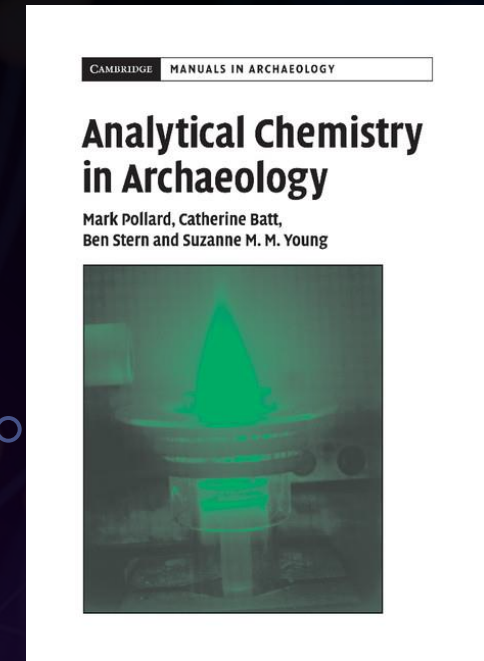
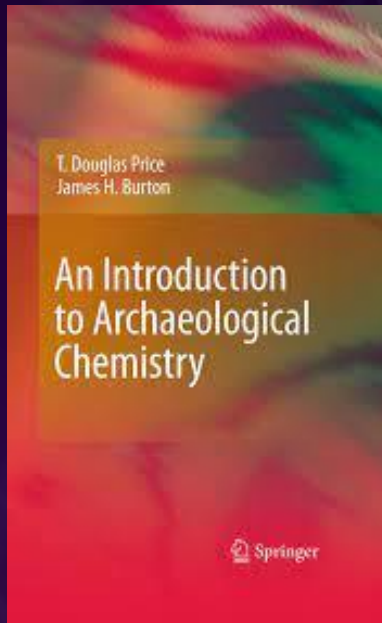
Introduction

Dr. Glen Akridge, Associate Professor of Chemistry/Astronomy
Northwest Arkansas Community College, Bentonville

- B.S. in Chemistry from Arkansas State University
- Ph.D. in Analytical Chemistry/Cosmochemistry from the Univ. of Arkansas
- 36-year member of the Arkansas Archeological Society

What is Archeological Chemistry?

Archeological chemistry, a subfield of archeometry, is the application of techniques and approaches from chemistry and the chemical sciences to the analysis of the material record of past societies.



Archeological Chemistry

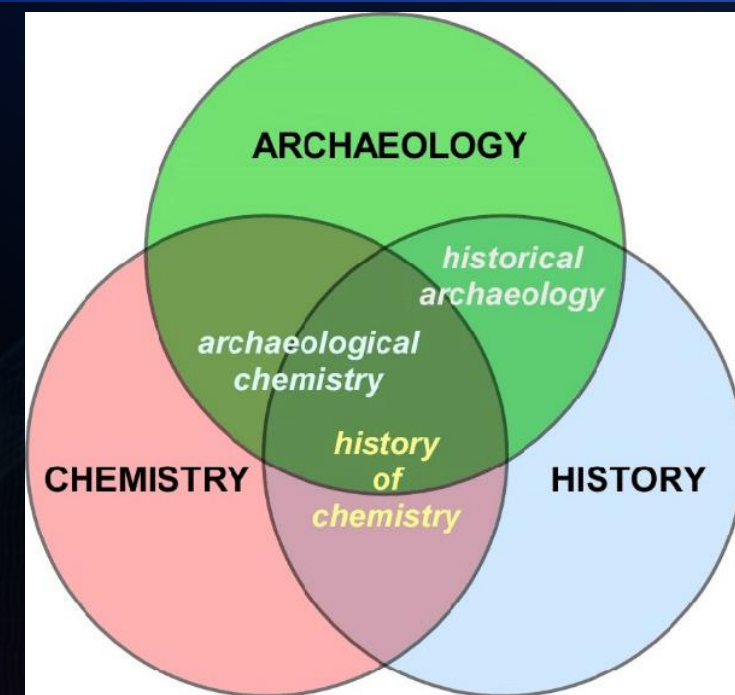
Seminar Topics

- Introduction to Chemistry
- Elemental Analysis
- Stable Isotopes
- Radiocarbon Dating, TL/OSL Dating, ...
- Biomolecular Analysis

Archeological Chemistry Publications

Books

- *Archaeological Chemistry*, Pollard et al 2017
- *An Introduction to Archaeological Chemistry*, Price and Burton 2011
- *Archaeological Chemistry: A Multi-Disciplinary Analysis of the Past*, Orna and Rasmussen 2020
- *Traces of the Past: Unraveling the Secrets of Archaeology through Chemistry*, Lambert 1998
- *Archaeological Chemistry*, Goffe 2006
- *Archaeological Chemistry: Materials, Methods, and Meaning*, Jakes 2002



Journals

- *Journal of Archaeological Science*
- *Archaeometry*
- *Bulletin for the History of Chemistry*

History of Archaeological Chemistry

- Chemical analysis of bronzes – 1777
 - Johann Christian Wiegleb
 - First archaeometallurgist
- Determined composition of Greek and Roman coins – 1795
 - Martin Heinrich Klaproth
 - Used gravimetric analysis
- Greek, Roman, and Gaulish coin compositions - 1790
 - Jerome Dize
 - Not as detailed as Klaproth study
- Analysis of Rome and Pompeii pigments – 1815
 - Humphry Davy
 - Identified *Egyptian Blue*
- Roman Pottery Glaze– 1847
 - Michael Faraday
 - Discovered presence of lead
- German Bronze Urn Contents
 - August Kekule - 1870
 - Distillation products of pine wood
- Thin section analysis of Mesa Verde sherds - 1893
 - Gustav Nordenskiold
 - One of first such analyses on New World materials
- Athenian pottery composition - 1895
 - Theodore William Richards
 - First American to win Nobel Prize in Chemistry

Contact Info

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