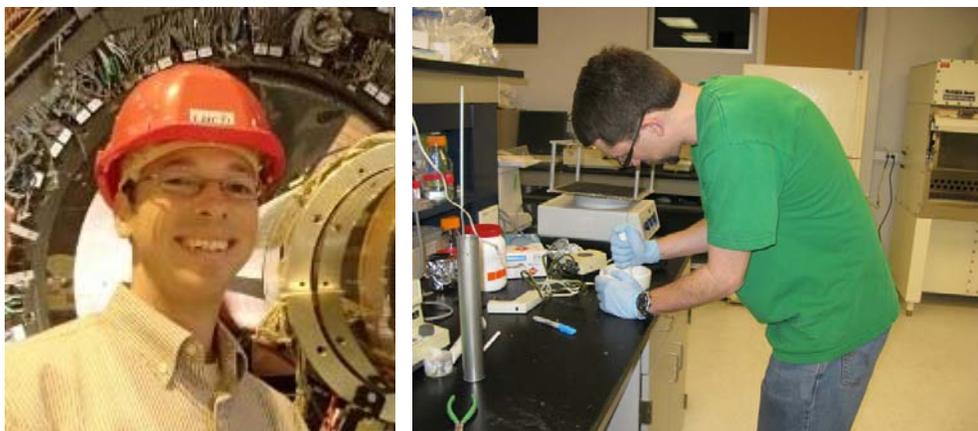


## Selected Adventures in Fundamental and Applied Mass Spectrometry

G. Asher Newsome

Research Physical Scientist, Museum Conservation Institute

Mass spectrometry (MS) and its associated techniques comprise a versatile and powerful suite of tools for chemical analysis. Although no single mass spectrometer can do everything, a well-equipped laboratory operated by broadly-experienced personnel is a powerful research force. In this presentation I review three very different projects from my past that represent major modes of analysis: liquid chromatography-MS, gas chromatography-MS, and ambient ionization-MS. I also discuss my goals for expanding MCI's laboratory capabilities and for developing mass spectrometry projects at the Smithsonian.



## Proteomics: From Disease to Dinosaurs

Timothy Cleland

Research Physical Scientist, Museum Conservation Institute

Mass spectrometry based proteomics provides the capability to detect and characterize proteins and post-translational modifications from a variety of biological materials, from modern diseases to proteins preserved within fossil bone. In this presentation, I will discuss my past projects characterizing intact proteins from HeLa cells, developing bone protein extraction and extant applications, and applying proteomics to subfossil and fossil remains including dinosaurs. I will briefly discuss how the Smithsonian can use these techniques in paleoproteomics and museum based proteomics.

# MCI

## *Topics in Museum Conservation*

**March 23, 2017**  
**9:30 am**  
**Thursday**

***MCI Theater***

**MUSEUM SUPPORT CENTER**

**4210 Silver Hill Road**

**Suitland, MD 20746**

**301-238-1240**



**Smithsonian**  
***Museum Conservation Institute***