

**DEPARTAMENT  
DE QUÍMICA  
DE LA UAB**

*Cicle de conferències de química*

**Interfaces, Heavy Metals, Microbes  
and Plants: Shedding New Light on  
Environmental Science at the  
Molecular Level**

**Prof. Gordon E. Brown, Jr.**

**School of Earth Sciences and Stanford  
Synchrotron Radiation Laboratory**

**Dijous 6 d'Abril**

**12:00h**

**Sala d'Actes  
Facultat de Ciències**

**UAB**

amb la col·laboració del Grup de Tècniques de Separació en Química (GTS)



# **Interfaces, Heavy Metals, Microbes and Plants: Shedding New Light on Environmental Science at the Molecular Level**

**Gordon E. Brown, Jr.  
School of Earth Sciences and Stanford Synchrotron Radiation Laboratory  
Stanford University**

This talk will focus on recent applications of synchrotron radiation-based methods to environmental processes and problems, particularly those occurring at environmental interfaces. Following a brief introduction to synchrotron radiation (SR), SR sources, and some of the SR methods now being used to examine complex environmental samples, we will examine a number of case studies aimed at addressing specific environmental processes and problems, including heavy metal sorption processes at mineral/aqueous solution and plant/solution interfaces, the role of microorganisms in heavy metal transformations, the effect of biofilm and natural organic matter coatings on mineral surfaces in heavy metal sequestration, Pb contamination at Leadville, Colorado, Zn contamination in soils in northern France, Cr and U contamination problems in the vadose zone at Hanford, Washington, and As contamination problems in Bangladesh.