



- IAP 2007 12.091 Radon Research in Multi Disciplines: A Review  
<http://ocw.mit.edu/OcwWeb/Earth--Atmospheric--and-Planetary-Sciences/12-091January--IAP--2007/CourseHome/index.htm>

#### **COURSE OUTLINE**

- I. Fundamentals of radon physics: review**
  - II. Radon research in geology**
  - III. Radon research in radiation biology**
  - IV. Radon research in medicine**
  - V. Radon research in health physics**
  - VI. Summary**
- IAP 2006 12.091 Medical Geology/Geochemistry: An Exposure  
<http://ocw.mit.edu/OcwWeb/Earth--Atmospheric--and-Planetary-Sciences/12-091January--IAP--2006/CourseHome/index.htm>
    - I. Introduction:**  
**Definitions and terminology of Medical Geology/Geochemistry**
    - II. Classification of elements:**  
**Periodic table of elements**  
**Major, minor and trace Elements: Geological and biological materials**  
**Geochemical classification**
    - III. Elemental link between geosphere and biosphere:**  
**An attempt to understanding**
    - IV. Essential and non-essential elements with reference to human health**
    - V. Summary**  
**Selection of Elements for Report and Presentation**
  - IAP 2005 12.091 Trace Element Analysis of Geological, Biological and Environmental Materials by Neutron Activation Analysis: An Exposure

## **COURSE OUTLINE**

- I. Introduction**  
**Neutron Activation Analysis Fundamental Concepts**
- II. Gamma Detection - Instrumentation Principles**  
**Neutron Activation Analysis – Applications:**  
**Trace Element Analysis of Geological, Biological and Environmental Materials**
- III. Experimental Procedures**  
**Hands on Experience with Sample Preparation**
- IV. Hands on Experience with Instruments**  
**Trace element Analysis by Neutron Activation Analysis –**  
**A Case Study of Environmental Samples Using the Instruments**
- V. Review & Conclusions**  
**Trace Element Analysis – Case Report**

- In situ airborne radon monitoring for standards compliance with OSHA\_NRC\_EPA,  
P. Jagam and P. Ila, AARST International Radon Symposium, Kansas City, Mo, U. S. A, September 18 - 20, 2006 Conference Proceedings.

Abstract: In situ radon monitoring is necessary to qualify and characterize work place and other environments in order to determine the need for occupational exposure assessments, to demonstrate compliance with standards and to verify the effectiveness of mitigation efforts. Web-based, energy sensitive electrostatic chamber radon monitoring system, developed at the University of Guelph, can be used to accomplish such occupational and environmental monitoring needs. This presentation will illustrate the application of this monitoring system to various radon monitoring challenges like dynamic surveillance to define restricted “airborne radioactive areas”, assessing the need for radon exposure monitoring of workers providing real-time radon concentration measurements

- Trace element concentrations of new USGS standards AGV2, BCR2, BHVO2, DTS2 and GSP2 by instrumental neutron activation analysis,  
P. Ila and F. A. Frey,  
Journal of Radioanalytical and Nuclear Chemistry 244 (2000) 599-602.