

ANS National Meeting:
2009 Annual Meeting

Session Title:
Medical Applications of Radioisotopes

Session Type:
Invited and Contributed

Sponsoring Division:
IRD

Session Organizer:
Marc Garland

Division Representative:
Marc Garland

Summary:

This session encompasses therapeutic and diagnostic applications of radioisotopes as well as production, separation, and conjugation methods for those isotopes. Therapeutic applications include radioimmunotherapy and brachytherapy while diagnostic applications include Positron Emission Tomography and Single Photon Emission Computed Tomography. Production methods include reactor- and accelerator-based strategies. In addition to radiochemical processes for isotope separation, the radiochemistry necessary for conjugation of radioisotopes to targeting molecules for the production of radiopharmaceuticals will be covered. Dosimetric methods for therapeutic and diagnostic applications will also be addressed

ANS National Meeting:
2009 Annual Meeting

Session Title:
Neutron Imaging: Neutron Radiography and Neutron Computed Tomography

Session Type:
Invited and Contributed

Sponsoring Division:
IRD

Session Organizer:
Jack S. Brenizer

Division Representative:
Kenan Unlu

Summary:

This session will focus on the methods and applications of neutron imaging. In recent years we have seen a growing number of novel applications using neutron imaging, both in the U.S. and internationally. The equipment and techniques have been improved dramatically, enabling this growth in applications. Neutrons imaging is complementary to x ray imaging. Since x rays interact with orbital electrons, x ray imaging is valuable in looking for the presence of high Z materials in the presence of low Z materials. Neutrons readily interact with low Z materials, thus many applications of neutron imaging involve imaging low Z materials in the presence of high Z materials. For example, neutron imaging is being used to analyze the water distribution in operating PEM fuel cells. Neutron Computed Tomography (NCT) is being used to create attenuation maps of objects orthogonal to the imaging plane. This data can then be used to reconstruct 3D images of these objects.

ANS National Meeting:
2009 Annual Meeting

Session Title:
Nuclear Research Reactors: Utilizations and Applications of Nuclear Methods

Session Type:
Invited and Contributed

Sponsoring Division:
IRD

Session Organizer:
Kenan Unlu

Division Representative:
Kenan Unlu

Summary:

This session will broadly cover the utilizations and application of reactor based nuclear methods. Topics will include neutron activation analysis, prompt gamma neutron activation analysis, neutron scattering techniques, neutron diffraction methods, and neutron depth profiling. Applications of these techniques to chemistry, physics, and materials research will be presented. A broad spectrum of speakers will be invited from academic, government, and industrial institutions.

ANS National Meeting:
2009 Annual Meeting

Session Title:
IRD: General

Session Type:
Contributed

Sponsoring Division:
IRD

Session Organizer:
n/a

Division Representative:
Kenan Unlu

Summary:

This session is a forum for papers of general interest to the Isotopes and Radiation Division. Topics include radiation detection and measurement, radiochemical methods, and production and application of isotopes.