

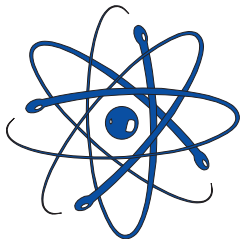
APPLIED MODELING AND COMPUTATIONS IN NUCLEAR SCIENCE

230th American Chemical Society
National Meeting

$$D = \Phi \left(\frac{dT}{\rho dx} \right)_c$$



$$-\frac{dE}{dx} = \frac{4\pi z^2 e^4}{m_e v^2} n_o Z \left[\ln \left(\frac{2m_e v^2}{I} \right) - \ln(1 - \beta^2) - \beta^2 - \frac{C_K}{Z} \right]$$



$$L_C = \frac{k_{1-\alpha}^2}{2t_0} \left(1 + \sqrt{1 + \frac{4R_0 t_0}{k_{1-\alpha}^2} \left(1 + \frac{t_0}{t_s} \right)} \right)$$

Location: Washington DC, USA
Date: August 28-September 1, 2005
Sponsors: Division of Nuclear Chemistry
and Technology (NUCL) of the
American Chemical Society (ACS)
American Nuclear Society (ANS)
Health Physics Society (HPS)

Description:

In each area of applied nuclear science in general, and nuclear chemistry in particular, there is usually a modeling or computational component. Typically one finds a handful of modelers presenting their work in the course of almost every symposium. The purpose of this Symposium is to bring all such theoretical and computational work in applied nuclear science under one umbrella, so that the nuclear scientists interested in modeling could have a broader forum for their research, as well as to enable them learning related techniques. Cross-disciplinary computations are also of interest. Oral presentation format. Proceedings from the Symposium are planned for.

Tentative topics:

1. Statistical aspects of radioactivity, such as uncertainties, detection limits, novel statistics.
2. Radiation transport methods (Monte Carlo and deterministic), and nuclear data evaluations.
3. Calculating of the response and theoretical designing of radiation detectors.
4. Spectral deconvolution and fitting: alpha, beta, gamma spectroscopy.
5. Calculations of chemical structure and reactions involving radionuclides.
6. Transport models of radioactive contaminants in the environment.
7. Health physics calculations: dosimetry and risk assessment.
8. Medical radiation physics calculations: radiotherapy and imaging.
9. Nuclear sensing: modeling of well logging and gauges.
10. Computers in nuclear science laboratory, QA/QC, LIMS, etc.
11. Novel and sophisticated methods of nuclear data analysis.
12. Nuclear modeling of interest to counter-terrorism.
13. Novel computational algorithms of interest to applied nuclear science.

Program Chair:

Kimberly W. Thomas, Los Alamos National Laboratory, Los Alamos, NM

Organizers:

Cynthia Atkins-Duffin, Lawrence Livermore National Laboratory, Livermore, CA, Email: atkinsduffin1@llnl.gov

Bert Coursey, Department of Homeland Security and NIST, Washington, DC, Email: coursey@nist.gov

Carl V. Gogolak, Department of Homeland Security, New York City, NY, Email: cvg@eml.doe.gov

Ralph B. James, Brookhaven National Laboratory, Upton, NY, Email: rjames@bnl.gov

Simon Jerome, National Physical Laboratory, Teddington, UK, Email: simon.jerome@npl.co.uk

Stefaan Pommé, Institute for Reference Materials and Measurements, Geel, Belgium
Email: stefaan.pomme@cec.eu.int

Thomas M. Semkow, New York State Department of Health and SUNY, Albany, NY
Email: tms15@health.state.ny.us

Daniel J. Strom, Pacific Northwest National Laboratory, Richland, WA, Email: strom@pnl.gov

Laurie Waters, Los Alamos National Laboratory, Los Alamos, NM, Email: lsw@lanl.gov

X. George Xu, Rensselaer Polytechnic Institute, Troy, NY, Email: xug2@rpi.edu

Symposium timeline:

February 28, 2005

Call for papers in Chemical and Engineering News (C&EN) and on ACS web page.

March 2005

Abstract submission opens on-line, at oasys.acs.org
Click on NUCL, choose this Symposium, and follow the instructions.

April 29, 2005

Deadline for on-line abstract submission.

May 2005

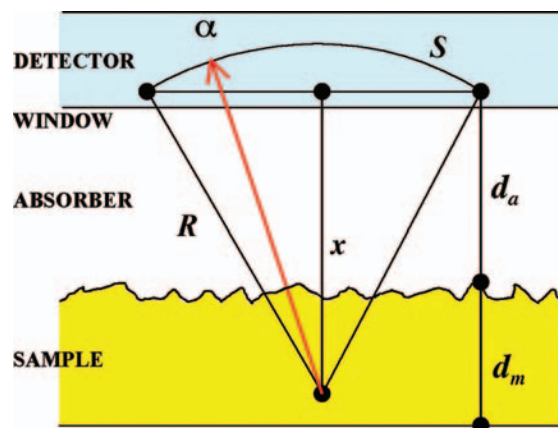
Formal acceptance of abstracts.

June/July 2005

Registration and housing reservations open on-line.
Final program appears in C&EN and on the ACS web page.

August/September 2005

Full paper are due at the conference. MS Word format only.
Instructions will be distributed to the accepted speakers.



$$P(x) = \frac{\mu^x e^{-\mu}}{x!}$$

Web pages:

www.chemistry.org - ACS web page. Choose a page: Meetings and click on Washington, DC, National Meeting, when it opens up in the Spring 2005. On-line registration and housing reservations, final technical program, information on transportation, presentation requirements, letters of acceptance for foreign participants, etc.

www.cofc.edu/~nuclear/2005WashingtonComputationSymposium.pdf - Information about this Symposium.

oasys.acs.org - Online abstract submission. Opens March 2005.

Estimated advance registration fees:

ACS, ANS, HPS members: Regular \$300. Student \$100.

Non members: Chemical scientist \$550. Visitor, nonchemical scientist \$300
(either domestic who does not work for principally chemical department or foreign scientist). Student \$300.

Contact information:

For further information, abstract submission prior to March 2005, etc., please contact

Thomas Semkow
Wadsworth Center
New York State Department of Health and SUNY
P.O. Box 509
Albany, NY 12201-0509, USA
Phone: +518-474-6071, Fax: +518-474-8590
Email: tms15@health.state.ny.us

or contact via email any of the other organizers listed.