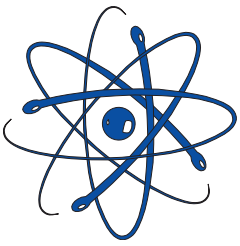
APPLIED MODELING AND COMPUTATIONS IN NUCLEAR SCIENCE

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)

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: radiotherpy 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.

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Symposium timeline:

February 28, 2005
Call for papers in Chemical and Engineering News (C&EN) and on ACS web page.

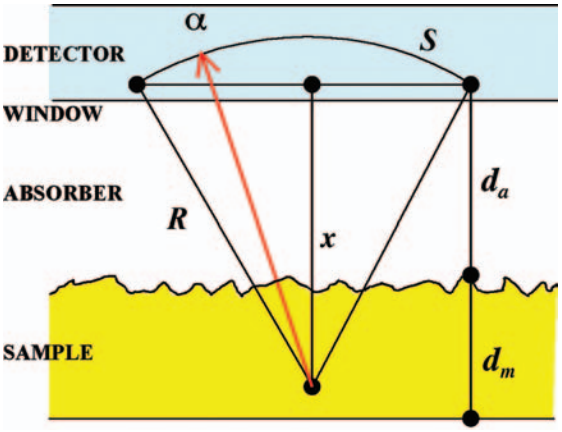
March 2005
Abstract submission opens on-line.
Abstracts can also be submitted any time in advance of that date by emailing the Organizers.

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.
Instrustions will be distributedto 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 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.

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