

Pursuit of Nuclear Science and Technology Education

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U of S in Nuclear Radiation Research

Year	Event
1931	The first Radon plant
1948	first Betatron in Canada
1951	First non-commercial Co-60 unit
1952	First Ph.D.
1964	Linear Accelerator
1999	Canadian Light Source

Nuclear Education Issues

- Unawareness
- Apprehension
- Bad press
- Program abandonment
- Scarcity of experts
- Time lag

Our Approach: jump-start

- **Multi-prong:**
 - **A) Graduate training**
 - **B) undergraduate training**
 - **C) Outreach (high school)**

Graduate Training

- Nuclear instrumentation and radiation physics graduate programs at various facilities
(J-PARC, KEK, SPring-8, HIGS, INCAS3)
- Joint ventures:
 - University Network of Excellence in Nuclear Engineering(UNENE)
 - University of Ontario Institute of Technology (UOIT)

M.Sc. And UG students at work



HPGe detector







Undergraduate Training

- Non-specialists: 2-3 courses in nuclear and radiation physics (**engineers, educators, professionals**)
- Practicums on radiation detection and measurement
- Projects with AREVA,
SLOWPOKE at SRC,
Vet Med
Cancer Clinic
CLS

Extend to collaborations with colleagues in Ontario

Uranium Ore Analysis

Rob Hewitt, Robyn Reist, Jason Sadowski
Engineering Physics

College of Engineering Student Paper Presentation Competition

March 26, 2009

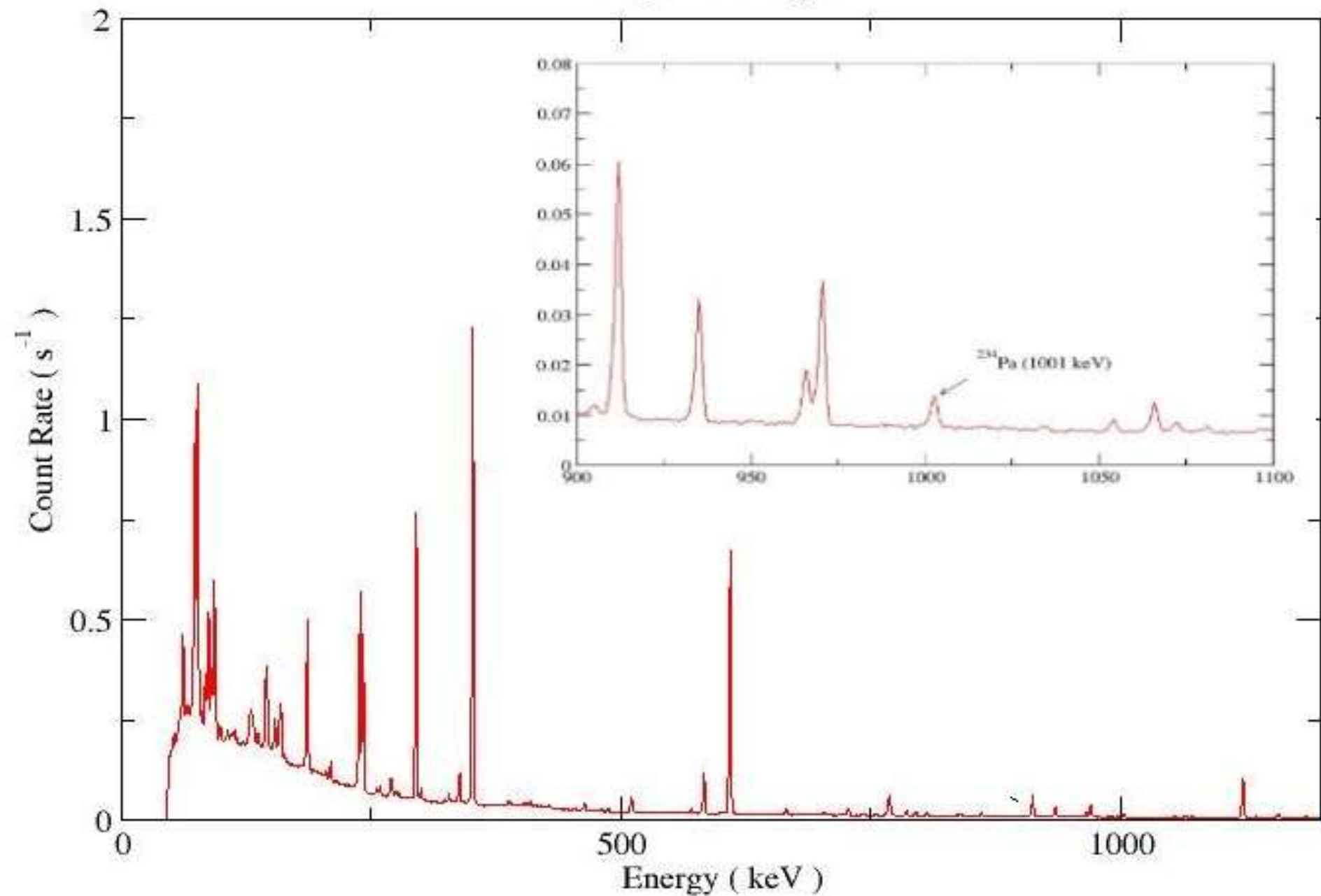
Supervisors: Mike Bradley, Chary Rangacharyulu

Client: Tyson Pederson (Areva)



HPGe Uranium Spectra

20g SRC Sample



In works

- Revamp the undergraduate program-
- Innovative Programming Agenda
(experiential learning)
- B.Sc.(Hons) specializations
 - Nuclear Science stream (>15 cu)
 - Distance learning (UNENE, UOIT etc..)
 - Internships (local, national & abroad)
 - Projects at research centers

- Extend to our Engineering Physics
 - Nuclear engineering stream

Accreditation hurdles

turf wars

Interactions with External Agencies

- Annual Symposia and workshops
(engage faculty and students)

Symposium on Science and Technology of
Clean Energy Solutions

April 8, 2008

U of S, AECL, Raum Energy etc..

Trends in Nuclear & Medical Technologies

(Apr. 6-7, 09)

- INCAS3(Netherlands)
- GE-Healthcare (USA)
- HCMUNS (Vietnam)
- AECL
- AREVA
- UofS (Physics and Engineering Physics,
Medicine, Vet Med, Cancer Center)

<http://physics.usask.ca/Trends.htm>

Outreach- collaborations

- Women In Science & Engineering (WISE)
- Science Ambassadors program

<http://www.usask.ca/research/news/read.php?id=790#story6>

Danielle Anderson-

M.Sc. student at U of A (Fall 2008)

Kay Perreault (3rd year EP)

- Local High Schools
- Northwest Nations Education Council (*North Battlefords*)
 - U of S
 - U of S & INCAS3

- Many programs in progress
- Hope to see some tangible results in near future
- Thank You.

Theoretical Uranium Spectrum

