



# 13th International Topical Meeting on Nuclear Applications of Accelerators

**July 31-August 4, 2017**  
**Québec City, Québec, Canada**



## Topics and Organizers

### Accelerator Facilities

Andrew Hutton (JLab)  
Kevin Jones (ORNL)

### Accelerator Design & Technology

Peter Ostroumov (ANL)  
Yousry Gohar (ANL)

### Material Research with Accelerators

Alexander Ryazanov (Kurchatov Institute)  
Benjamin Rouben (12 & 1 Consulting)

### Accelerators in Life Sciences

Carol Johnstone (FNAL)  
Carmel Mothersill (McMaster University)

### Accelerators for Accelerator-Driven Systems

Blair Bromley (Canadian Nuclear Labs)  
François Méot (BNL)

### High-Power Accelerators & High-Power Spallation Targets

John Galambos (ORNL)  
Eric Pitcher (ESS)

### Accelerators for Monitoring the Environment

Aliz Simon (IAEA)  
Christian Segebade (retired – BAM)

### Industrial Applications

Bob Hamm (R&M Tech Enterprise)  
Ross Radel (Phoenix Nuclear Labs)

### Nuclear Data

Arjan Plompen (EC – JRC)  
Adriaan Buijs (McMaster University)

### Accelerator Production of Radioisotopes

Valeriia Starovoitova (Niowave, Inc.)  
Suzanne Lapi (UAB)

**General Chair**  
**General Co-Chair**

Philip L Cole (Idaho State University)  
Adriaan Buijs (McMaster University)

**Technical Program Chair**  
**Co-Chairs**

Philip L Cole (Idaho State University)  
Andrei Afanasev (George Washington University)  
Blair Bromley (Canadian Nuclear Laboratories)  
Adriaan Buijs (McMaster University)

**Publications Chair**



The purpose of these topical AccApp meetings is to provide an international forum for discussing the various applications of particle accelerators. Meetings are focused on the production and utilization of accelerator-produced neutrons, photons, electrons and other particles for scientific and industrial purposes; production or destruction of radionuclides significant for energy, medicine, defense, or other endeavors; safety and security applications; medical imaging, diagnostics, and therapeutic treatment.

One of the great strengths of the AccApp meetings is the dissemination of knowledge on the diverse applications of accelerators. The conference provides an opportunity for nuclear physicists, accelerator physicists, nuclear engineers, and other experts in the international community to meet and discuss their research face-to-face. These interactions can help establish good working relationships and collaborations to solve common problems across multiple disciplines. Also, old friendships can be cultivated and new ones established.

You are cordially invited to participate in AccApp'17 by submitting an abstract, making an oral or poster presentation, and submitting a full paper for publication in our conference proceedings. For further information (including deadlines and registration), please see the conference webpage [www.accapp17.org](http://www.accapp17.org). The deadline for abstract submission (200 word limit) is March 31, 2017.

Full papers (10 pages or less) are due on September 10, 2017. For each extra page beyond 10 pages, there will be a charge of \$100 per page.

The templates for both the abstract and the full paper can be found on [www.accapp17.org](http://www.accapp17.org).

We are looking forward to seeing you in *la belle ville de Québec!*

Philip Cole ([colephil@isu.edu](mailto:colephil@isu.edu))  
General Chair of AccApp'17

Adriaan Buijs  
General Co-Chair of AccApp'17

### **List of Topics**

1. Accelerator Facilities
  - a. New Planned Facilities and Future Possibilities at Present Facilities
  - b. Progress at Facilities under Construction
  - c. Management Strategies for Accelerator Facilities
2. Accelerator Design & Technology
  - a. Codes and Models
  - b. Radiation Shielding and Dosimetry and Residual Activation
  - c. Reliability Analyses
  - d. Prototyping
3. Material Research with Accelerators
  - a. New Structural Materials for Fission and Fusion Reactors
  - b. Effect of Fast Heavy Ions on Materials
  - c. Investigations of Materials for Microelectronics with Fast Particles
  - d. Structural and Chemical Analysis by Low-Energy Nuclear Methods at Accelerators
4. Accelerators in Life Sciences
  - a. Hadron Therapy
  - b. Radiobiology

- c. BNCT
    - d. Biology with Synchrotron Radiation
  - 5. Accelerators for ADS and ADS experiments
    - a. Drivers of an Experiment
    - b. Large-Scale ADS Demonstrators
    - c. Industrial Types and Applications
  - 6. High-Power Accelerators and High-Power Spallation Targets
    - a. Incl. Window and Beam dump Technologies
    - b. Neutron Spallation Source
  - 7. Accelerators for Monitoring the Environment
    - a. Physical and Chemical Properties of the Environment
    - b. History and Art
    - c. Safety
    - d. Security
  - 8. Industrial Applications
    - a. Electron Irradiation
    - b. X-Ray Conversion
    - c. Sterilization
    - d. Wear Analysis
  - 9. Nuclear Data
    - a. Fission and Fusion Applications
    - b. Photonuclear Cross Sections
    - c. Nuclear Models and Applications
    - d. Simulating Nuclear Reactions for Calculations
  - 10. Accelerator Production of Radioisotopes
    - a. Medical Applications
    - b. Geoscience Applications
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