



BNEN is a consortium of the Belgian universities

Katholieke Universiteit Leuven,

• *Université Catholique de Louvain,*

• *Université de Liège*

• *Universiteit Gent*

• *Vrije Universiteit Brussel*

in collaboration with SCK•CEN, the Belgian Nuclear Research Centre

www.sckcen.be/BNEN



BNEN courses are proffered within the ENEN association. ENEN is a non-profit organisation to preserve and develop higher nuclear education and expertise

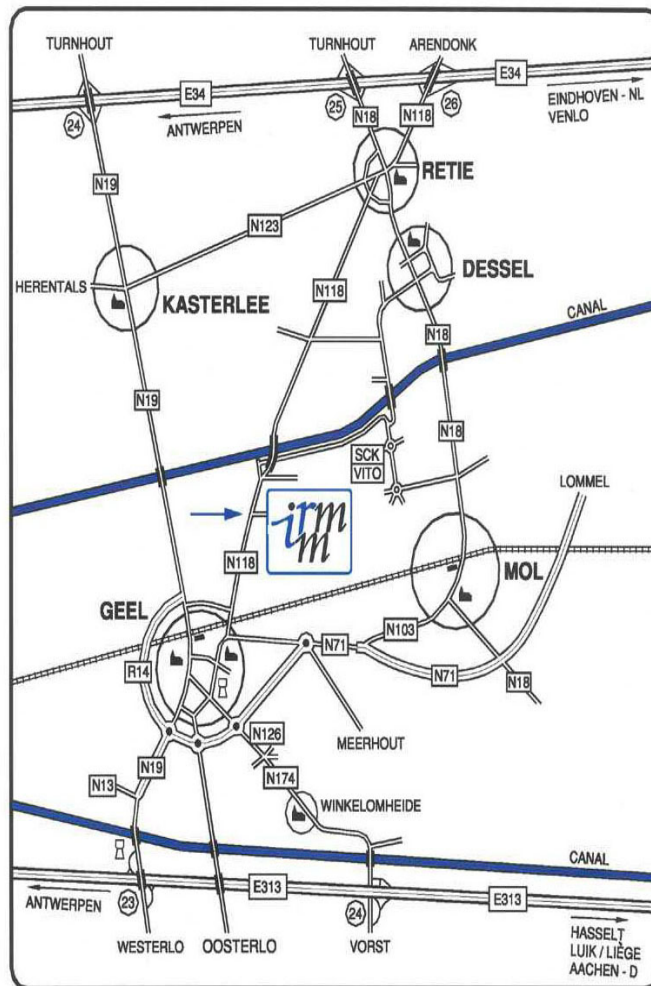
www.enen-assoc.org

Course venue:

Institute for Reference Materials and Measurements (IRMM)

B-2440 Geel

Itinerary: www.irmm-jrc.be



Advanced Course

Accelerators and time of flight experiments

Geel, Belgium
February 1-2, 2005

Organised by:



Belgian Nuclear higher Education Network

Objectives

The Institute for Reference Materials and Measurements (IRMM) in Geel, Belgium houses a 150 MeV linear electron accelerator, GELINA, and a 7 MV light-ion Van de Graaff accelerator. GELINA is a pulsed accelerator in combination with a metallic uranium target, serving as a neutron source for time-of-flight (TOF) measurements. The TOF method is used to determine the energy of the interacting neutrons in the energy range covering 11 decades from 1 meV to 20 MeV. The GELINA facility is designed and built to measure high-resolution neutron cross-sections. At the Van de Graaff facility quasi-monoenergetic neutron beams are produced in the energy range up to 24 MeV by nuclear reactions of proton and deuteron ion beams on lithium, deuterium or tritium targets. The Van de Graaff facility is complementary to the GELINA facility in the MeV neutron energy domain.

The course takes full advantage of IRMM's worldwide recognised know-how in accelerator operation and of the long-standing expertise in the field of neutron data measurements.

The IRMM is one of the seven research institutes of the European Commission's Directorate-General Joint Research Centre (JRC). The mission of IRMM is to promote a common and reliable European measurement system in support of EU policies. IRMM contributes mainly to areas as food and feed safety and quality, biotechnology, sustainable agriculture, environment, health, and nuclear safety and security.

Programme

February 1, 2005

09.00 – 17.00

Neutron measurements at accelerators
+
Visit to accelerators and experimental set-ups

February 2, 2005

09.00 – 17.00

Practical experiments and measurements techniques with TOF technique

- energy spectra,
- neutron transmission,
- NCRA,
- ...

Lecturers

Wim Mondelaers and Peter Schillebeeckx with scientific co-workers.

W. Mondelaers is in charge of the GELINA TOF facility. He is also professor at the University of Gent (Belgium).

P. Schillebeeckx is responsible for high-resolution neutron cross-section measurements.

Practical information

Scientific co-ordinator:

Wim Mondelaers

Institute for Reference Materials and Measurements (IRMM)

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Course language: English

Course fee:

The course is free of charge for academic registered MSc students. Participants from the industry should contact the registration office.

Course credit:

The course is rated 2 ECTS within the Belgian interuniversity programme for Master of Science in Nuclear Engineering (BNEN).

Registration deadline:

November 30, 2004

Registration office:

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