Outreach activities in radiation protection for high school pupils and their teachers

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SCK•CEN = Belgian Nuclear Research Centre

- >60 years of experience and expertise in nuclear research and technology
- Most recent knowledge and development
- Innovative projects
- Availability of large and unique nuclear installations in Belgium
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SCK•CEN = Education and Training centre

- °2012: SCK•CEN Academy for Nuclear Science and Technology
- Coordinates all E&T activities at SCK•CEN
1. Guidance for young researchers
   - Thesis (PhD, Master, Bachelor level), post-docs, internships, scientific and technical visits
   - Outreach activities for high schools

2. Organization of courses
   - Academic courses for students
   - Customized training for professionals

3. Policy support on E&T matters and international collaboration
   - EC framework programs, expert groups IAEA, OECD, ...

4. Caring for critical-intellectual capacities for society
   - Scientific/ technical and societal insight

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Outreach to high schools
Our target audience and aims

- **Pupils**
  - Third grade high school, 17-18 years old
  - Curious, develop a critical mind
  - Faced with important study choice

- **Aims**
  - Explain basics of radioactivity
  - Present research activities of SCK•CEN
  - Justify why nuclear research and applications are important for the well-being of society
  - Discuss several examples of nuclear applications
  - Provide insight into the pluralistic societal context
  - Inspire pupils to choose for academic STEM study
Outreach to high schools
Our target audience and aims

Teachers

- First source (one of) of information to pupils
- Profound understanding necessary
- Must have state of the art information
- Be able to deal with societal debate

Aims

- Refresh nuclear knowledge
- Familiarize with state of the art research and applications
- Optimize knowledge transfer to the young generation
- Discuss how multi-aspect issues can be integrated in the standard education programs
Outreach to high schools
Activities in four domains

1. Dedicated website

2. Thematic guided tours at SCK•CEN

3. Support for teachers

4. Collaboration in/ organization of STEM initiatives
Outreach to high schools

1. Website

- **http://highschools.sckcen.be**
- In Dutch and French
Outreach to high schools
2. Guided tours

- Four pre-defined themes/tours available
Outreach to high schools

2. Guided tours

- Four pre-defined themes/tours available
  - Four generations of nuclear reactors
  - Impact of radiation on man and environment
  - Radioactive waste and disposal
Outreach to high schools
2. Guided tours

- Guidance by researchers of SCK•CEN
- In French, Dutch and English
- Fixed dates / once a month
- Free
Outreach to high schools
2. Guided tours

- Number of visitors has strongly increased
- More than 800 visitors from 24 schools in 2016-2017

Number of high school pupils visiting SCK•CEN
Outreach to high schools
2. Guided tours

Fun and educative excursion!

A nice and explicative experience in an unexpected environment!

What you see here, together with the professional guidance, cannot be experienced at school...

Interesting to indicate future carrier opportunities!
Outreach to high schools

3. Support for teachers

- Provide educational material

National geographic: Nuclear lifeline
Outreach to high schools
3. Support for teachers

- Continuous Professional Development
  - Thematic days for teachers (SCK•CEN)
  - At initiatives/ events of other professional organizations
    - Association of science teachers
    - Pedagogic didactical centre
    - Flemisch Science Centre
Outreach to high schools
4. Other STEM initiatives

- In collaboration with professional organizations
  - Essencia Creativity Marathon (Vlajo, Essenscia)
  - Kékulé youth afternoon (UAntwerp)
  - Printemps des Sciences (UNamur)
  - Open day European School Mol
  - Flemish Space Days (Flemish Space Industry)
  - Support in Flemish Physics Olympiad (VONW)
Support in international initiatives

- Greenlight for Girls
Upcoming national contest **Nuclear Game Challenge** in collaboration with Joint Research Centre (JRC)
- School year 2017-2018
- Central topic: nuclear sciences and applications
- Aim: broaden the view on nuclear sciences and applications
- Enhance discussion
- Focus on interactivity and team work
- Kick-off event in Brussels 8/11/2017
- First prize is two day visit in Ispra, Italy (JRC)
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