The Roles of ENEN and ELINDER in the European Nuclear Education, Training and Knowledge Management

Prof. Leon Cizelj
President of the ENEN Association
Expected contributions by ENEN & ELINDER?

Jessica Hagy
http://thisisindexed.com/
Education vs. Training

Education
Why?
Knowledge
Research

Training
How?
Skills
Experience

http://stage-gate.com/newsletter/nl_feb_2012.htm
CREATION

The European Nuclear Education Network, ENEN Association,
is an Association established as an international non-profit association
under the French law of 1901, on 22 September 2003,
as a result of the “ENEN project” funded by the European Commission.
OBJECTIVES

The main objective is the **preservation** and further **development** of expertise in the nuclear fields by higher Education & Training:

- Promote and further develop the **collaboration** in nuclear education and training of students, researchers and professionals
- Ensure the **quality** of nuclear education and training
- Increase the **attractiveness** for engagement in the nuclear fields for students, researchers and professionals
- Promote **life-long learning** and career development at post-graduate or equivalent level
European Union Council

“The Council hopes that, with the help of the EU, ENEN and its members will continue to develop the coordination of nuclear education and training in Europe.

The Council welcomes the existence within the European Union of coordinated teaching and training leading to qualifications in the nuclear field, provided notably by the ENEN”.

December 1-2, 2008
ENEN Structure

- General Assembly
- Board of Governors
- Secretary General
  - WG1
  - WG2
  - WG3
  - WG4
  - .......

- Teaching and Academic Affairs Area
- Advanced Courses and Research Area
- Training and Industrial Projects Area
- Knowledge Management

- Action 1
- Action 2
- Action 3
- Action 4
- .......

Day to day work
ENEN Structure

Board of Governors for 2015-2016:

Jozef Stefan Institute, Slovenia
Aalto University, Finland
Université de Lorraine
Westinghouse, Belgium
CEA-INSTN, France
SCK-CEN, Belgium
Czech Technical University in Prague, Czech
Imperial College London, United Kingdom
Universidad Politécnica de Cataluña, Spain

Prof. Leon Cizelj
Prof. Filip Tuomisto

President
Vice President

Prof. Behrooz Bazargan-Sabet
Ms. Veronique Decobert
Prof. Pascal Anzieu
Dr. Michèle Coeck
Dr. Martin Kropik
Dr. Matthew Eaton
Prof. Guillem Cortés

Member of the Board
Member of the Board
Member of the Board
Member of the Board
Member of the Board
Member of the Board

Secretariat of the Association:

Mr. Pedro Dieguez Porras  Secretary General
Mr. Thierry Desaleux  Treasurer
ENEN Members in March 2015

67 Members from 24 Countries:
6 Research Centers, 5 Companies, 50 Universities and 6 international institutions
ENEN Members in March 2015

67 Members from 24 Countries:
6 Research Centers, 5 Companies, 50 Universities and 6 international institutions
Cooperation Agreements

The following institutions from outside Europe are considered ENEN Member, without voting rights at the General Assembly, by concluding a Memorandum of Understanding:

<table>
<thead>
<tr>
<th>No.</th>
<th>Institution</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>Japan Atomic Energy Agency</td>
<td>Japan</td>
</tr>
<tr>
<td>56</td>
<td>Tokyo Institute of Technology</td>
<td>Japan</td>
</tr>
<tr>
<td>57</td>
<td>University of Fukui</td>
<td>Japan</td>
</tr>
<tr>
<td>58</td>
<td>Central Institute for Continuing Education and Training</td>
<td>Russia</td>
</tr>
<tr>
<td>59</td>
<td>Moscow Engineering Physics Institute (State University)</td>
<td>Russia</td>
</tr>
<tr>
<td>60</td>
<td>North West University</td>
<td>South Africa</td>
</tr>
<tr>
<td>61</td>
<td>Odessa National Polytechnic University</td>
<td>Ukraine</td>
</tr>
<tr>
<td>62</td>
<td>V. N. Karazin Kharkiv National University</td>
<td>Ukraine</td>
</tr>
</tbody>
</table>

The following international institutions are considered ENEN Member, without voting rights at the General Assembly, by concluding a Memorandum of Understanding:

<table>
<thead>
<tr>
<th>No.</th>
<th>Institution</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>63</td>
<td>International Atomic Energy Agency</td>
<td>Austria</td>
</tr>
<tr>
<td>64</td>
<td>European Nuclear Society</td>
<td>Belgium</td>
</tr>
<tr>
<td>65</td>
<td>University Network of Excellence in Nuclear Engineering</td>
<td>Canada</td>
</tr>
<tr>
<td>66</td>
<td>Joint Research Centre of the European Commission</td>
<td>Europe</td>
</tr>
<tr>
<td>67</td>
<td>World Nuclear University</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>68</td>
<td>Fusenet</td>
<td>Sweden</td>
</tr>
<tr>
<td>69</td>
<td>INBEX</td>
<td>Canada</td>
</tr>
<tr>
<td>70</td>
<td>World Federation of Science Journalists</td>
<td></td>
</tr>
</tbody>
</table>
ENEN Communities 2016

- Nuclear engineering (ENEN)
- Radiation protection (ENETRAP)
- Geological disposal of radioactive waste (PETRUS)
- Nuclear security (ANNETTE)
- Fusion Engineering (ANNETTE)
- VVER community (CORONA)
- Medical Physics (ENEN+)
- Decommissioning (ELINDER)

Main Challenges:
Complexity of Nuclear
Balanced cooperation and competition
ENEN ACTIONS
EMSNE Certification

PhD Event & Prize
Competitive and friendly presentation of research in Nuclear fields.
12 Finalists, of which 3 winners

Signature of Practical Arrangements with IAEA

2009

2013
Networking

E & T
K. Mg.
ENEN CURRENT/RECENT PROJECTS

- **NUSHARE**: Coordinator: ENEN.
  - ENEN’s budget: 200,000 €. Project budget: 994,460 €

- **PETRUS III**: Coordinator: Univ. Lorraine.
  - ENEN’s budget: 110,000 €. Project budget: 1,425,000 €

- **PELGRIMM**: Coordinator: CEA.
  - ENEN’s budget: 150,000 €. Project budget: 2,999,999 €

- **ANNETTE**: Coordinator: ENEN.
  - ENEN’s budget: 192,000 €. Project budget: 2,517,399 €

- **CORONA II**: Coordinator Kozloduy NPP
  - ENEN’s budget: 96,952 €. Project budget: 1,017,605 €

- **ENEN-RU II**: Coordinator: ENEN.
  - ENEN’s budget: 171,000 €. Project budget: 530,000 €

- **EUJEP-2**: Coordinator: ENEN.
  - Project budget: ~180,000 €
Project proposed by:
  – Commissioner for Research and Innovation
  – Commissioner for Energy

after the Great East Japan Earthquake and Tsunami in 2011.

**OBJECTIVE:** to develop and implement Education, Training and Information programmes strengthening competences required for achieving excellence in Nuclear Safety Culture (decision & opinion makers).
ANNETTE

Advanced Networking for Nuclear Education and Training Transfer of Expertise

- 4 years action
- Started in February 2016
- 2.5 million €
- 25 partners
ENEN+ proposal
Attract, develop and retain new nuclear talent

• Submitted in Oct 2016, in evaluation
• Coordinated by ENEN
• Partners include academia & JRC, industry (W, EDF, Tecnatom) and associations (ENS, FORATOM, NUGENIA), links to IAEA and OECD/NEA
• Budget ~3 MEUR: 1 MEUR dedicated to mobility
• Voluntary accreditation (ECTS, ECVET)
• Strategic support to nuclear ETKM in EU
EC projects beyond EU

• Coordination of **ENEN-RU II project** - Cooperation with Russian Federation in Nuclear Education, Training and Knowledge Management: focus on the mobility of teachers and students (July 2014 – July 2017)

• Coordination of **EUJEP-2 project** (Japan) - Foster, organize and implement exchanges of European and Japanese Master level students with mutual recognition of credits (October 2014 – October 2017)
OTHER PROJECTS INVOLVING ENEN

- ENEN III - Training schemes for Generation III and IV engineers. (2009 – 2013) – Use of ECVET system
- ENETRAP II - European Network on E&T in Radiological Protection: addressing mainly the nuclear safety authorities (2009 - 2012)
- FP7 CORONA Establishment of Regional Center of Competence for VVER Technology and Nuclear Applications (2011 – 2014)
- FP7 CINCH-II - Cooperation in education and training In Nuclear Chemistry: focus on the European master's degree in nuclear and radiochemistry (2013 – 2016)
- FP7 GENTLE - Graduate and Executive Nuclear Training and Lifelong Education (2013 – 2017)
ENEN Database (opportunities)

www.enen-assoc.org

ENEN Database

ENEN DATABASE OF COURSES, MASTER PROGRAMS, PHD TOPICS AND OPPORTUNITIES

Choose your interest:

The information of the database is provided by ENEN Members and partners, covering:
1. Education and Training courses
2. Master Programs
3. Proposed PhD Topics
4. Opportunities (Scholarship, Postdocs, Internship, Job opportunities)

The ENEN is operating the ENEN Database, however is not in the position to take any responsibility in terms of the contents of each data, it belongs to each posting organization. If you are interested in adding data from your organisation, please contact: sec.enen@cea.fr

ENEN RU DATABASE OF INFRASTRUCTURES
Summary

Nuclear energy should strive for the use of the best available people, science, knowledge, technologies and operational experience.

Balanced approach to education and training & cooperation between stakeholders and nuclear fields (Career guidance).
Thank you for your attention!

www.enen-assoc.org

Mr. Pedro Diéguez Porras, Secretary General
European Nuclear Education Network
INSTN, Centre CEA de Saclay, Bat. 395
91191 Gif-sur-Yvette Cedex, France

Telephone: +33 169 08 97 57
Email: sec.enen@cea.fr