



The 5th ENEN PhD Event 2011
International Congress on Advances in Nuclear Power Plants (ICAPP) 2011
in Nice, France, 4 May 2011

Summary report

1 ENEN PhD Event

The ENEN PhD Event has been organized since 2007 with the objectives:

- to provide a forum for PhD students to present their research work to their fellows and colleagues in a friendly but competitive spirit
- to promote the research work of PhD students in the nuclear fields, in particular experimental work
- to set up a bridge between PhD students and professionals in the nuclear field

The past ENEN PhD Events were held as follows:

- 1st ENEN PhD Event at the International Youth Conference on Energetics (IYCE 2007) in Budapest, Hungary, 1 June 2007 with the selected 12 PhD students
- 2nd Event at the International Youth Nuclear Congress (IYNC 2008) in Interlaken, Switzerland, 23 September 2008 with the selected 14 students
- 3rd Event at the International Youth Conference on Energetics 2009 (IYCE 2009) at the Budapest University of Technology and Economics in Budapest, Hungary, on 5 June 2009 with selected 12 PhD students from 6 EU countries (Belgium, France, Italy, Switzerland, Slovakia and Slovenia) and South Africa¹
- 4th ENEN PhD Event 2010 at the European Nuclear Conference 2010 in Barcelona, Spain, on 2 June 2010 with selected 8 PhD students from 6 EU countries and Russian Federation

The 5th ENEN PhD Event 2011 was organized in the framework of the International Congress on Advances in Nuclear Power Plants (ICAPP) in Nice, France, 2-6 May 2011². 10 PhD students were selected by the ENEN PhD Event 2011 Jury from 7 EU countries. Unfortunately one student had to cancel his participation at the last moment due to a personal reason, thus 9 students took part in the Event eventually.

The announcement, the criteria for ENEN Prize and the application form for the Event are given at Annex I, II and III respectively.

The members of the Jury of the Event 2011 are:

- Joseph Safieh (CEA/INSTN, France) CHAIR
- Bernard Bonin (European Nuclear Society High Scientific Council)
- Emilio Minguez (Universidad Politecnica de Madrid, Spain)

¹ North West University in South Africa is a partner of the ENEN through Memorandum of Understanding

² <http://icapp.ans.org/icapp11/>

- Michel Giot (SCKCEN, Belgium)
- Petre Ghitescu (University Politechnica Bucharest, Romania)
- Rakesh Chawla (Swiss Federal Institute of Technology Lausanne, Switzerland)
- Bruno Panella (Consortium Interuniversitario, Italy)

Following the opening remark by the Chair of the Jury, 9 PhD students presented their research work for 25 minutes followed by 5 minutes questions and discussion (30min in total for each). All presentations were judged by the Jury members by the criteria given at Annex II.

A group picture was taken before lunch break.

The Jury meeting was held after the Event to select three ENEN Prizes. The Award Ceremony took place at the end of the plenary session on the same day.

2 Program of the Event

8h-8h10 **OPENING**
 Dr. Joseph SAFIEH, CEA/INSTN (France), *Chair of the Jury*

30 min for each = 25 min presentation + 5 min Q&A

8h10 – 10h10 **SESSION 1** Chair: Prof. Michel GIOT
 8h10 Davide BERTOLOTTI, Paul Scherrer Institute/Ecole Polytechnique Federal de
 Lauranne (Switzerland): Development and validation of a coupled CFD/system-
 code tool
 8h50 Fulvio MASCARI, University of Palermo (Italy): Analysis of the Multi-
 Application Small Light-Water Reactor (MASLWR) design natural circulation
 phenomena
 9h20 Davide PAPINI, Politecnico di Milano (Italy): Modelling and experimental
 investigation of two-phase flow instabilities in helically coiled steam generator
 tubes

10h10-10h30 *Coffee break*

10h30-12h30 **SESSION 2** Chair: Prof. Petre GHITESCU
 10h30 Boris MINOV, Belgian Nuclear Research Centre (SCK.CEN, Belgium): Study of
 the hardening in thermally aged and neutron irradiated iron-copper alloys, on the
 basis of combined mechanical and magnetic relaxation phenomena
 11h10 Matthieu CAVARO, CEA (France): Acoustic techniques for SFR continuous
 monitoring Illustration with the continuous characterization of bubbles cloud
 11h50 Mitja URSIC, Jozef Stefan Institute (Slovenia): Modelling of solidification
 effects in fuel coolant interactions

12h20 **GROUP PICTURE**

12h30-14h *Lunch*

14h-16h **SESSION 3** Chair: Prof. Emilio MINGUEZ

- 14h Riccardo BEVILACQUA, Uppsala University (Sweden): New neutron data measurements at 175 MeV for Accelerator Driven Systems
- 14h30 Simon VANMAERCKE, Universite Catholique de Louvain, SCK.CEN (Belgium): Preliminary Experimental and numerical assessment of a secondary Scram System for Liquid Metal Cooled Reactors
- 15h Stefan NICOLICI, University Politehnica of Bucharest (Romania): A Computational Approach for LDI Erosion of Ductile Materials
- 15h45-16h **CLOSING and AWARD OF CERTIFICATE**
Dr. Joseph SAFIEH, CEA/INSTN (France), *Chair of the Jury*
- 16h-17h Jury meeting
- 18h- **AWARD CEREMONY OF ENEN PRIZE** – at the end of the plenary session
- 19h30-23h30 **GALA DINNER**

3 Laureates of the ENEN PhD Prize

Three equal laureates of the ENEN Prize are as follows:

- Boris MINOV, Belgian Nuclear Research Centre (SCK.CEN, Belgium)
- Mitja URSIC, Jozef Stefan Institute (Slovenia)
- Riccardo BEVILACQUA, Uppsala University (Sweden)

The ENEN Prizes were given by the ENEN President at the Award Ceremony on the same day.

The laureates are granted to attend an international conference with support of the ENEN Association up to 1000 Euro (conference fee, travel, accommodation and meals – upon receipt of justification documents) and hereby encouraged to present the result of his/her research work.

4 Financial and logistic issues

The cooperation of the ICAPP 2011 was very appreciated It covers for the Event organization:

- Time and place for the Event as a one-day parallel session (a room with PC, projector, microphone x3 (chair, speaker, audience), 40 chairs)
- One-day free ticket for the students (10 in total)
- One-day free ticket for the Jury and the ENEN Staff (7 in total)

The main expenditures by the ENEN were:

- Conference dinner for 10 students (90 Euro per person)
- Conference dinner for 3 Jury members and 1 ENEN staff (90 Euro per person)
- Registration fee for the ENEN President not only for the PhD Event but for making an ENEN presentation as an invited speaker during a plenary session.
- Travel expenses for 10 students, 5 Jury members and 1 ENEN staff³ (travel and 2-night accommodation)

³ Bernard Bonin (European Nuclear Society High Scientific Council) was represented by Henri SAFA, CEA, who is a member of the ICAPP Program Committee thus no cost was needed.

- Three ENEN Prizes (Up to 1000 Euro per laureate and frames)

It was notes that

- One-day event with 12 students, with introduction on the ENEN at the beginning of the Event, is preferable taking into account the number of applications
- Details of the Event (e.g. date, financial aspect, time schedule of submission of abstracts, papers, presentations) should be agreed with the conference organizer as early as possible, hopefully before end of the previous year.
- Criteria of the selection and the ENEN Prizes should be reconsidered. (ENEN Board decision in March 2011, a paper should be original, not depending on his/her prof., the same paper can be presented at the same conf? etc.)
- An evaluation sheet for the Jury was given at the beginning of the Event.
- A laser pointer is useful.
- A group picture should be included in the program.
- A meeting room for the Jury meeting is appreciated.
- Participation in the conference dinner is a good opportunity for further communication. A table with the Jury members and the students should be arranged.
- Negotiation of conference fee for the ENEN Prize laureate's participation is welcomed.

Annex I

The 5th ENEN PhD Event 2011
International Congress on Advances in Nuclear Power Plants (ICAPP)
in Nice, France, 4 May 2011

2nd Announcement on 31 January 2011

1 Objective

In the framework of the International Congress on Advances in Nuclear Power Plants (ICAPP) in Nice, France, 2-5 May 2011 (<https://www.sfen.fr/ICAPP-11>) the European Nuclear Education Network (ENEN) Association is organizing the 5th ENEN PhD Event 2011.

The objectives of the ENEN PhD Event are:

- to provide a forum for PhD students to present their research work to their fellows and colleagues in a friendly but competitive spirit
- to promote the research work of PhD students in the nuclear fields, in particular experimental work
- to set up a bridge between PhD students and professionals in the nuclear field

2 Date and venue

Date: Wednesday 4 May 2011 at 8-16h15 and 19h30-23h

All participants are requested to attend the Event, the gala dinner and the awarded ceremony of ENEN Prize.

Venue: ICAPP 2011

https://www.sfen.fr/index.php/plain_site/icapp_11

Nice Acropolis Center, 1 Esplanade Kennedy - 06302 Nice, France

<https://www.sfen.fr/ICAPP-11/Practical-Information#Venue>

3 General program

The Event will consist of 12 PhD presentations nominated by ENEN Members and selected by the ENEN PhD Event Jury. The Event will be divided into 3 sessions according to the subjects. The participants will make a presentation of their research work for 25 minutes followed by 5 minutes questions and discussion.

All presentations will be judged by the Jury members on the submitted paper as well as on the quality of their presentation and on the clarity in the discussion while answering the questions and discussions. Three best presentations will be given the ENEN Prize. Please see the “Criteria and Procedure for the ENEN Prize” in *Annex I*.

A ceremony to provide the ENEN PhD Event certificates will be held at the end of the Event. The awarded ceremony of the ENEN Prizes will be held on 4th May (timing to be informed).

The members of the Jury:

- Joseph Safieh (CEA/INSTN, France)

CHAIR

- Bernard Bonin (European Nuclear Society High Scientific Council)
- Emilio Minguez (Universidad Politecnica de Madrid, Spain)
- Michel Giot (SCKCEN, Belgium)
- Petre Ghitescu (University Politechnica Bucharest, Romania)
- Rakesh Chawla (Swiss Federal Institute of Technology Lausanne, Switzerland)
- Bruno Panella (Consortium Interuniversitario, Italy)

The detailed program will be available after the selection of the participants is completed (See 6).

4 Qualification for application

Applicants should be either

- PhD students studying or working at the ENEN Members in any nuclear field, or
- those who completed their PhD studies at an ENEN Member after the application deadline of the previous ENEN PhD Event, i.e. 25th March 2010.

All abstracts and papers submitted to the Event will be included in the Conference proceedings.

All abstract, papers and presentations provided for the Event will be shared among the ENEN Members after the Event.

All participants are requested to attend the Event, the gala dinner and the awarded ceremony on 4th May.

For the selected PhD students, ENEN will support registration fee of the Conference as well as their travel expenses up to a certain amount as informed prior to the Event.

5 How to apply

1) Application form (See *Annex II*)

- Contact details of the student
- Contact details of the nominating ENEN Member
- Status of the PhD study
- Recommendation by ENEN Member
- Scientific CV and publication list
- Two-page **abstract** of the research work to be presented

2) Application form has to be sent by e-mail to

Ryoko Kusumi
Secretary General of the ENEN Association
ryoko.kusumi@cea.fr

3) Deadline of the application: **23 February 2010**

Note: All selected participants will be requested 1) to submit a paper on their research work to be presented, according to the ICAPP 2011 format, by 11 March 2011 and 2) to submit a power point presentation, according to the ICAPP 2011 format, by 25 April 2011. (See 6)

6 Time schedule

- 23 February 2011 Deadline for the application (See 5)
- 28 February 2011 Jury meeting for selection
- 1 March 2011 Inform the selected students of the final program (by e-mail)
Submit the final program to ICAPP 2011
- By 4 March 2011 The selected students are requested to confirm their participations in the Event, the gala dinner and the awarded ceremony (by e-mail)

NOTE: No confirmation before end of 4 March 2011 is considered as default.

- 11 March 2011 Deadline of the submission of paper by the participants
All participants are requested to submit a paper on their research work to be presented according to the ICAPP 2011 format
- 25 April 2011 Deadline of the submission of presentation by the participants
- 4 May 2011 5th ENEN PhD Event
One-day entry permission will be given by ICAPP 2011
All participants are requested to bring a power point presentation by a memory stick to the Event.
A group picture will be taken after the Event.
- ENEN Prize award ceremony (timing to be informed)
- Gala dinner

7 Contact

Ryoko Kusumi Secretary General of the ENEN Association
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Tel +33 1 69 08 97 57 Fax +33 1 69 08 99 50
Email ryoko.kusumi@cea.fr
Web site ENEN Association <http://www.enen-assoc.org>
PhD page <http://www.enen-assoc.org/en/activities/for-students/phd.html>

Annex II

**The 5th ENEN PhD Event 2011
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Criteria and Procedure for the ENEN Prize

1. Criteria

- 1) Quality of the paper
- 2) Clarity of the presentation: ability to communicate the message
- 3) Quality of the answers to the questions following the presentation
- 4) Ability to communicate the enthusiasm
- 5) Quality of the iconographic materials
- 6) Formal compliance with the rules (respect of the allotted time)
- 7) Active participation in the Event

2 Procedure

- 1) For each item, each member of the Jury give a mark comprised between 0 and 4:
0 = null
1 = weak
2 = average
3 = good
4 = very good
- 2) At the end of the day, the totals will be summed up for each participant and an arithmetic ranking will be established.
- 3) The results will be discussed until a consensus will be found to attribute the three ENEN Prizes.

Annex III

**The 5th ENEN PhD Event 2011
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Application form

1 CONTACT DETAILS OF THE STUDENT

Name

Sex

Date of birth

Nationality

Institution

Address

Tel

Fax

E-mail

2 CONTACT DETAILS OF THE NOMINATING ENEN MEMBER

Name

Institution

Address

Tel

Fax

E-mail

3 STATUS OF THE PHD STUDY

Starting date of PhD study

Did you already defend your thesis?

Yes

No

If Yes, when?

- 4 REASONS FOR NOMINATION** (ability of the candidate to perform original work, to work in team, to communicate the results of his/her work; please mention if the candidate has done some experimental work. – Should be written by the nominating ENEN Member with a signature)

5 SCIENTIFIC CV AND PUBLICATION LIST (including publications, prizes, internships abroad, participation to conferences, etc.)

6 TITLE AND ABSTRACT OF THE PAPER (about two-page)