

1. International Training Course: NUCLEAR FUEL CYCLE

BASIC INFORMATION

Last update : 2018-03-21

Title : International Training Course: NUCLEAR FUEL CYCLE

Country : France

Language : English

Venue : INSTN/CEA-Saclay, France and Technical tour of French nuclear plants

Start date : Monday 24 September 2018

End date : Friday 5 October 2018

Level : Engineers, researchers, students, technicians in the role of the nuclear sciences and industry

ECTS/ECVET : no

Learning outcome :
please see the leaflet in attachment

ENEN European Master : No

COURSE DETAILS

please see the leaflet in attachment

ADMINISTRATIVE INFORMATION

Requirements to apply :
please contact: nadia.nowacki@cea.fr

Tuition fee :
full rate*: €6700 to €8050
student*: €4690 to 6040
ENEN member*: €5350 to 6710

*with or without the accomodation in Paris

How to apply :
please contact: nadia.nowacki@cea.fr

Deadline of application :
Friday 20 July 2018

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FOR FURTHER INFORMATION

please contact:
nadia.nowacki@cea.fr

2. International training course: GENERATION IV - NUCLEAR REACTORS SYSTEM FOR THE FUTURE

BASIC INFORMATION

Last update : 2018-03-21

Title : International training course: GENERATION IV - NUCLEAR REACTORS SYSTEM FOR THE FUTURE

Country : France

Language : English

Venue : INSTN/CEA-SACLAY, FRANCE (20 kms south of Paris)

Start date : Monday 18 June 2018

End date : Friday 22 June 2018

Level : Basic knowledge on nuclear reactor physics is desirable

ENEN European Master : No

COURSE DETAILS

The course covers the 6 systems selected by GIF (SFR, LFR, GFR, VHTR, SCWR, MSR) and addresses cross-cutting aspects (safety, materials and fuels, energy conversion, nuclear fuel cycle).

Focus on Gen IV demos and prototypes (ASTRID, ALFRED, ALLEGRO, HTR-PM).

ADMINISTRATIVE INFORMATION

Tuition fee :

Full rate: €2200

Student: €1540

ENEN member: €1760

Additional costs :

Accommodation: addresses of recommended hotels in the welcome booklet

How to apply :

contact - registration nadia.nowacki@cea.fr

Deadline of application :

Friday 18 May 2018

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FOR FURTHER INFORMATION

nadia.nowacki@cea.fr

3. 9th International course: METTALURGY AND PROPERTIES OF ZR ALLOYS FOR NUCLEAR APPLICATIONS, International training course

BASIC INFORMATION

Last update : 2018-03-21

Title : 9th International course: METTALURGY AND PROPERTIES OF ZR ALLOYS FOR NUCLEAR APPLICATIONS, International training course

Country : France

Language : English

Venue : INSTN-CEA/Saclay, France (20 km south of Paris)

Start date : Monday 4 June 2018

End date : Friday 8 June 2018

Participant : Scientists, engineers, technicians, students - materials science and nuclear engineering

Learning outcome :

Please see the leaflet attached

ENEN European Master : No

COURSE DETAILS

Please see the leaflet attached

ADMINISTRATIVE INFORMATION

Tuition fee :

Full rate: €2630

Student: €1840

special rate for ENEN members

How to apply :

please contact: nadia.nowacki@cea.fr

Deadline of application :

Sunday 20 May 2018

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FOR FURTHER INFORMATION

Course organizer:

nadia.nowacki@cea.fr

4. INTERNATIONAL SCHOOL IN NUCLEAR ENGINEERING

BASIC INFORMATION

Last update : 2017-11-20

Title : INTERNATIONAL SCHOOL IN NUCLEAR ENGINEERING

Country : France

Language : English

Venue : SITES of SACLAY-CADARACHE-MARCOULE, FRANCE

Start date : Thursday 18 January 2018

End date : Friday 9 February 2018

Level : Master of science in nuclear engineering

Participant : Researchers, PhD Students, Post-doctorates and engineers

ECTS/ECVET : 3 ECTS for each successfully course(one week)

ENEN European Master : No

COURSE DETAILS

See the leaflet herewith

ADMINISTRATIVE INFORMATION

Requirements to apply :

contacts for registration: SACLAY: corinne.carreaux@cea.fr CADARACHE: beatrice.jacob-silvestri@cea.fr MARCOULE: nathalie.nozerand@cea.fr

Tuition fee :

Professionals: €2300 first course, €1200 for each add. course

ENEN Students: €550 each course

CEA & ENEN members: special rates

How to apply :

contacts for registration in the leaflet

Deadline of application :

Wednesday 29 November 2017

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FOR FURTHER INFORMATION

General coordination and information:

nadia.nowacki@cea.fr

5. Decommissioning of nuclear installations

BASIC INFORMATION

Last update : 2017-05-04

Title : Decommissioning of nuclear installations

Country : Belgium

Organisation : SCKCEN

Language : English

Venue : SCK•CEN Lakehouse, Mol

Start date : Monday 11 December 2017

End date : Friday 15 December 2017

Learning outcome :

In terms of Knowledge Understand the complexity and multi-disciplinary process of decommissioning (safety, regulatory requirements, financial & human resources management, material management, etc) Grasp the difference between various decommissioning projects (Pressurized Water Reactor, Research Reactor, Fuel production plant) In terms of Skills Develop the strategy and planning of a decommissioning project taking into account all important requirements and return of experience from other projects

ENEN European Master : No

COURSE DETAILS

See http://academy.sckcen.be/en/Customised_trainings/Calendar/Decommissioning-of-nuclear-installations-20171211-20171215-3d6d9ee3-210a-e711-80c0-ecf4bbc6e827?leftmainmenu=8

ADMINISTRATIVE INFORMATION

Requirements to apply :

See http://academy.sckcen.be/en/Customised_trainings/Calendar/Decommissioning-of-nuclear-installations-20171211-20171215-3d6d9ee3-210a-e711-80c0-ecf4bbc6e827?leftmainmenu=8

Tuition fee :

Early bird: 2.050 EUR (VAT included) until October 11, 2017

Late registration: 2.200 EUR (VAT included) as of October 12, 2017

How to apply :

See http://academy.sckcen.be/en/Customised_trainings/Calendar/Decommissioning-of-nuclear-installations-20171211-20171215-3d6d9ee3-210a-e711-80c0-ecf4bbc6e827?leftmainmenu=10

Deadline of application :

Monday 27 November 2017

6. Radiation protection | 5 days

BASIC INFORMATION

Last update : 2017-03-02

Title : Radiation protection | 5 days

Country : Belgium

Organisation : SCKCEN

Language : English

Venue : SCK•CEN, Mol, Belgium

Start date : Monday 20 November 2017

End date : Friday 24 November 2017

Learning outcome :

Upon completion of the course, participants will In terms of knowledge -Know and understand the origin, properties and applications of ionizing radiation -Name and explain the interaction mechanisms between radiation and matter -Name the main health risks related to exposure to ionizing radiation -Understand and explain the fundamental principles of the radiation protection system and her applications, as laid down in national and international legislation -Have insight in the organization of radiation protection in regular and emergency situations Understand the different dosimetric quantities -Know different measurement methods and equipment for environmental and personal dosimetry -Know the characteristics of Radon and naturally occurring radioactive materials In terms of skills -Be able to use different measurement devices to characterize sources an measure doses -Apply proper dose reduction measures: reduce exposure time, increase distance, and select and calculate shielding -Be able to develop contextual and ethical reasoning as a relevant skill when considering radiation protection issues In terms of competences -Apply the main principles of operational radiation protection on the workflow on a daily basis -Be aware of the complexity of nuclear applications

ENEN European Master : No

COURSE DETAILS

See http://academy.sckcen.be/en/Customised_trainings/Calendar/Radiation-protection--5-days-20171120-20171124-0077e313-f0ab-e611-80d5-001dd8b8114f

ADMINISTRATIVE INFORMATION

Tuition fee :

Early bird: 2.050 EUR (VAT included) until September 20, 2017

Late registration: 2.200 EUR (VAT included) as of September 21, 2017

Cancellation requests must be sent by email to academy@sckcen.be no later than November 13, 2017. No shows and cancellations after deadline will incur the full cost of registration.

How to apply :

Online via http://academy.sckcen.be/en/Customised_trainings/Calendar/Radiation-protection--5-days-20171120-20171124-0077e313-f0ab-e611-80d5-001dd8b8114f

Deadline of application :

Monday 6 November 2017

FOR FURTHER INFORMATION

See http://academy.sckcen.be/en/Customised_trainings/Calendar/Radiation-protection--5-days-20171120-20171124-0077e313-f0ab-e611-80d5-001dd8b8114f

7. Introduction to Yantra | a lattice Boltzmann based framework for pore-scale modelling

BASIC INFORMATION

Last update : 2017-05-04

Title : Introduction to Yantra | a lattice Boltzmann based framework for pore-scale modeling

Country : Belgium

Organisation : SCKCEN

Language : English

Venue : SCK•CEN Lakehouse, Mol

Start date : Tuesday 14 November 2017

End date : Wednesday 15 November 2017

Learning outcome :

It is expected that after attending this course, participants will have an improved understanding of LB methods and are able to use Yantra for their own research projects.

ENEN European Master : No

COURSE DETAILS

See http://academy.sckcen.be/en/Academic_courses/Calendar/Introduction-to-Yantra--a-lattice-Boltzmann-based-framework-for-pore-scale-modeling--20171114-20171115-c4248036-150e-e711-80c0-ecf4bbc6e827?leftmainmenu=8

ADMINISTRATIVE INFORMATION

Requirements to apply :

See http://academy.sckcen.be/en/Academic_courses/Calendar/Introduction-to-Yantra--a-lattice-Boltzmann-based-framework-for-pore-scale-modeling--20171114-20171115-c4248036-150e-e711-80c0-ecf4bbc6e827

Tuition fee :

Early bird: 750 EUR (VAT included) until September 12, 2017

Late registration: 950 EUR (VAT included) as of September 13, 2017

How to apply :

See http://academy.sckcen.be/en/Academic_courses/Calendar/Introduction-to-Yantra--a-lattice-Boltzmann-based-framework-for-pore-scale-modeling--20171114-20171115-c4248036-150e-e711-80c0-ecf4bbc6e827

Deadline of application :

Tuesday 31 October 2017

8. From nuclear data to a reliable estimate of spent fuel decay heat

BASIC INFORMATION

Last update : 2017-05-04

Title : From nuclear data to a reliable estimate of spent fuel decay heat

Country : Belgium

Organisation : SCKCEN

Language : English

Venue : SCK•CEN Lakehouse, Mol

Start date : Wednesday 25 October 2017

End date : Wednesday 25 October 2017

Learning outcome :

Upon completion of this training course, participants will In terms of knowledge: Go from the process of nuclear fission into detail on the different energy contributions (fission fragments, neutron and gamma-ray emission); See the difference between direct and delayed contributions to the energy release; Understand the concept of "Q-value"; Learn the physics and approximations behind reactor depletion and activation calculations; Analyse different techniques for spent fuel characterisation and learn how these experiments are needed for the validation of computational codes.

ENEN European Master : No

COURSE DETAILS

See http://academy.sckcen.be/en/Academic_courses/Calendar/From-nuclear-data-to-a-reliable-estimate-of-spent-fuel-decay-heat-20171025-20171025-80b9a6bf-a3fd-e611-80c0-ecf4bbc6e827

ADMINISTRATIVE INFORMATION

Requirements to apply :

See http://academy.sckcen.be/en/Academic_courses/Calendar/From-nuclear-data-to-a-reliable-estimate-of-spent-fuel-decay-heat-20171025-20171025-80b9a6bf-a3fd-e611-80c0-ecf4bbc6e827

Tuition fee :

440 EUR

See http://academy.sckcen.be/en/Academic_courses/Calendar/From-nuclear-data-to-a-reliable-estimate-of-spent-fuel-decay-heat-20171025-20171025-80b9a6bf-a3fd-e611-80c0-ecf4bbc6e827?leftmainmenu=9

How to apply :

See http://academy.sckcen.be/en/Academic_courses/Calendar/From-nuclear-data-to-a-reliable-estimate-of-spent-fuel-decay-heat-20171025-20171025-80b9a6bf-a3fd-e611-80c0-ecf4bbc6e827?leftmainmenu=10

Deadline of application :

Monday 9 October 2017

9. Stralingsbescherming | 5 dagen

BASIC INFORMATION

Last update : 2017-03-02

Title : Stralingsbescherming | 5 dagen

Country : Belgium

Organisation : SCKCEN

Language : Dutch

Venue : SCK•CEN Mol, Belgium

Start date : Monday 16 October 2017

End date : Friday 20 October 2017

Learning outcome :

Na het volgen van deze cursus, zal de deelnemer Op vlak van kennis -Kennis en begrip hebben van de oorsprong, de eigenschappen en de toepassingen van ioniserende straling -De interactiemechanismen tussen verschillende soorten straling en materie kunnen benoemen en uitleggen -De voornaamste gezondheidsrisico's gerelateerd aan een blootstelling aan ioniserende straling kunnen benoemen -De fundamentele principes van het stralingsbeschermingssysteem en haar toepassing, zoals bepaald in nationale en internationale regelgeving, kennen en kunnen verklaren -Inzicht verwerven in de organisatie van de stralingsbescherming in normale en accidentele omstandigheden -De betekenis van de verschillende dosimetrische grootheden begrijpen -Verschillende meetmethodes en de bijhorende apparatuur kennen voor verschillende types van meting (omgevingsdosimetrie, inwendige en uitwendige personendosimetrie) van verschillende soorten straling -De karakteristieken van radon en natuurlijke radioactieve materialen kennen Op vlak van kunde -Verschillende meettoestellen kunnen gebruiken om stralingsbronnen te karakteriseren en dosissen te meten -Dosisbeperkende maatregelen kunnen aanwenden zoals blootstellingstijd reduceren, afstand vergroten en de juiste afscherming selecteren en berekenen -Contextuele en ethische redeneringen kunnen opbouwen in het kader van stralingsbeschermingsproblematieken Op vlak van competenties (autonomie/verantwoordelijkheid) -De voornaamste principes van operationele stralingsbescherming kunnen toepassen in een dagelijkse werkomgeving -Zich bewust zijn van de complexiteit van nucleaire toepassingen

ENEN European Master : No

COURSE DETAILS

Zie http://academy.sckcen.be/en/Customised_trainings/Calendar/Stralingsbescherming--5-dagen-20171016-20171020-410acc39-edab-e611-80d5-001dd8b8114f

ADMINISTRATIVE INFORMATION

Tuition fee :

Early bird: € 2.050 (incl. btw) tot 16 augustus 2017

Late registration: € 2.200 (incl. btw) vanaf 17 augustus 2017

Annuleringen: meldingen van annulering moeten schriftelijk gericht worden per e-mail aan academy@sckcen.be ten laatste op 9 oktober 2017. No shows en annuleringen na deze deadline kunnen niet meer in rekening worden gebracht, de deelnemer zal een factuur ontvangen voor het volledige bedrag van deelname aan de opleiding.

How to apply :

Online via http://academy.sckcen.be/en/Customised_trainings/Calendar/Stralingsbescherming--5-dagen-20171016-20171020-410acc39-edab-e611-80d5-001dd8b8114f

Deadline of application :

Monday 2 October 2017

FOR FURTHER INFORMATION

Zie http://academy.sckcen.be/en/Customised_trainings/Calendar/Stralingsbescherming--5-dagen-20171016-20171020-410acc39-edab-e611-80d5-001dd8b8114f

10. Radioprotection | 5 jours

BASIC INFORMATION

Last update : 2017-03-02

Title : Radioprotection | 5 jours

Country : Belgium

Organisation : SCKCEN

Language : French

Venue : SCK•CEN Mol, Belgium

Start date : Monday 18 September 2017

End date : Friday 22 September 2017

Learning outcome :

Après avoir suivi ce cours, le participant Sur le plan des connaissances: -aura acquis la connaissance et la compréhension de l'origine, des propriétés et des applications des rayonnements ionisants -pourra citer et expliquer les mécanismes d'interaction entre les différentes sortes de rayonnements et matières -pourra citer les principaux risques liés à la santé et relatifs à une exposition à des rayonnements ionisants -connaîtra et pourra expliquer les principes fondamentaux du système de radioprotection et sa mise en œuvre, tels que définis dans la réglementation nationale et internationale -aura une vue sur l'organisation de la radioprotection en conditions normales et accidentelles -connaîtra la signification des différentes grandeurs dosimétriques -connaîtra les différentes méthodes de mesure et les appareils correspondants pour les différents types de mesure (dosimétrie environnementale, dosimétrie individuelle interne et externe) des différents types de rayonnement -connaîtra les caractéristiques du radon et des matériaux naturellement radioactifs Sur le plan des aptitudes: -pourra utiliser les différents appareils de mesure pour caractériser les sources de rayonnement et mesurer les doses -pourra appliquer des mesures de limitation de dose telles que la réduction de la durée d'exposition, l'éloignement et la sélection et le calcul du blindage adéquat -pourra élaborer des raisonnements contextuels et éthiques dans le cadre de problématiques de radioprotection Sur le plan des compétences (autonomie/responsabilité): -pourra appliquer les principes essentiels de la radioprotection opérationnelle dans un environnement de travail quotidien -sera conscient de la complexité des applications nucléaires

ENEN European Master : No

COURSE DETAILS

Voir http://academy.sckcen.be/en/Customised_trainings/Calendar/Radioprotection--5-jours-20170918-20170922-be8d3624-ebab-e611-80d5-001dd8b8114f

ADMINISTRATIVE INFORMATION

Tuition fee :

Early bird: 2.050 EUR (TVA incl) jusqu'au 18 juillet 2017

Late registration: 2.200 EUR (TVA incl) à partir du 19 juillet 2017

Une demande d'annulation doit être envoyée par e-mail à academy@sckcen.be au plus tard le 11 septembre 2017. Si le participant n'est pas présent ou s'il n'a pas annulé sa participation avant le deadline, il recevra une facture avec le coût total de la formation.

How to apply :

Online via http://academy.sckcen.be/en/Customised_trainings/Calendar/Radioprotection--5-jours-20170918-20170922-be8d3624-ebab-e611-80d5-001dd8b8114f

Deadline of application :

Friday 1 September 2017

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Voir http://academy.sckcen.be/en/Customised_trainings/Calendar/Radioprotection--5-jours-20170918-20170922-be8d3624-ebab-e611-80d5-001dd8b8114f

11. Summer school in radiation biology

BASIC INFORMATION

Last update : 2017-03-02

Title : Summer school in radiation biology

Country : Belgium

Organisation : SCKCEN

Language : English

Venue : SCK•CEN Mol, Belgium

Start date : Wednesday 16 August 2017

End date : Friday 25 August 2017

Learning outcome :

The summer school in radiobiology is intended to train those who wish to enter active research in radiobiology or who wish to acquire detailed knowledge of the effects of ionizing radiations on living matter. It will also deal with the clinical aspects of radiotherapy or radiodiagnostics and with the application of radioisotopes to biological and medical problems.

ENEN European Master : No

COURSE DETAILS

See http://academy.sckcen.be/en/Academic_courses/Calendar/Summer-school-in-radiation-biology-20170816-20170825-f6f9f6f1-09ac-e611-80d5-001dd8b8114f

ADMINISTRATIVE INFORMATION

Tuition fee :

Participation to this summer school is free of charge.

How to apply :

Online via http://academy.sckcen.be/en/Academic_courses/Calendar/Summer-school-in-radiation-biology-20170816-20170825-f6f9f6f1-09ac-e611-80d5-001dd8b8114f

Deadline of application :

Monday 15 May 2017

FOR FURTHER INFORMATION

See http://academy.sckcen.be/en/Academic_courses/Calendar/Summer-school-in-radiation-biology-20170816-20170825-f6f9f6f1-09ac-e611-80d5-001dd8b8114f

12. Heavy metal summer school 2017

BASIC INFORMATION

Last update : 2017-03-02

Title : Heavy metal summer school 2017

Country : Belgium

Organisation : SCKCEN

Language : English

Venue : SCK•CEN, Mol, Belgium

Start date : Monday 12 June 2017

End date : Friday 16 June 2017

Learning outcome :

After participation to this course, participants will be able to: Related to the module on chemical issues: -identify different chemical processes occurring in HLM systems and explain their relation to operation and safety -list the different sources of impurities in HLM systems -describe by which theoretical and experimental methods the different sources of impurities can be quantified -explain why and by which methods certain impurities are removed from heavy liquid metal coolants - explicate why oxygen control and monitoring is essential for operation of HLM nuclear systems - describe by which methods oxygen control can be achieved and explain their operation -explain the working principle and different designs of oxygen sensors -clarify which chemical processes govern the distribution of radionuclides in a system like MYRRHA -explain the physic chemistry of radionuclide evaporation from heavy liquid metals and experimental methods to measure evaporation Related to the module on thermal hydraulics: -explain the general principles of liquid metal heat transfer -identify the possibilities and shortcomings of different numerical approaches for liquid metal heat transfer -select proper correlations for pressure loss and heat transfer coefficients in liquid metal cooled fuel assemblies -estimate the effects of blockages and deformations in fuel assemblies -explain the phenomena occurring in heavy liquid metal pools including mixing and stratification, sloshing etc. -describe the approach to design and instrument a scaled pool experiment -identify the possibilities and shortcomings of system analysis codes for heavy liquid metal cooled reactor systems -explain the issues related to system safety in heavy liquid metal cooled reactor systems Related to the module on materials issues: -identify the general principles of selection and qualification of materials for structural and functional components of reactors -differentiate between screening tests and characterization of materials properties for design -list mechanical properties used for the design of structural and functional components -name the degradation effects of heavy liquid metals and neutron irradiation on mechanical properties used in the development of reactor components -describe the general principles of liquid metal corrosion and to give an example of mitigation approaches Related to the module on instrumentation: -give an overview of measurement techniques for diagnostics and process monitoring of liquid metal systems -explain the major parameters that affect the performance of an ultrasonic system -specify the requirements for an ultrasonic sensor for a given application -estimate achievable resolution of an ultrasonic scanning system

ENEN European Master : No

COURSE DETAILS

See http://academy.sckcen.be/en/Academic_courses/Calendar/Heavy-Metal-summer-school-2017-20170612-20170616-4f9f015f-92bc-e611-80d5-001dd8b8114f

ADMINISTRATIVE INFORMATION

Tuition fee :

This one-week summer school costs 790 euro (TVA included).

This price includes participation to the course, coffee breaks and lunches, a welcome reception and the course material on hard-copy.

Cancellation with total refund is only possible until May 28, 2017.

How to apply :

Online via http://academy.sckcen.be/en/Academic_courses/Calendar/Heavy-Metal-summer-school-2017-20170612-20170616-4f9f015f-92bc-e611-80d5-001dd8b8114f

Deadline of application :

Sunday 28 May 2017

FOR FURTHER INFORMATION

See http://academy.sckcen.be/en/Academic_courses/Calendar/Heavy-Metal-summer-school-2017-20170612-20170616-4f9f015f-92bc-e611-80d5-001dd8b8114f

13. 4th International School: PHYSICAL AND CHEMICAL CHARACTERIZATION OF SURFACES AT DIFFERENT SCALES

BASIC INFORMATION

Last update : 2016-04-06

Title : 4th International School: PHYSICAL AND CHEMICAL CHARACTERIZATION OF SURFACES AT DIFFERENT SCALES

Country : France

Language : English

Venue : CEA-INSTN, Saclay & Synchrotron SOLEIL, Saint Aubin (20kms south of Paris)

Start date : Monday 10 October 2016

End date : Thursday 14 April 2016

ENEN European Master : No

COURSE DETAILS

This school focuses on different physical and chemical phenomena (diffusion, segregation, oxidation, contamination) involving the surface of materials which may intervene at various depth scales. The study of these phenomena involves the use of the appropriate analytical techniques, from the most conventional to the most innovative requiring Synchrotron X-ray. The complementarity between laboratory and X-ray based techniques will be presented. Thanks to the means made available to them, attendees will have the opportunity to participate in an analysis, from the setting up of samples to the acquisition and interpretation of analytical data.

ADMINISTRATIVE INFORMATION

Tuition fee :

General admission: €1620

Students: €1134

Additional costs :

Participants are invited to book their own accommodation. List of hotels around CEA and in Paris is available. Reduced rates for our attendees.

Deadline of application :

Monday 12 September 2016

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 [Document 1](#)

FOR FURTHER INFORMATION

Registration and more information:

nadia.nowacki@cea.fr

14. Professional Education on Nuclear Energy - Module 5: Management Systems

BASIC INFORMATION

Last update : 2015-04-21

Title : Professional Education on Nuclear Energy - Module 5: Management Systems

Country : Italy

Organisation : DUT

Language : English

Venue : CIRTEN, Milano

Start date : Monday 13 June 2016

End date : Friday 24 June 2016

ECTS/ECVET : 8

Learning outcome :

See Programme Guide

ENEN European Master : No

COURSE DETAILS

Quality Management, Project Management, Soft Skills in general, interface with Safety Authorities and Regulatory Bodies. A cross-check with TRASNUSAFE EU FP7 project will be performed, where a Management System educational activity is already designed, in order to exploit possible synergies.

ADMINISTRATIVE INFORMATION

Requirements to apply :

Participants need to have an academic degree and more than 3 years work experience in a (non-)nuclear field. The programme is open to qualified candidates from all over the world.

Tuition fee :

<http://www.nuclearenergy.education/programme/overview/data-fee/>

How to apply :

<http://www.nuclearenergy.education/enrolment/>

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 [Leaflet](#)  [Programme Guide - module 5](#)

FOR FURTHER INFORMATION

<http://www.nuclearenergy.education>

15. Professional Education on Nuclear Energy - Module 4: Societal justification, safety and security of nuclear energy

BASIC INFORMATION

Last update : 2015-04-21

Title : Professional Education on Nuclear Energy - Module 4: Societal justification, safety and security of nuclear energy

Country : Belgium

Organisation : DUT

Language : English

Venue : SCK-CEN, Mol

Start date : Monday 18 April 2016

End date : Friday 29 April 2016

ECTS/ECVET : 8

Learning outcome :
See Programme Guide

ENEN European Master : No

COURSE DETAILS

Societal and environmental aspects of nuclear energy, including nuclear safeguards and security, nuclear safety (deterministic and probabilistic approaches), climate change and public perception issues. Decommissioning of nuclear plants.

ADMINISTRATIVE INFORMATION

Requirements to apply :

Participants need to have an academic degree and more than 3 years work experience in a (non-)nuclear field.

Tuition fee :

<http://www.nuclearenergy.education/programme/overview/data-fee/>

How to apply :

<http://www.nuclearenergy.education/enrolment/>

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 [Leaflet](#)  [Programme Guide - module 4](#)

FOR FURTHER INFORMATION

<http://www.nuclearenergy.education>

16. Professional Education on Nuclear Energy - Module 3: Nuclear Fuel from ore to Waste

BASIC INFORMATION

Last update : 2015-04-21

Title : Professional Education on Nuclear Energy - Module 3: Nuclear Fuel from ore to Waste

Country : Germany

Organisation : DUT

Language : English

Venue : JRC-ITU, Karlsruhe

Start date : Monday 22 February 2016

End date : Thursday 30 April 2015

ECTS/ECVET : 8

Learning outcome :

Described in Programme Guide module 3, below.

ENEN European Master : No

COURSE DETAILS

Nuclear fuel cycle including behaviour of nuclear fuel during irradiation. The content includes exploration, mining, enrichment, irradiation, interim storage, reprocessing and geological disposal techniques.

ADMINISTRATIVE INFORMATION

Requirements to apply :

Participants need to have an academic degree and more than 3 years work experience in a (non-)nuclear field. The programme is open to qualified candidates from all over the world.

Tuition fee :

<http://www.nuclearenergy.education/programme/overview/data-fee/>

How to apply :

<http://www.nuclearenergy.education/enrolment/>

DOWNLOADS

 [Leaflet](#)  [Programme Guide - module 3](#)

FOR FURTHER INFORMATION

<http://www.nuclearenergy.education>

17. Nuclear Waste Management

BASIC INFORMATION

Last update : 2015-07-03

Title : Nuclear Waste Management

Country : France

Organisation : CEA

Language : English

Venue : INSTN location at CEA Research centre Marcoule

Start date : Monday 1 February 2016

End date : Friday 5 February 2016

Level : Advanced course

Participant : young researchers, PhD students, post-doctorates and engineers, already having a Master of Science in nuclear engineering as a background

ECTS/ECVET : 3 ECTS

ENEN European Master : Yes

COURSE DETAILS

- General considerations on nuclear waste
- Waste conditioning
- Waste storage and disposal
- Perspectives

ADMINISTRATIVE INFORMATION

Requirements to apply :

It is recommended to have a Master of Science level in nuclear engineering as a background.

Tuition fee :

consult leaflet

Additional costs :

consult leaflet

How to apply :

Contact Ms. Nathalie Nozerand nathalie.nozerand@cea.fr

Deadline of application :

Wednesday 25 November 2015

DOWNLOADS

 [course leaflet](#)

FOR FURTHER INFORMATION

Contact course Manager: Claude Renault clauder Renault@cea.fr

or

nuclear-school@cea.fr

18. Nuclear Fuels for Light Water Reactors and Fast Reactors

BASIC INFORMATION

Last update : 2015-07-03

Title : Nuclear Fuels for Light Water Reactors and Fast Reactors

Country : France

Organisation : CEA

Language : English

Venue : NSTN location at CEA Reserch centre - Cadarache

Start date : Monday 25 January 2016

End date : Friday 29 January 2016

Level : Adanced course

Participant : young researchers, PhD students, post-doctorates and engineers, already having a Master of Science in nuclear engineering as a background

ECTS/ECVET : 3 ECTS

ENEN European Master : Yes

COURSE DETAILS

- Nuclear fuels fundamentals
- Fuel element thermal performance and temperature effects - Nuclear fuel behaviour under irradiation
- Main limiting phenomena in the different types of fuels
- Fuel behaviour during some off-normal conditions
- Modelling of fuel behaviour
- Fuel challenges for the future

ADMINISTRATIVE INFORMATION

Requirements to apply :

It is recommended to have a Master of Science level in nuclear engineering as a background.

Tuition fee :

consult leaflet

Additional costs :

consult leaflet

How to apply :

Contact Ms. Catherine Brosseron catherine.brosseron@cea.fr

Deadline of application :

Wednesday 25 November 2015

DOWNLOADS

 [Course leaflet](#)

FOR FURTHER INFORMATION

Contact course Manager: Claude Renault claudio.renault@cea.fr

or

nuclear-school@cea.fr

19. Nuclear Fuel Cycle and Reprocessing

BASIC INFORMATION

Last update : 2015-07-03

Title : Nuclear Fuel Cycle and Reprocessing

Country : France

Organisation : CEA

Language : English

Venue : INSTN location at CEA Research centre Marcoule

Start date : Monday 25 January 2016

End date : Friday 29 January 2016

Level : Advanced course

Participant : young researchers, PhD students, post-doctorates and engineers, already having a Master of Science in nuclear engineering as a background

ECTS/ECVET : 3 ECTS

ENEN European Master : Yes

COURSE DETAILS

- Fuel cycle and spent fuel
- Fundamentals of fuel cycle: chemistry of actinides and fission products in solution
- PUREX spent fuel processing: fundamental knowledge and industrial process
- Minor actinide reprocessing
- Advanced fuel cycles

ADMINISTRATIVE INFORMATION

Requirements to apply :

It is recommended to have a Master of Science level in nuclear engineering as a background.

Tuition fee :

consult leaflet

Additional costs :

consult leaflet

How to apply :

Contact Ms. Nathalie Nozerand nathalie.nozerand@cea.fr

Deadline of application :

Wednesday 25 November 2015

DOWNLOADS

 [course leaflet](#)

FOR FURTHER INFORMATION

Contact course Manager: Claude Renault clauder Renault@cea.fr

or

nuclear-school@cea.fr

20. Materials for Nuclear reactors, Fuels and Structures

BASIC INFORMATION

Last update : 2015-07-03

Title : Materials for Nuclear reactors, Fuels and Structures

Country : France

Organisation : CEA

Language : English

Venue : INSTN location in CEA-Saclay research centre

Start date : Monday 18 January 2016

End date : Friday 22 January 2016

Level : Advanced course

Participant : young researchers, PhD students, post-doctorates and engineers, already having a Master of Science in nuclear engineering as a background

ECTS/ECVET : 3 ECTS

ENEN European Master : Yes

COURSE DETAILS

- Mechanisms of irradiation damage: neutrons, photons, electrons
- Behaviour of materials under irradiation: ferritic steels for reactor pressure vessel, austenitic stainless steels for internals or fuel cladding (FBR), Zr alloys for fuel cladding and fuel assemblies (LWR)
- Fuel materials (UO₂, PuO₂): microstructure evolution, thermomechanical behaviour
- Materials for high temperature conditions: SiC, ZrC, low swelling alloys
- Materials for fusion: low activation materials, resistance to high-energy neutrons, breeding blankets

ADMINISTRATIVE INFORMATION

Requirements to apply :

It is recommended to have a Master of Science level in nuclear engineering as a background.

Tuition fee :

consult leaflet

Additional costs :

consult leaflet

How to apply :

Contact Ms. Corinne Carreaux corinne.carreaux@cea.fr

Deadline of application :

Wednesday 25 November 2015

DOWNLOADS

 [course leaflet](#)

FOR FURTHER INFORMATION

Contact course Manager: Claude Renault claudio.renault@cea.fr

or

nuclear-school@cea.fr

21. Reactor Core Physics: Deterministic and Monte Carlo Methods

BASIC INFORMATION

Last update : 2015-07-03

Title : Reactor Core Physics: Deterministic and Monte Carlo Methods

Country : France

Organisation : CEA

Language : English

Venue : INSTN location at CEA Reserch centre - Cadarache

Start date : Monday 11 January 2016

End date : Friday 15 January 2016

Level : Advanced course

Participant : young researchers, PhD students, post-doctorates and engineers, already having a Master of Science in nuclear engineering as a background

ECTS/ECVET : 3 ECTS

ENEN European Master : Yes

COURSE DETAILS

- Chain reaction and neutron balance
- Neutron slowing-down and resonance absorption, self-shielding modelling
- The neutron transport equation and calculation schemes: the steady-state integro-differential transport equation. The neutron diffusion equation... Verification & Validation of neutronics code package: process, sensitivity and uncertainty studies
- The Monte Carlo method for solving the transport equation
- Monte Carlo techniques: fixed source, variance reduction, criticality, perturbation calculations, adjoint calculation, applications to shielding.

ADMINISTRATIVE INFORMATION

Requirements to apply :

It is recommended to have a Master of Science level in nuclear engineering as a background.

Tuition fee :

consult leaflet

Additional costs :

consult leaflet

How to apply :

Contact Ms. Catherine Brosseron catherine.brosseron@cea.fr

Deadline of application :

Wednesday 25 November 2015

DOWNLOADS

 [Course leaflet](#)

FOR FURTHER INFORMATION

Contact course Manager: Claude Renault clauder.renault@cea.fr

or

nuclear-school@cea.fr

22. Thermal Hydraulics and Safety

BASIC INFORMATION

Last update : 2015-07-03

Title : Thermal Hydraulics and Safety

Country : France

Organisation : CEA

Language : English

Venue : Cadarache CEA Research Centre

Start date : Monday 11 January 2016

End date : Friday 15 January 2016

Level : Advanced courses

Participant : young researchers, PhD students, post-doctorates and engineers, already having a Master of Science in nuclear engineering as a background

ECTS/ECVET : 3 ECTS

ENEN European Master : Yes

COURSE DETAILS

- Basic modelling of two-phase flow
- Two-phase flow phenomena in LWRs
- Multi-scale approach of LWR thermal hydraulics
- System code modelling of reactor thermal hydraulics, including advanced modelling
- Simulation of LWR design basis accidents
- Application of two-phase CFD to reactor thermal hydraulic issues
- Multiphase phenomena and modelling of severe accidents in LWRs
- Hydrogen risk (production, dispersion, combustion, mitigation)

ADMINISTRATIVE INFORMATION

Requirements to apply :

It is recommended to have a Master of Science level in nuclear engineering as a background.

Tuition fee :

consult leaflet

Additional costs :

consult leaflet

How to apply :

Contact Ms. Corinne Carreaux corinne.carreaux@cea.fr

Deadline of application :

Wednesday 25 November 2015

DOWNLOADS

 [Courses leaflet](#)

FOR FURTHER INFORMATION

Contact course Manager: Claude Renault clauder.renault@cea.fr

or

nuclear-school@cea.fr

23. Hands on Training in Nuclear Chemistry II

BASIC INFORMATION

Last update : 2015-12-04

Title : Hands on Training in Nuclear Chemistry II

Country : Czech Republic

Organisation : CTU

Language : English

Venue : Czech Technical University in Prague

Start date : Wednesday 6 January 2016

End date : Monday 14 December 2015

Level : Master level (chemistry masters or engineers, and/or fresh PhD students), who need to extend their skills and knowledge to the field of nuclear and radiochemistry

Learning outcome :

The course provides fundamental theoretical knowledge of principles and concepts in nuclear chemistry necessary for understanding the processes and methods in radiochemistry, and practical hands-on training required for the work with open ionising radiation sources (handling of radioactive materials, application of radionuclides and ionizing radiation, etc.).

ENEN European Master : No

COURSE DETAILS

The course will take place at the Czech Technical University in Prague, laboratories and lecture rooms of the Department of Nuclear Chemistry (Břehová 7, 11519 Prague, Czech Republic) in January 6-14, 2016.

The course will run in two parts – theoretical part with lectures summarizing fundamental theoretical knowledge of principles and concepts in nuclear chemistry necessary for understanding the processes and methods in radiochemistry in January 6-8, and the second part – hands-on training focused on the work with open ionising radiation sources, behaviour in the radiochemistry lab and basic NRC principles. Presentations in the theoretical part will become available via SlidesLive technology on CINCH Moodle platform.

The course is organised by CINCH Consortium and will take place at laboratories and lecture rooms of the Department of Nuclear Chemistry of CTU in Prague (Břehová 7, 11519 Prague, Czech Republic). In addition to attending lectures, the participants will pass thematic practical laboratory exercises.

All teaching will be in English.

ADMINISTRATIVE INFORMATION

How to apply :

For application for attendance of the course, please visit the CINCH web pages at www.cinch-project.eu/?art=courses, download the application form and send the filled-in form to Štěpánka Maliňáková (malinakova@fjfi.cvut.cz). No course fee will be charged to the participants and a small budget exists to support limited number of participants. Application deadline is November 30, 2015

DOWNLOADS

 [Document 1](#)

24. PHYSICAL AND CHEMICAL CHARACTERIZATION OF SURFACES AT DIFFERENT SCALE

BASIC INFORMATION

Last update : 2015-07-17

Title : PHYSICAL AND CHEMICAL CHARACTERIZATION OF SURFACES AT DIFFERENT SCALE

Country : France

Organisation : CEA

Language : English

Venue : CEA Saclay Research Centre - INSTN

Start date : Monday 16 November 2015

End date : Friday 20 November 2015

Level : Advanced course

Participant : PhD students, Post-Docs and scientists working at European and non-European universities and laboratories

ECTS/ECVET : no

ENEN European Master : No

COURSE DETAILS

Introduction to surface analysis

- Notions of surface
- Photon-matter interaction
- ion-matter interaction

Laboratory conventional techniques

- Raman spectroscopy
- Scanning tunneling microscope
- Ion beam analysis (RBS, NRA)

Experimental training: conventional techniques

- Raman spectroscopy
- Scanning tunneling microscope
- Ion beam analysis (IBA)

Synchrotron based techniques

- X-ray microscopy
- Photoemission X
- Absorption X
- X-ray diffraction and scattering

Experimental training: Synchrotron X-ray techniques

- Photoemission (XPS, ARPES): SOLEIL beamlines (TEMPO).
- Absorption (XAS, SEXAFS, XMCD): SOLEIL beamlines (DEIMOS).
- Diffraction/Scattering: SOLEIL beamlines (DIFFABS, SIRIUS).
- X-ray microscopy: SOLEIL beamlines (HERMES, ANTARES).

ADMINISTRATIVE INFORMATION

Requirements to apply :

consult leaflet

Tuition fee :

consult leaflet

Additional costs :

consult leaflet

How to apply :

consult registration form

Deadline of application :

Tuesday 20 October 2015

DOWNLOADS

 [Course leaflet 2015](#)  [Registration form](#)

FOR FURTHER INFORMATION

Programme managers

- Nihed Chaâbane, INSTN, CEA Saclay
nihed.chaabane@cea.fr
- Rachid Belkhou, Synchrotron SOLEIL
rachid.belkhou@synchrotron-soleil.fr

Contact & registration

Nadia Nowacki

Tel.: +33 1 69 08 30 92

Fax: +33 1 69 08 77 82

Email: nadia.nowacki@cea.fr

25. 2015-International Seminar: NUCLEAR FUEL CYCLE

BASIC INFORMATION

Last update : 2015-07-17

Title : 2015-International Seminar: NUCLEAR FUEL CYCLE

Country : France

Organisation : CEA

Language : English

Venue : INSTN location at CEA Research centre Saclay

Start date : Monday 28 September 2015

End date : Friday 9 October 2015

Level : Master level in nuclear engineering or equivalent

Participant : Technicians, scientists and engineers working in the nuclear field and wishing to have an advanced knowledge on the nuclear fuel cycle

ECTS/ECVET : 6 ECTS

ENEN European Master : Yes

COURSE DETAILS

- The nuclear fuel cycle: an overview.
- Geology of uranium: exploration, mining and resources.
- From uranium ore to yellow cake: the concentration stage.
- From uranium ore concentrates to uranium hexafluoride UF₆.
- Uranium enrichment: overview
- Boiler/Fuel: the constraints.
- Fuel assembly: general design.
- Recycling industry: Mixed oxide fuel (Mox).
- Fuel rod and assembly: thermal-mechanical design.
- Fuel services.
- Uranium enrichment by gaseous diffusion and ultracentrifugation processes.
- Options for spent fuel management.
- French experience with interim storage technologies.
- Transport of nuclear fuel cycle materials.
- Fuel cycle front-end: technical and economical aspects.
- Reprocessed uranium recycling.
- Reprocessing operations and technology.
- Inventory of fuel cycle wastes and long term waste management.
- R&D in the field of the long-lived nuclear waste management: advanced separation, transmutation and long-term interim storage..

Technical Visits with conferences:

- Uranium Fuel Fabrication Plant (FBFC)
- Uranium Refining and Conversion Plant (Comurhex)
- Uranium Enrichment Plant (Eurodif)
- MOX Fuel Fabrication Plant (Melox)
- La Hague -Spent Fuel Reprocessing Plant (AREVA nc)
- Storage site for Low Radioactive Waste (Andra)

ADMINISTRATIVE INFORMATION

Requirements to apply :

Technicians, scientists and engineers working in the nuclear field, with a Master level or equivalent and wishing to have an advanced knowledge on the nuclear fuel cycle

Tuition fee :

Please follow this link:

<http://www-instn.cea.fr/formations/formations-continues/liste-des-formations-courtes/nuclear-fuel-cycle,1941710.html>

How to apply :

Please follow this link: <http://www-instn.cea.fr/formations/formations-continues/liste-des-formations-courtes/nuclear-fuel-cycle,1941710.html>

Deadline of application :

Thursday 3 September 2015

DOWNLOADS

 [Course Leaflet](#)  [Registration form](#)

FOR FURTHER INFORMATION

Contact course Manager: Lionel Bion lionel.bion@cea.fr

or

Course organizer: Ms Corinne Carreaux corinne.carreaux@cea.fr

26. Professional Education on Nuclear Energy - Module 2: Producing energy with nuclear reactors

BASIC INFORMATION

Last update : 2015-04-21

Title : Professional Education on Nuclear Energy - Module 2: Producing energy with nuclear reactors

Country : Germany

Organisation : DUT

Language : English

Venue : KIT - INE, Karlsruhe

Start date : Monday 28 September 2015

End date : Friday 9 October 2015

ECTS/ECVET : 8

Learning outcome :

See Programme Guide

ENEN European Master : No

COURSE DETAILS

Energy production with nuclear reactors; Mechanisms of heat removal from the core under nominal operation conditions (PWR, BWR); Regulatory framework for the design of nuclear power plants (safety requirements, criteria, etc.); Fundamentals of nuclear design (neutronic, thermal hydraulic); Nuclear power plant main systems; Operational aspects of nuclear power plants; Trends in nuclear power plant design and construction.

ADMINISTRATIVE INFORMATION

Requirements to apply :

Participants need to have an academic degree and more than 3 years work experience in a (non-)nuclear field. The programme is open to qualified candidates from all over the world.

Tuition fee :

<http://www.nuclearenergy.education/programme/overview/data-fee/>

How to apply :

<http://www.nuclearenergy.education/enrolment/>

DOWNLOADS

 [Leaflet](#)  [Programme guide - module 2](#)

FOR FURTHER INFORMATION

<http://www.nuclearenergy.education/>

27. DOPAS Training Workshop 2015

BASIC INFORMATION

Last update : 2015-06-05

Title : DOPAS Training Workshop 2015

Country : Czech Republic

Organisation : CTU

Language : English

Start date : Monday 14 September 2015

End date : Thursday 18 June 2015

ENEN European Master : No

COURSE DETAILS

DOPAS Training Workshop 2015 on 14-18 September 2015 in Czech Republic (Prague and Josef URC)

In September 2015, the DOPAS consortium organises a 5-day Training Workshop on the role of full-scale experiments on plugs and seals in demonstrating safety and performance of geological disposal in the Czech Republic (mainly Prague).

This workshop is designed and implemented in collaboration of the following DOPAS consortium partners: Posiva Oy, Finland; Czech Technical University (CTU) in Prague; Andra, France; Svensk Kärnbränslehantering AB (SKB), Sweden; SURAO, Czech Republic; Radioactive Waste Management Limited (RWM), United Kingdom; Nagra, Switzerland; Gesellschaft für Anlagen- und Reaktorsicherheit (GRS), Germany; and Nuclear Research Institute Rez (UJV), Czech Republic. The training consists of four learning units.

A large part of the basis for the workshop's four learning units result from the experiences gained from the full-scale experiments of the DOPAS project i.e. FSS in France, EPSP in the Czech Republic, DOMPLU in Sweden, POPLU in Finland, and planning of ELSA in Germany.

The workshop's learning activities are designed to enable the participants to acquire the following learning outcomes:

To understand the process/es of designing a full-scale experiment from a set of requirements related to the performance of a plug or a seal as a repository component in geological disposal.

To be able to contrast the differences of such processes resulting from the different boundary conditions e.g. from the host rock environments (clay, crystalline rock, and salt), the experimental settings (above ground, underground experimental facilities vs. real repository conditions) and other site and disposal concept specific features.

To comprehend the linking of different experiment project's related subprojects and tasks, and their inputs and outputs as a part of the experiment implementation.

To acquire hands-on experiences in experimenting with materials' testing and monitoring techniques needed in an experiment, and

To know how the individual experiments and their outputs contribute to the overall demonstration planning and demonstration programmes for safety of the waste management programmes at the different stages of repository development.

Interested in learning from the DOPAS experiences?

IMPORTANT DATES:

Registration Deadline 10 August 2015 (26 June for DOPAS consortium)

Confirmation e-mail for your participation on 17 August 2015

Closing of hotel block booking: To be announced

Latest cancellation of registration by 1 September 2015

DOPAS Training Workshop 14 - 18 September

ADMINISTRATIVE INFORMATION

Requirements to apply :

If you are a member from any of the DOPAS project consortium organisations, please note that your registration deadline is already 26 June 2015. Registration and confirmed participation is a commitment to this opportunity. The training workshop is free of charge including daily lunch, coffees, and local transportation. The number of workshop participants is limited to 12. However, for late cancellation after 1 September 2015 or a no-show, a cancellation fee of 300 euros may apply, if a seat on the workshop is left unused. In case of oversubscription, the priority in the following order for participation is given to Participants external to the DOPAS consortium, People who work or study with closure issues of geological repositories, A maximum of two persons from the same organisation, Have some balance between professional and student participants, and Those who have registered at an earlier date. The organisers will make block bookings in two hotels in Prague. This information will be posted on this website at a later date and e-mailed to those who have already registered to the workshop. The room prices vary from around 150 euros to 40 euros/night for a single room. All participants are in charge of their own accommodation costs in Czech Republic (Prague) and of their travel to and from Prague.

How to apply :

Please download a more detailed DOPAS training workshop brochure here and register latest by 10 August 2015 by using the registration form attached. The mailing address of the binding registrations is dopas@posiva.fi. Your participation to the workshop will be confirmed latest by 17 August 2015 by the organisers.

Deadline of application :

Monday 10 August 2015

DOWNLOADS

 [DOPAS TRAINING 2015 BROCHURE](#)

FOR FURTHER INFORMATION

For more information take a look at the brochure or contact Mrs Marjatta Palmu at Posiva Oy e-mail: [marjatta.palmu\(at\)posiva.fi](mailto:marjatta.palmu(at)posiva.fi)

28. Frédéric Joliot / Otto Hahn Summer School 2015 "Enhanced Reactor Safety – Design and Simulation of Evolutionary LWR Cores"

BASIC INFORMATION

Last update : 2015-06-17

Title : Frédéric Joliot / Otto Hahn Summer School 2015 "Enhanced Reactor Safety – Design and Simulation of Evolutionary LWR Cores"

Country : Germany

Organisation : KIT

Language : English

Venue : Karlsruhe Institute of Technology

Start date : Wednesday 19 August 2015

End date : Friday 28 August 2015

ENEN European Master : No

COURSE DETAILS

The lectures will be given by a large panel of distinguished speakers from R&D organizations, universities, industry and international institutions.

In addition, special events and a weekend programme will be organized.

Topic 1: Introduction 2 h

Topic 2: Core Physics and Safety 10 h

Topic 3: Thermo-hydraulics and Multi-physics 8 h

Topic 4: Clad and Fuels: From Current Designs to Innovative Concepts 12 h

Group Reflection on Selected Scientific Topics 6 h

Seminar: Licensing Aspects of Plant Evolution vs. Economics and Performance Issues 2 h

Technical visits

ADMINISTRATIVE INFORMATION

Tuition fee :

Full Registration Fee EUR 1.900 (travel expenses not included)

Reduced Fee EUR 950 for fellowship recipients

How to apply :

An on-line application form is available at: <http://www.fjohss.eu>

Deadline of application :

Saturday 30 May 2015

DOWNLOADS

 [Document 1](#)  [Document 2](#)  [Document 3](#)

FOR FURTHER INFORMATION

For information on the detailed program, registration procedure, fees, etc. please contact:

Mrs. Ingeborg Schwartz, Karlsruhe Institute of Technology, INR

76344 EGGENSTEIN-LEOPOLDSHAFEN, GERMANY

Phone: +49 (0) 721 6082 2552

Fax: +49 (0) 721 6082 3718

E-mail: ingeborg.schwartz@kit.edu

<http://www.fjohss.eu>

29. Severe Accident Phenomenology Short Course

BASIC INFORMATION

Last update : 2015-04-23

Title : Severe Accident Phenomenology Short Course

Country : Sweden

Organisation : KTH

Language : English

Venue : KTH Stockholm

Start date : Monday 6 July 2015

End date : Friday 10 July 2015

ECTS/ECVET : 3 ECTS

ENEN European Master : No

COURSE DETAILS

Jointly organised by KTH, CEA, IRSN and University of Pisa and will be hosted by KTH Stockholm on July 6-10 2015.

A new one-week Course entitled "Severe Accident Phenomenology" is proposed in the frame of SARNET Severe Accident research network of excellence that is integrated in the NUGENIA association.

This course will focus on disseminating the knowledge gained on SA in the last two decades to Masters-PhD students, young engineers and researchers. This short course is a sequel to the previous London 2013 and Pisa 2011 SARNET Courses. The program will cover SA phenomenology, progression and mitigation in current water-cooled Gen. II and III Nuclear Power Plants (NPP), but also the different design solutions in Gen.III NPPs. A special focus will be on the events at Fukushima-Daiichi.

Lectures will be given by international experts from major Nuclear Institutes, Industries and Universities working on the topic. Lecturers will be able to describe how the different plants would react during a SA, keeping in mind that time constraints of the course would not allow students to actually perform simulations. The Course will also include background lectures on NPP safety, SA scenarios and the events leading, respectively, to the early and late failure of containment.

ADMINISTRATIVE INFORMATION

How to apply :

Please find more information and register: <http://www.kth.se/sci/sarnet2015>

30. NuCoSS-15, Nuclear Corrosion Summer School

BASIC INFORMATION

Last update : 2014-12-17

Title : NuCoSS-15, Nuclear Corrosion Summer School

Country : Slovenia

Organisation : CEA

Language : English

Venue : HOTEL JELOVICA, BLED, SLOVENIA

Start date : Sunday 5 July 2015

End date : Friday 10 July 2015

ENEN European Master : No

COURSE DETAILS

Official event of the European Federation of Corrosion
Event 392

Any question, please contact: nucoss@zag.si

ADMINISTRATIVE INFORMATION

Tuition fee :

€1180 for students (PhD or MSc)

€1460 for all others

DOWNLOADS

 [Document 1](#)

FOR FURTHER INFORMATION

Registration deadline April 20, 2015

More information and registration:

www.zag.si/nucoss

31. Professional Education on Nuclear Energy - Module 1: Understanding Nuclear Power

BASIC INFORMATION

Last update : 2015-04-21

Title : Professional Education on Nuclear Energy - Module 1: Understanding Nuclear Power

Country : Netherlands

Organisation : DUT

Language : English

Venue : RID - TU Delft

Start date : Monday 1 June 2015

End date : Friday 12 June 2015

ECTS/ECVET : 8

Learning outcome :

Learning outcomes are described in the programme guide

ENEN European Master : No

COURSE DETAILS

General introduction to nuclear energy (societal, economical and technical point of view).

Fundamentals in the fields of economics, electricity markets, nuclear science and radiation, radiation shielding, nuclear reactor physics and core thermal hydraulics.

ADMINISTRATIVE INFORMATION

Requirements to apply :

Participants need to have an academic degree and more than 3 years work experience in a (non-)nuclear field. The programme is open to qualified candidates from all over the world.

Tuition fee :

<http://www.nuclearenergy.education/programme/overview/data-fee/>

How to apply :

<http://www.nuclearenergy.education/enrolment/>

DOWNLOADS

 [Leaflet](#)  [Programme guide - module 1](#)

FOR FURTHER INFORMATION

<http://www.nuclearenergy.education>

32. Fusion Crash Course

BASIC INFORMATION

Last update : 2014-09-18

Title : Fusion Crash Course

Country : Netherlands

Organisation : Fusenet

Language : English

Venue : Kapellerput, Heeze

Start date : Monday 27 October 2014

End date : Wednesday 29 October 2014

Level : undergraduate - physics : adapted to participants

Participant : engineers that are involved or interested in the ITER project

ECTS/ECVET : n.a.

Learning outcome :

provide the basic physics knowledge that everyone involved in the fusion development needs to have to understand the challenges.

ENEN European Master : No

COURSE DETAILS

- Objective: provide the basic physics knowledge that everyone involved in the fusion development needs to have to understand the challenges.

- course is adapted from a university course on FUSION given at Eindhoven University of Technology

- Small groups 5-10 participants to allow tailor made programme, adapted to level of participants.

- Focus on the physics background of Nuclear Fusion and the ITER project

- topics:

burn criteria, magnetic confinement, plasma- wall interaction, materials, nuclear aspects, heating systems, diagnostic methods, alternative concepts, route ahead.

ADMINISTRATIVE INFORMATION

Requirements to apply :

none. Course is tailor made, depending on experience of participants

Tuition fee :

1250 euro excl. VAT

Additional costs :

400 euro for Full board accomodation (excl VAT)

How to apply :

website: www.fusionacademy.eu

Deadline of application :

Tuesday 14 October 2014

DOWNLOADS

 [Flyer Fusion Academy](#)

FOR FURTHER INFORMATION

send mail to: info@fusionacademy.eu

33. 2014-International Course: GENERATION IV: Nuclear Reactor Systems for the Future

BASIC INFORMATION

Last update : 2014-06-26

Title : 2014-International Course: GENERATION IV: Nuclear Reactor Systems for the Future

Country : France

Organisation : CEA

Language : English

Venue : Saclay, France

Start date : Monday 15 September 2014

End date : Friday 19 September 2014

ENEN European Master : Yes

COURSE DETAILS

Generation IV International Forum (GIF) and 4th generation systems

- General context, evaluation criteria, the six concepts selected.
- Increased performance for energy conversion: innovation cycles
- Materials issues and development of advanced components
- Safety aspects of 4th generation reactor concepts.

Sodium-cooled Fast Reactors (SFR)

- Principles, past and existing reactors, and background knowledge.
- SFR core design, performance and safety.
- The choice of sodium coolant: impact on design and operation.
- The ASTRID prototype reactor

High Temperature and Very High Temperature Reactors (HTR and VHTR)

- Historical development of HTRs
- HTR core physics

Gas-cooled Fast Reactors (GFR)

- GFR core and system design, preliminary safety evaluation
- The ALLEGRO demonstration reactor

Lead-cooled Fast Reactors (LFR)

- Status of LFR development.

Supercritical Water Reactors (SCWR)

- SCWR principles, characteristics and challenges.

Molten Salt Reactors (MSR)

- Physics of MSR in the thorium fuel cycle.

Fuel cycle of the 4th generation systems

- Closed nuclear fuel cycle and transmutation

ADMINISTRATIVE INFORMATION

Tuition fee :

Please see the leaflet below

How to apply :

Please contact the organizer: nadia.nowacki@cea.fr

Deadline of application :

Monday 1 September 2014

DOWNLOADS

 [LEAFLET](#)  [REGISTRATION FORM](#)

FOR FURTHER INFORMATION

Please contact the programme manager:
claude.renault@cea.fr

34. Summer School in Reactor Physics 2014

BASIC INFORMATION

Last update : 2014-07-02

Title : Summer School in Reactor Physics 2014

Country : Czech Republic

Organisation : REZ

Language : English

Start date : Monday 25 August 2014

End date : Friday 29 August 2014

Participant : Students of technical universities and young researchers

ENEN European Master : Yes

COURSE DETAILS

Summer School in Reactor Physics is a one week educational program on cross-cutting topics of reactor physics. It is aimed at students and researchers from the nuclear field. The trainees will revise the necessary theoretical background, but the program will mainly focus on reactor physics experiments. The experiments will be carried out on the LR-0 light water reactor. The event also brings opportunity to meet people from different part of the world. There will be also special time dedicated to networking and occasion to discuss with our HR regarding current and future job offer.

ADMINISTRATIVE INFORMATION

Requirements to apply :

Intermediate knowledge of mathematics (basic use of differential calculus). Intermediate knowledge of physics (elementary mechanics, electronics and structure of atoms). Lectures will be carried out in English.

Tuition fee :

1500 EUR for professionals

420 EUR for students and teachers

Lectures, study materials, accommodation, full board and special event is included.

How to apply :

Please see deatail information here: <http://www.cvrez.cz/en/training-and-education/training-courses/course-in-reactor-physics/>

DOWNLOADS

 [Document 1](#)

35. 2014-International course: NUCLEAR WASTE MANAGEMENT

BASIC INFORMATION

Last update : 2014-02-28

Title : 2014-International course: NUCLEAR WASTE MANAGEMENT

Country : France

Organisation : CEA

Language : English

Venue : INSTN, CEA/Saclay, France

Start date : Monday 7 July 2014

End date : Friday 11 July 2014

ENEN European Master : No

ADMINISTRATIVE INFORMATION

Requirements to apply :

Please see the leaflet herewith

Tuition fee :

Full rate: €3700

ENEN member: €3110

Student: €2225

How to apply :

Please see the leaflet and contact: nadia.nowacki@cea.fr

DOWNLOADS

 [LEAFLET](#)  [REGISTRATION FORM](#)

FOR FURTHER INFORMATION

herve.golfier@cea.fr

36. 2014-International course: DISMANTLING EXPERIENCE OF NUCLEAR FACILITIES

BASIC INFORMATION

Last update : 2014-02-28

Title : 2014-International course: DISMANTLING EXPERIENCE OF NUCLEAR FACILITIES

Country : France

Organisation : CEA

Language : English

Venue : INSTN, CEA/Saclay, France

Start date : Monday 30 June 2014

End date : Friday 4 July 2014

ENEN European Master : No

ADMINISTRATIVE INFORMATION

Tuition fee :

Full rate: €3700

ENEN member: €3110

Student: €2225

How to apply :

Please contact: nadia.nowacki@cea.fr

Deadline of application :

Monday 2 June 2014

DOWNLOADS

 [LEAFLET](#)  [REGISTRATION FORM](#)

FOR FURTHER INFORMATION

herve.golfier@cea.fr

37. Actinide Chemistry for Future Fuel Cycle

BASIC INFORMATION

Last update : 2014-01-23

Title : Actinide Chemistry for Future Fuel Cycle

Country : France

Language : English

Venue : CEA Marcoule Summer School 2014

Start date : Sunday 15 June 2014

End date : Friday 20 June 2014

Level : Advanced

Learning outcome :

Courses Actinide chemistry in solution A. Gelis (ANL) Chemistry of polymetallic assemblies of actinides M. Mazzanti (CEA/DSM/INAC) Thermodynamic of actinides (aqueous and pyro) MC Charbonnel/J.Serp (CEA/DEN/DRCP) Multi scale modelling in chemistry – Molecular dynamics and mesoscopic modelling Ph Guilbaud – JF Dufrière (CEA/DEN/DRCP – ICSM) Actinide materials characterization D. Shuh (Berkeley) Radioanalytical chemistry Jan John (CTU) Review of liquid/liquid separation processes (CEA/DEN/DRCP) From solution to solid (CEA/DEN/DRCP) Link between fuel fabrication/irradiation in reactor/dissolution ICSM Behaviour of the actinides in the environment R. Ewing (DOE) (TBC) Demonstrations NMR, Calorimetry, Crystallography LN1-ATALANTE Environmental Scanning Electron Microscopy ICSM EXAFS spectra exploitation Room Evening Lectures Actinide recycling for a sustainable nuclear energy Comparison nuclear fuel cycles from the environmental impact point of view Actinide History (TBC)

ENEN European Master : No

COURSE DETAILS

Every two years, CEA organises a Summer School on Actinides Sciences, supported by the ACTINET and now TALISMAN Network. In 2010, the Summer School focused on the innovation in analytical sciences for actinides. In 2012, it was co-organised with NNL and University of Manchester and closely associated to the Plutonium Future Conference.

In 2014, the School is back to CEA Marcoule and focuses on actinides chemistry for future fuel cycles, addressing the three scopes of TALISMAN: actinide chemistry for separation, actinide materials and actinides in the environment. The School is split into three activities: courses, demonstrations (at ATALANTE and ICSM) and general lectures.

The participants to the School are invited to attend the TALISMAN Plenary Meeting, following the School

ADMINISTRATIVE INFORMATION

Tuition fee :

The fees (250€) cover the accommodation including breakfast (Hotel in Avignon) from Saturday 14th to Saturday 21st of June, the lunches and coffee breaks from Sunday 15th to Friday 20th, the Plenary Diner and the transportation between Avignon and Marcoule

How to apply :

Only a limited number of applications can be accepted (42). Please, fill the online pre-registration form to help the selection committee to evaluate your candidature (deadline February 28th). Selection results will be communicated on March 7th. You will then have to finalize your registration by March 21st. To register see TALISMAN website:

Deadline of application :

Friday 28 February 2014

DOWNLOADS

 [Document 1](#)

FOR FURTHER INFORMATION

http://www.talisman-project.eu/index.php?option=com_content&view=article&id=92&Itemid=66

38. Innovative Multimedia Tools for Education and Training for the Nuclear Sector

BASIC INFORMATION

Last update : 2014-04-14

Title : Innovative Multimedia Tools for Education and Training for the Nuclear Sector

Language : English

Venue : Sarajevo - Bosnia and Herzegovina

Start date : Thursday 5 June 2014

End date : Friday 6 June 2014

Participant : Participants only from Target countries

ENEN European Master : No

COURSE DETAILS

This 2-day workshop will give you the possibility to test-drive the cutting-edge concepts and technologies applied to education and training in the nuclear sector.

ADMINISTRATIVE INFORMATION

Requirements to apply :

Please note that the workshop is open only to participants from the following countries: new Member State (Croatia), Candidate Countries (Iceland, Montenegro, Serbia, Turkey and the former Yugoslav Republic of Macedonia), Potential Candidate Countries (Albania, Bosnia and Herzegovina, and Kosovo), non-EU FP7 Associated Countries (Faroe Island, Israel, Liechtenstein, Moldova, Norway and Switzerland) as well as European Neighbourhood Policy Partner Countries and Russia.

Tuition fee :

Free

Additional costs :

Travel costs, Hotel costs, and meals are paid by the organizer. The workshop is completely cost free for the participants.

How to apply :

Please refer to <http://capture.jrc.ec.europa.eu/events/innovative-multimedia-tools-education-and-training>

Deadline of application :

Friday 25 April 2014

DOWNLOADS

 [Workshop Flyer](#)

FOR FURTHER INFORMATION

<http://capture.jrc.ec.europa.eu/events/innovative-multimedia-tools-education-and-training>

39. Course in Reactor Physics

BASIC INFORMATION

Last update : 2014-04-22

Title : Course in Reactor Physics

Country : Czech Republic

Organisation : REZ

Language : English

Venue : Husinec - Rez

Start date : Monday 2 June 2014

End date : Friday 6 June 2014

Participant : Students and researches from nuclear field

ENEN European Master : Yes

COURSE DETAILS

Course of reactor physics is a one week educational program on cross-cutting topics of reactor physics. It is aimed at students of technical universities and researches from nuclear field. The trainees will revise the necessary theoretical background, but the program will mainly focus on reactor physics experiments. The experiments will be carried out on the LR-0 light water reactor. The course is designed not only to enhance practical experience but also to provide specific knowledge for future employment in the field of nuclear energy. Trainees will obtain a certificate upon successful completion of the course.

ADMINISTRATIVE INFORMATION

Requirements to apply :

At least Bc. degree. Lectures will be carried out in English.

Tuition fee :

2000 EUR (800 EUR for students)

Accommodation, full board and special event is included.

How to apply :

You can find more information here: <http://www.cvrez.cz/en/training-and-education/training-courses/course-in-reactor-physics/>

Deadline of application :

Friday 16 May 2014

FOR FURTHER INFORMATION

Centrum vyzkumu Rez

Hlavni 130

250 68 Husinec-Rez

Czech Republic

email: radek.rezac@cvrez.cz

course website: www.cvrez.cz/en/training-and-education/training-courses/course-of-reactor-physics-2

40. 2014 European Nuclear Safeguards Training Seminar

BASIC INFORMATION

Last update : 2014-01-14

Title : 2014 European Nuclear Safeguards Training Seminar

Country : Luxembroug

Language : English

Venue : European Commission, DG ENER Luxembourg

Start date : Monday 24 March 2014

End date : Thursday 27 March 2014

Learning outcome :

AIM The aim of the seminar is to convey to participants a good general understanding of all aspects of the EURATOM Treaty in particular of chapter VII on Nuclear Safeguards in the EU and to familiarize them with the legislative framework for implementing EURATOM Nuclear Safeguards.

ENEN European Master : No

COURSE DETAILS

LEARNING OBJECTIVES

At the end of the seminar, participants will be able to

Have a good general understanding of the Euratom Treaty and in particular its Safeguard provisions

Have a very good understanding of the Euratom Regulation 302/2005 and its requirements for accountancy and reporting, including practical applications

Understand the modalities for the cooperation between EU and IAEA in the context of safeguards inspections

Apply their newly acquired skills and knowledge in normal everyday work.

At the end of the course participants will receive a certificate of attendance.

ADMINISTRATIVE INFORMATION

Requirements to apply :

Member State representatives and nuclear operators involved with Nuclear Safeguards in Europe are encouraged to apply. Other interested parties may also be admitted depending on places available. A maximum of 30 participants is foreseen. Ideally participants should already have some knowledge of nuclear safeguards. An optional session is foreseen on Monday, 24 March 2014 (afternoon) where we offer a generic overview of the basic aspects of EURATOM Nuclear Safeguards and the implementation principles for those participants who might not be familiar with the specificities of EURATOM Nuclear Safeguards to enable them to get a maximum benefit from the course.

Tuition fee :

The course will be free of charge

Additional costs :

Participants (or their organisation) will bear their own cost for accommodation and travel.

How to apply :

To apply, please contact Carla Soldati (+352-4301 32794) - Carla.soldati@ec.europa.eu and <mailto:ENER-LUX-E1-TRAINING@ec.europa.eu>

DOWNLOADS

 [Course Flier](#)

FOR FURTHER INFORMATION

http://ec.europa.eu/energy/nuclear/events/20140324_nuclear_safeguards_training_en.htm

41. 2014-International course: BASIC OPERATION OF NUCLEAR REACTORS

BASIC INFORMATION

Last update : 2013-11-13

Title : 2014-International course: BASIC OPERATION OF NUCLEAR REACTORS

Country : France

Organisation : CEA

Language : English

Venue : INSTN, CEA/Saclay, France

Start date : Monday 10 March 2014

End date : Friday 14 March 2014

ENEN European Master : No

COURSE DETAILS

A great opportunity to get familiar with the practical aspects of reactor operation since 21/2 day will be specifically dedicated to practical exercises carried out on ISIS research reactor, including hands on operation by the participants.

ADMINISTRATIVE INFORMATION

Requirements to apply :

This course is addressed to managers, scientists, engineers, operators and technicians who are working in the nuclear sector and want to get familiar with the basic principles of nuclear reactor operation.

Tuition fee :

Full package: course and accommodation

Full rate: €

ENEN member and student rates on request

How to apply :

Please contact: nadia.nowacki@cea.fr

DOWNLOADS

 [LEAFLET](#)  [Registration form](#)

FOR FURTHER INFORMATION

Organizer:

nadia.nowacki@cea.fr

42. CORONA Establishment of a Regional Center of Competence for VVER Technology and Nuclear Applications

BASIC INFORMATION

Last update : 2013-10-22

Title : CORONA Establishment of a Regional Center of Competence for VVER Technology and Nuclear Applications

Country : Finland

Organisation : European group

Language : English

Venue : Loviisa

Start date : Tuesday 26 November 2013

End date : Friday 29 November 2013

Participant : 12-16 participants (20 maximum)

ENEN European Master : No

COURSE DETAILS

Who could be trained

Nuclear professionals and organization leaders which are graduated at least to the level of bachelors, without knowledge and experience in nuclear could be trained. It is expected that the candidates to be trained have the intention to perform works related to VVER NPP, nuclear applications or education. The pilot training will be useful to professionals and organization leaders to which manage teams and have among their competences the priority to foster behaviors to enhance the safety and human performance.

Topics to be covered

- Organizational culture and safety culture (Tecnatom)
- Human Performance Tools (Tecnatom / Fortum)
- Soft Skills Competences (Tecnatom)
- Leadership Competences (Tecnatom)

ADMINISTRATIVE INFORMATION

Tuition fee :

The training course is free of charge.

How to apply :

Please fill the Registration form and mail it back to the contacts given below.

Deadline of application :

Wednesday 30 October 2013

DOWNLOADS

 [Annoucement](#)

FOR FURTHER INFORMATION

Ms. Noemi Álvarez: nalvarez@tecnatom.es, Phone +34 659.86.00

Mr. Toivo Kivirinta: toivo.kivirinta@fortum.com, Phone +358 10 455 3030

Ms. Marjo Kourtti: Marjo.Kuortti@Fortum.com contact to receive the registrations

43. 2013 International School: NUCLEAR ENGINEERING

BASIC INFORMATION

Last update : 2013-05-22

Title : 2013 International School: NUCLEAR ENGINEERING

Country : France

Organisation : CEA

Language : English

Venue : Saclay, Cadarache and Marcoule

Start date : Monday 18 November 2013

End date : Friday 24 January 2014

Participant : The courses are designed for young researchers, PhD students, post-doctorates.

ECTS/ECVET : 3 ECTS will be awarded for each successfully completed course (one week).

ENEN European Master : Yes

COURSE DETAILS

The National Institute for Nuclear Science and Technology (INSTN) and the Nuclear Energy Division (DEN) of CEA are continuing their international school in Nuclear Engineering, aiming at promoting knowledge in the field of reactor physics and engineering at a high education level.

The 2013 edition will offer 6 one-week advanced courses in nuclear engineering to be held in France (Cadarache, Marcoule, or Saclay), in November 2013 and January 2014.

The courses are designed for young researchers, PhD students, post-doctorates and engineers, already having a Master of Science in nuclear engineering as a background. The courses will present the international state-of-the-art in the main topics of nuclear engineering: reactor core physics, thermal hydraulics, materials, fuels, fuel cycle, nuclear waste. 3 ECTS will be awarded for each successfully completed course (one week).

Lecturers are internationally known experts mostly from CEA, the leading research organisation in France for nuclear energy.

ADMINISTRATIVE INFORMATION

Tuition fee :

Professionals: 2100 € for the first course, 1000 € for each additional course.

Students: 500 € for each course.

CEA: special rate.

Fee covers lectures, documentation and lunches (and local transportation for Cadarache and Marcoule).

Deadline of application :

Friday 18 October 2013

DOWNLOADS



FOR FURTHER INFORMATION

Programme manager:

Claude Renault

E-mail: clauder Renault@cea.fr

Information:

Corinne Carreaux

Phone: +33 1 69 08 25 02

E-mail: nuclear-school@cea.fr

44. SARNET 6th ERMSAR 2013 - European Review Meeting on Severe Accident Research

BASIC INFORMATION

Last update : 2013-07-08

Title : SARNET 6th ERMSAR 2013 - European Review Meeting on Severe Accident Research

Country : France

Organisation : European group

Language : English

Venue : Avignon

Start date : Wednesday 2 October 2013

End date : Friday 4 October 2013

ENEN European Master : No

COURSE DETAILS

The Severe Accident Research Network of Excellence SARNET (<http://www.sar-net.eu>), coordinated by IRSN (France), is organizing ERMSAR 2013 (European Review Meeting on Severe Accident Research) at Avignon (France), hosted by IRSN. As an "open conference", non-SARNET organizations are invited to contribute papers and presentations to the seminar. A draft programme of the seminar will be available in late April 2013 on the network web site. The five previous ERMSAR seminars, from 2005 to 2012, provided insights on the network activities and in particular on the severe accidents research priorities established in 2008. The global objective of this 6th seminar will be to present the synthesis of progress of international R&D and knowledge on severe accidents achieved during the last 4 years in the SARNET2 project in the 7th Research Framework Programme of the European Commission. It will be also an opportunity to discuss future R&D priorities on severe accidents, in particular how the feedback of the Fukushima accidents could be taken into account, and to discuss the new European context with Horizon 2020 Programme of the European Commission and with the NUGENIA association.

ADMINISTRATIVE INFORMATION

Requirements to apply :

A registration fee is required for participants: 200€ for participants from SARNET partners and 400€ from organisations out of SARNET. A Registration Form, including all information about accommodation, will be posted soon on the network web site. The seminar will take place in the "Palais des Papes" at Avignon.

DOWNLOADS

 [2nd Annoucement](#)

FOR FURTHER INFORMATION

Website <http://www.sar-net.eu/>
or see the 2nd Annoucement above

45. Training Course "HEAVY LIQUID METAL COOLED FAST SMR TECHNOLOGY"

BASIC INFORMATION

Last update : 2013-03-25

Title : Training Course "HEAVY LIQUID METAL COOLED FAST SMR TECHNOLOGY"

Country : Russian Federation

Organisation : CICET

Language : English

Venue : CICET in Obninsk

Start date : Monday 30 September 2013

End date : Friday 4 October 2013

ENEN European Master : Yes

COURSE DETAILS

The course is adjacent: «HEAVY LIQUID METAL COOLANTS IN NUCLEAR TECHNOLOGIES», CICE&T, 30 September – 4 October 2013.

The objective of this course is to bring base knowledge on SVBR technology to the young generation of specialists from industry, academia and government organizations involved in development of innovative nuclear energy systems. Specifically, the course is intended to introduce SVBR technology to nuclear energy program implementing organizations from the countries embarking on nuclear power programs which consider small nuclear power reactors as a vital option to secure their energy supply.

Please see the LEAFLET below.

DOWNLOADS

 [LEAFLET](#)

FOR FURTHER INFORMATION

Prof. Vladimir V.Artisiuk, Vice-Rector, cicet
VVArtisyuk@scicet.ru

46. Summer School of Reactor Physics 2013

BASIC INFORMATION

Last update : 2013-10-03

Title : Summer School of Reactor Physics 2013

Country : Czech Republic

Organisation : REZ

Language : English

Start date : Monday 12 August 2013

End date : Friday 16 August 2013

Participant : Students of technical universities

ENEN European Master : Yes

COURSE DETAILS

The summer school is a one week educational program on cross-cutting topics of reactor physics. It is aimed at students of technical universities. The trainees will revise the necessary theoretical background, but the program will mainly focus on reactor physics experiments.

The experiments will be carried out on the LR-0 light water reactor. The summer school is designed not only to enhance practical experience but also to provide specific knowledge for future employment in the field of nuclear energy. Trainees will obtain a certificate upon successful completion of the course.

Program

- radiation;
- gamma and neutron detection;
- nuclear reactions;
- core characteristics measurement;
- reactor start-up and operation,
- performing basic critical experiment and reactivity coefficient calculation;
- spectroscopy;
- nuclear safety.

Teaching consists of morning lecture and afternoon experimental periods.

ADMINISTRATIVE INFORMATION

Requirements to apply :

Intermediate knowledge of mathematics (basic use of differential calculus). Intermediate knowledge of physics (elementary mechanics, electronics and structure of atoms). Lectures will be carried out in English.

How to apply :

Please send your e-mail with personal information (name, age) and education (school, faculty, field) to radek.rezac@cvrez.cz. Capacity of the summer school is 10 trainees. Candidates will be selected by the Rez expert committee.

DOWNLOADS



FOR FURTHER INFORMATION

Centrum vyzkumu Rez
Hlavni 130
250 68 Husinec-Rez
Czech Republic

Radek Rezac
tel.: +420 266 172 398
e-mail: radek.rezac@cvrez.cz

www.cvrez.cz/summerschool2013

47. FP7 MATTER Summer school on DDesign Rules for gen IV reactos and INnovative reactors (DERIVIN)

BASIC INFORMATION

Last update : 2013-05-17

Title : FP7 MATTER Summer school on DDesign Rules for gen IV reactos and INnovative reactors (DERIVIN)

Country : France

Organisation : European group

Language : English

Venue : Saclay

Start date : Monday 1 July 2013

End date : Friday 5 July 2013

ENEN European Master : No

COURSE DETAILS

The school will emphasize the importance of the update of design standards related with structural materials against the background of the design of GEN IV reactors, focusing on the specific material damages that are expected, due to the extreme conditions to which they will be subjected.

DERIVIN is going to be held in France at INSTN Saclay (Paris) , on July 1st - 5th, 2013.

All participants must explain in a poster presentation the content of their activities. The abstract of the poster MUST be provided upon registration (max DIN A4 page). A prize is foreseen for the best poster. The abstract will be used as a text basis for the review process.

Important deadlines:

- 17th May: Abstract Submission
- 24th May: Notification of acceptance
- 4th June: Fee payment

ADMINISTRATIVE INFORMATION

Tuition fee :

The registration fee will be 200 € per person.

Deadline of application :

Friday 17 May 2013

DOWNLOADS

 [Summary](#)  [Program](#)

FOR FURTHER INFORMATION

You can find on the following website all the information:

<http://www.matterfp7.it/Layout/matter/index.asp?page=/upload/moduli/pagine/public/TrainingJuly13.html&target=&tit=Training>

48. 2013-International Course: NEUTRONICS FOR LIGHT WATER REACTORS

BASIC INFORMATION

Last update : 2013-04-30

Title : 2013-International Course: NEUTRONICS FOR LIGHT WATER REACTORS

Country : France

Organisation : INSTN

Language : English

Venue : Saclay, France

Start date : Monday 24 June 2013

End date : Friday 5 July 2013

Learning outcome :

The main objective of the course is to provide the general knowledge in neutron physics requested for design, operation and safety analysis of Light Water Reactors.

ENEN European Master : Yes

COURSE DETAILS

The first week is dedicated to identifying and explaining all the phenomena resulting from neutron-nucleus interactions inside the core of a reactor. The advanced module deals with the main issues in modeling a reactor, presents the neutronic phenomena involved in the normal or accidental behavior of the reactor and underline the differences between various existing LWR.

ADMINISTRATIVE INFORMATION

Tuition fee :

please see the fees: full package and course only in the leaflet attached

How to apply :

Please contact the organizer: nadia.nowacki@cea.fr

Deadline of application :

Thursday 6 June 2013

DOWNLOADS

 [LEAFLET](#)  [REGISTRATION FORM](#)  [Document 3](#)

FOR FURTHER INFORMATION

please contact the programme manager:

mathilde.moiron@cea.fr

49. 2013-International School: PHYSICAL AND CHEMICAL CHARACTERIZATION OF SURFACES AT DIFFERENT SCALES

Title : 2013-International School: PHYSICAL AND CHEMICAL CHARACTERIZATION OF SURFACES AT DIFFERENT SCALES

Country : France

Organisation : CEA

Language : English

Venue : INSTN, CEA/Saclay & Synchrotron Soleil, France

Start date : Monday 10 June 2013

End date : Thursday 14 February 2013

Learning outcome :

This school aims at providing a thorough background in conventional and synchrotron based spectroscopic and microscopic methods to interested PhD students, post-docs and scientists working at European research institutions. It is also opened for young professionals working in material industry

ENEN European Master : Yes

ADMINISTRATIVE INFORMATION

Requirements to apply :

This school focuses on different physical and chemical phenomena (diffusion, segregation, oxidation, contamination) involving the surface of materials which may intervene at various depth scales. The study of these phenomena involves the use of the appropriate analytical techniques, from the most conventional to the most innovative requiring Synchrotron X-ray. The complementarity between laboratory and X-ray based techniques will be presented. Thanks to the means made available to them, attendees will have the opportunity to participate in an analysis, from the setting up of samples to the acquisition and interpretation of analytical data.

How to apply :

please contact: nadia.nowacki@cea.fr

DOWNLOADS

 [Document 1](#)  [FULL LIST](#)

FOR FURTHER INFORMATION

Please contact

nihed.chaabane@cea.fr

50. Nuclear Learning Tour in June 2013

BASIC INFORMATION

Last update : 2013-02-05

Title : Nuclear Learning Tour in June 2013

Country : France

Organisation : AREVA

Language : English

Start date : Monday 3 June 2013

End date : Wednesday 12 June 2013

ENEN European Master : Yes

COURSE DETAILS

This concise 8-day training program includes:

- visits to six nuclear sites (see interactive map of all sites on the program),
- instructors with both technical and teaching expertise,
- innovative tools: pre e-learning, simulator demonstration,
- conferences by top-level experts,
- a balanced and step-based program.

Its aim is to:

- help you acquire an overall view of nuclear energy,
- help you understand today's energy issues,
- explain and illustrate nuclear basics and reactor physics,
- highlight the importance of nuclear safety,
- offer a comprehensive overview of the nuclear industry, from uranium mining to fuel recycling,
- network with colleagues.

ADMINISTRATIVE INFORMATION

Tuition fee :

This training program offers you, your colleagues, and your newly hired personnel a chance to discover the key topics of today's nuclear industry for only €5,800 (five thousand eight hundred euros). The price includes tuition, visits, transport and accommodation throughout the program.

How to apply :

Please register at: <http://nuclear-learning-tour.areva.com> To secure your place on the program, note the date in your agenda and register now. Your passport and personal details must be submitted 6 weeks in advance to obtain the necessary clearance for site visits.

FOR FURTHER INFORMATION

For the complete program, day-by-day schedule with learning outcomes, trainee testimonial video, interactive map of nuclear sites on the program, details of accommodation and terms and conditions, please visit our website:

<http://nuclear-learning-tour.areva.com>

51. First EUROCOURSE

BASIC INFORMATION

Last update : 2013-03-01

Title : First EUROCOURSE

Country : Czech Republic

Organisation : IKE

Language : English

Venue : Technical University in Prague

Start date : Tuesday 21 May 2013

End date : Friday 24 May 2013

Participant : Students, PhD-students and young professionals

ENEN European Master : No

COURSE DETAILS

The ARCHER project is pleased to announce the first EUROCOURSE which will take place in Prague (Czech Republic) from 21st to 24th of May at the technical university.

The EUROCOURSE will cover all main aspects of HTR technology as well as the main findings within the ARCHER project. This first seminar is aimed to provide a basic overview of HTR's discussing different designs, differences to other reactor types and - in the view of the inherent safety features of HTR's - the main phenomena of core physics and thermal hydraulics in the core. Furthermore, this seminar will cover fuel and material and components as well as the use of the HTR's in cogeneration to avoid greenhouse gas release. The second course is planned for summer 2014.

After three days of lectures mainly given from experts who are members in the project, there is a technical visit at the research center in REZ on day four.

This course is for students, PhD-students and young professionals free of charge.

Parallel to the course there will be a poster award. The participants are encouraged to present a poster related to the HTR technology.

ADMINISTRATIVE INFORMATION

Tuition fee :

Free of charge

Deadline of application :

Tuesday 30 April 2013

FOR FURTHER INFORMATION

A detailed course programme will soon be published on the ARCHER website.

Please visit:

<http://www.archer-project.eu>

to find the latest news or send an email to:

EUROCOURSE@archer-project.eu

52. 2013-International Course: THERMALHYDRAULICS OF LIGHT WATER REACTORS

BASIC INFORMATION

Last update : 2013-04-18

Title : 2013-International Course: THERMALHYDRAULICS OF LIGHT WATER REACTORS

Country : France

Organisation : CEA

Language : English

Venue : Saclay, France

Start date : Tuesday 21 May 2013

End date : Friday 31 May 2013

ENEN European Master : Yes

COURSE DETAILS

Basic module + Advanced module

- Thermodynamics and reactor cycles (efficiency).
- Balance equations for single-phase flow (mass, momentum, energy): control of mass and volume, integral and differential form.
- Balance equations for two-phase flow: phase density function, averaging process, interfacial transfer, one-dimensional form.
- Review of available models for LWR flow conditions.
- Fuel thermal conduction: material properties, temperature distribution.
- Void fraction models for one-dimensional flow in channels.
- Heat transfer: boundary layer, single-phase convection, boiling and condensation.
- Friction and pressure losses: wall friction, flow characteristic.

ADMINISTRATIVE INFORMATION

How to apply :

Please contact: nadia.nowacki@cea.fr

Deadline of application :

Tuesday 30 April 2013

FOR FURTHER INFORMATION

Please contact the programme manager:

eric.royer@cea.fr

53. SARNET2 Short Course on Severe Accident Phenomenology

BASIC INFORMATION

Last update : 2013-03-19

Title : SARNET2 Short Course on Severe Accident Phenomenology

Country : United Kingdom

Organisation : European group

Language : English

Venue : London

Start date : Monday 15 April 2013

End date : Friday 19 April 2013

ENEN European Master : No

COURSE DETAILS

The Severe Accident (SA) research network of excellence SARNET, coordinated by IRSN (F), is sponsoring a new one-week Course entitled "Severe Accident Phenomenology".

This course is a part of the Excellence Spreading activities of SARNET and it will focus on disseminating the knowledge gained on SA in the last two decades to Masters-PhD students, engineers and scientists.

The SARNET2 project is co-funded by the EURATOM research program in the 7th Framework Programme of the European Commission.

The Course will be organized by Imperial College London (ICL), CEA, IRSN and the University of Pisa and will be hosted by ICL.

ADMINISTRATIVE INFORMATION

Tuition fee :

Professional fees: £860

Students: £344

The fee covers attendance of course lectures, a copy of the course material (CD-ROM). It also covers coffee breaks, lunches and the social dinner. Accommodation and travel expenses will not be included.

DOWNLOADS



FOR FURTHER INFORMATION

Dr. Matthew Eaton

m.eaton@imperial.ac.uk

+44 (0) 207 594 7053

<http://www.sar-net.eu>

54. 10th ESARDA course on nuclear safeguards and non-proliferation

BASIC INFORMATION

Last update : 2012-11-26

Title : 10th ESARDA course on nuclear safeguards and non-proliferation

Country : Italy

Organisation : JRC

Language : English

Venue : Ispra (VA), Italy

Start date : Monday 18 March 2013

End date : Friday 22 March 2013

ECTS/ECVET : 3 ECTS

ENEN European Master : Yes

COURSE DETAILS

ESARDA, the European Safeguards Research and Development Association, is comprised of European organisations actively involved in the Research and Development of Nuclear Safeguards. The ESARDA network includes national regulatory authorities, operators of nuclear facilities, and research centres and universities.

ESARDA's main objective is to assist the European safeguards community with the advancement of safeguards, enhancing the efficiency of systems and measures, as well as investigating how new techniques can be developed and implemented.

The course aims to give the students an insight view on proliferation aspects of the fuel cycle, while pointing to proliferation sensitive installations and the efforts to prevent the spread of nuclear material and nuclear technology for manufacturing nuclear devices. In the course an overview of the non-proliferation system is presented, including safeguards principles, export control, inspection tasks. The students familiarise with the safeguards principles and the complete inspection philosophy. Some major technical means and inspector tools are highlighted as an example. Subjects are: nuclear fuel cycle, safeguards principles, Treaties and Agreements, nuclear material accountancy and control, verification technologies, analytical techniques, non destructive assay, sealing, surveillance and monitoring techniques; monitoring of transport of nuclear and radioactive material.

ADMINISTRATIVE INFORMATION

Requirements to apply :

The course is open to master degree students, in particular nuclear engineering students, but also to young professionals and international relations/ law students.

Tuition fee :

No Course Fee. University students can apply for accommodation free of charge, but only a limited number of places per university are available. Travel costs are not reimbursed.

How to apply :

See website :<http://esarda2.jrc.it/about/index.html> .

In http://esarda2.jrc.it/internal_activities/WC-MC/Web-Courses-9/5-contacts.html you find the registration form that has to be completely compiled and sent to JRC-NUSAF-SECRETARIAT@ec.europa.eu before the deadline of 20th of December 2012.

Deadline of application :

Monday 31 December 2012

DOWNLOADS



FOR FURTHER INFORMATION

Course Organiser:

Montserrat MARIN-FERRER , montserrat.marin-ferrer@jrc.ec.europa.eu, Joint Research Centre, Ispra site T.P.421, Via E. Fermi, 2749, I-21027 Ispra (VA), Italy, Tel.: +39 0332 785810, Fax: +39 0332 789216, <http://www.ec.europa.eu/dgs/jrc/index.cfm>

Administrative Organisation:

NUSAF-Secretariat

jrc-nusaf-secretariat@ec.europa.eu

Joint Research Centre, Ispra site T.P.210, Via E. Fermi, 2749, I-21027 Ispra (VA), Italy, Tel.: +39 0332 789726, Fax: +39 0332 789185, <http://nuclearsafeguards.jrc.it/frameset.html>

Website :

<http://esarda2.jrc.it/>

http://esarda2.jrc.it/internal_activities/WC-MC/Web-Courses/index.html

55. 2013-International Course: OPERATION AND SAFETY OF PRESSURIZED WATER REACTORS (PWRs)

BASIC INFORMATION

Last update : 2013-04-18

Title : 2013-International Course: OPERATION AND SAFETY OF PRESSURIZED WATER REACTORS (PWRs)

Country : France

Organisation : CEA

Language : English

Venue : Saclay, France

Start date : Monday 18 March 2013

End date : Friday 29 March 2013

ENEN European Master : Yes

COURSE DETAILS

Module 1: Basic knowledge and general design principles

- General principles of nuclear reactors.
- Design aspects of PWRs.
- PWR thermal hydraulics and core physics.

Module 2: PWR architecture and plant operation

- Architecture and functional analysis (components and systems).
- PWR normal operation (base load operation, start-up and shutdown procedures).
- PWR core and fuel management.
- PWR control aspects.

Module 3: PWR safety

- PWR safety approach (deterministic, probabilistic).
- PWR safety systems.
- Accidental scenarii.
- Post-accident management.

Module 4: LWR development perspectives

- Advanced PWR and BWR concepts.
- Innovative tracks for LWRs.

Module 5: Simulation and analysis of PWR transient scenarii (practicals)

ADMINISTRATIVE INFORMATION

How to apply :

Please contact the organizer: nadia.nowacki@cea.fr

Deadline of application :

Monday 25 February 2013

DOWNLOADS

 [SEMINAR BROCHURE](#)  [REGISTRATION FORM](#)

FOR FURTHER INFORMATION

Please contact the programme manager:

Claude.renault@cea.fr

or refer to the INSTN web site:

http://www-instn.cea.fr/Operation-and-safety-of-pressurized-water-reactors_theme_form_id1534.html

56. FP7 ADVANCE Training Course "Understanding the Degradation of Cables in Nuclear Environment"

BASIC INFORMATION

Last update : 2012-11-30

Title : FP7 ADVANCE Training Course "Understanding the Degradation of Cables in Nuclear Environment"

Country : France

Organisation : European group

Language : English

Venue : Mehun

Start date : Wednesday 16 January 2013

End date : Thursday 17 January 2013

Participant : Young scientists, students or PhD

ENEN European Master : No

COURSE DETAILS

The purpose of this course is:

- acquiring the knowledge needed to understand the cable ageing in NPP
- promoting contacts among the young scientists involved in this field

DOWNLOADS

 [Leaflet 1](#)  [Leaflet 2](#)

57. FP7 CINCI course "Chemistry of Nuclear Fuel Cycle"

BASIC INFORMATION

Last update : 2012-11-27

Title : FP7 CINCI course "Chemistry of Nuclear Fuel Cycle"

Country : France

Organisation : European group

Language : English

Venue : Paris

Start date : Monday 14 January 2013

End date : Friday 25 January 2013

Participant : The target group is both students at the master level and doctoral students.

ENEN European Master : No

COURSE DETAILS

This joint dedicated training course aims at providing the students with a global overview of the chemistry and the physics necessary at the various stages of the fuel cycle, from the front-end to the back-end. In addition they should acquire basic knowledge in decommissioning of nuclear facilities and in radiological protection. The course runs over 2 weeks (January 14th-25th 2013) in Paris, France. The course will combine lectures and technical visits.

ADMINISTRATIVE INFORMATION

Deadline of application :

Monday 3 December 2012

FOR FURTHER INFORMATION

Leaflet is available at:

http://www.cinch-project.eu/data/docs/Cinch_Chem_Nucl_Fuel_Cycle_flyer.pdf

CINCI course:

<http://www.cinch-project.eu/index.php?art=courses>

58. Training of employees and managers of industrial and medical institutions in the use of ionizing radiation

BASIC INFORMATION

Last update : 2012-12-04

Title : Training of employees and managers of industrial and medical institutions in the use of ionizing radiation

Country : Ukraine

Organisation : KKNU

Language : English

Venue : Kharkiv, Ukraine

Start date : Tuesday 1 January 2013

End date : Tuesday 31 December 2013

Participant : The courses are designed for a staff and heads of institutions and enterprises where ionizing radiation is used, e.g., for technicians of X-ray laboratories of clinics...

ECTS/ECVET : 2 ECTS are awarded for each successfully completed course (one week)

ENEN European Master : No

COURSE DETAILS

The 2012-2013 edition will offer 6 one-week advanced courses in nuclear engineering to be held in Ukraine (Kharkiv), as a group is staffed.

The course is also available in Russian

Typical curricula

1. Introductory classes.
2. The general principles of radiation safety and radiation monitoring (theoretical studies).
3. Physical properties of ionizing radiation.
4. Sources of ionizing radiation.
5. The interaction of ionizing radiation with substances.
6. Registration of ionizing radiation.
7. Measuring of ionizing radiation.
8. Biological effects of ionizing radiation on organisms, including humans.
9. Radiation protection against ionizing radiation.
10. Regulation of radiation safety.
11. Fundamentals of radiation safety and radiation control using ionizing radiation for medical purposes (theoretical studies).
12. Radiation safety when dealing with sources that generate ionizing radiation.
13. Radiation safety in the treatment of radionuclide sealed sources of ionizing radiation.
14. Radiation safety in the treatment of radionuclide open sources of ionizing radiation.
15. Radiation safety when handling radioactive waste that can be formed using radionuclide sources.
16. Quality assurance of radiation safety in the use of ionizing radiation for medical purposes.
17. Workshops on dosimetry and radiometry.
18. Test of theoretical knowledge in the programs

ADMINISTRATIVE INFORMATION

Tuition fee :
500\$

How to apply :
girkai@univer.kharkov.ua (applicants from Europe), interstudent@univer.kharkov.ua (applicants out of Europe)

Deadline of application :
Tuesday 31 December 2013

FOR FURTHER INFORMATION

dean of the School of Physics and Technology, Professor Igor O.Girka
girka@univer.kharkov.ua

www.univer.kharkov.ua

59. European Training Course on Nuclear Emergency Management

BASIC INFORMATION

Last update : 2012-04-04

Title : European Training Course on Nuclear Emergency Management

Country : Hungary

Organisation : European group

Language : English

Venue : Budapest

Start date : Monday 10 September 2012

End date : Friday 14 September 2012

ENEN European Master : No

COURSE DETAILS

Course activities:

The course will be conducted via

- classroom training in form of lectures
- practical training (demonstrations, exercises and tests)
- moderated discussions for sharing trainees' experiences and
- evaluation of activities

Course activities will be held in the CERTA crisis centre which is dedicated to the emergency response activities of the HAEA. The centre, used exclusively for nuclear emergency analysis, training and exercises, comprises of a well equipped central room for crisis management and a separate training centre for courses and demonstrations.

ADMINISTRATIVE INFORMATION

Deadline of application :

Saturday 30 June 2012

DOWNLOADS

 [Document 1](#)

60. International Summer School on Software Systems Dependability

BASIC INFORMATION

Last update : 2012-05-24

Title : International Summer School on Software Systems Dependability

Country : Norway

Organisation : European group

Language : English

Venue : Halden, Norway

Start date : Monday 20 August 2012

End date : Thursday 23 August 2012

Level : For young professionals and newcomers to the field

ENEN European Master : No

COURSE DETAILS

In co-operation with the OECD Nuclear Energy Agency (NEA), the Halden Project will organize a Summer School on Software Systems Dependability, in the period 20-23 August, 2012. The venue for the summer school is Kaserna (former School of Administration), situated in the grounds of Halden Fortress. Accommodation has been reserved at the venue.

The summer school is intended for young professionals and newcomers to the field, who wish to become acquainted with the theory and practice of software engineering applied on software important to safety. The lectures will use examples from several different industries, and will emphasize the importance of knowledge and technology transfer between these industries. The summer school will therefore be of relevance not only to the nuclear power industry, but also to professionals working in other industries that employ software to achieve functional safety, like petroleum, air traffic control and railway signalling.

ADMINISTRATIVE INFORMATION

Deadline of application :

Wednesday 20 June 2012

DOWNLOADS



FOR FURTHER INFORMATION

For more information, see <http://www.ife.no/hrp>.

Administrative enquiries can be addressed to Brit-Kari Bjørlo, Brit.Kari.Bjorlo@hrp.no.

Enquiries about the technical programme can be addressed to Terje Sivertsen, Terje.Sivertsen@hrp.no.

61. SARNET2 Course on Severe Accidents Phenomenology and Management

BASIC INFORMATION

Last update : 2012-05-15

Title : SARNET2 Course on Severe Accidents Phenomenology and Management

Country : Germany

Organisation : European group

Language : English

Start date : Tuesday 10 July 2012

End date : Wednesday 11 July 2012

ENEN European Master : No

COURSE DETAILS

This course is a part of the excellence spreading activities of SARNET2. It will focus on disseminating the knowledge gained on severe accidents in the last two decades primarily to managers and senior scientists. The SARNET2 project is coordinated by IRSN and co-funded by the EURATOM research program in the 7th Framework Program of the European Commission.

The course will be hosted by KIT and organized by KIT in cooperation with various SARNET partners.

The program will cover SA phenomenology & progression in current water-cooled Gen. II+III Nuclear Power Plants (NPP) with the following topics:

- Historical overview TMI, Chernobyl, Fukushima
- SA phenomenology
- SA codes
- SAMGs (Severe Accident Management Guidelines)
- Backfitting of Gen II and SA mitigation of Gen III plants
- Radiological consequences to the environment and public resulting from Severe Accidents

Lectures will be given by international experts from major nuclear institutes, industries and universities working on the topic.

More information is available in the attached documents (flyer and preliminary agenda).

Please register via the also attached form till 15 June, but preferably till end of May with reduced fee.

ADMINISTRATIVE INFORMATION

Deadline of application :

Friday 15 June 2012

DOWNLOADS

 [Flyer](#)  [Provisional agenda](#)  [Registration Form](#)

62. Joint GETMAT-MATTER* International School on Materials UNder Extreme COnditions (MUNECO)

BASIC INFORMATION

Last update : 2012-04-04

Title : Joint GETMAT-MATTER* International School on Materials UNder Extreme COnditions (MUNECO)

Country : Spain

Organisation : European group

Language : English

Venue : Residencia La Cristalera in Madrid, Spain

Start date : Monday 11 June 2012

End date : Friday 15 June 2012

ENEN European Master : No

COURSE DETAILS

The school, which is focused on the specific material problems that are expected in fast neutron reactors, is going to be held in Spain, at Residencia La Cristalera (Madrid), on June, 11st - 15th, 2012.

All participants must explain in a poster presentation the content of their research work and to present their main results so far. The abstract of the poster **MUST** be provided upon registration (max DIN A4 page). A prize is foreseen for the best poster. The abstract will be used as a text basis for the review process.

Important deadlines:

- 13th April: Abstract Submission
- 4th May: Notification of acceptance
- 25th May: Fee payment

ADMINISTRATIVE INFORMATION

Tuition fee :

The registration fee will be 200 € per person.

How to apply :

Please note that MUNECO International school only admit a limited number of participants, so please register ASAP.

DOWNLOADS

 [Programme](#)

FOR FURTHER INFORMATION

General information regarding registration will be available on the website:

<http://www.matterfp7.it/Layout/matter/index.asp?page=/upload/moduli/pagine/public/Training.html&target=&tit=Training>

63. 13th European Ph.D. School Power Electronics in Electrical Machine and Energy Control

BASIC INFORMATION

Last update : 2012-04-03

Title : 13th European Ph.D. School Power Electronics in Electrical Machine and Energy Control

Country : Italy

Organisation : CIRTEN

Language : English

Venue : Gaeta (LT), Italy

Start date : Monday 28 May 2012

End date : Friday 1 June 2012

ENEN European Master : No

COURSE DETAILS

This year's program includes a series of distinguished lecturers in the field of Power Electronics as well as important events:

Lecturers:

- Dr. Ernst-Karl Behr - Director Engineering for Innovation and Technology of Bombardier Transportation - Zurich- Switzerland
- Prof. Andreas Steimel - Ruhr University Bochum- Germany
- Dr. Staudt, Volker - Ruhr University Bochum - Germany
- Dr. Chris Mi - University of Michigan - USA
- Prof. Nikos Hatziargyriou - National Technical University of Athens - Greece
- Prof. João A. Peças Lopes - Porto University and INESC Porto - Portugal

Company Exhibition and Recruitment Session:

Meeting between Ph.D. Students and company representatives: A number of established companies in the field of power electronics, electrical drives and systems will participate in a special meeting with Ph.D. students. R&Ds and recruitment officers will attend the Ph.D. student research activity presentations for future collaboration. A special session will also be dedicated to an exhibition of participating companies.

IEEE-ESARS 2012 Special Award - International Conference on Electrical Systems for Aircraft, Railway and Ship Propulsion. The Award is reserved to participants to the 13th Edition of the "European Ph.D. School: Power Electronics for Electrical Machine and Energy Control".

ADMINISTRATIVE INFORMATION

Deadline of application :

Tuesday 1 May 2012

FOR FURTHER INFORMATION

More detailed information on the program, enrollment procedures, and deadlines is available on our website;

<http://www.phd-school.org>

64. Training course on Engineering aspects of Nuclear Fuel Manufacturing - From Initial Raw Materials to Fuel Assemblies

BASIC INFORMATION

Last update : 2012-04-06

Title : Training course on Engineering aspects of Nuclear Fuel Manufacturing - From Initial Raw Materials to Fuel Assemblies

Country : Russian Federation

Organisation : CICET

Language : English

Venue : CICET in Obninsk, Russia

Start date : Sunday 20 May 2012

End date : Saturday 26 May 2012

Participant : MS in mechanical engineering, energy science

ENEN European Master : Yes

COURSE DETAILS

The objective of this course:

Participants are expected to achieve a good understanding of:

- nuclear fuel chemical composition, types and major operational characteristics
- fuel behaviour during reactor operation
- modern technical requirements to nuclear fuel
- the main principles manufacturing techniques of nuclear fuel
- the main features of perspective fuel types

DOWNLOADS

 [Leaflet](#)  [Registration Form](#)  [Visa Application Form](#)

FOR FURTHER INFORMATION

For further information, please have a look at the Leaflet.

65. Seminar of Nuclear Safety in Advanced Reactors

BASIC INFORMATION

Last update : 2012-01-11

Title : Seminar of Nuclear Safety in Advanced Reactors

Country : Spain

Organisation : UPM

Language : Spanish

Venue : Free cost

Start date : Monday 5 March 2012

End date : Monday 26 March 2012

Level : Undergraduate & Graduate

ECTS/ECVET : 1.5

Learning outcome :

The student will be able to make a general description of the safety in the new reactors comparing it with the built Generation II reactors.

ENEN European Master : No

COURSE DETAILS

IMPORTANT: a version of the Seminar could be taught in English if there enough non-Spanish speakers (>10 people) in three days in a row, to allow foreign assistants to come. Please contact the organizers if that is your case.

The seminar lasts 15 hours, and it is divided in six sessions:

0. Introduction to Nuclear Safety
1. Nuclear Safety in PWR-W and AP1000
2. Nuclear Safety in PWR-KWU and EPR
3. Nuclear Safety in BWR, ABWR and ESBWR
4. Nuclear Safety in ADS and VHTR
5. Nuclear Safety in Gen IV reactors

The objective of the seminar is to show clearly the advances that have been obtained in the section of safety with the new reactors, from a technical point of view.

ADMINISTRATIVE INFORMATION

Requirements to apply :

Engineering Graduates or Undergraduates with basic technical knowledge about nuclear reactor technology.

Tuition fee :

Cost Free

Additional costs :

Travel expenses, etc.

How to apply :

Sending an mail to gonzalo.jimenez@upm.es

Deadline of application :

Wednesday 15 February 2012

FOR FURTHER INFORMATION

Gonzalo Jimenez: gonzalo.jimenez@upm.es

www.din.upm.es

66. PETRUS course on Migration of radioactive waste from deep geological waste repositories - Case Study

BASIC INFORMATION

Last update : 2012-02-19

Title : PETRUS course on Migration of radioactive waste from deep geological waste repositories - Case Study

Country : Hungary

Organisation : BME

Language : English

Venue : BME NTI, Budapest, Hungary (videoconference)

Start date : Tuesday 21 February 2012

End date : Tuesday 21 February 2012

Level : Introductory practical course

Participant : Anyone who interested in the field of geological disposals, radioactive waste management with at least Bachelor's background.

ECTS/ECVET : none

Learning outcome :

Understanding of the migration of radioactive waste from deep geological waste repositories, study about the requirements of a properly executed final repository and this Hungarian example.

ENEN European Master : No

COURSE DETAILS

It is a six-hour training course via videoconference which can be divided to 3 parts.

1, Introduction: dose terminology, health physics regulations

2, Transport of radioactive materials in aqueous heterogeneous systems – general description

3, Hungary's National Radioactive Waste Repository (NRWR) at Bataapati (LLW/ILW) – disposal into granite vaults

ADMINISTRATIVE INFORMATION

Requirements to apply :

Interest in radioactive waste disposal. Ability to use videoconference softwares.

How to apply :

Send an email with basic informations (name, location, education background or CV) to harangozo@reak.bme.hu

Deadline of application :

Tuesday 14 February 2012

FOR FURTHER INFORMATION

harangozo@reak.bme.hu

67. DoReMi courses on the risks of exposure to low doses of ionising radiation

BASIC INFORMATION

Last update : 2012-04-03

Title : DoReMi courses on the risks of exposure to low doses of ionising radiation

Organisation : European group

Language : English

Start date : Monday 13 February 2012

End date : Friday 8 June 2012

ENEN European Master : No

COURSE DETAILS

DoReMi is a Euratom-funded Network of Excellence set up to promote and integrate European research into the risks of exposure to low doses of ionising radiation. In addition, DoReMi will facilitate and promote training and education in support of the research programme within the project, and also make more widely available training opportunities in order to help attract top-level students into the field.

Following the successful series of short courses sponsored by DoReMi in 2011, a further six courses of 2-3 weeks duration on single topics related to the research programme will be held in 2012.

The courses to be held in 2012 are:

- February 13 to March 2: Radiation epidemiology and radioecology. HMGU, Neuherberg, Germany
- 5 March to 16 March: Radiation-induced effects with particular emphasis on genetics, development, teratology, cognition as well as space-related health issues. SCK-CEN, Mol, Belgium.
- 16 April to 27 April: Cellular effects of low doses and low dose-rates with focus on DNA damage and stress response. SU, Stockholm, Sweden.
- 16 - 27 April 2012: Interdisciplinary Radiation Research Focussing on Low Doses. BfS, Neuherberg, Germany.
- 30 April to 13 May: Training course in molecular mechanism of radiation carcinogenesis. HMGU, Neuherberg, Germany
- 28 May - 8 June: Modelling radiation effects from initial physical events. UNIPV, Pavia, Italy.

There will be no course fee. There will also be some limited support for accommodation costs from some of the participating institutions.

DoReMi Training Courses will be open to any postgraduate student or researcher interested in a research career in the scientific disciplines related to radiation protection. In the student selection, priority will be given to students coming from DoReMi partner organisations and from EU member states. Students outside EU can be accepted if there is space. The admission will be decided case by case.

FOR FURTHER INFORMATION

For details on the courses, how to apply, application deadlines, and accommodation support, please go to the DoReMi web site:

http://www.doremi-noe.net/training_and_education.html

Further enquiries: doremi.training@pv.infn.it

68. 29th Modelling and Computation of Multiphase Flows

BASIC INFORMATION

Last update : 2011-10-18

Title : 29th Modelling and Computation of Multiphase Flows

Country : Switzerland

Organisation : ETH

Language : English

Venue : Zurich

Start date : Monday 13 February 2012

End date : Friday 17 February 2012

ENEN European Master : Yes

COURSE DETAILS

Multiphase flows and heat transfer with phase change are of interest to researchers and engineers working in power, nuclear, chemical-process, oil-and-gas, cryogenic, space, food, bio-medical, micro-technology, and other industries. Courses similar to this one have been offered at ETH-Zurich continuously since 1984. Over the years, the courses have continuously evolved, reflecting on-going progress and developments.

The courses are organized in a modular form as an intensive introduction for persons having basic knowledge of fluid mechanics, heat transfer, and numerical techniques (introductory tutorial texts are e-mailed to the participants before the course), but also serve as advanced courses for specialists wishing to obtain the latest information.

DOWNLOADS

 [Announcement in English](#)  [Announcement in French](#)

FOR FURTHER INFORMATION

shortcourse@lke.mavt.ethz.ch

or

<http://www.lke.mavt.ethz.ch/shortcourse/index>

69. PETRUS course: Understanding Thermo-Hydro-Mechanical processes for safety assessment: theory and numerical simulation

BASIC INFORMATION

Last update : 2011-10-11

Title : PETRUS course: Understanding Thermo-Hydro-Mechanical processes for safety assessment: theory and numerical simulation

Country : United Kingdom

Organisation : CARDIFF

Language : English

Venue : Cardiff University

Start date : Monday 28 November 2011

End date : Saturday 3 December 2011

Level : Beginner to coupled modelling

ECTS/ECVET : None

ENEN European Master : No

COURSE DETAILS

This course intends to provide initial understanding of coupled processes, e.g. Thermo-Hydro-Chemo-Mechanical (THCM) processes, in the near-field of radioactive waste repositories. This will include:

- Theoretical aspects of Heat, Moisture, Chemical and Mechanical processes in porous media.
- Numerical implementation of THM processes with emphasis on the COMPASS Code.
- Applications of the COMPASS Code to geological repositories.
- Model verification and validation using data.
- Applications of full-scale physical modelling in underground research facilities.
- Application of THM processes in the safety case.

ADMINISTRATIVE INFORMATION

Requirements to apply :

Interest in radioactive waste disposal. Ability in computational analysis.

Tuition fee :

£200

Additional costs :

Travel and accommodation

How to apply :

Send brief CV and covering letter to grc@cf.ac.uk with 'Application to THM PETRUS course' in the subject line.

Deadline of application :

Tuesday 1 November 2011

DOWNLOADS

 [Course advert](#)  [Syllabus and lecturers](#)

FOR FURTHER INFORMATION

Please contact grc@cf.ac.uk with 'Information on THM PETRUS course' in the subject line.

70. PETRUS course on Regulatory Issues and Standards

BASIC INFORMATION

Last update : 2011-01-10

Title : PETRUS course on Regulatory Issues and Standards

Country : Switzerland

Organisation : ITC

Language : English

Venue : ENSI, Brugg, Switzerland

Start date : Tuesday 18 October 2011

End date : Thursday 20 October 2011

Level : introductory course

Participant : Number?? ca. 20

ECTS/ECVET : 1.5?

Learning outcome :
??

ENEN European Master : No

COURSE DETAILS

: 1. The ethical basis for environmental safety principles, 2. Role of the IAEA in providing a framework and safety fundamentals, 3. Role of the ICRP in providing advice on radiological safety, 4. History of development of international guidelines and standards for geological disposal, 5. Current international standards and recommendations relating to geological disposal, 6. Interpretation of standards in different national regulations, 7. Interactions between national regulatory agencies and the role of ENSREG, 8. Addressing the far future in safety regulation, 9. Topical and developing issues in the regulation of geological disposal

ADMINISTRATIVE INFORMATION

Tuition fee :
??

Additional costs :
?

How to apply :
on-line registration: www.itc-school.org

FOR FURTHER INFORMATION

www.itc-school.org

71. MATGEN IV Materials for Generation IV reactors: Fundamentals, ongoing research and open questions

BASIC INFORMATION

Last update : 2011-05-30

Title : MATGEN IV Materials for Generation IV reactors: Fundamentals, ongoing research and open questions

Country : Italy

Organisation : European group

Language : English

Venue : Lerici, Italy

Start date : Monday 19 September 2011

End date : Friday 23 September 2011

ENEN European Master : No

COURSE DETAILS

The MATGEN IV.3 summer school focuses on structural materials for Generation IV nuclear reactors, one of the prominent solutions that could satisfy the increasing demands for cost-effective energy, sustainable development and environmental constraints in the context of global climate change.

Fundamental research in materials science, associated with efforts for the industrial development of innovating materials, are key issues for the successful implementation of systems such as Generation IV nuclear reactors. Indeed, nowadays, no structural materials in use meet satisfactorily the specifications and performances imposed by the design of such systems, for the requirements are severe for microstructural stability, mechanical behavior and corrosion resistance under irradiation and high temperatures. Moreover, since two or three decades is the typical time scale for developing and preparing industrially new materials, the conclusion is reached that research should be made now for anticipating the needs of tomorrow for generation IV structural materials.

Inline with the above, MATGEN-IV summer schools aim at improving basic understanding of the phenomena controlling the properties of materials, thus opening the way for the development of innovating structural materials for nuclear applications. Extended references to key experiments and multi-scale-modelling will be combined within a recursive procedure relying on the Advanced Materials Design Method with target the design and selection of materials.

DOWNLOADS

 [1st Announcement](#)

FOR FURTHER INFORMATION

Please write to Rada Novakovic (r.novakovic@ge.ieni.cnr.it).

72. 2nd F-BRIDGE school on “Synergy between modelling and experiments for the investigation of nuclear fuels and materials under irradiation

BASIC INFORMATION

Last update : 2011-04-13

Title : 2nd F-BRIDGE school on “Synergy between modelling and experiments for the investigation of nuclear fuels and materials under irradiation

Country : United Kingdom

Organisation : European group

Language : English

Venue : Fitzwilliam College, Cambridge (United Kingdom)

Start date : Monday 19 September 2011

End date : Friday 23 September 2011

ENEN European Master : No

COURSE DETAILS

SCOPE

After its 2010 school dedicated to a general course on ceramic nuclear fuel and cladding materials, the second F-BRIDGE school will focus on the synergy between modelling and experiments for the investigation of nuclear fuels and materials behaviour under irradiation.

This school is strongly connected to the 2011 edition of the MMSNF "Materials Modelling and Simulation for Nuclear Fuels" workshop, which will take place the week immediately after in Aix-en-Provence (France). The school will also be supported by the EURACT-NMR European project, the MATINEX French research group, the European Commission through the JRC Enlargement and Integration Action.

TOPICS

The School will consist of lectures on the general topic below:

I: Introduction : Current and future nuclear systems, materials and fuels

II: Basics of experimental and modelling techniques

III: Synergy between modelling and experiment

FOR FURTHER INFORMATION

<http://www.f-bridge.eu/index.php/School/F-BRIDGE-School-2011.html>

73. Clay minerals in soils and weathered rock

BASIC INFORMATION

Last update : 2011-05-21

Title : Clay minerals in soils and weathered rock

Country : Finland

Organisation : European group

Language : English

Venue : University of Helsinki

Start date : Monday 12 September 2011

End date : Friday 23 September 2011

Participant : Intensive course (modular) aimed at post-graduate students.

ECTS/ECVET : 3 credits (ECTS), official Helsinki University ECTS can be awarded only to students enrolled in the Helsinki University.

ENEN European Master : No

COURSE DETAILS

Teachers:

- Dr Alain Bouchet ERM France
- Dr Francois Rassinaux ERM France
- Prof Daniel Boufort University of Poitiers, France

Venue: University of Helsinki, Department of chemistry, Laboratory of radiochemistry

Address: A.I.Virtasen aukio 1 (PL 55), 00014 Helsingin yliopisto (KUMPULA)

tel. +358 (0) 9 191 50120

fax +358 (0) 9 191 50121

Course frame (22-24 h):

1. What are clay minerals?
2. Clay environments and clay cycle
 - Weathering
 - Hydrothermal alteration
3. Origin of clays
4. Clays as minerals
 - Structures
 - Clay mineral groups
 - Identification
5. Tools / XDR, IR, SEM, Microprobe, cation exchange capacity
6. Uses of clays
7. Clays in the environment
 - clays in surface environments
 - nuclear waste disposal
8. Exam (1 h)

ADMINISTRATIVE INFORMATION

How to apply :

Registration to Ms. Siitari-Kauppi at marja.siihari-kauppi@helsinki.fi

Deadline of application :

Wednesday 31 August 2011

FOR FURTHER INFORMATION

<http://www.helsinki.fi/kemia/radiokemia/>

More information also available on <http://www.posinam.eu/>
a Marie Curie Industry-Academia Partnerships and Pathways project.

74. Eugene Wigner Training Course for Reactor Physics Experiments 2011

BASIC INFORMATION

Last update : 2011-03-08

Title : Eugene Wigner Training Course for Reactor Physics Experiments 2011

Organisation : STU

Language : English

Venue : Budapest, Bratislava, Vienna and Prague

Start date : Wednesday 7 September 2011

End date : Wednesday 28 September 2011

Participant : Undergraduate, graduate and PhD students, young professionals

ECTS/ECVET : 6 ECTS

ENEN European Master : Yes

ADMINISTRATIVE INFORMATION

Deadline of application :

Tuesday 31 May 2011

DOWNLOADS



FOR FURTHER INFORMATION

Please see the leaflet above and the website:

<http://www.ewc2011.snus.sk>

75. Summer School in Physics - Research and Advanced Studies

BASIC INFORMATION

Last update : 2011-04-13

Title : Summer School in Physics - Research and Advanced Studies

Country : Slovenia

Organisation : UL

Language : English

Venue : Ljubljana

Start date : Friday 17 June 2011

End date : Friday 24 June 2011

ENEN European Master : Yes

COURSE DETAILS

The aim of the Summer School is to review the highlights of physics and nuclear engineering research based in Ljubljana. Participation is free of charge.

ADMINISTRATIVE INFORMATION

Tuition fee :

No registration fee.

Housing and meals provided by the organizer.

Deadline of application :

Wednesday 1 June 2011

DOWNLOADS



FOR FURTHER INFORMATION

For more details are available at:

<http://phylju11.fmf.uni-lj.si>

76. PETRUS course on Fundamentals of geological disposal

BASIC INFORMATION

Last update : 2011-01-10

Title : PETRUS course on Fundamentals of geological disposal

Country : Czech Republic

Organisation : ITC

Language : English

Venue : JOSEF Underground Teaching Facility (UEF, www.uef-josef.eu), near Jilové, some 60 km SE of Prague

Start date : Tuesday 14 June 2011

End date : Thursday 23 June 2011

Level : ?

Participant : course is ideal for those involved in any component of a national radioactive waste programme and who have a desire to learn about the wider aspects of working in radioactive waste disposal

ECTS/ECVET : 4?

Learning outcome :

Learning outcome – is this course for you ? Your learning outcome should be statements of what you would expect to know, understand and/or be able to demonstrate at completion of a period of learning. So what will this course do for you? You should expect to: • have a strong grasp of the basic concepts of deep geological disposal of radioactive waste • understand the importance of a waste inventory to a disposal programme • be aware of the numerous different repository designs and be able to assess which design will be most applicable to which site and waste stream • be knowledgeable in site selection and characterisation procedures and have developed an awareness of the flexibility required to address each different site • be more aware of the complexity (and dangers) of on-site working from your time in the JOSEF facility • have demystified the process of repository safety and performance assessment and have an understanding of the limitations of the methodology • a much better understanding of the concerns of a wide range of stakeholders and not just the views of industry insiders. With your new understanding of the basic concepts of radioactive waste disposal you should also be better equipped to enter into dialogue with a wider range of stakeholders – not just those in the waste industry • most importantly, you will be in possession of a rare asset for you and your employer: an excellent overview of how the different disciplines need to be integrated to deliver a successful national deep disposal programme. Waste disposal is full of specialists and the benefits of having a unique overview should never be underestimated As such, the course is ideal for those involved in any component of a national radioactive waste programme and who have a desire to learn about the wider aspects of working in radioactive waste disposal. While some background in radioactive waste is useful, the modules have been so designed as to ensure that any participant who currently only has limited grasp of waste disposal will profit from this course. As such, interested people who are new to waste disposal should not be put off from attending.

ENEN European Master : No

COURSE DETAILS

The 10-day programme for 2011 consists of;

- Lectures on topics ranging from evaluating the wastes to be disposed of, right through all the technical stages of identifying and implementing geological disposal to the societal interactions required of repository development projects. Sufficient time will be allocated for questions and discussions in each presentation module.

- A course group exercise will be held at the end of the first week. Looking at 'Stakeholder Dialogue: theory and practice', the course participants will be introduced to the background of communicating with a wide range of stakeholders, including examples from around the world. The participants will then be split into small groups to work together and produce their own programme for stakeholder dialogue. They will then present their ideas to their peers and course tutors and face questioning from sceptical 'stakeholders'.

- Two full days working in the UEF JOSEF will enable participants to go underground into the tunnels and shafts and to learn directly about experiments to demonstrate the feasibility and safety of geological disposal.

- A second course exercise on repository siting decisions. This will take the form of a MAA (Multi-Attribute Analysis), examining the multi-faceted factors which have to be considered, then weighed and balanced when deciding on optimum sites for a waste repository. Once again, the participants will then present their ideas to their peers and course tutors and face questioning from worried members of a potential repository community.

- The course is ideal for those involved in any component of a national waste disposal programme. The previous fundamental courses were attended by participants from a wide range of stakeholders in sectors such as national/ provincial level decision-making authorities, implementing and regulating organisations, research organisations and universities, including both member and non-member organisations of the ITC-School.

Module I: The basic concept of geological disposal

This module includes presentations on the basic concepts of deep geological disposal as a course primer. Enough information will be provided for a novice in this area to understand the following modules and will cover the reasoning behind deep waste disposal and includes a brief look at different EBS designs for different waste streams. The various waste types (including their origins and physical and radiological properties) will also be examined and the requirements for a full national waste inventory will be discussed (looking at good and less good examples from around the world). This module will be wrapped up by an examination of the large range of potential geological environments in which a repository can be hosted. Examples of sedimentary and crystalline rock will be discussed as will different hydrogeological regimes and the positive and negative aspects of all variants will be explored.

Module II: Repository design and construction

Despite public concerns and the common emphasis on the difficulty of safe geological disposal, there are many different options that can ensure containment of radioactive waste and ensure no risk to humans or the environment. A common factor of such designs is that they incorporate multiple engineered barriers that complement the isolation provided by a deep geological setting. The challenge is to develop a safety concept that is appropriate to the waste to be managed and a design that allows such safety to be demonstrated. This module briefly describes near surface disposal options, then focuses on deeper disposal, overviewing some of the "classic" concepts developed in the '70s and '80s and contrasting these with alternative disposal concepts. This leads to a consideration of design optimisation, taking into account the need to ensure practicality and construction and operational safety, as simple designs developed for feasibility demonstration move towards implementation.

Module III: Site selection

Over the last few decades, there has been an evolution in approaches to selecting specific potential sites. In the early days of nuclear technology, sites for facilities were commonly chosen to be remote, occasionally because of the military connections, often simply to minimise the number of directly affected people. Subsequently, additional facilities were often sited adjacent to existing installations because the infrastructure was available and often public acceptance was easier, because of prior familiarity of the locals with nuclear technology. Other approaches, including expert judgement, the use of multi-attribute analysis and eliciting a volunteer community are also examined and the positive and negative aspects of each approach are examined. This module will include a group discussion on how best to structure a national disposal programme and will be introduced by a short examination of the approaches used in some national programmes around the world.

Module IV: Site characterisation

Generally, site investigations are preceded by desk-top investigations to identify potential sites as

comprehensive material is often available in the literature (e.g. from national Geological Surveys). The desk studies generally provide background data that is used to plan the site specific characterisation work. Site investigations are comprehensive investigations of the bedrock from the ground surface and in boreholes. Site investigations for a geological repository are made to:

- Show whether the site satisfies the requirements for a safe repository,
- Serve as a basis for adaptation of the repository design to local geologic conditions,
- Permit comparisons with other sites (if such are investigated), and
- Provide data for assessing the environmental impact of the repository during construction and operation.

In this phase, detailed studies are also made of alternative designs of the facilities and how transport of waste containers and other materials to the facility can safely take place. In this module, these steps will be examined for a few example sites and the differences between approaches (e.g. for different rock types) will be assessed. The participants should come away with the understanding that there is no unique or perfect characterisation methodology, rather it is necessary to adapt the available tools and approaches to the specific site.

Module V: Retardation of radionuclides in the repository multi-barrier system

This short module will provide an overview of the processes involved in radionuclide retardation in the repository multi-barrier system. The roles of each barrier (including the geosphere) will be examined as will the temporal changes in the barriers and the impact that these changes have on radionuclide retardation. The methods used to define radionuclide retardation will be explored and examples provided from the laboratory, field (and URL) experiments and natural analogues.

Module VI: Stakeholder dialogue

This day-long module will examine who the stakeholders are and how we in the waste disposal industry can develop a dialogue with the various stakeholder groups. Case studies from around the world will be examined and successful and less successful programmes examined. The lessons learned in these discussions will then be applied by the participants in the first group exercise of the course.

The participants will be split into small groups and will be tasked with designing a programme of stakeholder dialogue for a hypothetical repository site. Tutors will be available to support the groups should the need arise and, on completion of the exercise, each group will present their approach to their peers. Robust questioning of the presenters by the audience is to be expected!

Module VII: MAA (Multi Attribute Analysis) as an aid to siting decisions

This day-long module will examine what is currently the most common siting approach – multi-attribute analysis. This is a technique that attempts to identify all criteria influencing the choice of options, to quantify how well each option matches the criteria and to combine the quantified scores, using appropriate weighting factors in order to give a ranking of preferences. The scores and especially the weightings can be allocated by different stakeholder groups, which allow inclusion of the wider, non-technical issues. This approach is promising – provided that there is full transparency concerning the parameters and also the weighting factors, which are employed when combining judgements on the individual parameters.

The methodology will be examined and a simplified version of the approach used by the course participants to decide on a repository site. Each group be asked to examine the same parameter set, but from the viewpoint of a different stakeholder group. Once again, each group will present their approach and findings to their critical peers and the variations between the results will be discussed to provide a deeper understanding of the MAA approach.

Module VIII: Practical aspects of waste disposal in the Josef UEF

This module provides a step-change and a move away from the classroom with a look at some of

the practical aspects of waste disposal in CTU's underground education facility at JOSEF. Various aspects of work underground will be highlighted, including

- downhole equipment installation (site characterisation stage)
- core drilling and core evaluation (site characterisation stage)
- tunnel convergence measurements (repository construction and operational phases)
- in-tunnel equipment installation (repository operational and monitoring phases)
- data recording (repository operational and monitoring phases)
- buffer and backfill technology, including buffer installation (operational phase)
- gas permeability tests (repository operational and monitoring phases)

This range of tasks, carried out in a 'hands-on' manner, will give the course participants a feeling for the wide range of technical skills required in a repository programme and may be the only time that many of them will experience working in a tunnel system.

Module IX: Performance and safety assessment

In this last module of the course, the processes inherent in showing that a particular repository design and site will function safely and perform appropriately will be examined in detail. Safety assessment involves developing an understanding of how, and under what circumstances, radionuclides might be released from the repository, how likely are such releases and what are the radiological consequences of such releases to humans and the environment. This in turn involves the collating of necessary data, developing models and performing analyses related to safety – all these aspects will be examined in an open, simple way to demystify what many experienced people in the waste disposal industry struggle to understand.

As a repository will only be licensed for construction, operation and closure if it can be shown to be safe, different approaches to showing it is safe will be elucidated and discussed.

ADMINISTRATIVE INFORMATION

Requirements to apply :

To help you to get the most out of this course, we would like you to produce a short pre-course assignment. But don't worry, we are not asking you for much effort, just a little thought in advance of attending the course which will focus your thinking and give us an insight into your requirements. And don't worry if you cannot express yourself fluently, this is not a test, rather it is simply intended to help us get to know you a bit in advance. In return, you will be given the course tutors' CVs when you start the course. The Course Assignment can be found at the bottom of the application form and should be returned by 28th March, 2011. On-line course registration: www.itc-school.org

Tuition fee :

not fixed up to now

Additional costs :

On Sunday, 19th June, there will be an opportunity to enjoy the beauties of the ancient city of Prague or the beautiful countryside around Jilové.

How to apply :

On-line course registration: www.itc-school.org

Deadline of application :

Monday 28 March 2011

FOR FURTHER INFORMATION

russell.alexander@itc-school.org

www.itc-school.org

77. Radiation Protection Officer. Radiotherapy

BASIC INFORMATION

Last update : 2010-09-22

Title : Radiation Protection Officer. Radiotherapy

Country : Spain

Organisation : ENETRAP

Language : Spanish

Venue : CIEMAT

Start date : Monday 9 May 2011

End date : Tuesday 31 May 2011

Level : Supervisor Radiactive facilities

ENEN European Master : No

78. An Introduction to Nuclear Energy

BASIC INFORMATION

Last update : 2011-03-03

Title : An Introduction to Nuclear Energy

Country : United Kingdom

Organisation : UM

Language : English

Venue : Manchester, UK

Start date : Tuesday 12 April 2011

End date : Tuesday 12 April 2011

Level : Introductory

Participant : People with no or little knowledge of nuclear energy

ECTS/ECVET : None

Learning outcome :

A basic knowledge of nuclear energy

ENEN European Master : No

COURSE DETAILS

History and present status of nuclear energy, the concepts behind nuclear energy including details on nuclear fission and the nuclear fuel cycle, decommissioning in the UK and the management of radioactive waste, and the roles and responsibilities of different nuclear organisations.

ADMINISTRATIVE INFORMATION

Requirements to apply :

None

Tuition fee :

£350

How to apply :

<http://tinyurl.com/IntroNuclearEnergy>

Deadline of application :

Monday 4 April 2011

FOR FURTHER INFORMATION

John Roberts

j.w.roberts@manchester.ac.uk

79. Petrus course on Microbiology and disposal of radioactive waste

BASIC INFORMATION

Last update : 2011-01-12

Title : Petrus course on Microbiology and disposal of radioactive waste

Country : Sweden

Organisation : MICANS

Language : English

Venue : Mölnlycke, Gothenburg, Sweden

Start date : Monday 11 April 2011

End date : Friday 15 April 2011

Level : Basic and introductory

Participant : working persons and PhD students

ECTS/ECVET : 1.5

Learning outcome :

After the course you should expect to

- Understand what microorganisms are and what their activity can or cannot imply for a repository and the safety assessment
- Have knowledge of the intricate system of redox reactions that is responsible for the cycling of elements in the environment
- Comprehension of which parts of a repository likely to be influenced by microbial processes.
- Have an understanding of the different methods used in environmental microbiology
- Have practical experience of microbial studies of populations from the environment
- Increased knowledge of microbial modeling and what parameters determine rate and outcome of different microbial processes

ENEN European Master : No

ADMINISTRATIVE INFORMATION

Requirements to apply :

Basic knowledge in chemistry and physics

Tuition fee :

2500 €

Additional costs :

Travel and accomodation

How to apply :

Please contact Microbial Analytics Sweden AB Prof. Karsten Pedersen, kap@micans.se or Dr. Lotta Hallbeck, loh@micans.se

Deadline of application :

Wednesday 16 March 2011

DOWNLOADS

 [Microbiolog and disposal of radioactive waste](#)

FOR FURTHER INFORMATION

[Lotta Hallbeck +46 31 338 32 35](#) or [Karsten Pedersen +46 31 338 32 33](#)

80. European Radiation Protection Expert - Module 6: Unsealed Sources, Research and Non-Nuclear - Training Course

BASIC INFORMATION

Last update : 2010-12-21

Title : European Radiation Protection Expert - Module 6: Unsealed Sources, Research and Non-Nuclear - Training Course

Country : Germany

Organisation : ENETRAP

Language : English

Venue : FTU - KIT

Start date : Wednesday 30 March 2011

End date : Friday 1 April 2011

Level : Academic

Participant : Radiation Protection professionals

Learning outcome :

to apply a radiation protection program in activities where sealed and/or unsealed radioactive sources are used to perform the classification areas (controlled and supervised) to react in incidental or accidental situations

ENEN European Master : No

COURSE DETAILS

http://enetrap2.sckcen.be/en/Events/ERPTS_2011

ADMINISTRATIVE INFORMATION

Tuition fee :

Introductory Fee (50%), if registered before 31/12/2010
420.00 €

How to apply :

Information and Registration: Dr. Siegurd Möbius Karlsruher Institute of Technology Phone: 0049 7247 82-3791 Fax: 0049 7247 82-4857 Email: siegurd.moebius@kit.edu

DOWNLOADS

 [ERPTS](#)  [Program Module 6](#)

FOR FURTHER INFORMATION

http://enetrap2.sckcen.be/en/Events/ERPTS_2011

81. European Radiation Protection Expert - Module 3: Occupational Radiation Protection - Training Course

BASIC INFORMATION

Last update : 2010-12-21

Title : European Radiation Protection Expert - Module 3: Occupational Radiation Protection - Training Course

Country : Germany

Organisation : ENETRAP

Language : English

Venue : FTU KIT

Start date : Monday 28 March 2011

End date : Thursday 30 December 2010

Level : Academic

Participant : Radiation Protection professionals

Learning outcome :

to know the regulatory process for transportation of radioactive material; to mitigate the consequences of an accident or emergency issues, to integrate the ALARA principle and safety cultures; to know the principles of waste management and decommissioning

ENEN European Master : No

COURSE DETAILS

http://enetrap2.sckcen.be/en/Events/ERPTS_2011

ADMINISTRATIVE INFORMATION

Tuition fee :

Introductory Fee (50%), if registered before 31/12/2010
420.00 €

How to apply :

Information and Registration: Dr. Siegurd Möbius Karlsruhe Institute of Technology Phone: 0049 7247 82-3791 Fax: 0049 7247 82-4857 Email: siegurd.moebius@kit.edu

DOWNLOADS

 [ERPTS](#)  [Program Module 3](#)

FOR FURTHER INFORMATION

http://enetrap2.sckcen.be/en/Events/ERPTS_2011

82. European Radiation Protection Expert - Module 2: Foundation - Training Course

BASIC INFORMATION

Last update : 2010-12-21

Title : European Radiation Protection Expert - Module 2: Foundation - Training Course

Country : Germany

Organisation : ENETRAP

Language : English

Venue : FTU KIT

Start date : Monday 21 March 2011

End date : Friday 25 March 2011

Level : Academic

Participant : Radiation Protection professionals

Learning outcome :

To estimate the dose rate from a radioactive source vs distance; to determine the collective and individual protective means for external and internal exposure; to assess individual doses; to determine a dose monitoring program according to recommendations and regulations.

ENEN European Master : No

COURSE DETAILS

http://enetrap2.sckcen.be/en/Events/ERPTS_2011

ADMINISTRATIVE INFORMATION

Tuition fee :

Introductory Fee (50%), if registered before 31/12/2010
620.00 €

How to apply :

Information and Registration: Dr. Siegurd Möbius Karlsruhe Institute of Technology Phone: 0049 7247 82-3791 Fax: 0049 7247 82-4857 Email: siegurd.moebius@kit.edu

DOWNLOADS

 [ERPTS](#)  [Program](#)

FOR FURTHER INFORMATION

http://enetrap2.sckcen.be/en/Events/ERPTS_2011

83. European Radiation Protection Expert - Module 1: Basics - Training Course

BASIC INFORMATION

Last update : 2010-12-21

Title : European Radiation Protection Expert - Module 1: Basics - Training Course

Country : Germany

Organisation : ENETRAP

Language : English

Venue : FTU KIT

Start date : Monday 14 March 2011

End date : Friday 18 March 2011

Level : Academic

Participant : Radiation Protection professionals

Learning outcome :

To understand the physical aspect of ionising radiations, the biological basis of radiological protection; to describe and use the principal type of radiation detectors.

ENEN European Master : No

COURSE DETAILS

http://enetrap2.sckcen.be/en/Events/ERPTS_2011

ADMINISTRATIVE INFORMATION

Tuition fee :

Introductory Fee (50%), if registered before 31/12/2010
620.00 €

How to apply :

Information and Registration: Dr. Siegurd Möbius Karlsruhe Institute of Technology Phone: 0049 7247 82-3791 Fax: 0049 7247 82-4857 Email: siegurd.moebius@kit.edu

DOWNLOADS

 [ERPTS](#)  [Program Module 1](#)

FOR FURTHER INFORMATION

http://enetrap2.sckcen.be/en/Events/ERPTS_2011

84. Petrus II / Posiva (OLD) Introduction to safety assessment in geological disposal of spent fuel - advanced sessions

BASIC INFORMATION

Last update : 2011-06-16

Title : Petrus II / Posiva (OLD) Introduction to safety assessment in geological disposal of spent fuel - advanced sessions

Country : Finland

Organisation : POSIVA

Language : Finnish

Venue : Otaniemi, Espoo and Vuojoki, Eurajoki Finland

Start date : Tuesday 15 February 2011

End date : Friday 18 February 2011

Level : Introductory level, beneficial to have a technical or scientific education at Bachelor's or Master's level and to work or study in waste management

Participant : Persons working in the field of geological disposals with Master's background

ECTS/ECVET : none (corresponds to 1 ECVET/ECTS)

Learning outcome :

Understanding of the major components of a KBS-3 concept safety case from the spent fuel to the evolution of the repository overtime and the interaction of the safety case components

ENEN European Master : No

COURSE DETAILS

a preassignment and feedback questionnaire, course is carried out in lecture format with questions and answers, full amount of lectures is 25 hrs

ADMINISTRATIVE INFORMATION

Requirements to apply :

work experience in the field or the completed basic session of this introductory course, Master's degree at minimum

Tuition fee :

250 euros (incl. 23 % VAT) includes lunch and coffees + course materials (print)

Additional costs :

travel, accommodation

How to apply :

contact either Marjatta Palmu or Minna Tyykila firstname.lastname (at) posiva.fi for a registration form

Deadline of application :

Wednesday 2 February 2011

DOWNLOADS

 [Course announcement](#)

FOR FURTHER INFORMATION

see above, this course will be repeated early 2011 or late 2011

85. 28th Short Courses on Multiphase Flow

BASIC INFORMATION

Last update : 2010-12-14

Title : 28th Short Courses on Multiphase Flow

Country : Switzerland

Organisation : ETH

Language : English

Venue : Zurich

Start date : Monday 14 February 2011

End date : Friday 18 February 2011

ENEN European Master : No

COURSE DETAILS

Multiphase flows and heat transfer with phase change are of interest to researchers and engineers working in power, nuclear, chemical-process, oil-and-gas, cryogenic, space, food, bio-medical, micro-technology, and other industries. Courses similar to this one have been offered at ETH-Zurich continuously since 1984. Over the years, the courses have continuously evolved, reflecting on-going progress and developments.

The courses are organized in a modular form as an intensive introduction for persons having basic knowledge of fluid mechanics, heat transfer, and numerical techniques (introductory tutorial texts are e-mailed to the participants before the course), but also serve as advanced courses for specialists wishing to obtain the latest information.

- Part I, Bases, covers the common background material and emphasises the latest modelling and computational aspects of multiphase flows.

- Part IIA, New Reactor Systems and Methods, covers the topics of particular interest to nuclear engineers. This module reviews some of the multiphase-flow phenomena taking place in the recently proposed advanced reactor designs (including Generation IV designs) and introduces the state-of-the-art and beyond in modelling and simulation methods.

- Part IIB, Computational Multi-Fluid Dynamics (CMFD), reflects the growing interest in the application of CFD techniques to multi-phase flows and covers the most common computational techniques.

- Part III, CMFD with Commercial Codes, is attached to both Parts IIA and IIB to present the commercial code developers and their products for both nuclear and other applications.

Lecturers: S. Banerjee, D. Bestion, M.L. Corradini, G. Hetsroni, G.F. Hewitt, D. Lakehal, Simon Lo, H.-M. Prasser, G. Tryggvason, S.A. Vasquez, G. Yadigaroglu and S. Zaleski.

ADMINISTRATIVE INFORMATION

How to apply :

Registration is by email, following the instructions and using the Registration Form from the web site or replying to this message with the equivalent information.

DOWNLOADS

 [Brochure](#)

FOR FURTHER INFORMATION

For further information contact by e-mail:

Prof. G. Yadigaroglu: yadi@ethz.ch

Internet: <http://www.ascomp.ch/ShortCourse/>

86. THINS Students' Course and Workshop "Crosscutting Thermal Hydraulic Issues of Innovative Nuclear Systems"

BASIC INFORMATION

Last update : 2010-09-17

Title : THINS Students' Course and Workshop "Crosscutting Thermal Hydraulic Issues of Innovative Nuclear Systems"

Country : Switzerland

Organisation : ETH

Language : English

Venue : ETH Zurich

Start date : Monday 7 February 2011

End date : Friday 11 February 2011

ENEN European Master : Yes

COURSE DETAILS

Thermal-hydraulics is recognized as one of the key scientific subjects in the development of innovative reactor systems. They are mainly characterized by coolants other than water (gas, water and liquid metals) and flow channel structures formed by different fuel lattice arrangements (fuel assembly, pebble bed). This results in different micro- and macroscopic behavior of flow and heat transfer and require specific models and advanced analysis tools. On the other hand, many common thermal-hydraulic issues are identified among various innovative nuclear systems. The workshop addresses these issues in courses offered by recognized researchers coming from partner organizations of THINS and offers students involved in the partner institutions a podium for the presentation of their scientific work.

Topical focus is put on the following particular issues, corresponding to the work packages of the THINS project: Advanced reactor core thermal-hydraulics, Single phase mixed convection, Single phase turbulence, Multi-phase flow, Code coupling and qualification.

ADMINISTRATIVE INFORMATION

Tuition fee :

No conference fee for participants from THINS partner institutions

How to apply :

Number of places limited, early abstract submission recommended > Deadline for submission of abstracts: Oct. 31, 2010 > Notification of acceptance: Nov. 30, 2010 > Registration for participation: Dec. 31, 2010

DOWNLOADS



FOR FURTHER INFORMATION

Website: https://www.lke.mavt.ethz.ch/news/thins_workshop

For a preliminary registration and/or a submission of an abstract for a presentation, as well as in case of questions, please contact Prof. Dr. Horst-Michael Prasser, E-Mail: hprasser@ethz.ch

87. SARNET Short Course on Severe Accident Phenomenology

BASIC INFORMATION

Last update : 2010-09-10

Title : SARNET Short Course on Severe Accident Phenomenology

Country : Italy

Organisation : European group

Language : English

Venue : Pisa

Start date : Monday 10 January 2011

End date : Friday 14 January 2011

ENEN European Master : No

COURSE DETAILS

The Severe Accident (SA) Research Network of excellence SARNET2 is sponsoring a new one-week course entitled "Severe Accident Phenomenology". This course is a part of the Excellence Spreading activities of SARNET2 and it will focus on disseminating the knowledge gained on SA in the last two decades to Master-PhD students, young engineers and researchers. The SARNET2 project is co-funded by the EURATOM research program in the 7th Framework Programme of the European Commission.

ADMINISTRATIVE INFORMATION

How to apply :

Application by 30 October 2010 Early registration by the end of September 2010

DOWNLOADS



FOR FURTHER INFORMATION

SARNET website

<http://www.sar-net.eu/node/4>

88. PETRUS Transport and Retention of Radionuclides in Argillaceous and Fractured Media

BASIC INFORMATION

Last update : 2010-06-22

Title : PETRUS Transport and Retention of Radionuclides in Argillaceous and Fractured Media

Country : Switzerland

Organisation : PETRUS

Language : English

Start date : Tuesday 30 November 2010

End date : Tuesday 7 December 2010

Participant : Anyone with an interest in contaminant retardation in a waste repository host rock

ENEN European Master : No

COURSE DETAILS

This is a novel course looking at all aspects of the definition of contaminant retardation in a repository host rock and begins with the basic definition of clays and works through various features of PSI laboratory and modelling investigation of contaminant retardation properties (<http://les.web.psi.ch/groups/index.html>). The course includes demonstration of various laboratory procedures and visits to two Underground Research Laboratories (URL): Mont Terri (www.mont-terri.ch), in St Ursanne in northern Switzerland and the Grimsel Test Site (www.grimsel.com) just below the Grimsel Pass in southern Switzerland.

ADMINISTRATIVE INFORMATION

Tuition fee :

The course fees cover tuition, accommodation, breakfast, lunch, dinner and morning and afternoon refreshments for the course days (arriving Monday 29th November, departing Wednesday 8th December), plus a course dinner and a welcome reception. Course notes and other materials are also covered by the fee, as are transport during the course to field sites, labs etc.

CHF 6600 - ITC Members

CHF 7300 - non-members

How to apply :

<http://www.itc-school.org/index.php/Present-Courses/Transport-and-Retention-of-Radionuclides-in-Argillaceous-and-Fractured-Media.html>

Deadline of application :

Friday 22 October 2010

FOR FURTHER INFORMATION

<http://www.itc-school.org/index.php/Present-Courses/Transport-and-Retention-of-Radionuclides-in-Argillaceous-and-Fractured-Media.html>

89. CP-ESFR project - 2nd Seminar "ESFR: Design methodologies, modelling tools and safety"

BASIC INFORMATION

Last update : 2010-09-10

Title : CP-ESFR project - 2nd Seminar "ESFR: Design methodologies, modelling tools and safety"

Country : France

Organisation : European group

Language : English

Venue : Cadatache

Start date : Monday 15 November 2010

End date : Friday 19 November 2010

ENEN European Master : No

COURSE DETAILS

This is the 2nd Seminar organised within the framework of CP-ESFR project (SP5 Education & Training), CEA-DEN-DTNB, CEA INSTN, and ESML (CEA Sodum School).

The detailed content and name of lectures will be provided in the next announcement.

ADMINISTRATIVE INFORMATION

How to apply :

NOTE: The final registration form will be sent to all pre-registered people at the beginning of October 2010. It will include detailed conditions, including final program and fees. In order to receive it, please send the pre-registration form as appropriate.

DOWNLOADS

 [Draft program](#)  [Pre-registration form](#)

FOR FURTHER INFORMATION

For further question, please contact Ms. Nieves Miralles (nieves.miralles@cea.fr)

90. PETRUS Carbon Capture and Storage: can anything be learned from 35 years experience in geological disposal of radioactive wastes?

BASIC INFORMATION

Last update : 2010-06-22

Title : PETRUS Carbon Capture and Storage: can anything be learned from 35 years experience in geological disposal of radioactive wastes?

Country : Switzerland

Organisation : PETRUS

Language : English

Venue : Meiringen, Switzerland

Start date : Tuesday 26 October 2010

End date : Friday 29 October 2010

ENEN European Master : No

COURSE DETAILS

Geological disposal of radioactive wastes (GDRW) has taken more than 35 years of concept development and field and laboratory research to reach the point where deep repositories should be operating within the next few years: all of this has taken place on the back of a strategic, societal and political rollercoaster. The CCS field is comparatively in its infancy but is moving forward quickly and has considerable technical, political, societal and energy strategy parallels. Consequently it is likely to be exposed to some of the same issues and to tread some of the same paths as GDRW. While many in the CCS community see GDRW as an entirely unenviable analogue, it would seem unwise to ignore the lessons that might be learned – not only may there be something to be gained practically, but it may be possible to avoid some pitfalls. This workshop is intended to bring together experienced practitioners in the CCS and GDRW sectors in a completely informal, non-institutional environment to discuss their experiences and help identify what might be shared or learned. Discussions will be citable but non-attributable. The organizers will also endeavour to produce a written perspective on key outcomes, for publication.

ADMINISTRATIVE INFORMATION

Tuition fee :

There is a registration fee of 780 CHF, payable in advance, which covers your hotel accommodation (3 nights), all meals, coffee breaks and workshop materials. Your registration is not secured until the fee has been received and you will be invoiced when we receive your on-line application. If you have to cancel before 26th September 2010, your fee is fully refundable.

How to apply :

<http://www.itc-school.org/index.php/Present-Courses/Carbon-Capture-and-Storage.html>

FOR FURTHER INFORMATION

<http://www.itc-school.org/index.php/Present-Courses/Carbon-Capture-and-Storage.html>

91. EUROCOURSE Second Nuclear Graphite Technology Course

BASIC INFORMATION

Last update : 2010-09-17

Title : EUROCOURSE Second Nuclear Graphite Technology Course

Country : France

Organisation : European group

Language : English

Venue : Abbaye St.Jacut-de-la-mer, Brittany, France

Start date : Monday 25 October 2010

End date : Thursday 28 October 2010

Participant : For students as well as professionals

ENEN European Master : No

COURSE DETAILS

Gas cooled Nuclear Reactors (GCR), RBMK etc. extensively use graphite as moderator and other structural components. Presently, accelerated decommissioning of some of these first generation reactors is ongoing or is imminently planned. During neutron irradiation, the properties of graphite change considerably and graphite becomes contaminated by radionuclides from nuclear fission and by neutron activation. This leads to large quantities of waste, today there are approximately 300,000 tons of irradiated graphite worldwide. Acceptable solutions have not yet been established for this kind or volume of waste. Various options of waste management such as decontamination, recycling or disposal are proposed, however, in order to be able to choose the best and most suitable option, the graphite community must understand how graphite moderated reactors work, how the dismantling is going to happen, what properties changes evolve in irradiated graphite as it is in the reactor, during decontamination and disposal.

The goal of this EUROCOURSE is to provide a detailed insight into these questions by lectures from renown scientists and engineers working in the field for many years. Focus is not only on the latest research results, but as well as on base understanding of all mentioned subjects.

ADMINISTRATIVE INFORMATION

Requirements to apply :

This continued professional development course is aimed for students as well as professionals.

Tuition fee :

300 € Registration fee, acceptance of participants according to principle 1st comes 1st reserved

Registration fee covers the course attendance in addition to full accommodation (3 nights), taxes, breakfast, lunches, coffee, dinner and combined hire of meeting room

How to apply :

Registration deadline: 01/10/2010 <http://eurocourse-nuclear-graphite.wikispaces.com/>

DOWNLOADS



FOR FURTHER INFORMATION

A web-page with some details has been created, including the registration link:

<http://eurocourse-nuclear-graphite.wikispaces.com/>

92. MADEIRA 3rd Training Course on IMAGING IN NUCLEAR MEDICINE

BASIC INFORMATION

Last update : 2010-09-10

Title : MADEIRA 3rd Training Course on IMAGING IN NUCLEAR MEDICINE

Country : Germany

Organisation : European group

Language : English

Venue : Munich

Start date : Tuesday 5 October 2010

End date : Friday 8 October 2010

ENEN European Master : No

COURSE DETAILS

The use of diagnostic procedures based on nuclear medical imaging such as PET, SPECT and combined PET/CT, SPECT/CT and PET/MR systems is gaining every day more and more importance.

The MADEIRA Project (Minimizing Activity and Dose with Enhanced Image quality by Radiopharmaceutical Administrations), cofunded by the European Commission within the FP7-EURATOM Programme, aims to reduce the exposure of the patients to radiation in nuclear medicine, through the improvement of the imaging process.

This Training Course on Imaging in Nuclear Medicine is the last in a series of three courses organized in the frame of the MADEIRA Project. The course, which is aimed to university students (graduate level) and young researchers with a strong interest in medical physics and imaging, will deal with fundamental aspects and current research trends. The lectures will be supported by practical exercises on image reconstruction techniques and by visits to the research laboratories of Helmholtz Zentrum Munchen and of the Nuclear Medicine Department of the University Hospital rechts der Isar

DOWNLOADS

 [Announcement](#)

FOR FURTHER INFORMATION

MADEIRA project website

<http://www.madeira-project.eu/>

93. PETRUS International Training Course on Management of Radioactive Waste in Accordance with IAEA Safety Standards and International Best Practice

BASIC INFORMATION

Last update : 2011-01-13

Title : PETRUS International Training Course on Management of Radioactive Waste in Accordance with IAEA Safety Standards and International Best Practice

Country : Germany

Organisation : TUC

Language : English

Start date : Monday 6 September 2010

End date : Friday 15 October 2010

Level : Postgraduate training

ENEN European Master : No

COURSE DETAILS

This training course aims to

- * provide employees of waste management organisations, authorities, and TSOs, with up-to-date knowledge and lessons learned on issues specific to radioactive waste management
- * familiarise them with relevant IAEA positions as laid down in the IAEA safety standards, supporting documents and international conventions; and
- * provide practical experience and opportunities for enhancement of the qualifications of the participants that could contribute to the waste management programmes in their countries.
- * provide technical visits to specific radioactive waste management facilities (predisposal, disposal, decommissioning).

FOR FURTHER INFORMATION

<http://www.ielf.tu-clausthal.de/en/iaea-training-course/>

This course will be run on a (bi)annual basis.

94. Nuclear Safety and Security Specialization Courses

BASIC INFORMATION

Last update : 2010-11-23

Title : Nuclear Safety and Security Specialization Courses

Country : Italy

Organisation : CIRTEN

Language : English

Venue : University of Pisa

Start date : Monday 14 June 2010

End date : Saturday 1 October 2011

Level : Post-master course

Participant : Graduate students and professionals

ECTS/ECVET : 60 ECTS for one-year

ENEN European Master : Yes

COURSE DETAILS

The objective of the Specialization Course is to form highly-qualified professionals in Nuclear Safety and Security of NPP. The Specialization resulting profiles is an Expert in Nuclear Engineering, with knowledge and competences particularly suitable for the applications of nuclear safety and security in industries, research context, regulatory bodies and technical support organizations (TSO).

A student can take part in the whole one-year course, or one disciplines by one.

ADMINISTRATIVE INFORMATION

Requirements to apply :

This Course is a post-master course, therefore for example a Master degree in Nuclear Engineering is required for entrance.

Tuition fee :

Scholarship is available - See the file below.

DOWNLOADS

 [Leaflet](#)  [Scholarship \(Application by 10 December 2010\)](#)

95. Radiation protection level 3

BASIC INFORMATION

Last update : 2009-08-20

Title : Radiation protection level 3

Country : Netherlands

Language : Dutch

Venue : Petten The Netherlands

Start date : Thursday 14 January 2010

End date : Sunday 9 May 2010

Level : 3 RPE and RPO

ECTS/ECVET : not known

ENEN European Master : No

COURSE DETAILS

Topics:

atom and reactor physics

radioactive decay

types of ionising radiation

interaction of radiation with matter

Protection against radiation

Detection of radiation

Dosimetry

Biological effects of ionising radiation

Internal contamination

Regulations, rules and laws (Dutch law)

Practical radiation protection

Practical work

ADMINISTRATIVE INFORMATION

Requirements to apply :

Bachelor in Physics, Math, Chemistry, or Biology or in a Technical school

Tuition fee :

EUR 4675

How to apply :

fill out the form at: http://www.nrg.eu/product/edu_nl/rad.html

FOR FURTHER INFORMATION

http://www.nrg.eu/product/edu_nl/rad.html

96. PETRUS "Geological storage in Precambrian bedrock"

BASIC INFORMATION

Last update : 2012-04-04

Title : PETRUS "Geological storage in Precambrian bedrock"

Country : Sweden

Organisation : PETRUS

Language : English

Participant : Bachelor of Science in Environmental Science or corresponding course qualifications

Learning outcome :

Upon completion of the course students are expected to be able to: • Create and present a geological map of a limited area • Create and present a tectonic map of a limited area • Present a 3-dimensional presentation of the mapped area • Describe the Precambrian rocks and minerals in the mapped area • Describe the distribution of soils in the mapped area • Compile a summary of the hydrogeological conditions in the mapped area • Present the KBS method for storing nuclear waste in Precambrian rocks • Compile a summary of the social aspects of storing nuclear waste

ENEN European Master : No

COURSE DETAILS

This will be a unique opportunity to learn about storing in Precambrian bedrock. Many of the teachers are working with scientific projects at the Äspö Laboratory.

DOWNLOADS

 [Summary](#)  [Program](#)

FOR FURTHER INFORMATION

If you are interested please contact:

tommy.claesson@lnu.se

97. TECNATOM Nuclear Basics course

BASIC INFORMATION

Last update : 2013-11-07

Title : TECNATOM Nuclear Basics course

Country : Spain

Organisation : TECNATOM

Language : English

Participant : New Nuclear Workers and new Technical Graduate recruits

ENEN European Master : No

COURSE DETAILS

Main Objectives: To provide new staff with the necessary contextual comprehension of a nuclear organization.

The Nuclear Basics course addresses to new Nuclear Workers and new Technical Graduate recruits.

This training programme will provide graduates who begin working in a nuclear environment with the necessary contextual comprehension of a nuclear organization.

The course has been established in modules, thus providing high flexibility and covering the most diverse training needs. See SUMMARY below for further details, or directly contact by email or telephone.

DOWNLOADS

 [Summary](#)

FOR FURTHER INFORMATION

Mr. Iñigo Loizaga

Tecnatom Training Centre International Training

Avda. Montes de Oca, nº1

28703 - San Sebastián de los Reyes (Madrid), Spain

Email iloizaga@tecnatom.es

Tel.: +34 91 659 86 00

Fax: +34 91 659 86 77

Website tecnatom.es

98. B211 EPR TM Introductory Course (3 x 10 days)

BASIC INFORMATION

Last update : 2014-03-17

Title : B211 EPR TM Introductory Course (3 x 10 days)

Country : Germany

Organisation : AREVA

Language : English

Venue : AREVA NP-Training Center Offenbach or an appropriate training room on site of the customer

Participant : Max. 20 people. Design Engineers involved in certification and planning process of new builds: EPR TM. Future operation personal.

ENEN European Master : No

COURSE DETAILS

The participants will get an overview about the composition and the function of the different systems of a standard-EPRTM (Evolutionary Power Reactor). The course is also focussed on the conceptual background of the nuclear power plant and provides an insight into the operational interaction of all the systems involved as well as the behaviour of the nuclear power plant under different malfunctions and major accidents.

The content of this course is structured - beside the overall aspects like major overview, the electrical systems, the interlocking and control of the systems, the plant operation (start up, power operation, shut down, refuelling) and accidents - in the order of the critical safety functions.

ADMINISTRATIVE INFORMATION

Requirements to apply :

Knowledge in design and operation of NPP's. Good command of English.

FOR FURTHER INFORMATION

Registration and Hotline:

+ 49 (69) 2557 34567

training@areva.com

<http://www.areva-training.de>

99. PETRUS Lecture Petrology and Geochemistry of rocks relevant for final disposal

BASIC INFORMATION

Last update : 2011-01-13

Title : PETRUS Lecture Petrology and Geochemistry of rocks relevant for final disposal

Country : Germany

Organisation : TUC

Language : English

Venue : Clausthal

Participant : MSc RHWM, external listeners

ENEN European Master : No

COURSE DETAILS

basics of physical properties (geoelectricity, magnetism, seismicity) of rocks of the earth's crust, their petrological and geochemical properties and the impact of near-surface processes on the development and state of rocks

study of the disposal-relevant properties of argillaceous rocks, granites and evaporites

ADMINISTRATIVE INFORMATION

Requirements to apply :

Lecture during term-time within a Master-study

FOR FURTHER INFORMATION

<http://www.ielf.tu-clausthal.de/>

100. PETRUS Lecture Fundamentals of long-term safety analysis

BASIC INFORMATION

Last update : 2011-01-13

Title : PETRUS Lecture Fundamentals of long-term safety analysis

Country : Germany

Organisation : TUC

Language : English

Venue : Clausthal

Participant : MSc RHW, external listeners

ENEN European Master : No

COURSE DETAILS

role and development of long-term safety analyses

system description, FEPs, safety functions and scenarios

modeling and confidence building

indicators and criteria

uncertainty management

ADMINISTRATIVE INFORMATION

Requirements to apply :

Lecture during term-time within a Master-study

101. PETRUS Lecture Numerical simulation in long-term safety analysis - probabilistic methods

BASIC INFORMATION

Last update : 2011-01-13

Title : PETRUS Lecture Numerical simulation in long-term safety analysis - probabilistic methods

Country : Germany

Organisation : TUC

Language : English

Venue : Clausthal

Participant : MSc RHWM, external listeners

ENEN European Master : No

COURSE DETAILS

basics of probabilistics

basics of mathematical statistics

derivation of distributions

sampling methods

characteristics of distributions, their estimation and application in the probabilistic uncertainty analysis

deterministic and probabilistic methods of sensitivity analysis

FOR FURTHER INFORMATION

<http://www.ielf.tu-clausthal.de/>

102. 2013-International Course: NUCLEAR CRITICALITY SAFETY

BASIC INFORMATION

Last update : 2013-04-18

Title : 2013-International Course: NUCLEAR CRITICALITY SAFETY

Country : France

Organisation : CEA

Language : English

Venue : Saclay, France

ENEN European Master : Yes

COURSE DETAILS

- Nuclear and neutron physics: neutron-nucleus interaction, cross-sections, neutron current flux, current and spectrum, neutron migration in matter.
- Safety requirements: defence in depth, principle of double failure.
- International and European standards.
- Criticality analysis and methods of analysis: reference fissile material, criticality control.
- Criticality risks in the nuclear fuel cycle facilities: fresh fuel fabrication and spent fuel reprocessing plants, fuel in research centres.
- Transport of fissile materials.
- Criticality accidents: history of criticality accidents and near-accidents; phenomenology and consequences; detection.

ADMINISTRATIVE INFORMATION

How to apply :

THIS SEMINAR SCHEDULED IN 2012 HAS BEEN RE-SCHEDULED IN 2013 (dates are not still confirmed) Please contact the organizer: nadia.nowacki@cea.fr

FOR FURTHER INFORMATION

Please contact the programme manager:

mathilde.moiron@cea.fr

and refer to the INSTN web site:

http://www-instn.cea.fr/Criticality-Safety_theme_form_id1375.html