

## Scientific Committee

LENA JOHANSSON

**NPL** - National Physical Laboratory

Hampton Road - Teddington

Middlesex, TW11 0LW – UNITED KINGDOM

e-mail: [lena.johansson@npl.co.uk](mailto:lena.johansson@npl.co.uk)

PIERINO DE FELICE

**ENEA** – Agenzia nazionale per le nuove tecnologie,

l'energia e lo sviluppo economico sostenibile

C.R. Casaccia, Via Anguillarese, 301

S.M. Galeria I-00123 Roma - ITALY

e-mail: [pierino.defelice@enea.it](mailto:pierino.defelice@enea.it)

JEAN-REMY FILTZ

**LNE** - Laboratoire national de métrologie et d'essais

29, avenue Roger Hennequin

78197 Trappes cedex - FRANCE

e-mail: [Jean-Remy.Filtz@lne.fr](mailto:Jean-Remy.Filtz@lne.fr)

## Local Organizing Committee

PIERINO DE FELICE

MARIA LETIZIA COZZELLA

ENEA - National Institute of Ionizing Radiation Metrology

C.R. Casaccia, Via Anguillarese, 301

S.M. Galeria I-00123 Roma - ITALY

e-mail: [pierino.defelice@enea.it](mailto:pierino.defelice@enea.it)

[letizia.cozzella@enea.it](mailto:letizia.cozzella@enea.it)

**Generation IV nuclear reactors** differ from current reactors under different aspects as the type of fuel used, the different neutron energy spectrum, the operation with closed fuel cycle, the higher operating temperatures (i.e. above 1000 °C). Changes in operating conditions pose new metrological needs for development of suitable measurement methods traceable to relevant standards, for selection and characterization of new materials as well as new nuclear data.

A three-year research project, MetroFission, was started in September 2011 between a number of metrology laboratories in Europe, in the framework of the European Metrology Research Project (EMRP) with the following technical objectives:

1. Improved temperature measurement for nuclear power plant applications
2. Thermal properties of advanced materials for nuclear design
3. Nuclear data and measurement techniques

MetroFission will be the first integrated offering (across temperature measurement, thermal properties of materials and ionising radiation) from the European metrology community to the benefit of the European nuclear energy. It is likely to be the first step to provide the metrology input required by this growing industry. MetroFission addresses key metrological problems to develop efficient and competitive nuclear energy technologies. It covers the most exciting new metrology and the key needs of the industry.

**To maximize MetroFission impact outside the project partners the present meeting has been organized at about half of the project development. Representatives of the nuclear new-build, scientific experts, external users and stakeholders such as people from the nuclear industry, national nuclear laboratories, international standard bodies, NPP and energy providers, international organizations and representatives from companies are invited to attend the meeting, taking the opportunity to follow ongoing developments and provide the necessary feedback to help MetroFission to be a real support for their work.**

<http://projects.npl.co.uk/metrofission/>



# MetroFission Metrology for New Generation Nuclear Power Plants

## Full report meeting

## Open to partners, users and stakeholders



9-10 February 2012  
ENEA Headquarter  
Via Giulio Romano, 41  
Rome - Italy



**EMRP**  
European Metrology Research Programme  
Programme of EURAMET  
The EMRP is jointly funded by the EMRP participating countries within EURAMET and the European Union

## LOGISTIC INFORMATION

**Venue** - Headquarters of ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development), Via Giulio Romano, 41 - Rome - Italy.

<http://www.enea.it/it/dove-siamo/sede-legale>

**Registration** - In order to register for the meeting and receive further information, please complete the attached form and return it by e-mail (pierino.defelice@enea.it) by January 24, 2012.

**Agenda** - A final meeting agenda will be circulated by the organizers to those registered.

**Transportation** - Instructions on how to reach the ENEA headquarters will be provided to those registered.

**Hotel** - A list of hotels in Rome is available on request.

**Laboratory visit** - A visit to the ENEA laboratories of the National Institute of Ionizing Radiation Metrology could be organized, for those interested, on February 8th, 2012. Interest in laboratory visit to be expressed in registration form.

**Participation fee** - No registration fee is requested for the meeting. Participants are expected to pay their own travel and accommodation expenses.



*MetroFission, Metrology for New Generation Nuclear Power Plants, Full report meeting*

## AGENDA

Thursday February, 9 <sup>th</sup>		
9.00	Registration	
9.30	Welcome	Giovanni Lelli, ENEA Commissioner
9.45	Practical information	Pierino De Felice, LOC, ENEA
10.00	Management and coordination (WP9) - general presentation	Lena Johansson, JRP leader, NPL
10.30	Creating impact (WP8) - up to now	Pierino De Felice, WP8 leader, ENEA
11.00 Coffee break		
11.30	Work Package sessions: Members of each group work together on aims, ongoing work and results achieved and prepare a synthesis (WP1 to 7)	WP Members + Advisory Board
13.30 Lunch		
14.15	Work Package sessions, Continuation (WP1 to 7)	WP Members + Advisory Board
15.15	Synthesis - Feedback session Temperature measurements and temperature sensors developments for the fission environment (WP1)	Mohamed Sadli, WP1 leader, CNAM
15.45 Coffee break		
16.15	Improved thermo-chemical data and modelling for nuclear design (WP2)	Alan Dinsdale, WP2 leader, NPL
16.45	Thermophysical properties of advanced materials (WP3)	Bruno Hay, WP3 leader, LNE
17.15	Improved cross sections through neutron metrology (WP4)	Jan Heyse, repl. WP4 leader, JRC (IRMM)
Friday February, 10 <sup>th</sup>		
9.00	Improved nuclear decay data (WP5)	Stefaan Pommé, WP5 leader, JRC (IRMM)
9.30	Triple-to-Double-Coincidence-Ratio (TDCR) (WP6)	Philippe Cassette, WP6 leader, LNHB
10.00	Digital Coincidence Counting (DCC) (WP7)	John Keightley, WP7 leader, NPL
10.30 Coffee break		
11.00	The Advisory Board view Round table discussion: feedback from participants	Advisory Board Members
11.45	1) Improved temperature measurement	All
12.15	2) Thermal properties of advanced materials	All
12.45	3) Nuclear data and measurement techniques	All
13.15 Lunch		
14.00	Creating impact (WP8) - Next steps	Pierino De Felice, WP8 leader, ENEA
14.45	Management and coordination (WP9) - next steps, agenda	Lena Johansson, JRP leader, NPL
15.30	AOB (next EMRP 2012 and 2013 calls, ...)	All
16.15 Coffee break		
16.45	Summary and conclusions	All

## REGISTRATION FORM

In order to register for the meeting and receive further information, please complete the attached form and return it by e-mail (pierino.defelice@enea.it) by January 24, 2012.

Last name: .....

First name: .....

Title: .....

Organisation: .....

Address: .....

.....

.....

.....

Country: .....

Telephone: .....

Telefax: .....

E-mail: .....

Interest in laboratory visit on Feb. 8th:  
Yes  No

Lunch on February 9th:  
Yes  No

Lunch on February 10th:  
Yes  No

9-10 February 2012  
ENEA Headquarter - Rome - Italy