

IGORR 12 FINAL PROGRAM

Beijing - October 2009.

Jianguo Garden Hotel

Tuesday 27th October 2009

5:00 - 7:00 pm: Registration

Wednesday 28th October 2009

8:00 - 9:00 am: Registration

9:00: Welcome from CIAE representatives

Chairman: J. Guidez IGORR President

9:10-9:30: **Opening Lecture**

« **Nuclear Renaissance and the key role of Research Reactors** »

Joël Guidez IGORR President (France)

9:30-10:00: **Invited Paper:**

The new Research Reactors of CIAE: CARR and CEFR

Pr Yuan Luzheng, Dr Shen Feng CIAE (China)

10:00-10:30: **Invited Paper:**

The Advanced Test Reactor National Scientific User Facility

*Mitchell K. Meyer, Todd Allen, Frances M. Marshall, Jeff B. Benson,
Mary C. Thelen INL (USA)*

10:30-11:00: **Invited Paper:**

**Sustaining Material Testing Capacity in France:
From OSIRIS to JHR**

G. Bignan, D. Iracane, S. Loubière, C. Blandin CEA (France)

11:00-11:30: Coffee break and take photo

Chairman: Prof. Yuan Luzheng

11:30-12:00: **Invited Paper:**

Australia's new Research Reactor-OPAL

G.J. Storr ANSTO (Australia)

12:00-12:30: **Invited Paper:**

**Refurbishment Status and Future Program of Japan Material
Testing Reactor JMTR**

M. Ishihara, H. Kawamura, M. Niimi, N. Hori, Y. Nagao JAEA (Japan)

12:30-14:00: Lunch Break

14:00: **Session 1 New Project and General Strategy**

Chairman: D.Selby

14:00 - 14:20: **Research Reactors at the French Atomic Energy Commission: Past, present and future**
P. Raymond-CEA (France)

14:20 - 14:40: **The current status of neutrons scattering facilities at CARR**
Yuntao Liu –CIAE (China)

14:40 - 15:00: **Irradiation effects on 6061-T6 Aluminium alloy Used for JHR Internal Structures**
B. Kapusta, J. Garnier, B. Maugard, L. Allais, P. Lemoine-CEA(France)

15:00 - 15:20: **The progress of CARR's neutron image facilities**
Hongli Wang-CIAE (China)

15:20 - 15:40: **The ADELINe irradiation loop in the JHR MTR: Testing a LWR fuel rod up to the limits with a High quality level experimental process**
S. Gaillot, D.Parrat, G.Laffont, C.Garnier, C.Gonnier-CEA (France)

15:40 - 16:00: **Fundamental research on Molten Salt Reactors**
Dalin Zhang Xi'an JIAOTONG University (China)

16:00- 16:20: **Irradiation Facilities and examination Benches For implementing fuels programs in the future JHR Material Testing Reactor**
D. Parrat, M. Tourasse, C. Gonnier, S. Gaillot, P. Roux-CEA (France)

16:20-16:50: Coffee break

16:50: **Session 2 Enrichment Conversion**

Chairman: Dr.E.Koonen

16:50 – 17:10: **Studies of Past Operations at the High Flux Isotope Reactor**
R.T. Primm, D. Chandler –ORNL (USA)

17:10 - 17:30: **Sensitivity analysis of neutronics characteristics For Kyoto University Research Reactor with Low Enriched Uranium**
T. Sano, K.Nakajima-Kyoto University (Japan)

17:30: End of the first day

17:35: Steering committee meeting

Thursday 29th October

Chairman: [Dr. G. Bignan](#)

9:00-9:30: Invited Paper:

Current Status of HANARO and Future Plan

In-Cheol LIM, Young-Ki KIM, Ki-Honh LEE, Jae-Joo Ha-KAERI (South Korea)

9:30-10:00: Invited Paper:

The High Flux Isotope Reactor: Past, Present and Future

Kelly Beierschmitt- ORNL (USA)

10:00-10:30: Invited Paper:

**Developments of Irradiation Facilities for Research
And Medical Isotope Production in Petten**

A.M. Versteegh, B. van der Shaaf -NRG (Netherlands)

10:30-11:00: Coffee break

Chairman: [Dr. SHEN Feng](#)

11:00-11:30: Invited Paper:

**The BR2 Reactor: the challenges for continuous operation
Way into the 21st century**

E.Koonen -SCK (Belgium)

11:30-12:00: Invited Paper:

**Fast Reactor Technology facing nuclear Energy
Sustainable development in China**

Donghui Zhang -CIAE (China)

12:00-12:30: Invited Paper:

**Experimental Research Reactor LVR15:
Present status and Programs**

J. Kysela, J.Prahl -NRI (Czech Republic)

12:30-14:00: Lunch Break

14:00: **[Session 3 Research Reactor Operation and Improvement](#)
[\(in parallel with session 1\)](#)**

Chairman: [Dr.J.Guidéz](#)

14:00 - 14:20: **OPAL Commissioning and Early Operation:**

A Shift Manager's perspective

CK. Teoh- ANSTO (Australia)

14:20 - 14:40: **The Safety Review and Update of the**

Safety Analysis Report for the OPAL Reactor

M.W. Summerfield-ANSTO (Australia)

14:40 - 15:00: **OPAL Cold Neutron Source Heat Load Measurement**

Weijian LU, R. Thiering-ANSTO (Australia)

15:00 - 15:20: **Final Phase of the Scientific Upgrades at the Oak Ridge National Laboratory High Flux Isotope Reactor**
D. Selby-ORNL (USA)

15:20 - 15:40: **Investigation of optimisation on In-core Fuel Management With High Reactor Availability Factor of JMTR**
N.Takemoto, M. Naka, Y.Nagao-JAEA (Japan)

15:40 - 16:00: **A second Liquid Hydrogen Cold Source for the NIST Research Reactor**
R.E. Williams, M. Middleton, P.Kopetka, J.M.Rowe-NIST(USA)

14:00 - 16:00: **Session 1: New Project and general strategy**
(Continued in parallel)

Chairman: Dr.E.Koonen

14:00 - 14:25: **Invited Paper**
Mr Ordonez INVAP (Argentina)

14:25 - 14:45: **Underwater NDE Systems in the JHR: Towards integration issues**
G. Le Guillou, B. Berthet, S. Gaillot- CEA (France)

14:45 - 15:05: **Inner Flow and Temperature field simulation Of single fuel subassembly in SFR**
Yizhe Liu-CIAE (China)

15:05 - 15:25: **AMMON: An experimental program in the EOLE Critical facility for the validation of the JHR Neutron and photon HORUS3D calculation scheme**
JC. Klein, N. Thiollay, J. Di Salvo, G. Bignan, JC. Bosq, P. Sireta, JP Wieryszkov, P.Alexandre, D. Garnier-CEA(France)

15:25-15:45: **Preliminary simulation research on MA transmutation in Fast Reactor**
Yun Hu- CIAE (China)

15:45 - 16:05: **Concept and status of the CARR CNS Refrigeration System**
R. Frey Linde Kryotechnik (Switzerland)

16:05-16:30: Coffee break

16:30: **Session 3 continued**

Chairman: Dr. M.Ishihara

16:30 - 16:50: **Advanced Test Reactor and Experiment Research Program**
F.M. Marshall, S. Blaine Grover-INL (USA)

16:50 - 17:10: **Current Status of the Spent Fuel Management in HANARO**
Mun.Lee, C.S Lee, K.W Lim, H.W Lim, K.H Ahn, I.C Lim-KAERI (South Korea)

17:10 - 17:30: **In Core Vibration Testing of OPAL Dummy Fuel Assemblies**
D.Wassink-ANSTO (Australia)

16:30: **Session 4 Generalities**

Chairman: Prof.W.Petry

16:30 - 16:50: **How can the availability of safe and secure
Research reactors be assured in future?**
C.Hansell-Monterey IIS (USA)

16:50 - 17:10: **Questioning the Self-Protection of Nuclear Materials
At Research Reactors around the world**
F.Dalnoki Veress Monterey IIS (USA)

17:10 - 17:30: **The MADERE radio-activity measurement Platform:
Developments for a better address of the experimental needs**
J.M. Girard (presented by Dr Bosq), H. Philibert, Ch.domergue, D.Beretz-CEA (France)

17:30-17:50 **Neutronic Evaluation of Target Irradiation at FRMII for MO-99 Supply**
A. Röhrmoser, W.Fries, H.Gerstenberg, Ph. Jüttner, C.Müller, I.Neuhaus, W.Petry-TUM (Germany)

18:00: end of the second day

19:00: Conference dinner

Friday 30th October

Chairman: [Dr.M.Meyer](#)

9:00-9:30: **Invited Paper:**

IAEA's Subprogramme on Research Reactors

P. Adelfang, D. Ridikas, I.N. Goldman, A.J. Soares, E.E. Bradley-IAEA

9:30-10:00: **Invited Paper:**

Multiple purpose research reactors for the 21st century

W. Petry –TUM (Germany)

10:00-10:30: **Invited Paper:**

Present Status and Future Plans of the Halden Reactor

M. A. McGrath -HRP (Norway)

10:30-11:00: Coffee Break

11:00: **[Session 3 Research Reactor Operation and Improvement](#)**
[\(continued\)](#)

Chairman: [Pr Yuan Luzheng](#)

11:00 - 11:20: **Development and manufacturing of special
Fission chambers for in-core measurement
Requirements in nuclear reactor**

*B.Geslot (presented by Dr Bignan) , S. Breaud, C. Jammes, P. Filliatre,
JF. Villard,. Berhouet-CEA (France)*

11:20 - 11:40: **MERCI-MOSAIC: experimental tools for
Residual power measurement in the OSIRIS reactor**

C.Blandin, S. bourganel, L. Gros d'Aillon –CEA (France)

11:40 - 12:00: **Conceptual Study for the Hollow Core of a research reactor**

M.Komeda, M. Arai, H. Sagawa, T. Kusunoki- JAEA (Japan)

12:00 - 12:20: **Present Status of Operation and Maintenance of JRR-3**

T.Ichimura, M.Suwa, M.Fukushima, T.Ohba, Y.Nemoto, Y.Terakado-JAEA (Japan)

12:20 - 12:40: **Some essential features of the TAPIRO Fast-Neutron
Source Reactor located at ENEA-CRE Casaccia**

R. Rosa, M. Carta, O.Fiorani, A.Santagata-ENEA (Italy)

12:40: Lunch break

14:00: **Session 5 Research Reactors Refurbishment**

Chairman: Dr.G.Storr

14:00 - 14:20: **Commissioning Test Program in CABRI after
The Refurbishment of the Reactor and the implementation
Of a Pressurized Water Loop**
J. Estrade-CEA (France)

14:20 - 14:40: **Neutronic characterization and safety assessment
Of CABRI core**
O.Gueton, G.Ritter, F.Jeury, C.Hee, B.Duc, C.Doderlein-CEA(France)

14:40 - 15:00: **Building a new safety case for the nuclear core of CABRI**
G. Ritter (presented by J.Estrade), F. Jeury-CEA (France)

15:00 - 15:20: **Analysis of CABRI driver core new safety demonstration
For fuel rods integrity during fast power transients**
F. Ecrabet, C. Pelissou-IRSN (France)

15:20 - 15:40: **Validation and qualification of the ANUBIS scheme,
Used for safety assessment and operation management
Of the OSIRIS reactor**
O.Gueton, P.Sireta, C.Doderlein, C.D'Aletto, J.Di Salvo-CEA (France)

15:40 - 16:00: **Fuel Rod Instrumentation Techniques implemented
In CEA hot Laboratory: Improvement and
Experimental feed-back**
F. Berdoula, K.Silberstein, T.Lambert, E.Muller, N.L'hullier-CEA (France)

16:00-16:00: Coffee Break

16:30 - 17:00: Wrap-Up Concluding Remarks

Saturday 31 October

Technical Visit to CARR and CEFR (CIAE RR)

8:00: leaving the Hotel for CIAE by bus

9:30: arriving at CIAE and entrance

Snack for lunch time

15:30: leaving for Beijing Downtown

17:00: arriving at hotel
