

ERMSAR 2015 Agenda

Tuesday, March 24

- 9:00 Registration, coffee (Mercure Salons)
Plenary Session - Chair J.P. Van Dorsselaere, IRSN (*room Planier/Riou, Mercure*)
- 9:30 Opening (CEA Representative)
- 9:40 NUGENIA Presentation – G. Bruna, IRSN
- 10:10 Overview of SARNET (NUGENIA TA2) – J.P. Van Dorsselaere, IRSN
- 10:25 Point on EURATOM Research activities related to severe accidents within HORIZON2020 – R. Passalacqua, EC/ DG RTD
- 10:45 Major influential issues on the accident progressions of Fukushima Daiichi NPP, M. Naitoh et al., IAE (2015-31)
- 11:15 Radioecology developments supporting NERIS and ALLIANCE to cope with consequences of a severe accident, H. Vandenhove et al., SCK-CEN
- 11:45 Focus on the main modelling features of ASTEC V2.1 major version, P. Chatelard et al., IRSN (2015-05)
- 12:15 Tribute to the late Bernard Clément to SA Research, M. Schwarz, retired IRSN
- 12:25 Lunch
- 13:45 Severe Accident Facilities for European Safety Targets. The SAFEST project, A. Miassoedov et al., KIT (2015-21)
- 14:10 Access to Severe Accident Large Infrastructures in Europe and in China. The ALISA Project, C. Journeau et al., CEA (2015-24)
- 14:35 NRC Severe Accident Research, M. Salay et al., NRC (2015-80)
- 15:00 Coffee Break and 1st Poster Session

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Session I: Source Term - Chair: L.E. Herranz, CIEMAT (*room Planier/Riou, Mercure*)

- 16:00 SARNET benchmark on the PHEBUS FPT3 integral experiment on core degradation and fission product behavior, Di Giuli et al., ENEA (2015-29)
- 16:25 Overview of the VERDON-ISTP program and main insights from the VERDON-2 air ingress test, Gallais-Duraing et al., CEA (2015-42)
- 16:50 Use of model materials for fission product release study in severe accident conditions, Geiger et al., CEA (2015-17)
- 17:15 Experimental study on the reactions between Cadmium and Caesium Iodide on the surface of primary circuit piping during a severe nuclear accident, Gouello et al., VTT (2015-22)
- 17:40 Studies on the oxidation of organic iodine by beta radiation, Kärkellä et al., VTT (2015-18)
- 18:05 Adjourn

Session II: In Vessel Corium, Chair: A. Miassoedov, KIT (*Room Europe 1993, WTC*)

- 16:10 Cladding oxidation during air ingress. Synthesis of experimental and modeling results, Beuzet et al., EDF + KIT (2015-38)
- 16:50 FUELBASE, TAF-ID databases and OC software: advanced computational tools to perform thermodynamic calculations on nuclear fuel materials, Guéneau et al., CEA (2015-65)
- 17:15 Experimental results and MEWA code validation on debris melting process in reactor lower head performed in the LIVE facility, Miassoedov et al., KIT (2015-78)
- 17:40 Assessment of advanced corium-in-lower-head models in MAAP and PROCOR codes, Bakouta et al., EDF +CEA (2015-03)
- 18:05 Adjourn

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Wednesday March 25

Session I: Source Term, cont'd - Chair: L. Herranz, CIEMAT (*room Planier/Riou, Mercure*)

- 9:00 Containment chemistry modelling, Salay et al, NRC (2015-81)
- 9:25 Revaporisation experiments on aged remnants of a severe nuclear accident using samples from the TMI2 core, Knebel et al., JRC-ITU (2015-64)
- 9:50 Upgrading the experimental database of fission product and actinide release behaviour in VERCORS program through chemical analysis, Miwa et al., JAEA (2015-30)
- 10:15 Coffee Break and poster session
- 11:10 Methodology developed for the definition of the design parameters and associated safety criteria of the containment filtered venting systems for Belgian NPPs, Dejardin et al., TRACTEBEL (2015-36)
- 11:35 Study of the Ruthenium transport in the primary circuit in case of a PWR severe accident, Leroy et al., IRSN (2015-61)
- 12:00 Modelling of Ru behaviour in oxidative accident conditions and first source term assessments, Miradji et al., IRSN (2015-40)
- 12:25 Lunch Break

Session II: In Vessel Corium, cont'd, Chair: A. Miassoedov, KIT (*Room Europe 1993, WTC*)

- 9:00 Evaluation of Two Phase Natural Circulation Flow in the reactor cavity under IVR-ERVC for Different Thermal Power Reactor, Park et al., KAERI (2015-04)
- 9:25 Severe accident progression in the BWR lower plenum and the modes of vessel failure, Sehgal et al., KTH (2015-50)
- 9:50 Numerical and experimental researches of in-vessel retention possibility for VVER reactors, Sidorov et al., SPbAEP (2015-12)
- 10:15 Coffee Break and poster session
- 11:10 The results of computational analyses in vessel corium retention for NPP with WWER-600 using realistic approaches, Gasparov et al., OKB Hidropress (2015-53)
- 11:35 Uncertainty analysis of in-vessel retention of a high power nuclear power plant during severe accidents, Whang et al., Postech (2015-34)
- 12:00 Program for assessment of Calandria as an ultimate barrier to corium relocation for PHWRs, Gokhale et al., BARC (2015-75)
- 12:25 Lunch Break

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Session I: Source Term, cont'd - Chair: L. Herranz, CIEMAT (*room Planier/Riou, Mercure*)

- 14:10 Experimental investigation on the effect of the tubes vibration on the aerosol retention during SGTR meltdown sequences, Delgado Tardaguila et al., CIEMAT (2015-15)
- 14:35 Two-phase flow hydrodynamics characterization for understanding the aerosol retention in liquid pools, Betschart et al., PSI (2015-43)
- 15:00 Coffee Break

Session III: Emergency Preparedness and Impact to the Environment, Chair: F. Bréchignac, IRSN (*Room Europe 1993, WTC*)

- 14:10 Uncertainty analysis in post-accidental risk assessment models: an application to the Fukushima accident, Sy et al., IRSN (2015-39)
- 14:35 Assessment study of ambient dose rate dynamics in the Fukushima terrestrial region, Gonze, IRSN (2015-44)
- 15:10 Coffee break

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Session IV: SA Scenarios, Chair F. De Rosa, ENEA (*room Planier/Riou, Mercure*)

- 15:30 Focus on the newest ASTEC V2.1 version to predict in-vessel phenomena, P. Drai et al., IRSN (2015-77)
- 16:55 Modelling of hydrogen generation during spent fuel pool LOCA using thermalhydraulic and severe accident code SOCRAT/V5, Vassiliev, IBRAE (2015-20)
- 16:20 Phenomenological analysis of corium propagation in LWRs: the PROCOR software platform, Le Tellier et al., CEA (2015-02)
- 16:45 Simulation of Severe accident scenarios for a PWR 900 MWe, using the ASTEC V2.0 rev3 and MAAP4.0.8 within the EURATOM FP7 CESAM project, Vela-Garcia et al. JRC-IET (2015-46)
- 17:10 Simulation of thermal hydraulic s accidental transients: evaluation of MAAP5.02 vs. CATHARE v.2.5, Bittan et al., EDF (2015-07)
- 17:35 Simulation of large break LOCA without safety injection for EPR reactor using MELCOR computer code, Darnowski et al., WUT (2015-13)
- 18:00 Adjourn

Session III: Emergency Preparedness and Impact to the Environment, cont'd,

Chair: F. Bréchnac, IRSN_z (*Room Europe 1993, WTC*)

- 15:30 Influence of electric charges on the washout efficiency of atmospheric aerosols by raindrops, Sow et al., IRSN (2015-41)
- 15:55 Study of aerosol particle scavenging by rain at microphysical scale in case of a nuclear contamination of the atmosphere, Lemaître et al., IRSN (2015-47)

Session III: Ex Vessel Corium, Chair: C. Journeau, CEA (*Room Europe 1993, WTC*)

- 16:20 ICE program: the CEA experimental program devoted to FCI studies with prototypical corium, P. Piluso et al., CEA (2015-69)
- 16:45 Analysis of steam explosion in stratified melt coolant configuration, M. Leskovar et al., IJS (2015-11)
- 17:10 Molten corium concrete interaction investigation of convective heat transfer in a pool with gas sparging, Bottin et al., CEA (2015-55)
- 17:35 Experimental contribution to the corium thermodynamic modelling, Quaini et al., CEA (2015-66)
- 18:00 Adjourn

20:00 Gala Dinner

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Thursday, March 26

Session IV: SA Scenarios, cont'd, Chair F. De Rosa, ENEA (*room Planier/Riou, Mercure*)

- 9:00 Examples of recent and ongoing reactor accident analysis with ASTEC at IRSN, C. Caroli et al., IRSN (2015-33)
- 9:25 Interaction of severe accident measures and resulting impact on severe accident management, Hartmann et al., Westinghouse (2015-63)

Session V: Containment, Chair: I. Kljenak, IJS (*room Planier/Riou, Mercure*)

- 9:50 Numerical modelling of hydrogen combustion in large scale volumes using EUROPLEXUS code, Beccantini et al., CEA (2015-23)
- 10:15 A comparative assessment of different experiments on buoyancy driven mixing processes by means of CFD, Kelm et al., FZJ (2015-51)
- 10:40 Coffee Break
- 11:20 First REKO-4 experiments on the start-up behaviour of passive auto-catalytic recombiners under counter flow conditions with variation of the chimney geometry, Simon et al., RWST Aachen (2015-59)
- 11:45 Validation of the PAR code REKO-DIREKT against large scale experiments performed in the frame of the OECD/NEA-THAI project, Reinecke, FZJ (2015-60)
- 12:10 Lunch break

Session VI: Ex Vessel Corium, cont'd Chair: C. Journeau, CEA (*Room Europe 1993, WTC*)

- 9:50 MCCI on LCS concrete with and without rebars, Foit, KIT (2015-08)
- 10:15 Analysis of MOCKA experiments for MCCI with stratified oxide and metal melts and internal heat generation, by enthalpy feeding using the MEDICIS code, Bakalov et al., GRS (2015-62)
- 10:40 Coffee Break
- 11:20 Experimental study on the ex-vessel corium debris bed development under two-phase natural convection flows in flooded cavity pool, Kim et al., Postech (2015-32)
- 11:45 Experimental investigations on the coolability of stratified debris bed, S. Leininger et al., IKE (2015-16)
- 12:10 Lunch break

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Closure Plenary Session – Chair: Sandro Paci, University of Pisa (*room Planier/Riou, Mercure*)

13:40 Outcome from the technical sessions - Round Table

15:30 Conclusions

15:45 Announcement of ERMSAR-2017

16:00 Closure of the ERMSAR-2015 meeting

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