The Antenna

NEWSLETTER FROM A.N.T. INTERNATIONAL No.55 2023

REMINDER OF UPCOMING ZIRAT AND LCC SEMINARS IN 2023

Don't forget to sign-up for the Annual Seminars on Fuel (ZIRAT27) and Coolant Chemistry/Corrosion and Structural Material Degradation (LCC18) Seminars. The ZIRAT27 and LCC18 Seminars will take place in Madrid during April 12-14, 2023 while the ZIRAT27 Seminar will also take place in Charlotte, NC, USA during May 2-4, 2023. Only members of the ZIRAT27 and LCC18 can attend the Seminars. For more information please click here: **Seminar Invitation »**

Please contact me at: mikaela.rudling@antinternational.com if you are not a ZIRAT/LCC member yet but interested in joining the ZIRAT/LCC programmes allowing you to attend the Seminars.

ZIRAT AND LCC SEMINARS IN 2023

Last year, 2022, more than 100 customers from 24 different organisations/10 countries participated in our ZIRAT26 and LCC17 seminars in US and Europe. The attendees were happy with the seminars and the overall seminar opinion ranked from 4.3 to 4.4 on a scale from 1 (bad) to 5 (excellent).

We are now pleased to announce the arrangements for the ZIRAT27 and LCC18 Seminars that will take place in USA (ZIRAT27) and Spain (ZIRAT27 and LCC18). These seminars are open to all current ZIRAT and LCC members.

A.N.T. International is most grateful to Iberdrola in Spain and EPRI in US, for kindly hosting the Seminars as follows.

In US, the ZIRAT27 Seminar will be hosted by EPRI, Charlotte, North Carolina, US and will be held during May 2-4, 2023.

In Europe, the LCC18 and ZIRAT27 seminars will be hosted by Iberdrola Generacion Nuclear in Madrid and will be held on the Iberdrola Campus in San Agustin de Guadalix. The LCC18 and ZIRAT27 Seminar will be held on April 12-14, 2023.

THE MOST RECENT A.N.T. INTERNATIONAL EXPERTS

DR. MOJMIR VALACH

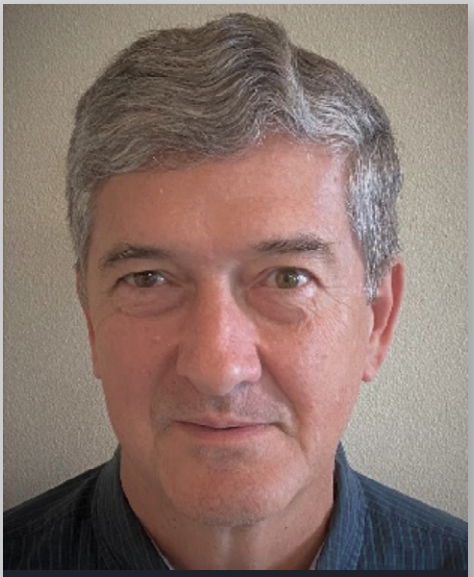
Dr. Mojmir Valach retired from ÚJV Řež a.s. in 2016 as its leading senior researcher. Dr. Valach has 40+ years research and technical experience in the following VVER areas:

- Nuclear fuel cycle area
- Reactor core thermomechanics
- Heat transfer
- Structural mechanics of fuel assemblies and fuel element
- Computer modelling of nuclear fuel themomechanical behaviour for safety analyses and operational support

More specifically, areas of responsibility included:

- Coordination of theoretical and experimental research work of fuel rod behaviour, material research and irradiation data interpretation.
- Development of methodologies, mathematical/physical models and computer codes for thermomechanical analyses of PWR fuel rods and assemblies under operational and accident conditions.
- Application/programming languages for mainframes, workstations and PC's under IBM OS/VS, UNIX/LINUX or MS DOS/WINDOWS (ASSEMBLER, FORTRAN, PL1,BASIC, Pascal, C,C++, TSO, JCL,ANSYS, ABAQUS,COSMOS M).
- Databases applications development for experimental data sets treatment on PC's.
- Industry oriented software tools development, application for the on-line and off-line nuclear core/fuel elements and monitoring and integrity evaluations (}SCORPIO WWER I&C system)
- Scientific Support and Expertise related to nuclear fuel licensing process (Westinghouse VV6 Fuel , TVEL TVSA-T fuel, VVER 440 Gd2m and PK3+ fuel) for the regulatory body of Czech Republic SONS in frame
- Management work in many research projects related to the nuclear fuel reliability and safety issues
- Long term engagement in the OECD CSNI/NEA working groups and active participation in the IAEA nuclear safety oriented technical projects FUMEX I, FUMEX II and FUMEX III, partially FUMAC, destructive and non-destructive PIE facilities, fuel safety criteria of PWRs and VVERs

Member of technical boards: OECD HRP Project more than 20 years, Studsvik SCIP Project I, II, III,WGFS group of OECD NEA, several contracts with IAEA etc.



DR. VIOREL-IOAN ARIMESCU

Dr. Viorel-Ioan Arimescu Senior Expert at Framatome Inc, Richland site, retired from the company in September 2022, after almost 24 years of R&D and engineering. Ioan started his career in the nuclear field at the Institute for Nuclear Reactors in Romania in 1980; he obtained a PhD from the Bucharest University in 1987 with a thesis on transient CANDU fuel behavior, developing an original code and performing RIA-type transients in the pulsed-core of the on-site TRIGA reactor. Ioan continued to work for CANDU fuel at Chalk River (CRNL, currently CNL) from 1990 until 1999, serving as Leader of the Modeling Group in the Fuel Safety Branch. Main topics during the CRNL tenure included, high burn-up degradation of fuel thermal conductivity, upgrades to the CRNL fuel codes ELESIM and ELOCA, coupling fuel and T/H codes for comprehensive analysis of fuel behavior during accidental conditions, etc.

The work portfolio at Framatome included all aspects of fuel and cladding behavior under normal operating and accidental conditions. Regarding fuel, main contributions were related to fission gas release and swelling, chromia-doped fuel modeling and various upgrades to other fuel phenomena. Cladding topics included free-stress irradiation growth of Zr alloys, modeling plastic deformation of Zircaloy-2 after irradiation based on in-house mechanical tests in hot-cells, hydrogen uptake of Zircaloy-2 in BWRs. An integrated project was the development of the realistic methodology for thermal-mechanical fuel rod performance based on a statistical method and using a best-estimate fuel rod code (RODEX4) and accounting for uncertainties to determine margins for design and licensing analyses.

Fuel reliability and BWR operating guidelines to prevent PCI failures was another area of activity; the power ramp performance of LWR fuel was the subject of the 3rd SCIP Modeling Workshop, which Ioan was invited to lead, and the results were communicated at Topfuel 2014 with a numerous international co-authorship. Ioan was also an active member of the NFIR industry-wide research program, resulting in co-authoring of Zirconium Symposium papers on Zr structural material dimensional stability and hydrogen uptake. Ioan has a long list of conference and journal papers; very recently Ioan was the principal investigator of a white paper on the topic of FFRD with support from an industry-wide review panel.

A summary of Ioan's qualifications encompasses the following topics: fuel and cladding behavior and performance analysis, modelling fuel rod behavior, design review, manufacturing QC/QA, and safety and licensing aspects.

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CONTACT

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