

# The Antenna

NEWSLETTER FROM A.N.T. INTERNATIONAL No.61 2025

## REMINDER OF UPCOMING ZIRAT AND LCC SEMINARS IN 2025

Don't forget to sign-up for the Annual Seminars on Fuel (ZIRAT29) and Coolant Chemistry/Corrosion and Structural Material Degradation (LCC20) Seminars. A.N.T. International is most grateful to Iberdrola in Spain, for kindly hosting the ZIRAT29 and LCC20 Seminars that will take place in Madrid during May 6-8, 2025. Only members of the ZIRAT29 and LCC20 can attend the Seminars. For more information, please click here: [Seminar Invitation »](#) and/or to register, please click here: [Seminar registration and information »](#)

Please contact me at: [mikaela.rudling@antinternational.com](mailto: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 2025

The Seminars are valuable for all engineers with different backgrounds from engineers with little experience to experts in their fields.

Last year, 2024, 120+ customers from 27 different organisations and 11 countries participated in our seminars in US and Europe. Our Seminars were very well appreciated by our customers. The overall opinion on the different Seminars was 4.6 ranked on a scale from 1 (bad) to 5 (excellent).



# ZIRAT29 PRESENTATION AGENDA

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## Tuesday May 6

### INTRODUCTION

#### LOSS OF COOLANT ACCIDENT (LOCA)- ZIRAT29 REPORT

- Reactor Safety, Phenomena during LOCA, LOCA in PWRs/BWRs/Spent Fuel Pools, LOCA testing methodologies, [Nicolas Waeckel](#)
- LOCA in VVERs and Small Modular reactors (SMRs), [Martin Ševeček](#)
- LOCA safety acceptance criteria and background, [Nicolas Waeckel](#)
- Computer codes and methods for PWR and BWR LOCA analysis, [Marek Stepniewski](#)
- LOCA Accident Tolerant Fuel: 1)LOCA acceptance criteria for ATF, 2)Cr-coated Zr alloys, FeCrAl Alloys, SiCf-SiC ceramic composites, [Martin Steinbrück](#)
- LOCA Remaining Gaps and Concluding Remarks, [Nicolas Waeckel](#)

## Wednesday May 7

### INVITED PRESENTATIONS

- PWR Zirconium alloys – In pile corrosion and hydrogen pick-Up : Effects on materials behaviours, [Martine Yrieix at Blat](#)
- Post-CHF time at temperature (t@T) phenomena of importance for fuel behaviour, [David Schrire](#)
- GEN IV reactors – Cladding and structural materials challenges: an overview, [Martine Yrieix at Blat](#)
- Progress in Structural Behaviours of Fuel Assemblies in Light Water Cooled Reactors – Outcomes of the IAEA Technical Meeting in 2022, [Jinzhao Zhang](#)

## Thursday May 8

### INVITED PRESENTATIONS

- Cycle Planning and nuclear operation of LWRs, [Sten Lundberg](#)

#### INTERIM DRY STORAGE - THERMAL CREEP- ZIRAT29 REPORT

- Thermal Creep, [Peter Rudling](#)
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# LCC20 PRESENTATION AGENDA

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## Tuesday May 6

### INTRODUCTION

#### FUEL RELIABILITY ASSESSMENT - LCC20 REPORT

- Fuel Reliability Assessment in BWRs, PWRs and VVERs, [Peter Rudling](#)

### INVITED PRESENTATIONS

- Fontevraud X conference highlights, [François Cattant](#)

## Wednesday May 7

### ZN CHEMISTRY - LCC20 REPORT

- Zn Chemistry in BWRs, PWRs and VVERs, [Juan de Dios Sánchez](#)

### RAW WATER SYSTEMS – LCC19 REPORT

- PWRs operation and maintenance - Raw water systems, [François Cattant](#)

## Thursday May 8

### INVITED PRESENTATIONS

- Environmentally assisted cracking of carbon steels and low-alloy steels in high-temperature water, Armin Roth (information about lecturer will be provided later).
- Outlines of water chemistry for Czech VVER, [Jiří Rapouch](#)
- Fuel Failure Experience of Cofrentes, [Juan de Dios Sánchez](#)



# OUR MOST RECENT EXPERT

*I am very happy to announce a new Expert: Mr. Bertil Josefsson. With this additional Expert, A.N.T. International has now access to 44 world class Experts that can provide various services to you.*

Mr Bertil Josefsson has degree in Physics from Chalmers University of Technology. He has more than 33 years of experience in the nuclear industry. The first 18 years he worked at Studsvik and the last 15 years at Vattenfall Nuclear Fuel. The last 12 years he was Specialist in Metallic Materials.

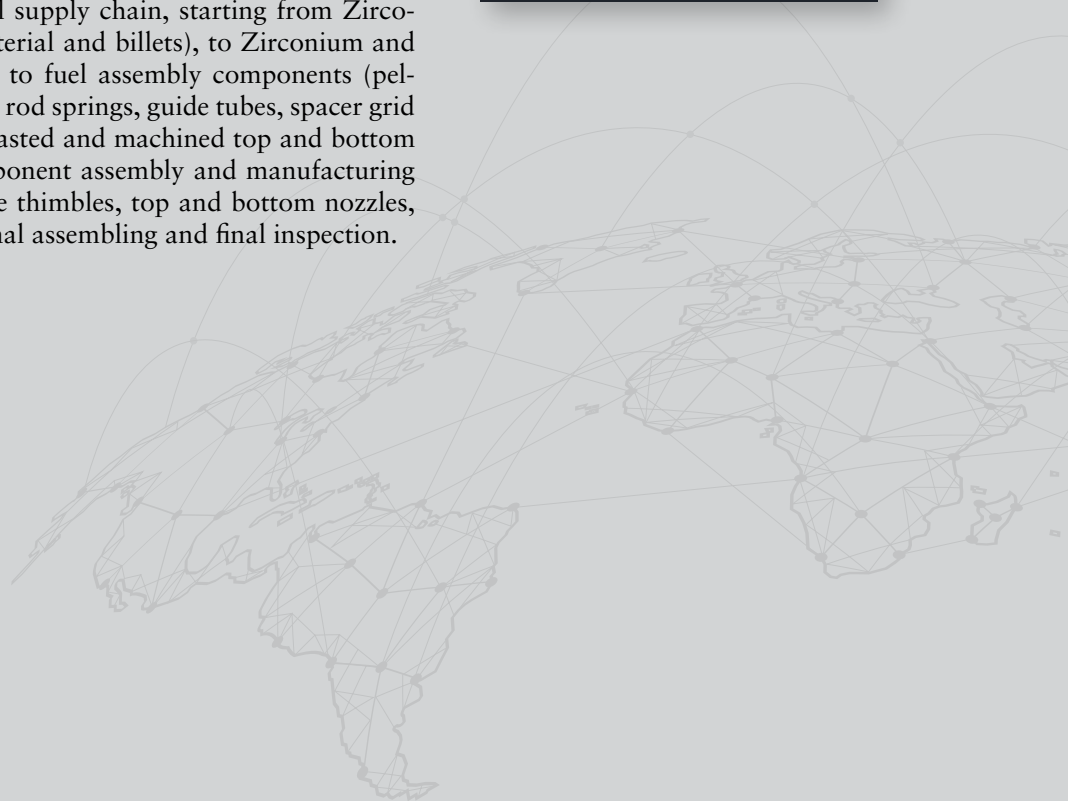
The work at Studsvik included in-pile and out-of-pile testing of fuel. The work included development of testing techniques of irradiated cladding tubes from different Nuclear Power Plants. From 1994 he became a manager position in Studsvik. During 1.5 years he was manager for the Materials Test Reactor at Studsvik.

The work at Vattenfall Nuclear Fuel included licensing of fuel assemblies for different reactors and different vendors: Westinghouse Framatome and TVEL.

The work with manufacturing follow-up started already 2009. Bertil has performed about 200 follow up in Sweden, USA, Japan, Germany, France and in Russia. He performed manufacturing follow up for the whole fuel supply chain, starting from Zirconium alloys (e.g. sponge material and billets), to Zirconium and Inconel material (coil, bars) to fuel assembly components (pellets, cladding, end plugs, fuel rod springs, guide tubes, spacer grid straps, hold down springs, casted and machined top and bottom nozzle components) to component assembly and manufacturing (fuel rods, spacer grids guide thimbles, top and bottom nozzles, fuel assembly skeleton) to final assembling and final inspection.



**MR. BERTIL JOSEFSSON**





A.N.T. INTERNATIONAL®

## CONTACT

For more information and/or an offer, welcome  
to contact us at [sales@antinternational.com](mailto:sales@antinternational.com)

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information [www.antinternational.com](http://www.antinternational.com)