

APAL: Training offer from JSI

<p>Name of the training course: Structural integrity analyses of RPV under PTS loads: thermo-mechanical and deterministic/probabilistic fracture mechanics analyses</p>	<p>Description: The objective of the course is to learn how to perform time-dependent, thermo-mechanical and fracture mechanics analyses of a reactor pressure vessel (RPV) subjected to pressurized thermal shock (PTS) loads using one- and three-dimensional models of the RPV. Depending on the knowledge level of the trainee on finite element (ABAQUS) and PTS-oriented (FAVOR) codes, the performed work may vary from basics/fundamental to more target-oriented tasks. Deterministic and/or probabilistic integrity analyses of the RPV will be carried out by the trainee on the framework of the APAL project structural analysis benchmark.</p>
<p>Offered by: Jozef Stefan Institute (JSI)</p>	<p>Responsible Person: Oriol Costa Garrido</p>
<p>Duration: 1-2 weeks (TBD)</p>	<p>Topics covered:</p> <ul style="list-style-type: none"> • Pressurized thermal shock background • Temperature and stress analysis of RPVs • Basics of fracture mechanics • PTS Loading • Temperature and stress analysis – FEM software • Fracture mechanics methods – FEM software • Crack tip stress intensity factor • Calculation methods – FAVOR deterministic • Calculation methods – FAVOR probabilistic • Estimation of FCI and TWCF • Fracture mechanics sensitivity studies • Crack propagation and arrest • Application of the Master curve approach to reactor pressure vessel integrity • Weld residual stresses • Warm pre-stress effect
<p>Dates: Between 01.09.2022 and 31.12.2023</p>	<p>Contact: oriol.costa@ijs.si https://r4.ijs.si/costa-e</p>
<p>Other relevant information: The training visit will take place at Jozef Stefan Institute, Rector center site, in Ljubljana, Slovenia. If the trainee is interested in learning how to use the FAVOR code, he/she will need to sign a non-disclosure agreement (NDA) with the United States Nuclear Regulatory Commission (USNRC).</p>	