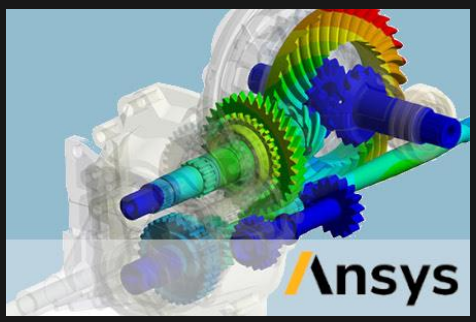
Innovation Days 2020 online

INAS power to change

Ansys optiSLang

9 November 2020



Agenda

09:00 – 09:30	Welcome
09:30 - 12:30	**Workshop 01** - Sensitivity Analysis of a Coupled Function • Perform sensitivity analysis including Metamodel of Optimal Prognosis (MOP). • Remove outliers and rebuild the MOP **Workshop 02** - Optimization of a Coupled Function • Use parameter and response definition from sensitivity analysis. • Specify the optimization criteria. • Perform optimization on the MOP from the sensitivity analysis. • Perform direct optimization in full parameter space using the • Adaptive Metamodel of Optimal Prognosis. **Workshop 03** - Optimization of a Damped Oscillator • Definition of the input and output parameters. • Sensitivity analysis with respect to mass and stiffness using the global bounds. • Single objective, constrained optimization by minimizing the maximum amplitude. - Optimization using the Metamodel of Optimal Prognosis - Optimization by the Adaptive Metamodel of Optimal Prognosis
12:30 – 13:00	Quick Lunch
13:00 – 17:00	**Workshop 04** - Robustness Analysis of a Damped Oscillator • Definition of random input variables. • Robustness analysis with respect to damped eigen-frequency and maximum amplitude. • Iterate constraints manually until criteria are fulfilled. **Workshop 05** - Tuning Fork Design • A modal analysis of a tuning fork with fixed support and undamped oscillation is performed within ANSYS. • Optimize the tuning fork in order to obtain 1st Eigen-frequency = 440 Hz. **Workshop 06** - Optimization of a Support Triangle using Ansys Mechanical and optiSLang • This workshop looks deeper into Sensitivity Analyzes and Optimization using Ansys optiSLang inside Workbench - The problem to be analyzed is a support structure, where the geometry should be optimized. - The objective of this analysis is to find a geometry with a minimal mass while keeping the Minimum Safety Factor above a given value.