








Nonlinear optimization with Artelys Knitro: from theory to practice

Nonlinear optimization arises in various domains such as energy, economy, finance, machine learning, model predictive control, etc.

 Date : 05/16/2018 - 05/17/2018 From 9 a.m. to 5:30 p.m. Location : Los Angeles	<div style="background-color: #f47b20; color: white; padding: 5px; text-align: right;">Program</div> <p>Nonlinear programming (NLP)</p> <ul style="list-style-type: none"> - Introduction, presentation of the training. - Problem statement and optimality conditions. - Newton method for unconstrained optimization. Globalization techniques. - Interior-point and active-set methods for constrained optimization. <p>Solving nonlinear problems with programmatic interfaces</p> <ul style="list-style-type: none"> - Presentation, modeling and solving a nonlinear model with Artelys Knitro using the callable library interface. - Impact of exact versus approximate derivatives. Quasi-Newton method. - Using Artelys Knitro in R/Matlab®: a nonlinear least square minimization application. <p>Solving nonlinear problems with modeling interfaces</p> <ul style="list-style-type: none"> - Using Artelys Knitro in AMPL: modeling syntax, automatic differentiation, examples. - Good practices in nonlinear modeling. Tips and tricks. - Fine-tuning Artelys Knitro parameters. - Global optimization using parallel multi-start. <p>Solving nonlinear models with special features</p> <ul style="list-style-type: none"> - Mixed-integer nonlinear programming (MINLP) methods. Practical example.. - Mathematical Programming with Equilibrium Constraint (MPEC). Application to computational economics and game theory. - Convex non-smooth models.
 Duration : Two-day training	
 Price : 1500 USD excl. taxes (50% discount for academics)	
 Training objectives Whichever is your application domain, this training will provide you with an introduction to the field of nonlinear optimization and will teach you how to apply nonlinear modeling techniques to industrial applications using Artelys Knitro.	
 Target audience Scientists and developers interested in modeling and solving nonlinear programs using Artelys Knitro.	
 Presentation of trainers Professional consultants and software developers from Artelys with years of experience in solving large-scale nonlinear problems using Artelys Knitro.	
 Training prerequisites Basic knowledge in Operations Research and programming. The training will be given in English.	