

Handling the unknown at the edge of tomorrow

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Scope and Motivations

UTOPIAE is the first training network that addresses the challenge of finding the ideal compromise between enhancing reliability and safety and reducing resource utilisation. UTOPIAE will build upon the existing theoretical and practical developments in the areas of Uncertainty Quantification and Optimisation and will incorporate elements of past and current EU and non-EU projects with the inclusion of Stanford University and partners that are in UMRIDA.

From the control of manufacturing processes to air traffic management, from decision making on multi-phase programmes to space situational awareness, Uncertainty Quantification plays a key role to deliver reliable solutions. At the same time optimised solutions have become a necessity and optimisation is now an essential tool to handle the complexity of our world. Different sectors and communities, deal with uncertainties and optimisation in different forms often equivalent or complementary.

Even more interesting is the fine line separating sensitivity analysis and stochastic optimisation. UTOPIAE looks into all these similarities and, by promoting cross fertilisation, will exploit the intimate relationship between optimisation and Uncertainty Quantification to make Optimisation Under Uncertainty (OUU) tractable.

Session Topics

This Global Virtual Workshop intends to collect many, diverse efforts made in the application of Optimisation and Uncertainty Quantification techniques, or related methods, to aerospace problems. The session seeks to bring together researchers from around the globe for a stimulating discussion on recent advances in evolutionary methods for the solution of space and aerospace problems. Authors are invited to submit papers on one or more of the following topics:

- Imprecise Probabilities for Uncertainty Quantification Research
- High Dimensional Uncertainty Propagation Research
- Uncertainty Quantification in Experimental Analysis and Validation Research
- Elicitation and Aggregation of Structured Expert Judgment

Submission Guidelines

Papers submitted for these session will be peer-reviewed with the same criteria used for other contributed papers. All accepted papers in the special sessions will be included in the published conference proceedings.

Important Dates:

30th October 2018 – Abstract

Submission

tba – Paper Acceptance

tba – Final Paper Submission

tba – Early Registration



