Workshop deadlines

Intention to participate on UMRIDA test cases:	**January 31st, 2015**
Submission of abstract:	**March 1st, 2015**
Abstract acceptance (latest):	**March 9th, 2015**
Registration to workshop (150 €):	**April 7th, 2015**
Submission of presentations on test case results:	**April 7th, 2015**

Abstract submission

Please submit your abstract on one of the two topics, latest by 15th December 2014:

- Application of UQ to industrial relevant configuration
- New developments in the field UQ

One page abstracts should be send to:
uq-workshop@umrida.eu

Organizers

Charles Hirsch, Numeca International
Dirk Wunsch, Numeca International
Richard Dwight, TU Delft

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Uncertainty Management for Robust Industrial Design in Aeronautics

UMRIDA

UMRIDA Workshop on Uncertainty Quantification

Application of UQ methods accounting for a large number of simultaneous uncertainties

April 15 Wednesday
16 2015 Thursday

TU Delft, Netherlands

www.umrida.eu

The focus of the UMRIDA workshop on Uncertainty Quantification (UQ) lies on the application of UQ techniques to test cases with ***a large number of uncertainties***. The overall objective is the assessment and application of UQ methods capable of fulfilling the following quantitative objective, which can also be regarded as a challenge to all workshop participants:

"Development and application of UQ methods for ***a large number of uncertainties (~10)*** within an acceptable ***CPU return time of 10 hours*** on no more than ***100 cores parallel processors.***"

These test cases are part of a ***unique validation database with prescribed uncertainties***, built within the UMRIDA consortium. A series of test cases such as rotors, wing-bodies, high-lift systems and airfoils are **open to participants from outside the consortium**.

Participants from academia and industry are welcome to participate in the quantitative challenge on one or several of the proposed test cases!

Besides the participation to the open test cases, participants can contribute with presentations on:

- Application of UQ to industrial relevant configuration
- New developments in the field UQ

The program will be completed by applications of UQ methods to multidisciplinary industrial test cases including aero-acoustics, fluid-structure interaction, turbine cooling or combustion from professionals from inside the consortium and by **invited speakers** who are addressing state-of-the art research in the field of uncertainty quantification.

Test cases open to workshop participants

The following test cases are open to participation. Description of the test cases will be provided after registration to the workshop.

BC-01: NASA rotor 37
BC-02: RAE 2822 airfoil
BC-03: DLR F6 wing-body
BC-04: F11 (KH3Y) TO2 configuration
IC-08: Supersonic/Transonic flow design of business aircraft

Invited Speakers

Prof. Omar M. Knio, King Abdullah University of Science and Technology, Kingdom of Saudi Arabia
Application of spectral methods for forward uncertainty propagation, sensitivity analysis, and inverse design

Prof. Siddhartha Mishra, ETH Zürich, Switzerland
Monte Carlo and Multi-Level Monte Carlo methods for uncertainty quantification in hyperbolic problems

Prof. Bijan Mohammadi, University of Montpellier II, France
Ensemble Kalman filters and geometric characterization of sensitivity spaces for uncertainty quantification in optimization