

16<sup>th</sup> ERCOFTAC SIG15 Workshop: Modelling of wall bounded turbulent natural convection, a re-assessment using state-of-the-art massively parallel DNS

Date: 15<sup>th</sup> & 16<sup>th</sup> of October 2019.

Organiser: SIG15

Location: Ljubljana, Slovenia

Coordinators: Krpan, R. & Flageul, C.

ERCOFTAC Members:

- University of Ljubljana: Pr Matevž Dular
- The University of Manchester: Pr Dominique Laurence
- EDF: Dr Sofiane Benhamadouche

Turbulent natural convection in wall-bounded configurations have been the focus of a number of studies in the past and remains a modelling challenge as application of turbulence models initially developed for forced convection flows to buoyancy driven flows is inappropriate. It is only recently that we have obtained DNS-grade validation data for advanced RANS models for the square cavity case – with mean horizontal temperature gradient – at a sufficiently high Rayleigh number.

The main objective of the workshop is to re-assess turbulence models for natural convection with the square cavity DNS by Frederic Sebilliau and co-workers (January 2018, [10.1016/j.ijheatmasstransfer.2018.02.042](https://doi.org/10.1016/j.ijheatmasstransfer.2018.02.042)) and the simpler case of turbulent natural convection in vertical plane channel by Kiš and Herwig (February 2014, [10.1007/s00231-014-1305-5](https://doi.org/10.1007/s00231-014-1305-5)).

The 16<sup>th</sup> ERCOFTAC SIG15 Workshop on turbulence modelling will consist of a single track of keynote lectures, short research presentations and panel discussions. It will be held at the Reactor Centre of the Jožef Stefan Institute located near Ljubljana on the 15<sup>th</sup> and 16<sup>th</sup> of October 2019.

Please email [sig15ws2019@ijs.si](mailto:sig15ws2019@ijs.si) or visit <http://r4.ijs.si/sig15ws2019> for further information.



*Left: Panorama of the venue. Right: Čerenkov radiation in TRIGA Mark II reactor at IJS. Photography by Domen Pal, Jožef Maček and Branko Čeak, National Geographic Slovenia, April 2015.*