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Prof. Ch. Müller (ESE), Prof. N. Noiray (CAPS), Prof. D. Poulidakos (LTNT)
Prof. H.-M. Prasser (LKE), Prof. A. Steinfeld (PREC)
Institute of Mechanical Systems: Prof. G. Haller (NDS)
Institute of Fluid Dynamics: Prof. P. Jenny, Prof. T. Rösgen (IFD)*

13/06/2019

I N V I T A T I O N

to a talk as part of the

Colloquium Thermo- and Fluid Dynamics

Date: >> *Friday, June 14, 2019* <<

Time: >> *11:00h* <<

Place: Machine Laboratory ETH Zurich, >> *Lecture Hall ML E 12* <<

Speaker: **Prof. Thierry Poinso**
Institut de Mécanique des Fluides de Toulouse, CNRS

Title: **Deep learning methods applied to HPC turbulence and combustion**

This talk will present recent results in the field of Deep Learning methods (DL) applied to High Performance Computing of turbulent and/or reacting flows. DL techniques are not necessarily well suited to problems controlled by known conservation equations such as fluid mechanics or turbulent combustion. There is a domain however where we do not have a full set of equations and where DL can be a clear asset: sub grid scale modeling for turbulent flows. In these flows DL networks have the capacity to learn how sub grid quantities (such as the fractal dimension of a flame) scale with the resolved field. They can also be used to generate or store turbulent flow fields. This talk will give examples of such applications and discuss how DL methods can be integrated into existing HPC methods.

Host: Prof. N. Noiray

Guests are welcome!

Further information: <http://www.ifd.mavt.ethz.ch/events/ktf/ktf-records.html>

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