

## Summer School and Workshop on Non-Normal and Nonlinear Effects in Aero- and Thermoacoustics

In aero-acoustics, nonlinear effects play an important role in generation as well as dissipation of sound. Stability limits and limit cycle amplitudes of self-excited aero- or thermoacoustic instabilities are influenced by nonlinearities. For thermoacoustic interactions, standard linear modal analysis can in general not predict the response of the system to finite amplitude perturbations due to the non-normality of the corresponding evolution operator and the nonorthogonality of eigenmodes.

At TU München, a Summer School and Workshop on non-normality and nonlinearity in aero- and thermoacoustics will be held from **June 18 – 21, 2013**.

During the **Summer School** (June 18 and 19), a series of invited lectures will give an introduction to the workshop topics and present the state of the art. Expected audience are doctoral students with some background in fluid mechanics, flow instabilities, aero- or thermoacoustics, or combustion. Of course, more experienced researchers interested in the workshop topics are also welcome.

List of invited speakers:

- Matthew Juniper (University of Cambridge)
- Nicolas Noiray (Alstom Power)
- Tim Lieuwen (GA Tech)
- Guillaume Penelet (Université du Maine)
- Oliver Paschereit (TU Berlin)
- R. I. Sujith (IIT Madras)

The purpose of the **Workshop** (June 20 and 21) is to bring together researchers active in aero- and thermoacoustics or hydrodynamic stability analysis, and to present and discuss original, recent research results on non-normal and nonlinear effects in these disciplines.

*Papers will be selected on the basis of a review of abstracts by members from the scientific committee. Abstracts should be no longer than 2 pages (with typeface no smaller than 12 pts). Abstracts should include information on research rationale, methodology, results and major conclusions, and should be submitted electronically via e-mail ([n3l@td.mw.tum.de](mailto:n3l@td.mw.tum.de)).*

*Contributed papers will be restricted to 8 pages and will have to be produced in accordance with Latex templates, which will be made available via the website (<http://www.td.mw.tum.de/n3l> – to go online soon). Papers will be included in form of a CD, to be distributed at the workshop upon registration.*

*The papers presented at the workshop shall be published in a special issue of the Int'l Journal of Spray and Combustion Dynamics (<http://www.multi-science.co.uk/ijscd.htm>). Before publication, papers submitted will undergo peer review.*

**Abstracts due: January 31, 2013**

**Notification of acceptance: February 20, 2013**

**Final manuscripts due: May 13, 2013**