



ČESKÁ AKUSTICKÁ SPOLEČNOST
CZECH ACOUSTICAL SOCIETY



Audio
Engineering
Society

**Department of Radio Engineering, FEE CTU in Prague,
Faculty of Transportation Sciences, CTU in Prague,
Czech Acoustical Society and
Czech Section of Audio Engineering Society
invite you to attend the lecture**

Acoustics in thermo-viscous fluids: fundamentals and applications

Prof. Michel Bruneau

(Laboratoire d'Acoustique de l'Université du Maine, Le Mans, France)



LAUM

Abstract

We ordinarily think of an acoustic wave in a gas as consisting of coupled pressure and displacement oscillations. However, temperature oscillations and shear movements always accompany the pressure oscillations, more specifically near the walls where both interact with the acoustic movement (inside the viscous and thermal boundary layers). The combination of all these oscillations and their interactions with solid boundaries produce a variety of effects.

Although these effects as they occur in everyday life are too small to be noticed, they need to be modelled carefully in a lot of applications (microphones, loudspeakers, headphones, earplugs, acoustic fibrous and porous materials, wave-guides and cavities, properties of gas/liquid mixtures measurements, and so on), and even they are able to produce powerful engines (thermo-acoustic engine, acoustic refrigerator, acoustic gyrometer).

WHEN: Wednesday 17th September 2014 at 14h

WHERE: Faculty of Electrical Engineering, CTU in Prague,
Technická 2, Praha 6, room no. 54 (ground floor)