IFAC Workshop on
Control of Distributed Parameter Systems

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Call For Papers

Scope:

Motivated by applications in fields as diverse as aeronautics, biology, and chemistry, research on Control of Distributed Parameter Systems (CDPS) has been broadly developed in recent years.

While the general aims are the same as for lumped parameter systems, to adequately describe the distributed nature of the system one needs to use models based on partial differential equations (PDEs). For infinite-dimensional systems there are many different (and not equivalent) concepts of controllability and observability. Studying these notions for systems governed by PDEs is challenging, and requires new mathematical tools such as Carleman estimates or non-harmonic Fourier series. Moreover, the effective design of robust controllers requires both multiphysics modelling and efficient numerical algorithms.

The aim of this meeting is to bring together people working in distributed parameter system modelling and control with various techniques coming from PDE theory and from numerical analysis, with a special interest on applications of DPS to science and engineering. Moreover, results from industrial applications are now in view, thus most welcome for presentation at the conference.

Meeting Topics:

- Approximation and robust control of DPS
- Boundary control systems
- Control of Fluid Flows
- Dynamics of infinite dimensional dissipative systems
- Infinite dimensional port Hamiltonian systems
- Input-output and frequency domain approaches
- Control and observation of PDEs
- Stabilization and Riccati equations
- Robustness
- Well-posedness and semigroup theory
- Industrial applications

Submission of abstracts: March 2, 2009 — Notification April 30, 2009
Deadline for early registration: May 15, 2009

http://www.laas.fr/CDPS09