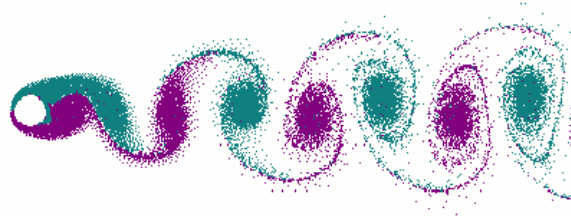


## Active Flow Control and Applications: From Model-Based to Machine Learning Strategies

Your research interest is focused on modeling, identification, feedback control, state observation or optimization for flow control applications ....



<http://hmf.enseeiht.fr/travaux/proinum/sites/default/files/users/ilantene/Vortex-street-animation.gif>

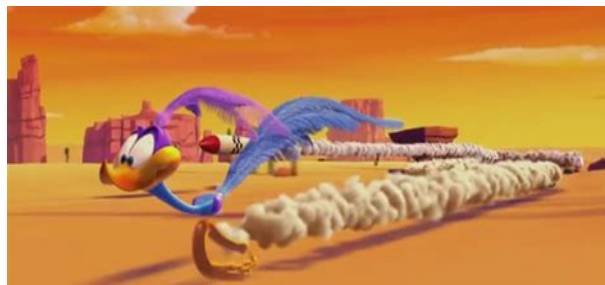
**You are welcome to this open invited track !!!**

In the context of sustainable development and clean-energy transition, wake-flow control is a major milestone for reducing drag in the transportation industry. For instance, increasing the lift-to-drag ratio in aeronautics or decreasing drag for road vehicles is becoming a priority for the industry. Active flow control appears as an appealing approach but it also faces scientific challenges such as the design of reliable and real-time tractable models. The complexity of computational fluid dynamics model is one of the major obstacles for the implementation of feedback controls.

Flow control has received interest from scientific communities ranging from fluid mechanics, physics, applied mathematics (distributed systems), control theory (nonlinear control, observers) and computer science (machine learning). This session therefore aims at gathering experts from each of these fields to present the latest advancements in wake-flow control.

Looking forward to meeting you in Berlin !

Organisers : E. Courtial, J.F. Morrison, L. Cordier



### Keywords:

Fluid flow control, nonlinear control, model-based control, model-free control, machine learning, wake turbulence modelling, model reduction, nonlinear observers.