



EUROPEAN COMMISSION
Research Directorate-General



Open China-Europe Workshop on Aeronautics Research *"Environmentally Friendly Advanced Modeling, Experimentation and Large Scale Simulation for Greener Design in Aeronautics"* Nanjing/ China, 25th - 27th October 2010

The scientific and technical workshop is to take place at Nanjing at the occasion of the Kick-off Meetings of joint EU-China research projects GRAIN*, MARS** and COLTS***.



The event is organized by Chinese Aeronautical Establishment (CAE) and Nanjing University Aeronautics & Astronautics (NUAA), and in association with European Commission (EC), Ministry of Industry and Information Technology (MIIT), and China Aviation Industry Corporation (AVIC).

Background: Within the context of the 7th Research Framework Programme of the EC together with MIIT launched a joint call for proposals for aeronautics technologies of mutual interest. The successful research projects COLTS and MARS, as well as the EU-China support action GRAIN will have their official Kick-off Meetings linked to this open Workshop.

Workshop Objectives: In presentations of the project partners and by invited lectures the workshop aims at presenting the state of knowledge and envisaged technology trends:

- to identify and assess the future development of large scale simulation methods and tools needed for greener technologies reaching the Vision 2020 environmental goals
- to prepare the R&T development and exploitation with new large scale simulation tools used on distributed parallel environments to deeper understand and minimize the effects of aircraft/engine design on climate and noise impact
- to investigate new developments concerning innovative methodologies on robustness and uncertainty for greener aircraft applications, taking benefit from high performance computing environments

The Workshop will support joint Europe-China networking actions for defining the necessary technologies to improve green aircraft performance.

It will focus on future collaborative research concerning modeling, experiments, simulation, control and optimization for greener aircraft and engines technologies including: emissions reduction, drag reduction, noise reduction and green materials with an emphasis on multidiscipline approaches (aero-acoustics, aero-thermal, aero-engine materials,...) for more environmentally friendly aircraft.

Workshop Topics: The presentations from China and the EU will cover both computational and experimental aspects of:

- Technologies for flow control and drag, emission and contrail reduction
- Technologies for the reduction of aircraft noise and vibration
- Advanced materials for airframe and aero-engines
- Large Scale High Performance Methodologies with Advanced IT tools

Expected Participants: Researchers and engineers of industry, research institutes and universities from China, EU and other countries

Registrations Fees: Participants from China: 500 RMB;
Participants from Europe: 100 Euro;
Partners of GRAIN, MARS, COLTS, invited lecturers and Government representatives are free.

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- *) **GRAIN:** Greener Aeronautics International Networking
(Coordinator EU: CIMNE, Spain; Co-coordinator China: CAE)
- ***) **MARS:** Manipulation of Reynolds Stress for Separation Control and Drag Reduction
(Coordinator EU: CIMNE, Spain; Co-coordinator China: ARI)
- ***) **COLTS:** Casting of Large Ti Structure
(Coordinator EU: Univ. Bermingham; Co-coordinator China: BIAM)

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