

## **COE-INES Business Trip Report**

ICAPP07参加およびミラノ工科大学訪問報告

出張期間：2007年5月12日～5月19日

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出張先：Nice Acropolis Convention Center, Nice, 仏国,  
Politecnico di Milano, Milano, イタリア

The “International Conference on the Advancements of Nuclear Power Plants” (ICAPP07) opened on May 13<sup>th</sup> with the intervention of the mayor of the city of Nice (France). The welcome reception was a great opportunity to witness the increasing interest nuclear energy is getting among the public. It was also a great occasion to meet a wide range of professionals, experts and professors in the field of nuclear engineering.



**Fig.1. An image of the venue – Nice Acropolis**

The opening session was in the morning of Monday May 14<sup>th</sup> : the focus was brought upon the concept of Nuclear Renaissance. Several interventions, from industry leaders to professors and researchers, gave a clear picture on the new power plants layouts of the

generation 3<sup>+</sup>, and the subsequent new wave of power plant constructions under consideration. To the first plenary session, several others followed. Together with the key-note sessions they focused on broader, less technical issues. Over 500 papers were presented at the conference, it was therefore impossible to follow all the interesting papers: a choice was necessary.

Through the conference I personally followed technical tracks related to my personal research: thermal-hydraulics (Track 6) and Sodium Cooled Fast reactors (Track 3). I had the occasion to listen to interesting presentation, pose several questions and gain a better knowledge of my research field.

On Tuesday May 15<sup>th</sup>, I had two presentations to carry out. The first with title: “LES and SGS models for the simulation of gas entrainment”, related to the use of CFD for the prediction of gas entrainment. I received a few questions. One in particular from Prof. Hassan, questioning the particular DES models I was employing. Another was related to the possibility and relevancy of gas entrainment in real reactor conditions.

In the afternoon, I had to present another paper with title “Test of LES SGS models for the simulation of the flow in annular channels”, related to the development of a new LES method for complex geometries. I received a few questions, one of which related to the particular implementation of the SGS dynamic model.

In the late afternoon of Wednesday May 16<sup>th</sup> the conference closed. In the night I drove to Milan (Italy) where in the morning I met Prof. M.E. Ricotti (a full professor of Nuclear Engineering in Politecnico di Milano). The talk lasted from 9:00 to 11:30, as we discussed of several technical issue concerning thermal hydraulics and CFD, and discussed of possible collaborations between Tokyo Institute and Technology and Milano

Politecnico. After the talk I then returned to Nice, where at 6:00 in the morning of May 18<sup>th</sup> , I attended a technical tour of Phenix and Atlante. Phenix is one of most important examples of LMFBR built up to now.

Overall I consider this business trip as a great occasion to witness the revival of the nuclear industry, acquire information about state-of-the-art technologies and latest advancements. I am thankful to COE-INES, which has granted me the opportunity to take part in all this.