

# Travel report

## Visiting Scuola Superiore Sant'Anna in Pisa

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### Introduction

This report describes my visit to Scuola Superiore Sant'Anna in Pisa, Italy. I visited the real-time systems laboratory (ReTiS lab) in September 2007. The ReTiS lab is well known for their excellent research in design and analysis of real-time embedded systems. Since my research concerns design and analysis of real-time systems, I found it very interesting to visit the lab.



### Pisa

Pisa is a city in Tuscany Italy, with a population of ~100.000 people. Pisa is well known for the bell tower also referred to as the leaning tower. Pisa is also known for being the birth place of Galileo Galilei, an important early physicist, mathematician, astronomer and philosopher.

### Visit to ReTiS lab

Mr Lipari, associate professor and coordinator of ReTiS, welcomed us to SSSA. He showed us the lab and gave a general presentation of Scuola Superiore Sant'Anna. He also presented some research performed by the ReTiS group. The ReTiS lab have a prominent position in the area of real-time systems. The research at ReTiS addresses real-time scheduling, real-time operating systems, quality of service for real-time systems, data security and wireless sensor networks. The lab has been involved in many research project throughout the years, for example, the FRESCOR project (aiming at developing a framework with flexible scheduling techniques), RI-MACS (defining a manufacturing control open architecture), ART DECO, ARTIST2, etc. During my visit, I got the opportunity to listen to Mr.Lipari when he presented GRUB-PA, a resource reservation algorithm for power-aware scheduling of periodic and aperiodic real-time tasks. GRUB-PA is a scheduling algorithm based on a resource reservation technique. I also met Mr Gai whose research focus on development of hard real-time architectures. He gave an interesting presentation about a spin off company (Evidence) that he founded at the end of 2002. Evidence develops firmware for embedded real-time systems. The company also provides consulting and technical support for development of embedded devices. Mr Gai also talked about E.R.I.K.A, an embedded real-time kernel architecture. It was a very interesting since my research focus on adding support for different execution models in a commercial real-time operating system called RubusOS.

I really enjoyed the visit to the ReTiS lab. I met a lot of interesting people and got a better understanding of the research performed at ReTiS.