

# Computer Science Seminar

## Probabilistic Timing Analysis: Achievements and Open Problem

Dr. Luca Santinelli  
ONERA (French Aerospace Lab)



Probabilistic timing analysis means looking for probabilistic models of tasks timing behavior.

With respect to the deterministic timing analysis i.e. static timing analysis for single value worst-case execution times, the probabilistic timing analysis is less mature but full of potential benefits for real-time scheduling. Multiple are the open problems with respect to the actual achievements; the main being represented by “how to make probabilistic models reliable and robust”. The key note intends to explore both the achievements and the open problems related to probabilistic timing analysis, clarifying some notions and misconceptions.

**Bio:** Luca Santinelli is a fellow research engineer at the ONERA (French Aerospace Lab) working in the LAPS team within the DTIM (modeling and information processing) department. In 2010 he completed the Ph.D. in Computer Science (curriculum in Innovative Technologies of Info. & Com. Eng. and Robotics) at the Scuola Superiore Sant’Anna working on real-time systems at the RETIS Laboratory under the supervision of Prof. Giorgio Buttazzo. In 2008-2009 he spent one year as visiting student at the Swiss Federal Institute of Technology Zurich (ETH) within the Department Information Technology and Electrical Engineering D-ITET), under the supervision of Prof. Lothar Thiele.

His activity at the ONERA involves the modeling and analysis of safety-critical real-time systems. His main research interests include real-time operating systems, schedulability and scheduling algorithms, energy aware scheduling, dynamic and adaptive resource reservation/allocation policies, probabilistic real-time modeling and analysis, real-time controls and artificial intelligence. He has been involved into FP7 European projects such as PROARTIS and TIMMO-2-USE, as well as national (French and Italian) and internal projects on safety-critical real-time systems.

**Date: September 21, 2016**

**Time: 2:00 pm**

**318 Butler-Carlton Hall**

