INVITATION TO
Full-Day Tutorial on Probabilistic Timing Analysis
to be held at the Ada-Europe 2015 conference
https://ae2015.dit.upm.es/tutorials.html#T4
June 22th, 2015 Madrid, Spain

Motivation. In the last few years, probabilistic timing analysis (PTA) in general, and its measurement-based variant (MBPTA) in particular, have emerged as a breakthrough timing analysis technique approach. Owing to its observation-based nature, MBPTA requires less information on the detailed internal behaviour of the hardware and the software of the target system, which is the crux of classic worst-case execution time (WCET) analysis methods. PTA has become an acknowledged area of scientific interest, with an increasing number of active researchers and a rising score of significant publications.
This tutorial introduces attendees to Measurement-Based Probabilistic Timing Analysis (MBPTA) with emphasis on what it takes from the end user and what it requires from the underlying hardware and software platform. Through didactic material and several running examples, participants will be exposed to the whole range of MBPTA concepts and procedures. The tutorial also presents the current advances of MBPTA and the main challenges it has to address to be fully ready for industrial use.

Level. Introductory. The audience should have basic knowledge on real-time systems and be familiar with basic concepts of WCET analysis, knowing the basic difference between static and measurement-based timing analysis. No prior knowledge on PTA is required.

Reasons for attending. The envisioned tutorial will provide benefits in two directions:
- Introducing researchers and industrial practitioners to the PTA requirements, benefits, and basic functioning. With PTA acknowledged as a fertile area of research, this part of the tutorial will allow participants to catch up with the essentials of PTA faster and to a greater depth.
- Expose participants to the latest advances in PTA for method, techniques and requirements on the hardware and the software of the system, with a view to how they compare to other techniques in the state of the art.

Schedule. The tutorial will have two parts: An introduction to PTA and MBPTA, and a hands-on session with access to real MBPTA technology.

Presenters
- Francisco J. Cazorla, Barcelona Supercomputing Center.
- Tullio Vardanega, University of Padua,
- Jaume Abella Barcelona Supercomputing Center.
- Mark Pearce, Rapita Systems Limited.