FMTV‘14
Formal Methods for Timing Verification

Rafik Henia, Julio Medina, **Sophie Quinton**, Laurent Rioux | May 12th, 2014

A little Bit of Context

Motivation for this workshop

- Initiative by Thales Research and Technology

  → see next talk by Rafik Henia

Objective of the challenge

- Help industrials formulate their needs in a way that the research community can handle
- Trigger discussion within the research community
- Initiate a joint effort to create a benchmark for timing analysis tools

  → see the discussion after the presentation of the challenge

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We need your participation to make this workshop a success!

Morning Program

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9:00	Sophie Quinton, Inria Grenoble – Rhône-Alpes: **Opening**
9:15	Rafik Henia, Thales Research & Technology: **Towards Precise Timing Modeling for Industrial System Engineering**
10:00	*Coffee Break*
10:30	Wang Yi, Uppsala University: **Models for Timing Analysis: Expressiveness vs. Analysis Efficiency**
11:15	Samarjit Chakraborty, TU Munich: **Real-Time Systems Versus Cyber-Physical Systems: Where is the Difference?**
12:00	Luca Santinelli, Frédéric Boniol, Eric Noulard, Claire Pagetti and Wolfgang Puffitsch, ONERA Toulouse and TU Denmark: **Integrated Development Framework for Safety-Critical Embedded Systems**
12:30	*Lunch Break*

Afternoon Program

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14:00	PS Thiagarajan, National University of Singapore: **Probabilistic Approximations of Hybrid Dynamics**
14:45	Dieter Zöbel and Andreas Stahlhofen, Universität Koblenz-Landau: **Mapping Safety Properties for Embedded Control Applications to Certifiably Correct Implementations**
15:15	Rafik Henia: **Presentation of the Challenge**
16:00	*Coffee Break*
16:30	Sophie Quinton (moderator): **Discussion of the challenge**
17:15	Panel: Samarjit Chakraborty, Susanne Graf, Rafik Henia and Wang Yi **Timing Verification: How can Formal Methods help Industry?**
18:00	*End of the workshop*

Challenge discussion

1. Do you think that the challenge is too easy or too difficult?
2. Are you missing some information?
3. Can you apply your own timing analysis method to the challenge?
4. What do you think about the submission and evaluation rules?
5. Do you know similar challenges or benchmarks?

Timing Verification: How can Formal Methods help Industry?

1. Are formal methods for timing verification mature enough to be transferable to industry? Do you have experience with such transfer?

2. What is the main obstacle at the moment regarding the transfer of timing analysis methods from academia to industry?

3. Are challenges such as this one a good approach to foster interaction between academia and industry?

4. Do you think that a comparative study of different timing verification methods is meaningful and/or needed to help industrials figure out which method works for what?

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Thank you for your participation!