SP Technical Research Institute of Sweden

5th International workshop on Analysis of Dynamic Measurements

1 – 3 June 2010 – Borås (Sweden)

Presentations

Technical information to speakers:

The conference room is equipped with:

- A stationary Windows XP laptop with high-speed internet connection.
- An additional laptop as a supplement.
- Office 2007 is installed on both computers, but no analysis software such as Matlab, Labview etc. you might need. Special software may be installed on the laptop.
- The computers have a Swedish keyboard (with å,ä,ö), but the language (of the keybord, but not Windows) can be changed from the Windows taskbar.
- VHS-player
- CD/DVD-player
- Old style OH-equipment for plastic sheets.
- Stationary as well as portable/wireless microphones.
- A 'presenter' for wireless control of slideshows, combined with laser pointer.

You may bring:

- Your own computer/laptop, which may be required to access your licensed/installed software. For display, the projector has both D-SUB and HDMI connection.
- Your own 'presenter' with a USB-connection.

Presentation material:

- Preferably on USB-memory/CD for presentation with the stationary laptop.
- The stationary computer for presentation has two folders:
  - 'DWS_Online' transfer your presentation for on-line access after the workshop. We will verify your permission before publication but it simplifies if you directly indicate your preference.
  - 'DWS_Temp' will be deleted after the workshop.

To facilitate collaborations and future joint projects it would be great if all presentations,

1. Starts with a brief description of your current working group, its goal and history, or similar information.
2. If applicable, ends with questions or suggestions of problems, projects etc. to the audience that can be brought up for further discussions and interchange of ideas.

Suggestions for collaboration can be further addressed in the discussions that will be an integral part of the workshop. The nominal duration of each regular presentation is 30 min and keynote lecture 1 h, which should be sufficient for including longer discussions, if preferable.

Thank you!

Programme >>





Tuesday, June 1

8:00-9:00	Coffee
9:00-9:15	Opening
9:15-11:30	**Short course: "Navigation with Kalman Filtering"**
9:15-10:00	**Keynote:** Isaac Skog, Royal Institute of Technology, Stockholm, Sweden *In-Car and Pedestrian Navigation Systems –- Commonly used Filter Techniques and Filter Structures.*
10:00-10:30	Dave Zachariah, Royal Institute of Technology, Stockholm, Sweden *"Monte Carlo simulations for evaluating aided inertial navigation"*
10:30-11:00	Ragne Emardson, SP, Sweden *"Vehicle navigation using sensor fusion through non linear Kalman filtering"*
11:00-11:30	John-Olof Nilsson, Royal Institute of Technology, Stockholm, Sweden *"A statistical performance evaluation of a foot-mounted inertial navigation system"*
11:30-12:30	**Lunch Break**
12:30-15:00	**Session: "Model Identification"**
12:30-13:30	**Keynote:** Martin Enquist, Linköping University, Sweden *"Estimating dynamic models from measurements using system identification methods"*
13:30-14:30	Jerzy Nabielec AGH University of Science and Technology Faculty of Electrical Engineering, Krakow, Poland and Pawel Jamroz Strata Mechanics Research Institute, Poland *"Can we measure time-dependent temperature of gas flowing at variable speed? Identification and correction of temperature sensors"*
14:30-15:00	Andor Bariska, Zurich University of Applied Sciences, Zurich, Switzerland *"Nonlinear Multivariate Parameter Estimation from Pulse- Thermografic Measurements"*
15:00-15:30	**Coffee**
15:30-18:00	**Session: "Measurement uncertainty 1 "**
15:30-16:30	**Keynote:** Trevor Esward, National Physical Laboratory, United Kingdom *"Evaluation of measurement uncertainty for dynamic systems and time-dependent processes"*
16:30-17:00	Thomas Svensson SP, Sweden *"Can Monte Carlo simulations replace engineering skills?"*
17:00-17:30	Jörgen Stenarsson SP, Sweden *"Challenges for measurement uncertainty in dynamic and complex measurement systems"*
17:30-18:00	Peter Hessling SP, Sweden *"Unscented propagation of measurement uncertainty - A fruitful idea"*

Wednesday, June 2

9:00-9:30	**Coffee**
9:30-11:30	**Session: "Analysis of high-speed electronic systems"**
9:30-10:30	**Keynote:** Paul Hale, National Institute of Standards and Technology, Boulder, USA: *"Measuring high-speed electrical signals within the framework of full waveform metrology"*
10:30-11:00	Sascha Eichstaedt, M Bieler, Physikalisch-Technische Bundesanstalt, Germany *"Deconvolution and regularization for ultra-fast sampling oscilloscope measurements"*
11:00-11:30	David Humphreys, presented by Trevor Esward, National Physical Laboratory, United Kingdom *"Traceable calibration of vector signal analysers"*
11:30-12:30	**Lunch Break**
12:30-14:00	**Session: "Dynamic measurements"**
12:30-12:55	Stephen Downes, Clare Matthews, National Physical Laboratory, United Kingdom. *"Shock tube calibration of pressure transducers"*
12:55-13:20	Fredrik Arrhen, SP, Sweden *"Shock tube measurements with fibre optic pressure transducer"*
13:20-13:45	Anne-Françoise Obaton, Laboratoire national de métrologie et d'essais (LNE) , France *"Design and manufacture of sensors and their interrogation technique for applications in the fields of health and environment"*
13:45-14.10	Arthur Bouvy, Measurement & Control systems, Marin, Netherlands *"A re-interpretation of ISO376 for dynamic applications"*
14.10-14.30	**Coffee**
14:30-16.30	**Session: "Measurement uncertainty 2"**
14:30-15:30	S. Eichstädt, A. Link, C. Elster, Physikalisch-Technische Bundesanstalt, Germany *"Dynamic calibration and dynamic measurements from a statistical point of view"*
15:30-16:00	A. Link, S. Eichstädt, C. Elster, Physikalisch-Technische Bundesanstalt, Germany *"Evaluation of measurement uncertainty for discrete-time LTI systems"*
16.00- 16.30	*A. Monti, F. Ponci, E.ON Energy Research Center, RWTH Aachen University "A Polynomial Chaos based approach to uncertainty in measurement: theory and applications*
16:30-18:00	**Session: "Complex results of calibration and measurements"**
16:30-17:00	Andor Bariska, Zurich University of Applied Sciences, Zurich, Switzerland *"Comparing Bootstrap and Covariance Confidence Intervals from Pulse-Thermografic Measurements"*
17:00-17:30	**Discussion: "Transfer of complex results of calibration and measurements"** Andor Bariska: *"How to present the results of multivariate uncertainty analysis to the user of a measurement device?"* Paul Hale: "How to reduce a large covariance matrix?"
17:30-18:00	**Discussion: "Is something missing in the GUM?"** *When and how to promote changes/supplements? Examples? New guidelines? [EMRP] Project/committee JCGM-WG1? External experts?*
18:00-18:30	Plans for the next workshop on "Analysis of dynamic measurements"

Thursday, June 3

9:00-9:30	**Coffee**
9:30-11:30	**Session: "EMRP"**
9:30-09.45	Leslie Pendrill, EURAMET Chair, SP *"Information from EURAMET"*
09:45-10:15	Thomas Bruns and Clemens Elster, Physikalisch-Technische Bundesanstalt, Germany PRT: *"Traceable dynamic Measurement of mechanical quantities"*
10:15-10:45	Anne-Françoise Obaton, Laboratoire national de métrologie et d'essais (LNE) , France PRT: *"Metrology infrastructure in support of emerging tools for environmental monitoring under the European water framework directive"*
10:45-11:30	**Discussion: "Future EMRP calls"**
11:30-12.30	**Lunch Break**
12.30-14.00	**Session: "New applications 1, Road humps"**
12:30-13:30	**Keynote:** Johan Granlund, Vectura (Consultant for the authority of Swedish roads), Sweden: *"Road humps for traffic calming in theory and practice – some lessons learned"*
13:30-14.00	Peter Hessling, SP, Sweden *"Toolbox for analysis and synthesis of road humps – dynamic analysis in practice"*
14:00-14:30	**Coffee**
14:30-15:45	**Session: "New applications 2: - 'new' problems require 'new' solutions"**
14:30-15.00	Andreas Nilsson, SP, Sweden *"Calibrated, but not quite"*
15.00-15.30	
15:30-15:45	Peter Hessling, SP, Sweden *"A common world-wide complex problem of dynamic analysis…"*
15:45-16:00	**Closing** Discussion/summation of the 5th workshop on "Analysis of dynamic measurements"