

MT-LAB

A VKR CENTRE OF EXCELLENCE

MT-LAB SCIENTIFIC BOARD:

DTU: Flemming Nielson (director), Hanne Riis Nielson, Bo Friis Nielsen, and Henrik Pilegaard.

AAU: Kim G. Larsen (vice-director), Rafael Wisniewski, and Arne Skou.

ITU: Jens Christian Godskesen, and Andrzej Wąsowski.

MLQA: MODELS AND LOGICS FOR QUANTITATIVE ANALYSIS

MLQA is a proposal for a working group within ERCIM – The European Research Consortium for Informatics and Mathematics. The kick-off meeting took place on Saturday 28th March 2009 in conjunction with the ETAPS series of conferences in York. The meeting was attended by 30 participants from Europe and United States and about half of them had come to York just to attend the MLQA event.



Carolyn Talcott presented an American view on MLQA.



Rocco De Nicola and Flemming Nielson are discussing the MLQA working group.

MLQA SHARES MANY OF ITS GOALS WITH MT-LAB

Models and Logics for Quantitative Analysis are seen as comprising process models being analysed using logics for quantitative properties. More specifically:

- (1) The working group will consider *process models* formally described by transition systems, automata or process calculi.
- (2) It will study *logics* for expressing stochastic and continuous (control theory) properties as well as discrete ones.
- (3) It will focus on the development of *algorithms, theory and tools*.
- (4) The working group will study *applications* within embedded systems and service-oriented systems but will aim at treating also IT guided workflow systems and biological systems.



THE MLQA PROGRAMME

Presentation of the vision behind MLQA by **Flemming Nielson** (DTU).

Invited talks by:

- ◆ **Stephen Gilmore** (University of Edinburgh): *Stochastic analysis in PEPA.*
- ◆ **Carolyn Talcott** (SRI International): *Quantitative modelling in Maude.*
- ◆ **Rocco De Nicola** (Università di Firenze): *Rate-based transition systems and stochastic process algebras.*
- ◆ **Diego Latella** (ISTI, Pisa): *A stochastic logic for mobility and global computing.*
- ◆ **Holger Hermanns** (Saarland University): *On energy consumption and drifting clocks.*
- ◆ **Paula Quaglia** (University of Trento and CoSbi): *Quantitative analysis: applications to biological systems.*

Short presentations by:

Tino Teige (University of Oldenburg), Herbert Wiklicky (Imperial College); Vashti Galpin (University of Edinburgh), Manuela Bujorianu (Cicada, University of Manchester), Stefan Kiefer (TU Munich), Erik de Vink (CWI and TU/e), Milad Niqui (CWI), Ezio Bartocci (Università Camerino), Henrikas Pranevicius (Kaunas University of Technology), Sven Schneider (TU Berlin), Mark Timmer (University of Twente), and Uli Fahrenberg (Aalborg University).

MT-LAB

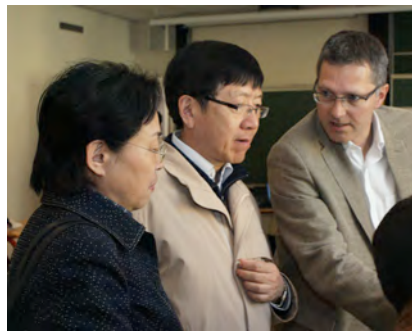
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VISIT BY A CHINESE RESEARCH DELEGATION

The Danish National Research Foundation (Grundforskningsfonden) hosted a Danish-Chinese Symposium on Information and Communication Technology on 21-23 April. This was part of a collaboration agreement with the National Natural Science Foundation of China. Around 30 Danish and Chinese researchers participated in the symposium; MT-LAB was represented by Kim G. Larsen and Flemming Nielson.



Jifeng He, professor at East China Normal University (Shanghai) and member of the Chinese Academy of Sciences, together with Flemming Nielson.



Deputy director of the National Natural Science Foundation of China, professor Bai Ge, together with Jifeng He and Kim G. Larsen.

As part of the symposium, MT-LAB hosted a site visit to DTU on 23rd April. The program included a short presentation of MT-LAB and its research goals together with posters presenting work carried out within MT-LAB. Additionally, stands presented work from CISS (Aalborg) and IMM (DTU).



WORKSHOP ON HYBRID SYSTEMS AND CONTROL

On 20-21 April the 2009 AAU-CWI-EECI Workshop on Hybrid Systems and Control took place at Aalborg University. It was organised by Rafael Wisniewski and featured several talks, including three invited talks:

- ◆ Professor **Jan H. van Schuppen** (CWI/VU University of Amsterdam): *Problems of control and system theory for biochemical reaction systems.*
- ◆ Dr **Pieter Collins** (CWI): *Rigorous computation of the evolution of nonlinear hybrid systems with Ariadne.*
- ◆ Dr **William Pasillas-Lepine** (CNRS, Université Paris-Sud): *Hybrid modelling and limit cycle analysis for anti-lock brake algorithms.*

27TH FEBRUARY 2009:

Professor **Jan Madsen**, DTU, gave a talk on *DaNES: Model-driven and component-based development of embedded systems.*

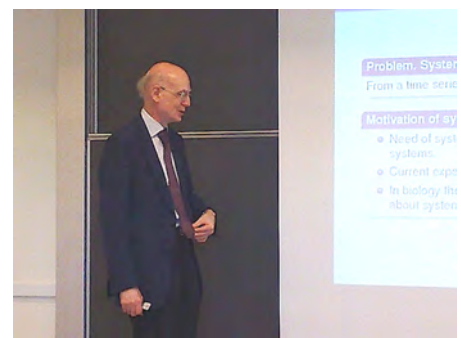
2ND APRIL 2009:

Associate professor **Luca Viganò**, Università de Verona, gave a talk on *Secure pseudonymous channels.*



17TH APRIL 2009:

Professor **Gennady Samorodnitsky**, Cornell University, gave a talk on *A birds view of fluid queues in communication network models: heavy tails and long memory.*



Jan H. van Schuppen delivering his talk at the workshop on Hybrid Systems and Control.