

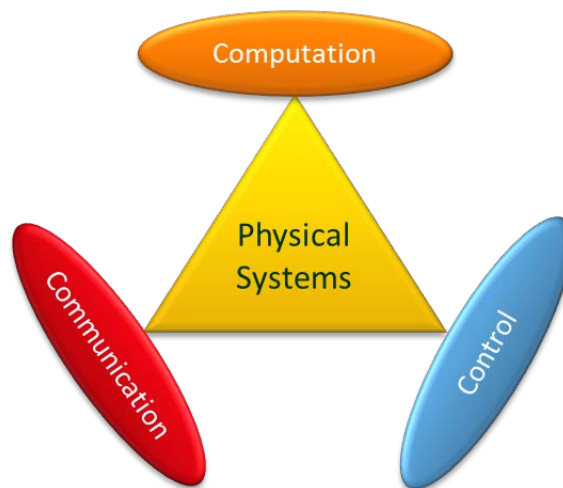
## Cyber-Physical Systems: A Diverse Challenge

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14 May 2014, 13.00 – 17.45

TU/e, Zwarte Doos – Filmzaal

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Cyber-Physical Systems have emerged over the last decade and have become a growing field in technical science. It evolved from the realization that communication, computation and control become intertwined, penetrate the physical world and become a part of it. Today we see this evolution in several directions.

One direction is high-performance embedded control, as it occurs in high-tech systems. The demand for increasing technical abilities, fulfilled with the help of Moore's law, leads to complex engineering challenges. Removing the rigid boundaries between the fields of control, communication and computation yields more reliable and cheaper systems with more sophisticated capabilities.

Another direction is the Internet of Things, with an emphasis on unified protocols between any pair of devices, deeply embedded data gathering, and advanced, data-driven services.

Challenges within CPS include also the process: design flows must become more effective in predicting results at an early stage and guide the exploration of design alternatives, while spanning multiple engineering domains.

CPS has been a special interest group within EIRICT with a series of informal meetings. An STW perspectief programme has started from within this community and several other European initiatives have started or are on their way. The TU/e community has strong connections with the high-tech industry in the region, but also with European institutions (e.g. EIT ICT Labs). This symposium is the first in a series and provides a podium for these collaborations. The topic: A **Diverse Challenge** is reflected in the program for this symposium, addressing the engineering process, the Internet of Things and complex control problems.

## Symposium Program

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13:00 – 13:30	<b>Welcome and registration</b>
13:30 – 13:45	<b><u><a href="#">Opening of the EIRICT Symposium CPS: A Diverse Challenge</a></u></b> Johan Lukkien (TU/e, Director of EIRICT and Dept. of Math. and Comp.Science)
13:45 – 14:25	<b><u><a href="#">A Control Perspective on Cyber-Physical Systems</a></u></b> Maurice Heemels (TU/e, Department of Mechanical Engineering)
14:25 – 15:05	<b><u><a href="#">Continuous Engineering in Cyber-Physical Systems</a></u></b> Harald Rueß (Fortiss GmbH, Muenchen)
15:05 – 15:30	<b>Break</b>
15:30 – 16:00	<b><u><a href="#">CPS Challenge in Autonomous and Cooperative Driving</a></u></b> Jeroen Ploeg, (TNO Technical Sciences and TU/e Dept. of Mech.Engin.) <u><a href="#">Movie1 (acc sequence)</a></u> <u><a href="#">Movie2 (Hum.foll.behav.)</a></u> <u><a href="#">Movie3 (acc movie)</a></u> (FLV player required) <u><a href="#">Movie4 (Experiments)</a></u>
16:00 – 16:30	<b><u><a href="#">The Internet of Light</a></u></b> Dee Denteneer (Philips Research, Eindhoven) <u><a href="#">Movie1 (nowifi)</a></u> <u><a href="#">Movie2 (nowifi slowmo)</a></u> <u><a href="#">Movie3 (hallway slowmo)</a></u>
16:30 – 17:00	<b><u><a href="#">Platform-Aware Embedded Control</a></u></b> Dip Goswami (TU/e, Department of Electrical Engineering)
17:00 – 17:05	<b>Closing the EIRICT Symposium</b> Johan Lukkien (TU/e, Director of EIRICT and Dept. of Math. and Comp.Science)
17:05 – 17:45	<b>Networking and Drinks</b>

# EIRICT Symposium

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