



International Federation of Automatic Control

Issue 1 - April 2010 of the Newsletter of TC 4.1 - Components and Technologies for Control

Dear members,

in the interest of increasing and coordinating activities in the Technical Committee 4.1, we have installed a newsletter of which you hold the first issue at your hands right now. This newsletter is sent to all members of our TC who are registered in the IFAC database. If your email address is out of date or you do not wish to receive this newsletter in the future or wish to include a certain topic in a future release of this newsletter, please feel free to contact me (Marco).

We hope you enjoy this first issue.

Best regards

Marco Muenchhof and Ioan Dumitrache

Topics of this Issue

1. Redesign of the TC homepage
2. Modernization of the scope
3. Upcoming conferences
4. Job positions
5. List of Publications
6. Anything missing?

1. Redesign of the TC Homepage

There is work in progress in bringing the TC homepage to the new design. All TCs will in the future have a homepage at <http://tc.ifac-control.org>. With the launch of the new homepage, we will also include a list of members with their current e-mail address. If you do not wish to appear on this list, please email me so that I can remove you.

2. Modernization of the Scope

We plan to modernize the scope of the TC 4.1. Below is a first draft. Please note that upon completion of the discussion within our TC, I will also inform all CCs and TCs of technically adjacent areas to ask for their permission to change the scope. If you have any suggestions regarding the change of the scope, please feel free to email me until April 30, 2010.

The suggested new scope is as follows:

TC 4.1 Components and Technologies for Control deals with smart components (sensors, actuators and instruments) and design tools which can be part of an answer to the demand for the efficient automation and control of complex systems and the

need for increased availability of systems. Smart components include e.g. electric motors with integrated power electronics, MEMS, integrated fluidic systems, self-validating sensors and others.

Smart components can automatically commission themselves for operation, have built in health monitoring and fault mitigation capabilities and can predict the remaining lifetime. Smart components can connect directly to field busses and high level (wired, but also wireless) networks and do not only provide basic information, such as the sensor reading, but also detailed specifications about their capabilities and state of health. Sensors can further autonomously or with the help of sensor arrays and sensor networks consolidate their sensor signals and provide a measure of confidence of the sensor signal.

Design tools for controls will support the engineer by providing an intuitive simulation environment, but also by automating many design tasks, such as controller tuning, model manipulation, automatic code design and testing. Design tools will orient themselves at the "V design cycle" and will incorporate hardware-in-the-loop and software-in-the-loop whenever possible.

Short scope:

Deals with smart components (sensors, actuators and instruments) and design tools which can be part of an answer to the demand for the efficient automation and control of complex systems and the need for increased availability of systems. Smart components include e.g. electric motors with integrated power electronics, MEMS, integrated fluidic systems, self-validating sensors and others.

We are especially grateful, if you have more examples of smart components, especially those that are related to your own research.

3. Upcoming Conferences

In this section, we will keep track of conferences sponsored or co-sponsored by our TC and conferences where members of our TC contribute in a special way, either by organizing invited sessions or by giving semi-plenary or plenary talks. Please let me know of any activities that you plan along with the conference dates.

The next meeting of the TC 4.1 is scheduled to take place at the American Control Conference 2010 in Baltimore.

- 2010 American Control Conference, June 30 - July 2, 2010 in Baltimore, USA
<http://www.a2c2.org/conferences/acc2010/>
- 18th IFAC World Congress, August 28 – September 2, 2011 in Milano, Italy
<http://www.ifac2011.org/>

The list of forthcoming conferences can be found
www.ifac-control.org/events/ifac_list?call=fcevents.htm.

4. Job Positions

If you are looking for faculty or want to hire people in industry, please let the other members of our TC know by a note in our newsletter.

5. List of Publications

There is also the possibility to make the community aware of publications important to the scope of the TC 4.1 by means of this newsletter.

6. Anything Missing?

This concludes the first newsletter. The next issue is scheduled for June 2010. Do you feel that some category should be added? Or do you want to contribute to the next newsletter? If so, please email me.

IFAC Technical Committee 4.1 – Components and Technologies for Control

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IFAC on the web: www.ifac-control.org

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