

ACTUATOR 10

**12th International Conference on New Actuators
&
6th International Exhibition on
Smart Actuators and Drive Systems**

**14 – 16 June 2010
Bremen, Germany**

Conference Proceedings

Editor

Hubert Borgmann

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14 – 16 June 2010
Bremen Exhibition and Congress Center
Germany

Organised by



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Division Messe Bremen, Germany

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Welcoming Remarks

Welcome to ACTUATOR 2010 in Bremen. This event is the 12th in a series of biennial events in Bremen and consists of the 12th International Conference on New Actuators and the 6th International Exhibition on Smart Actuators and Drive Systems.

When starting in 1988 ACTUATOR offered a new forum to a couple of non-conventional actuator technologies, most of them being far away from any commercial application at that time. In the meantime some of these technologies have achieved their technical breakthrough with series products in industrial and consumer goods. No doubt, smart materials in combination with micro technologies proved their potential for a great leap in miniaturisation and performance of actuators and drives.

ACTUATOR has always been an event focussing on the conference part close to science with an accompanying exhibition. The conference gives a comprehensive overview of the international state of research and development in the area of new actuators, and presents current developments, products and services in the accompanying exhibition.

The response to the current Call for Papers was even higher than in 2008 and all preceding events. Finally, in total 250 conference contributions, 124 oral presentations and 126 posters, will be portraying the state of the art and indicating future trends. The most obvious trend is the huge number of contributions dedicated to actuators based on dielectric and ionic polymers. We notice a strongly increasing interest in this topic: In the year 2000 we invited Y. Bar-Cohen, Jet Propulsion Lab, Pasadena, to give the first talk on polymer actuators in this event series. Today, as a result of the 39 abstracts sent in for this topic, we will have a whole day session with in total 17 oral contributions, and in addition 20 posters to be presented in the poster session. That's just a small conference for itself. We would appreciate to be the main meeting point in Europe also for this community.

But polymer actuators are not the only topic in 2010: Oral sessions are held in the following fields:

Active Vibration Control / Active Noise Control	Microactuators
Actuator Control	Microfluidics
Aerospace Applications	Nanopositioning / Nanomanipulation
Automation / Microrobots / Robots	Piezoelectric Actuators
ERF / MRF Actuators	Piezoelectric Actuator Applications
Haptic Applications	Piezoelectric Motors
Low-Power Electromagnetic Actuators	Polymer Actuators
Magnetostrictive / Magnetic Shape Memory Actuators	Shape Memory Actuators
(Bio-) Medical Applications	

Although a 2010 conference participant has the chance to listen to only 53 well selected oral contributions and a few numbers of posters, the knowledge presented in all other contributions is not lost. According to a good tradition we have again compiled the full manuscripts of nearly all oral papers and poster contributions in the proceedings. Special thanks to all the authors who went through the additional trouble and prepared their manuscripts in time.

In addition, we thank all the members of the Programme Committee for their excellent work and valuable assistance, and we are particularly grateful to the endorsing institutions and to all others who have supported our public relations work. Our special thanks go to all those participants who are actively contributing to this event by sharing the results of their research work here – as authors of papers and posters, or as exhibitors – and thus possibly igniting new projects, initiating new co-operations, or paving the way for new business connections.

As every time we look forward to interesting presentations, lively discussions and helpful new contacts, and we would be delighted to welcome you to Bremen again in two years for ACTUATOR 2012.

Enjoy your conference!


Hans Peter Schneider
General Manager
Messe Bremen

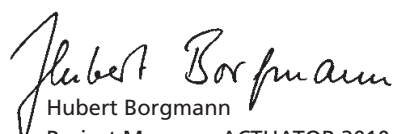

Hubert Borgmann
Project Manager ACTUATOR 2010
Messe Bremen

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