

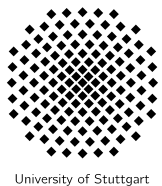
Important Deadlines

- **Submission of Abstracts**
January 20, 2014
- **Notification of Acceptance**
February 28, 2014
- **Early Registration**
March 10, 2014
- **Registration**
April 30, 2014

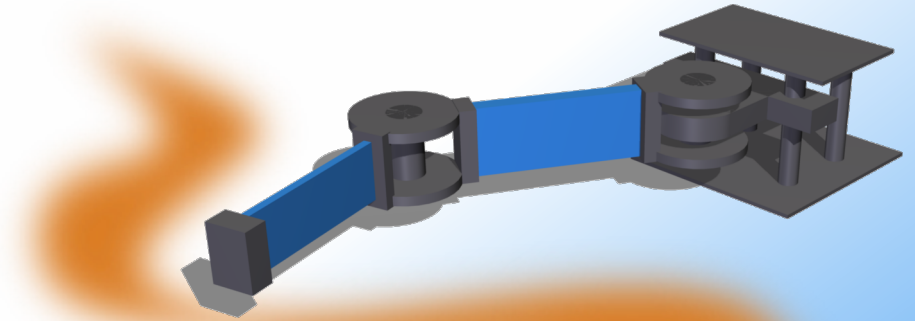
Symposium Organization

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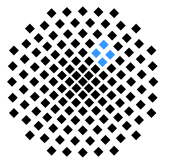
IUTAM



IUTAM Symposium on
**Dynamical Analysis of Multibody Systems
with Design Uncertainties**

Stuttgart, Germany
June 10 – 13, 2014

www.itm.uni-stuttgart.de/iutam2014



IUTAM Symposium on Dynamical Analysis of Multibody Systems with Design Uncertainties

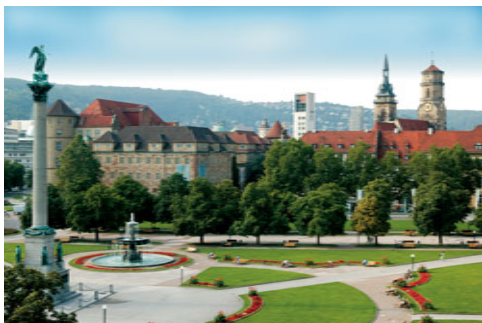
Stuttgart, Germany, June 10 – 13, 2014



Campus Stuttgart-Vaihingen ©University of Stuttgart



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Venue

The conference will take place at the University of Stuttgart, located in the southwest of Germany. The University of Stuttgart was founded in 1829 and is one of the major universities in Germany. The conference location will be the campus of the University of Stuttgart in Vaihingen which can easily be reached by public transportation.

Call for Papers

Authors wishing to contribute to the Symposium are invited to submit a two-page abstract, clearly stating the objectives, results and conclusions of the work to be discussed in the presentation. The number of participants will be limited and preference will be given to active researchers in the field. Confirmation of participation in the Symposium by the authors will be required when papers are accepted. Only confirmed presentations of registered participants will be included in the final programme. This will enable the participants to fully benefit from the contributions and discussions.

Web Page

Further information will be provided on the web page

www.itm.uni-stuttgart.de/iutam2014

including author's instructions, submission procedure, registration, travel and accomodation.

Aims and Scope

A common problem in the analysis of mechanical systems is the fact that the parameters of the models can exhibit a high level of uncertainty and exact values for their quantification can often not be provided. This non-determinism in numerical models may arise as a consequence of different sources. On the one hand, there may be natural variability or scatter. On the other hand, there may be uncertainties which arise from a lack of information, e.g. for parameters to be still defined during the design phase of a product, but also from simplification and idealization as it usually appears in every modeling procedure. These conditions manifest as uncertain model parameters, and consequently, the results that are obtained for analyses of systems that only use one specific set of values as the most appropriate ones for the design parameters cannot be considered as reliable, for they are not representative of the whole spectrum of possible model configurations.

Against this background, various approaches to the inclusion of uncertainties in the numerical analysis of dynamical systems and structures have been introduced in the past decades, involving probabilistic as well as non-probabilistic techniques. Supported by the increasing capabilities of modern high-performance computing, these advanced, non-deterministic approaches to the dynamical analysis of mechanical systems can strengthen the trustworthiness of numerical predictions and provide new possibilities in the processes of product development, such as engineering design and virtual prototyping, beyond the means of conventional, deterministic concepts.

The aim of this IUTAM Symposium is to give a state of the art of the potentials, challenges and limitations of different approaches to the analysis of mechanical systems in the presence of design uncertainties. The topics will range from probabilistic methods to approaches based on interval descriptions or fuzzy sets, from linear to nonlinear problems, from forward analyses to inverse problems, from theoretical developments to practical applications, and from the analysis of structures to multibody systems dynamics.

Scientific Committee

The Symposium is supervised by an International Scientific Committee:

Michael Hanss, Germany (chair)
Alexander Belyaev, Russia
Harry Dankowicz, USA
Wim Desmet, Belgium
Haiyan Hu, China
Robin Langley, United Kingdom
Christian Soize, France

IUTAM Representative:

Peter Eberhard, Germany

