Registration

☐ I would like to present a paper at the 10th Forming Technology Forum

Title: ----------

Author(s): ----------

☐ I register as participant for the 10th Forming Technology Forum

First Name: ----------

Last Name: ----------

Title: ----------

Company: ----------

Department: ----------

Address: ----------

ZIP, City: ----------

Country: ----------

Phone: ----------

Fax: ----------

E-mail: ----------

Date: ----------

Signature: ----------

Please complete the form and email it to ftf2017@utwente.nl or mail to:

University of Twente
Faculty of Engineering Technology
Nonlinear Solid Mechanics
Horst Ring (Building 21), N140
Postbus 217
7500 AE, Enschede
The Netherlands

Venue

Hotel Drienerburght
5 Drienerlolaan
7522NB, Enschede
The Netherlands
www.drienerburght.nl
Tel: +31 53 433 1366

Organized by:

UNIVERSITY OF TWENTE.

ETH
Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

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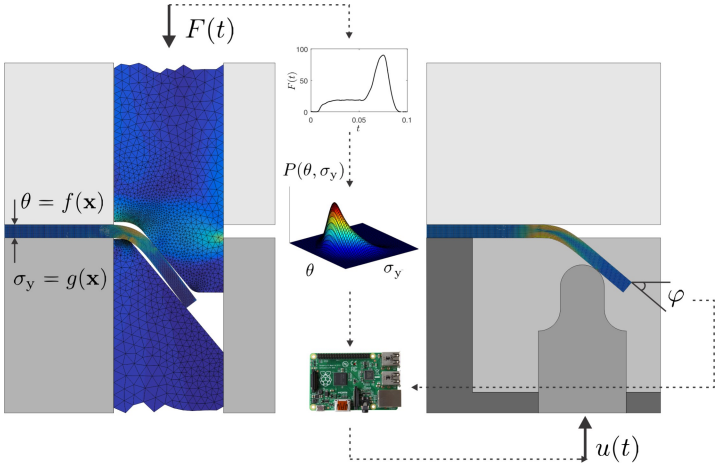
Forming Technology Forum

10th Forming Technology Forum

Model Based Control for Smart Forming Processes

12 and 13 October 2017
Enschede, The Netherlands

Call for Papers



UNIVERSITY OF TWENTE.
Prof.dr. A. H. van den Boogaard

Institut für Virtuelle Produktion
Institute of Virtual Manufacturing
Prof.dr. P. Hora

utg Lehrstuhl für Umformtechnik und Gießereiwesen
Prof.dr. W. Volk

About FTF2017

Model Based Control for Smart Forming Processes

Forming Technology Forum is a 2-day conference with a limited number of carefully selected presentations and sufficient time for in-depth discussion. The forum is organized annually and each year a different theme is selected.

The focus of the 10th Forming Technology Forum is on smart forming processes, in which process control is supported by dedicated process models. It is strongly related to concepts as zero-defect manufacturing and first-time-right production. Control is focused on achieving desired product properties, rather than on controlling a prescribed tool displacement. Sensors for measuring variations in material and process conditions, together with models for the propagation of these variations in the process to the final product properties will be discussed.

In manufacturing technology, control algorithms are classically used to achieve a prescribed displacement of tools. The tool settings are optimized for nominal material properties or -at best- determined to achieve a robust process result under the influence of material and process scatter. Two trends require to go beyond tool control and investigate direct control of product properties. Firstly, increasing requirements on product accuracy reach a state where no robust fixed machine setting can handle the unavoidable material and process scatter within the specification limits. Secondly, due to customization requirements batch sizes become significantly smaller and tuning of control systems for every batch should be avoided.

Because the quality parameters to be controlled are often not directly measurable, models are used to translate between sensor data and required action. Standard finite element models use way too much calculation time to be applied in a control algorithm. Model reduction techniques are required to obtain models that can be integrated in control strategies.

The conference brings together researchers and practitioners in production technology, modelling and control to share and benefit from each other's experience by high quality presentations and lively discussions.

Prof.Dr. Ton van den Boogaard (chairman FTF2017)
Prof.Dr. Pavel Hora
Prof.Dr. Wolfram Volk

Topics

Presentations are expected to cover several of the following topics:

Actuators
- Flexible forming
- Coupled actuator systems

Sensors
- Workpiece measurements
- Process measurements
- State estimation

Models
- Physics-based models
- Data-driven models
- Numerical model order reduction
- Hybrid models

Control systems
- Feedback control
- Feedforward control
- Robustness and stability

Applications
- Multistage forming
- Flexible forming
- Metal and composite forming
- Mass customization

We are looking forward to a fruitful and inspiring conference!

Paper Length
Max. 6 pages

Publication
All papers are collected in printed proceedings.

Organization

Conference Date
10th Forming Technology Forum
October 12th – 13th 2017

Important Dates

Deadline abstract submission	**March 31st, 2017**
Notification of acceptance	**April 21st, 2017**
Deadline final paper submission	**June 16th, 2017**
Deadline participants registration	**August 31st, 2017**

Conference Location
Hotel Drienerburght
5 Drienerlolaan
7522NB, Enschede
The Netherlands

Conference Fees

Industry:	650.- Euro
Academics:	450.- Euro
Speakers:	250.- Euro

(incl. catering during the conference and conference dinner)

Early bird discount for registration before May 30th 2017:
-50.- Euro

Conference Language
English

Contact information
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www.utwente.nl/ftf2017

Conference Chairman
Prof. Dr. A. H. van den Boogaard
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