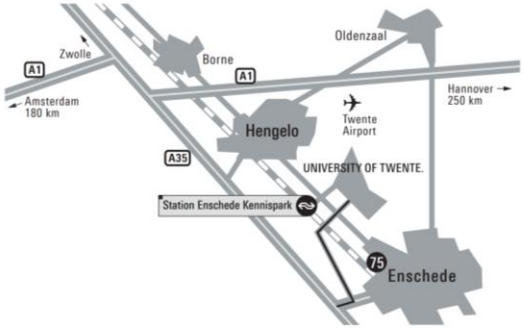
Venue

U Parkhotel
Campus University of Twente
5 Drienerlolaan
7522NB, Enschede,
The Netherlands
https://www.uparkhotel.nl/



Organized by

UNIVERSITY OF TWENTE.

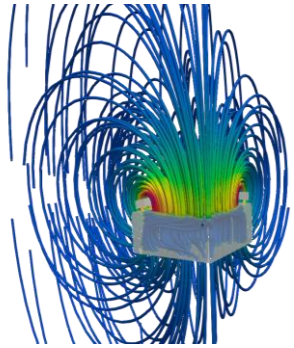
ETH
Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Technische Universität München

Focus

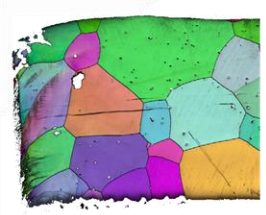
Open questions

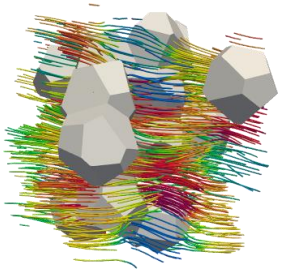
- How to deal with composition spread introduced by increasing scrap usage?



In-line property estimation using electromagnetism?

- How does forming/cutting affect electrical properties of steel?





Predicting electrical loss due to grain orientation distributions ?

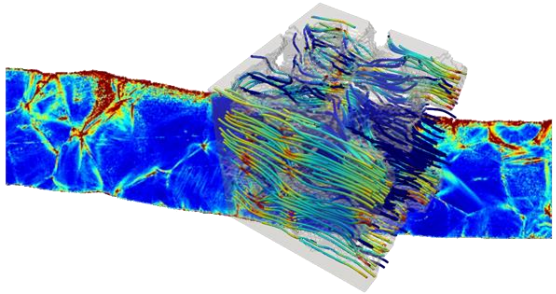
- What are the important parameters in forming/cutting of battery packs/bi-polar plates?

Forming Technology Forum

13th Forming Technology Forum

Material forming in a sustainable world – the influence of energy transition and circularity on forming technology

21 & 22 September, 2022
Enschede, The Netherlands



Chair of Nonlinear Solid Mechanics
Faculty of Engineering Technology

Prof. Dr. A.H. van den Boogaard

utg Lehrstuhl für Umformtechnik und Gießereiwesen

Prof. Dr. W. Volk

Institut für Virtuelle Produktion
Institute of Virtual Manufacturing

Prof. em. Dr. P. Hora

About FTF 2022

Material forming in a sustainable world

Forming Technology Forum is a 2-day conference with a limited number of carefully selected presentations and sufficient time for in-depth discussion. Each year another theme is selected and after a 2-years interruption due to the Covid-19 pandemic, the series is continued in 2022.

The 13th Forming Technology Forum highlights the impact of global sustainability goals on forming technologies. One clear trend is seen in transportation where electrically driven vehicles quickly take over the position of vehicles driven by fossil fuels. This poses new challenges on mass production of e.g. battery cells and battery packs or bipolar plates and hydrogen storage tanks, depending on the selected energy carrier. Also, electromotors must be produced in high quantities, and their efficiency depends on e.g. plastic deformations during cutting of electrical steels for stator and rotor packs. Forming by plastic deformation is still unrivalled as efficient and fast means for mass production. To reach sufficient accuracy, simulation models must be adapted to the new applications.

Another trend, related to sustainability, is the quest for a circular economy, where materials are endlessly recycled. This will influence the composition of available materials. Scarce materials and alloying elements must be avoided, potentially leading to less favorable properties. Re-using large amounts of scrap in materials production may increase the variability of material properties, requiring on the spot measurements and adaptation of process settings to keep production within specifications.

Finally, the manufacturing process itself has an environmental footprint too. Energy consumption is especially high in hot stamping and subsequent heat treatments. Reduction of energy consumption and supporting materials, like lubricants, explicitly fall within the scope of the conference.

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

Prof. Dr. Ton van den Boogaard (chairman FTF2022)
Prof. em. Dr. Pavel Hora
Prof. Dr. Wolfram Volk

Topics

Presentations are expected to cover several of the following topics:

Battery technology

- Forming of battery cans and packs
- Crash safety

Bipolar plates

- Forming
- Cutting

Hydrogen storage tanks

Electric motors

- Cutting of electrical steel
- Electromagnetic properties in relation to forming/cutting

Materials scarcity and recycling

- Influence of increased scatter in mechanical properties

Energy reduction in manufacturing

- Optimized process routes e.g. in hot forming
- New press technologies

General Forming Technology topics

Confirmed keynote speakers

Prof. Dr.-Ing. A. Erman Tekkaya, IUL, TU Dortmund

Prof. Dr.-Ing. Rüdiger Daub, IWB, TU München

Prof. Dr. ir. Joost Duflou, MaPS, KU Leuven

Organization

Paper length

max. 6 pages

Presentations

25 minutes including discussion

Publication

All papers are collected in printed proceedings.

Important dates

June 30th, 2022	Deadline early-bird registration
August 31st, 2022	Deadline participants registration

Conference fees

Industry:	EUR 600.-
Academia:	EUR 400.-
Speakers:	EUR 250.-

incl. catering and conference dinner
Early bird discount (EUR -50.-) for registration

Conference language

English

Contact information

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Conference chairman

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