

New Developments in Sheet Metal Forming

Edited by
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INSTITUTE FOR METAL FORMING TECHNOLOGY
OF THE UNIVERSITY OF STUTT GART



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Papers of the

**International Conferences on “New Developments in Sheet Metal Forming”
and “New Developments in Hydroforming”**

in Fellbach (near Stuttgart) – Germany, held on May 10th and 11th, 2016.

Conference chairman: Univ. Prof. Dr.-Ing. Dr. h. c. Mathias Liewald MBA

Director of the Institute for Metal Forming Technology (IFU) of the University of
Stuttgart, in cooperation with:

“Forschungsgesellschaft Umformtechnik mbH” (FGU, Stuttgart / Germany),

“Deutsche Gesellschaft für Materialkunde e.V.” (DGM, Frankfurt / Germany)

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Preface – NEBU

The International Conference “New Developments in Sheet Metal Forming” held in Stuttgart / Germany is organised every second year alternatingly with the International Conference “New Developments in Forging Technology”. The main goal of both conferences is to gather engineers and experts from the industry as well as scientists from universities to discuss the current state of the art, and future tendencies and targets in research and development of new sheet metal and/or bulk metal forming technologies.

Annually, the Institute for Metal Forming Technology (IFU / Stuttgart / Germany) organises this event in collaboration with the Forschungsgesellschaft Umformtechnik mbH (FGU / Stuttgart / Germany). For many years, the concept of the conference was to focus on effectively transferring scientific results into value added chains of companies operating in the field of sheet metal forming and other market segments. Therefore, the topics of the papers selected to be presented at the conference should have a reference to current research activities in sheet metal forming, hot forming, and tool design in Europe, the United States, and Asia. Through the conference and its contributions it is intended to present strategic issues of rather general topics in the field of producing sheet metal components to external specialists and determine the recent state of the art on an international level.

During this two-day conference, experts from both universities and industrial companies will present their papers and discuss their newly achieved results with experts from all over the world. Conference topics include investigations performed at several European metal forming institutes, at companies from the industry, and at the Institute for Metal Forming Technology (IFU) of University of Stuttgart. Thus, a balanced mix of practical and theoretical contributions will be presented. In 2016, special attention was paid to present and publish modern practical solutions in hot and cold forming of sheet metal materials, modern concepts of material compositions, as well as heat treatment and new approaches in order to integrate modern sensors into the tool structure to control process development during serial production. Another priority of the conference was to identify potentials of lightweight materials, which are applied in engineering, transporting and mobile systems. Therefore, the opening presentations in particular pay attention to recent questions in metal forming technologies and near future manufacturing strategies! Furthermore, the technological potential of new material developments / alloys will be disclosed to make attendees able to respond easily to occurring questions when running their day to day business in the sheet metal forming industry, or when visiting companies of today’s system suppliers.

Company visits offered on Monday, May 9th, 2016 and contributions from numerous international acting market players and different technological research institutions in Germany are objecting present and deep insight into current developments and research work in the field of sheet metal manufacturing. During the conference, the visitors and speakers are given the opportunity of contributing professionally, analysing and observing trends, exchanging ideas, and cultivating personal networks. Therefore, the conference programme includes visits to industrial companies and a welcoming evening at IFU on the day before conference, the gala dinner on the 1st conference day, and exhibitions throughout the entire conference.

I would like to thank all of the authors for contributing and inspiring this conference! I also am grateful for the support of Deutsche Gesellschaft für Materialkunde e.V. (DGM), Frankfurt / Main, Germany, who will attach these proceedings to its publishing programme. This collection of papers presented on May 10th and 11th, 2016 in Fellbach / Stuttgart in Germany will be distributed widely and will be available to all international experts involved.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'M. Liewald', with a long, sweeping underline.

Univ.-Prof. Dr.-Ing. Dr. h. c. Mathias Liewald MBA

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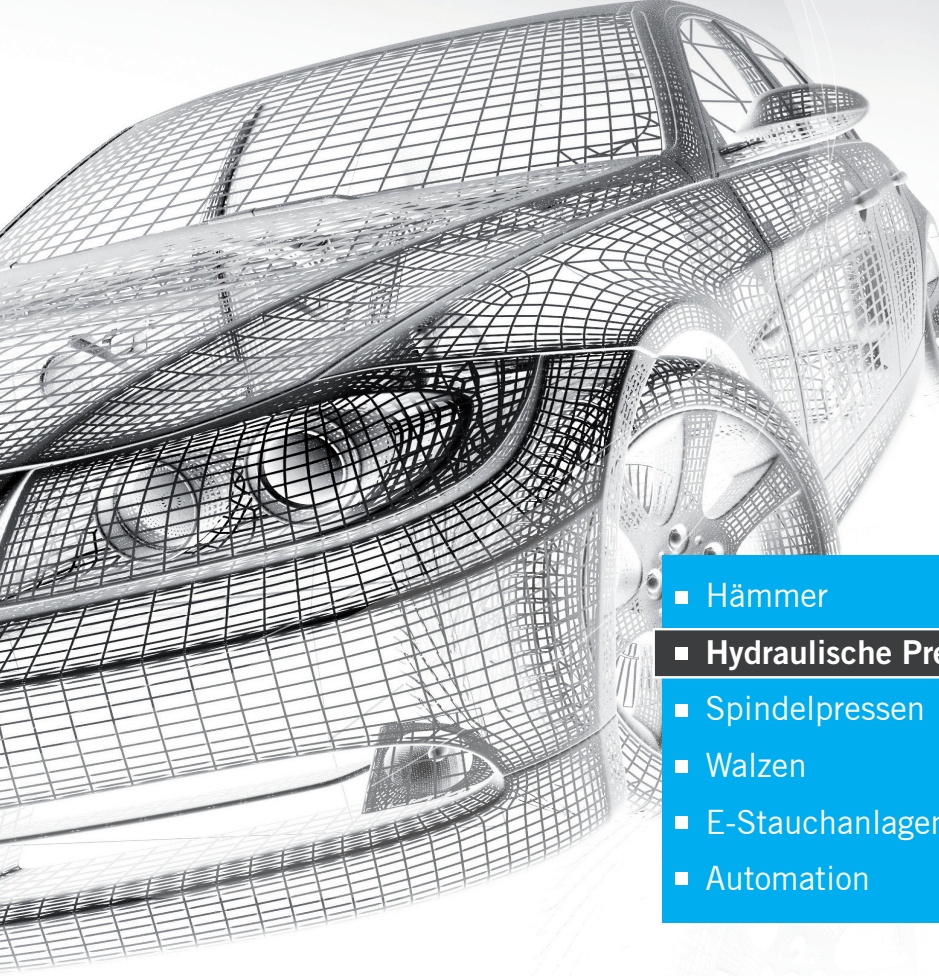
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