9th International Conference on
HOT SHEET METAL FORMING OF HIGH-PERFORMANCE STEEL

27 – 29 May 2024, NASHVILLE, TN., USA

1st ANNOUNCEMENT – CALL FOR PAPERS
HOT FORMING OF HIGH-PERFORMANCE MATERIALS – A KEY TECHNOLOGY FOR SUSTAINABLE DEVELOPMENT

The utilization of high-performance materials to push the boundaries for product performance and simultaneously meet increasing environmental demands is a well-known strategy. The automotive industry is a good example where implementation of high-strength steels has significantly contributed to enhanced crashworthiness and reduced greenhouse gas emissions. Producing components from high-performance materials is a challenge where thermo-mechanical forming processes offers a solution. Hot forming is a key technology to realize components with complex shapes and high strength. Besides well-established processes such as press hardening of boron steels, advanced derivatives including light alloys forming, tailoring of mechanical properties in the same components or forming of hybrid metal-composite materials are also on the market. Automotive is still leading the innovation, now addressing the challenges of electro-mobility, but the technology is penetrating in other sectors.

The ongoing global transition to sustainable use of resources and development of energy efficient production processes is also affecting the hot forming industry. While being the solution to these challenges for some industries, the hot forming industry will also face its own challenges to meet and contribute to the global sustainability goals. Improving efficiency in heating technology and minimizing scrap are examples of such challenges that need to be addressed. The introduction of fossil-free steels will also present new technological challenges. In order to shift to a higher degree of circularity, producing components with extended use-phase is an important direction as well as increasing the recyclability of materials with traceability to ensure that the novel and fossil-free materials remains in the loop.

Eurecat’s hot stamping pilot plant
CONFERENCE SERIES AND SCOPE

The biannual CHS² conference series has after eight very successful conferences since 2008 grown into the number one platform for scientific exchange in hot forming technologies. The first conference was held in 2008 in Kassel (Germany) and has been hosted in Luleå (Sweden), Toronto (Canada), Atlanta, Georgia (USA) and the 8th edition in 2022 in Barcelona (Spain).

The 9th CHS² edition will be held in Nashville, Tennessee, USA. New topics have continuously been added to the scope for every conference edition.
For the third time, the CHS² conference will be held in North America, where the press-hardening technology is expanding concerning research, industrial development, and implementation. CHS² 2024 will be held in Nashville, TN., USA, 27–29 May 2024. The venue is the Hilton Garden Inn.

As in Toronto 2015 and Atlanta 2017, CHS² 2024 will be organized in cooperation with AIST, a not-for-profit entity with 18,000 members worldwide. AIST is recognized as a global leader in networking, education and sustainability programs for advancing iron and steel technology.

Hilton Garden Inn Nashville Downtown
NASHVILLE, TN., USA

26 May 2024: Reception and pre-registration
27–29 May 2024: Conference
CONFERENCE TOPICS

Material
- High-performance steels
- Tool steels
- Microstructural properties
- Surface design and coatings
- Light alloys
- Hybrid metal-composites

Products
- Product innovations and optimization
- Tailored material properties
- Cutting and joining technologies
- Applications and performance
- Design and tests

Modeling and Simulation
- Process modeling
- Microstructure
- Heat transfer
- Thermomechanical properties
- Friction and wear
- Component properties
- Deformation, fracture and fatigue

Process Design
- Tool systems
- Heating and cooling strategies
- Automation and control
- Process monitoring
CALL FOR PAPERS

All contributions on the theme of the conference are welcome. Prospective authors are invited to submit their abstracts via the conference paper submission system (see instructions below). The full papers will be reviewed by the members of the scientific advisory board and, if accepted, will be published in the conference proceedings. The organizing committee will encourage high-quality scientific conference papers to be published in international journals after the conference.

IMPORTANT DATES

Abstract submission deadline: 16 October 2023

Full paper submission deadline: 7 February 2024

Revised paper submission deadline: 4 April 2024

Conference: 27–29 May 2024

ABSTRACT SUBMISSION GUIDELINES

For submission of abstracts, please register in the conference paper submission system and upload your abstract in accordance with the abstract submission guidelines:

www.chs2.eu

- Abstract text: maximum 400 words
- Language: English
- The abstract submission must include:
  > Title of paper
  > Presenting author
  > Co-authors
  > Affiliations
  > Abstract including keywords and references
ORGANIZING COMMITTEE

- Prof. Jens Hardell  
  Luleå University of Technology, SE

- Prof. Daniel Casellas  
  Eurecat, Technology Centre of Catalonia, ES / Luleå University of Technology, SE

- Prof. Paul Åkerström  
  Luleå University of Technology, SE

- Brian Bliss  
  Association for Iron and Steel Technology (AIST), US

CONFERENCE SECRETARY

Shannon Kiley  
(Organizational Tasks)  
Association for Iron & Steel Technology (AIST)  
186 Thorn Hill Rd  
Warrendale, PA 15086 USA

Tel.: +1.724.814.3064  
Fax: +1.724.814.3065

e-mail: skiley@aist.org

Updated information can be found on the conference homepage  
www.chs2.eu

Association for Iron & Steel Technology
Prof. Paul Åkerström
Luleå University of Technology, SE

Prof. Marta-Lena Antti
Luleå University of Technology, SE

Prof. Daniel Berglund
RISE, SE

Prof. Francisca G. Caballero
Centro Nacional de Investigaciones Metalúrgicas – Consejo Superior de Investigaciones Científicas (CSIC), ES

Prof. Daniel Casellas
Eurecat, Technology Centre of Catalonia, ES / Luleå University of Technology, SE

Prof. Marco A. Colosio
GM Brazil, BR

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University of Siegen, DE

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Novelis Aluminum, US

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Mondragon University, ES

Prof. Jens Hardell
Luleå University of Technology, SE

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Luleå University of Technology, SE

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Colorado School of Mines, US

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