



## Sesión Temática “Simulación de Procesos de Conformado”

### Mini-Symposium “Simulation of Forming Processes”

#### **Mini-Symposium description**

The numerical simulation of forming processes involves a high level of complexity, from both fundamental and industrial application standpoints, requiring robust and comprehensive computational mechanics' formulations in order to achieve realistic solutions.

Focusing on advanced models for numerical simulation of forming processes, its complexities and challenges, this Mini-Symposium aims to present and discuss the current state-of-the-art and future trends in the field of computer-based engineering analysis of conventional and innovative material forming industrial processes.

Typical forming techniques to be focused include, for instance, sheet and bulk forming, extrusion, tubular and open-blank hydroforming, electromagnetic forming, incremental sheet forming, forming of composite materials, as well as friction stir welding and conventional joining operations, that nowadays are also present in high-performance formed products. Also, complex constitutive modelling and its implementation will represent a special theme within the proposal, since these aspects are of utmost importance in reliable numerical simulation models.

As a summary, a special focus within the present proposal will rely on sources of nonlinearities prone to affect the accuracy and reliability of numerical approaches, such as locking effects, hourglass instabilities, fluid-structure iteration, thermal-mechanical coupling, contact and friction, anisotropic constitutive criteria and hardening mechanisms, among others, aiming to promote and reinforce the communications between academic and industrial researchers.

#### **Organizers**

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