

This workshop is meant for young researchers in metal forming and addresses the topics of damage prediction and smart monitoring systems. Aim of workshop is to broaden your expertise with hands-on lectures thus contributing to a suitable atmosphere to connect to other international young researchers.

In **Part 1**, the theoretical background of damage prediction in FE simulation will be explained. Additionally, we will have some presentations (15 min talk + 5 min discussion) related this field from participants. Contributions by young researchers, engineers and students are welcome.

In **Part 2**, participants will experience an introduction to smart monitoring systems with hands-on lecture. You will learn fundamental skills of strain measurement methods and data acquisition using miniaturized wireless monitoring systems. Finally, we use actual strain gauges and visualize the measured data.

We are looking forward to welcoming you! *The organizers, Prof. Hayakawa, Prof. Galdos, Prof. Yoshida*

## Part 1 9:00 – 12:00

### 「Damage prediction in FE simulation」

Computational Cold Forging Subgroup  
Prof. Galdos, Prof. Yoshida

9:00–10:40 Lecture: Basic notions of ductile fracture and FEM application

10:40–12:00 CCF presentation slot for young scientists and students

## Part 2 13:30 – 16:00

### 「Basics of smart monitoring systems」

Center for Advanced Die Engineering and Technology  
Dr. A. Kutsukake, K. Groetzing, Dr. T. Nakane

13:30–14:30 Strain gauge and theory of bridge circuit, Basics of electronic circuit

14:30–16:00 Embedded coding with micro controller (Arduino), monitoring and visualization

※ A small lunch buffet will be provided by the ICFG

## Call for contributions

In Part 1, authors are requested to submit (1) author name, (2) the title and (3) the abstract of their contributions. Final presentations must be submitted by e-mail to [secretary@icfgws.org](mailto:secretary@icfgws.org). The accepted file format for the abstract will be \*.docx (free format) and for the presentations \*.ppt and \*.pdf. Please note the following deadlines:

Abstract submission ——— Registration by E-Mail ——— Presentation submission ———> ICFG Workshop  
2025/08/31 2025/08/31 2025/09/05 2025/09/18

**Registration fee: Free of charge and opened for non-members**  
**First-come-first-served!**

## Organizers

Prof. Lander Galdos, Mondragon University, Spain  
Prof. Yoshinori Yoshida, Gifu University, Japan  
Prof. Kunio Hayakawa, Shizuoka University, Japan

## Contact

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## Registration form

Please send completed form until **2025/08/31**  
to: [secretary@icfgws.org](mailto:secretary@icfgws.org)  
Registration is **free of charge** for participants of ICFG Plenary Meeting 2025.

Title:
Name:
Affiliation:
E-Mail:
Note: Please check if you agree. <input type="checkbox"/> Participants should bring their own laptop-PC in which basic software is preinstalled.