

**IC-MPPE
Integrated Computational
Materials Process and Product
Engineering.**

Programme: COMET – Competence
Centers for Excellent Technologies

Programme line: COMET-K2 Centre

Type of project: Full program



Presentation of the Innovation Award of the Province of Styria in Leoben, Image: MCL

f.l.t.r.: Christoph Ludwig (SFG), Gisele Amancio (MCL), Anton Köck (MCL), Landesrätin Barbara Eibinger-Miedl, Reinhold Ebner (MCL).

MCL EMPLOYEES WERE SHOWERED WITH AWARDS

IN 2022 MCL EMPLOYEES RECEIVED A NUMBER OF PRESTIGIOUS AWARDS FOR THEIR SCIENTIFIC WORK.

The excellence of research centers is strongly related to the excellence of their staff. In this respect, 2022 was a year of awards for the Materials Center Leoben and the IC-MPPE research program. Therefore, we would like to present these prizes in chronological order:

Daniel Scheiber was ranked 4th among the publishing authors of the renowned journal "Acta Materialia" (2021) and 3rd among the most cited authors of the journal "Materials Science and Engineering - Modelling and Simulation" in January due to his excellent publications in the previous year.

In March, **Anton Köck** and his team (see picture above) won the Innovation Award of the Province of Styria for the development of highly miniaturized nano-sensors that measure harmful and polluting gases with unprecedented accuracy. Gas sensors are already widely used in industry. They monitor

production processes, ensure safety in the workplace or support building management. Nanotechnology is now opening up completely new ways to miniaturize such sensors.

Martina Angermann won the second place for the "Student Pitch Contest" at the conference "IEEE International Symposium on Applications of Ferroelectrics (ISAF 2022)" in Tours (France) in June 2022 with her contribution "Conductive Oxide Electrodes for Ferroelectric Capacitor Devices".

Larissa Egger won the "Best Oral Presentation Award" for her presentation "Efficient screening of hybrid nanomaterials for optimizing chemical sensor devices" at the conference "International Symposium on Sensor Science (I3S 2022)" in Warsaw (Poland) in June.

SUCCESS STORY

In July, **Florian Pixner** won the "Welding in the World Best Paper" award at the "75th IIW Annual Assembly and international Conference (IIW2020)" in Tokyo, Japan, for his publication "Contactless temperature measurement in wire-based electron beam additive manufacturing Ti-6Al-4V", which was written as part of the IC-MPPE project "Wire based Additive Manufacturing (AM) of tool components (AMTool)".

Vignaswaran Kaliyaperumal Veerapandiyan and his team of authors were awarded the Best Paper Award of the Austrian Ceramic Society (AuCerS). The award-winning paper, "Origin of Relaxor Behavior in Barium-Titanate-Based Lead-Free Perovskites," is the result of extensive collaboration among several research groups worldwide coordinated by MCL.

In October, **Sandra Baltic** won the Hans List Fonds stipendium for her dissertation "Damage and Fracture in Aluminum Structures". Her dissertation focused on modeling damage and fracture mechanisms of metallic materials. Her research was conducted at MCL in the IC-MPPE project "Virtual Mechanical Prototyping of Aluminum Electrolyte Capacitors".



Images of the award winners:
 top, f.l.t.r.: Daniel Scheiber, Anton Köck, Martina Angermann, Larissa Ecker;
 bottom f.l.t.r.: Florian Pixner (© TU Graz), Vignaswaran Kaliyaperumal Veerapandiyan, Sandra Baltic, Michael Töfflerl

In October, **Michael Töfflerl's** thesis "Inline Monitoring of Thermal Resistances for LED Packages" was awarded 2nd place among the three best master's theses on the topic of "Digital Sovereignty" at the conference "Energy efficiency enabled by ESBS" in Vienna. In his master's thesis, he developed a monitoring system for LEDs that makes it possible to detect faulty LEDs at an early stage.

Project coordination (Story)

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- Technische Universität
Graz, Austria

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