

We Innovate Materials

Material and Component Testing

Testing of Microelectronic Components

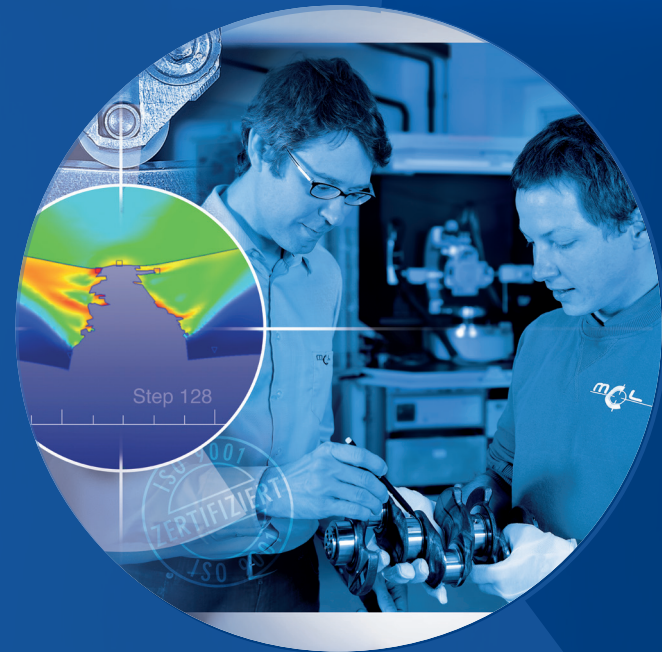
Material Process and Component Simulation

Damage Analysis and Fractography

Consulting Material/Process/Product

Seminars and Workshops

MCL Services



COMPETENCE & RELIABILITY



ZUKUNFTSDIALOG

Materials Center Leoben Forschung GmbH

Materials Center Leoben Forschung GmbH is an internationally positioned research company specializing in materials, manufacturing and processing technologies, as well as innovative materials applications. We mainly focus on metallic and ceramic materials and their composites.

MCL is part of a network of scientific and corporate partners from industries with materials-based innovations, whose competences extend along the entire value chain.

The range of services offered by MCL includes research and development plans with partners from international industries within the framework of cooperative research and development projects, as well as a comprehensive range of services (MCL Services).

At MCL, more than 160 highly trained employees work on innovative developments and the necessary foundations of these developments within the framework of cooperative research and development projects together with corporate and scientific partners.

IZ + WERKSTOFFE



*„Our expertise
is your profit.“*

MCL Services

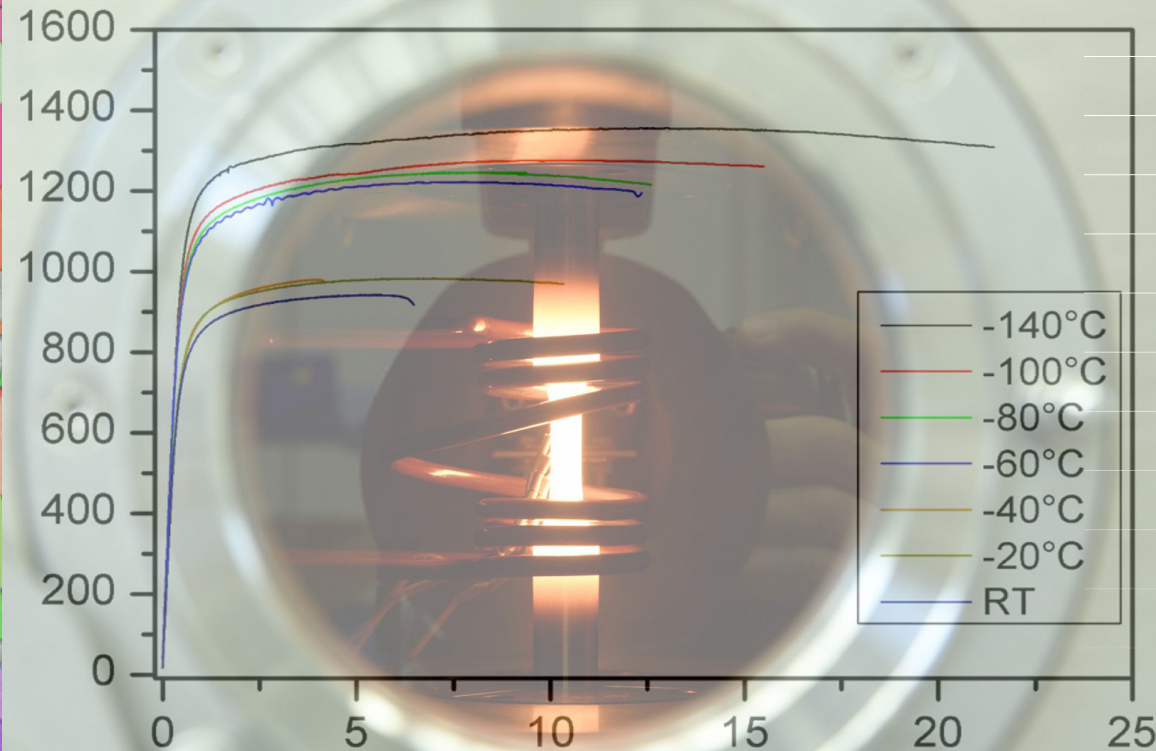
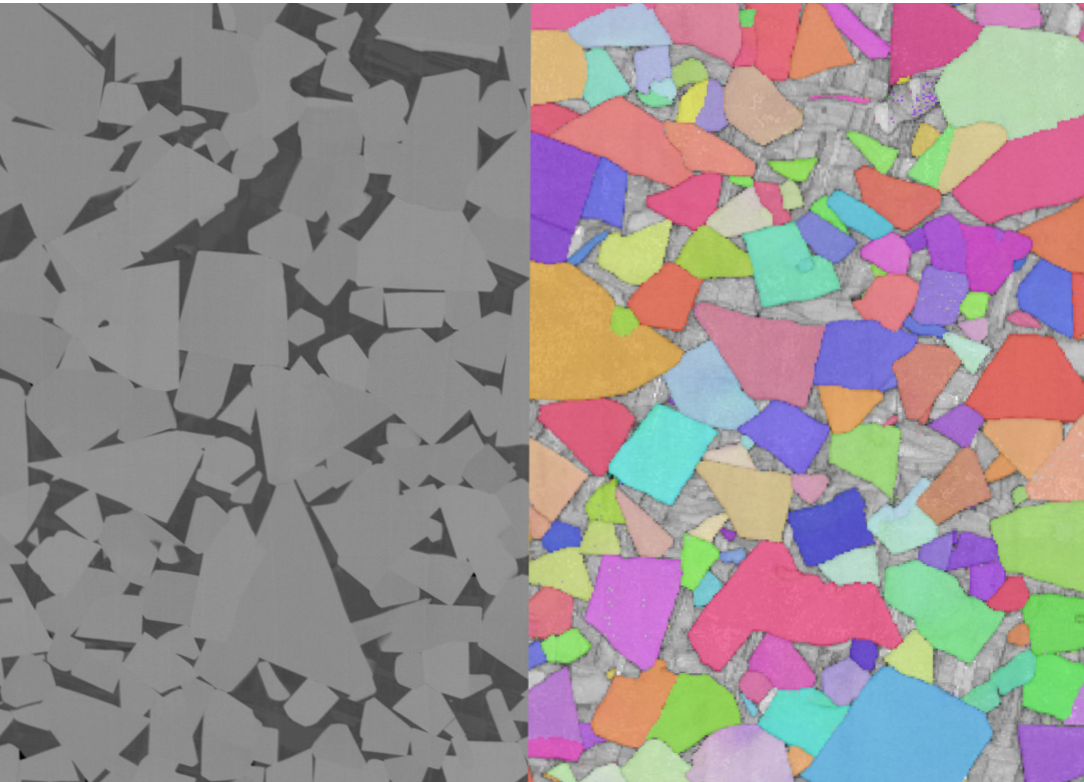
We have about 40 employees who work at MCL Services. Due to our theoretical and practical expertise as well as our state-of-the-art facilities, we are a flexible and practice-oriented partner in research, but also in the development and application of materials technology, process technology, quality assurance and component design. Thus, we have a high level of understanding for given tasks.

The main advantage of collaborating with us is the combination of experimental investigations in the laboratory with the help of calculations and simulations, which are supported by our high-tech equipment and our wide-ranging specialist knowledge of numerous materials.

With our high-quality awareness, we are a flexible and reliable partner. We carry out investigations quickly, confidentially, customized and with the highest possible quality.

Dr. Stefan Marsoner, Head of Department Services

Material and Component Testing



Microstructural analysis, determination of chemical, structural and mechanical properties of various metallic and ceramic materials and composites

[link to the folder](#)

Contact:



DI Petri Prevedel
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Dr. Angelika Spalek
T: +43-676 848883 461

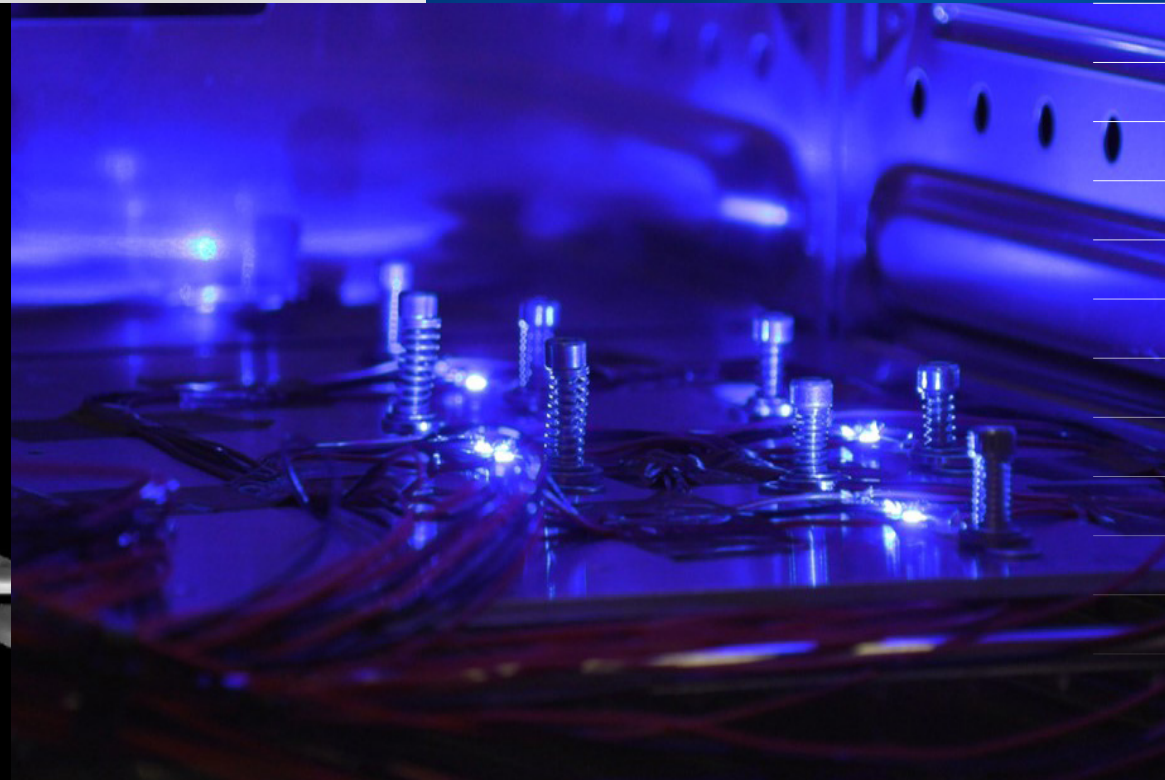
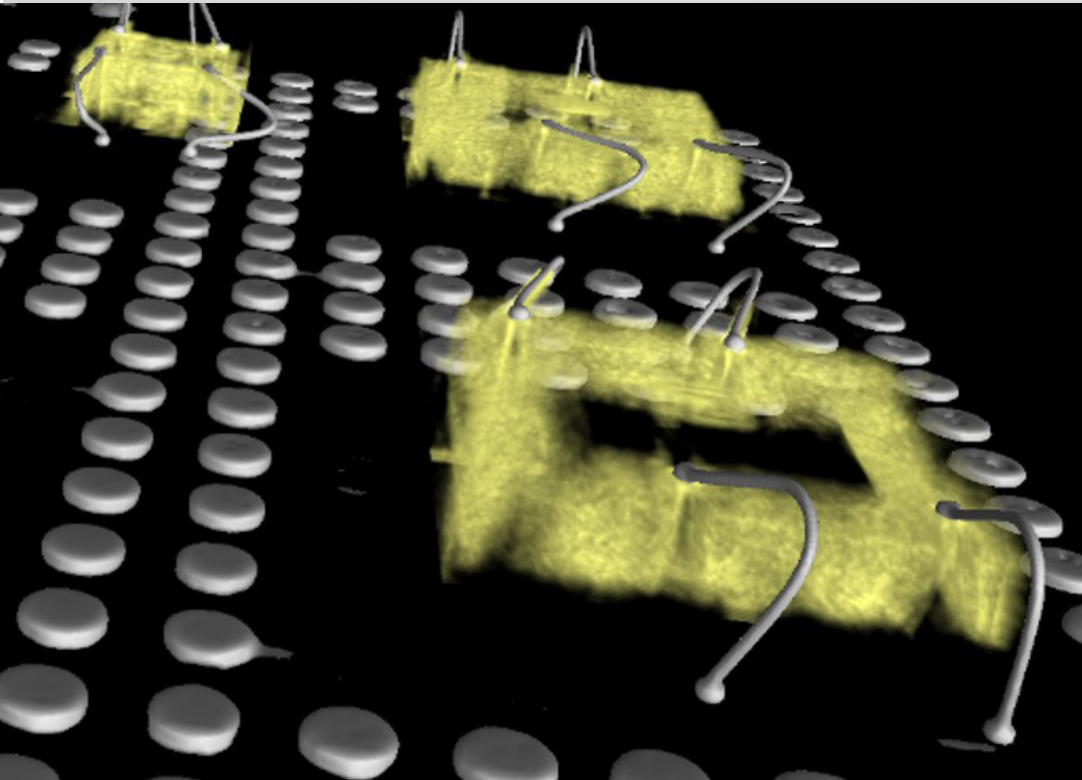
We Innovate Materials

Our Focus / Competences:

- documentation of (micro-)structure from millimeter to nanometer
- determination of the (local) chemical composition
- analysis of structure and phase fractions, retained austenite, residual stresses
- accredited testing laboratory
 - mechanical properties (hardness, strengths, fatigue, fracture mechanics)
 - x-ray determination of residual stresses and retained austenite
- heat treatment of small batches, process analysis and advice



Testing of Microelectronic Components



destructive and non-destructive testing of physical and thermal properties of microelectronic components

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Contact:



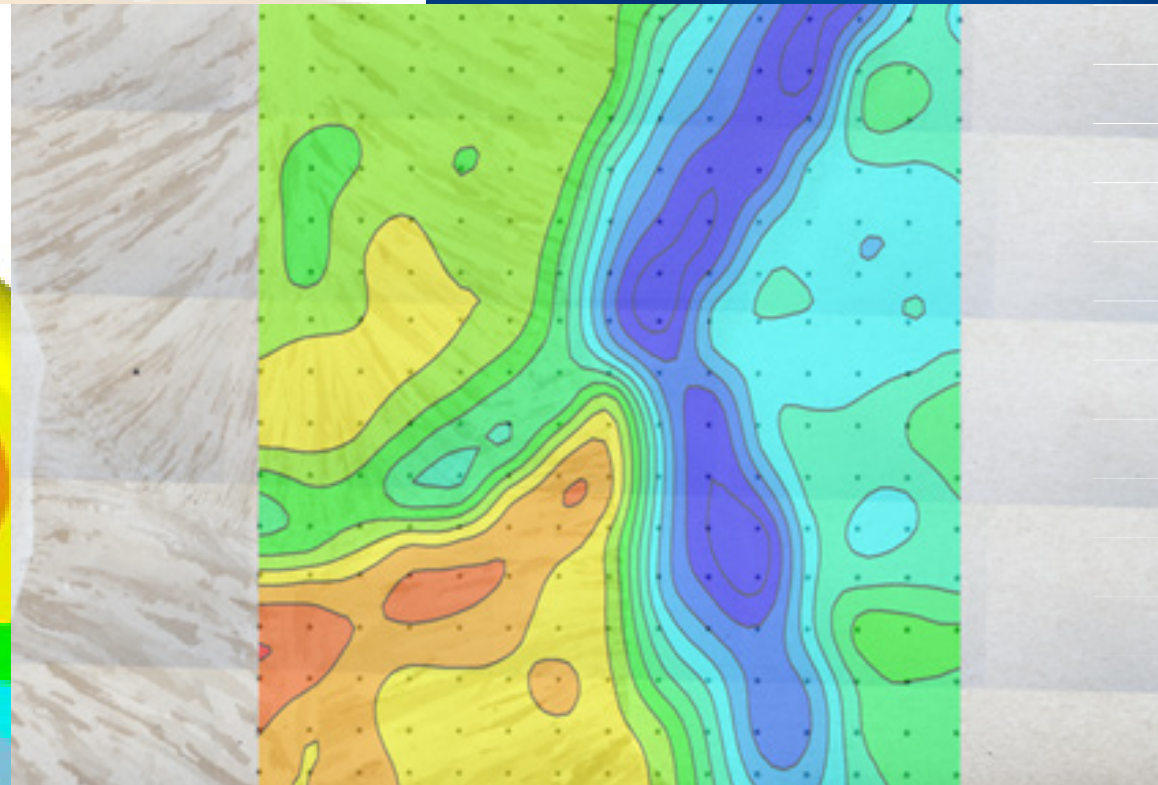
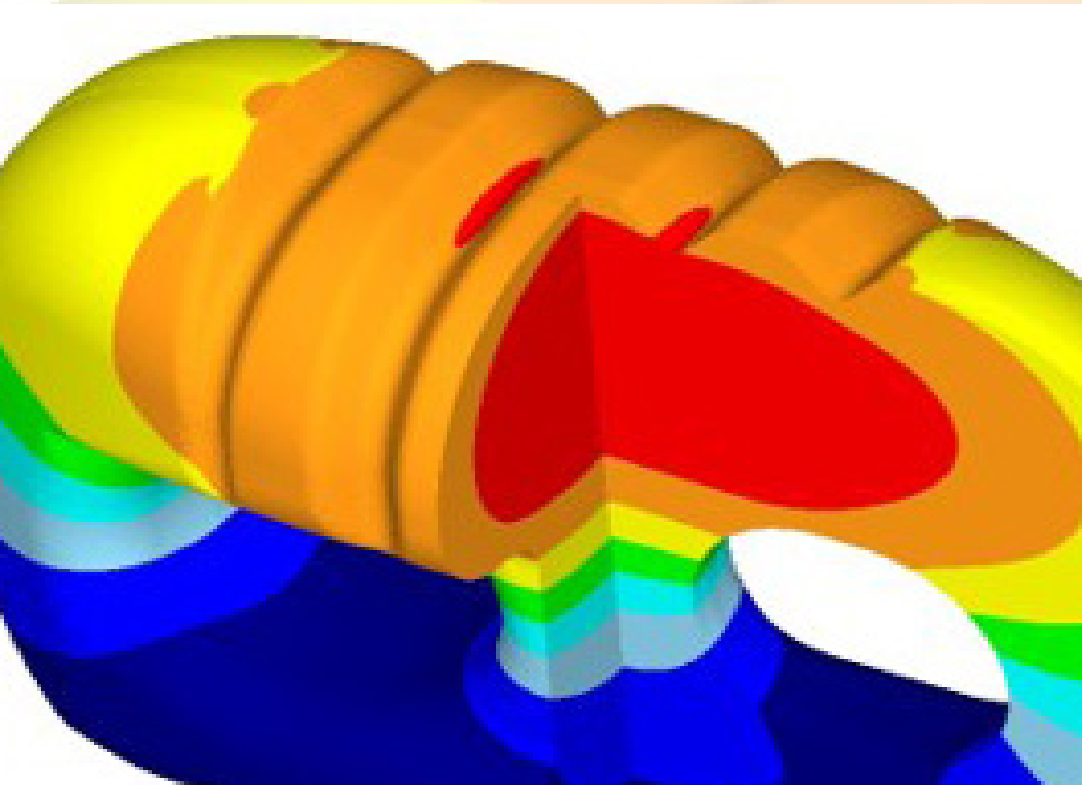
Dr. Julien Magnien
T: +43-676 848883 640

We Innovate Materials

Our Focus / Competences:

- destructive and non-destructive quality assurance and failure analysis
- reliability of packaging and interconnected technologies
- thermal analysis from wafer to system
- active and passive thermal reliability testing (environmental simulation testing)
- thin film analysis

Material Process and Component Simulation



Combination of high-quality modeling and simulation with many years of experience regarding material behavior and damage analysis

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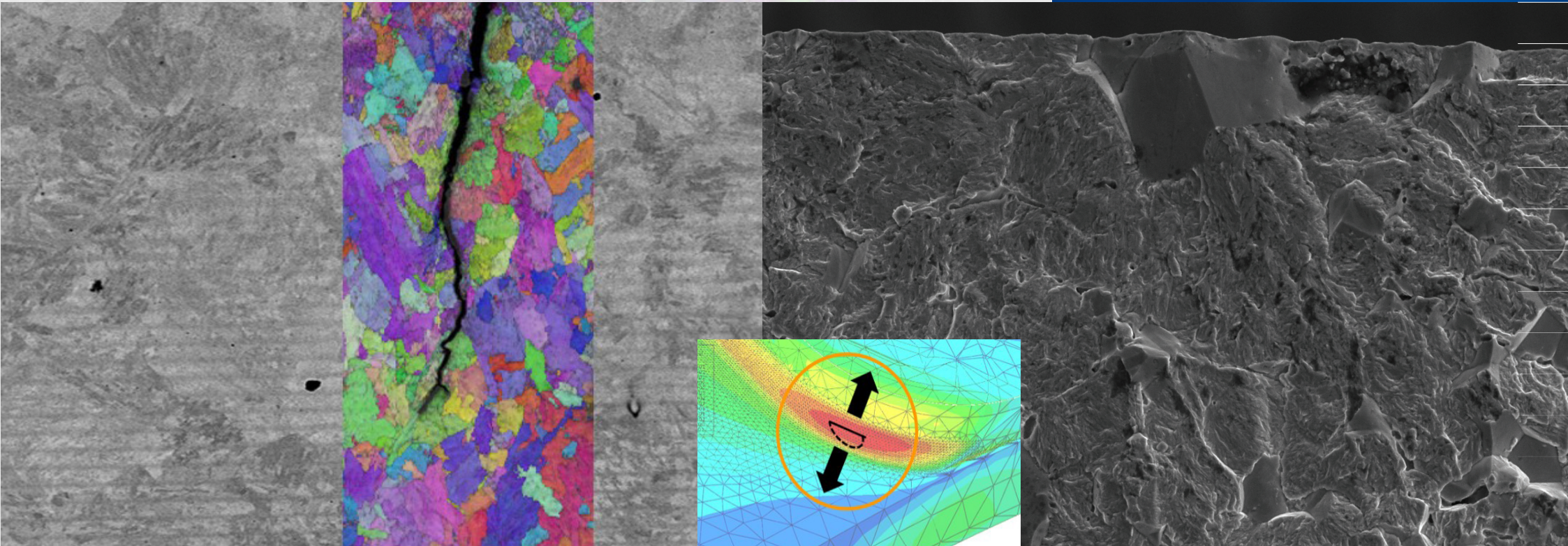


Dr. Hans-Peter Ganser
T +43-676 848883 500

Our Focus / Competences:

- calculation service for development and construction
 - structure mechanics
 - fracture mechanics
 - fluid mechanics
- simulation of manufacturing processes and process chains
- multiscale material and microstructure modeling
- material models and subroutines for FE-simulation
- evaluation of hydrogen embrittlement

Damage Analysis and Fractography



Damage assessment and experimental and simulative damage analytics with interpretation of the cause of damage and recommendations for damage prevention

Contact:



DI Petri Prevedel
T: +43-3842-45922 - 440



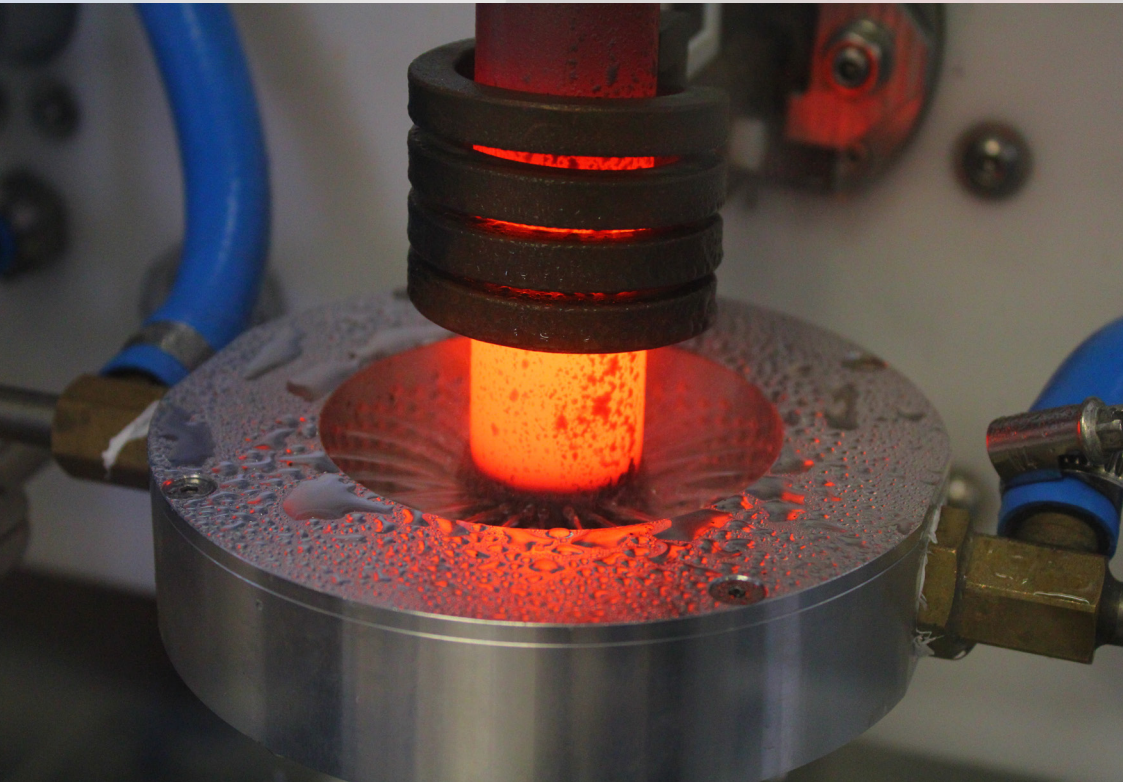
Dr. Angelika Spalek
T: +43-3842-45922 - 561

We Innovate Materials

Our Focus / Competences:

- damage assessment on-site, at the customer or in the laboratory
- consultation and sampling at the relevant examination sites
- fracture surface analysis by stereo and scanning electron microscopy incl. local chemical analysis
- determination of crack initiation and crack progression
- investigation of microstructure and structure
- determination of mechanical properties
- component simulation to determine critical, highly stressed areas

Consulting Material /Process /Product



Consulting in the field of material selection, process chain analysis, service life and reliability

Contact:



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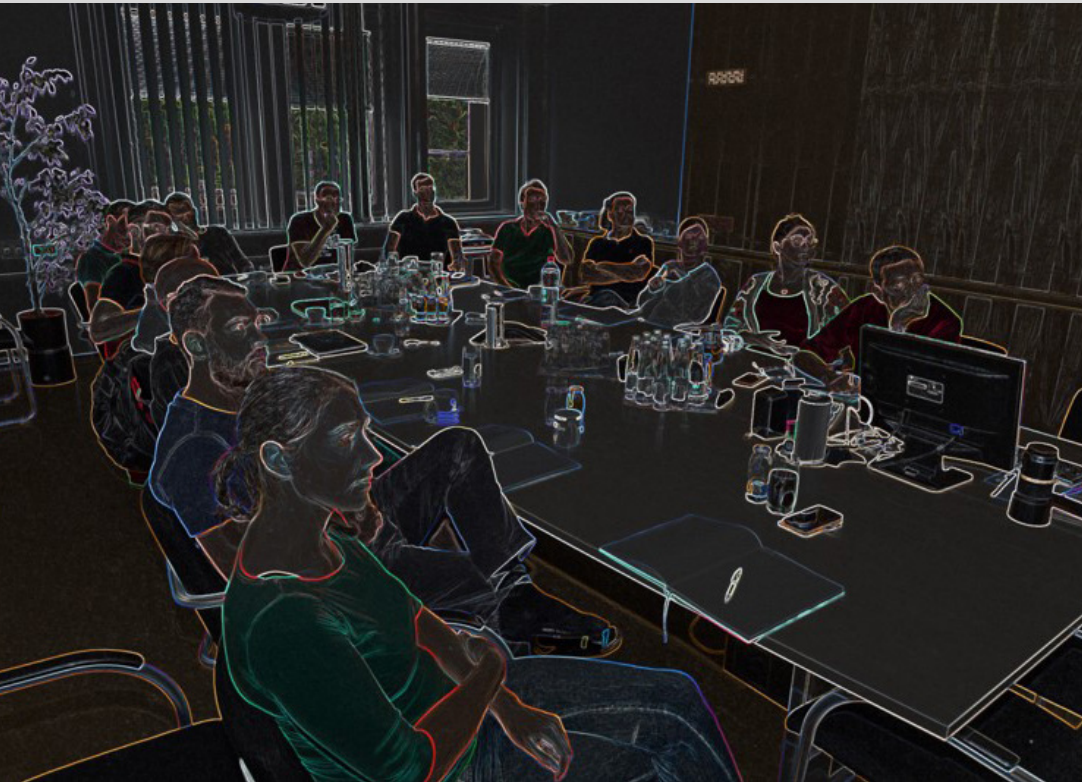
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We Innovate Materials

Our Focus / Competences:

- material consulting and selection of metallic materials
- process chain analysis of the production of metallic materials, semi-finished products and products
- computer-aided process and load analyses
- FE simulation of products to identify critical positions and to estimate service life and reliability.

Seminars und Workshops



seminars and workshops from different areas of materials science and testing

browse our [seminar catalog](#)

Contact:



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Dr. Stefan Marsoner
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We Innovate Materials

Our Focus / Competences:

- materials science and metallography
- scanning electron microscopy and new methods of microstructural analysis
- static and dynamic materials testing
- fracture mechanics
- fracture and damage analysis
- wear in tool applications
- microelectronic analysis chains
- methods of thermal analysis of micro-electronic components



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