

Meeting Diary 2021 – 2022

November – September

formnext

Frankfurt, Germany, November 16–19, 2021
Messe Frankfurt
formnext.mesago.com

Hannover Messe

Hanover, Germany, April 25–29, 2022
Hanover Fairground
www.hannovermesse.de/en

ceramitec 2022

Munich, Germany, June 21–24, 2022
Messe München
www.ceramitec.com

Ceramics UK

Birmingham, UK, June 29–30, 2022
2022 NEC Birmingham
www.ceramics-uk.com

Ceramics in Europe 2022

Kraków, Poland, July 10–14, 2022
ICE Kraków Congress Centre
www.ceramicsineurope2022.org

Ceramics Expo

Cleveland, US, August 29–31, 2022
Huntington Convention Center of Cleveland, Ohio, USA
www.ceramicsexpousa.com

glasstec

Düsseldorf, Germany, September 20–23, 2022
Messe Düsseldorf, Düsseldorf, Germany
www.glasstec-online.com

International Colloquium on Refractories

Aachen, Germany, September 28–29, 2022
Eurogress Aachen, Aachen, Germany
www.ic-refractories.eu

Tecnargilla

Rimini, Italy, September 27–30, 2022
Rimini Exhibition Centre, Rimini, Italy
en.tecnargilla.it

Fraunhofer IKTS

Quality Control of Advanced Ceramics

High-performance ceramics are established in many application areas. Despite optimized manufacturing technologies, production is sometimes prone to defects. Cracks, break-outs or inclusions have a negative impact on the quality of the component. Therefore, it is important to detect these defects as early as possible in the manufacturing process, ideally before expensive sintering. Until now, there has been no satisfactory automated solution for inspecting components – from the green body to the sintered material.

A sensor concept developed at Fraunhofer IKTS based on laser speckle photometry (LSP) promises a remedy. It is used to non-destructively determine defects near the surface of technical ceramic components. After excitation by a short laser pulse, the surface heats up by a few Kelvin. This creates a dynamic speckle pattern from whose characteristic change over time defects in the material can be detected without affecting the component. The system consists of laser diode, digital camera and excitation source. This small and at the same time robust setup



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At Fraunhofer IKTS, ceramic materials are non-destructively tested for defects using laser speckle photometry. The compact measurement setup consists of a laser diode (top left), digital camera (top center) and excitation source (top right).

is characterized by low costs and a very fast measurement: Depending on the resolution and computing technology, for example, a component of the size 30 x 30 mm² is tested in 60 seconds. Almost all common materials, such as Al₂O₃, TiO₂, β-Al₂O₃, MgO or SiC, can be examined in the process.

In addition to a modular demonstrator, a compatible software kit was developed at Fraunhofer IKTS in an IGF project. Robotic sensor guidance enables inspection of both planar and three-dimensional components. The system can be equipped with different objectives and has a maximum optical resolution of 10 μm. “So far, we had samples with defects of at least 70 μm at our disposal, which we detected without any problems with this demonstrator,” explains Lili Chen, scientist in the IKTS speckle-based methods group. ◀

Ceramtec

New Ownership for Ceramtec Announced

Canada Pension Plan Investment Board, through its wholly owned subsidiary, CPP Investment Board Europe S.à.r.l, and BC Partners, a leading international investment firm, announced an agreement to jointly acquire Ceramtec, from existing owner BC European Capital X and its co-investors. On completion of the transaction, Ceramtec will be jointly owned by CPP Investments and BC Partners Fund XI. Since BC Partners' initial investment in March 2018, Ceramtec has significantly extended its product development pipeline, undergone a program of operational improvement, and accelerated its transformation into a diversified Medtech platform, including through the recent acquisition of Dentalpoint, a fast-growing technology leader in the field of ceramic dental implants. The shareholders will support Ceramtec as it expands its leading position as a diversified Medtech platform. ▶

Erratum

Correction to: Porous Refractory Ceramics for High-Temperature Thermal Insulation – Part 1: The Science Behind Energy Saving.

Erratum to: Interceram - International Ceramic Review. 2021 Sep; 70:38-45 The affiliation of Paulo Tiba was assigned incorrectly. Paulo Tiba is Materials Engineer and Independent Contributor.

The Editorial Team

The online version of the original article can be found at <https://doi.org/10.1007/s42411-021-0460-1>

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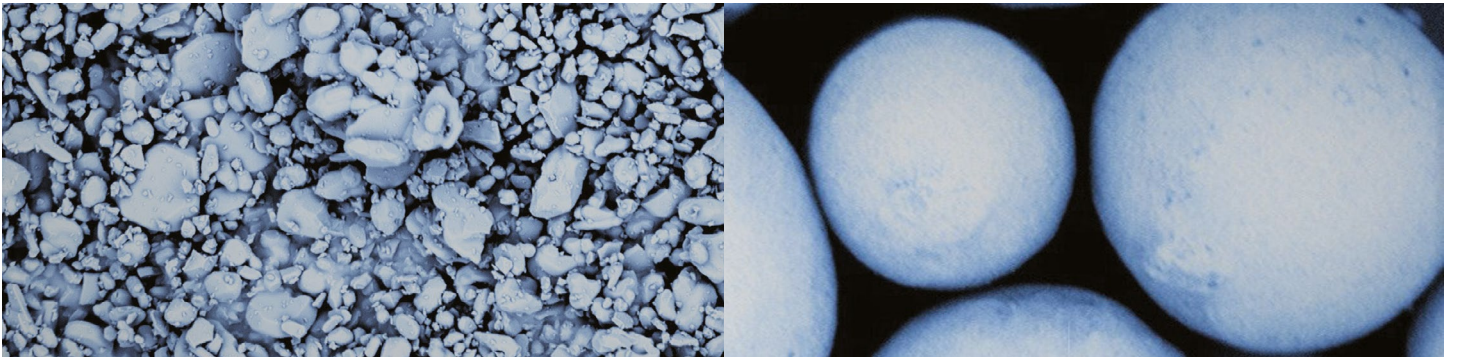
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