



OCM 2019

4th International
Conference on
Optical
Characterization
of Materials

March 13th-14th, 2019
Karlsruhe / Germany

OCM 2019

4th International Conference

Conference Topic

Each material has its own specific spectral signature independent if it is food, plastics, or minerals. During the conference we will discuss new trends and developments in material characterization. You also will be informed about latest highlights to identify spectral footprints and their realizations in industry.

The International Conference on Optical Characterization of Materials (OCM 2019) is organized by the Karlsruhe Center for Material Signatures (KCM) in cooperation with the German Chapter of the Instrumentation & Measurement Society of IEEE.

KCM is an association of institutes of the Karlsruhe Institute for Technology (KIT) and the business unit Automated Visual Inspection of the Fraunhofer Institute of Optronics, System Technologies and Image Exploitation (Fraunhofer IOSB).

Committees and Chairs

General Chairs

Jürgen Beyerer // Karlsruhe

Fernando Puente León // Karlsruhe

Program Chair

Thomas Längle // Karlsruhe

Program Committee

Sebastian Bauer // Madison (Wisconsin)

Mark Bücking // Schmallenberg

Robin Gruna // Karlsruhe

Michael Heizmann // Karlsruhe

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Halit Z. Kuyumcu // Berlin

Johannes Meyer // Karlsruhe

Dirk Nüßler // Wachtberg

Thomas Pretz // Aachen

Matthias Richter // Karlsruhe

Félix Salazar // Madrid

Heinar Schmidt // Kulmbach

Henning Schulte // Karlsruhe

Miro Taphanel // Karlsruhe

Hermann Wotruba // Aachen

Bernhard Zagar // Linz

Conference Program

March 13th, 2019

10:00 Tour at Fraunhofer IOSB (optional)

11:30 Registration and Snack

12:30 Opening Ceremony

- **Opening of the OCM 2019**

Prof. Dr. Jürgen Beyerer; Fraunhofer IOSB

- **Keynote Speech**

Innovations in the food sector – a European perspective / Stephane Durand; Queen's University of Belfast, Director Agri-Food Quest Competence Centre

- EIT Food Project: food fortress for raw materials and ingredients in Europe – Gaining consumer trust through transparency of the supply chain / T. F. McGrath; Queen's University Belfast

13:50 Coffee Break

14:15 Session 1: Food Inspection

- Determination of tomato quality attributes using portable NIR-sensors / S. Goisser; HS Weihenstephan-Triesdorf
- Pre-symptomatic detection of grapevine diseases using hyperspectral imaging / A. Kicherer; Julius Kühn-Institut
- NIR Spectroscopy for cacao bean quality measurements / C. Beleites; Julius-Kühn Institut

15:30 Coffee Break

16:00 Session 2: Health

- Hyperspectral Imaging for tissue characterization in medical applications / A. Holmer; diaspective-vision
- Quantitative hyperspectral imaging of absorption and scattering by Spatial Frequency Domain Imaging utilizing analytical solutions of the Radiative Transfer Equation / S. Nothelfer; ILM Ulm
- Absorption properties of lipid-based substances by non-invasive fast mid-infrared imaging / T. Kümmel; HS Mannheim

17:15 Coffee Break

17:30 Session 3: Short Innovation Pitches

- Spatially resolved ingredient detection in spice mixes using 3D convolutional neural networks / J. Anastasiadis; KIT - IIIT
- Process control for the food production / T. Hanf; Fraunhofer FHR
- A universal method and device for plant proteomics, proteinuria and freshness measurement in fish & meat / N. Kasvand; Ldiamon AS

18:30 Change of Location

Schloss Karlsruhe, 76131 Karlsruhe

19:30 Panel Discussion and Dinner



Conference Program

March 14th, 2019

09:00 Session 4: Recycling / Mining

- Using hybrid information of colour image analysis and SWIR-spectrum for high-precision analysis of construction and demolition waste / E. Linß; MFPA Bauhaus-University Weimar
- Detection and classification of heterogeneous materials as well as small particles using NIR-spectroscopy by validation of algorithms / X. Chen; RWTH Aachen
- XRT-development and sorting; application analyses and experience / C. Bauer; Fraunhofer IIS

10:15 Coffee Break

10:45 Session 5: Algorithms

- Subpixel detection of peanut particles in wheat flour using near infrared hyperspectral imaging / A. Laborde; GreenTropism
- Automatic visual inspection based on trajectory data / G. Maier; Fraunhofer IOSB
- Exploiting multispectral imaging for non-invasive assessment of the microbiological quality and authenticity of food commodities / G. Nychas; Agricultural University of Athens

12:00 Lunch

13:00 Session 6: Spectral Sensors

- High-sensitive near-infrared organic spectroscopic photodetectors for food quality sensing / R. Brückner; TU Dresden
- Development of standards in hyper-spectral imaging: IEEE P4001 standards workgroup / J. Gilchrist; Mountain Photonics
- Ubiquitous spectral sensing / A. Korayem; Si-Ware

14:15 Coffee Break

14:45 Session 7: Spectral Sensors

- Splicing spectral data of compact spectrometers using different detector technology / O. Lischtschenko; OceanOptics
- PhasmaFOOD - A miniaturized multi-sensor solution for rapid, non-destructive food quality assessment / B. Groß; ZEDAT-FU Berlin
- Optical characterization with filter-on-chip CMOS sensor-systems / P.-G. Dittrich; TU Ilmenau

16:00 Final Summary



Conference Venue

Fraunhofer IOSB

Fraunhoferstr. 1

76131 Karlsruhe, Germany

Karlsruhe, Germany

Karlsruhe, a city in the sunny south-west of Germany, famous for its fan-shaped historic street plan, close to the French border and surrounded by the beautiful countryside of the Black Forest is a perfect place for conferences as well as for leisure time.

Karlsruhe is easily accessible via train, motorway or plane (Frankfurt, Stuttgart, Karlsruhe / Baden-Baden). The Fraunhofer IOSB, which will host the conference, is located in walking distance to the heart of the city.



Binding Conference Registration OCM-2019

Registration Fee

- For participants 490,-€
- For speakers 350,-€
- For students 200,-€

Registration fee includes: Conference proceedings, snacks and beverages during coffee breaks as well as buffet dinner on Wednesday and buffet lunch on Thursday.

Cancellations

Refunding per registration for cancellations received in writing to KCM prior February 1st, 2019 (less 80 € processing fee). No refunding after February 1st, 2019.

Contact

KCM, c/o Fraunhofer IOSB
Fraunhoferstr. 1, 76131 Karlsruhe, Germany
info@ocm-conference.com

Family and First Name

Company

Address

Email

Date, Signature

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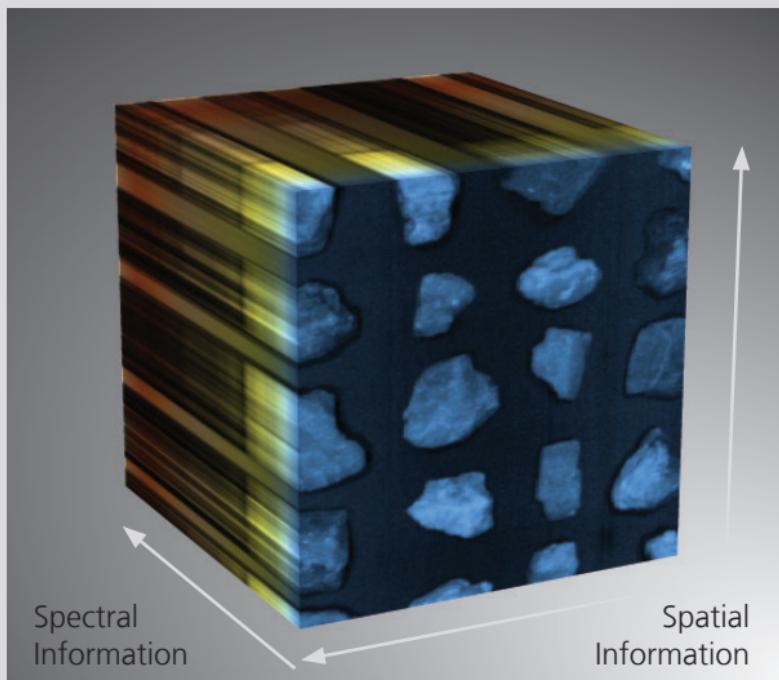
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Karlsruhe Center for Material Signatures



www.ocm-conference.eu

www.materialsignatures.com

Updated: February 25th, 2019