

Novel technologies to explore food microstructure

InsideFood Workshop (14.00-17.40h)

and

InsideFood Stakeholders Meeting with drinks & fingerfood (17.45-19.00h)

at ICEF 11

26th of May 2011, Hilton Hotel, Athens, Greece



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Content of the workshop

Understanding food microstructure and how it changes during processing is essential to make significant advances in delivering foods with excellent quality. This can only be achieved by measurement techniques that allow to quantify these changes.

Until recently, the measurement of food microstructure was essentially based on light or electron microscopy. Because of the often considerable sample preparation time, cost and complexity of the equipment, such techniques were mainly used for academic purposes but seldom in a food industrial environment. However, recently advanced tomographic and spectroscopic techniques have emerged that allow food scientists and engineers to inspect the food microstructure nondestructively. These techniques offer a vast potential for use as innovative sensors for both off-line and on-line measurement of food microstructure and thus the associated quality attributes in industrial conditions with unprecedented spatial resolution. Expect contributions from leading experts in the fields of micro- and nanotomography, NMR, biophotonics and acoustics, with applications in different food categories. For a detailed programme, see the reversed page.

As a closing event, the **Stakeholders Meeting** will provide an open platform for academics and industry to meet and discuss progress and challenges in food microstructure measurement. Enjoy discussions at the edge of food science and technology over drinks and fingerfood.

Registration

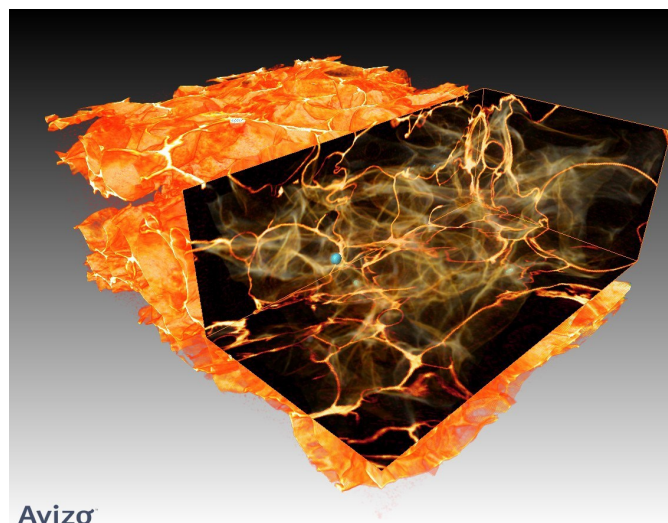
Participation in the workshop and stakeholders meeting is free of charge. If you are interested in the workshop send an e-mail to pieter.verboven@biw.kuleuven.be or bart.nicolai@biw.kuleuven.be to confirm your participation.

Call for poster contributions

You are welcome to send us contributions for our poster session at the workshop and stakeholders meeting. Please send your proposal to pieter.verboven@biw.kuleuven.be.

ICEF11, 22-26 May 2011, Athens, Greece

Learn more about the 11th Conference on Engineering and Food at www.icef11.org.



Avizo

InsideFood brings together 12 EU partners to force a breakthrough in food microstructure measurement and analysis



The OCT system is well suited to image layered structures



InsideFood: Novel technologies to explore food microstructure

Programme, 26 May, Hilton Hotel, Athens, Greece

14.00-14.30 Bart Nicolaï (K.U.Leuven, Coordinator InsideFood)

Food microstructure: a 3-D experience

14.30-14.50 Els Herremans (K.U.Leuven, Belgium), S. Chassagne-Berces, H. Chanvrier, A. Atoniuk, R. Kuzstal, E. Bongaers, B. Verlinden, E. Jacubczyk, P. Estrade, P. Verboven, B. Nicolaï

Possibilities of X-ray nano-CT for internal quality assessment of food products

14.50-15.10 Michael Leitner (Recendt, Austria), G. Hanneschläger, A. Saghy, S. Chassagne-Berces, H. Chanvrier, B. E. Verlinden

Optical coherence tomography (OCT) for quality control and microstructure analysis in food

15.10-15.30 Sophie Chassagne-Berces (Nestec, Switzerland), M. Leitner, A. Melado, P. Barreiro, E. Cristina Correa, I. Blank, J.-C. Gomy, H. Chanvrier

Effect of fibres and whole grain content on quality attributes of extruded cereals

15.30-15.50 Dieter Gross and Manfred Spraul (Bruker Biospin, Germany), E. Humpfer, H. Schaefer, A. Melado, T. Defraeye, P. Verboven

NMR microscopy and NMR HR-MAS on apples of different qualities after different storage conditions

15.50-16.00 Pascal Estrade (VSG, France)

A Digital Laboratory for visual analysis of materials microstructure

16.00-16.20 **Coffee break**

16.20-16.40 Frédéric Depypere (UGent, Belgium), D. Van de Walle, K. Dewettinck

Cryo scanning electron microscopy: enabling nano-imaging of food products

16.40-17.00 Ewa Jakubczyk (SGGW, Poland), E. Gondek

The application of acoustic emission to measure texture of food foams

17.00-17.20 Maristella Vanoli (Politecnico di Milano, Italy), A. Rizzolo, M. Grassi, L. Spinelli, B. Verlinden, A. Torricelli

Non destructive detection of brown heart in 'Braeburn' apples by time-resolved reflectance spectroscopy (TRS)

17.20-17.40 Nghia Nguyen Do Trong (K.U.Leuven, Belgium), M. Tsuta, R. Watté, C. Erkinbaev, E. Verhoelst, J. De Baerdemaeker, B. M. Nicolaï and W. Saeys

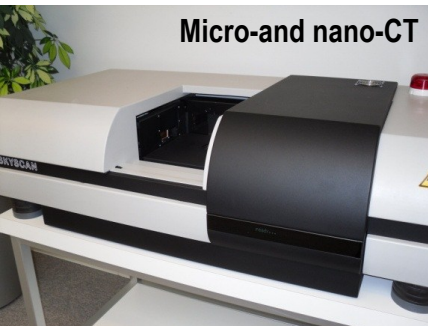
Non-destructive characterization of food microstructure and composition by spatially resolved spectroscopy (SRS)

17.45-19.00 InsideFood Stakeholders Meeting with drinks and fingerfood

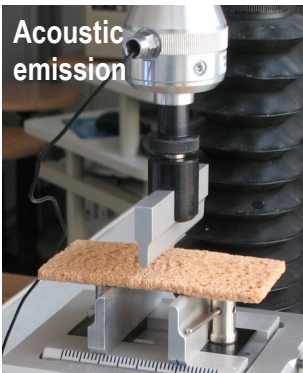
Meet and discuss with the InsideFood experts

Poster presentations

Micro- and nano-CT

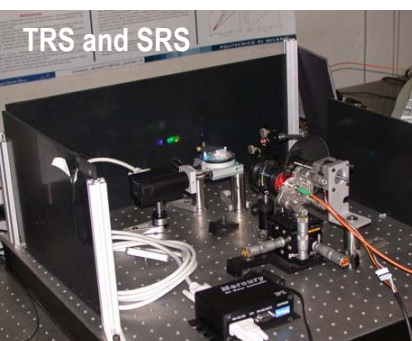


Micro- and nano-CT allow scanning real samples in 3D under normal environmental conditions without any preparation techniques



Acoustic emission

Combining acoustic emission with mechanical tests can be applied to predict the textural attributes of foods



TRS and SRS

TRS and SRS have the capacity to probe internal microstructural properties with minimal influence from the optical properties of the surface, therefore allowing for non-destructive applications

