



COLLOQUIUM

In accordance with article 4.6.8 of the SSNS-wb.

Group: Engineering Fluid Dynamics

As part of his MSc thesis assignment

Robin Bernardus Johannes Koldewej

will give a presentation, entitled:

Encapsulation of Micron-Sized Droplets

Date: Monday October 4, 2010

Time: 13:00 uur

Room: Waaier 4

Summary:

Encapsulating food ingredients to simulate texture, protect sensitive ingredients, to control the release, etc., has been a subject of increasing interest for more than half a century. Numerous different processes for encapsulation exist, e.g. spray/wet granulation, film coating. However, although many of these processes have matured to full production scale, most share similar restrictions in the control of consistency of the final encapsulate morphology and composition. A new process principle has been developed to produce mono-dispersed encapsulates.

An exploratory study has been carried out to investigate the parameter space of the encapsulation process both experimentally and numerically. The experimental study was used to provide an examination of the influence of the variation of non-dimensional parameters that have been identified to control the encapsulation process. Numerically a sensitivity study has been performed on the various parameters that play a role in the encapsulation process.

The research provides an insight in the various parameters underlying the encapsulation process, as well as in the suitability of current numerical tools to predict relevant multi-phase flows accurately.

Assessment committee:

Prof.dr.ir. H.W.M. Hoeijmakers (chairman)
Prof.dr.ir. A. Hirschberg (mentor)
Dr.ir. G. Pieterse (mentor – TNO)
Prof.dr.ir. T.H. van der Meer
Dr.ir. E.T.A. van der Weide
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Chairman:

d.d. September 1, 2010