S20 – Rotating equipment in the process industries

Organizers: Prof. Satoru Watano & Prof. Juray De Wilde

The session addresses experimental and numerical studies of rotating equipment used in the process industries. Novel experimental techniques or advanced modelling and simulation approaches are covered, as well as novel types of equipment and their applications in the petrochemical, pharmaceutical and the food industries.

Non-exhaustive list of suggested topics

- Rotating equipment in the process industries (chemical, pharma, food & feed etc.)
- Novel experimental techniques
- Advanced modelling and simulation approaches
- Process intensification

Organizers

Prof. Juray De Wilde is Professor at the Université Catholique de Louvain (UCLouvain) in Louvain-la-Neuve, Belgium. He received his PhD from the Ghent University (Belgium) and was post-doc research associate at Princeton University (Princeton, NJ). From 2012-2018 he was the head of the Materials & Process Engineering Division (IMAP) at UCLouvain. In 2015-2016 Prof. De Wilde was visiting professor at the National Energy Technology Laboratory (NETL) of the US DOE through the Oak Ridge Institute for Science and Education. In 2019 he was elected president of the Doctoral School in Process Engineering – GEPROC. Prof. De Wilde is specialized in chemical reactor analysis and design, multi-scale modelling, reaction kinetics and Computational Fluid Dynamics. He is the co-author of Chemical Reactor Analysis and Design, 3th ed. (Wiley, 2010). In his group and in collaboration with industries, high-G fluidized beds in vortex chambers are developed with applications in (spray) drying, particle coating and agglomeration and plastic waste gasification. Also, in collaboration with industries, structured reactors for Steam Methane Reforming and Bi-Reforming are developed.

Prof. Satoru Watano, specialized in Chemical Engineering, is currently the dean of the College of Engineering at Osaka Prefecture University, Japan. His research area covers (i) measurement, control, optimization of powder handling processes (ii) particle design and modification of surface properties, (iii) design and handling of nano-particles, (iv) numerical modeling and simulation of particulate systems, and (v) development of innovative powder handling processes. He also leads several national research projects related to all solid type Lithium ion secondary battery.

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