

## **Intensified reactors design for renewable diesel production - *Oxford University + IMM***

This paper offers a new concept for the design of reactors for highly exothermic processes, like seed oil hydrogenation. The concept is based on the idea of redistribution of the reagent flow along the catalyst layer in the reactor due to improved mixing, heat- and mass- transfer. Two original types of the intensified reactors for seed oil hydrogenation were developed: a tubular foam reactor which enables staged reagent addition and a membrane reactor. The advantages of this type of reactor in terms of heat management and selectivity of this process have been demonstrated in this study. The developed conception of the controlled reactant addition offers great potential for intensification of the chemical processes.

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