

# PIN NL potential lectures

Pitch by Henk van den Berg

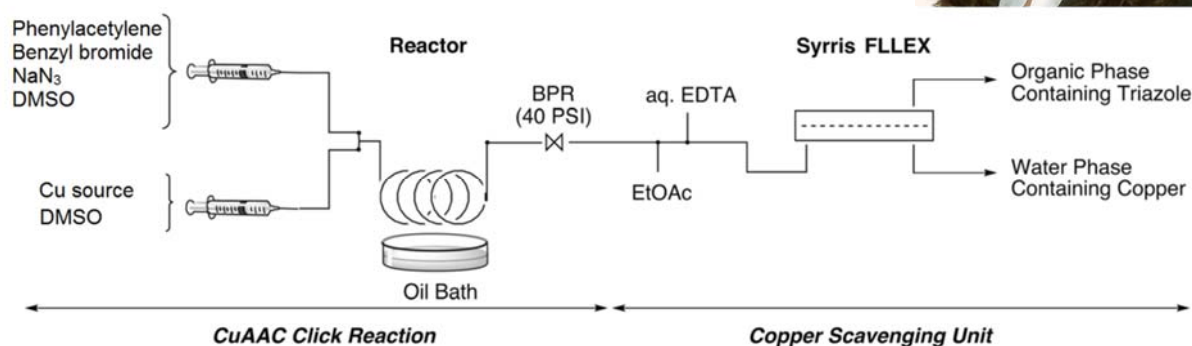
19 November 2014

Basis: CHISA2014 + NPS14, DTU contacts

Iris Vural – PhD TU/e



## Continuous *Metal Scavenging* and Coupling to One-pot Click Reaction in Flow



Removal of catalyst from organic synthesis reaction systems  
PTFE membrane selectively permeable to organic phase on a separator chip

# Richard Abernethy

## New Castle, UK

### Crystallization in OBR, oscillatory baffled reactor

- good mixing + heat transfer
- mesoscale, OBR diam 5 mm
- l-glutamic acid, solids
- OBR process variables,  $\tau$  20 min
- cooling crystallization, 80°C to 20°C
- crystal size and shapes examined

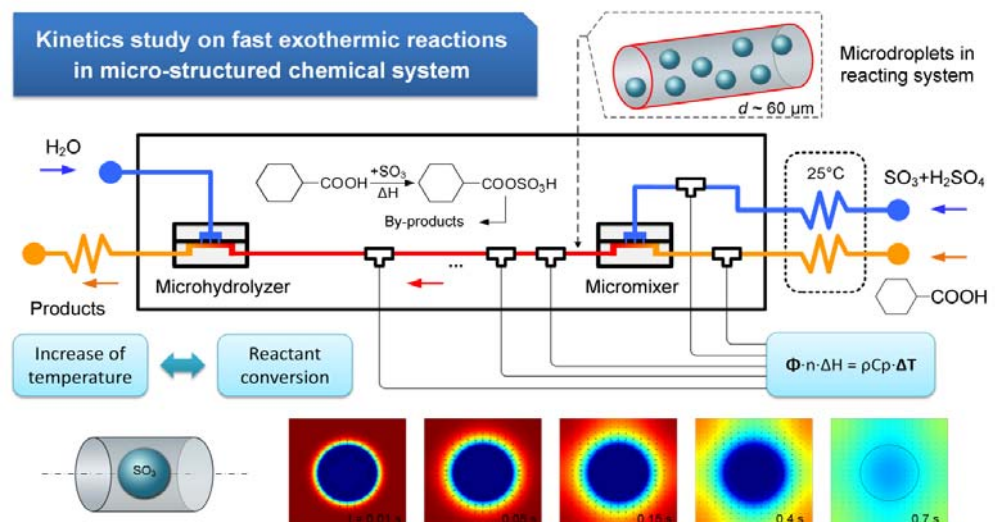


# Kay Wang

## Tsinghua Univ., Beijing

### Improving selectivity of an exothermal reaction in the preparation of caprolactam with microreactor

- Mass transfer
  - T control
- 
- Micro droplet model



John Woodley, DTU, DK  
Dept. Chem + BioChem Eng

## Enabling the Implementation of BioProcesses for Future Chemical Production using PI

Subjects: fermentation, biocatalysis using either resting cells or isolated enzymes, biocatalyst recycle – opportunities and limitations

General outlines and examples

**PI** is needed to enhance process performance

Woodley gave an excellent presentation at NPS14



Krist Gernaey, DTU, DK  
Dept. Chem + BioChem Eng

## Modelling across bioreactor scales: methods, challenges and limitations

- Scale-up & scale-down bioreactors
- Modelling industrial system – large scale to CFD and population balance and e.g.:

**Batch to continuous** in pharmaceutical production, research/application, review publication

