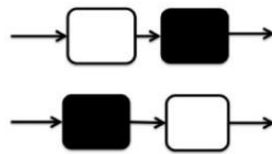
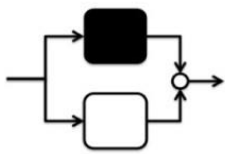


# Hands-on detailed program



## Hybrid modeling Summer school

Hybrid modeling for process development,  
process characterization and optimization

Presented by:



Exhibitors:



### Important notes:

- All participants should bring their own laptop
- The hybrid modeling toolbox runs only in windows
- The hybrid modeling toolbox will be installed in the participants personal computers
- The hybrid modeling toolbox is free of charge!
- There will be a few windows computers as backup in the room
- email: [rmo@fct.unl.pt](mailto:rmo@fct.unl.pt) to book a windows computer

Day 1 - 25/09/2019   Sala de Atos - Blg IV			Day 2 - 26/09/2019   room 102 Bld III	
09:00	Welcome Address	Rui Oliveira	Identification direct	Rui Oliveira/José Pinto
09:15	What is Hybrid Modeling?	Moritz von Stosch	Identification direct	Rui Oliveira/José Pinto
09:30	Case study	Moritz von Stosch	Pruning/Identification simultaneous	Moritz von Stosch
09:45	Motivation for Hybrid Modeling	Moritz von Stosch	Pruning/Identification simultaneous	Moritz von Stosch
10:00	Hybrid model structures	Rui Oliveira	Bootstrap aggregation	Moritz von Stosch
10:15	Hybrid model structures	Rui Oliveira	Prediction confidence intervals	Moritz von Stosch
10:30	Coffee break		Coffee break	
10:45				
11:00	Identification of hybrid models	Rui Oliveira	Experience measure	Moritz von Stosch
11:15	Identification of hybrid models	Rui Oliveira	Experience measure	Moritz von Stosch
11:30	General hybrid bioreactor model	Moritz von Stosch	Batch-to-batch control	Rui Oliveira
11:45	Escherichia coli hybrid model	Moritz von Stosch	Batch-to-batch control	Rui Oliveira
12:00				
12:15	Lunch break		Lunch break	
12:30				
12:45				
13:00				
13:15				
13:30	Pitching session	All participants pitch 2 min about their work	Hands-on 2	Mark Duerkop, Moritz von Stosch, José Pinto
13:45				
14:00				
14:15				
14:30				
14:45	Hybrid modeling toolbox	Mark Duerkop		
15:00	Hybrid modeling toolbox	Mark Duerkop		
15:15	Hybrid modeling toolbox	Mark Duerkop		
15:30	Hybrid modeling toolbox	Mark Duerkop		
15:45	Coffee break		Coffee break	
16:00				
16:15				
16:30				
16:45				
17:00	Hands-on 1	Mark Duerkop, Moritz von Stosch, José Pinto	Hands-on 3/DOE Hybrid modeling	Mark Duerkop, Moritz von Stosch, José Pinto
17:15				
17:30			Industrial applications of HM	Thomas Mrzigod
17:45			Industrial applications of HM	Thomas Mrzigod
18:00	Industrial applications of HM	Thomas Mrzigod		
18:15	Industrial applications of HM	Thomas Mrzigod		
18:30				
19:00				
20:00	Dinner and networking		Dinner and networking	
21:00				
22:00				