

Advanced Biofilm Course (ABC)

08 - 13th October 2018

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday				
	08 October 2018	09 October 2018	10 October 2018	11 October 2018	12 October 2018	13 October 2018				
	MICROSCOPY AND IMAGING	MICROSCOPY AND IMAGING	REACTORS AND MICROENVIRONMENTAL ANALYSIS	REACTORS AND MICROENVIRONMENTAL ANALYSIS	MODELING	MODELING				
08:30-09:15	Welcome <i>Thomas Neu</i> Introduction to biofilms and laser microscopy <i>Thomas Neu</i>	Laser microscopy: instrument and sample aspects <i>Michael Wagner</i>	Microenvironmental analysis of biofilms: theory & applications I <i>Michael Kühn</i>	Biofilm development and detachment <i>Harald Horn</i>	Biofilm processes and modeling principles <i>Cristian Picioreanu</i>	Applications of 2-d / 3-d biofilm modeling <i>Cristian Picioreanu</i>				
09:15-10:00	Fluorescence staining and safety <i>Michael Wagner</i>	Practical aspects of laser microscopy <i>Michael Wagner</i>	Microenvironmental analysis of biofilms: theory & applications II <i>Michael Kühn</i>	Online monitoring by magnetic resonance microscopy <i>Harald Horn</i>	Biofilm models and biomass representation <i>Cristian Picioreanu</i>	PRACTICAL 2-d biofilm models with COMSOL <i>Picioreanu</i>				
10:00-10:30	Coffee/Tea break	Coffee/Tea break	Coffee/Tea break	Coffee/Tea break	Coffee/Tea break	Coffee/Tea break				
10:30-11:15	Introduction to optical coherence tomography <i>Michael Wagner</i>	Beam path, resolution, pixels, voxels <i>Michael Wagner</i>	Biofilm growth devices and reactors <i>Harald Horn</i>	Chemical imaging approaches I <i>Michael Kühn</i>	Biofilm models: calculation of solutes distribution <i>Cristian Picioreanu</i>	PRACTICAL Step by step 2-d / 3-d biofilm models with COMSOL <i>Picioreanu</i>				
11:15-12:00	Optical coherence tomography: Examples <i>Michael Wagner</i>	Digital images, image analysis and visualization <i>Michael Wagner</i>	Biofilms and bio-aggregates: gradients and diffusion <i>Harald Horn</i>	Chemical imaging approaches II <i>Michael Kühn</i>	Introduction biofilm modeling COMSOL <i>Cristian Picioreanu</i>					
12:00-13:30	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch				
13:30-17:30	PRACTICAL Group 1 & 2: Laser microscopy <i>Kuhlicke</i>	PRACTICAL Group 3 & 4: Image analysis <i>Neu</i>	PRACTICAL Group 3 & 4: Laser microscopy <i>Kuhlicke</i>	PRACTICAL Group 1 & 2: Optical coherence tomography <i>Wagner</i>	PRACTICAL Group 3 & 4: Optical coherence tomography <i>Wagner</i>	PRACTICAL Group 1 and 2: Microsensor profiling & analysis <i>Kühn, Horn</i>	PRACTICAL Group 3 and 4: Microsensor profiling & analysis <i>Kühn, Horn</i>	PRACTICAL Group 1 & 2: image analysis <i>Neu</i>	PRACTICAL 1-d biofilm modeling with COMSOL <i>Picioreanu</i>	Presentation of group results Ca. 14:00 End of course
18:30			Course Dinner							