

ESS-HPT 2023 "The European Summer School in High Pressure Technology"

9.7. -22.7.2023, TU Graz

Online Phase 24.7. – 25.8.2023

	MORNING				AFTERNOON					
	8:45 - 9:30	9:40 - 10:25	10:45 - 11:30	11:40 - 12:25	13:30 - 14:15	14:25-15:10	15:30-16:15	16:25 - 17:10	17:15 - 18:15	
Sunday, 9 July 2023	Arrival							18:00 Registration	19:00 Welcome Dinner	
Monday, 10 July 2023	Opening Short Introduction of each Participant	Discussion and Coffee Break	HP Phase Equilibria - Fundamentals (Bren, Maribor/SI)	Discussion and Lunch Break	HP Phase Equilibria - Experimental Methods (Knez-Marevci, Maribor/SI)	Discussion and Coffee Break	Oral Presentation Students (3)	17:00 -18:30 guided tour Graz	20:00 Dinner	
Tuesday, 11 July 2023	HP Phase Equilibria - Modelling (Martin, Valladolid/ES)		Supercritical Fluids in Process and Product Design – From Bench Scale to Pilot Plants (Petermann, Bochum/DE)		5		Exam 1 (Martin, Valladolid/ES)	Oral Presentation Students (4)	20:00 Dinner	
Wednesday, 12 July 2023	Countercurrent SCF Extraction - Comparison and Pros to Conventional Processes (Zetzi, Hamburg/DE)		Innovative Supercritical Separation Processes for Energy and Resource Reduction (Zetzi, Hamburg/DE)		Kinetics of High Pressure Chemical Reactions Including Benefits (Busch, Darmstadt/DE)		Application of Pressure and SCF Technology in a World Scale Process (Busch, Darmstadt/DE)	Oral Presentation Students (4)	20:00 Dinner	
Thursday, 13 July 2023	11		12		Transfer to Maribor		15:00 - 16:30 Visit of HP Lab Maribor	16:30 - 18:00 tour Maribor	18:00 - 20:00 Dinner Maribor	Transfer to Graz
Friday, 14 July 2023	13		14		15		16	Oral Presentation Students (4)	20:00 Dinner	
Saturday, 15 July 2023	Kinetics of SCF Extraction of Compounds from Plants and Microalgae (Sovova, Prague/CZ)	18	Free Time optionally: 13:00 - 16:00 Gin Seminar		Free Time optionally: 16:00 - 19:00 Gin Seminar					
Sunday, 16 July 2023	Free Time									
Monday, 17 July 2023	19	20	21	22	Oral Presentation Students (4)	20:00 Dinner				
Tuesday, 18 July 2023	Transfer to NATEX Prozesstechnologie	Design and Layout of Closure Systems and Sealings for High Pressure Vessels (Lack)	Visit of NATEX Prozesstechnologie GmbH	Transfer to Graz	20:00 Dinner					
Wednesday, 19 July 2023	23	24	25	Exam 2	Oral Presentation Students (4)	20:00 Dinner				
Thursday, 20 July 2023	26	27	28	From Sampling to Analysis Perva, Maribor / SI	20:00 Dinner					
Friday, 21 July 2023	30	31	32	Preparation Final Exam	20:00 Farewell Dinner					
Saturday, 22 July 2023	ESS-HPT Delivery of Diploma, Closing Ceremony	Departure								

1	HP Phase Equilibria - Fundamentals (Bren, Maribor/SI)			
2	HP Phase Equilibria - Experimental Methods (Knez-Marevci, Maribor/SI)			
3	SSI, Integrated SFE-SSI, and SSI Coupled with Chemical Reaction in Materials Design (Zizovic, Wroclaw/PL)			
4	Supercritical Fluids in Process and Product Design – From Bench Scale to Pilot Plants (Petermann, Bochum/DE)			
5.6	HP Phase Equilibria - Modelling (Martin, Valladolid/ES)	Exam 1 (Martin, Valladolid/ES)		
7.8	Supercritical Water Properties & Applications (Cocero, Valladolid/ES)	Lignocellulosic Biomass Biorefinery by sub/SCW Processes (Cocero, Valladolid/ES)		
9	Extrusion Foaming of Polymers (Sauceau, Alb/FR)			
10	Supercritical Fluid Extraction and Separation of Active Components from Medicinal Plants (Vagi, Budapest/HU)			
11	Kinetics of SCF Extraction of Compounds from Plants and Microalgae (Sovova, Prague/CZ)			
12.13	SCF Extraction of Solid Materials - Advantages in Energy and Resource Consumption to Conventional Processes (Gamse, Graz/AT)	Tutorials in HP Separation Processes for Process Intensification (Gamse, Graz/AT)		
14.15	HP Particle Generation - Pros and Cons to Conventional Processes (Knez, Maribor/SI)	HP Enzymatic Processes - Advantages to Organic Solvents (Knez, Maribor/SI)		
16.17	Kinetics of High Pressure Chemical Reactions Including Benefits (Busch, Darmstadt/DE)	Application of Pressure and SCF Technology in a World Scale Process (Busch, Darmstadt/DE)		
18	HPCO ₂ Pasteurization and Drying of Food Products (Zambon, Padova/IT)			
19	Supercritical Fluids in the Oil and Gas Industry (Székely, Budapest/HU)			
20.21	Countercurrent SCF Extraction - Comparison and Pros to Conventional Processes (Zetzi, Hamburg/DE)	Innovative Supercritical Separation Processes for Energy and Resource Reduction (Zetzi, Hamburg/DE)		
22, 23	Processing of Aerogels by Supercritical Fluid Technology and their Applications (Gurikov, Hamburg/DE)	Thermodynamic Aspects of Supercritical Fluid Chromatography (Gurikov, Hamburg/DE)		
24.25	Selective Chemical Conversions with Hydrogen (Müller, Bochum/DE)	Mass Transfer Limitations in Multiphase Reactions (Müller, Bochum/DE)		
26,27,28,29	How to Design High Pressure Equipment (Schlücker, Erlangen/DE)	How to Design High Pressure Equipment (Schlücker, Erlangen/DE)	How to Design High Pressure Equipment (Schlücker, Erlangen/DE)	Hydrogen (Schlücker, Erlangen/DE)
30	Application of CO ₂ -Extracts in Food and Cosmetic Industry (Grüner-Lempart, Freising/DE)			
31, 32	Food Under Pressure (Schaschke)	Viscosity Measurement of Fluids at High Pressure (Schaschke)		
	From Sampling to Analysis Perva, Maribor / SI			
	CO ₂ Capture and Utilisation Nunes, Lisbon / PT			