17 Apr. 2019

Wednesday, 9 October 2019		9:00 – 17:45
9:00	**Welcome and Introduction** **Participants' Expectations**	All
	Manufacture and Characteristics of Glass as Primary Packaging Material	
9:15	**Glass Science** • Chemical structure • Physical properties • Different glass types in the pharmaceutical industry	Claudia Heinl
10:30	**Coffee Break**	
11:00	**Glass Making** • Glass Melting • Tubing Production • Container conversion • Molded containers	Claudia Heinl
12:00	**Lunch Break**	
13:00	**Glass Strength and Fracture Mechanics** • Glass Breakage - Fundamentals • Assessment of Flaws • Fractography - Fundamentals	Florian Maurer
14:30	**Visit SCHOTT Tubular Glass Manufacturing**	SCHOTT glass made of ideas
16:00	**Coffee Break**	
	Receiving Inspection of Glass Primary Packaging Material	
16:15	**Requirements from Pharmacopoeias (EP, JP, USP) and Incoming Inspection** • Overview Pharmacopoeia • Testing Parameters • Testing Methods, Equipment, Tools • Defects and PDA Technical Report #43	Karl Siemoneit
17:00	**How to Do in Practice** • Sampling (AQL) • Sample size • Testing • Documentation • Supplier certification & test reduction	Karl Siemoneit
17:45	**End of Day 1**	

Thursday, 10 October 2019		9:00 – 16:00
9:00	**Recap of Learning Objectives Day 1**	All
	Receiving Inspection of Glass Primary Packaging Material (cont.)	
9:30	**Inspection of Glass: What to Consider, Common Problems** • Practical examples, case study	Karl Siemoneit
10:15	**Coffee Break**	
10:45	**Coordination Process Packaging Manufacturer and Customer** • Important parameters | Measured variables | Regulating variables | Control loop | Interaction with manufacturer | Effort reduction	Karl Siemoneit
	Machine Use of Glass Primary Packaging Material	
11:15	**Machine Runability of Glass Primary Packaging Material** • Roughness of glass primary packaging material | Geometrics, tolerances | Quality of glass | Impact of machine speed	Klaus Ullherr
11:45	**Lunch Break**	
12:45	**Use of Glass Primary Packaging Material Along the Process Chain** Considering different kind of containers, bulk and nested: • Washing machine | Depyrogenation tunnel | Filling machines | Stoppering | Rod insertion and labelling for syringes | Conveyor belts | Automated inspection | Packaging line	Klaus Ullherr
13:30	**Case Study** **What to Consider, What are Common Problems, How to Avoid Them** • Collision analysis • Basics of good glass handling • Technologies to avoid glass to glass contact	Klaus Ullherr
14:15	**Coffee Break**	
14:45	**Coordination Process Primary Packaging Material and Machine** • Important parameters | Control loop | Synchronization	Klaus Ullherr
15:30	**Q & A**	All
16:00	**Summary & End of Training Course**	