

Program for the 2022 CAS - Introduction to Accelerator Physics

	Sun 18/09	Mon 19/09	Tue 20/09	Wed 21/09	Thu 22/09	Fri 23/09	Sat 24/09	Sun 25/09	Mon 26/09	Tue 27/09	Wed 28/09	Thu 29/09	Fri 30/09	Sat 01/10			
08:30	Arrival day and registration	Opening	Kinematics of Particle Beams - Relativity	Transverse Linear Beam Dynamics IV	Free	Beam Instrumentation	Electron Beam Dynamics I	Excursion	Collective Effects I	Collective Effects III	Free	A first taste of Non-Linear Beam Dynamics I	Synchrotron light circular machines	Departure day			
09:30																	
09:45		Electromagnetic Theory I	Warm Magnets	Computational tools I		Computational tools II	Electron Beam Dynamics II		RF systems I	Collective Effects IV		Vacuum	Advanced accelerator concepts II				
10:45		Coffee				Coffee			Coffee								
11:15		History of particle acceleration	Transverse Linear Beam Dynamics II	Transverse Linear Beam Dynamics V	Beam Diagnostics	Discussion electron beam dynamics	Collective Effects II		Discussion collective effects	A first taste of Non-Linear Beam Dynamics II	Particle motion in Hamiltonian Formalism II						
12:15		Lunch							Lunch								
13:45		Electromagnetic Theory II	Linear Accelerators I	Longitudinal BD in Circular Machines I	Longitudinal BD in Circular Machines II	Sources	Machine & People Protection Issues		RF systems II	Introduction to Non-Linear longitudinal Beam Dynamics	Cyclotrons I	Advanced accelerator concepts I	FELs				
14:45																	
15:00		Transverse Linear Beam Dynamics I	Transverse Linear Beam Dynamics III	Time and Frequency domain signals I	Linear Imperfections I	Linear Imperfections - corrections	Secondary beams and targets		Hands-ON calculations (longitudinal) - Intro	Hands-ON calculations (longitudinal) - III	Injection and Extraction	Particle motion in Hamiltonian Formalism I	Designing a synchrotron - a real life example				
16:00		Coffee							Coffee								
16:30		Accelerator Applications	Linear Accelerators II	Hands-ON Lattice calculations I	Time and Frequency domain signals II	Hands-ON Lattice calculations III	Hands-ON Lattice calculations V		Hands-ON calculations (longitudinal) - I	Hands-ON calculations (longitudinal) - IV	Colliders and luminosity	Q&A/study time	Closing				
17:30																	
17:45		1 slide 1 minute	Superconducting Magnets	Hands-ON Lattice calculations II	Linear Imperfections II	Hands-ON Lattice calculations IV	Hands-ON Lattice calculations VI		Hands-ON calculations (longitudinal) - II	Hands-ON calculations (longitudinal) - V	Cyclotrons II/FFAs						
18:45		Welcome reception			Discussion session								Poster session ** Seminar ** tbd				
20:00	Dinner at Hotel											Banquet					
21:00									Cinema event								