

**Programme for the CAS course "Introduction to accelerator Physics"  
16-29 September 2018, Constanta, Romania**

	Su, 16.9.	Mo, 17.9	Tu, 18.9	We, 19.9	Th, 20.9.	Fr, 21.9	Sa,22.9	Su, 23.9	Mo, 24.9	Tu, 25.9	We, 26.9	Th, 7.9	Fr, 28.9.	Sa, 29.9			
08:30		Opening local/Schmickler	Transverse Linear Beam Dynamics I Hillert	Linear Accelerators I Alesini	Longitudinal Beam Dynamics in Circular Machines II Tecker	Luminosity and Colliders Herr	Collective Effects I Li		Collective Effects III Li	Electron Beam Dynamics II Rivkin		Sources Faircloth	Secondary beams and targets Knie	Bus transfer to Bucharest, ELI visit			
09:30																	
09:45		Accelerator Applications Sheehy	Transverse Linear Beam Dynamics II Hillert	Linear Accelerators II Alesini	Transverse Linear Beam Dynamics V Hillert	Injection and Extraction Fraser	Collective Effects II Li		Collective Effects IV Li	Discussion electron beam dynamics Rivkin	Free	RF systems I Damerau	RF systems II Damerau				
10:45			Coffee							Coffee		Coffee					
11:15		Electromagnetic Theory I Herr	Particle motion in Hamiltonian Formalism I Sheehy	Transverse Linear Beam Dynamics III Hillert	Discussion transverse BD Hillert	FFA's Sheehy	Advanced accelerator concepts Ferrario		Discussion collective effects Li	Linear Imperfections III/Corrections Ziemann		Ion acceleration via ultra-intense laser Domenico	Machine & People Protection Issues Forck				
12:15		Lunch															
13:45		Electromagnetic Theory II Herr	Particle motion in Hamiltonian Formalism II Sheehy	Transverse Linear Beam Dynamics IV Hillert		Kickers, Septa and Beam Transfer Fraser	Warm Magnets/power converters de Rijk	Excursion	Linear Imperfections I Ziemann	A first taste of Non- Linear Beam Dynamics I Papaphilippou	A first taste of Non- Linear Beam Dynamics II Papaphilippou	Beam Instrumentation Forck	Introduction to Non-Linear longitudinal Beam Dynamics Damerau		late lunch at ELI		
14:45																	
15:00		Kinematics of Particle Beams - Relativity Ferrario	Hands-ON Lattice calculations - introduction Ziemann/Herr/Sterbini	Longitudinal Beam Dynamics in Circular Machines I Tecker		Discussion longitudinal BD Tecker/Alesini	Superconducting Magnets de Rijk			Linear Imperfections II /Corrections Ziemann	Cyclotrons I Seidel	Transverse Feedbacks Schmickler	Beam Diagnostics Forck			Q&A/study time V all	
16:00			Coffee							Coffee							
16:30		Statistical Description of Particle Beams Ferrario	Hands-ON Lattice calculations I Ziemann/Herr/Sterbini	Hands-ON Lattice calculations II Ziemann/Herr/Sterbini		Hands-ON Lattice calculations IV Ziemann/Herr/Sterbini	Hands-ON Lattice calculations VI Ziemann/Herr/Sterbini			Electron Beam Dynamics I Rivkin	Cyclotrons II Seidel	Designing a synchrotron - a real life example Papaphilippou	Q&A/study time IV all	closing Schmickler			
17:30		1 slide 1 minute all		Hands-ON Lattice calculations III Ziemann/Herr/Sterbini		Hands-ON Lattice calculations V Ziemann/Herr/Sterbini	Posters all			Q&A/study time I all	Q&A/study time II all	Q&A/study time III all	A critical view on cultural heritage conservation by ionizing radiation - need, option, adherence and reluctance Corneliu Ponta				
18:30		Welcome Reception															
19:30		Dinner at Hotel												Banquet			
21:00		poster preparation							cinema event								