



ACOUSTICAL PLANNING IN SPORT VENUES

InterContinental Cairo CityStars
08 to 13.12.2007

	Saturday 08.12	Sunday 09.12	Monday 10.12	Tuesday 11.12	Wednesday 12.12	Thursday 13.12
09:00	Fundamentals Signal in time and frequency domains Principle of superposition Nature of sound waves	Loudspeakers Components/Systems Sound radiation and radiators Reading loudspeaker specification Single/distributed systems Line arrays	EASE, Overview Basics of simulation Program structure	Standard Mapping Calculations Working on a room model step by step Performing mapping calculations Assessment of results	Auralization Impulse response in rooms Convolution Basic concepts of auralization	EASE, Modules Compared Working on a room model step by step
09:30	The decibel Hearing and human ear characteristics Loudness and pitch					
10:00	Precedence effect Perception of direction Speech and music					
10:30	Coffee Break I	Coffee Break I	Coffee Break I	Coffee Break I	Coffee Break I	Coffee Break I
11:00	Propagation of Sound Near and far fields Free-field propagation Sound waves and solid surfaces Absorption and absorber types	General Acoustics of Sport Venues Open Stadia Closed Arena Swimming Halls	Model Building Model building blocks Basic entry methods	Probe Analysis Working on a room model step by step Detailed analysis at listener seats Conclusion	EASE, Ray-Tracing Module Working on a room model step by step	EASE, EARS Module Working on a room model step by step
11:30						
12:00						
12:30						
13:00	Lunch					
13:30	Lunch					
14:00	Sound Waves Indoors Room modes Diffuse field Sound decay and reverberation time	Speech in Sport Venues General requirements Design parameters Speech intelligibility	Model Building Working on a room model step by step Material base Reverberation time optimization	Fundamentals of Ray Tracing Concept of sound particles Ray tracing method Mirror Image method Hybrid method	EASE, AURA Mapping Working on a room model step by step	EASE, Import/Export Module Working on a room model step by step Exchange of models with AutoCad
14:30						
15:00						
15:30	Coffee Break II	Coffee Break II	Coffee Break II	Coffee Break II	Coffee Break II	Coffee Break II
16:00	Sound Waves Outdoors Effect of Temperature Effect of Humidity Effect of Wind	Music in Sport Venues General requirements Design parameters Music assessment metrics Multipurpose venues	Model Building Working on a room model step by step Speaker base Building loudspeaker clusters and arrays	Acoustical Simulation with Ray Tracing Modelling of sources Modelling of boundaries Modelling of medium Modelling of receivers	EASE, AURA Response Working on a room model step by step	Summary and Conclusion
16:30						
17:00						