Introduction to environmental engineering

Human activities are a regular cause of imbalances in natural systems and the societies that depend upon them, at the local, regional, and global scales. To organize spatially these activities, the urban and spatial planning is a very important element that must now be considered through its environmental impact and must integrate practices related to environmental engineering and sustainable development. This is particularly the case for the Mediterranean area because of the significant contributions from the industrial port development, the increasing influence of tourism, but also the need to preserve the agricultural activities. This cycle of seminars will introduce to the students firstly an introduction to complex system engineering and the associated context framework of an efficient system engineering and secondly how these concepts can be applied to land planning. The seminars are animated by three keynote speakers from the civil society. During the academic year 2023 three courses are scheduled: i) an overview of how modern achitecture and the challenges of climate changes can be linked. The course is given by Mrs Julie Schultz-Muyldermans, Architect (Yale Univ & Marseille National School of Architecture) ii) an introduction of the modelling of water pollution in rivers by M. Patrick Boyer (PhD, IRSN) iii) an introduction to ENVI-MET a software enabling accurate urban climate simulations and comprehensive environmental analysis. O. Boiron