



University of Cyprus

Department of Civil and
Environmental Engineering

INVITATION | THE ENGINEER IN SOCIETY

14 APRIL 2022

16:30 – 17:30 | UNIVERSITY OF CYPRUS

Urban trees: how do they affect air quality?

SPEAKER: Dr. Maarten van Reeuwijk, Reader in Civil and Environmental Engineering, Imperial College, UK



ABOUT THE TALK:

In this seminar I will discuss how trees affect urban air quality using our large-eddy simulation code uDALES which for which a tree model was developed recently that models drag, evaporation, shading and deposition. I will discuss differences in air quality with and without trees and discuss the effect of atmospheric stability. A conceptual model is formulated which demonstrates whether trees can be expected to improve or deteriorate air quality. uDALES is then applied to study the air quality with and without trees for a realistic urban case under neutral and convective atmospheric boundary conditions.

SHORT BIO:

Maarten van Reeuwijk is a Reader in the Department of Civil and Environmental Engineering at Imperial College London. He works on problems in environmental fluid mechanics with a particular emphasis on atmospheric turbulence, microclimate, air quality and urban heat islands. Maarten and his group use a wide range of simulation techniques, ranging from Direct Numerical Simulation (DNS), Large-Eddy Simulation (LES) to Reynolds-Averaged Navier-Stokes (RANS). Recent research activities include the development of an open-source urban large-eddy simulation code uDALES, a distributed drag parameterisation for urban areas, development of a tree model for LES and investigating the effect of trees on urban air quality.

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Register in advance: <https://ucy.zoom.us/meeting/register/tJMrdeqppzliHdeRcH-pjXdiH0vkCS9P-tyM>