Karlstad Applied Analysis Seminar (2020)

Toyohiko Aiki, Japan Women's University, Tokyo, Japan

April 14, Wednesday 10:30

Two-scale model for moisture transport in concrete carbonation process

Abstract

In this talk we consider a two-scale model describing moisture transport appearing in concrete carbonation process. The model consists of the diffusion equation for the relative humidity in macro domain and the free boundary problem in each micro domain. Here, we note that the boundary condition of the free boundary problem contains the relative humidity given on the macro domain and the coefficient of one term of the diffusion depends on the free boundary. Accordingly, it is necessary to solve infinite number of the free boundary problems at the same time. The aims of this talk is to introduce our modeling of the two-scale model and show recent mathematical results on the model. This is a joint work with Kumazaki (Nagasaki University, Japan)