# Online Seminar on Chemotaxis

Date: 17th of February 2022   18:00 – 19:00 in "Seoul–Tokyo" hour
     (which is 17:00 – 18:00 in "Beijing" hour and 10:00 – 11:00 in "Central EU" hour)
Speaker: Changwook Yoon (Chungnam National University)
Title: Chemotaxis system with Fokker-Planck type diffusion and the singular limit problem

**Abstract**

In this talk, we consider a chemotaxis system with Fokker-Planck type nonlinear diffusion, which describes the directed movement of the living organisms. The idea of the model is that the organisms determine their motility depending on the circumstances and it leads to the heterogeneous diffusion. The advantage of the model lies in allowing the global existence of solutions in terms of $L^2$ boundedness. We apply this model to the cell aggregation and signal absorption phenomena and explore some recent results on analytical properties of solutions. On the other hand, this diffusion model also can be obtained by a singular limit procedure. We investigate the details on the singular limit and its applications to description of the wave propagation phenomena.

Organizers: Jie Jiang (jiang@apm.ac.cn) and Kentaro Fujie (fujie@tohoku.ac.jp)