

## On behavior of solutions to an indirect chemotaxis system

*Takasi Senba (Fukuoka University)*

This talk is based on the joint work with Professor Kentarou Fujie ( Institute of Mathematics of the Polish Academy of Sciences, Tokyo University of Science).

In this talk, we treat an indirect chemotaxis system, which is a system having three unknown functions.

In the case where the dimension of the domain is less than 4, solutions of the system exist globally in time and are bounded.

However, in the four dimensional case, a critical number appears. That is to say, if the mass of a solutions is less than the number, the solution globally exists in time and is bounded. And, there are blowup solutions whose mass are bigger than the number. Those result corresponds to the one on two dimensional Keller-Segel system, and also come from properties similar to the one of two dimensional Keller-Segel system. We will describe the common properties.