

# Arabian Nights with Collective Dynamics

Seung Yeal Ha

*Department of Mathematical Sciences, Seoul National University*

syha@snu.ac.kr

## ABSTRACT

Collective dynamics of complex systems denotes a coherent ordered motion of constituent agents, and it is often called as "aggregation, flocking, herding, swarming and synchronization depending on specific situations. To name a few, aggregation of bacteria, flocking of birds, swarming of fish and synchronization of fireflies. In this talk, we briefly discuss the mathematical modelling of collective dynamics and possible applications in an engineering domain.