



Faculty of Health, Science and Technology
Mathematics

Reading List

Particles and Partial Differential Equations

Valid from spring semester 2024

Course Code: 7MAT010
Course Title: Particles and Partial Differential Equations
Partiklar och partiella differentialekvationer
Subject: Mathematics
Credits: 7.5 ECTS
Degree Level: Doctoral

Books

- *Collective Dynamics from Bacteria to Crowds: An Excursion Through Modeling, Analysis and Simulation*, CISM, Springer Verlag, Udine-Berlin, 2014 (Eds. A. Muntean, F. Toschi)
- *Macroscopic and Large Scale Phenomena: Coarse Graining, Mean Field Limits and Ergodicity*, LAMM (Lecture Notes in Applied Mathematics and Mechanics), Springer Verlag, 2016 (Eds. A. Muntean, J. Rademacher, A. Zagaris)
- C. Kipnis, C. Landim, *Scaling Limits of Interacting Particle Systems*, Vol. 320, Springer-Verlag Berlin-Heidelberg, 1999
- C. Villani, *Topics in Optimal Transportation*, vol. 58, American Mathematical Society, Providence, 2003.

Approval

Approved by the Faculty of Health, Science and Technology, 20 March 2024.