Random Walks and Diffusion (T) - physics7502

Degree - M.Sc. in Physics (PO von 2014)

Module	**Elective Advanced Lectures: Theoretical Physics**
Module No.	physics70c

Course	**Random Walks and Diffusion (T)**
Course No.	physics7502

Category	**Type**	**Language**	**Teaching hours**	**CP**	**Semester**
Elective	Lecture with exercises	English	1+1	3	ST

Requirements for Participation:

Preparation: Quantum mechanics and Thermodynamics

Form of Testing and Examination: Requirements for the (written or oral) examination: Successful work within the exercises

Length of Course: 1 semester

Aims of the Course: The aim of the course is to introduce the student to random processes and their application to diffusion phenomena

Contents of the Course: Basics of probability theory, Master equation and Langevin equation, Law of large numbers and Central Limit Theorem, First passage problems, Large scale dynamics, Dynamical scaling.

Recommended Literature: Will be announced in the first lecture