Modulbezeichnung: **Seminar: From glassy materials to traffic jams (PS)** **5 ECTS**
(Seminar: From glassy materials to traffic jams)

Modulverantwortliche/r: Michael Schmiedeberg
Lehrende: Michael Schmiedeberg

Startsemester: SS 2017	Dauer: 1 Semester	Turnus: unregelmäßig
Präsenzzeit: 30 Std.	Eigenstudium: 120 Std.	Sprache: Englisch

Lehrveranstaltungen:

Jamming: From glassy materials to traffic jams (SS 2017, Seminar, 2 SWS, Michael Schmiedeberg et al.)

Inhalt:

Contents

In many systems a dramatic slowdown of dynamics is observed when the density is increased or the temperature is decreased. In this seminar we will consider different systems where such a slowdown is observed and discuss possible similarities in their theoretical description. Possible topics: Traffic jams, Pedestrian dynamics, Crowding in biological systems, Gelation, Network dynamics, Rigidity Percolation, Geometric Frustration and Spin Glasses, Athermal jamming and random closed packing, Entropy of granular packings, Computer simulations of glassy dynamics, Hopping Models and Ageing, Mode coupling theory, Kauzmann's paradox, Random First Order Theory, Kinetically constrained models, Shear thinning and shear thickening, Dynamic heterogeneity, Jamming of active particles

Lernziele und Kompetenzen:

Students

- comprehend an interesting physical topic in a short time frame
- identify and interpret the appropriate literature
- select and organize the relevant information for the presentation
- compose a presentation on the topic at the appropriate level for the audience
- give a presentation to a scientific audience and use the appropriate presentation techniques and tools
- criticize and defend the topic in a scientific discussion

Literatur:

Will be provided individually for each talk.

Studien-/Prüfungsleistungen:

Seminar: Jamming: From glassy materials to traffic jams (Prüfungsnummer: 914883)
(englische Bezeichnung: Seminar: Jamming: From glassy materials to traffic jams)

Prüfungsleistung, mündliche Prüfung, Dauer (in Minuten): 45
Anteil an der Berechnung der Modulnote: 100%
weitere Erläuterungen:
Anwesenheitspflicht
Masterstudierende mit Studienbeginn ab Sommersemester 2015 können Prüfungen in deutscher Sprache nur mit Genehmigung des Prüfungsausschussvorsitzenden ablegen.

Erstablegung: SS 2017, 1. Wdh.: keine Angabe
1. Prüfer: Michael Schmiedeberg