

Block Course: „Theoretical Solid State Theory II / Many-Body Theory“

Dates: July 16th 2019 (Tuesday) till July 20th 2019 (Friday)

Time: Lectures: 10:00-12:00 and 13:00-15:00

Tutorial: 15:00-17:00

Place: University of Bremen, NW1 Building (Otto-Hahn-Allee 1), Room S1360

Topics:

- Diagrammatic many-body perturbation theory
- Many-body path integral / coherent state path integrals
- Broken Symmetry and Collective Phenomena

Schedule (preliminary)

Tuesday (morning)	Matsubara Green functions & Wick's theorem
Tuesday (afternoon)	Feynman diagrams (Introduction)
Wednesday (morning)	Feynman diagrams (Linked cluster theorem & block diagrams)
Wednesday (afternoon)	Feynman diagrams (Examples: Hartree-Fock, GW, DMFT)
Thursday (morning)	Coherent states (Bosons, Fermions, Grassmann numbers)
Thursday (afternoon)	Coherent state path integrals
Friday (morning)	Broken symmetry and collective phenomena (I)
Friday (afternoon)	Broken symmetry and collective phenomena (II)