Topic	Speaker	Literature	Date
Introduction to Monte Carlo Methods	Norbert Schaudinnus	1,9	29. Okt. 2009
Introduction to Cluster Algorithms	Christian Thome	2(article *by Luijten*), 4, 5	5. Nov. 2009
Path Integral Monte Carlo	Nicolas Lorscheid	7	12. Nov. 2009
Quantum Monte Carlo; Worm Algorithm	André Winter	8	19. Nov. 2009
Strong Disorder RG in higher dimensions	Istvan Kovacs		26. Nov. 2009
Finite-Element Methods to solve PDEs	Karsten Schwarz	-	3. Dez. 2009
Exact Diagonalization	Astrid Niederle	-	10. Dez. 2009
Introduction to Molecular Dynamics	Julien Randon-Furling / Martin Peglow	3,5	17. Dez. 2009
Ensembles, free energy, phase equilibrium *or* Long range interaction, event driven algorithms or ...	Michael Welter	5 3	14. Jan. 2010
MD-Simulation of polymers & complex molecules	Julien Randon-Furling / Martin Peglow		21. Jan. 2010
Density Functional Methods and ab-initio calculation	Heiko Rieger	2(article by Vuilleumier)	28. Jan. 2010

Literature:

1. (book) **Monte Carlo Methods in Statistical Physics** *by M.E.J Newman & G.T. Barkema*
2. (book) **Computer Simulations in Condensed Matter: Vol 1, Vol 2** *by M.Ferrario, G. Ciccotti & K. Binder*
3. (book) **The Art of Molecular Dynamics Simulation** *by D .C. Rapaport*
4. (book) **Algorithms and Computations** *by W. Krauth*
5. (book) **Understanding Molecular Simulation** *by Daan Frenkel & Berend Smit*
7. (review) **Path integrals in theory of condensed helium** *by D. M. Ceperley*
8. (review) **Recent Developments of World-Line MC Methods** *(J. Phys. Soc. Jpn 73 (2004), 1379) by N. Kawashima & K. Harada*
9. (review) **Applications of MC Methods to statistical physics** (Rep. Prog. Phys 60 (1997) 487) *by K. Binder*