# Reading Class

## Bohmian mechanics as the foundation of quantum mechanics

Bohmian Mechanics is a deterministic theory of particles in motion, the statistical import of which yields the quantum formalism. The "Reading Class" is intended for students interested in foundational questions of physics and quantum mechanics in particular. I accept
### 4-5 students with excellent Vordiplom-grades (or equivalents)
for a **two hour per week** discussion of fundamental issues:
measurement problem (Schrödinger's cat), justification of the quantum equilibrium hypothesis $\rho = |\psi|^2$ (Born's statistical law), randomness and physics, Heisenberg uncertainty, role of operator observables, positive operator valued measures (POVM's), scattering theory, time measurements, nonlocality (Bell's inequalities), self-adjointness of the Hamiltonian. The discussion will be based on my revised book: Bohmian mechanics as the foundation of Quantum Mechanics, to appear with Springer-Verlag.

The class is intended for excellent students who are interested in understanding what physics and mathematics is about, apart from being fun science. Therefore: No credit points, no certificates, no benefits other than understanding fundamental issues.
Depending on the participants the discussion will be either in German or in English

**The discussion will take place in my office. The time will be agreed upon among the participants.**

Interested students are asked to send an email, subject "reading class", to
duerr@math.lmu.de
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