

superconductivity

12 Lectures

- **Lecture 1.** Phenomenology. Meissner Effect
- **Lecture 2.** Type I and type II superconductivity
- **Lecture 4.** Cooper Effect. BCS theory. Thermodynamics
- **Lecture 5.** Gorkov equations. Andreev reflection
- **Lecture 6.** Derivation of Ginzburg-Landau Eqs from BCS theory
- **Lecture 7.** Effect of Disorder on Superconductivity
- **Lecture 8.** Effect of Magnetic impurities. Gapless superconductivity.
- **Lecture 9.** Semiclassical Approximation. Eilenberger and Usadel Equations
- **Lecture 10.** Josephson Effect.
- **Lecture 11.** Non-equilibrium superconductivity.
- **Lecture 12.** Triplet pairing