1. **Introduction.** From the Watson-Crick double helix to the human genome sequence and beyond. Variety of structures of DNA and RNA. Variety of images of structures. DNA and RNA as micro-objects. RNAi revolution.


9. **Major tools in DNA and RNA research.** DNA cutting. DNA mapping. DNA sequencing. Genome sequencing. PCR (polymerase chain reaction). Real time PCR. Hybridization. Molecular beacons. DNA microarrays and DNA chips. PNA as a tool for manipulating with DNA.


**Textbook:**
Andrew D. Bates and Anthony Maxwell "DNA Topology" Oxford University Press, 2005