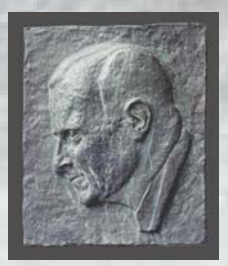
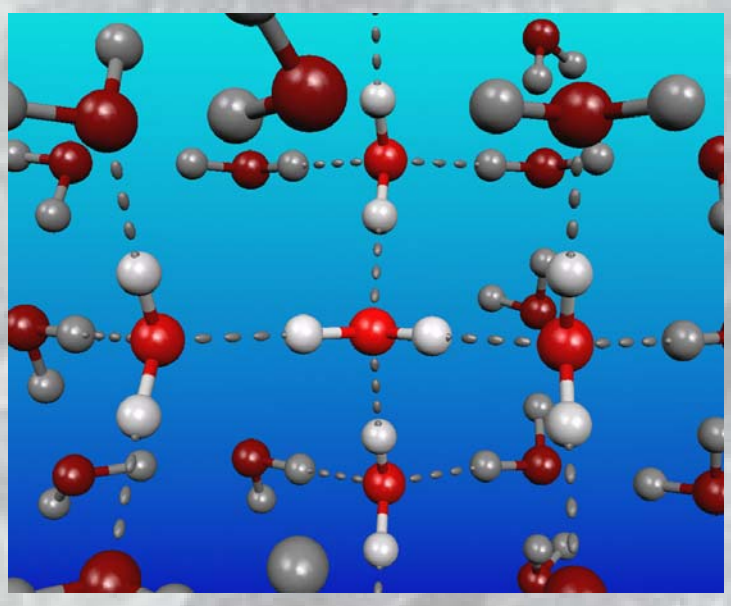


Karl Friedrich Bonhoeffer Lecture

Donnerstag, den 21.09.2006 - 17:00 Uhr
Manfred-Eigen-Hörsaal
Max-Planck-Institut
für biophysikalische Chemie
Am Fassberg 11, 37077 Göttingen

Prof. Dr. Thomas Elsaesser
Max-Born-Institut für Nichtlineare Optik
und Kurzzeitspektroskopie, Berlin

"Ultrafast structural and vibrational dynamics of water"



The unique properties and the biological relevance of liquid water are closely related to its structure, the extended random network of hydrogen bonded molecules. Vibrations of water molecules are one of the most direct probes of structural fluctuations, molecular motions and energy dissipation in this network, processes that occur on femto- to picosecond time scales. In this lecture, new results of non-linear vibrational spectroscopy in the ultrafast time domain are presented, giving detailed insight into the sub-50 fs memory loss, the related structural rearrangements and the vibrational dynamics of water. Experiments in a very wide spectral range unravel the femtosecond relaxation of intra- and intermolecular vibrations leading to a fast redistribution and dissipation of energy. Such properties make water a highly protective and stabilizing medium for biomolecules and biological processes.

Gastgeber: Prof. Dr. Stefan W. Hell