



The TUM Explorer programme took place again on the 2nd and 3rd of August 2021. The workshop “Natural Sciences and NMR” made it possible for 13 school girls of 16 years and above to get to know the basics of research in the natural sciences on the example of NMR (Nuclear Magnetic Resonance)-Spectroscopy.

The special focus was laid on interactivity, hence the concepts and individual working phases were supported by the app *SpinDrops*. This helped visualise the nuclear spins and their motions in magnetic fields (as they would appear in an NMR experiment) and simulate corresponding NMR-Spectra.

At the beginning the school girls got to know, among other things, the precession movements of spins in magnetic fields and were able to thereby explain the formation of ^1H -NMR spectra. On the second day these ideas could be explored more in-depth by independent analysis and evaluation of NMR-Spectra.

The technology of NMR-Spectroscopy plays a big role in the daily life of a chemist. Apart from a guided tour in the Bavarian NMR Centre at the TU Munich and the visit of a NMR-Spectrometer the TUM-Explorers could get information from a theoretical perspective on research in the field of natural sciences and on the processes of knowledge gaining.

The talks conducted by the lecturers were complemented by smaller experiments, tasks and more easy going elements like videos. For example, a criminal case which had to be solved served as motivation to interpret and analyse NMR-Spectra of the substances found on the site of crime.

On the whole, the school girls were all very interested and motivated and they could carry out their assigned tasks brilliantly. The positive feedback is also a clear indication of a successful event.