



**VABILO NA PREDAVANJE  
V OKVIRU DOKTORSKEGA ŠTUDIJA  
KEMIJSKE ZNANOSTI**

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z naslovom:

**Molecular structure and dynamics in liquids and  
solutions: contributions of neutron scattering**

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*Vljudno vabljeni !*



## **Abstract**

When exploring the microscopic structure and dynamics of liquids, from simple liquids such as water to solutions of complex biomolecules, neutron scattering continues to be a remarkable probe. With first experiments dating from the time of the 2<sup>nd</sup> world war, by the end of the 20<sup>th</sup> century neutron scattering has secured an important place within the suite of modern scattering techniques, as is attested by the Brockhouse and Shull Nobel prize of Physics in 1994. The origin lies in the outstandingly good match between the momenta and energy of thermal neutrons with that of atoms in solids and liquids. For liquids and solutions, we take a further advantage of the exceptional sensitivity of neutrons to light elements such as hydrogen, in contrast to the X-ray analogue, as well as the concept of contrast matching and its extensions.

After an overview of the main concepts of neutron scattering, a series of examples will demonstrate how and why neutron scattering has become the unavoidable scattering technique for soft matter.