

SCOPE

The scope of the expert panel W&T3 covers fundamental research of condensed matter, including both (bio-)physics and chemistry. This encompasses theoretical and computational condensed matter physics and chemistry and in-silico design of materials; experimental condensed matter chemistry and physics; as well as physical chemistry-chemical physics of condensed matter.

Topics to be addressed include theoretical and experimental determination of properties; synthesis and characterisation of materials (from bulk down to nano-scale); computational models and advanced measurement techniques.

More specifically, the scope covers the following aspects on:

TOPICS

– MATERIALS AND SYSTEMS

- » Solid state materials and soft condensed matter, including condensed matter aspects of biophysics
- » Inhomogeneous, disordered and partially ordered systems
- » Physics and chemistry of surfaces and interfaces, low-dimensional, self-assembled and nanoscale systems
- » Synthesis, nucleation and deposition, growth and surface modification

– PROPERTIES AND PHENOMENA

- » Structure, defects, phase transitions and structure-property relationships
- » Properties of condensed matter: transport, mechanical, acoustical, electronic, ionic, optical, magnetic, electrochemical... etc. and their characterisation
- » Electronic structure and transport mechanisms
- » Collective quantum phenomena and excitations
- » Condensed matter – beam interactions (photons, electrons, etc.), spectroscopic and microscopic methods; nuclear solid state physics and instrumental physical chemistry