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Hörsaal für Physik

”Characterizing structure and properties of bone and bioinspired materials by a multi-method approach”

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Biological materials are often an inspiring source for materials scientists developing new materials with specific functions and properties. In our group, we use combinations of materials science approaches to answer biologically driven questions in natural materials and to understand structure-function relations in biological and synthetic materials. By this approach we aim to elucidate biological processes and to transfer knowledge from natural materials to the design of man-made materials, such as nanostructured mineral-based materials. In this talk, two topics will be presented: (i) the healing of bone from a materials science perspective and (ii) formation and crystallization of calcium carbonate microlens arrays. Both systems are investigated by specific combinations of small and wide angle X-ray scattering, electron microscopy and other microscopy methods.