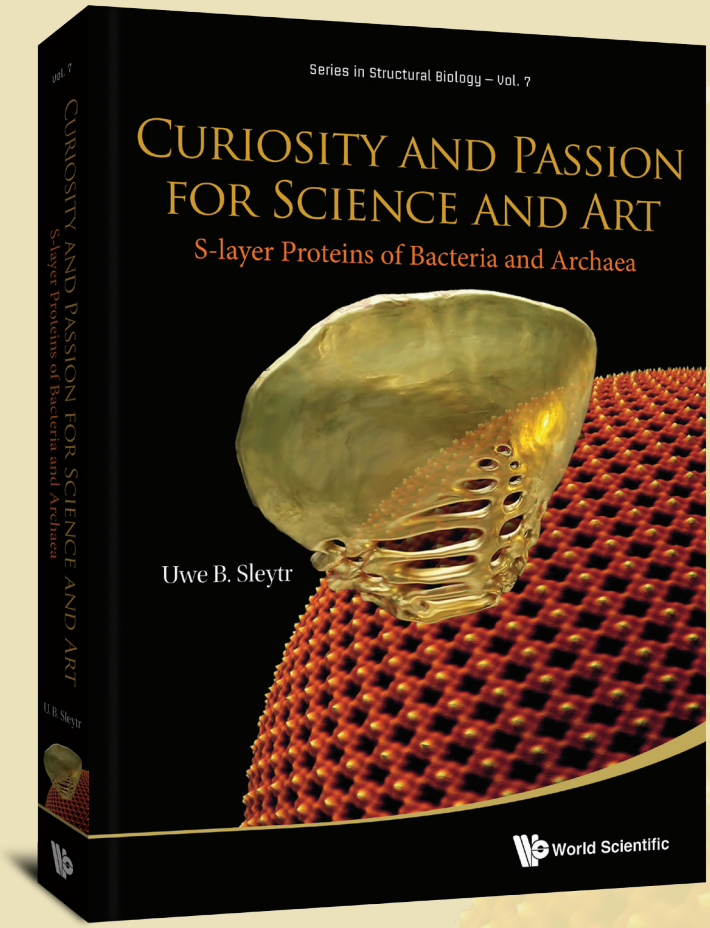
Series in Structural Biology - Vol 7

Curiosity and Passion for Science and Art

S-layer Proteins of Bacteria and Archaea

Uwe B Sleytr
University of Natural Resources and Life Sciences, Vienna, Austria



The science section in this volume concerns studies on S-layers, a very important class of proteins found on the surface of numerous Bacteria and nearly all Archaea. S-layer proteins are one of the most abundant biopolymers on our planet, and assemble into the simplest type of biological membrane. Moreover, they are unique building blocks and patterning elements for the production of complex supramolecular structures and nanoscale devices in nanobiotechnology, molecular nanotechnology, synthetic biology, biomimetics and nanomedicine.

In the second part of this book the author goes on to passionately describe how his scientific activities stimulated his art work, which in particular concerns the visualization of results and the potential of synthetic biology and evolutionary events induced by genetic manipulations. Most importantly, the engagement in art allowed him to leave the rather curtailed canon of science and reach a mental state of unlimited freedom of thoughts. Mask-like sculptures are used as examples to visualize the intersection between science and art, and in particular the unpredictability and mystery of scientific visions.

Readership: Students and researchers in microbiology, nanobiotechnology, structural biology, supramolecular chemistry, and arts (biography, nature).

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Highlights

- In this volume the beginning of S-layer research is described and it is illustrated how in the following studies on structure, chemistry, genetics, assembly and function of S-layers revealed considerable application potential in (nano) biotechnology, biomimetics, biomedicine and synthetic biology
- The book concerns the extrapolation of scientific insights into the world of art.