DESCRIPTION

This first comprehensive overview of the modern aspects of biomineralization represents life and materials science at its best: Bioinspired pathways are the hot topics in many disciplines and this holds especially true for biomineralization.

Here, the editors -- well-known members of associations and prestigious institutes -- have assembled an international team of renowned authors to provide first-hand research results.

This second volume deals with biometic model systems in biomineralization, including the biomineral approach to bionics, bioinspired materials synthesis and bio-supported materials chemistry, encapsulation and the imaging of internal nanostructures of biominerals.

An interdisciplinary must-have account, for biochemists, bioinorganic chemists, lecturers in chemistry and biochemistry, materials scientists, biologists, and solid state physicists.

ABOUT THE AUTHOR

Edmund Bäuerlein was born in 1932, studied chemistry in Saarbrücken, Munich, and Frankfurt (Germany) and he completed his PhD with Prof. Th. Wieland on biologically relevant hydroquinones. He then moved to the Max Planck Institute for medical research, Heidelberg (Germany), as a research group leader, completed his Habilitation at the University of Heidelberg in 1974, where he was appointed Professor in 1980. In 1984 he moved to the Max Planck Institute for Biochemistry in Munich, department membrane biochemistry, where he was research group leader. He edited two successful books about biomineralization.
Peter Behrens, born in 1957, studied chemistry and did his Ph.D. at the University of Hamburg. He did his Habilitation at the University of Constance and University of California (Prof. Stucky). In 1994 he was appointed Professor for Inorganic Chemistry at the University of Munich, afterwards in Hannover. He is member of the Braunschweigische Scientific Society, President of the German Zeolite Association and member of the Board of the European Zeolite Associations and reviewer for several national and international foundations and journals. His research interests include porous materials, biomaterials, hybrid and composite materials, synthesis of materials as well as biomineralization.

Matthias Epple is born in 1966, studied chemistry at the University of Braunschweig, did his Diploma and Ph. D. in physical and theoretical chemistry (Prof. Cammenga). For postdocs he moved to Prof. Berg, University of Washington, Seattle, Prof. Reller, University of Hamburg, and Sir J. M. Thomas, London. He was appointed Professor at the University of Augsburg, Bochum and now Duisburg-Essen for Inorganic Chemistry. He received several awards, e.g. Netzsch-GEFTA Young Scientist Award, Heisenberg Grant and Heinz Maier-Leibnitz Award by the Deutsche Forschungsgemeinschaft. His research interests include the development and application of biomaterials, biomimetic crystallization, application of synchrotron-based methods, synthesis of nanoparticles and reactivity of solid compounds.

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