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Sommario/riassunto	Prokaryotes have a complex cell envelope which has several important functions, including providing a barrier that protects the cytoplasm from the environment. Along with its associated proteinaceous structures, it also ensures cell stability, facilitates motility, mediates adherence to biotic and abiotic surfaces, and facilitates communication with the extracellular environment. Viruses have evolved to take advantage of cell envelope constituents to gain access to the cellular interior as well as for egress from the cell. While many aspects of the biosynthesis and structure of the cell envelope are similar across domains, archaeal cell envelopes have several unique characteristics including, among others, an isoprenoid lipid bilayer, a non-murein-based cell wall, and a unique motility structure, important features that give archaeal cell envelopes characteristics that are significantly different from those of bacterial cell envelopes. Recent analyses have revealed that the cell envelopes of distantly related archaea also display an immense diversity of characteristics. For instance, while many archaea have an S-layer, the subunits of S-layers of various archaeal species, as well as their posttranslational modifications, vary

significantly. Moreover, like gram-negative bacteria, recent studies have shown that some archaeal species also have an outer membrane. In this collection of articles, we include contributions that focus on research that has expanded our understanding of the mechanisms underlying the biogenesis and functions of archaeal cell envelopes and their constituent surface structures.