Special Issue

Structural Biology of Phages

Message from the Guest Editors

The viruses that infect bacteria—bacteriophages or phages—are the most abundant biological entities on Earth. Phages play an important role in the dynamics of bacterial communities with implications for biogeochemistry, biomes, health (phage therapy), and industry. Phage virions exhibit a broad spectrum of structural morphologies: icosahedral, filamentous, tailed, and pleomorphic particles. Their assembly follows a defined program of sequential protein and protein–nucleic acid interactions. Infectious particles attach specifically to bacterial receptors belonging to various biochemical families, such as surface proteins, polysaccharides, and lipopolysaccharides. Therefore, understanding the structure–function relationship of phage particles and the complex dynamics of phage–host interactions is of much interest and requires the exploration of different phage/host couples in addition to the classical model systems.

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