Contribution ID: **111** Type: **Talk from invited speaker**

Phage-induced membrane remodelling is a vulnerability targeted by bacterial immunity

Tuesday, 6 October 2026 14:00 (30 minutes)

Nucleus-forming jumbo phages establish infection by first enclosing their genome within an early phage infection (EPI) vesicle derived from the bacterial inner membrane. We discovered a bacterial immune system that targets this early membrane-bound stage of infection. This defence protein rapidly localizes to the site of phage infection and disrupts EPI vesicle morphology. In vitro, this defence protein can remodel bacterial lipid membranes, producing extensive membrane tubulation. Together, our findings reveal that bacterial immunity can directly target the membrane architecture required for viral replication.

Reference #1

Reference #2

Reference #3

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