

Abstract Submitted
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Non-equilibrium dynamics of virus capsid assembly ARTEM LEVANDOVSKY, University of California Riverside — The process of self-assembly of nano-structures under non-equilibrium conditions has recently received a lot of attention in various fields. A viral shell (capsid) is, for sure, one of the most interesting biological structures that can spontaneously form (from statistical mechanics point of view) at the right pH and ionic strength. While the viral capsids are by far less complex than most other biological objects, the process of virus assembly remains poorly understood. Viruses are found to adopt many different shapes. The mechanisms involved in the self-assembly of capsids into a particular shape as well as the transitions from spherical to non-spherical shells are the subject of this presentation. We show that the kinetic formation of the protein building blocks into the intermediate states (dimers, trimers, pentamers and hexamers) can lead to the construction of shells with different morphologies.

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