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Entropy-driven crystal nucleation

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Control of crystal nucleation is important for the design of many materials. For this reason, it is important to have a good understanding of the rate-limiting step in nucleation, i.e. the formation of a critical nucleus. As nucleation is a rare event, it is difficult to obtain direct experimental information about the crucial early stages of nucleation.
With the help of computer simulations, it is now possible to study the pathway for nucleation, in some detail. In my talk, I shall discuss recent studies of homogeneous and heterogeneous crystal nucleation in colloids systems of uncharged colloids. Interestingly, crystal nucleation in such systems is driven by entropy alone.

References:
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