

## **Internal Webinar**

### **Concentration-dependent critical behaviour in branching linear growth**

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Self-aggregation in proteins has long attracted great interest due to the important roles that protein aggregates play in many biological contexts. Of particular interest have been the properties of a specific class of fibrillar aggregates called amyloids. Several models of amyloid aggregation have proposed a two-step mechanism.

In this talk, I will describe a two-step, mean-field model for aggregation, consisting of linear and branching growth. I will derive exact coupled rate equations for the process in terms of aggregate mass and branch number and show that these equations admit an analytic solution that allows the determination of the aggregate mass throughout the course of the aggregation. Finally, I will show how these equations lead to the development of concentration-dependent critical behavior in the aggregation process.

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***11:30 AM***