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## Seminar 2016

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### Mathematical models of bacterial growth: Understanding cell size, composition and phenotypic variability



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A class of mathematical models for the growth-division dynamics of a cell will be described. These models provide a unified explanation of several observed properties of steady state bacterial cultures including the 'balanced growth' of chemicals in a cell, the 'bacterial growth laws' of cellular composition and size, and the 'adder property' of cell size control. The models provide an insight into the molecular origin of three macroscopic scales in bacteria: (a) a time scale – the average inter-division time, (b) a length scale – the average volume of a cell at birth, and (c) the scale of phenotypic variability of inter-division time and cell volume.

**Tuesday June 21, 2016**

**11:00 AM**

**Laufer Center Lecture Hall 101**

***Host: Ken Dill***

Refreshments 3:30 Hub 110



**Stony Brook University**