

Thesis Defense - Dynamics of the Formation of Rings of Protein Filaments

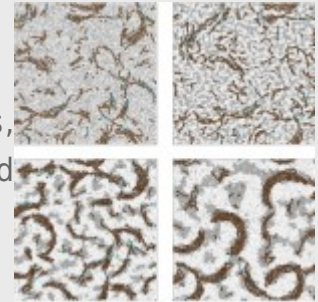
Place: Seminar room, module 8, Facultad de Ciencias.

When: 11:30AM, Friday, 21st November, 2014.

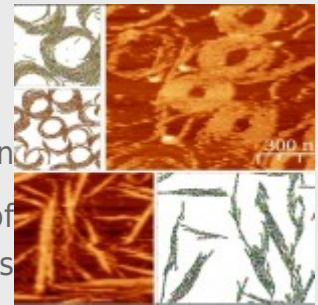
Program: Defense by Mr. Pablo González de Prado Salas,
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Title: Dynamics of the Formation of Rings of Protein Filaments.

Thesis Director: [Pedro Tarazona](#)



FtsZ is a protein found in prokaryotes, and it plays an essential role in cell division. It is one of the main components of the Z-ring, the structure responsible for the constriction forces needed to split the cell in two. The details of this important process are still poorly understood.



We have used modelling and Montecarlo simulations of FtsZ filaments on a fine-grained lattice (where monomers occupy several lattice points, allowing for subtle movement).

We compare the results with atomic force microscopy images of FtsZ on flat surfaces, with the aim of identifying the essential interactions among proteins that result in the very dynamic aggregates that are found in the experiments. In this thesis project we have focused on the role played by filament torsion and we have explored the importance of controlled anchoring to the membrane with the help of FtsZ mutants.

