

Graduate Schools
Infection & Immunity and Biology & Medicine, supported by CUS

Seminars in Microbiology

Monday, 15th September, 2014

Salle de séminaire 7172, CMU

11:30 – 12:30

Dr. Seamus Holden

Suliana Manley Group, Lab of Experimental Biophysics
Institute of Physics of Biological Systems, EPFL



One (patchy) ring to rule them all: studying the physical mechanisms of bacterial cell division using 3D super- resolution microscopy

Seamus Holden uses super-resolution fluorescence imaging techniques combined with live cell imaging and single molecule tracking to determine how the dynamics of protein assembly are coordinated. Specifically, Seamus Holden has pioneered in the development of a high throughput 3D super-resolution imaging systems that he used to illuminate the nanoscale organization of the bacterial cell division protein FtsZ in hundreds of live *Caulobacter crescentus* cells. He also recently uncovered a previously unidentified period of rapid FtsZ-ring contraction in the final stages of the cell cycle and observed that DNA damage resulted in production of high-density continuous FtsZ-rings.

Selected recent publications:

Holden et al (2014), PNAS, 111(12):4566-71.
Endesfelder et al (2013), Biophys J, 105(1):172-81.
Holden et al (2011) Nat Methods, 8(4):279-80.

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Sandwiches will be offered after the seminar