

RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN
Fachgruppe Biologie

Zoologisches Forschungsmuseum Alexander Koenig

Biologisches Kolloquium

Wintersemester 2017/2018

Montag, den 22. 01. 2018, 17 Uhr c.t.

im Hörsaal Zoologie, Poppelsdorfer Schloss

Prof. Dr. Wolfram Antonin

Institute of Biochemistry and Molecular Cell Biology, RWTH Aachen

***“How cells reform their nucleus - studies
in cells and test tubes“***

Einladung: Prof. Dr. A. Haas (Institut für Zellbiologie)

Abstract: The animal cell nucleus undergoes fascinating structural and functional changes during cell division. At the beginning of mitosis the nuclear envelope breaks down and the chromatin condenses to be captured and segregated by the mitotic spindle - processes which are intensively studied. Much less is known how at the end of mitosis the interphase structure of the nucleus that is competent for DNA replication and gene expression is re-established. Re-establishment involves the decondensation of the highly compacted mitotic chromosomes, reformation of the nuclear envelope, which protects the chromatin, and reassembly of nuclear pore complexes, the transport gates within the nuclear envelope. Using a combination of biochemical and cell biological experiments, ranging from minimal biochemical and cell free reconstitution systems to life cell imaging we dissect the molecular mechanisms of nuclear reformation. I will present recent progress in our understanding of how mitotic chromatin decompacts and how nuclear pore complexes are embed into the two membranes of the nuclear envelope and form transport competent pores.