

A KJELDGAARD LECTURE



Thursday 1 March 2018 at 13:15

1253 - 211 Merete Barker

Same location for the PhD session



Julius Brennecke

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Vienna, Austria

The piRNA pathway: a small RNA based genome immune system

The elaborate gene expression patterns during plant and animal development all too easily give the impression of the 'harmonic genome', where coding sequences and regulatory elements are arranged in highly precise and evolved ways. Eukaryotic genomes, however, are anything but harmonic. They are loaded with transposable elements and their sequence remnants. Half of the human genome has recognizable transposon origin, and the genomes of some amphibians and flowering plants have staggeringly high transposon contents of ~90%. How do cells cope with this massive and repetitive sequence load? How do they restrict transposon activity while leaving their own gene expression programs unperturbed? My research group studies this ancient genetic conflict between transposons and host genomes, which has major implications for the evolution of gene regulatory networks, for chromatin & chromosome biology, and for gametogenesis. We focus on the biology and mechanism of the piRNA pathway, an animal specific small RNA silencing system that suppresses transposable elements in gonads. In my talk, I will present the molecular strategies that underlie this defense pathway, which shares remarkable conceptual similarities with bacterial CRISPR/Cas systems.

Host: Torben Heick Jensen, Gene Expression and Gene Medicine
Department of Molecular Biology and Genetics, Aarhus University

The lecture will be followed by a chalk-board session for PhD students

The Kjeldgaard Lecture Series is organised by
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