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H-2. Lamin plays with SUN

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Intermediate filaments (IFs) are cytoskeletal components composed of a family of related proteins sharing common structural and sequence features. Beside cytoplasmic IFs, we know about the nuclear IFs - lamins, which belong to this protein family as a type V. Lamins are organized at the nuclear periphery, where form the main component of nuclear lamina and participate in many roles, such as maintenance of nuclear shape, regulation of gene expression, transcription, DNA replication, segregation of chromosome, meiosis and apoptosis. Mutations in lamin genes have a dramatic effect on their function causing pathological phenotype (i.e. Emery-Dreifuss Muscular Dystrophy (EDMD) or Hutchinson-Gilford Progeria Syndrome (HGPS)). We identified a novel mechanism of lamin involvement in the process of gametogenesis in *Caenorhabditis elegans*. This model organism offers an advantage of only one evolutionarily conserved lamin protein (CeLMN) compared to the mouse or human cell lines. Our project focuses on the molecular mechanisms and regulation of chromosomal dynamics during gametogenesis. We study the SUN/KASH complex, which is important in the process of chromosome pairing at early stag-

es of meiosis I. Interestingly, we discovered that some dedicated mutations in CeLMN gene (which mimic EDMD) affect dynamics of SUN/KASH complex. Subsequently, this change in properties of SUN/KASH complex causes defects in development of germ cells in *C. elegans*. Based on our results, we suggest a new possible model for the functional connection of SUN/KASH complex to the nuclear lamina.

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K-1. Telomere biology in the *Drosophila* germline: link between chromatin structure, transcription and nuclear localization

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Telomeres are nucleoprotein complexes that protect eukaryotic linear chromosome ends. They are composed of the telomeric DNA and