

## セミナーのお知らせ

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【日時】：1月8日（金） 11:00～12:00

【場所】：生命機能研究科 生命システム棟 2階 セミナー室

### **“Correlative light-electron microscopy reveals the assembly process of the nuclear pore complex in interphase”**

The nuclear pore complex (NPC) is the largest non-polymeric protein complex in eukaryotic cells and spans the double membrane of the nucleus to mediate nucleocytoplasmic transport. In metazoan cells NPCs are assembled in two cell-cycle stages, during nuclear assembly after mitosis and during nuclear growth in interphase. How NPCs assemble into the double membrane barrier of intact nuclei of interphase cells has been enigmatic.

In this study, we captured structural intermediates of NPC assembly at different stages of nuclear growth by correlating single cell live imaging with high resolution electron tomography. The assembly intermediates we discovered were dome-shaped evaginations of the inner nuclear membrane, that are specifically enriched in nucleoporins and already in their earliest stages contained an 8-fold rotationally symmetric ring structure underneath the inner nuclear membrane. Quantitative structural analysis of temporally staged NPC intermediates revealed that interphase NPC assembly proceeds by an asymmetric inside-out extrusion of the inner nuclear membrane that eventually fuses with the flat outer nuclear membrane to generate a new NPC.

\*本セミナーは日本語で行われます

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