



Prominent 2015 DeltaVision™ OMX publications

DeltaVision OMX had a great year for publications! In 2015, 115 peer-reviewed papers were published. Of the 115, 66 papers were published in high-profile journals, including two in *Cell*, seven in *Journal of Cell Biology*, two in *Nature*, three in *Nature Cell Biology*, ten in *Nature Communications*, and three in *Science*. Here, the 66 high-profile publications are listed according to application.

Cancer

Marzec, P. et al. Nuclear-Receptor-Mediated telomere insertion leads to genome instability in ALT cancers. *Cell* **160**, 913-927 (2015), doi:10.1016/j.cell.2015.01.044.

Caicedo, A. et al. MitoCeption as a new tool to assess the effects of mesenchymal stem/stromal cell mitochondria on cancer cell metabolism and function. *Scientific Reports* **5(9073)**, 1-10 (2015), doi: 10.1038/srep09073.

Centrosome

Burnes, S. et al. Structured illumination with particle averaging reveals novel roles for yeast centrosome components during duplication. *eLIFE* **4**, 1-27 (2015), doi:10.7554/eLife.08586.

Arquint, C. et al. STIL binding to Polo-box 3 of PLK4 regulates centriole duplication. *eLIFE* **4**, 1-22 (2015), doi:10.7554/eLife.07888.

Conduit, P. et al. Re-examining the role of *Drosophila* Sas-4 in centrosome assembly using two-color-3D-SIM FRAP. *eLIFE* **4**, 1-12 (2015), doi: 10.7554/eLife.08483.

Pagan, J. et al. Degradation of Cep68 and PCNT cleavage mediate Cep215 removal from the PCM to allow centriole separation, disengagement and licensing. *Nat Cell Biol* **17**, 31-43 (2015), doi:10.1038/ncb3076.

Richens, J. et al. The *Drosophila* Pericentrin-like protein (PLP) cooperates with Cnn to maintain the integrity of the outer PCM. *Open Biol* **4(8)**, 1052-1061 (2015), doi:10.1242/bio.012914.

Woodruff, J. et al. Regulated assembly of a supramolecular centrosome scaffold *in vitro*. *Science* **348(6236)**, 808-812 (2015), doi:10.1126/science.aaa3923.

Cell division

Kruitwagen, T. et al. Axial contraction and short-range compaction of chromatin synergistically promote mitotic chromosome condensation. *eLIFE* **4**, 1-19 (2015), doi:10.7554/eLife.10396.

Ji, W. et al. Actin filaments target the oligomeric maturation of the dynamic GTPase Drp1 to mitochondrial fission sites. *eLIFE Epub ahead of print* (2015), doi:10.7554/eLife.11553.

Kanfer, G. et al. Mitotic redistribution of the mitochondrial network by Miro and Cenp-F. *Nat Commun* **6(8015)**, 1-9 (2015), doi:10.1038/ncomms9015.

Scarfone, I. et al. Asymmetry of the budding yeast Tem1 GTPase at spindle poles is required for spindle positioning but not for mitotic exit. *PLOS Genet* **11(2)**, 1-29, doi:10.1371/journal.pgen.1004938.

Osman, C. et al. Integrity of the yeast mitochondrial genome, but not its distribution and inheritance, relies on mitochondrial fission and fusion. *PNAS* **112(9)**, 947-E956 (2015), doi:10.1073/pnas.1501737112.

Roth, M. et al. Asymmetrically dividing *Drosophila* neuroblasts utilize two spatially and temporally independent cytokinesis pathways. *Nat Commun* **6(6551)**, 1-14 (2015), doi: 10.1038/ncomms7551.

Wynne, D. et al. Kinetochore function is controlled by a phospho-dependent coexpansion of inner and outer components. *J Cell Biol* **210(6)**, 899-916 (2015), doi:10.1083/jcb.201506020.

Cell polarization and migration

Lou, S. et al. Myosin light chain kinase regulates cell polarization independently of membrane tension or Rho kinase. *J Cell Biol* **209**(2), 275-288 (2015), doi:10.1083/jcb.201409001.

Lagarrigue, F. et al. A RIAM/lamellipodin-talin-integrin complex forms the tip of sticky fingers that guide cell migration. *Nat Commun* **6**(8492), 1-13 (2015), doi:10.1038/ncomms9492.

Chabaud, M. et al. Cell migration and antigen capture are antagonistic processes coupled by myosin II in dendritic cells. *Nat Commun* **6**(7526), 1-16 (2015), doi:10.1038/ncomms8526.

Lou, S. et al. Myosin light chain kinase regulates cell polarization independently of membrane tension or Rho kinase. *J Cell Biol* **209**(2), 275-288 (2015), doi:10.1083/jcb.201409001.

Sternemalm, J. et al. CSPP-L associates with the desmosome of polarized epithelial cells and is required for normal spheroid formation. *PLOS One* **10**(8), (2015), doi:10.1371/journal.pone.0134789.

Chromosome structure

Matsuda, A. et al. Highly condensed chromatins are formed adjacent to subtelomeric and decondensed silent chromatin in fission yeast. *Nat Commun* **6**(7753), 1-12 (2015), doi:10.1038/ncomms8753.

Poonperm, R. et al. Chromosome scaffold is a double stranded assembly of scaffold proteins. *Scientific Reports* **5**(11916), 1-10 (2015), doi:10.1038/srep11916.

Ciliogenesis

Brown, J. et al. Assembly of IFT Trains at the ciliary base depends on IFT74. *Curr Biol* **25**, 1583-1593 (2015), doi: 10.1016/j.cub.2015.04.060.

Cytoskeleton

Billington, N. et al. Myosin 18A coassembles with nonmuscle Myosin 2 to form mixed bipolar filaments. *Curr Biol* **25**, 942-948 (2015), doi:10.1016/j.cub.2015.02.012.

Mönkemöller, V. et al. Multimodal super-resolution optical microscopy visualizes the close connection between membrane and the cytoskeleton in liver sinusoidal endothelial cell fenestrations. *Scientific Reports* **5**, 1-10 (2015), doi: 10.1038/srep16279.

Development

Popken, J. et al. Remodeling of the nuclear envelope and lamina during bovine preimplantation development at its functional implications. *PLOS One* **10**(5), 1-22, doi:10.1371/journal.pone.0124619.

Endosome

Raiborg, C. et al. Repeated ER-endosome contacts promote endosome translocation and neurite outgrowth. *Nature* **520**(7546), 234-238 (2015), doi:10.1038/nature14359.

Chaumet, A. et al. Nuclear envelope-associated endosomes deliver surface proteins to the nucleus. *Nat Commun* **6**(8218), 1-9 (2015), doi: 10.1038/ncomms9218.

Evolution

Liu, G. et al. Gene Essentiality is a quantitative property linked to cellular evolvability. *Cell* **163**, 1-12 (2015), doi:10.1016/j.cell.2015.10.069.

Haematopoiesis

Travnickova, J. et al. Primitive macrophages control HSPC mobilization and definitive haematopoiesis. *Nat Commun* **6**(6227), 1-9 (2015), doi:10.1038/ncomms7227.

Human disease

Chojnowski, A. et al. Progerin reduces LAP2 α -telomere association in Hutchinson-Gilford progeria. *eLIFE* **4**, 1-21 (2015), doi:10.7554/eLife.07759.

Bozzi, M. et al. The structure of the T190M mutant of murine α -Dystroglycan at high resolution: insight into the molecular basis of a primary dystroglycanopathy. *PLOS One* **10**(5), 1-21, doi:10.1371/journal.pone.0124277.

Immunology

Barr, J. et al. Subdiffusive motion of bacteriophage in mucosal surfaces increases the frequency of bacterial encounters. *PNAS* **112**(44), 13675-13680 (2015), doi:10.1073/pnas.1508355112.

Meiosis

Klutstein, M. et al. The telomere bouquet regulates meiotic centromere assembly. *Nat Cell Biol* **17**, 458-469 (2015), doi:10.1038/ncb3132.

Christophorou, N. et al. Microtubule-driven nuclear rotations promote meiotic chromosome dynamics. *Nat Cell Biol* **17**, 1388-1400 (2015), doi: 10.1038/ncb3249.

Lambing, C. et al. Arabidopsis PCH2 mediates meiotic chromosome remodeling and maturation of crossovers. *PLOS Genet* **11**(7), 1-27 (2015), doi:10.1371/journal.pgen.1005372.

Nakajima, N. et al. Pre-exposure to ionizing radiation stimulates DNA double strand break end resection, promoting the use of homologous recombination repair. *PLOS One* **10**(3), 1-15 (2015), doi:10.1371/journal.pone.0122582.

Lake, C. et al. Vilya, a component of the recombination nodule, is required for meiotic double-strand break formation in *Drosophila*. *eLIFE* **4**, 1-26 (2015), doi: 10.7554/eLife.08287.

Membrane structure

Doucet, C. et al. Membrane curvature sensing by amphipathic helices is modulated by the surrounding protein backbone. *PLOS One* **10**(9), 1-23 (2015), doi:10.1371/journal.pone.0137965.

Microbiology

Stracy, M. et al. Live-cell superresolution microscopy reveals the organization of RNA polymerase in the bacterial nucleoid. *PNAS* **112**(32), 4390-4399 (2015), doi:10.1073/pnas.150759112.

Marbouty, M. et al. Condensin- and replication-mediated bacterial chromosome folding and origin condensation revealed by Hi-C and super-resolution imaging. *Mol Cell* **59**(4), 588-602 (2015), doi:10.1016/j.molcel.2015.07.020.

Phillips, A. et al. Functional activation of the flagellar type III secretion export apparatus. *PLOS Genet* **11**(8), 1-37 (2015), doi:10.1371/journal.pgen.1005443.

Zhou, X. et al. Mechanical crack propagation drives millisecond daughter cell separation in *Staphylococcus aureus*. *Science* **348**(6234), 574-578 (2015), doi:10.1126/science.aaa1511.

Mitotic spindle

- Hehnly, H. et al. A mitotic kinase scaffold depleted in testicular seminomas impacts spindle orientation in germline stem cells. *eLIFE* **4**, 1-22 (2015), doi: 10.7554/eLife.09384.
- Vietri, M. et al. Spastin and ESCRT-III coordinate mitotic spindle disassembly and nuclear envelope sealing. *Nature* **522(7555)**, 231-235 (2015), doi:10.1038/nature14408.

Neurobiology

- Chen, J. et al. Rootelin organizes the ciliary rootlet to achieve neuron sensory function in *Drosophila*. *J Cell Biol* **211(2)**, 435-453 (2015), doi:10.1083/jcb201502032.

- Hennig, S. et al. Prion-like domains in RNA binding proteins are essential for building subnuclear paraspeckles. *J Cell Biol* **210(4)**, 529-539 (2015), doi:10.1083/jcb.201504117.

- Vullhorst, D. et al. A negative feedback loop controls NMDA receptor function in cortical interneurons via Neuregulin2/ErB4 signaling. *Nat Commun* **6(7222)**, 1-14 (2015), doi:10.1038/ncomms8222.

- Gimber et al. Diffusional spread and confinement of newly exocytosed synaptic vesicle proteins. *Nat Commun* **6(8392)**, 1-11 (2015), doi:10.1038/ncomms9392.

Plant biology

- Teeseling, M. et al. Anammox planctomycetes have a peptidoglycan cell wall. *Nat Commun* **6(6878)**, 1-6 (2015), doi:10.1038/ncomms7878.

Protein aggregates

- Egan, M. et al. Cytoplasmic Dynein is required for the spatial organization of protein aggregates in filamentous fungi. *Cell Rep* **11**, 1-9 (2015), doi:10.1016/j.celrep.2015.03.028.

Signaling

- Pronobis, M. et al. A novel GSK3-regulated APC:Axin interaction regulates Wnt signaling by driving a catalytic cycle of efficient β -catenin destruction. *eLIFE* **4**, 1-31 (2015), doi:10.7554/eLife.08022.

- Gomez-Lamerica, M. et al. Rme-8 depletion perturbs Notch recycling and predisposes to pathogenic signaling. *J Cell Biol* **210(2)**, 303-318 (2015), doi: 10.1083/jcb20141101.

- Naguib, A. et al. PTEN functions by recruitment to cytoplasmic vesicles. *Mol Cell* **58**, 255-268 (2015), doi:10.1016/j.molcel.2015.03.011.

- Wang, J. et al. Ypt1/Rab1 regulates Hrr25/CK1 kinase activity in ER-Golgi traffic and macroautophagy. *J Cell Biol* **210(2)**, 273-285 (2015), doi:10.1083/jcb201408075.

Stem cells

- Ge, X. et al. Embryonic stem cells license a high level of dormant origins to protect the genome against replication stress. *Stem Cell Rep* **5**, 1-10 (2015), doi:10.1016/j.stemcr.2015.06.002.

Splicing

- Novotný, I. et al. SART3-dependent accumulation of incomplete spliceosomal snRNPs in Cajal Bodies. *Cell Rep* **10**, 429-440 (2015), doi:10.1016/j.celrep.2014.12.030.

Technology development

- Kakui, Y. et al. Module-based construction of plasmids for chromosomal integration of the fission yeast *Schizosaccharomyces pombe*. *Open Biol* **5(150054)**, 1-18 (2015), doi:10.1098/rsob.150054.

- Johnson, E. et al. Correlative in-resin super-resolution and electron microscopy using standard fluorescent proteins. *Scientific Reports* **5(9583)**, 1-8 (2015), doi:10.1038/srep09583.

- Chen, F. et al. Expansion microscopy. *Science* **347(6221)**, 543-548 (2015), doi:10.1126/science.1260088.

Virology

- Perreira, J. et al. RNASEK is a V-ATPase-Associated Factor required for endocytosis and the replication of Rhinovirus, Influenza A Virus, and Dengue Virus. *Cell Rep* **12(5)**, 850-863 (2015), doi:10.1016/j.celrep.2015.06.076.

- You, J. et al. Flavivirus infection impairs peroxisome biogenesis and early anti-viral signaling. *J Virol* **89(24)**, 12349-12361 (2015), doi: 10.1128/JVI01365-15.

- Neveu, G. et al. AP-2-Associated Protein Kinase 1 and Cyclin G-Associated Kinase regulate Hepatitis C Virus entry and are potential drug targets. *J Virol* **89(8)**, 4387-4404 (2015), doi:10.1128/JVI.02705-14.

- Hulme, A. et al. Complementary assays reveal a low level of CA associated with viral complexes in the nuclei of HIV-1 infected cells. *J Virol* **89(10)**, 5350-5361 (2015), doi:10.1128/JVI.00476-15.

- Qi, M. et al. A tyrosine-based motif in the HIV-1 envelope glycoprotein tail mediates cell-type and Rab11-FIP1C-dependent incorporation into virions. *PNAS* **112(24)**, 7575-7580 (2015), doi:10.1073/pnas.1504174112.

X-inactivation

- Moindrot, B. et al. A pooled shRNA screen identifies Rbm15, Spen, and Wtap as Factors required for Xist RNA-mediated silencing. *Cell Rep* **12**, 1-11 (2015), doi:10.1016/j.celrep.2015.06.053.

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