



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

Hehny, 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.* Rootletin organizes the ciliary rootlet to achieve neuron sensory function in *Drosophila*. *J Cell Biol* **211(2)**, 435-453 (2015), doi:10.1083/jcb.201502032.

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-Lamerca, 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/jcb.20141101.

Naguib, A. *et al.* PTEN functions by recruitment to cytoplasmic vesicles. *Mol Cell* **58**, 255-268 (2015), doi:10.1016/j.mol.cel.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/jcb.201408075.

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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