



Cover: Confocal microscopy image of a *Caenorhabditis elegans* adult hermaphrodite expressing fluorescent markers for the plasma membrane [mNeonGreen::PH^{PLC δ} ; in orange, purple and yellow (ImageJ Fire)] and chromatin/nuclei (mCherry::Histone H2B; in green) in the syncytial germ line, highlighting germ cells and embryos. See Research article by Bauer et al. (dev199633). Image credit: Jack Bauer.

EDITORIAL

Imaging development, stem cells and regeneration

Arur, S., Briscoe, J., Helariutta, Y., Lecuit, T. and Robertson, L.

dev200137

DEVELOPMENTAL TWISTS

The Scan

Mogami, T.

dev200108

SPOTLIGHTS

Advances in live imaging early mouse development: exploring the researcher's interdisciplinary toolkit

Stower, M. J. and Srinivas, S.

dev199433

Engaging new audiences with imaging and microscopy

Barresi, M. J., Coen, E., Kugler, E., Shuda, J. and Sung, D. C.

dev199942

PRIMERS

Tissue clearing and 3D imaging in developmental biology

Vieites-Prado, A. and Renier, N.

dev199369

Inferring cell junction tension and pressure from cell geometry

Roffay, C., Chan, C. J., Guirao, B., Hiragi, T. and Graner, F.

dev192773

REVIEWS

Current approaches to fate mapping and lineage tracing using image data

Wolf, S., Wan, Y. and McDole, K.

dev198994

Deep learning for bioimage analysis in developmental biology

Hallou, A., Yevick, H. G., Dumitrascu, B. and Uhlmann, V.

dev199616

Single-molecule tracking technologies for quantifying the dynamics of gene regulation in cells, tissue and embryos

Boka, A. P., Mukherjee, A. and Mir, M.

dev199744

In vivo live imaging of postnatal neural stem cells

Marymonchyk, A., Malvaut, S. and Saghatelyan, A.

dev199778

Shedding light on developmental ERK signaling with genetically encoded biosensors

Nakamura, A., Goto, Y., Kondo, Y. and Aoki, K.

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From whole organism to ultrastructure: progress in axonal imaging for decoding circuit development

Weaver, C. J. and Poulin, F. E.

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STEM CELLS AND REGENERATION

Live imaging of the *Drosophila* ovarian niche shows spectrosome and centrosome dynamics during asymmetric germline stem cell division

Villa-Fombuena, G., Lobo-Pecellín, M., Marín-Menguiano, M., Rojas-Ríos, P. and González-Reyes, A.

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Whole-body clonal mapping identifies giant dominant clones in zebrafish skin epidermis

Roan, H.-Y., Tseng, T.-L. and Chen, C.-H.

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Intrinsic positional memory guides target-specific axon regeneration in the zebrafish vagus nerve

Isabella, A. J., Stonick, J. A., Dubrulle, J. and Moens, C. B.

dev199706

Cyclic growth of dermal papilla and regeneration of follicular mesenchymal components during feather cycling

Wu, P., Jiang, T.-X., Lei, M., Chen, C.-K., Hsieh Li, S.-M., Widelitz, R. B. and Chuong, C.-M.

dev198671

RESEARCH REPORTS

Live imaging of adult zebrafish cardiomyocyte proliferation *ex vivo*

Honkoop, H., Nguyen, P. D., van der Velden, V. E. M., Sonnen, K. F. and Bakkers, J.

dev199740

Anterior expansion and posterior addition to the notochord mechanically coordinate zebrafish embryo axis elongation

McLaren, S. B. P. and Stevenson, B. J.

dev199459

RESEARCH ARTICLES

The *Arabidopsis* stomatal polarity protein BASL mediates distinct processes before and after cell division to coordinate cell size and fate asymmetries

Gong, Y., Alassimone, J., Muroyama, A., Amador, G., Varnau, R., Liu, A. and Bergmann, D. C.

dev199919

New mouse models for high resolution and live imaging of planar cell polarity proteins *in vivo*

Basta, L. P., Hill-Oliva, M., Paramore, S. V., Sharan, R., Goh, A., Biswas, A., Cortez, M., Little, K. A., Posfai, E. and Devenport, D.

dev199695

Visualizing the organization and differentiation of the male-specific nervous system of *C. elegans*
Tekieli, T., Yemini, E., Nejatbakhsh, A., Wang, C., Varol, E., Fernandez, R. W., Masoudi, N., Paninski, L. and Hobert, O.
dev199687

Multiview tiling light sheet microscopy for 3D high-resolution live imaging
Aakhte, M. and Müller, H.-A. J.
dev199725

The initial expansion of the *C. elegans* syncytial germ line is coupled to incomplete primordial germ cell cytokinesis
Bauer, J., Poupart, V., Goupil, E., Nguyen, K. C. Q., Hall, D. H. and Labbé, J.-C.
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Metaphloem development in the *Arabidopsis* root tip
Graeff, M. and Hardtke, C. S.
dev199766

Stable establishment of organ polarity occurs several plastochrons before primordium outgrowth in *Arabidopsis*
Zhao, F. and Traas, J.
dev198820

Collective nuclear behavior shapes bilateral nuclear symmetry for subsequent left-right asymmetric morphogenesis in *Drosophila*
Shin, D., Nakamura, M., Morishita, Y., Eiraku, M., Yamakawa, T., Sasamura, T., Akiyama, M., Inaki, M. and Matsuno, K.
dev198507

Dynamics of *hunchback* translation in real-time and at single-mRNA resolution in the *Drosophila* embryo
Vinter, D. J., Hoppe, C., Minchington, T. G., Sutcliffe, C. and Ashe, H. L.
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Capillarity and active cell movement at mesendoderm translocation in the *Xenopus* gastrula
Nagel, M., Barua, D., Damm, E. W., Kashef, J., Hofmann, R., Ershov, A., Cecilia, A., Moosmann, J., Baumbach, T. and Winklbauer, R.
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TECHNIQUES AND RESOURCES

Size scaling in collective cell growth
Diegmiller, R., Doherty, C. A., Stern, T., Alsous, J. I. and Shvartsman, S. Y.
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QuantifyPolarity, a new tool-kit for measuring planar polarized protein distributions and cell properties in developing tissues
Tan, S. E., Tan, W., Fisher, K. H. and Strutt, D.
dev198952

MOrgAna: accessible quantitative analysis of organoids with machine learning
Gritti, N., Lim, J. L., Anlaş, K., Pandya, M., Aalderink, G., Martínez-Ara, G. and Trivedi, V.
dev199611

NaNuTrap: a technique for *in vivo* cell nucleus labelling using nanobodies
Ákos, Z., Dunipace, L. and Stathopoulos, A.
dev199822

Microfluidic-based imaging of complete *Caenorhabditis elegans* larval development
Berger, S., Spiri, S., deMello, A. and Hajnal, A.
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LAMA: automated image analysis for the developmental phenotyping of mouse embryos
Horner, N. R., Venkataraman, S., Armit, C., Casero, R., Brown, J. M., Wong, M. D., van Eede, M. C., Henkelman, R. M., Johnson, S., Teboul, L., Wells, S., Brown, S. D., Westerberg, H. and Mallon, A.-M.
dev192955

A landmark-free morphometrics pipeline for high-resolution phenotyping: application to a mouse model of Down syndrome
Toussaint, N., Redhead, Y., Vidal-García, M., Lo Vercio, L., Liu, W., Fisher, E. M. C., Hallgrímsson, B., Tybulewicz, V. L. J., Schnabel, J. A. and Green, J. B. A.
dev188631

Concerted morphogenesis of genital ridges and nephric ducts in the mouse captured through whole-embryo imaging
Bunce, C., McKey, J. and Capel, B.
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