

Dr. Yinan Wan

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Education

Ph.D., Physiology, Development and Neuroscience 10/2012 – 05/2018
University of Cambridge, Cambridge, UK
B.S., Biological Science 09/2007 – 07/2012
Peking University, Beijing, China

Positions

Tenure-Track Assistant Professor 01/2027-
Center for Integrative Genomics, University of Lausanne
EMBO and MSCA Postdoctoral Fellow 03/2020 – 12/2026
Biozentrum, University of Basel, Switzerland (Mentor: Alex Schier)
Graduate Scholar/Postdoctoral Associate 10/2013 – 06/2019
HHMI Janelia Research Campus, USA (Mentor: Philipp Keller)
Graduate Student 10/2012 – 09/2013
Department of PDN, University of Cambridge, UK (Mentor: William Harris)
Undergraduate Scholar 01/2012 – 06/2012
HHMI Janelia Farm Research Campus, USA (Mentor: Hanchuan Peng)

Publications

Wan, Y.*, El Kholtei, J., Jenie, I., Colomer-Rosell, M., Liu, J., ..., Bintu, B.* & Schier, A. F.* (2026). Whole-embryo Spatial Transcriptomics at Subcellular Resolution from Gastrulation to Organogenesis. *Science*, 391(6790), eadt3439. (*co-corresponding authors)
Wan, Y.*, Wei, Z., Looger L., Koyama, M., Druckmann, S. & Keller, P. J.* (2019). Single-cell reconstruction of emerging population activity in an entire developing circuit. *Cell*, 179 (2), 355-372. e23. (*co-corresponding authors)
Wan, Y., Almeida, A.D., Rulands, S., Chalour, N., Muresan, L., Wu, Y., Simons, B.D., He, J. & Harris, W.A. (2016). The ciliary marginal zone of the zebrafish retina: clonal and time-lapse analysis of a continuously growing tissue. *Development*, 143(7), pp.1099-1107.
Wang, M., Zhang, Q., Wang, C., Chi, Y., Zheng, W., Mu, Z., ..., Schier, A.F.*, Navajas Acedo, J.*, **Wan, Y.*** & Yu, G.* (2026). High-Fidelity Long-term Whole-embryo Lineage and Fate Reconstruction by Iterative Tracking with Error Correction. *bioRxiv*, 2026-03. (*corresponding authors)
Wan, Y.*, McDole, K.* & Keller, P. J. (2019). Light-sheet microscopy and its potential for understanding developmental processes. *Annual Review of Cell and Developmental Biology*, 35, 655-681. (*equal contribution)
Wan, Y., Keller, P. J., & Höckendorf, B. (2020). Live Imaging of Zebrafish. *Imaging from Cells to Animals in Vivo*, 307. (Book Chapter)
Wolf, S.*, **Wan, Y.***, & McDole, K. (2021). Current approaches to fate mapping and lineage tracing using image data. *Development*, 148(18), dev198994. (*equal contribution)
Mayseless, O., Navajas Acedo, J., **Wan, Y.**, Hahaut, V., Picelli, S., Friedrich, R. W., & Schier, A. F. (2026). Odor preference maps to cohesive transcriptional domains in the olfactory bulb. *bioRxiv*, 2026-06.
Zhang, Q., Mu, Z., Liu, B., Chi, Y., Li, D., Wang, W., Ni, J.Q., **Wan, Y.**, Yu, L., Navajas Acedo, J. & Yu, G. (2026). FOCUS-3D: Robust, generalizable volumetric cell segmentation for three-dimensional fluorescence microscopy. *bioRxiv*, pp.2026-08.
Wang, Y., Li, X., Xia, R., **Wan, Y.**, Lu, J., Zhao, Z., ... & Yin, J. (2026). Hedgehog-driven adaxial cell constriction patterns slow muscle fate and somite boundary remodeling in the presomitic mesoderm. *Cell Reports*, 45(5).

Publications (*continued*)

- Ruetten, V. M., Zheng, W., Siwanowicz, I., Mensh, B. D.... **Wan, Y.**, ... & Ahrens, M. B. (2026). Imaging cellular activity across all organs reveals body-wide circuits. *Nature*, 1-11.
- Zheng, W., Peng, C., Hou, Z., Lyu, B., Wang, M., Mi, X., Qiao, S., **Wan, Y.**, & Yu, G. (2024). NIS3D: a completely annotated benchmark for dense 3D nuclei image segmentation. *Advances in Neural Information Processing Systems*, 36.
- Malin-Mayor, C., Hirsch, P., Guignard, L., McDole, K., **Wan, Y.**, Lemon, W. C., ... & Funke, J. (2023). Automated reconstruction of whole-embryo cell lineages by learning from sparse annotations. *Nature Biotechnology*, 41(1), 44-49.
- Azizi, A., Herrmann, A., **Wan, Y.**, Buse, S. J., Keller, P. J., Goldstein, R. E., & Harris, W. A. (2020). Nuclear crowding and nonlinear diffusion during interkinetic nuclear migration in the zebrafish retina. *Elife*, 9, e58635.
- Sato, Y., Hilbert, L., Oda, H., **Wan, Y.**, Heddlestone, J. M., Chew, T. L., ... & Kimura, H. (2019). Histone H3K27 acetylation precedes active transcription during zebrafish zygotic genome activation as revealed by live-cell analysis. *Development*, 146(19), dev179127.
- Royer, L. A., Lemon, W. C., Chhetri, R. K., **Wan, Y.**, Coleman, Myers, E. W., & Keller P. J. (2016). Adaptive light-sheet microscopy for long-term, high-resolution imaging in living organisms. *Nature Biotechnology*, 34(12), 1267-1278.
- Stegmaier, J., Amat, F., Lemon, W. C., McDole, K., **Wan, Y.**, Teodoro, G. & Keller, P. J. (2016). Real-time three-dimensional cell segmentation in large-scale microscopy data of developing embryos. *Developmental Cell*, 36(2), 225-240.
- Amat, F., Höckendorf, B., **Wan, Y.**, Lemon, W. C., McDole, K., & Keller, P. J. (2015). Efficient processing and analysis of large-scale light-sheet microscopy data. *Nature Protocols*, 10(11), 1679-1696.
- Chhetri, R. K., Amat, F., **Wan, Y.**, Höckendorf, B., Lemon, W. C., & Keller, P. J. (2015). Whole-animal functional and developmental imaging with isotropic spatial resolution. *Nature Methods*, 12(12), 1171-1178.
- Amat, F., Lemon, W., Mossing, D., McDole, K., **Wan, Y.**, Branson, K., Myers, E. and Keller, P. J. (2014). Fast, accurate cell lineage reconstruction from fluorescence light microscopy data. *Nature Methods*. 11(9) 951-958.
- Wan, Y.**, Long, F., Qu, L., Xiao, H., Hawrylycz, M., Myers, E. W., & Peng, H. (2015). BlastNeuron for automated comparison, retrieval and clustering of 3D neuron morphologies. *Neuroinformatics*, 13(4), 487-499.
- Jiang, Z., Liu, X., Peng, Z., **Wan, Y.**, Ji, Y., He, W., & Guo, H. (2011). AHD2.0: an update version of *Arabidopsis* Hormone Database for plant systematic studies. *Nucleic Acids Research*, 39 (suppl 1), D1123-D1129.

Awards

July 2026	Chi-Bin Chien Award, International Zebrafish Society
May 2026	Poster Prize, Gordon Research Conference on Single-Cell Genomics
January 2021	EMBO Long-Term Postdoc Fellowship
September 2022	Marie Skłodowska-Curie Individual Fellowship
October 2010	Grants from Chinese National Undergraduate Innovative Program

Conference Organization

2021-2022	Webinar Series LS2 (Life Science Switzerland) Microscopy Intersection
June 2022	Chair of session “Cellular Mechanisms of Embryogenesis” at the 17 th International Zebrafish Conference (IZFC)

Membership

Since 2020	Member, International Zebrafish Society
2021-2025	Board Member, LS2 (Life Sciences Switzerland) Microscopy Intersection
2016 – 2019	Member, Society for Neuroscience

Selected Advanced Trainings

June 2025	EMBO practical course: Computational modelling of multicellular systems, Barcelona, Spain
April 2025	EMBO Lab Leadership Course for Postdocs, online
June-July 2022	Embryology: Concepts and Techniques in Modern Developmental Biology, Marine Biological Laboratory, USA
Summer 2015	Methods in Computational Neuroscience, Marine Biological Laboratory, USA
Summer 2014	<i>Drosophila</i> Neurobiology, Cold Spring Harbor Laboratory, USA
March 2021	Antelope Career Program: leadership for female researchers, Basel, Switzerland

Conference Presentations and Invited Seminars

Keynote lecture at the first Spatial-Cell-ID Summer School, Aussois, September 2026
 Oral presentation at the 3rd Basel Spatial Omics meeting, Basel, September 2026
 Invited online lecture at V4SDB Student Summer School, September 2026
 Oral presentation at Department of Fundamental Neuroscience Symposium, Lausanne, August 2026
 Chi-Bin Chien Award Lecture, 13th European Zebrafish Meeting, Vienna, July 2026
 Invited seminar, Max-Planck Institute for Cellular Biology and Genetics, Dresden, July 2026
 Oral presentation at the 18th Swiss Zebrafish Meeting, Lausanne, June 2026
 Invited oral presentation, Global Alliance for Spatial Technologies Webinar Series, April 2026
 Invited oral presentation, *Development Presents* Webinar Series, October 2025
 Oral presentation at EMBL/EMBO Symposium *Seeing is Believing*, Heidelberg, October 2025
 Invited oral presentation at IZFS Webinar Series, February 2025
 Flash Talk and Poster presentation at the 3rd Crick Beddington Symposium, London, February 2025
 Oral presentation at SDB Ethel Browne Harvey Postdoctoral Webinar Series, February 2025
 Oral presentation at GRC Single-Cell Genomics, Les Diablerets, May 2024
 Oral presentation at GRS Single-Cell Genomics, Les Diablerets, May 2024
 Oral presentation at 2023 Basel Spatial Omics Meeting, Basel, September 2023
 Poster presentation at BaCell3D, Basel, May 2023
 Invited seminar at BIOPIIC, Peking University, Beijing, China, January 2020
 Invited oral presentation at Central Virginia Chapter of the SfN, Charlottesville, VA, April 2019
 Invited seminar, Department of Automation, Tsinghua University, Beijing, China, May 2018
 Poster at International Zebrafish Neural Circuits & Behavior, Bethesda, MD, November, 2017
 Oral presentation at “Wiring the Brain”, Cold Spring Harbor, NY, April, 2017
 Dynamic Poster at the Society for Neuroscience meeting, San Diego, CA, November, 2016
 Oral presentation at the Allied Genetics Conference”, Orlando, FL, July, 2016

Teaching and Mentoring

04 – 06/2022	Sarah Hatz (high school student), Biozentrum, University of Basel
01 – 08/2012	Claire Wu (undergraduate student), PDN, University of Cambridge
01 – 06/2018	Reem Azar (undergraduate student), HHMI/Janelia
08/2017&2018	Co-organization, Janelia-Johns Hopkins Neuroscience Boot Camp

Reviewing Activities

Since 2021	Early-Career Reviewer, <i>eLife</i>
2025	Reviewing for <i>Cell Reports Methods</i>
2023 & 2024	Reviewing for NeurIPS, Datasets and Benchmarks Track
2022	Reviewing for <i>Bioinformatics</i>
2022	Reviewing for <i>Development</i>
2020	Reviewing for <i>Scientific Reports</i>
2019	Reviewing for <i>Neural Development</i>
2019	Reviewing for <i>Neuroinformatics</i>
2016 & 2017	Reviewing for <i>BMC Bioinformatics</i>