

## BIOGRAPHICAL SKETCH

*Alexander van Oudenaarden*

### PROFESSIONAL PREPARATION

|                                                    |                                   |             |
|----------------------------------------------------|-----------------------------------|-------------|
| Delft University of Technology,<br>The Netherlands | Materials Science and Engineering | M.S. 1993   |
| Delft University of Technology,<br>The Netherlands | Physics                           | M.S. 1993   |
| Delft University of Technology,<br>The Netherlands | Physics                           | Ph.D. 1998  |
| Stanford University, Stanford, CA                  | Biophysics                        | 1998 - 1999 |

### APPOINTMENTS

|                   |                                                                                                                                                                                                                        |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 09/2012 – present | Senior group leader<br>Hubrecht Institute for Developmental Biology and Stem Cell Research, the Royal Netherlands Academy of Arts and Sciences (KNAW) and University Medical Center Utrecht, Utrecht, The Netherlands. |
| 09/2012 – 2023    | Director<br>Hubrecht Institute for Developmental Biology and Stem Cell Research, the Royal Netherlands Academy of Arts and Sciences (KNAW) and University Medical Center Utrecht, Utrecht, The Netherlands.            |
| 01/2013 – present | Professor, Faculty of Science, Utrecht University, Utrecht, The Netherlands.                                                                                                                                           |
| 01/2013 – present | Professor, University Medical Center Utrecht, Utrecht, The Netherlands.                                                                                                                                                |
| 09/2009 – 01/2014 | Extramural faculty member of the Koch Institute for Integrative Cancer Research at MIT, Cambridge, MA, USA.                                                                                                            |
| 05/2009 – 01/2014 | Professor of Biology<br>Department of Biology, Massachusetts Institute of Technology, Cambridge, MA, USA.                                                                                                              |
| 07/2008 – 01/2014 | Professor of Physics<br>Department of Physics, Massachusetts Institute of Technology, Cambridge, MA, USA.                                                                                                              |
| 06/2008 – 01/2009 | Visiting Professor<br>Hubrecht Institute for Developmental Biology and Stem Cell Research, Utrecht, The Netherlands.                                                                                                   |
| 07/2004 – 06/2008 | Associate Professor of Physics with tenure<br>Department of Physics, Massachusetts Institute of Technology, Cambridge, MA, USA.                                                                                        |
| 01/2000 – 06/2004 | Assistant Professor of Physics<br>Department of Physics, Massachusetts Institute of Technology, Cambridge, MA, USA.                                                                                                    |
| 03/1998 – 12/1999 | Postdoctoral research<br>Department of Chemistry, Stanford University, Stanford, CA, USA.<br>Laboratory of Prof. S.G. Boxer                                                                                            |
| 03/1998 – 12/1999 | Postdoctoral research<br>Micropatterning of supported phospholipid bilayers                                                                                                                                            |

Department of Biochemistry, Stanford, CA, USA.  
Laboratory of Prof. J.A. Theriot  
Force generation of polymerizing actin filaments

#### HONORS AND AWARDS

- 2022 Member of the American Academy of Arts and Sciences
- 2021 European Research Council (ERC) Advanced Grant
- 2017 Dutch Organization for Scientific Research (NWO) Spinoza Award
- 2017 EMBO member
- 2017 European Research Council (ERC) Advanced Grant
- 2015 Member of Koninklijke Hollandsche Maatschappij der Wetenschappen (KHMW)
- 2014 Member of the Royal Netherlands Academy of Arts and Sciences (KNAW)
- 2012 European Research Council (ERC) Advanced Grant
- 2012 Dutch Organization for Scientific Research (NWO) Vici Award
- 2008 NIH Director's Pioneer Award
- 2008 Guggenheim Fellow
- 2007 School of Science Prize for Excellence in Graduate Teaching
- 2001 Keck Career Development Professor in Biomedical Engineering
- 2001 Alfred Sloan Research Fellow
- 2001 NSF CAREER award
- 2000 Edgerly Science Partnership Award
- 1998 Andries Miedema Award for best Ph.D.-research in the field of condensed matter physics in the Netherlands, awarded every other year by Fundamental Research on Matter (FOM).
- 1998 Dutch Organization for Scientific Research (NWO) TALENT stipendium.
- 1998 Ph.D. Applied Physics, *cum laude*.
- 1994 Award for best undergraduate research in Materials Science, yearly award by Delft University of Technology.
- 1993 M.S. Materials Science and Engineering, *cum laude*.

#### OTHER EXPERIENCE

- 09/2018 – present Member of advisory board of Single Cell Discoveries B.V.
- 07/2015 – present Member of national scientific advisory board, The Netherlands Cancer Institute (NKI)
- 09/2014 – present Member of organizing committee Single Cell Genomics, yearly conference
- 05/2014 – present Advisory editorial board member *Molecular Systems Biology*
- 01/2013 – 12/2018 Member of the scientific advisory board of the European Molecular Biology Laboratory (EMBL)
- 01/2011 – 12/2019 Member of the scientific advisory board of the Max Planck Institutes for Molecular Cell Biology and Genetics
- 09/2011 – present Member of the scientific advisory board of the Whitehead Institute for Biomedical Research
- 10/2009 – 07/2012 Director of the MIT Center for Single-Cell Dynamics in Cancer (NIH/NCI funded U54 Physical Sciences-Oncology Center). The goal of this center is use both theoretical and experimental approaches inspired by Physics to attack important problems in cancer biology by developing novel technology and analytical/computational methods to track the dynamics of cancer at the single cell level.

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|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 06/2007 – 12/2011 | Organizer of CSB (Computational and Systems Biology) seminar series.                                                                                                                 |
| 01/2005 – 12/2007 | Associate Editor <i>Biophysical Journal</i>                                                                                                                                          |
| 06/2004 – 07/2006 | Course Faculty at the Marine Biology Laboratory (Woods Hole)<br>Summer Course ' <i>Physiology: Modern Cell Biology Using Microscopic, Biochemical and Computational Approaches</i> ' |
| 09/2002 – 12/2009 | Lecturer and creator of MIT Graduate course 7.81/8.591/9.531 Systems Biology.                                                                                                        |

## PUBLICATION LIST

### 2025

C. Geisenberger, J. van den Berg, V. van Batenburg, B. de Barbanson, A. Lyubimova, J. Verity-Legg, X. Chen, Y. Liu, C.X. Song, J. de Ridder & A. van Oudenaarden  
Single-cell multi-omic detection of DNA methylation and histone modifications reconstructs the dynamics of epigenomic maintenance  
*Nature Methods* 22, 2042–2051 (2025)

M. VanInsberghe, A. van Oudenaarden  
Sequencing technologies to measure translation in single cells  
*Nature Reviews Molecular Cell Biology* 26, pages 337–346 (2025)

### 2024

J. van den Berg, V. van Batenburg, C. Geisenberger, R.B. Tjeerdsma, A. de Jaime-Soguero, S.P. Acebrón, M.A.T. M. van Vugt, A. van Oudenaarden  
Quantifying DNA replication speeds in single cells by scEdU-seq  
*Nature Methods* 21, 1175–1184 (2024)

### 2023

J. Yeung, M. Florescu, P. Zeller, B.A. de Barbanson, M.D. Wellenstein, A. van Oudenaarden.  
scChIX-seq infers dynamic relationships between histone modifications in single cells  
*Nature Biotechnology* 41, 813-823 (2023)

P. Zeller, J. Yeung, H. Viñas Gaza, B.A. de Barbanson, V. Bhardwaj, M. Florescu, R. van der Linden, A. van Oudenaarden.  
Single-cell sortChIC identifies hierarchical chromatin dynamics during hematopoiesis  
*Nature Genetics* 55, 333-345 (2023)

### 2022

F. Salmen, J. De Jonghe, T.S. Kaminski, A. Alemany, G.E. Parada, J. Verity-Legg, A. Yanagida, T.N. Kohler, N. Battich, F. van den Brekel, A.L. Ellermann, A. Martinez Arias, J. Nichols, M. Hemberg, F. Hollfelder, A. van Oudenaarden.  
High-throughput total RNA sequencing in single cells using VASA-seq  
*Nature Biotechnology* 40, 1780-1793 (2022)

W. van Leeuwen, M. VanInsberghe, N. Battich, F. Salmén, A. van Oudenaarden, C. Rabouille.  
Identification of the stress granule transcriptome via RNA-editing in single cells and in vivo  
*Cell Rep Methods* 2, 100235 (2022)

L. Kester, B. de Barbanson, A. Lyubimova, L.T. Chen, V. van der Schrier, A. Alemany, D. Mooijman, J. Peterson-Maduro, J. Drost, J. de Ridder, A. van Oudenaarden.  
Integration of multiple lineage measurements from the same cell reconstructs parallel tumor evolution  
*Cell Genomics* 2, 100096 (2022)

J. Beumer, J. Puschhof, F.Y. Yengej, L. Zhao, A. Martinez-Silgado, M. Blotenburg, H. Begthel, C. Boot, A. van Oudenaarden, Y.G. Chen, H. Clevers.

BMP gradient along the intestinal villus axis controls zonated enterocyte and goblet cell states

*Cell Rep* **38**, 110438 (2022)

C.J. Boogerd, G.P.A. Lacraz, A. Vértessy, S.J. van Kampen, I. Perini, H. de Ruiter, D. Versteeg, A. Brodehl, P. van der Kraak, M. Giacca, N. de Jonge, J.P. Junker, A. van Oudenaarden, A. Vink, E. van Rooij.

Spatial transcriptomics unveils ZBTB11 as a regulator of cardiomyocyte degeneration in arrhythmogenic cardiomyopathy

*Cardiovasc Res.*, doi: 10.1093/cvr/cvac072, online ahead of print (2022)

J. Seong, J. Frias-Aldeguer, V. Holzmann, H. Kagawa, G. Sestini, H. Heidari Khoei, Y. Scholte Op Reimer, M. Kip, S.J. Pradhan, L. Verwegen, J. Vivié, L. Li, A. Alemany, J. Korving, F. Darmis, A. van Oudenaarden, D. Ten Berge, N. Geijsen, N.C. Rivron.

Epiblast inducers capture mouse trophectoderm stem cells in vitro and pattern blastoids

for implantation in utero  
*Cell Stem Cell* **29**, 1102-1118 (2022)

L. Kester, D. Seinstra, A.G.J. van Rossum, C. Vennin, M. Hoogstraat, D. van der Velden, M. Opdam, E. van Werkhoven, K. Hahn, I. Nederlof, E.H. Lips, I.A.M. Mandjes, A.E. van Leeuwen-Stok, S. Canisius, H. van Tinteren, A.L.T. Imholz, J.E.A. Portielje, M.E.M.M. Bos, S.D. Bakker, E.J. Rutgers, H.M. Horlings, J. Wesseling, E.E. Voest, L.F.A. Wessels, M. Kok, H.M. Oosterkamp, A. van Oudenaarden, S.C. Linn, J. van Rheenen.

Differential Survival and Therapy Benefit of Patients with Breast Cancer Are Characterized by Distinct Epithelial and Immune Cell Microenvironments  
*Clin Cancer Res* **28**, 960-971 (2022)

## 2021

M. VanInsberghe, J. van den Berg, A. Andersson-Rolf, H. Clevers, A. van Oudenaarden.  
Single-cell Ribo-seq reveals cell cycle-dependent translational pausing  
*Nature* **597**, 561-565 (2021)

S.C. van den Brink, A. van Oudenaarden.  
3D gastruloids: a novel frontier in stem cell-based in vitro modeling of mammalian gastrulation  
*Trends Cell Biol.* **31**, 747-759 (2021)

S.P. Methot, J. Padeken, G. Brancati, P. Zeller, C.E. Delaney, D. Gaidatzis, H. Kohler, A. van Oudenaarden, H. Großhans, S.M. Gasser.  
H3K9me selectively blocks transcription factor activity and ensures differentiated tissue integrity  
*Nat Cell Biol.* **23**, 1163-1175 (2021)

M. Sen, D. Mooijman, A. Chialastri, J.C. Boisset, M. Popovic, B. Heindryckx, S.M. Chuva de Sousa Lopes, S.S. Dey, A. van Oudenaarden.  
Strand-specific single-cell methylomics reveals distinct modes of DNA demethylation dynamics during early mammalian development  
*Nature Communications* **12**, 1286 (2021)

G.A. Busslinger, B. de Barbanson, R. Oka, B.L.A. Weusten, M. de Maat, R. van Hillegersberg, L.A.A. Brosens, R. van Boxtel, A. van Oudenaarden, H. Clevers.  
Molecular characterization of Barrett's esophagus at single-cell resolution  
*Proc Natl Acad Sci USA* **118**, e2113061118 (2021)

N. Groen, F. Leenders, A. Mahfouz, A. Munoz-Garcia, M.J. Muraro, N. de Graaf, T.J. Rabelink, R. Hoebe, A. van Oudenaarden, A. Zaldumbide, M.J.T. Reinders, E.J.P. Koning, F. Carlotti  
Single-Cell Transcriptomics Links Loss of Human Pancreatic  $\beta$ -Cell Identity to ER Stress  
*Cells* **10**, 3585 (2021)

## 2020

N. Rajewsky, G. Almouzni, S.A. Gorski, S. Aerts, I. Amit, M.G. Bertero, C. Bock, A.L. Bredenoord, G. Cavalli, S. Chiocca, H. Clevers, B. De Strooper, A. Eggert, J. Ellenberg,

X.M. Fernández, M. Figlerowicz, S.M. Gasser, N. Hubner, J. Kijms, J.A. Knoblich, G. Krabbe, P. Lichter, S. Linnarsson, J.C. Marine, J. Marioni, M.A. Marti-Renom, M.G. Netea, D. Nickel, M. Nollmann, H.R. Novak, H. Parkinson, S. Piccolo, I. Pinheiro, A. Pombo, C. Popp, W. Reik, S. Roman-Roman, P. Rosenstiel, J.L. Schultze, O. Stegle, A. Tanay, G. Testa, D. Thanos, F.J. Theis, M.E. Torres-Padilla, A. Valencia, C. Vallot, A. van Oudenaarden, M. Vidal, T. Voet; LifeTime Community.  
LifeTime and improving European healthcare through cell-based interceptive medicine.  
*Nature* **587**, 377-386 (2020)

S.C. van den Brink, A. Alemany, V. van Batenburg, N. Moris, M. Blotenburg, J. Vivié, P. Baillie-Johnson, J. Nichols, K.F. Sonnen, A. Martinez Arias, A. van Oudenaarden.  
Single-cell and spatial transcriptomics reveal somitogenesis in gastruloids.  
*Nature* **582**, 405-409 (2020)

Y. Post, J. Puschhof, J. Beumer, H.M. Kerkkamp, M.A.G. de Bakker, J. Slagboom, B. de Barbanson, N.R. Wevers, X.M. Spijkers, T. Olivier, T.D. Kazandjian, S. Ainsworth, C.L. Iglesias, W.J. van de Wetering, M.C. Heinz, R.L. van Ineveld, R.G.D.M. van Kleef, H. Begthel, J. Korving, Y.E. Bar-Ephraim, W. Getreuer, A.C. Rios, R.H.S. Westerink, H.J.G. Snippert, A. van Oudenaarden, P.J. Peters, F.J. Vonk, J. Kool, M.K. Richardson, N.R. Casewell, H. Clevers.  
Snake Venom Gland Organoids.  
*Cell* **182**, 233-247 (2020)

N. Moris, K. Anlas, S.C. van den Brink, A. Alemany, J. Schröder, S. Ghimire, T. Balayo, A. van Oudenaarden, A. Martinez Arias.  
An in vitro model of early anteroposterior organization during human development.  
*Nature* **582**, 410-415 (2020)

N. Battich, J. Beumer, B. de Barbanson, L. Krenning, C.S. Baron, M.E. Tanenbaum, H. Clevers, A. van Oudenaarden.  
Sequencing metabolically labeled transcripts in single cells reveals mRNA turnover strategies.  
*Science* **367**, 1151-1156 (2020)

## 2019

H. Honkoop, D.E. de Bakker, A. Aharonov, F. Kruse, A. Shakked, P.D. Nguyen, C. de Heus, L. Garric, M.J. Muraro, A. Shoffner, F. Tessadori, J.C. Peterson, W. Noort, A. Bertozzi, G. Weidinger, G. Posthuma, D. Grun, W.J. van der Laarse, J. Klumperman, R.T. Jaspers, K.D. Poss, A. van Oudenaarden, E. Tzahor, J. Bakkers.  
Single-cell analysis uncovers that metabolic reprogramming by ErbB2 signaling is essential for cardiomyocyte proliferation in the regenerating heart.  
*Elife* **8**, doi: 10.7554/eLife.50163 (2019).

J.H. van Es, K. Wiebrands, C. López-Iglesias, M. van de Wetering, L. Zeinstra, M. van den Born, J. Korving, N. Sasaki, P.J. Peters, A. van Oudenaarden, H. Clevers.  
Enteroendocrine and tuft cells support Lgr5 stem cells on Paneth cell depletion.  
*Proc Natl Acad Sci U S A* **116**, 26599-26605 (2019).

C.S. Baron, A. van Oudenaarden.

Unravelling cellular relationships during development and regeneration using genetic lineage tracing.

*Nat Rev Mol Cell Biol.* **20**, 753-765 (2019).

C.S. Baron, A. Barve, M.J. Muraro, R. van der Linden, G. Dharmadhikari, A. Lyubimova, E.J.P. de Koning, and A. van Oudenaarden.

Cell type purification by single-cell transcriptome-trained sorting.

*Cell* **179**, 527-542 (2019).

L. van Gurp, M.J. Muraro, T. Dielen, L. Seneby, G. Dharmadhikari, G. Gradwohl, A. van Oudenaarden, and E.J.P. de Koning.

A transcriptomic roadmap to  $\alpha$ - and  $\beta$ -cell differentiation in the embryonic pancreas.

*Development* **146**, doi: 10.1242/dev.173716 (2019).

B. Etemad, A. Vertesy, T.E.F. Kuijt, C. Sacristan, A. van Oudenaarden, and G.J.P.L. Kops.

Spindle checkpoint silencing at kinetochores with submaximal microtubule occupancy.

*Journal of Cell Science* **132**, doi: 10.1242/jcs.231589 (2019).

B.J. Pepe-Mooney, M.T. Dill, A. Alemany, J. Ordovas-Montanes, Y. Matsushita, A. Rao, A. Sen, M. Miyazaki, S. Anakk, P.A. Dawson, N. Ono, A.K. Shalek, A. van Oudenaarden, and F.D. Camargo.

Single-Cell Analysis of the Liver Epithelium Reveals Dynamic Heterogeneity and an Essential Role for YAP in Homeostasis and Regeneration.

*Cell Stem Cell* **25**, 23-38 (2019).

E. Driehuis, S. Kolders, S. Spelier, K. Löhmußaar, S.M. Willems, L.A. Devriese, R. de Bree, E.J. de Ruiter, J. Korving, H. Begthel, J.H. van Es, V. Geurts, G.W. He, R.H. van Jaarsveld, R. Oka, M.J. Muraro, J. Vivié, M.M.J.M. Zandvliet, A.P.A. Hendrickx, N. Iakobachvili, P. Sridevi, O. Kranenburg, R. van Boxtel, G.J.P.L. Kops, D.A. Tuveson, P.J. Peters, A. van Oudenaarden, and H. Clevers.

Oral Mucosal Organoids as a Potential Platform for Personalized Cancer Therapy.

*Cancer Discovery* **9**, 852-871 (2019).

A.C.F. Bolhaqueiro, B. Ponsioen, B. Bakker, S.J. Klaasen, E. Kucukkose, R.H. van Jaarsveld, J. Vivié, I. Verlaan-Klink, N. Hami, D.C.J. Spierings, N. Sasaki, D. Dutta, S.F. Boj, R.G.J. Vries, P.M. Lansdorp, M. van de Wetering, A. van Oudenaarden, H. Clevers, O. Kranenburg, F. Foijer, H.J.G. Snippert, and G.J.P.L. Kops.

Ongoing chromosomal instability and karyotype evolution in human colorectal cancer organoids.

*Nature Genetics* **51**, 824-834 (2019).

O. Kopper, C.J. de Witte, K. Löhmußaar, J.E. Valle-Inclan, N. Hami, L. Kester, A.V. Balgobind, J. Korving, N. Proost, H. Begthel, L.M. van Wijk, S.A. Revilla, R. Theeuwsen, M. van de Ven, M.J. van Roosmalen, B. Ponsioen, V.W.H. Ho, B.G. Neel, T. Bosse, K.N. Gaarenstroom, H. Vrieling, M.P.G. Vreeswijk, P.J. van Diest, P.O. Witteveen, T. Jonges, J.L. Bos, A. van Oudenaarden, R.P. Zweemer, H.J.G. Snippert, W.P. Kloosterman, and H. Clevers.

An organoid platform for ovarian cancer captures intra- and interpatient heterogeneity.

*Nature Medicine* **25**, 838-849 (2019).

J.P. Gerlach, J.A.G. van Buggenum, S.E.J. Tanis, M. Hogeweg, B.M.H. Heuts, M.J. Muraro, L. Elze, F. Rivello, A. Rakszewska, A. van Oudenaarden, W.T.S. Huck, H.G. Stunnenberg, and K.W. Mulder.

Combined quantification of intracellular (phospho-)proteins and transcriptomics from fixed single cells.

*Scientific Reports* **9**, doi: 10.1038/s41598-018-37977-7 (2019).

A. Attardi, T. Fulton, M. Florescu, G. Shah, L. Muresan, M.O. Lenz, C. Lancaster, J. Huisken, A. van Oudenaarden, and B. Steventon.

Correction: Neuromesodermal progenitors are a conserved source of spinal cord with divergent growth dynamics.

*Development* **146**, doi: 10.1242/dev.175620 (2019).

N. Sachs, A. Papaspyropoulos, D.D. Zomer-van Ommen, I. Heo, L. Böttinger, D. Klay, F. Weeber, G. Huelsz-Prince, N. Iakobachvili, G.D. Amatngalim, J. de Ligt, A. van Hoeck, N. Proost, M.C. Viveen, A. Lyubimova, L. Teeven, S. Derakhshan, J. Korving, H. Begthel, J.F. Dekkers, K. Kumawat, E. Ramos, M.E. van Oosterhout, G.J. Offerhaus, D.J. Wiener, E.P. Olimpio, K.K. Dijkstra, E.F. Smit, M. van der Linden, S. Jaksani, M. van de Ven, J. Jonkers, A.C. Rios, E.E. Voest, C.H. van Moorsel, C.K. van der Ent, E. Cuppen, A. van Oudenaarden, F.E. Coenjaerts, L. Meyaard, L.J. Bont, P.J. Peters, S.J. Tans, J.S. van Zon, S.F. Boj, R.G. Vries, J.M. Beekman, and H. Clevers.

Long-term expanding human airway organoids for disease modeling.

*EMBO Journal* **38**, doi: 10.15252/embj.2018100300 (2019).

## 2018

P.E. Boulais, T. Mizoguchi, S. Zimmerman, F. Nakahara, J. Vivié, J.C. Mar, A. van Oudenaarden, and P. Frenette.

The Majority of CD45 Ter119 CD31 Bone Marrow Cell Fraction Is of Hematopoietic Origin and Contains Erythroid and Lymphoid Progenitors

*Immunity* **49**, 627-639 (2018).

A. Ebbing, A. Vértessy, M.C. Betist, B. Spanjaard, J.P. Junker, E. Berezikov, A. van Oudenaarden, and H.C. Korswagen.

Spatial Transcriptomics of *C. elegans* Males and Hermaphrodites Identifies Sex-Specific Differences in Gene Expression Patterns

*Developmental Cell* **47**, 801-813 (2018).

A. Attardi, T. Fulton, M. Florescu, G. Shah, L. Muresan, M.O. Lenz, C. Lancaster, J. Huisken, A. van Oudenaarden, and B. Steventon.

Neuromesodermal progenitors are a conserved source of spinal cord with divergent growth dynamics

*Development* **145**, doi: 10.1242/dev.166728 (2018).

F. Wimmers, N. Subedi, N. van Buuringen, D. Heister, J. Vivié, I. Beeren-Reinieren, R. Woestenenk, H. Dolstra, A. Piruska, J.F.M. Jacobs, A. van Oudenaarden, C.G. Figdor, W.T.S. Huck, I.J.M. de Vries, and J. Tel.

Single-cell analysis reveals that stochasticity and paracrine signaling control interferon-alpha production by plasmacytoid dendritic cells

*Nature Communications* **9**, 3317 (2018).

E. F. Roovers, L. J. T. Kaaij, S. Redl, A. W. Bronkhorst, K. Wiebrands, A. M. de Jesus Domingues, H. Y. Huang, C. T. Han, S. Riemer, R. Dosch, W. Salvenmoser, D. Grün, F. Butter, A. van Oudenaarden, and R. F. Ketting.

Tdrd6a regulates the aggregation of Buc into functional subcellular compartments that drive germ cell specification.

*Developmental Cell* **46**, 285-301 (2018).

C. S. Baron, L. Kester, A. Klaus, J. C. Boisset, R. Thambyrajah, L. Yvernogeu, V. Kouskoff, G. Lacaud, A. van Oudenaarden, and C. Robin.

Single-cell transcriptomics reveal the dynamic of haematopoietic stem cell production in the aorta.

*Nature Communications* **9**, 2517 (2018).

J. C. Boisset, J. Vivié, D. Grün, M. J. Muraro, A. Lyubimova, and A. van Oudenaarden. Mapping the physical network of cellular interactions.

*Nature Methods* **15**, 547-553 (2018).

L. Kester and A. van Oudenaarden.

Single-cell transcriptomics meets lineage tracing: best of both worlds.

*Cell Stem Cell* **23**, 166-179 (2018).

Á. Vértessy, W. Arindrarto, M. S. Roost, B. Reinius, V. Torrens-Juaneda, M. Bialecka, I. Moustakas, Y. Ariyurek, E. Kuijk, H. Mei, R. Sandberg, A. van Oudenaarden, and S. M. Chuva de Sousa Lopes.

Parental haplotype-specific single-cell transcriptomics reveal incomplete epigenetic reprogramming in human female germ cells.

*Nature Communications* **9**, 1873 (2018).

N. C. Rivron, J. Frias-Aldeguer, E. Vrij, J. C. Boisset, J. Korving, J. Vivié, R. Truckenmüller, A. van Oudenaarden, C. A. van Blitterswijk, and N. Geijsen.

Blastocyst-like structures generated solely from stem cells.

*Nature* **557**, 106-111 (2018).

C. G. Engert, R. Droste, A. van Oudenaarden, and H. R. Horvitz.

A *C. elegans* protein with a PRDM9-like SET domain localizes to chromatin-associated foci and promotes spermatocyte gene expression, sperm production and fertility.

*PLoS Genetics* **14**: e1007295 (2018).

A. Alemany, M. Florescu, C. S. Baron, J. Peterson-Maduro, and A. van Oudenaarden.

Whole-organism clone tracing using single-cell sequencing.

*Nature* **556**, 108-112 (2018).

C. J. M. Loomans, N. Williams Giuliani, J. Balak, F. Ringnalda, L. van Gurp, M. Huch, S. F. Boj, T. Sato, L. Kester, S. M. C. de Sousa Lopes, M. S. Roost, S. Bonner-Weir, M. A. Engelse, T. J. Rabelink, H. Heimberg, R. G. J. Vries, A. van Oudenaarden, F. Carlotti, H. Clevers, and E. J. P. de Koning.

Expansion of adult human pancreatic tissue yields organoids harboring progenitor cells with endocrine differentiation potential.

*Stem Cell Reports* **10**, 712-724 (2018).

M. M. Gladka, B. Molenaar, H. de Ruiter, D. Versteeg, G. P. A. Lacraz, S. van der Elst,

M. M. H. Huibers, A. van Oudenaarden, and E. van Rooij.  
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