

MAGDALENA ZERNICKA-GOETZ, Ph.D. FMedSci

Bren Professor of Biology and Biological Engineering

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Professor in Mammalian Development and Stem Cell Biology

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PERSONAL INFORMATION

Nationality: Polish and British

Children: Natalia (born 2001) and Szymon (born 2007)

EDUCATION

- | | |
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| 1982-1988 | University of Warsaw, Faculty of Biology, Warsaw, Poland
Graduated with summa cum laude
Master of Science, Developmental Biology |
| 1989-1993 | University of Warsaw, Warsaw, Poland
Department of Embryology, <i>Supervisor</i> Prof. Andrzej Tarkowski
PhD, Developmental Biology of Mammals |
| 1990-1991 | University of Oxford, Oxford, UK
Department of Zoology, <i>Supervisor</i> Prof. Chris Graham
PhD, SOROS Foundation Fellowship |
| 1995-1997 | University of Cambridge, <i>Supervisor</i> Prof. Martin Evans,
Wellcome Trust/Cancer Research UK Institute
EMBO Fellow |

PROFESSIONAL HISTORY

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| From 2019 | Bren Professor of Biology and Biological Engineering, California Institute of Technology |
| From 2010 | Professor in Mammalian Development and Stem Cell Biology
Department of Physiology, Development & Neuroscience
University of Cambridge, Cambridge, UK |
| From 2016 | Fellow of Sidney Sussex College, Cambridge |

Curriculum Vitae

2003 - 2023	Wellcome Trust Senior Research Fellow (4 rounds of renewed fellowships) University of Cambridge
2007-2010	Reader in Developmental Biology, tenure awarded at the University of Cambridge Department of Physiology, Development & Neuroscience
From 2003	Group Leader, Wellcome Trust/Cancer Research Institute, University of Cambridge
1997-2003	Stanley Elmore Senior Research Fellow, Sidney Sussex College Cambridge
1997-2002	Lister Institute Senior Research Fellow, Gurdon Institute and Department of Genetics, University of Cambridge

RESEARCH SUPPORT

2021-2026	NIH RO1 (PI). Biological mechanisms that eliminate aneuploid cells from a mosaic conceptus in the mouse model system
2020-2024	Director Pioneer Award from the NIH. Placental models to support embryogenesis in vitro.
2020-2025	NIH RO1 (PI). Temporal program for cell fate specification in the mouse embryo
2019-2021	Shurl and Kay Curci Foundation (PI). Generation of stem-cell derived synthetic embryos to study human gastrulation.
2019-2021	Weston Havens Foundation (PI). Cell fate and potential in human development beyond implantation.
2019-2023	Open Philanthropy/Silicon Valley Community Foundation (PI). A dynamic, multi- dimensional atlas of the human embryo.
2018-2023	Wellcome Trust Senior Research Fellowship (PI). Embryo architecture, potency and tissue interactions during mouse and human development.
2016-2021	European Research Council Advanced Grant (PI). Self-Organising Capacity of Stem Cells during Implantation and Early Post-implantation Development.
2018-2020	Leverhulme Trust Research Grant (PI). The timing mechanism of the early mammalian embryo.
2017-2021	Training European experts in multilevel bioimaging, analysis and modelling of vertebrate development and disease.

Previous (main grants):

2013-2018	Wellcome Trust <i>Senior Research</i> Fellowship (PI). Regulation and dynamics of progressive cell fate transitions and morphogenesis during development of the early mouse embryo.
2007-2014	Wellcome Trust Senior Research Fellowship (PI). Early cell fate decisions and cell positioning in the mouse embryo.
2008-2011	Medical Research Council (co-PI). Investigating the role of cyclin B1 in early cell divisions.
2008-2011	Wellcome Trust (co-PI). Zygote viability judged by image analysis
2002-2007	Wellcome Trust Senior Research Fellowship (PI). Development of early asymmetry and embryonic polarity in the mouse.
2004-2007	Biotechnology and Biological Science Research Council (PI). Morphogenetic cell movements in the mouse embryo immediately after implantation.

Curriculum Vitae

2002-2005	Biotechnology and Biological Science Research Council (PI). Role of Par genes in early mouse development.
2002-2004	CRT Grant/GSK/Cyclacel Collaboration. RNA interference in embryonic and tissue culture cells in mammals
2000-2003	Human Frontier Science Program Grant (co-PI). Mechanism of axis formation in mammals
1997-2000	Wellcome Trust Project Grant (PI): Spatial patterning and cell fate determination in the early mouse embryo.
1997-2001	Cancer Research UK (co-PI). Mammalian polo-like kinase: dissecting its function in mouse meiosis and early embryonic cell cycles.
1997-2002	Lister Senior Research Fellowship (PI). Spatial patterning and cell fate in the mouse embryo.

RECOGNITION IN THE FIELD

Fellowship of Academic Societies

- Foreign Member of Polish Academy of Science, elected 2017
- Foreign Member of Polish Academy of Arts and Sciences, elected 2016
- Fellow of British Academy of Medical Science, elected 2013
- Member of European Molecular Biology Organization, elected 2007

Awards and Honours

- Director's Pioneer Award from the NIH, 2020
- One of Prospect magazine's top 10 world thinkers, 2020
- Chih-Ye Professor of State Key Laboratory of Stem Cell and Reproductive Biology, Institute of Zoology, Chinese Academy of Sciences, Beijing; 2019-2020
- COGI and RBMO awards in recognition of lifetime contribution to Reproductive Medicine, 2017
- International Foundation IVI Award for the Best Basic Research in Reproductive Medicine, 2017
- Winner of the People's Vote for Scientific Breakthrough of the year 2016 by Science magazine
- Feature profile in Science magazine, "Pushing the limit" by Gretchen Vogel. Science. Volume 354(6311):404-407. October 28, 2016. Published by AAAS.
- Anne McLaren Lecture Award, International Society of Differentiation, 2008
- Young Investigator Award, EMBO (2001-2004)
- Wellcome Trust Senior Research Fellowship (2002-2008, 2008-2013, 2013-2018)
- Lister Institute of Preventative Medicine Senior Research Fellowship (1997-2002)
- EMBO Long-term post-doctoral Fellowship (1995-1997)
- Best Ph.D. thesis Award, Polish Ministry of Education, 1994
- Promising Young Scientist Prize, Foundation for Polish Science, 1993

Scientific Advisory Boards and Career Evaluation Panels

- Board of Directors for Life Science Editors Foundation to encourage women and support the success of scientists who have been discriminated against, USA
- Lister Institute Scientific Advisory Board, London UK
- Member of Society of Developmental Biology
- Allen Institute for Cell Science, Seattle, USA
- Max Planck Institute for Molecular Genetics, Scientific Advisory Board, Berlin, Germany
- Center for Genomic Regulation (CRG) Barcelona, Scientific Advisory Board, Barcelona, Spain

Curriculum Vitae

- Institute for Stem Cell and Regenerative Medicine Scientific Advisory Board, the University of Washington, USA
- Weizmann Institute of Scientific Advisory Board, Israel
- Innovators of Science Award team, The New York Academy of Science, USA, 2018
- Interdisciplinary Panel of Experts "First Team", Foundation for Polish Science, Warsaw, Poland
- Center of Education and Technology, Scientific Advisory Board, University of Warsaw, Poland
- Career Evaluation Panel, Pasteur Institute, Paris, France
- Sustain Programme, British Academy of Medical Sciences, to support the career development of women researchers on the cusp of independence, UK
- International Society of Differentiation, Board Member
- Member of Editorial Boards of: Cell, Cell Research, Cell Reports, Cells, Differentiation, PeerJ, Developmental Dynamics, Faculty of 1000, Reproduction.
- Cambridge Philosophical Society

Departmental Committees, University of Cambridge

- Research Committee
- Recruitment Committee
- Animal House Committee
- Teaching: Graduate Committee and Senior Examiner for the first year undergraduate students

Organisation of international conferences (examples)

- Pluripotency and Reprogramming. Cambridge Philosophical Society, UK 2009.
- Cell Biology of Early Mouse Development. EMBO Workshop, Cambridge, UK 2012.
- Frontiers in Reproductive Biology. SKLRB Symposium. Beijing, China, 2014.
- International conference on Stem Cells. Rhodes, Greece, 2017.
- Reproduction and Development: Revealing the origins of life. Wellcome Genome Campus 2018.
- Aegean Stem Cell Conference, Crete, Greece, October 2019.

Teaching overview

I lecture at the University of Cambridge and my lectures are focused on developmental biology. I am also a human reproduction instructor. I organise courses for the 2nd and 3rd year undergraduate students at the University of Cambridge focusing upon development of pluripotent embryonic stem cells within the embryo and in vitro and their differentiation and self-organisation steps. At California Institute of Technology, I lecture a Developmental Biology class to undergraduate and graduate students.

Lectures

- Undergraduate Lectures to Medical and Natural Science student at the University of Cambridge.
- Part II course "Patterning the Embryo" series of lectures and journal clubs.
- Organizer of the Part II course "Pluripotency and Differentiation" series of lectures and journal clubs.
- Instructor on Laboratory Class on "Human Reproduction".
- Graduate student courses: Developmental Biology course, lectures. Imaging development in vivo course, lectures.

Curriculum Vitae

- Undergraduate Development Biology lectures at California Institute of Technology
- Graduate Developmental biology lectures

Career Mentoring

I have trained over 50 post-doctoral fellows and PhD students. Many of the ex-laboratory members continue their careers in science and became scientific leaders on their own. For example, Maria Elena Torres-Padilla (PI at Helmholtz Center, Munich), Qiang Wu (PI at National University of Singapore), Sigolene Meilhac (PI, Institute Pasteur, Paris), Samantha Morris (PI, Washington University, St Louis), Jia Na (PI, Tsinghua University, Beijing, China), Alex Bruce (PI, University of South Bohemia, Czech Republic), Ivan Bedzhov (PI, Max Planck Institute, Muenster), Gaella Recher (CNRS Researcher, Bordeaux, France), Sanna Vuoristo (PI, University of Helsinki, Finland), Marta Shahbazi (PI, LMB, Cambridge), Berna Sozen (Yale, USA).

SEMINARS AND INVITED PRESENTATIONS (only last 5 years)

2015

- Seminar at Max-Planck Institute for Molecular Genetics, Berlin, Germany, March 2015
- Keystone meeting Transcriptional and Epigenetic Influences on Stem Cell States, Colorado, USA, March 2015
- Cellular Heterogeneity Symposium, Heidelberg, Germany, April 2015
- **Keynote address** at Young Embryologists Network meeting, King's College London, UK, May 2015
- Seminar at University College London, Institute of Child Health, London, UK, May 2015
- **Frontiers Seminar**, Stanford University, USA, May, 2015
- Meeting Society for the Study of Reproduction "Evolution of Sex", San Paulo, Puerto Rico, June 2015
- Seminar Biopolis, Singapore, July 2015
- EMBO Conference, Birmingham, UK, September 2015
- Congress on Stem cells and cellular therapies, Antalya, Turkey, October 2015
- Titisee Conference "Organoids: modelling, development and disease in 3D culture", Titisee, Germany, October 2015
- Seminar at Max Planck Institute (MPI) for Developmental Biology, Tübingen, Germany, November 2015
- Seminar at Institute for Reproductive Sciences, University of Oxford, UK, December 2015

2016

- Stem Cells and Organoids as Models of Tissue Differentiation and Disease Conference, Royal College of Physicians, London, UK, January 2016
- **EMBO Keynote Lecture**, The Hunter Cell and Developmental Biology Meeting, Australia, April 2016
- **Childx TED-format Lecture**, Conference, Stanford, USA, April 2016
- ESHG meeting, Barcelona, May 2016
- Seminar UPenn, Philadelphia, USA, June 2016
- Cell Biology Workshop, Nencki Institute conference, Warsaw, Poland, June 2016
- Imaging Mouse Development, Janelia Mammalian Embryo Imaging Workshop, USA, June 2016
- Seminar Center of Trophoblast Research, Cambridge, UK, July 2016
- SDB/ISD Meeting, Boston, **Plenary lecture**, August 2016

Curriculum Vitae

- Cell fate Diversity in Aging conference, Dubrovnik, Croatia, September 2016
- **Keynote lecture**, EMBO Conference on Chromatin and Epigenetics, October 2016
- Congress on Controversies in Obstetrics, Gynaecology & Infertility, Amsterdam, Holland “Breaking News” Session, November 2016
- Opening conference “**Breaking news**” **lecture**, Translational Reproductive Biology and Clinical Reproductive Endocrinology, New York, USA, November 2016
- **Keynote presentation** Nuffield Council workshop – statutory time limit for maintaining human embryos in culture, London, December 2016
- **Plenary lecture** at Progress Educational Trust, the 14-day rule for Human Embryos, UCL, Institute of Child Health, London, December 2016

2017

- **Peter Thorogood Memorial Lecture**, Head Group Meeting, UCL, London January 2017
- **Keynote lecture**, Life III Summit, Barcelona, Spain, January 2017
- **Keynote speaker**, Morphogenesis EMBO Meeting, Paris, France, March 2017
- **Plenary lecture**, Preimplantation Genetic Diagnosis International Society meeting, Valencia, Spain, March 2017
- Seminar at Max Plank Institute for Molecular Genetics, Berlin, Germany, March 2017
- Seminar at Kings College London, UK, March 2017
- Seminar, Faculty of Biology, CalTech, USA, April 2017
- **Plenary lecture**, International Congress on Reproduction, Bilbao, Spain, May 2017
- **Keynote lecture**, Developmental Biology conference, Krakow, Poland, May 2017
- General Public Lecture, Literary and Science **Hay Festival**, May 2017
- **Anne McLaren Lecture**, ISCCR meeting, Boston, June 2017
- Center for Genomic Regulation, Barcelona, July 2017
- Lecture, Salk Institute, San Diego, August 2017
- CSH Stem Cell Biology Symposium, September 2017
- 2nd International Stem Cell Meeting Rhodes, September 2017
- Belgium Stem Cell Society Annual Meeting, November 2017
- **Nobel Prize Laureate Robert Edward Annual Lecture**, Congress on Controversies in Obstetrics, Gynaecology & Infertility, Vienna, December 2017
- Progress Educational Trust, Crossing Frontiers conference, London, December 2017
- Seminar at the Whitehead Institute for Biomedical Research, Boston, December 2017

2018

- **Keynote lecture**, SY-Stem IMBA conference, Vienna, February 2018
- Wellcome Genome Campus, Reproduction and Development Conference, March 2018
- Keystone Symposia x5/x6 conference, Whistler, Canada, March 2018
- 117th International Titisee conference, Germany, April 2018
- **Plenary Lecture** at the Polish Academy of Science, Warsaw, April 2018
- Chan Zuckerberg Initiative conference, San Francisco, May 2018
- ESHRE 2018, Barcelona, July 2018
- **Dr. Kwang Yul Cha Lecture**, Society for the Study of Reproduction, New Orleans, July 2018
- Gordon Research Conference on Mammalian Reproduction, Italy, July 2018
- **Keynote lecture**, Stem Cell Dynamics Throughout life: From Development to the Adult, Switzerland, August 2018

Curriculum Vitae

- Building the Cell meeting, Institute Pasteur, Paris, September 2018
- **Plenary President's Guest Lecture**, ASRM scientific congress, USA, October 2018
- **Thirty-Eight Annual Oliver H. Lowry Lecture**, University of St Louis, USA, October 2018
- CNRS modeling cell fate meeting, France, November 2018
- **Plenary Speaker**, ASCB EMBO Meeting, San Diego, California, USA, December 2018

2019

- Keystone Symposia Cell Competition in development and disease, Tahoe, California, USA, February 2019
- Development and Regeneration: Same Mechanisms? Same Concepts? Symposium, College de France, Paris, France, May 2019
- **Plenary Speaker** at Gordon Research Conference on Germinal Stem Cell Biology, Hong Kong, China, May 2019
- **Plenary Speaker**, Pluripotent and Reprogramming Symposium, Cambridge, Massachusetts, USA, May 2019
- Lecture at Mouse course, Cold Spring Harbour Laboratory, New York, USA, June 2019
- Chronobiology Gordon Research Conference, Mallorca, Spain, June 2019
- LMB-GGNB Annual graduate Life Sciences Symposium, MRC LMB Cambridge, UK, July 2019
- **Presidential Speaker** at 78th Society for Developmental Biology Meeting, Boston, Massachusetts, USA, July 2019
- 3rd International Aegean Stem Cell Conference, Crete, Greece, October 2019
- 7th Annual CiRA International Symposium, Kyoto University, Kyoto, Japan, November 2019
- Development and 3D modeling of the human brain symposium, New York, USA, December 2019

2020 (due to Covid some of these lectures were postponed to 2021)

- Examining the State of the Science of Mammalian Embryo Model Systems: A Workshop. The National Academies of Sciences, Engineering and Medicine, January 2020.
- EMBL-IBEC Winter Conference, Engineering Multicellular Systems, Barcelona, February 2020.
- Hindsight 2020, The Allen Institute Developmental Recording Symposium, Seattle, March 2020.
- Anne McLaren Symposium on Synthetic Gametes, Cambridge University, UK, March 2020.
- Regenerative Medicine Seminar Series, Stanford University, California, April 2020.
- **Adelberg Lecture in Genetics**, Yale University, New Haven, Connecticut, USA, April 2020.
- **Keynote Lecture**, Stowers Research Conference Series, Stowers Institute for Medical Research, Kansas City, Missouri, USA, April 2020.
- Lecture at Scientific and Ethical Frontiers in Understanding Human Development symposium, U Penn, USA, Nov 2020

2021

- Lecture at Allan Discovery Center, USA February 2021
- Lecture at Anne McLaren Symposium 2021: Synthetic gametes and germline development for science and society, Cambridge, UK March 2021
- Lecture at EMBO | EMBL Symposium: Synthetic Morphogenesis: From Gene Circuits to Tissue Architecture, Heidelberg, Germany, March 2021
- Lecture at REGENERATIVE BIOLOGY & STEM CELLS INITIATIVE Seminar Series, NU, April 2021

Curriculum Vitae

- Royal Institution general public lecture, London, April 2021
- Keynote speaker Cell Symposia Express: Engineering Organoids and Organs, April 2021
- Keynote speaker Stowers Research Conferences: Developmental Cell Biology, April 2021
- Special Seminar Ethics in Research and Biotechnology Consortia Series, Harvard, April 2021
- Keynote speaker: CSHL CELL DYNAMICS 2021, May 2021

PUBLICATIONS

1. Guo J, Wang P, Sozen B, Qiu H, Zhu Y, Zhang X, Ming J, Zernicka-Goetz M and Na J. (2021). Machine learning-assisted high-content analysis of pluripotent stem cell-derived embryos in vitro. **Stem Cell Reports**. 16(5):1331-1346. doi: 10.1016/j.stemcr.2021.03.018. PMID: 33891867.
2. Shi J, Zhang Y, Tan D, Zhang X, Yan M, Zhang Y, Franklin R, Shahbazi M, Mackinlay K, Liu S, Kuhle B, James ER, Zhang L, Qu Y, Zhai Q, Zhao W, Zhao L, Zhou C, Gu W, Murn J, Guo J, Carrell DT, Wang Y, Chen X, Cairns BR, Yang XL, Schimmel P, **Zernicka-Goetz M**, Cheloufi S, Zhang Y, Zhou T and Chen Q. (2021). PANDORA-seq expands the repertoire of regulatory small RNAs by overcoming RNA modifications. **Nat Cell Biol**. 23(4):424-436. doi: 10.1038/s41556-021-00652-7. PMID: 33820973.
3. Cornwall-Scoones J and **Zernicka-Goetz M**. (2021). Unifying synthetic embryology. **Dev Biol**. S0012-1606(21)00069-5. doi: 10.1016/j.ydbio.2021.03.007. PMID: 33753081.
4. Molè MA, Weberling A, Fässler R, Campbell A, Fishel S and **Zernicka-Goetz M**. (2021). Integrin $\beta 1$ coordinates survival and morphogenesis of the embryonic lineage upon implantation and pluripotency transition. **Cell Rep**. 34(10):108834. doi: 10.1016/j.celrep.2021.108834. PMID: 33691117.
5. Weberling A and **Zernicka-Goetz M**. (2021). Trophectoderm mechanics direct epiblast shape upon embryo implantation. **Cell Rep**. 34(3):108655. doi: 10.1016/j.celrep.2020.108655. PMID: 33472064.
6. Amadei G, Lau KYC, De Jonghe J, Gantner CW, Sozen B, Chan C, Zhu M, Kyprianou C, Hollfelder F and **Zernicka-Goetz M**. (2021). Inducible Stem-Cell-Derived Embryos Capture Mouse Morphogenetic Events In Vitro. **Dev Cell**. 56(3):366-382.e9. doi: 10.1016/j.devcel.2020.12.004. PMID: 33378662.
7. Weatherbee BAT, Cui T and **Zernicka-Goetz M**. (2020). Modeling human embryo development with embryonic and extra-embryonic stem cells. **Dev Biol**. S0012-1606(20)30319-5. doi: 10.1016/j.ydbio.2020.12.010. PMID: 33333069.
8. Sozen B, Cornwall-Scoones J and **Zernicka-Goetz M**. (2020). The dynamics of morphogenesis in stem cell-based embryology: Novel insights for symmetry breaking. **Dev Biol**. S0012-1606(20)30315-8. doi: 10.1016/j.ydbio.2020.12.005. PMID: 33333067.
9. Zhu M and **Zernicka-Goetz M**. (2020). Principles of Self-Organization of the Mammalian Embryo. **Cell**. 183(6):1467-1478. doi: 10.1016/j.cell.2020.11.003. PMID: 33306953.
10. Zhu M, Cornwall-Scoones J, Wang P, Handford CE, Na J, Thomson M and **Zernicka-Goetz M**. (2020). Developmental clock and mechanism of de novo polarization of the mouse embryo. **Science**. 370(6522):eabd2703. doi: 10.1126/science.abd2703. PMID: 33303584.

11. Sozen B, Demir N and **Zernicka-Goetz M.** (2021). BMP signalling is required for extra-embryonic ectoderm development during pre-to-post-implantation transition of the mouse embryo. **Dev Biol.** 470:84-94. doi: 10.1016/j.ydbio.2020.11.005. PMID: 33217407.
12. Orietti LC, Rosa VS, Antonica F, Kyprianou C, Mansfield W, Marques-Souza H, Shahbazi MN and **Zernicka-Goetz M.** (2020). Embryo Size Regulates the Timing and Mechanism of Pluripotent Tissue Morphogenesis. **Stem Cell Reports.** S2213-6711(20)30379-9. doi: 10.1016/j.stemcr.2020.09.004. PMID: 33035465.
13. Lynch CJ, Bernad R, Martínez-Val A, Shahbazi MN, Nóbrega-Pereira S, Calvo I, Blanco-Aparicio C, Tarantino C, Garreta E, Richart-Ginés L, Alcazar N, Graña-Castro O, Gómez-Lopez G, Aksoy I, Muñoz-Martín M, Martínez S, Ortega S, Prieto S, Simboeck E, Camasses A, Stephan-Otto Attolini C, Fernandez AF, Sierra MI, Fraga MF, Pastor J, Fisher D, Montserrat N, Savatier P, Muñoz J, **Zernicka-Goetz M** and Serrano M. (2020). Global hyperactivation of enhancers stabilizes human and mouse naive pluripotency through inhibition of CDK8/19 Mediator kinases. **Nat Cell Biol.** 22(10):1223-1238. doi: 10.1038/s41556-020-0573-1. PMID: 32989249.
14. Cornwall-Scoones J and **Zernicka-Goetz M.** (2020). Starting life in space. **Natl Sci Rev.** 7(9):1447-1448. doi: 10.1093/nsr/nwaa102. PMID: 32983580.
15. Shahbazi MN, Wang T, Tao X, Weatherbee BAT, Sun L, Zhan Y, Keller L, Smith GD, Pellicer A, Scott RT Jr, Seli E and **Zernicka-Goetz M.** (2020). Developmental potential of aneuploid human embryos cultured beyond implantation. **Nat Commun.** 11(1):3987. doi: 10.1038/s41467-020-17764-7. PMID: 32778678.
16. Weatherbee BAT, Glover DM and **Zernicka-Goetz M.** (2020). Expression of SARS-CoV-2 receptor *ACE2* and the protease *TMPRSS2* suggests susceptibility of the human embryo in the first trimester. **Open Biol.** 10(8):200162. doi: 10.1098/rsob.200162. PMID: 32750256.
17. Singla S, Iwamoto-Stohl LK, Zhu M and **Zernicka-Goetz M.** (2020). Autophagy-mediated apoptosis eliminates aneuploid cells in a mouse model of chromosome mosaicism. **Nat Commun.** 11(1):2958. doi: 10.1038/s41467-020-16796-3. PMID: 32528010.
18. Kyprianou C, Christodoulou N, Hamilton RS, Nahaboo W, Boomgaard DS, Amadei G, Migeotte I and **Zernicka-Goetz M.** (2020). Basement membrane remodelling regulates mouse embryogenesis. **Nature.** 582(7811):253-258. doi: 10.1038/s41586-020-2264-2. PMID: 32523119.
19. Zhu M and **Zernicka-Goetz M.** (2020). Living a Sweet Life: Glucose Instructs Cell Fate in the Mouse Embryo. **Dev Cell.** 53(1):1-2. doi: 10.1016/j.devcel.2020.03.012. PMID: 32259489.
20. Molè MA, Weberling A and **Zernicka-Goetz M.** (2020). Comparative analysis of human and mouse development: From zygote to pre-gastrulation. **Curr Top Dev Biol.** 136:113-138. doi: 10.1016/bs.ctdb.2019.10.002. PMID: 31959285.
21. Zhu M and **Zernicka-Goetz M.** (2020). Building an apical domain in the early mouse embryo: Lessons, challenges and perspectives. **Curr Opin Cell Biol.** 62:144-149. doi: 10.1016/j.ceb.2019.11.005. PMID: 31869760.
22. Sozen B, Cox AL, De Jonghe J, Bao M, Hollfelder F, Glover DM and **Zernicka-Goetz M.** (2019). Self-Organization of Mouse Stem Cells into an Extended Potential Blastoid. **Dev Cell.** 51(6):698-712.e8.

doi: 10.1016/j.devcel.2019.11.014. PMID: 31846649.

23. Aloia L, McKie MA, Vernaz G, Cordero-Espinoza L, Aleksieva N, van den Aamele J, Antonica F, Font-Cunill B, Raven A, Aiese Cigliano R, Belenguer G, Mort RL, Brand AH, **Zernicka-Goetz M**, Forbes SJ, Miska EA and Huch M. (2019). Epigenetic remodelling licences adult cholangiocytes for organoid formation and liver regeneration. **Nat Cell Biol.** 21(11):1321-1333. doi: 10.1038/s41556-019-0402-6. PMID: 31685987.
24. Anikeeva P, Boyden E, Brangwynne C, Cissé I, Fiehn O, Fromme P, Gingras AC, Greene CS, Heard E, Hell SW, Hillman E, Jensen GJ, Karchin R, Kiessling LL, Kleinstiver BP, Knight R, Kukura P, Lancaster MA, Loman N, Looger L, Lundberg E, Luo Q, Miyawaki A, Myers EW Jr, Nolan GP, Picotti P, Reik W, Sauer M, Shalek AK, Shendure J, Slavov N, Tanay A, Troyanskaya O, van Valen D, Wang HW, Yi C, Yin P, **Zernicka-Goetz M** and Zhuang X. (2019). Voices in methods development. **Nat Methods.** 16(10):945-951. doi: 10.1038/s41592-019-0585-6. PMID: 31562479.
25. Christodoulou N, Weberling A, Strathdee D, Anderson KI, Timpson P and **Zernicka-Goetz M.** (2019). Morphogenesis of extra-embryonic tissues directs the remodelling of the mouse embryo at implantation. **Nat Commun.** 10(1):3557. doi: 10.1038/s41467-019-11482-5. PMID: 31391456.
26. Shahbazi MN, Siggia ED and **Zernicka-Goetz M.** (2019). Self-organization of stem cells into embryos: A window on early mammalian development. **Science.** 364(6444):948-951. doi: 10.1126/science.aax0164. PMID: 31171690.
27. Antonica F, Orietti LC, Mort RL and **Zernicka-Goetz M.** (2019). Concerted cell divisions in embryonic visceral endoderm guide anterior visceral endoderm migration. **Dev Biol.** 450(2):132-140. doi: 10.1016/j.ydbio.2019.03.016. PMID: 30940540.
28. Hupalowska A, Jedrusik A, Zhu M, Bedford MT, Glover DM and **Zernicka-Goetz M.** (2018). CARM1 and Paraspeckles Regulate Pre-implantation Mouse Embryo Development. **Cell.** 175(7):1902-1916.e13. doi: 10.1016/j.cell.2018.11.027. PMID: 30550788.
29. Rivron N, Pera M, Rossant J, Martinez Arias A, **Zernicka-Goetz M**, Fu J, van den Brink S, Bredenoord A, Dondorp W, de Wert G, Hyun I, Munsie M and Isasi R. (2018). Debate ethics of embryo models from stem cells. **Nature.** 564(7735):183-185. doi: 10.1038/d41586-018-07663-9. PMID: 30542177.
30. Christodoulou N, Kyprianou C, Weberling A, Wang R, Cui G, Peng G, Jing N and **Zernicka-Goetz M.** (2018). Sequential formation and resolution of multiple rosettes drive embryo remodelling after implantation. **Nat Cell Biol.** 20(11):1278-1289. doi: 10.1038/s41556-018-0211-3. PMID: 30323188.
31. McCann BJ, Cox A, Gammage PA, Stewart JB, **Zernicka-Goetz M** and Minczuk M. (2018). Delivery of mtZFNs into Early Mouse Embryos. **Methods Mol Biol.** 1867:215-228. doi: 10.1007/978-1-4939-8799-3_16. PMID: 30155826.
32. Sozen B, Amadei G, Cox A, Wang R, Na E, Czukiewska S, Chappell L, Voet T, Michel G, Jing N, Glover DM and **Zernicka-Goetz M.** (2018). Self-assembly of embryonic and two extra-embryonic stem cell types into gastrulating embryo-like structures. **Nat Cell Biol.** 20(8):979-989. doi: 10.1038/s41556-018-0147-7. PMID: 30038254.
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