CURRICULUM VITAE

Personal Details

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Relevant Positions

11/2022 – current	*Group leader*, Center for Anatomy and Cell Biology, **Medical University Vienna, Austria**
02/2019 – current	*Assistent/Postdoc*, Center for Anatomy and Cell Biology, **Medical University Vienna, Austria**
04/2013 – 11/2017	*Postdoctoral scientist***,** Laboratory of Prof. Dr. Julien Sage, **Stanford University, USA**
02/2008 – 03/2013	Ph.D student and postdoctoral scientist, Laboratory of Prof. Dr. Jörn Walter, **University of Saarland, Germany**

Career breaks

07/2024 – 09/2025	*maternity leave*
12/2017 – 01/2019	*maternity leave*
03/2015 – 06/2015	*maternity leave*

Education

02/2008 – 12/2012	**PhD studies**, *University of Saarland,* Germany, Genetics/Epigenetics Laboratory of Dr. Jörn Walter. Graduated as: Dr. rer. nat. (*summa cum laude*) PhD thesis: „Analysis of reprogramming and maintenance of DNA methylation in mouse embryonic development “
10/2002 – 11/2007	**Diploma studies in Human- und Molecular Biology**, *University of Saarland,* Germany. Graduated as: Dipl. biol. (grade: 1.4) Diplom thesis: “Characterisation and DNA methylation status of CpG islands in genepoor regions on chromosome 21”

Awards, Fellowships and Funding

- FWF PI-Project doi:10.55776/PAT4142423
- Africa-UniNet P088_Nigeria & P140_Nigeria (2023- 2025 & 2024 – 2026)
- DFG Research fellowship (2014 – 2017)
- Bass Society pediatric fellow, Stanford University, USA (2014 – 2018)
- Dr. Eduard-Martin award for the best Ph.D thesis 2012/2013 in the Department of Chemistry, Pharmacy, Biology and Material sciences at University of Saarland, Germany

Publications

RESEARCH PAPERS, PEER-REVIEWED

- Bovee NGP, Habibi E, Liu Z, Hoogland SHA, Frölich S, Diepenbroek D, Bosman KCM, **Arand J**, Maksakova IA, Kranenbarg AK, Walter J, Brinkman AB, Mulder KW, Jansen JH, Vermeulen M, Lorincz M, Stunnenberg HG, Marks H. Methylome profiling of SetDB1-deficient ESCs reveals coordinated epigenetic cross-talk during pluripotency. **Stem Cell Reports**. 2026 Oct 13;21(10):103075. doi: 10.1016/j.stemcr.2026.103075
- Eleftheriou K, Peter A, Fedorenko I, Schmidt K, Wossidlo M, **Arand J**. A transition phase in late mouse oogenesis impacts DNA methylation of the early embryo." **Commun Biol** vol. 5,1 1047. 2 Oct. 2022, doi:10.1038/s42003-022-04008-1
- Zhang S, Zatulovsky E, **Arand J**, Sage J, Skotheim JM. The cell cycle inhibitor RB is diluted in G1 and contributes to controlling cell size in the mouse liver. **Front Cell Dev Biol** vol. 10 965595. 25 Aug. 2022, doi:10.3389/fcell.2022.965595
- Kyriakopoulos C, Nordström K, Kramer PL, Gottfreund JY, Salhab A, **Arand J**, Müller F, von Meyen F, Ficz G, Reik W, Wolf V, Walter J, Giehr P. A comprehensive approach for genome-wide efficiency profiling of DNA modifying enzymes. **Cell Rep Methods** vol. 2,3 100187. 28 Mar. 2022, doi:10.1016/j.crmeth.2022.100187
- Doan A*, **Arand J***, Gong D, Drainas AP, Shue YT, Lee MC, Zhang S, Walter DM, Chaikovsky AC, Feldser DM, Vogel H, Dow LE, Skotheim JM, Sage J. RB depletion is required for the continuous growth of tumors initiated by loss of RB. **PLoS Genet.** 2021 Dec 8;17(12):e1009941. doi: 10.1371/journal.pgen.1009941

  *Contributed equally
- **Arand J**, Chiang HR, Martin D, Snyder MP, Sage J, Reijo Pera RA, Wossidlo M. Tet enzymes are essential for early embryogenesis and completion of embryonic genome activation. **EMBO Rep.** 2022 Feb 3;23(2):e53968. doi: 10.15252/embr.202153968. Epub 2021 Dec 6.
- Beck MA, Fischer H, Grabner LM, Groffics T, Winter M, Tangermann S, Meischel T, Zaussinger-Haas B, Wagner P, Fischer C, Folie C, **Arand J**, Schöfer C, Ramsahoye B, Lagger S, Machat G, Eisenwort G, Schneider S, Podhornik A, Kothmayer M, Reichart U, Glösmann M, Tamir I, Mildner M, Sheibani-Tezerji R, Kenner L, Petzelbauer P, Egger G, Sibilia M, Ablasser A, Seiser C. "DNA hypomethylation leads to cGAS-induced autoinflammation in the epidermis." ***EMBO J.*** 2021 Sep 29:e108234. doi: 10.15252/embj.2021108234.
- **Arand J**, Reijo Pera RA, Wossidlo M. "Reprogramming of DNA methylation is linked to successful human preimplantation development." ***Histochem Cell Biol***. 2021 Jun. doi: 10.1007/s00418-021-02008-6.
- Coles GL, Cristea S, Webber JT, Levin RS, Moss SM, He A, Sangodkar J, Hwang YC, **Arand J**, Drainas AP, Mooney NA, Demeter J, Spradlin JN, Mauch B, Le V, Shue YT, Ko JH, Lee MC, Kong C, Nomura DK, Ohlmeyer M, Swaney DL, Krogan NJ, Jackson PK, Narla G, Gordan JD, Shokat KM, Sage J. "Unbiased Proteomic Profiling Uncovers a Targetable GNAS/PKA/PP2A Axis in Small

Cell Lung Cancer Stem Cells." ***Cancer Cell.*** 2020 Jul 13;38(1):129-143.e7. doi: 10.1016/j.ccell.2020.05.003.

- Cristea S, Coles GL, Hornburg D, Gershkovitz M, **Arand J**, Cao S, Sen T, Williamson SC, Kim JW, Drainas AP, He A, Cam LL, Byers LA, Snyder MP, Contrepois K, Sage J. "The MEK5-ERK5 Kinase Axis Controls Lipid Metabolism in Small-Cell Lung Cancer." ***Cancer Res.*** 2020 Mar 15;80(6):1293-1303. Doi: 10.1158/0008-5472.CAN-19-1027.
- Hsu J, **Arand J**, Chaikovsky A, Mooney NA., Demeter J, Brison CM, Oliverio R, Vogel H, Rubin SM, Jackson PK, Sage J „E2F4 regulates transcriptional activation in mouse embryonic stem cells independently of the RB family." ***Nat Commun.*** 2019 Jul 3;10(1):2939. doi: 10.1038/s41367-019-10901-x.
- Totonchi M, Hassani SN, Sharifi-Zarchi A, Tapia N, Adachi K, **Arand J**, Greber B, Sabour D, Araúzo-Bravo MJ, Walter J, Pakzad M, Gourabi H, Schöler HR, Baharvand H. Blockage of the Epithelial-to-Mesenchymal Transition Is Required for Embryonic Stem Cell Derivation. ***Stem Cell Reports***. 2017 Oct 10;9(4):1275-1290. Doi: 10.1016/j.stemcr.2017.08.006.
- **Arand J**, Wossidlo M, Lepikhov K, Peat JR, Reik W, Walter J. "Selective impairment of methylation maintenance is the major cause of DNA methylation reprogramming in the early embryo." ***Epigenetics Chromatin.*** 2015 Jan 9;8(1):1. doi: 10.1186/1756-8935-8-1.
- Bulut-Karslioglu A, De La Rosa-Velázquez IA, Ramirez F, Barenboim M, Onishi-Seebacher M, **Arand J**, Galán C, Winter GE, Engist B, Gerle B, O'Sullivan RJ, Martens JH, Walter J, Manke T, Lachner M, Jenuwein T. "Suv39h-dependent H3K9me3 marks intact retrotransposons and silences LINE elements in mouse embryonic stem cells." ***Mol Cell.*** 2014 Jul 17;55(2):277-90. doi: 10.1016/j.molcel.2014.05.029.
- Habibi E, Brinkman AB, **Arand J**, Kroeze LI, Kerstens HH, Matarese F, Lepikhov K, Gut M, Brun-Heath I, Hubner NC, Benedetti R, Altucci L, Jansen JH, Walter J, Gut IG, Marks H, Stunnenberg HG. "Whole-genome bisulfite sequencing of two distinct interconvertible DNA methylomes of mouse embryonic stem cells." ***Cell Stem cell.*** 2013 Sep 5;13(3):360-9. doi: 10.1016/j.stem.2013.06.002.
- Ficz G, Hore TA, Santos F, Lee HJ, Dean W, **Arand J**, Krueger F, Oxley D, Paul YL, Walter J, Cook SJ, Andrews S, Branco MR, Reik W. "FGF signaling inhibition in ESCs drives rapid genome-wide demethylation to the epigenetic ground state of pluripotency" ***Cell Stem Cell.*** 2013 Sept 5;13(3):351-9. doi: 10.1016/j.stem.2013.06.004.
- Gries J, Schumacher D, **Arand J**, Lutsik P, Walter J, Sers C, Tierling S. "Bi-PROF: bisulfite profiling of target regions using 454 GS FLX Titanium technology." ***Epigenetics.*** 2013 Jul;8(7):765-71. doi: 10.4161/epi.25242.
- Seisenberger S, Andrews S, Krueger F, **Arand J**, Walter J, Santos F, Popp C, Thienpont B, Dean W, Reik W. The dynamics of genome-wide DNA methylation reprogramming in mouse primordial germ cells. ***Mol Cell.*** 2012 Dec;28;48(6):849-62. doi: 10.1016/j.molcel.2012.11.001.
- Schmidt A, Wöhrmann HJ, Raissig MT, **Arand J**, Gheyselinck J, Gagliardini V, Heichinger C, Walter J, Grossniklaus U. The Polycomb group protein MEDEA and the DNA methylatransferase MET1 interact to repress autonomous endosperm development in Arabidopsis. ***Plant J.*** 2013 Mar;73(5):776-87. doi: 10.1111/tpj.12070.
- Wöhrmann HJ, Gagliardini V, Raissig MT, Wehrle W, **Arand J**, Schmidt A, Tierling S, Page DR, Schöb H, Walter J, Grossniklaus U. Identification of a DANN methylation-independent imprinting control region at the Arabidopsis MEDEA locus. ***Genes Dev.*** 2012 Aug 15;26(16):1837-50. doi: 10.1101/gad.195123.112.
- **Arand J**, Spieler D, Karius T, Branco M R, Meilinger D, Meissner A, Jenuwein T, Xu G, Leonhardt H, Wolf V, Walter J. "In Vivo Control of CpG and Non-CpG DNA Methylation by DNA Methyltransferases." ***PLoS Genet.*** 2012 Jun;8(6): e1002750. doi: 10.1371/journal.pgen.1002750.

  Commented on in ***Nat Rev Genet***. 2012 Jul 18;13(8):520

- Lutsik P, Feuerbach L, **Arand J**, Lengauer T, Walter J, Bock C. BiQ Analyzer HT: locus-specific analysis of DNA methylation by high-throughput bisulfite sequencing. ***Nucleic Acids Res.*** 2011 Jul;39(Web Server issue):W551-6. Doi: 10.1093/nar/gkr312.
- Wossidlo M, Nakamura T, Lepikhov K, Marques C.J, Zakhartchenko V, Boiani M, **Arand J**, Nakano T, Reik W, Walter J. "5-hydroxymethylcytosine in the mammalian zygote is linked with epigenetic reprogramming." ***Nat. Commun.*** 2011;2:241. doi: 10.1038/ncomms1240.
- Wossidlo M*, **Arand J***, Sebastiano V, Lepikhov K, Boiani M, Reinhardt R, Scholer H, Walter J. "Dynamic link of DNA demethylation, DNA strand breaks and repair in mouse zygotes." ***Embo J*** 2010 Jun 2;29(11):1877-88. doi: 10.1038/emboj.2010.80.

  *Contributed equally

REVIEWS & BOOK CHAPTER

- **Arand J**, Sage J. G1 cyclins protect pluripotency. ***Nat Cell Biol***. 2017 Mar 1; 19(3):149-150.
- Lepikhov K, **Arand J**, Fuchs S, Lan J, Wossidlo M, Walter J. DNA Methylation Reprogramming in Preimplantation Development. ***Epigenetic Mechanisms in Cellular Reprogramming***, 2015.
- Lepikhov K, **Arand J**, Wossidlo M, Walter J. Epigenetic Reprogramming in Mammalian Development. ***Encyclopedia of Molecular Cell Biology and Molecular Medicine***, 2011.
- **Arand J**, Lepikhov K, Wossidlo M, Walter J. 2010 Active DNA demethylation -the enigma starts in the zygote. ***Epigenomics: From Chromatin Biology to Therapeutics***, 2010.
- Lepikhov K, Wossidlo M, **Arand J**, Walter J. DNA methylation reprogramming and DNA repair in the mouse zygote. ***Int J Dev Biol.*** 2010;54(11-12):1565-74.