Curriculum Vitae

Dr. med. et rer. nat. habil. Olaf Bergmann

Dep. of Pharmacology and Toxicology
University Medical Center Göttingen
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Education

2006-2010	Ph.D. in Cell and Molecular Biology, Prof. Jonas Frisén laboratory, Karolinska Institutet, Sweden (awarded 12/2010)
2008	Licensed medical doctor in Sweden (leg. läkare, 12/2008)
2005	Licensed medical doctor (Approbation, 12/2005, Berlin, Germany)
2001-2004	Doctor of Medicine (Dr. med.), Prof. Rudolf Morgenstern laboratory, Institute of Pharmacology and Toxicology, Charité, Berlin, Germany (awarded 06/2006)
1997-2005	Medical education at the Charité, Berlin, Germany

Academic Career

Since 2023	Research Group Leader, Institute of Pharmacology and Toxicology, University Medical Center Göttingen, Germany
2023	Gauss Supervisor, general examination accreditation, Georg-August University School of Science (GAUSS), Göttingen, Germany
2023	Privatdozent, University Medical Center Göttingen, Germany
2020	Privatdozent, Department of Biology, TU-Dresden, Germany
2019	Habilitation (Dr. med. et rer.nat. habil.), Institute of Genetics, TU-Dresden, Germany (awarded: 05.11.2019)
2016-2023	Research group leader, CRTD, TU-Dresden, Germany
Since 2020	Senior Researcher (20% position), CMB, Karolinska Institutet, Sweden

Curriculum Vitae

2013-2019	Assistant Professor, Karolinska Institutet, Sweden
2011-2012	Postdoctoral Research Fellow, Stem Cell Center, Lund University, Sweden

Prizes and Awards

2016	Sofia Kovalevskaja Award, Alexander von Humboldt Foundation, (declined due to accepted position at the TU-Dresden, CRTD, Dresden)
2015	Ragnar Söderberg Fellow in Medicine, Ragnar Söderberg Foundation
2014	FRÖ2014 French Mobility Program – Visiting Researcher Award
2010	Oskar-Lapp-Research Award (€12.000), German Cardiac Society

Professional Activities

Editorial Board (Associated Editor)

- Frontiers in Cardiovascular Medicine
- Cardiovascular Biologics and Regenerative Medicine

Memberships

- German Neuroscience Society
- German Cardiac Society
- WG on Cardiovascular Regenerative & Reparative Medicine Membership
- WG on Anatomy and Embryology
- American Heart Association
- ISSCR

Selected Publications

(§ shared authorship, *co-corresponding author)

as main author:

Sounart H, Lázár E, Masarapu Y, Wu J, Várkonyi T, Glasz T, Kiss A, Borgström E, Hill A, Rezene S, Gupta S, Jurek A, Niesnerová A, Druid H, **Bergmann O**, Giacomello S. Dual spatially resolved transcriptomics for human host-pathogen colocalization studies in FFPE tissue sections. Genome Biol. 2023 Oct 19;24(1):237. doi: 10.1186/s13059-023-03080-y.

Roeder SS, Bonnin EA, Wu TD, Guerquin-Kern JL, Jabari S, Brandner S, Eyüpoglu IY, Gollwitzer S, Hamer HM, Gerner ST, Döppner TR, Rummel C, Englund E, Heimke-Brinck R, Borst T, Daniel C, Amann K, Schlötzer-Schrehardt U, Tonchev AB, Roessler K, Schwab S, **Bergmann O**, Rizzoli SO, Huttner HB. Tracking cell turnover in human brain using ^{15}N-thymidine imaging mass spectrometry. Front Neurosci. 2023 Oct 5;17:1274607. doi: 10.3389/fnins.2023.1274607.

Lundquist A, Lázár E, Han NS, Emanuelsson EB, Reitzner SM, Chapman MA, Shirokova V, Alkass K, Druid H, Petri S, Sundberg CJ, **Bergmann O**. FiNuTyper: design and validation of an automated deep learning-based platform for simultaneous fiber and nucleus type analysis in human skeletal muscle. Acta Physiol (Oxf). 2023 Apr 25:e13982. doi: 10.1111/apha.13982. PMID: 37097015

Heinke P, Rost F, Rode J, Trus P, Simonova I, Lázár E, Feddema J, Welsch T, Alkass K, Salehpour M, Zimmermann A, Seehofer D, Possnert G, Damm G, Druid H, Brusch L, **Bergmann O**. Diploid hepatocytes drive physiological liver renewal in adult humans. Cell Syst. 2022 Jun 15;13(6):499-507.e12. doi: 10.1016/j.cels.2022.05.001. Epub 2022 May 31.

Murganti F, Derks W, Baniol M, Simonova I, Trus P, Neumann K, Khattak S, Guan K, **Bergmann O**. FUCCI-Based Live Imaging Platform Reveals Cell Cycle Dynamics and Identifies Pro-proliferative Compounds in Human iPSC-Derived Cardiomyocytes. Front Cardiovasc Med. 2022 Apr 25;9:840147. doi: 10.3389/fcvm.2022.840147.

Roeder SS, Burkardt P, Rost F, Rode J, Brusch L, Coras R, Englund E, Håkansson K, Possnert G, Salehpour M, Primetzhofer D, Csiba L, Molnár S, Méhes G, Tonchev AB, Schwab S, **Bergmann O**§, Huttner HB§. Evidence for postnatal neurogenesis in the human amygdala. Commun Biol. 2022 Apr 19;5(1):366. doi: 10.1038/s42003-022-03299-8.

Baniol M, Murganti F, Smialowska A, Panula J, Lázár E, Brockman V, Giatrellis S, Derks W, **Bergmann O**. Identification and characterization of distinct cell cycle stages in cardiomyocytes using the FUCCI transgenic system. Exp Cell Res. 2021 Oct 13:112880. doi: 10.1016/j.yexcr.2021.112880.

Huttner HB§, **Bergmann O**§, Salehpour M, El Cheikh R, Nakamura M, Tortora A, Heinke P, Coras R, Englund E, Eyüpoglu IY, Kuramatsu JB, Roeder SS, Kloska SP, Muehlen I, Doerfler A, Schwab S, Possnert G, Bernard S, Frisén J. Meningioma growth dynamics assessed by radiocarbon retrospective birth dating. EBioMedicine. 2018 Jan;27:176-181.

Alkass K, Panula J, Westman M, Wu TD, Guerquin-Kern JL, **Bergmann O**. No Evidence for Cardiomyocyte Number Expansion in Preadolescent Mice. Cell. 2015 Nov 5;163(4):1026-36.

Bergmann, O. *§, S. Zdunek§, A. Felker, M. Salehpour, K. Alkass, S. Bernard, S. L. Sjostrom, M. Szewczykowska, T. Jackowska, C. G. Dos Remedios, T. Malm, M. Andrä, R. Jashari, J. R. Nyengaard, G. Possnert, S. Jovinge, H. Druid and J. Frisén. Dynamics of cell generation and turnover in the human heart. Cell. 2015 Jun 18;161(7):1566-75.

Huttner HB§, **Bergmann O**§, Salehpour M, Rácz A, Tatarishvili J, Lindgren E, Csonka T, Csiba L, Hortobágyi T, Méhes G, Englund , Solnestam BW, Zdunek S, Scharenberg C, Ström L, Ståhl P, Sigurgeirsson B, Dahl A, Schwab S, Possnert G, Bernard S, Kokaia Z, Lindvall O, Lundeberg J, Frisén J. The age and genomic integrity of neurons after cortical stroke in humans. Nat Neurosci. 2014 Jun;17(6):801-3.

Spalding KL§, **Bergmann O**§, Alkass K, Bernard S, Salehpour M, Huttner HB, Boström E, Westerlund I, Vial C, Buchholz BA, Possnert G, Mash DC, Druid H, Frisén J. Dynamics of hippocampal neurogenesis in adult humans. Cell . 2013 Jun 6;153(6):1219-27.

Bergmann O§, Bhardwaj RD§, Bernard S, Zdunek S, Barnabé-Heider F, Walsh S, Zupicich J, Alkass K, Buchholz BA, Druid H, Jovinge S, Frisén J. Evidence for cardiomyocyte renewal in humans. Science. 2009 Apr 3;324(5923):98-102.

Bergmann O, Liebl J, Bernard S, Alkass K, Yeung M, Steier P, Kutschera W, Johnson L, Landén M, Druid H, Spalding KL, Frisén J. The age of olfactory bulb neurons in humans. Neuron. 2012 May 24;74(4):634-9.

Bergmann O and Jovinge S. Isolation of cardiomyocyte nuclei from post mortem tissue, JOVE. 2012 Jul 10;(65).

Bergmann O, Zdunek S, Alkass K, Druid H, Bernard S, Frisén J. Identification of cardiomyocyte nuclei and assessment of ploidy for the analysis of cell turnover. Exp Cell Res. 2011 Jan 15;317(2):188-94.

Bergmann O§, Winter C§, Meissner W, Harnack D, Kupsch A, Morgenstern R, Reum T. Subthalamic high frequency stimulation induced rotations are differentially mediated by D1 and D2 receptors. Neuropharmacology. 2004 Jun;46(7):974-83.

As other author:

Medali T, Couchie D, Mougenot N, Mihoc M, **Bergmann O**, Derks W, Szweda LI, Yacoub M, Soliman S, Aguib Y, Wagdy K, Ibrahim AM, Friguet B, Rouis M. Thioredoxin-1 and its mimetic peptide improve systolic cardiac function and remodeling after myocardial infarction. FASEB J. 2024 Jan;38(1) e23291. doi:10.1096/fj.202300792rr. PMID: 38095283.

Robinson EL, Drawnel FM, Mehdi S, Archer CR, Liu W, Okkenhaug H, Alkass K, Aronsen JM, Nagaraju CK, Sjaastad I, Sipido KR, **Bergmann O**, Arthur JSC, Wang X, Roderick HL. MSK phosphorylation of H3S28 is required for immediate early gene induction and cardiac hypertrophy. Cells. 2022 Feb 9;11(4):604. doi: 10.3390/cells11040604.

Montiel V, Bella R, Michel LYM, Esfahani H, Mulder D, Robinson EL, Deglasse JP, Tiburcy M, Chow PH, Jonas JC, Gilon P, Steinhorn B, Michel T, Beauloye C, Bertrand L, Farah C, Dei Zotti F,Debaix H, Bouzin C, Brusa D, Horman S, Vanoverschede JL, **Bergmann O**, Gilis D, Rooman M, Ghigo A, Geninatti-Crich S, Yool A, Zimmermann WH, Roderick HL, Devuyst O, Balligand JL. Inhibition of aquaporin-1 prevents myocardial remodeling by blocking the transmembrane transport of hydrogen peroxide. Sci Transl Med. 2020 Oct 7;12(564):eaay2176. doi: 10.1126/scitranslmed.aay2176.

Robinson EL, Alkass K, **Bergmann O**, Maguire JJ, Roderick HL, Davenport AP. Genes encoding ACE2, TMPRSS2 and related proteins mediating SARS-CoV-2 viral entry are upregulated with age in human cardiomyocytes. J Mol Cell Cardiol. 2020 Aug 18;147:88-91. doi: 10.1016/j.yjmcc.2020.08.009.

Athanasiadis M, Afanasenkau D, Derks W, Tondera C, Murganti F, Busskamp V, **Bergmann O**, Ivan Minev IR. Printed elastic membranes for multimodal pacing andrecording of human stem-cell-derived cardiomyocytes. npj Flex Electron 4, 16 (2020). https://doi.org/10.1038/s41528-020-0075-z.

Asp M, Giacomello S, Larsson L, Wu C, Fürth D, Qian X, Wärdell E, Custodio J, Reimegård J, Salmén F, Österholm C, Ståhl PL, Sundström E, Åkesson E, **Bergmann O**, Bienko M, Månsson-Broberg A, Nilsson M, Sylvén C, Lundeberg J. A Spatiotemporal Organ-Wide Gene Expression and Cell Atlas of the Developing Human Heart. Cell. 2019 Dec 12;179(7):1647-1660.e19. doi: 10.1016/j.cell.2019.11.025.

Thienpont B, Aronsen JM, Robinson EL, Okkenhaug H, Loche E, Ferrini A, Brien P, Alkass K, Tomasso A, Agrawal A, **Bergmann O**, Sjaastad I, Reik W, Roderick HL. The H3K9 dimethyltransferases EHMT1/2 protect against pathological cardiac hypertrophy. J Clin Invest. 2016 Nov 28.

Ståhl PL, Salmén F, Vickovic S, Lundmark A, Navarro JF, Magnusson J, Giacomello S, Asp M, Westholm JO, Huss M, Mollbrink A, Linnarsson S, Codeluppi S, Borg Å, Pontén F, Costea PI, Sahlén P, Mulder J, **Bergmann O**, Lundeberg J, Frisén J. Visualization and analysis of gene expression in tissue sections by spatial transcriptomics. Science. 2016 Jul 1;353(6294):78-82. ¨

Yeung M, Zdunek S, **Bergmann O**, Bernard S, Salehpour M, Alkass K, Perl S, Tisdale J, Possnert G, Brundin L, Druid H and Frisén J. Dynamics of oligodendrocyte generation and myelination in human brain white matter. Cell. 2014 Nov 6;159(4):766-74.

Das D, Lanner F, Main H, Andersson ER, **Bergmann O**, Sahlgren C, Heldring N, Hermanson O, Hansson EM, Lendahl U. Notch induces cyclin-D1-dependent proliferation during a specific temporal window of neural differentiation in ES cells. Dev Biol. 2010 Dec 15;348(2):153-66.

Spalding KL, Arner E, Westermark PO, Bernard S, Buchholz BA, **Bergmann O**, Blomqvist L, Hoffstedt J, Näslund E, Britton T, Concha H, Hassan M, Rydén M, Frisén J, Arner P. Dynamics of fat cell turnover in humans. Nature. 2008 Jun 5;453(7196):783-7.

Barnabé-Heider F, Meletis K, Eriksson M, **Bergmann O**, Sabelström H, Harvey MA, Mikkers H, Frisén J. Genetic manipulation of adult mouse neurogenic niches by in vivo electroporation. Nat Methods. 2008 Feb;5(2):189-96.

Review articles, book chapters and commentaries:

Derks W, Murganti F, **Bergmann O**. Cardiomyocyte renewal in the failing heart: lessons from the neonate? Biophys Rev. 2020 Aug;12(4):785-787. DOI: 10.1007/s12551-020-00739-9. Epub 2020 Jul 17.

Bergmann O. Cardiomyocytes in congenital heart disease: Overcoming cytokinesis failure in tetralogy of Fallot. J Thorac Cardiovasc Surg. 2020 Jun 10:S0022-5223(20)31330-1. doi: 10.1016/j.jtcvs.2020.05.091.

Derks W, **Bergmann O**. Polyploidy in Cardiomyocytes: Roadblock to Heart Regeneration? Circ Res. 2020 Feb 14;126(4):552-565

Derks W and **Bergmann O**. BRAP: a novel regulator of the cardiomyocyte cell cycle controlling both proliferation and survival? Cardiovascular Research. 2019

Bergmann O. Clearing up the mist: cardiomyocyte renewal in human hearts. Eur Heart J. 2019 Apr 1;40(13):1037-1038.

Lazar E, Sadek HA, and **Bergmann O**. Cardiomyocyte renewal in the human heart: insights from the fall-out. Eur Heart J. 2017; 38, 2333-2342

Graham E, **Bergmann O**. Dating the heart: Exploring cardiomyocyte renewal in humans. Physiology. 2017

Bergmann O and Thomas Braun. Caught Red-Handed Cycling Cardiomyocytes. Circ Res. 2016 Jan 8 (Editorial)

Bergmann O and Huttner H. Aus der Trickkiste der Neuroarchäologen. Gehirn und Geist. 2015.

Bergmann O, Jovinge S. Endogenous Regeneration in vivo: mending the heart from within? Stem Cell Research. 2014 Jul 16. pii: S1873-5061(14)00083-X. doi: 10.1016/j.scr.2014.07.002. (Review)

Bergmann O, Spalding KL, Frisén J. Adult Neurogenesis in Humans. Cold Spring Harb Perspect Biol. 2015 Jul 1;7(7) (Review)

Bergmann O, Frisén J. Neuroscience. Why adults need new brain cells. Science. 2013 May 10;340(6133):695-6. (Science Perspective)

Bergmann O, Zdunek S, Frisén J, Bernard S, Druid H, Jovinge S. Cardiomyocyte renewal in humans. Circ Res. 2012 Jan 6;110(1):e17-8. (letter to the editor)