

Curriculum Vitae

Personal Data

Title	Dr. rer. nat
First name	Xianshu
Name	Bai
Current position	Group leader (postdoc) (contract till 08. 2025)
Current institution(s)/site(s), country	University of Saarland/Homburg, Germany
Identifiers/ORCID	0000-0002-4758-1645

Qualifications and Career

Stages	Periods and Details
Bachelor of Science	2003.09 – 2007.06 Pharmacology, China Pharmaceutical University, China
Master of Science	2007.09 – 2010.06 Basics of integration of Chinese and western medicine, China Pharmaceutical University, China 2008.09 – 2010.06 thesis work in Neurobiology group, China Pharmaceutical University, China
Dr. rer. nat. (summa cum laude)	2010.11 – 2015.06 Marie Skłodowska-Curie Fellow in FP-People ITN-GA-2009-237956, University of Saarland, Germany
Group leader (postdoc) Postdoctoral fellow	Since 2018.05 Department of Molecular Physiology, CIPMM, University of Saarland, Homburg 2015.06 – 2018.04 Department of Molecular Physiology, CIPMM, University of Saarland, Homburg

Supplementary Career Information

01.2019 – 02.2020 Maternity leave (one child since Feb. 2019)

Academic Distinctions

2022 Du Bois-Reymond prize from Deutsche Physiologische Gesellschaft
2010 – 2013 Marie Skłodowska-Curie Fellow, FP-People ITN-GA-2009-237956

Engagement in the Research System (selected)

Sep.2022 **Invited Keynote speaker** at Europhysiology2022, Oligodendrocyte precursor cells sculpt brain circuits via bi-directional communication with interneurons. Sep.16-18, 2022, Copenhagen, Denmark.

Nov. 2016 **Instructor** at FENS CAJAL-ISN- Course 2016: Glial cells in health and disease (Practical instructor for projects II (Analysing the OPCs glial response to injury and its functional consequences)), November 28 - December 12, 2016, Bordeaux, France

Jul. 2023 **Chair of Symposium** 'Oligodendrocyte precursors shape brain circuits' at European meeting on Glial cell in health and disease, 8-11.July 2023, Berlin, Germany

Sep. 2023 **Organizer and co-chair of symposium** 'Decoding the fine control of interneurons in behavior' (accepted) at 102nd German Physiological Society Annual meeting, 21-23. Sep. 2023, Berlin, Germany

Nov. 2023 **Chair of Symposium** 'Glia control of brain function in health and disease' (accepted) at Federation of the Asian and Oceanian Physiological Society Congress 2023, 1.-4.Nov, 2023, Daegu, Korea

Fundings

Topic	Amount of support	Duration	Source
The role of GABA _B receptors in oligodendrocyte precursor cells for epileptogenesis	406.509 EUR	07.2023 – 06.2026	DFG
The impact of OPC-endothelial cell interaction on blood-brain barrier integrity	130. 000 EUR	09.2021 – 08.2024	University of Saarland
GABAergic signaling in nociceptive transmission	29.288 EUR	01.2022 – 12.2023	DAAD
Förderung der internationalen Zusammenarbeit zwischen Glia-Biologen und Physiologen	5.000 EUR	02. – 12. 2023	Dr. Rolf M. Schwiete Stiftung
OPCs regulate parvalbumin interneuron survival and function via GABA _B receptors	12.732 EUR	01. – 12. 2021	DFG SPP 1757
The role of GABA _B receptors in oligodendrocyte lineage cells in myelination under physiological and pathological conditions	138.000 EUR	08.2018 – 11.2021	University of Saarland
The role of NG2 glia-specific GABA _B receptors in myelination and remyelination	9.335 EUR	01. – 12. 2017	University of Saarland
Total	730.864 EUR		

Supervision of Researchers in Early Career Phases

Bachelor Thesis (seven)

Master Thesis (two; one ongoing)

Medical doctoral thesis (three; two ongoing)

PhD thesis (1)

Scientific Results

- Bai X***, Zhao N, Koupourtidou C, Fang LP, Schwarz V, Caudal LC, Zhao R, Hirrlinger J, Walz W, Bian S, Huang W, Ninkovic J, Kirchhoff F, Scheller A* (2023). After traumatic brain injury oligodendrocytes regain a plastic phenotype and can become astrocytes. **Dev Cell.** 58: 1153-1169. **Selected as 'DPG - Paper of the Month' Juli 2023.**
- Fang LP, **Bai X** (2023). Implications of Olig2 silencing in oligodendrocyte precursor cells. **Neural Regen Res.** 18: 2649-2650.
- Fang LP, **Bai X** (2023). Oligodendrocyte precursor cells: the multitaskers in the brain. **Pflügers Archiv.** DOI:10.1007/s00424-023-02837-5.
- Fang LP, Liu Q, Meyer E, Huang W, Scheller A, Kirchhoff F*, **Bai X*** (2023). A subset of OPCs do not express Olig2 during development which can be increased in the adult by brain injuries and complex motor learning. **Glia.** 71: 415-430
- Fang LP, Zhao N, Caudal LC, Chang HF, Zhao R, Lin CH, Hainz N, Meier C, Bettler B, Huang W, Scheller A, Kirchhoff F*, **Bai X*** (2022). Impaired bidirectional communication between interneurons and oligodendrocyte precursor cells affects social cognitive behavior. **Nat Commun** 13: 1394. **Selected as editor's highlights in 'From brain to behavior' section.**
- Stopper G, Caudal LC, Rieder P, Gobbo D, Felix L, Everaerts K, **Bai X**, Stopper L, Rose CR, Scheller A, Kirchhoff F. Novel algorithms for improved detection and analysis of fluorescent signal fluctuations. (under revision in **Pflügers Archiv**). bioRxiv: <https://doi.org/10.1101/2022.08.03.502593>

7. Qin X, Wang J, Chen S, Liu G, Wu C, Lv Q, He X, **Bai X**, Huang W, Liao H (2022). Astrocytic p75^{NTR} expression provoked by ischemic stroke exacerbates the blood-brain barrier disruption. **Glia** 70: 892-912
8. **Bai X**, Kirchhoff F, Scheller A (2021). Oligodendroglial GABAergic signaling: more than inhibition! **Neurosci Bull.** 37: 1039-1050
9. Huang W, **Bai X**, Meyer E, Scheller A (2020). Acute brain injuries trigger microglia as an additional source of the proteoglycan NG2. **Acta neuropathol commun.** 8: 1-15.
10. Huang W, Guo Q, **Bai X**, Scheller A, Kirchhoff F (2019). Early embryonic NG2 glia are exclusively gliogenic and do not generate neurons in the brain. **Glia** 67: 1094-1103.
11. Huang W, **Bai X**, Stopper K, Catalin B, Catarozzi L, Scheller A, Kirchhoff F (2018). During development NG2 glial cells of the spinal cord are restricted to the oligodendrocyte lineage, but generate astrocytes upon acute injury. **Neuroscience.** 385: 154-165.
12. Catarozzi LP, Rieder P, **Bai X**, Scheller A, Oliveira ALR, Kirchhoff F (2018). In vivo two-photon imaging of motoneurons and adjacent glia in the ventral spinal cord. **J Neurosci Methods.** 299: 8-15.
13. Scheller A*, **Bai X***, Kirchhoff F (2017). The role of the oligodendrocyte lineage in acute brain trauma. **Neurochem Res.** 42: 2479-2489.
14. Belkacemi T, Niermann A, Hofmann L, Wissenbach U, Birnbaumer L, Leidinger P, Backes C, Meese E, Keller A, **Bai X**, Scheller A, Kirchhoff F, Philipp SE, Weissgerber P, Flockerzi V, Beck A. (2017). TRPC1- and TRPC3-dependent Ca²⁺ signaling in mouse cortical astrocytes affects injury-evoked astrogliosis in vivo. **Glia** 65: 1535-1549
15. Resende FF, **Bai X**, Del Bel EA, Kirchhoff F, Scheller A, Titze-de-Almeida R. (2016). Evaluation of TgH(CX₃CR₁-EGFP) mice implanted with mCherry-GL261 cells as an in vivo model for morphometrical analysis of glioma-microglia interaction. **BMC Cancer.** 16: 72.
16. Yu X, Zhao R, Lin S, **Bai X**, Zhang L, Yuan S, Sun L (2016). CXCL16 induces angiogenesis in autocrine signaling pathway involving hypoxia-inducible factor 1 α in human umbilical vein endothelial cells. **Oncol Rep.** 35: 1557-65
17. Huang W, Zhao N, **Bai X**, Karram K, Trotter J, Goebbels S, Scheller A, Kirchhoff F (2014) Novel NG2-CreERT2 knock-in mice demonstrate heterogeneous differentiation potential of NG2 glia during development. **Glia** 62: 896-913.
18. Zhao R, Lin S, Yuan S, Yu B, **Bai X**, Sun L, Zhang L (2014). DT-13, a saponin of dwarf lilyturf tuber, exhibits anti-cancer activity by down-regulating C-C chemokine receptor type 5 and vascular endothelial growth factor in MDA-MB-435 cells. **Chin J Nat Med.** 12: 24-9
19. **Bai X**, Saab AS, Huang W, Hoberg IK, Kirchhoff F, Scheller A. (2013) Genetic background affects human glial fibrillary acidic protein promoter activity. **PLoS One.** 8: e66873.
20. Zhao R, Sun L, Lin S, **Bai X**, Yu B, Yuan S, Zhang L (2013). The saponin monomer of dwarf lilyturf tuber, DT-13, inhibits angiogenesis under hypoxia and normoxia via multi-targeting activity. **Oncol Rep.** 29: 1379-86
21. Wong I, Liao H, **Bai X**, Zaknic A, Zhong J, Guan Y, Li HY, Wang YJ, Zhou XF (2010). ProBDNF inhibits infiltration of ED1+ macrophages after spinal cord injury. **Brain Behav Immun.** 24: 585-597
22. Liao H, Huang W, Schachner M, Guan Y, Guo J, Yan J, Qin J, **Bai X**, Zhang L (2008). Beta 1 integrin-mediated effects of tenascin-R domains EGFL and FN6-8 on neural stem/progenitor cell proliferation and differentiation in vitro. **J Biol Chem.** 10: 27927-36