Stanford



Daniela Berdnik

Biosafety & Biosecurity Specialist 3, Environmental Health and Safety (EH&S)

Bio

BIO

I am a Biosafety & Biosecurity Specialist in the Department of Environmental Health and Safety (EH&S) leading Stanford's High Containment Program. I received my BS and MS in Biology/ Microbiology and my PhD in Genetics from the University of Vienna, Austria. In 2003, I relocated to Stanford for a postdoctoral position in the Department of Biology working on neuronal wiring in the olfactory system in Liqun Luo's lab. I was awarded 2 prestigious postdoctoral fellowships for a total of 4 years. In 2011, I moved to the Department of Neurology within the School of Medicine to Tony Wyss-Coray's lab as a research scientist developing proteomics platforms to study aging. Later in my research career, I took on lab and project management roles, managed liaisons for industry collaborations, and coordinated lab safety responsibilities.

In 2022, I left the lab bench and started my current position in the Biosafety & Biosecurity team at EH&S. I have led the High Containment Program (BSL3) since 2023. In my role, I develop, continuously improve, and implement Stanford's BSL3 program (oversight, training, emergency procedures, stakeholder alignments, etc.). I review BSL2 and BSL3 research projects, perform risk assessments, and recommend safety precautions to the Institutional Biosafety Committee (IBC). I also act as project manager for various programs at EH&S. My goal is to leverage my work experience and subject matter expertise in science to support Stanford's faculty, staff, postdocs, and students and enable safe, cutting-edge research while minimizing administrative burden.

CURRENT ROLE AT STANFORD

Biosafety & Biosecurity Specialist

High Containment Program Lead

HONORS AND AWARDS

- HFSP postdoctoral fellowship, Human Frontier Science Program (HFSP) (2004-2006)
- EMBO postdoctoral fellowship, European Molecular Biology Organization (EMBO) (2003)
- Excellence Award, Austrian Academy of Sciences (1998)

EDUCATION AND CERTIFICATIONS

- PSM1 (Prof Scrum Master), Scrum , Project Management (2025)
- RBP (Registered Biosafety Prof), ABSA (American Biological Safety Association) , Biosafety (2024)
- PhD, University of Vienna, Austria , Genetics (2002)
- MS, University of Vienna, Austria , Microbiology (1998)

SERVICE, VOLUNTEER, AND COMMUNITY WORK

- My Green Lab Ambassador (April 4, 2024)

LINKS

- EH&S staff: https://ehs.stanford.edu/staff

Professional

WORK EXPERIENCE

- PostDoc and LSRA - Stanford University
- Scientist, Lab Manager, Project Manager, Lab Safety Coodinator - Stanford University
- Safety Professional - Stanford University

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- Member, Campus Safety, Health and Environmental Management Association (CSHEMA) (2025 - present)
- Member, Front Range Biosafety Association (FRaBSA) (2025 - present)
- Member, Midwest Area Biosafety Network (MABioN) (2024 - present)
- Member, ABSA (American Biological Safety Association) (2022 - present)
- Member, Society for Neuroscience (SfN) (2015 - 2021)
- Member, American Society for Cell Biology (ASCB) (2000 - 2002)

Publications

PUBLICATIONS

- **Plasma and CSF biomarkers of aging and cognitive decline in Caribbean vervets.** *Alzheimer's & dementia : the journal of the Alzheimer's Association*

  Varma, C., Luo, E., Bostrom, G., Bathini, P., Berdnik, D., Wyss-Coray, T., Zhao, T., Dong, X., Ervin, F. R., Beierschmitt, A., Palmour, R. M., Lemere, C. A.

  2024

- **Molecular hallmarks of heterochronic parabiosis at single-cell resolution.** *Nature*

  Palovics, R., Keller, A., Schaum, N., Tan, W., Fehlmann, T., Borja, M., Kern, F., Bonanno, L., Calcuttawala, K., Webber, J., McGeever, A., Tabula Muris Consortium, Luo, J., et al

  2022

- **Dysregulation of brain and choroid plexus cell types in severe COVID-19 (vol 595, pg 565, 2021)** *NATURE*

  Yang, A. C., Kern, F., Losada, P. M., Agam, M. R., Maat, C. A., Schmartz, G. P., Fehlmann, T., Stein, J. A., Schaum, N., Lee, D. P., Calcuttawala, K., Vest, R. T., Berdnik, et al

  2021

- **Peripheral B-cells repress B-cell regeneration in aging through a TNFalpha/IGFBP-1/IGF1 immune-endocrine axis.** *Blood*

  Dowery, R., Benhamou, D., Benchetrit, E., Harel, O., Nevelsky, A., Zisman-Rozen, S., Braun-Moscovici, Y., Balbir-Gurman, A., Avivi, I., Shechter, A., Berdnik, D., Wyss-Coray, T., Melamed, et al

  2021

- **Dysregulation of brain and choroid plexus cell types in severe COVID-19.** *Nature*

  Yang, A. C., Kern, F., Losada, P. M., Agam, M. R., Maat, C. A., Schmartz, G. P., Fehlmann, T., Stein, J. A., Schaum, N., Lee, D. P., Calcuttawala, K., Vest, R. T., Berdnik, et al

  2021

- **A neuronal blood marker is associated with mortality in old age.** *Nature aging*

  Kaeser, S. A., Lehallier, B., Thinggaard, M., Häsler, L. M., Apel, A., Bergmann, C., Berdnik, D., Jeune, B., Christensen, K., Grönke, S., Partridge, L., Wyss-Coray, T., Mengel-From, et al

2021; 1 (2): 218-225

- **Physiological blood-brain transport is impaired with age by a shift in transcytosis.** *Nature*
  Yang, A. C., Stevens, M. Y., Chen, M. B., Lee, D. P., Stahli, D., Gate, D., Contrepois, K., Chen, W., Iram, T., Zhang, L., Vest, R. T., Chaney, A., Lehallier, et al
  2020
- **A single-cell transcriptomic atlas characterizes ageing tissues in the mouse.** *Nature*
  2020
- **Ageing hallmarks exhibit organ-specific temporal signatures.** *Nature*
  Schaum, N. n., Lehallier, B. n., Hahn, O. n., Pálovics, R. n., Hosseinzadeh, S. n., Lee, S. E., Sit, R. n., Lee, D. P., Losada, P. M., Zardeneta, M. E., Fehlmann, T. n., Webber, J. T., McGeever, et al
  2020
- **Undulating changes in human plasma proteome profiles across the lifespan.** *Nature medicine*
  Lehallier, B. n., Gate, D. n., Schaum, N. n., Nanasi, T. n., Lee, S. E., Yousef, H. n., Moran Losada, P. n., Berdnik, D. n., Keller, A. n., Verghese, J. n., Sathyan, S. n., Franceschi, C. n., Milman, et al
  2019; 25 (12): 1843–50
- **Multiple Click-Selective tRNA Synthetases Expand Mammalian Cell-Specific Proteomics** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Yang, A. C., Du Bois, H., Olsson, N., Gate, D., Lehallier, B., Berdnik, D., Brewer, K. D., Bertozzi, C. R., Elias, J. E., Wyss-Coray, T.
  2018; 140 (23): 7046–51
- **Single-cell transcriptomics of 20 mouse organs creates a Tabula Muris.** *Nature*
  2018; 562 (7727): 367–72
- **Identification of Interleukin-27 (IL-27)/IL-27 Receptor Subunit Alpha as a Critical Immune Axis for In Vivo HIV Control** *JOURNAL OF VIROLOGY*
  Ruiz-Riol, M., Berdnik, D., Llano, A., Mothe, B., Galvez, C., Perez-Alvarez, S., Oriol-Tordera, B., Olvera, A., Silva-Arrieta, S., Meulbroek, M., Pujol, F., Coll, J., Martinez-Picado, et al
  2017; 91 (16)
- **Human umbilical cord plasma proteins revitalize hippocampal function in aged mice** *NATURE*
  Castellano, J. M., Mosher, K. I., Abbey, R. J., McBride, A. A., James, M. L., Berdnik, D., Shen, J. C., Zou, B., Xie, X. S., Tingle, M., Hinkson, I. V., Angst, M. S., Wyss-Coray, et al
  2017; 544 (7651): 488-?
- **Young blood reverses age-related impairments in cognitive function and synaptic plasticity in mice.** *Nature medicine*
  Villeda, S. A., Plambeck, K. E., Middeldorp, J., Castellano, J. M., Mosher, K. I., Luo, J., Smith, L. K., Bieri, G., Lin, K., Berdnik, D., Wabl, R., Udeochu, J., Wheatley, et al
  2014; 20 (6): 659-663
- **APOE {varepsilon}4 worsens hippocampal CA1 apical neuropil atrophy and episodic memory.** *Neurology*
  Kerchner, G. A., Berdnik, D., Shen, J. C., Bernstein, J. D., Fenesy, M. C., Deutsch, G. K., Wyss-Coray, T., Rutt, B. K.
  2014; 82 (8): 691-697
- **The sox gene Dichaete is expressed in local interneurons and functions in development of the Drosophila adult olfactory circuit** *DEVELOPMENTAL NEUROBIOLOGY*
  Melnattur, K. V., Berdnik, D., Rusan, Z., Ferreira, C. J., Nambu, J. R.
  2013; 73 (2): 107-126
- **The SUMO Protease Verloren Regulates Dendrite and Axon Targeting in Olfactory Projection Neurons** *JOURNAL OF NEUROSCIENCE*
  Berdnik, D., Favaloro, V., Luo, L.
  2012; 32 (24): 8331-8340
- **MicroRNA Processing Pathway Regulates Olfactory Neuron Morphogenesis** *CURRENT BIOLOGY*
  Berdnik, D., Fan, A. P., Potter, C. J., Luo, L.
  2008; 18 (22): 1754-1759

- **piggyBac-based mosaic screen identifies a postmitotic function for cohesin in regulating developmental axon pruning** *DEVELOPMENTAL CELL*
  Schuldiner, O., Berdnik, D., Levy, J. M., Wu, J. S., Luginbuhl, D., Camille Gontang, A., Luo, L.
  2008; 14 (2): 227-238

- **Temporal target restriction of olfactory receptor neurons by Semaphorin-1a/PlexinA-mediated axon-axon interactions** *NEURON*
  Sweeney, L. B., Couto, A., Chou, Y., Berdnik, D., Dickson, B. J., Luo, L., Komiyama, T.
  2007; 53 (2): 185-200

- **Mitotic activation of the kinase Aurora-A requires its binding partner Bora.** *Developmental cell*
  Hutterer, A., Berdnik, D., Wirtz-Peitz, F., Zigman, M., Schleiffer, A., Knoblich, J. A.
  2006; 11 (2): 147-57

- **Wiring stability of the adult Drosophila olfactory circuit after lesion** *JOURNAL OF NEUROSCIENCE*
  Berdnik, D., Chihara, T., Couto, A., Luo, L. Q.
  2006; 26 (13): 3367-3376

- **Dendritic patterning by Dscam and synaptic partner matching in the Drosophila antennal lobe** *NATURE NEUROSCIENCE*
  Zhu, H. T., Hummel, T., Clemens, J. C., Berdnik, D., Zipursky, S. L., Luo, L. Q.
  2006; 9 (3): 349-355

- **Quantitative analysis of protein dynamics during asymmetric cell division** *CURRENT BIOLOGY*
  Mayer, B., Emery, G., Berdnik, D., Wirtz-Peitz, F., Knoblich, J. A.
  2005; 15 (20): 1847-1854

- **Asymmetric Rab11 endosomes regulate delta recycling and specify cell fate in the Drosophila nervous system** *CELL*
  Emery, G., Hutterer, A., Berdnik, D., Mayer, B., Wirtz-Peitz, F., Gaitan, M. G., Knoblich, J. A.
  2005; 122 (5): 763-773

- **Localization-dependent and -independent roles of numb contribute to cell-fate specification in Drosophila.** *Current biology : CB*
  Bhalerao, S., Berdnik, D., Török, T., Knoblich, J. A.
  2005; 15 (17): 1583-90

- **Development of wiring specificity of the Drosophila olfactory system** *Joint Meeting of the 14th International Symposium on Olfaction and Taste/38th Annual Meeting of the Japanese-Association-for-the-Study-of-Taste-and-Smell*
  Jefferis, G. S., Marin, E. C., Komiyama, T., Zhu, H. T., Chihara, T., Berdnik, D., Luo, L. Q.
  OXFORD UNIV PRESS.2005: I94–I94

- **Developmental origin of wiring specificity in the olfactory system of Drosophila** *DEVELOPMENT*
  Jefferis, G. S., Vyas, R. M., Berdnik, D., Ramaekers, A., Stocker, R. F., Tanaka, N. K., Ito, K., Luo, L. Q.
  2004; 131 (1): 117-130

- **The endocytic protein alpha-Adaptin is required for numb-mediated asymmetric cell division in Drosophila.** *Developmental cell*
  Berdnik, D., Török, T., González-Gaitán, M., Knoblich, J. A.
  2002; 3 (2): 221-31

- **Drosophila Aurora-A is required for centrosome maturation and actin-dependent asymmetric protein localization during mitosis.** *Current biology : CB*
  Berdnik, D., Knoblich, J. A.
  2002; 12 (8): 640-7

- **Dcas is required for importin-alpha3 nuclear export and mechano-sensory organ cell fate specification in Drosophila.** *Developmental biology*
  Tekotte, H., Berdnik, D., Török, T., Buszczak, M., Jones, L. M., Cooley, L., Knoblich, J. A., Davis, I.
  2002; 244 (2): 396-406

- **Growth phase-regulated induction of Salmonella-induced macrophage apoptosis correlates with transient expression of SPI-1 genes.** *Journal of bacteriology*
  Lundberg, U., Vinatzer, U., Berdnik, D., von Gabain, A., Baccarini, M.
  1999; 181 (11): 3433-7