



The [Iden lab](#) at [Saarland University](#), Institute for Cell and Developmental Biology at the [Faculty of Medicine](#), campus Homburg, Germany, has openings for a

Postdoc (f/m/x)
PhD student (f/m/x)
Technician (BTA; f/m/x)

Our group ... investigates mechanisms of mammalian cell-cell communication, cell adhesion, cell polarity and fate control in development, tissue homeostasis and diseases including cancer. We ask how changes in cell shape and intercellular communication are coordinated in self-renewing tissues like the skin epidermis, and study how cell polarity, cell adhesion and mechanical signals are coupled at the molecular, cellular and organismal level to ensure proper tissue function. Combining mouse genetics and disease models with primary co-culture systems, imaging and biophysical approaches, we aim to understand causal relationships between disturbed cytoskeletal regulation, polarity signaling and disease. Moreover, we examine mechanisms underlying tissue-scale intercellular communication, e.g. between epithelial cells, melanocytes, and immune cells.

Research environment: The research group is part of the interfaculty Center of Human and Molecular Biology ([ZHMB](#), bridging the medical and natural & technical sciences faculties), and is embedded in a strong interdisciplinary research environment with highly collaborative basic and clinically-oriented science programs and state-of-the-art laboratory infrastructure. Moreover, we are committed to a better molecular understanding of sex-specific differences in biology and medicine (see [CGBM](#)).

We seek ... enthusiastic and creative candidates who are motivated to answer exciting biological questions. Applicants should have a Master of Science degree (PhD student applicants) or PhD (postdoc applicants, no longer than a year after PhD) in biology, biochemistry, biophysics or related, and a strong interest in cell biology and biomedicine. Proficiency in molecular biology, biochemistry and cell culture techniques is expected. Strong background in imaging techniques, *in vivo* analyses, or immunological tools are welcome. For the technician, preference will be given to candidates with prior experience in mouse models and related qualification. Ability for problem solving and critical thinking, good communication skills, fluency in English, and a sense for teamwork are crucial. We enjoy diversity in our team, and we strongly support a gender-balanced work environment.

The positions ... are available immediately, initially limited to 2 years, with the possibility of extension. The salary will be based on wage requirements and personal qualifications according to TV-L of the pay scale for the German public sector. Applications will be considered until the positions are filled.

For more information ... see the Iden lab [website](#), Iden lab [BlueSky](#), or contact Sandra Iden directly (sandra.iden@uni-saarland.de).

To apply ... please send your complete application (incl. CV, certificates, a brief statement of research interests, and recommendation letter or contact information of two academic references; as single pdf file) by e-mail to sandra.iden@uni-saarland.de.

Selected publications

- Delgado MG*, Burkhart AK*, Villar J, Amadio R, Racz VS, et al., Benvenuti F, Iden S#, Lennon-Duménil AM#. The Arp2/3 complex maintains genome integrity and survival of epidermal Langerhans cells. [bioRxiv doi.org/10.1101/2024.12.27.630538](https://doi.org/10.1101/2024.12.27.630538)
- Luthold C, Didion M, Benedum E, Burkhart AK, Demmerle N, Gunaratnam G, Racz VS, Bischoff M, Ridzal A, Iden S. Melanocyte differentiation and mechanosensation are differentially modulated by distinct extracellular matrix proteins. [bioRxiv \(2024\) doi: https://doi.org/10.1101/2024.10.04.616635](https://doi.org/10.1101/2024.10.04.616635).
- Hatzold J, Nett V, Brantsch V, Zhang JL, Armistead J, Wessendorf H, Stephens R, Humbert PO, Iden S, Hammerschmidt M. Matriptase-dependent epidermal pre-neoplasm in zebrafish embryos caused by a combination of hypotonic stress and epithelial polarity defects. [PLOS Genetics \(2023\) 19\(8\):e1010873. doi: 10.1371/journal.pgen.1010873](https://doi.org/10.1371/journal.pgen.1010873).
- Baess SC, Graband A, Sere K, Zenke M, Niemann C, Iden S. Lrig1 and Wnt dependent niches dictate segregation of resident immune cells and melanocytes in murine tail epidermis. [Development 2022 Jul 11;dev.200154](https://doi.org/10.1093/dev/200154).
- Köhler S, Odenthal J, Ludwig V, Unnersjö Jess D, Höhne M, et al., Wodarz A, Denholm B, Benzing T, Iden S, Brinkkötter P. Par3A and Par3B orchestrate podocyte architecture by regulating RhoA levels. [Kidney International 2021 https://doi.org/10.1016/j.kint.2021.11.030](https://doi.org/10.1016/j.kint.2021.11.030)
- Dias Gomes M & Iden S. Orchestration of tissue-scale mechanics and fate decisions by polarity signalling. [The EMBO Journal \(2021\) e106787](https://doi.org/10.1016/j.emboj.2021.04.017)
- Li M, Knapp SK, Iden S. Mechanisms of melanocyte polarity and differentiation: What can we learn from other neuroectoderm-derived lineages? [Current Opinion in Cell Biology \(2020\) 67:99-108 https://doi.org/10.1016/j.ccb.2020.09.001](https://doi.org/10.1016/j.ccb.2020.09.001)
- Dias Gomes M, Letzian S, Saynisch M, and Iden S. Polarity signaling ensures epidermal homeostasis by coupling cellular mechanics and genomic integrity. [Nat Commun 10, 3362 \(2019\)](https://doi.org/10.1016/j.natcomm.2019.07.030)
- Vorhagen S, Kleefisch D, Persa OD, Graband A, Schwickert A, Saynisch M, Leitges M, Niessen CM, and Iden S. Shared and independent functions of aPKCλ and Par3 in skin tumorigenesis. [Oncogene, 2018 Sep;37\(37\):5136-5146](https://doi.org/10.1016/j.ajpc.2018.09.001)
- Mescher M, Jeong P, Knapp SK, Rübsam M, Saynisch M, Kranen M, Landsberg J, Schlaak M, Mauch C, Tüting T, Niessen CM, and Iden S. The epidermal polarity protein Par3 is a non-cell autonomous suppressor of malignant melanoma. [J Exp Med, Feb 2017, 214 \(2\) 339-3586](https://doi.org/10.1016/j.jexpmed.2017.02.010)
- Ali NJA, Dias Gomes M, Bauer R, Brodesser S, Niemann C, and Iden S. Essential role of polarity protein Par3 for epidermal homeostasis through regulation of barrier function, keratinocyte differentiation and stem cell maintenance. [J Invest Dermatol 2016 Dec;136\(12\):2406-2416](https://doi.org/10.1016/j.jid.2016.11.010).
- Mescher M, Iden S. Par Proteins in Tumor Formation and Progression. Cell Polarity 2. Role in Development and Disease. Springer 2015, VIII. ISBN 978-3-319-14446-5. Book Chapter
- Iden S, van Riel WE, Schäfer R, Song J-Y, Hirose T, Ohno S, Collard JG. Tumor Type-Dependent Function of the Par3 Polarity Protein in Skin Tumorigenesis. [Cancer Cell 2012 Sep;22\(3\):389-403](https://doi.org/10.1016/j.ccr.2012.08.010)
- Iden S, Collard JG. Crosstalk between small GTPases and polarity proteins in cell polarization. [Nat Rev Mol Cell Biol 2008 Nov;9\(11\):846-59](https://doi.org/10.1016/j.molcel.2008.09.010)

Saarland University is a campus university with an international reputation for research excellence, particularly in computer sciences, life sciences and nanosciences. The university is also distinguished by its close ties to France and its strong European focus. Around 17.000 students, studying over one hundred different disciplines, are currently enrolled at Saarland University. Saarland University offers a flexible work schedule allowing you to balance work and family, further education and professional development programs, university sports program, supplementary pension scheme, and a 'Jobticket' (discounted tickets on local public transport services).