

Universität Basel: Postdoctoral Positions

We are recruiting two Postdoctoral Fellows to study the genetic and epigenetic control of gene regulatory networks (GRNs) during vertebrate embryonic development. We combine mouse genome editing with epigenetic, chromatin and transcriptome analyses to gain fundamental insights into the regulation of epigenetic landscapes and activity of the functionally relevant cis-regulatory modules (CRM) by morphogenetic signaling. In particular, we study how signaling impacts the GRNs that control vertebrate organogenesis. The fully funded positions are available as part of our ERC and SNF funded research at the University of Basel (Switzerland). Relevant publications include Bénazet et al. 2009, *Science* 323, 1050-1053; Zuniga et al., 2012, *BMC Dev. Biol.* 12, 23 doi:10.1186; Lopez-Rios et al. 2014, *Nature* 511, 46-51; Osterwalder et al. 2014, *Dev Cell* 31, 345-357; Laurent et al. 2017, *Cell Reports* 19, 1602-1613.

Projects and Tasks

The vertebrate limb is our paradigm to study the signaling networks and GRNs that control the proliferative expansion and patterning of progenitor cells during organogenesis. Limb bud development is controlled by robust GRNs that integrate signaling inputs into the transcriptional control of cell proliferation and fate specification. We are combining CRISPR/Cas9-mediated genome editing with genome-wide chromatin, ChIP-Seq and transcriptome analysis to study the functionally relevant cis-regulatory modules (CRMs), epigenetic modifications and transcriptional complexes that integrate signaling inputs into a robust transcriptional output. A second major aspect of our research is to identify the changes in specific CRMs and GRN architecture that underlie the functional adaptation of these GRNs during diversification of the vertebrate limb skeleton. In addition, we are also exploring cis-regulatory alterations that render these GRNs vulnerable to congenital malformations and disease. Postdoctoral fellows also have the opportunity to supervise PhD and master students and train in skills that prepares them to step into independence after completing their postdoctoral training.

Applicants Profile

We offer the opportunity to join a dynamic and international research team in a stimulating and internationally competitive research environment. Life Sciences Research at University of Basel is top-ranked and offers excellent interdisciplinary and interfaculty research and training opportunities. We offer competitive salaries and the city of Basel offers excellent living conditions.

Submission of Applications

For more information see our group website:

<https://biomedizin.unibas.ch/nc/de/research/research-group-details/home/researchgroup/developmental-genetics/>

Applicants should send a CV with complete publication list, motivation letter, summary of PhD research, grades of master and PhD thesis and the names and addresses of three referees as one single PDF file directly to rolf.zeller@unibas.ch and/or aimee.zuniga@unibas.ch.

Interviews will continue until the positions are filled.