

## Call for multiple research positions in mechanobiology of development.

Full project title: Multiscale mechanics and self-organizing processes in developing systems

Leadership: Andrea Ravasio, Tim Rudge, Mauricio Cerda, Cristina Bertocchi and Miguel Concha

Institutions: Pontifical Universidad Católica de Chile and Universidad de Chile

Location Santiago de Chile, Chile

Collaborating Institutes: Weizmann Inst. (Israel), CNRS (France), Max Planck Institute Heidelberg (Germany), Mechanobiology Institute of Singapore, James Hutton Institute (UK), Centre for Genomic Regulation (Barcelona, Spain), Nagoya University (Japan).

The interdisciplinary research team of the Anillo for **Developmental Mechanobiology** (DevMech) project is seeking highly motivated and creative individuals to be involved in an exciting interdisciplinary project aiming to understand the mechanical bases of biological processes driving embryonic development.

Proper organization of the embryonic tissues and execution of developmental processes depends on the ability of cells to reliably migrate in coordinated fashion. However, cell migration is largely dominated by stochastic molecular and cellular processes. Here, we aim to understand the mechanical determinants driving the integration of low-level molecular functions into reliable migratory patterns and tissue structures. Researchers involved in the project will apply cutting-edge microscopy, cell biology, bioengineering techniques to answer challenging scientific questions. The investigation will follow three main thrusts: *in-vivo* investigation of early embryonic development of annual Killifish, *in-vitro* (ex-vivo) analysis of stem cells mechanobiology in microfabricated environments and finally *in-silico* modelling to build a quantitative understanding of the process. Selected candidates will work in an exciting interdisciplinary and international environment.

We are looking for three highly motivated and enthusiastic PhD students (with conicyt becas or own scholarship), two research fellows and one engineer to work in strongly interconnected teams. Furthermore, we offer two research assistants' positions to support the scientific effort of the experimentalists. We also accept the application of undergraduate students to conduct an exciting internship of minimum 1 year in our laboratories. Highly motivated individual with background in either one of the following disciplines cell biology, development, microscopy, bioengineering, mathematical modelling are strongly encouraged to apply. Previous experience with one or more of the following topics will be an advantage: cell biology, stem cell research, developmental biology, mechanobiology, microscopy, image analysis, microfabrication, microfluidics and tissue engineering. A good level of written and spoken English is mandatory.

To apply please send an email to [andrea.ravasio@uc.cl](mailto:andrea.ravasio@uc.cl) including a letter of interest, Curriculum Vitae and a short description of previous experience. Please specify specifying the type of position you apply for. PhD students are required to include a list of grades highlighting those subjects relevant to the application. Postdoc are required to include a short description of the most relevant papers they have published explaining how their previous experience is relevant to this call. Please use the subject "anillo-2020-application" in your email to avoid being directed to the spam. Applications must be in English. For more information and for any questions, do not hesitate to contact us at [andrea.ravasio@uc.cl](mailto:andrea.ravasio@uc.cl).