



Institute for Molecular System Engineering  
University of Heidelberg. Germany.



## 1 Fully funded PhD position in *Artificial Tumors & Cancer Biomechanics*

One of the most slippery questions in cancer pathologies, is why metastatic cells target several organs instead of others. A very interesting example is observed in case of breast cancers, which are likely metastasizing into bone, instead of other organs, in a phenomenon known as *osteotropism*.

Our current project is aimed to address this question from an interdisciplinary perspective, searching for the missed link between tumor biomechanics and cellular pathogenicity.

To this purpose, this research will include studies of cell invasion, colonization and formation secondary tumors (*in vitro* and *in vivo*), as well as further development of polymer-based 3D tumor-like scaffolds for validating our hypothesis.

In this context, the Institute for Molecular System Engineering of the University of Heidelberg is looking for a highly motivated, independent and enthusiastic candidate (male/female) interested to perform his/her PhD thesis in our team. The successful applicant will be part of a very creative, interdisciplinary and international environment, constantly thinking beyond the traditional limits of the science, and located in one of the best Universities worldwide.

Applicants should be willing to learn a wide spectrum of techniques, such as Cell culture on 2D and 3D, Biofabrication and Bioprinting, Polymer-functionalization, Hydrogel performance, as well as cell characterization by Single Cell Traction Force Microscopy, RNA-array, or Imaging Analysis, to name a few examples.

Young researcher interested on this position should establish direct contact with the project responsible / PhD thesis director: Dr. Aldo Leal-Egaña

**[aldo.leal@uni-heidelberg.de](mailto:aldo.leal@uni-heidelberg.de)**

Requisites:

- English proficiency (Written and spoken).
- Cover Letter.
- Full CV, including list of relevant scientific publications, participation in scientific symposiums, academic references, as well as other non-academic activities involving sciences (if applicable).

Deadline: **31<sup>st</sup> October 2021**

Beginning of the PhD: **1<sup>st</sup> January 2022.**

