

Postdoctoral Researcher in Biophysics

A postdoctoral training position at the interface of Biophysics and Developmental Biology is available in the laboratory of [Konstantin Doubrovinski](#), at UT Southwestern Medical Center, in collaboration with Dr. Weria Pezeshkian (University of Copenhagen). Our [laboratory](#) has been establishing unique measurement tools to probe cells and their constituents in developing embryos, with the aim of systematically mapping out material properties of cellular structures. The work focuses on uncovering the physical basis of tissue dynamics in the early fruit fly embryo. These data are indispensable for formulating comprehensive and predictive models of animal development. Recent experimental data have indicated that membranes and not actin cytoskeleton dominate mechanical properties of the cellular boundaries in the early fruit fly embryo. The aim of the project is twofold: (1) to model mechanical response (deformation) of embryonic tissue to external calibrated mechanical manipulations, and (2) to leverage the model of embryonic tissue mechanics for simulating the dynamics of tissue shape changes during the early fruit fly development.

On the theoretical side, Pezeshkian lab has a unique expertise in simulating the dynamics of fluid membranes. On the experimental side, Doubrovinski lab has established a comprehensive toolbox for directly measuring mechanical responses of embryonic tissue to well-calibrated external force. A combination of these tools has the unique potential to deliver a genuinely quantitative mechanical model of tissue dynamics driving embryonic development.

Candidates must hold a Ph.D. degree. Experience in computational physics is required. A background in biophysics/developmental biology is a plus.

Information on our postdoctoral training program, benefits, and a virtual tour can be found at <http://www.utsouthwestern.edu/postdocs>.

Interested individuals should send a CV, statement of interests, and a list of three references to:

Konstantin Doubrovinski
Konstantin.Doubrovinski@utsouthwestern.edu
<https://doubrovinskilab.com/>
[Konstantin Doubrovinski, Ph.D. - Faculty Profile - UT Southwestern](#)

UT Southwestern Medical Center is committed to an educational and working environment that provides equal opportunity to all members of the University community. UT Southwestern prohibits unlawful discrimination, including discrimination on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age, disability, genetic information, citizenship status, or veteran status. To learn more, please visit [here](#).