

Biomolecular - mechanical interactions occurring in the pregnant uterus

Advisor: Dr. Doron Shilo, Lady Davis 303, 04-8293165, shilo@technion.ac.il

Project Description:

The project will be performed in collaboration with Prof. Eliezer Shalev from the Medical Department of the Technion and Dr. Shlomit Goldman from HaEmmek Medical Center. The project involves a multidisciplinary research with a focus on characterization or modeling of biomolecular and mechanical processes, which occur in the uterus and fetal membranes during pregnancy, and their mutual relationships. In particular, the postulation that large mechanical stretching (which is more common in multiple pregnancies) induces bio-chemical changes which initiate preterm labor will be checked.

The project is based on a novel experimental method developed in our group, which allows measuring both molecular parameters and mechanical response simultaneously, while controlling and monitoring the stress and strains of living tissues.