

**Discipline: mechanical engineering**

**Subject:** Mechanics issues in cell biology

The topic concerns the study of stress states in living matter, and in particular in cells. In cells, we are faced with the influence of a number of factors on their mechanical behavior. Such factors include, for example, signal transduction, biochemical pathways, and growth factors. The analysis of a mechanical problem will mostly be performed using various variants of the finite element method.

It turns out that the state of stress in the cell is of great importance for its health and proper development, and therefore for the proper development of tissue. Therefore, it is important to be able to determine it correctly.

The proposed topic concerns the border of two fields, namely mechanics and bioinformatics. Both fields are modern and developing. There is a certain gap between them, which we will try to fill.

**Required education:** polytechnic/university.

If you are interested, please contact us by e-mail or telephone.

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