

## Postdoctoral research fellowships

Interdisciplinary Laboratory of Biological Systems Modelling at the Centre of New Technologies, University of Warsaw, Poland (<http://jsulkowska.cent.uw.edu.pl/>) led by an assistant professor Joanna Sulkowska seeks to fill two junior research positions supported by the projects: **Idea Plus grant, Ministry of Science (MNiSW, Poland) or EMBO Young Investigator Grant.**

These projects are devoted to a fascinating subject of entanglement in proteins and genome, and designing new molecular machines with application in medicine and nanotechnology, on the interface of physics, chemistry and mathematics. Our main goals are: 1) to determine therapeutic utility of new lassos and links in peptide natural products (Dabrowski-Tumański et al., PNAS 2016), 2) to construct free energy landscape of tangled structures based on mechanical manipulations (Sulkowska JI et al., PNAS 2010), 3) to design selective inhibitors (Sulkowska JI et al., Nature S&MB 2016), and 4) to predict entangled structures by means of theoretical models including co-evolution models (Sulkowska et al., PNAS 2012). All tasks will be supported by experimental analysis.

The projects will be carried out in close collaboration with the groups of Ya-Ming Hou (Jefferson University, USA), Martin Weigt (Laboratoire de Biologie Computationnelle et Quantitative, Université Pierre et Marie Curie, France), Ken Millett (University of California Santa Barbara, USA), and Ellinor Haglund (Hawaii University, USA). Internships at partner institutions are planned for members of the group. Successful person can benefit from scientific and self leadership workshops organized by EMBO and COST network – the European Topology Interdisciplinary Action.

Available position:

- **Postdoctoral research fellowships, monthly gross salary in the range 8,000 – 10,000 PLN depending on candidate's qualifications.** Minimum period of contract agreement: 12 months

Applicants should send by e-mail their Curriculum vitae, Cover letter, and two recommendation letters, to [jsulkowska@cent.uw.edu.pl](mailto:jsulkowska@cent.uw.edu.pl), before 15 July 2018. Position can start on: 1st August 2018.

We seek motivated post-doctoral researchers with a degree in physics, biophysics, chemistry or mathematics, and capacity for logical and critical thinking. Knowledge of biophysics methods (molecular dynamics simulations), bioinformatics, genomics, evolutionary analysis and knot theory are highly advantageous. Additionally experience in membrane proteins modelling, QM/MM techniques will be appreciated. Applicants are expected to demonstrate experience commensurate with their level of education in at least one of these areas.

**Please include in the CV:** "I hereby give consent for my personal data included in my application to be processed for the purposes of the recruitment process under the Personal Data Protection Act as of 29 August 1997, consolidated text: Journal of Laws 2016, item 922 as amended."

