# PhD student 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 Sułkowska 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 applications 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, 2) to construct free energy landscape of tangled structures based on the single molecule level, 3) to design selective inhibitors, and 4) to predict entangled structures by means of theoretical models including co-evolution models. 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 Computationelle 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 positions:

- **PhD student fellowships,** expected gross salary **3,000** - **4,000 PLN** (health insurance and social benefits included). Application via physics, chemistry or mathematics department of University of Warsaw.

Applicants should send by e-mail their Curriculum vitae, Cover letter, and two recommendation letters, to jsulkowska@cent.uw.edu.pl, before 10 July 2018. Position starts on: 1st October 2018.

We seek motivated students with MSc. degree in one of the fields: physics, mathematics, bioinformatics, chemistry, or pharmacy, and capacity for logical and critical thinking. Knowledge of statistical physics methods, biophysics methods, bioinformatics, genomics, evolutionary analysis or knot theory are highly advantageous. Programming skills are necessary. 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."