

## **Open postdoc position in *statistical physics of social interactions in internet communities***

Four-years postdoc position in EU Project in the domain *statistical physics of social interactions in internet communities* is available in the Center of Excellence for Complex Systems Research, Faculty of Physics, Warsaw University of Technology.

Applicants should have a strong background in statistical physics and a genuine interest in interdisciplinary applications of physical methods in social sciences.

The position will be paid from the EU Grant CYBEREMOTIONS - *Collective Emotions in Cyberspace* ([www.cyberemotions.eu](http://www.cyberemotions.eu)). The Project will start on 1st February 2009 as a part of the EU Programme *Science of complex systems for socially intelligent ICT*.

Applications including a CV, publication list, research statement, and two letters of recommendation mailed independently should be sent as soon as possible to Prof. Janusz Hołyst, Project Coordinator, e-mail: [jholyst@if.pw.edu.pl](mailto:jholyst@if.pw.edu.pl). Pre-application enquiries are welcome.

### **Position details**

The position will be connected to the Project's Workpackage *Statistical physics approach for prediction of emotional activity in e-communities*.

The main objective of this workpackage will be to apply statistical physics and nonlinear theory of complex systems for modelling of collective emotions emergence and to create analytical tools which can be used for response prediction in terms of collective emotional states to external critical events.

The theoretical methodology will be mainly based on:

- a) theory of phase transitions and critical phenomena in complex systems (order parameter concepts, scaling hypothesis, percolation models, self-organized criticality),
- b) Taylor scaling of fluctuations in complex systems,
- c) fluctuation-dissipation theorems linking amplitudes of order parameter fluctuations with system susceptibility,
- d) complex networks models of internet communities.

The theoretical studies / predictions will be verified by numerical simulations and checked against real-data driven simulations. The project has a multidisciplinary character and it will be based on intensive collaboration with specialists from social science/ psychophysiology (emotion dynamics), applied mathematics (webometrics) as well as artificial intelligence (dialog systems, interactions between human and artificial agents).

### **Requirements**

1. Completed Ph.D. in physics (statistical physics, complex systems, sociophysics)
2. Good knowledge of theory of nonequilibrium statistical physics, phase transitions theory
3. Good knowledge of computer programming
4. Experience in data analysis
5. Ability to collaborate in an interdisciplinary and international environment

### **Contact**

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### **Further information**

Website of the Project: [www.cyberemotions.eu](http://www.cyberemotions.eu)

Website of the Project Leader: [www.if.pw.edu.pl/~jholyst](http://www.if.pw.edu.pl/~jholyst)