



CERC3 Young Chemists Workshop

Bio-Physical Chemistry Meets Molecular Medicine

Abstract

Context and motivation

Biophysical chemistry is a fast growing field, which describes processes and solves problems related to the living world with a physical-chemistry approach. It is a peculiar discipline because it brings into chemistry people having very diverse backgrounds, mainly physicists, biochemists, and medical doctors. Molecular medicine (or *Biomedicine*) is an emerging field, which consists in studying the molecular basis of disease and finding molecular-level strategies to avoid/cure them. Focusing our previous proposal (a broad-scope workshop on Biophysical chemistry) into a workshop devoted to the interplay between biophysical chemistry and molecular medicine, is both innovating and appealing for its modernity.

The advent of some recent technological breakthroughs such as in computer science, pulsed lasers, and super-conductors, helped to improve the tools of biophysical chemists. Nowadays, for instance, molecular dynamics simulations and experimental photophysical methodologies reach similar time-scales, and spatial resolution is being added to many spectroscopic apparatus, turning them into microscopes. This helped burst molecular medicine in some areas (e.g. protein folding related diseases).

Both the background training diversity of those involved in this discipline and the fast development of its state-of-the-art approaches make communication and exchange of ideas vital to biophysical chemistry.

Objectives

Our goal is to bring together young scientists working in this field to promote:

- dissemination of information
- scientific discussion with mutual benefits
- future collaborations amongst participants

Organisation

The molecular biophysics group (Faculty of Sciences, University of Lisbon) will organise the workshop. It will encourage the participation of young scientists from diverse areas of biophysical chemistry, having expertise in different techniques and methodologies. The workshop will promote new problems and new solutions in a multidisciplinary approach, while establishing collaborative bonds among participants.

Venue

It is our intention that the workshop will take place 1-4 June 2005 in a quiet town far from the big metropolitan centres, yet easily accessible. Sesimbra, a former piscatorial village is a tentative place. Sesimbra is only 60 km away from Lisbon and has good facilities for the course.

Stimulating quality in participation and future impact

We believe it would be encouraging for the participants to have their communications submitted and eventually published in a renowned journal. We contacted the European Biophysics Journal editor, Dr. Anthony Watts (UK), and a special themed issue (not to be confused with “proceedings”) containing workshop communications is being planned. Peer-review will be carried out as for any ordinary issue of the journal to keep a high level standard. Eur. Biophysics J. was chosen because its scope covers the workshop field and is European-based.

Miguel A. R. B. Castanho

Departamento de Química e Bioquímica

Faculdade de Ciências da Univ. Lisboa

Campo Grande, C8

1749-016 Lisboa

Portugal

Phone: +351 217500931; Fax +351 217500088; castanho@fc.ul.pt