SECOND INFOBIOMED TRAINING CHALLENGE

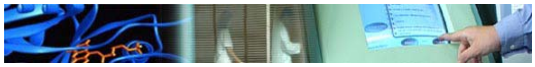
Goal of INFOBIOMED

The **INFOBIOMED Network of Excellence** aims to promote the consolidation of Biomedical Informatics (BMI). BMI is placed in the confluence of **Bioinformatics** and **Medical Informatics**, two disciplines that up to now have for the most part evolved in an independent way. **The synergy between Bioinformatics and Medical Informatics offers excellent opportunities for the advancement of personalised healthcare**. The integration and exploitation of all the data and information generated by these disciplines requires a **new synergetic approach that enables a two-way dialogue between them** that comprises data, methods, technologies, tools and applications. The progress of BMI as an integrative discipline will help to facilitate the translation of biological research results into clinical solutions.

Interdisciplinary approach to Pharmainformatics

Within INFOBIOMED, a pilot project on **Pharmainformatics** is being carried out. This project aims at the higher goal of confirming that an **interdisciplinary approach** has an **added value** to the **pharmaceutical research process**, both at the drug discovery and the development levels.

The project team is currently working on two case studies, the Complex Regional Pain Syndrome 1 disease, and the adverse events surrounding Nuclear Hormone Receptors. The approach is to investigate the information continuum of **Pathology - Pathway - Target - Ligand** for the different case studies, by using the tools and expertise of **Bioinformatics, Medical Informatics, Toxicology, Epidemiology and Chemoinformatics**.



Training Challenge description

The INFOBIOMED approach of integrating **medical informatics**, **chemoinformatics**, and **bioinformatics** is to foster **collaboration on complex case studies within a small group of researchers, who have a widely varying but complementary backgrounds, ensuring a way of crossing borders between disciplines**. This approach has proved to be quite successful, and the pharmainformatics working group would like to expose future biomedical (informatics) scientists to this integrative approach through the **Second INFOBIOMED Training Challenge**.

The **format** of the training activity will be based on **two groups of five advanced students with expertise on different biomedical (informatics) fields, who will collaboratively work on a single case study**. Each student is required to submit a motivated case study upon application.

Among the case studies proposed, the organizing committee will select **one case study per group**, according to the potential it offers for cross-discipline approaches.

Examples of case studies are:

- A **complex disease** or **syndrome** that has not yet been extensively studied or for which the underlying mechanisms are not unraveled
- **An adverse drug reaction** that is not well understood
- **Biological** or **clinical experimental outcomes** that are surprising and need an explanation

The practical approach of the course is that each group will intensively collaborate during the 5 course days conducting research aimed at proposing a valid approach to the problem that integrates the variety of points of view represented by the different disciplines involved. INFOBIOMED staff members from different areas of expertise will closely supervise and collaborate with the different groups during the whole course. Before the course week, participants will be required to revise the case study from their own area of expertise. On the last day of the course, each team will make a **presentation of the integrative approach proposed for its respective project**. After the course week, students are expected to work on the finalization of the project approach and deliver a project report.

At the end of the Second INFOBIOMED Training Challenge, the participants can be awarded with an **exchange fellowship** that will allow them to stay for 15 days in one of the INFOBIOMED partner organisations, if the jury evaluates positively the work and the degree of integration presented at the closing session.

Prerequisites

Graduate students with major in: Medical Informatics, Bioinformatics, Biomedical Informatics, Medicine, Biology, Chemistry, Chemoinformatics, Epidemiology, Pharmacy, Physics, Mathematics.

Goals

- To **participate** in a **multidisciplinary research-based training environment**
- To learn the **difficulties of crossing "language borders"** in the context of a specific research problem
- To become aware of **contents of other disciplines** and their particular approaches to the same problem
- To use the own expertise to **advance science** in the area of the case study

Application

The Application Form must include:

- CV, including description of expertise and computational skills
- Description of a potential case study for which the applicant has advanced or expert knowledge (300 words)
- Description of computational tools needed during the course. Participants are encouraged to bring their own laptops.

Complete application documentation must be sent before the application deadline.

Practical Information

- **Course capacity**: two groups of five students
- **Funding**: Travel and lodging will be covered. No registration fees will be charged.
- Application **deadline**: 24th March 2006
- Notification **of acceptance**: 6th April 2006
- **Study material sent to participants**: 28th April 2006
- **Course Dates**: from 29th of May to 2nd of June 2006
- **Location**: Viladrau, Barcelona, Spain
- **Self study**: one week before course, and one week afterwards
- **Course** coordination:

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