

# @Health

## Project of the Month

# Infobiomed



The discovery of the human genome sequence has evidenced the need for a strong collaborative effort between Bioinformatics (BI) and Medical Informatics (MI). INFOBIOMED aims at enforcing European Biomedical Informatics (BMI) as an integrative discipline with a view on supporting individualised healthcare, thus facilitating the discovery of novel diagnostic and therapeutic methods.

### At a Glance

#### Project:

INFOBIOMED aims to consolidate the discipline of Biomedical Informatics, by exploiting the synergies between Bioinformatics and Medical Informatics, in order to facilitate the discovery of novel prognostic, diagnostic and therapeutic methods.

#### Project coordinator:

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#### Partners:

(ES) Fundació IMIM, Institut Municipal d'Investigació Mèdica, Instituto de Salud Carlos III, Universidad Politécnica de Madrid; (UK) University of Edinburgh, University of Leicester; (BE) Custodix N.V.-S.A.; (PT) Universidade de Aveiro; (GR) Foundation for Research and Technology-Hellas; (DK) Danish Centre for Health Telematics, The Danish HNPCC-Register; (IT) Informa s.r.l.; (DE) Heinrich-Heine-Universität Düsseldorf; (NL) Erasmus University Medical Center Rotterdam, Academisch Centrum Tandheelkunde Amsterdam; (SE) AstraZeneca

Other Participants

Universitat Pompeu Fabra (ES); Università degli studi di Siena (IT)

**Duration:** 42 months till June 2007

**Total cost:** € 4.850.000

**Programme:** IST

**Further information:**

Website: [www.infobiomed.org](http://www.infobiomed.org)

[www.infobiomed.net](http://www.infobiomed.net)

Project 2-pager:

[http://ec.europa.eu/information\\_society/activities/health/docs/publications/fp6upd2007/infobiomed2007.pdf](http://ec.europa.eu/information_society/activities/health/docs/publications/fp6upd2007/infobiomed2007.pdf)

**The INFOBIOMED activities were designed to cover all the significant aspects that are relevant to Medical Informatics and Bioinformatics and that had the potential to provide a space for synergy between them.** These aspects included consideration of generic research in the fields of data interoperability and management, methods, technologies and tools, including issues such as security and standards development. The development of BMI has been hampered by the traditionally independent evolution of both BI and MI, so a collaborative effort was needed to stimulate the crossing of boundaries, practices and languages for mutual benefit.

The knowledge gathered in the framework of these activities was tested into four pilot applications that addressed important challenges in individualized healthcare.

### Results & Impact

INFOBIOMED has successfully promoted synergy and exchange between key European institutions performing research in the BI, MI and/or BMI fields. More than 100 actions were undertaken and 28 papers were published in press. Notably, an "International Symposium on BMI in Europe" (<http://www.infobiomed.net/symposium>) was organised on June 2007 with the support of six other European projects, representing a truly concerted effort in pursuit of reinforcement and visibility of the field. A European BMI Gateway has been created, constituting a repository with extensive information and the latest news on Biomedical Informatics in Europe. Innovative training activities (such as the successful Training Challenge) as well as active policies for mobility of researchers have been promoted. The network has developed several comprehensive state-of-the-art

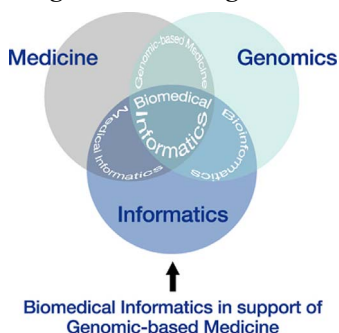
documents on data, methods and technologies in BMI, freely available from the project website, two of them on a Wiki environment to facilitate consultation and feedback from others (<http://139.91.190.38/InfobiomedWiki/index.php>). Aside from developing a variety specific, but generically useful BMI applications, the project has developed four pilot applications that have also achieved important results, showing the value of synergistic BMI approaches applied to specific problems.

- **Pharmainformatics:** Aimed at investigating the impact of BMI on pharmaceutical research, this pilot followed two lines of action, illustrating the information continuum from Pathology to Pathway to Target to Ligand/Approved Drug, from both ends.

- **Genomics and infection:** The pilot aimed at the study of host and pathogen genetic polymorphisms, protein interactions and transcriptional/translational control and how these impact on microbial virulence and host immune responses to infection. The pilot included a study to improve treatment strategies, exploiting a pathway-centric approach in the analysis of clinical samples from Hepatitis C virus-infected patients treated with interferon, providing a prime example of how BMI can support healthcare decisions.

- **Genomics and chronic inflammation:** Centred on improving the understanding and clinical management of adult periodontitis as a model for complex diseases, this pilot developed a Periodontal Data Warehouse of integrated data. Analysis by data mining approaches has provided insight into the complex pathophysiology of the disease and improved disease classification schemes, risk profiling and possibilities for screening.

- **Genomics and colon cancer:** This pilot was targeted at improving the information management of screening programmes in families with high-risk of developing Hereditary Non-Polyposis Colon Cancer. The pilot has developed an innovative web-based system that integrates heterogeneous information flows among genetic and surgical departments, laboratories and a national registry using XML data models.



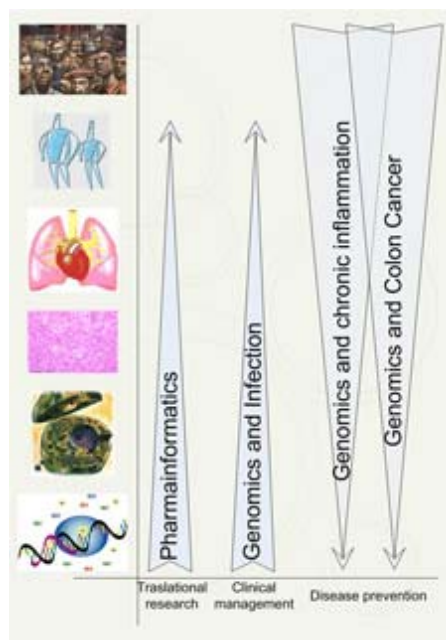
## Keeping the momentum

INFOBIOMED was recently assessed by the Commission through a final review, the results of which acknowledged that the project had successfully achieved its ambitious objectives, and that it had produced an impressive set of tangible, measurable results. By enabling systematic cross-discipline dialogue, INFOBIOMED has also acted as an incubator for new projects, of which at least two are under negotiation in FP7.

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Although INFOBIOMED as such has arrived at the end of its EC funding period, the INFOBIOMED Consortium has already committed to keep the momentum and continue developing activities addressed to the BMI community, such as maintaining the website, the European Gateway on Biomedical Informatics, organising new editions of the Training Challenge and supporting events in the field. The promising results of horizontal and pilot activities will also be object of continuing efforts, and their results are already planned to be presented at relevant fora and submitted as scientific articles to relevant journals.

INFOBIOMED invites any interested actors in the BI, MI or BMI fields to join the initiative and actively contribute to the consolidation and development of a BMI research capacity in Europe.



## For further information:

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