EMBL-EBI Press Release

European Molecular Biology Laboratory
European Bioinformatics Institute

For immediate release

ENFIN! Computational systems biology comes to a lab bench near you

Hinxton, October 31, 2005 – The Commission of the European Union has awarded €9 million over five years for a new Network of Excellence that will make computational systems biology accessible to bench scientists throughout Europe and beyond. ENFIN, which stands for "Experimental Network for Functional INtegration," brings together some of Europe's best computational and experimental biology labs – 20 groups across 17 institutions in 13 countries – to build a virtual institute that will put Europe at the centre of the systems biology revolution.

Genome sequencing and other high-throughput technologies have triggered a renaissance in computational biology: there's now a large, open-access database for almost every type of biological information. Yet the average biologist at the lab bench uses only a tiny proportion of the information that is relevant to the questions s/he is trying to answer. Why is this?

"To the bench scientist, computational biology is like driving around an unfamiliar city: you might be able to see your hotel, but finding your way to the car park through the one-way system can be a nightmare," explains the EMBL–European Bioinformatics Institute's Ewan Birney, who will coordinate ENFIN. "ENFIN will revise the town plan so that frustrating one-way system no longer exists: researchers will be able to go straight to the public data that they want, combine it with their own unpublished data and perform truly integrated analyses using data from different types of experiments."

Birney and the ENFIN executive committee (see notes for editors) will work with project managers whose expertise spans database architecture (*e.g.* Henning Hermjakob, EMBL-EBI; Geoff Barton, University of Dundee) data analysis tools (*e.g.* Søren Brunak, Technical University of Denmark; Eran Segal, Weizmann Institute) and experimental molecular biology (*e.g.* Carl-Henrick Heldin, Ludwig Institute for Cancer Research, Uppsala; Erich Nigg, Max-Planck Institute for Biochemistry, Martinsried) to create the next generation of informatics resources for systems biology.

ENFIN's products will be applicable to any area of biological research, but a strong experimental focus of the network is understanding the regulation of cell division; this process is deregulated in many diseases, most notably cancer. By applying ENFIN's methods to this important area of biomedical research, ENFIN will contribute directly to the understanding of disease, in addition to making a significant indirect contribution by making the ENFIN infrastructure freely available to researchers across the globe.

By combining the expertise of both "wet" and "dry" biologists, ENFIN will catalyse a social change in which computational approaches will be incorporated into the molecular biologist's tool set and will no longer be regarded as the domain of the bioinformatician alone. "Only once we can make databases and algorithms as commonplace as pipettes and cell culture will we be in a position to realise the full potential of molecular biology in this new data-intensive world," concludes Birney. ●

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18 EMBL Member States: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Notes for Editors: ENFIN partner institutes
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About EMBL:
The European Molecular Biology Laboratory is a basic research institute funded by public research monies from 18 member states. Research at EMBL is conducted by approximately 80 independent groups covering the spectrum of molecular biology. The Laboratory has five units: the main Laboratory in Heidelberg, and Outstations in Hinxton (the European Bioinformatics Institute), Grenoble, Hamburg, and Monterotondo near Rome. The cornerstones of EMBL's mission are: to perform basic research in molecular biology; to train scientists, students and visitors at all levels; to offer vital services to scientists in the member states; to develop new instruments and methods in the life sciences and to actively engage in technology transfer activities. EMBL's international PhD Programme has a student body of about 170. The Laboratory also sponsors an active Science and Society programme. Visitors from the press and public are welcome.

About EBI:
The European Bioinformatics Institute (EBI) is part of the European Molecular Biology Laboratory (EMBL) and is located on the Wellcome Trust Genome Campus in Hinxton near Cambridge (UK). The EBI grew out of EMBL's pioneering work in providing public biological databases to the research community. It hosts some of the world's most important collections of biological data, including DNA sequences (EMBL-Bank), protein sequences (UniProt), animal genomes (Ensembl), three-dimensional structures (the Macromolecular Structure Database), data from microarray experiments (ArrayExpress), protein-protein interactions (IntAct) and pathway information (Reactome). The EBI hosts several research groups and its scientists continually develop new tools for the biocomputing community.

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