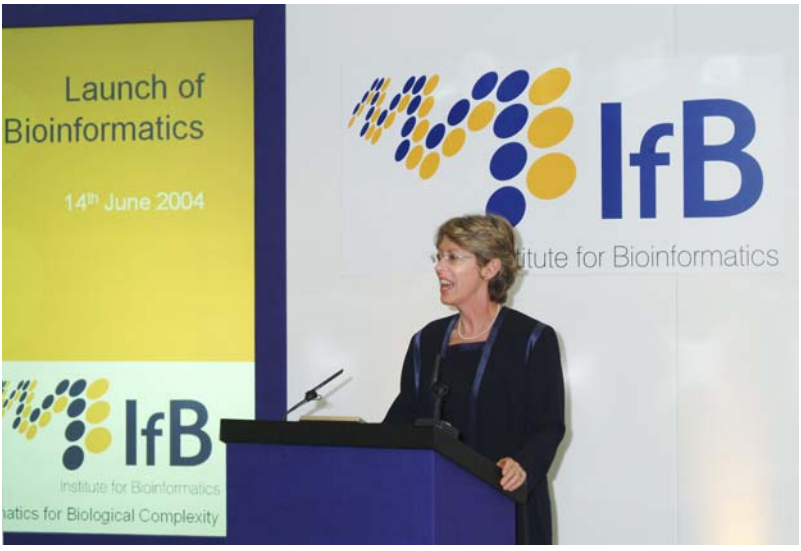
Biosystems Informatics Institute

Newsletter

Issue 1 | October 2004

The Strategy for Success Team at One NorthEast have been leading on the development of a national pilot project to create a bioinformatics institute whose research is commercially-facing and business-led. The project is overseen by a consortium comprising Nonlinear Dynamics, one of the UK's most successful bioinformatics companies based in Newcastle-upon-Tyne, the Region's five Universities, DTI and Government Office North East.



Project Launch:

The Institute for Bioinformatics project was formally launched on 14 June 2004 by the Rt. Hon. Patricia Hewitt, Secretary of State for Trade and Industry.

This initiative was made possible through funding of £630,000 awarded by the Department of Trade and Industry under the "Harnessing Genomics" programme.

A further £3.2 million is being applied for from One NorthEast.

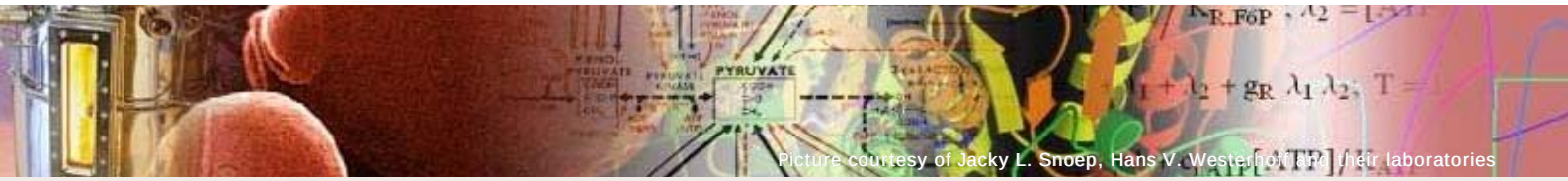
Located at the Centre for Life, IfB builds on existing academic and business strengths to create a critical mass of expertise in the development of commercially viable bioinformatics technologies.

Name Change:

The Institute for Bioinformatics has changed its name to Biosystems Informatics Institute. Following due diligence concerning the proposed name of Institute for Bioinformatics, Institutes were found to exist with identical names in Ireland, Slovenia and Germany. In addition, many institutes with very similar names occur in numerous universities or as independent centres around the world. Thus, following consultation locally, it was decided that a Biosystems Informatics Institute (Bii) would be more appropriate in that it was closest to our intended focus on emerging areas of biocomputing and was very much distinctive in an international arena. It also places the Institute among a very restricted group of research enterprises focusing on informatics at the cutting-edge of post-genomic activities, namely, systems biology.

Appointment of a Project Director for the establishment phase:

Ian Humphery-Smith was appointed as Project Director in June 2004 during the establishment phase. Ian comes with a strong background in proteomics and industry. He has recently been appointed a Visiting Professor at Northumbria University and is looking forward to interactions with both researchers and the student body.



Picture courtesy of Jacky L. Snoep, Hans V. Westerhoff and their laboratories

EUREKA – European Cluster membership:

The Bii is a founder member of a Eureka Cluster along with the likes of GSK and Sanofi to apply systems biology to the pharmaceutical industry to build better drugs and increase the likelihood of successful completion of clinical trials.

InSysBio, a new EUREKA cluster

Labelled in June 2004 under the EUREKA French Chairmanship, the new cluster InSysBio, aims at taking-on two challenges of major importance to the pharmaceuticals and food sectors:

1. To increase European competitiveness with respect to competitors in Northern America and Asia;
2. To attract new sources of investment for the European R&D sector.

Indeed, cross-European collaboration in these sectors is essential to foster innovation, decrease failure rates of R&D process and reduce the cost and time for novel drugs discovery and development.

The InSysBio cluster stands for Integrative Systems Biology and proposes concrete solutions to promote the development of computer-based technologies to better understand, model and simulate the impact of lead molecules in a biological system. This EUREKA framework for European industry-driven R&D projects aims to promote activities in the following areas:

- Organisation and analysis of the existing "-omics" data;
- Development of appropriate databases and associated architectures;
- Design of in silico modelling and simulation tools;
- Development of applications for pharmaceuticals and food industries.

Numerous research areas will be advanced through the activities mentioned above, namely: Quantitative structure-activity relationships (QSAR) i.e. interactions between chemical structure and biological activity, modelling of biological behaviour, and simulation of biological processes. This initiative will be truly multidisciplinary and combine aspects of biology, mathematics, data processing, chemistry, physics and medicine.

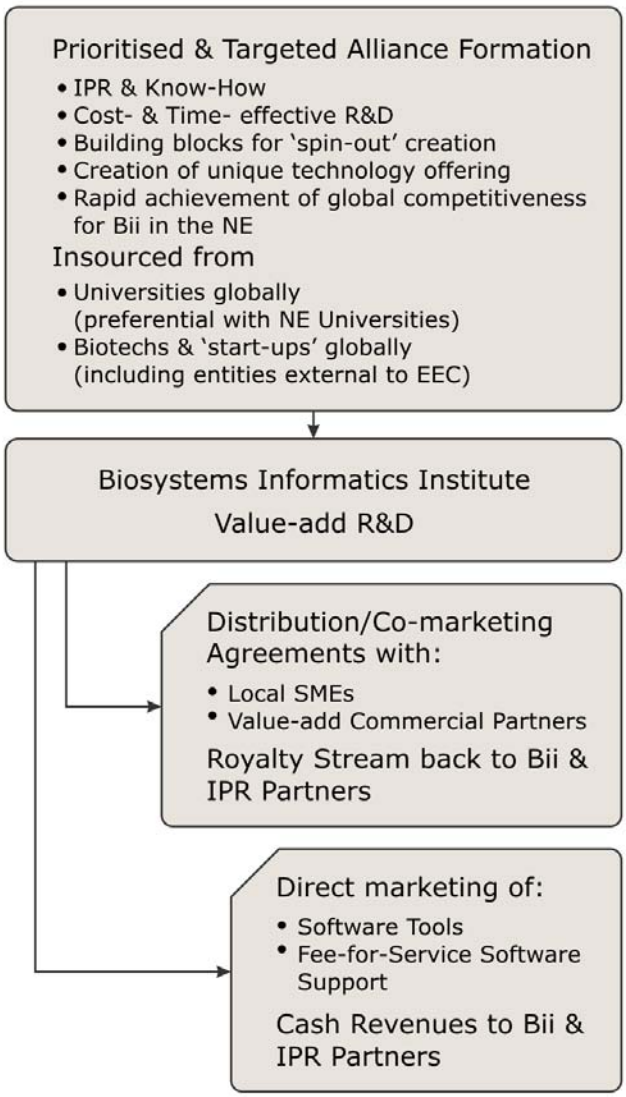
The description of the technical Work Areas addressed and the application framework of InSysBio, whose first call for projects is planned for the end of 2004/beginning of 2005, are presented in a White Book compiled by experts from France, Great Britain, Germany, Denmark, the Netherlands and Finland. The cluster implementation will be spread over five years and target industrial leaders and SME's, as well as research institutions specialising in Systems Biology.

Business Model:

The initial aim of Bii is to preferentially establish R&D links with each of the five North East Universities and selected local SMEs so as to create a critical mass in biocomputing and thereby enhance collective national & international competitiveness in the sector. The formation of these initial building blocks and prioritised research focus will be critical to longer-term success of the Bii. The objective here is the creation of a combined and unique technology offering of direct relevance to high-worth aspects of the drug development pipeline. The fruits of Bii's R&D will then be returned to IPR partners and to further on-going research activities at Bii. In order to rapidly achieve this end, know-how and IPR will also be in-sourced from outside the Region. The business model for such is outlined below and is in keeping with its mission statement…

'To create world-class bioinformatics technologies specifically intended for commercial exploitation'.

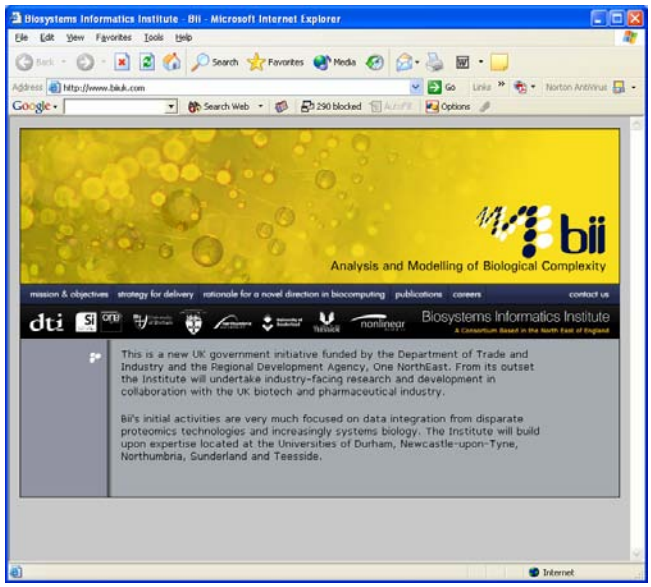
In addition, it is pleasing to note that highly-positive preliminary interactions have already been instigated with Durham, Newcastle, Northumbria, Sunderland, and Teesside Universities with a view to future and more intimate relations:



Immediate Future:

It is the intention of Bii over forthcoming weeks to obtain internal clearance for One NorthEast monies and open calls for collaborative projects with NE Universities based upon external (outside the Region) assessment based upon well-substantiated business cases and technical prowess of projects submitted. Encouraging interactions with commercial parties towards revenue-linked alliances have already commenced and it is hoped some of these might also bear fruits in the not too distant future.

For further information, please refer to our website at: **www.biiuk.com**



ISMB-2004 and participation at other international conferences:

ISMB (Intelligence Systems for Molecular Biology) is an international conference sponsored by the International Society for Computational Biology. Over the past ten years, it has grown to become the largest bioinformatics conference in the world. Bii gave keynote presentations at this conference and exhibited at the conference's exhibition. Strategy for Success Team members and colleagues from Nonlinear Dynamics and the Region's Universities were in attendance. All were overwhelmed by the level of interest shown in Bii from national and international delegates. It was a great success in terms of raising the profile of the North East in the bioinformatics sector. Bii attended a number of international conferences over recent weeks. These included:

- **ISMB-2004, Glasgow**, the worlds largest bioinformatics conference as:
  - Exhibitor and Special Interest Group (SIG) Sponsor
  - Keynote Lecture to Molecular Simulations SIG
  - Oral presentation to 3D Protein Structure SIG
- Invited Lecture at **Genomics, Proteomics and Bioinformatics for Medicine**, Moscow, Russia, 14-19 July 2004 at the invitation of the Russian Academy of Medical Sciences.
- Invited Lecture at **Genomes to Systems**, 01-03 September 2004, Manchester, UK. Genomes to Systems
- In partnership with Nonlinear Dynamics, Bii gave a keynote address at **Pharma IT World**, London 27 & 28 September 2004.

The above proved most useful for exploring early recruitment opportunities and forging industrial links.

"The stand and the Bii really made a big splash for the North East. Many people I spoke to were very interested in the plans for the future and it certainly helped enormously to raise our profile in bioinformatics and systems biology at an international level".

(Selected feedback concerning ISMB presence from Dr. Anil Wipat, University of Newcastle)

Biosystems Informatics Institute
2nd Floor, Bioscience Centre
International Centre for Life
Times Square
Newcastle upon Tyne, NE1 4EP

Tel: 0191 211 2560
Fax: 0191 211 2561

e-mail: enquiry@biiuk.com
website: www.biiuk.com