EUROPEAN SCIENCE FOUNDATION

SETTING SCIENCE AGENDAS FOR EUROPE

RESEARCH NETWORKING PROGRAMME

EUROPEAN NETWORKING SUMMER SCHOOL (ENSS): PLANT GENOMICS & BIOINFORMATICS

Standing Committee for Life, Earth and Environmental Sciences (LESC)

www.esf.org

Introduction

The European Science Foundation (ESF) is an independent, non-governmental organisation, the members of which are 80 national funding agencies, research-performing agencies, academies and learned societies from 30 countries.
The strength of ESF lies in the influential membership and in its ability to bring together the different domains of European science in order to meet the challenges of the future.
Since its establishment in 1974, ESF, which has its headquarters in Strasbourg with offices in Brussels and Ostend, has assembled a host of organisations that span all disciplines of science, to create a common platform for cross-border cooperation in Europe.
ESF is dedicated to promote collaboration in scientific research, funding of research and science policy across Europe. Through its activities and instruments ESF has made major contributions to science in a global context. The ESF covers the following scientific domains:

- **Humanities**
- **Life, Earth and Environmental Sciences**
- **Medical Sciences**
- **Physical and Engineering Sciences**
- **Social Sciences**
- **Marine Sciences**
- **Nuclear Physics**
- **Polar Sciences**
- **Radio Astronomy Frequencies**
- **Space Sciences**

Plant genome research has developed into one of the most dynamic disciplines of molecular life sciences. Plants are recognised as the basis of a bio-based economy and play a fundamental role in sustaining our environment. European countries concentrate their efforts in the field through national and regional research programmes. While some of these have already developed sustainable cooperations with joint research projects, many of these activities are currently limited to Western Europe.

In 2007 the European Science Foundation launched the Research Networking Programme *European Networking Summer School (ENSS): Plant Genomics & Bioinformatics* with the objective of supporting research networks all over Europe, by training young investigators and promoting the transfer of knowledge and technology. To facilitate this objective, annual European Networking Summer Schools will be organised for a geographical mixture of young, motivated researchers from Europe. These courses will focus on training, the exchange of ideas and the creation of an active network between European scientists, research organisations and research programmes.

Each Summer School will address a different subject of topical interest and importance. The Summer Schools will combine theoretical and practical elements delivered by experts in the fields of research.

The running period of the ESF Research Networking Programme *European Networking Summer School: Plant Genomics & Bioinformatics (ENSS)* is for five years, from September 2007 to September 2012.

Forthcoming Events

Call for ENSS Proposals

The ENSS Research Networking Programme invites proposals from the scientific community to organise summer schools to be held between **2011** and **2012**. While schools can have a thematic focus on e.g. technology and biodiversity, imaging technologies, protein interactions, systems biology etc., ENSS strongly encourages the submission of new topics of relevance to the Programme. The school should ideally target groups of approx. 20-50 young researchers from all over Europe, and combine the latest theoretical knowledge with practical lessons.

Submit your application online at
www.esf.org/enss

ENSS 2009 – Plant Bioinformatics, Systems and Synthetic Biology

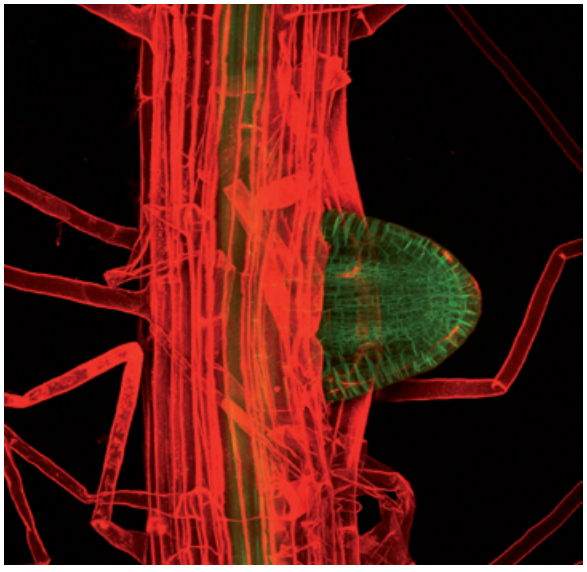
27-31 July 2009

Venue: University of Nottingham, United Kingdom

Organisers: Natalio Krasnogor, Jaume Bacardit, Malcolm Bennett

The summer school intends to introduce PhD students to cutting-edge research in bioinformatics, systems and synthetic biology, applied to plant biology. The school is explicitly interdisciplinary. Computational biology, bioinformatics and systems biology lie at the interface of a number of disciplines, yet traditional discipline-led teaching rarely provides opportunities to explore this interface. This summer school aims to address that issue, and plant science provides the ideal biological arena in which to do this. More at:
http://lobelia.cs.nott.ac.uk/plantsummerschool/

Deadline for registration is **15 June 2009**.



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Confocal microscope image of an emerging lateral root in *Arabidopsis*.

ENSS 2010 – Plant Epigenetics

September 2010

Venue: Leibniz Institute of Plant Genetics and Crop Plant Research (IPK) in Gatersleben, Germany

Organiser: Michael Florian Mette

Background:
The term “epigenetics” refers to cases of alternate gene expression states that are heritable, but are not based on changes in DNA sequences. Prime examples of epigenetic processes such as paramutation, control of transposon activity, genomic imprinting or silencing of transgenes have a long-term record in plant genetic research and were in many cases originally described using plant species as experimental systems. Current genetic and molecular analyses indicate that epigenetic changes of the expression potential of genes can be based on modification at the chromatin level. In plants, key mechanisms involved are methylation of DNA, covalent modification of histones and generation of short interfering (si)RNAs. In recent years, forward and reverse genetic screens in the model plant *Arabidopsis thaliana* have helped to identify many of the proteins involved in epigenetic processes, which can by now be sorted into first draft pathways of chromatin regulation. Simultaneously, cytogenetic and high-throughput molecular methods have been applied to map DNA methylation, histone modifications and siRNAs in *A. thaliana* and other plants at a genome-scale.

Aim:
The summer school will combine the practical expertise of research groups at IPK Gatersleben working in different fields with lectures held by outstanding external researchers to provide participants with a timely, comprehensible overview of concepts and methods in plant epigenetics.

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For the latest information on this Research Networking Programme consult the ENSS website:
www.esf.org/enss

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