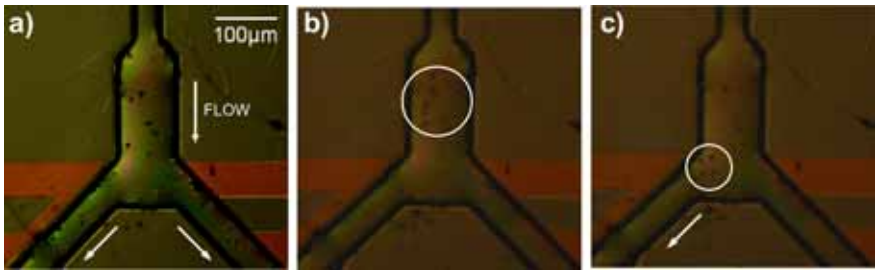
RESEARCH CONFERENCES

ESF-EMBO Symposium

Biomagnetism and Magnetic Biosystems Based on Molecular Recognition Processes

Hotel Eden Roc, Sant Feliu de Guixols (Costa Brava) • Spain
22-27 September 2007



The aim of this meeting, organised under the framework of the ESF/EMBO Research Conferences, is to bring together researchers in the diverse fields of biomagnetism, medicine, spintronics, nanomagnetism, optoelectronics, microelectronics, bioinformatics and high throughput clinical diagnostics and sequencing to explore the potential of recent breakthroughs in magnetic nanotechnologies to new approaches to practical bioapplications. The Symposium will be organised in a highly interactive format with panel and round table discussions. It is envisaged that by bringing together researchers from almost all of the existing groups which are active in the field, the opportunity for forging strong links and collaborative ties between the groups will be provided. In addition, the commercial opportunities arising from the research will be explored. This will be the first meeting of its kind where scientists active in the field of magnetism and nanotechnology will interact with scientists active in the biotechnology area with the specific aims to promote research in the area of biomagnetism and biosensors based on molecular recognition processes, to identify new applications and opportunities for applying magnetism to the health care area and to develop closer ties between the scientific and the biotechnology business communities.

Sessions will focus on: ▪ Challenges in Bioassays Exploitation of research on magnetism and magnetic materials to implement solutions to challenges associated with high throughput screening ▪ Biomagnetism I Design, fabrication and characterisation of magnetic elements for biodetection and biotechnology ▪ Biomagnetism II Design and characterisation of magnetic sensors: giant magnetoresistive (GMR), magnetic tunnel junctions (MTJ) ▪ Medically Adapted Magnetic Materials Shape memory materials. Targeted drug delivery methods and systems utilising magnetic beads. Hyperthermia induced by magnetic beads ▪ Microfluidics & Biosensor Arrays Technologies and systems for the manipulation of magnetic beads ▪ Magnetic Biosensors & Biological Applications Biomagnetic viral assays. Techniques for functionalisation of magnetic beads ▪ Magnetic Devices for High Throughput Clinical Diagnostics ▪ Biomagnetic Devices for Gene Sequencing ▪ Commercial Exploitation Industry landscape in Europe and worldwide commercial opportunities for biotechnology companies engaged in research on biomagnetism. Competing/alternative technologies for the development of biosensors and devices for high throughput clinical diagnostics and sequencing.

Chairs: J. Anthony C. Bland, University of Cambridge, UK
& K.R.A. Ziebeck, University of Loughborough, UK

Invited Speakers will include

Masanori Abe
Tokyo Institute of Technology, JP

J. Anthony C. Bland
University of Cambridge, UK

Jérôme Bibette
ESPCI Paris, FR

Hubert Brückl
ARCS Research, AT

Chia-Ling Chien
The Johns Hopkins University, US

Brad Engel
Freescale Semiconductor Inc., US

Paulo Freitas
INESC MN, PT

Andrew Griffiths
ISIS-ULP Strasbourg, FR

Urs Hafeli
The University of British Columbia, CA

Takeshi Kanomata
Tohoku-Gakuin University, JP

Gos Micklem
University of Cambridge, UK

Menno Prins
Philips Research Europe, NL

Adarsh Sandhu
Tokyo Institute of Technology, JP

Shan Wang
Stanford University, US

K.R.A. Ziebeck
University of Loughborough, UK

Application Form & Programme available from
www.esf.org/conferences/07228

Closing Date for Application **5 July 2007**

European Science Foundation I Research Conferences Unit
149 avenue Louise I Box 14 I Tour Generali, 15th Floor I Brussels I Belgium
Tel: + 32 (0)2 533 2020 I Fax: +32 (0)2 538 8486
Email: conferences@esf.org I www.esf.org/conferences

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