

NANOBIOTECH SYMPOSIUM

SEMINAIRE FRANCO-SUEDOIS SUR LES NANOBIOTECHNOLOGIES

SVENSKT-FRANSKT SEMINARIUM INOM NANOBIOTEKNIK

Programme

**NOVEMBER 20-21, 2006
STOCKHOLM**

**LOCATION: LINDSTEDTSVÄGEN 26, KTH (HALL F3)
LANGUAGE: ENGLISH**

NOVEMBER 18 & 19

Arrival of participants

Hotel Arcadia
Körsbärsvägen 1
114 89 Stockholm
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Hotel Brunnen
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NOVEMBER 20

08.30 – 08.45	Registration
08.50 – 09.00	Welcome Prof. Ramon Wyss, KTH
09.00 – 09.10	Welcome and introduction <i>H.E. Denis Delbourg, French Ambassador Mr Bertil Carstam, AFSR</i>

SESSION 1

“Nanobiotechnologies - General presentation”

09.10 – 09.20	Introduction <i>Prof. Alain Brisson Prof. Bengt Kasemo</i>
09.20 - 09.40	“Multifactorial analysis of single cell” <i>Prof. Jean Rossier, City of Paris Industrial Physics and Chemistry Higher Educational Institution (ESPCI)</i>
09.40 - 10.00	“Anode and cathode reactions for biofuel cells based on direct electron transfer reactions between biological components and electrodes” <i>Prof. Lo Gorton, University of Lund</i>

- 10.00 - 10.20 "Biomimetic membranes and biochips with chemi- and electrochemiluminescent detection"
Prof. Loïc J. Blum, CNRS, University of Lyon
- 10.20 - 10.40 "From single-cell analysis to imaging proteomics. Overview of ongoing projects in our nanobiotechnology group"
Dr. Helene Andersson & Dr. Laurent Barbe, KTH, Stockholm
- 10.40 - 11.00 "Observing biochips on the molecular scale with Scanning Probe Microscopy"
Prof. Magali Phaner-Goutorbe, Centrale Lyon
- 11.00 - 11.15 Coffee break
- 11.15 - 11.35 "Molecular motors and artificial nanostructures: towards drug screening, lab-on-chip and functional studies"
Assoc. Prof. Alf Månsson, University of Kalmar
- 11.35 - 11.55 "Silicon nanowires for Mass Spectrometry biomolecule analysis"
Dr. Yannick Coffinier, Interdisciplinary Research Institute (IRI), Electronics, Microelectronics and Nanotechnologies Institute (IEMN), Lille

- 11.55 - 12.15 “Controlling the assembly of biomolecules on solid supports at the nanoscale”
Prof. Alain Brisson, University of Bordeaux
- 12.15 – 12.35 “Coherent Anti-Stokes Raman Scattering Microscopy (CARS): Instrumentation and application to biology”
Dr. Hervé Rigneault, Institut Fresnel, Marseille
- 12.35 – 12.55 “Biomacromolecules and electronic polymers at the crossroads”
Prof. Olle Inganäs, University of Linköping
- 12.55 – 13.15 “Use of fluorescence flicker – for monitoring proton transport in membranes, biomolecular interactions, and for achieving ultrahigh resolution in light microscopy.”
Prof. Jerker Widengren, KTH, Stockholm
- 13.15 – 14.30 Lunch at Syster o Bror (by invitation only)
KTH Campus

SESSION 2
“Environmental, energy and food safety applications”

14.30 - 14.40 Introduction
Prof. Patrick Boisseau, CEA

SESSION 2 A: Environment and Energy

14.40 - 15.20 “Nanotechnology for sustainable energy and environment”
Prof. Bengt Kasemo, Chalmers, Göteborg

15.20 – 15.40 “Airborne Cell Chemistry and Nanoparticle based CEC”
Prof. Staffan Nilsson, University of Lund

15.40 – 16.00 “(Bio)functionalisation of surfaces using layer-by-layer assembly”
Prof. Gero Decher, Louis Pasteur Institute, University of Strasbourg

16.00 – 16.20 “Combining bioengineered enzymes and magnetic nanoparticles for the effective detection of environmental pollutants”
Assoc. Prof. Thierry Noguer, University of Perpignan

16.20 – 16.35 Coffee break

SESSION 2 B: Food safety

16.35 – 16.55 “Will nanotechnologies enhance life through improved food chain, an overview?”
Prof. Pierre Feillet, Academy of Technologies

16.55 – 17.15 “Biosensors for food analysis: development and applications”
Assoc. Prof. Elisabeth Csöregi & Dr. Mihaela Nistor, University of Lund

17.15 – 17.35 Discussion and round table conference

18.00 – 19.30 Philosophic lecture (in french)
Sacha Loeve
“Les nanotechnologies : dissolution ou requalification de la frontière entre naturel et artificiel ?”
followed by a French aperitif

French Institute
Kommendörsgatan 16

20.00 Dinner at Résidence de France
Narvavägen 26
(by invitation only)

NOVEMBER 21

SESSION 3
“Nanomedicine”

08.00 – 08.10 Introduction
Prof. Patrice Marche

SESSION 3 A: Medical applications

08.10 - 08.30 “Protein and cell chips towards
diagnosis”
*Prof. Patrice Marche, CEA-Leti &
INSERM, Grenoble*

08.30 – 08.50 “Advanced drug delivery exploring
nanoparticle based concepts”
*Prof. Alf Lamprecht, Laboratory of
Pharmaceutical Engineering,
Faculty of Medicine and Pharmacy,
University of Franche-Comté*

08.50 - 09.10 “Microsensing systems for
monitoring intra- and extracellular
events in real time”
*Prof. Jenny Emneus, University of
Lund*

- 09.10 - 09.30 “Exploratory nanotechnology for the life sciences: single molecular detection, atto-vial protein chips, neuronano prosthetics and brain machine interfaces”
Prof. Lars Montelius, University of Lund
- 09.30 – 09.50 “Formation of supported phospholipid bilayers and their applications in biotechnology”
Dr. Bastien Seantier, Chalmers, Göteborg
- 09.50 - 10.10 Coffee Break
- 10.10 – 10.30 “Strategies for developing nanoparticulate drug carriers able to escape from macrophages uptake”
Prof. Denis Labarre, University of Paris Sud
- 10.30 – 10.50 “Nanotechnology in drug discovery: focus on in vivo monitoring and imaging techniques”
Dr. Jan Kehr, Karolinska Institute, Stockholm

- 10.50 – 11.10 “Open-access microarray resources for analysis of the human and mouse transcriptomes (from mRNA to miRNA)”
Prof. Pascal Barbry, Institute of Molecular and Cellular Pharmacology
- 11.10 – 11.30 “High-Tc SQUIDS for medical applications”
Prof. Dag Winkler, Chalmers, Göteborg

SESSION 3 B: “Biochips”

- 11.30 – 11.50 “Design of micros supports for the measurement of the functionality of DNA repair enzymes”
Dr. Sylvie Sauvaigo, CEA-Grenoble, DRFMC
- 11.50 – 12.10 “Design and fabrication of cells based biochips for biomedical applications”
Dr. Vincent Senez, IEMN Lille
- 12.10 – 12.25 Discussion
- 12.25 - 12.30 Conclusions and end of the seminar
- 13.00 Lunch at Syster o Bror (by invitation only)
KTH Campus

LIST OF PARTICIPANTS

Session 1

Nanobiotechnologies – General presentation

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Session 2

Environment, energy and food safety applications

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Session 3

Medical applications

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Scientific department of the French Embassy in Sweden

The missions of the Scientific Department of the French Embassy include:

- a continuous watch of science policy, scientific and technological activities in Sweden,
- the promotion of scientific and technological collaborations between France and Sweden,
- the promotion of French science.

The Department is headed by the Counsellor for scientific and cultural cooperation. Recognised as a partner for Swedish Institutions, it plays an intermediate role with their French counterparts.

The department also supports the cooperations between universities of both countries including student mobility. This activity is shared with the Cultural Department of the Embassy.

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The Swedish-French Association for Research (AFSR)

AFSR, founded in 1967, aims at promoting scientific and technical cooperation between Sweden and France by:

- organising seminars and conferences,
- organising study tours and visits for groups or individuals,
- promoting exchanges of professors, researchers and engineering students,
- distributing scientific information.

The AFSR's Board of Directors ("Comité Directeur") establish the programme of activities.

In 1977, the AFSR created an Industrial Foundation in order to strengthen the position of the Association and to create a neutral forum for French and Swedish industrial companies. The Foundation has about 40 members, representing important Swedish and French industries.

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ORGANISED BY



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