



# ESF Research Conferences

A Programme of the European Science Foundation

## Biological Surfaces and Interfaces

EuroConference on

### Biomaterials, Biosensors & Analytical Techniques

Supported by the European Commission, Research DG, Human Potential Programme,  
High-Level Scientific Conferences (Contract No: HPCF-CT-2002-00212)

Sant Feliu de Guixols, Spain, 18 – 23 June 2005

Chair: **Bengt Kasemo** (Chalmers University of Technology, Gothenburg, S)

Vice-Chair: **Marcus Textor** (ETH Zurich, CH)

*With support from Generalitat de Catalunya*



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## Final Programme

On line at: <http://www.esf.org/conferences/pc05187>

### Saturday 18 June

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|-------|--|
| 18.00 | Registration at the hotel reception and ESF desk |
| 19.00 | Dinner   |
| 20.30 | Welcome Drink                                    |

### Sunday 19 June

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#### **Session 1: Biomimetic Surfaces and Assemblies**

|             |   |
|-------------|---|
| 08.45       | Conference Opening  |
| 09.00-09.40 | <b>Virgil Percec</b> (University of Pennsylvania, US)<br><i>Porous Protein Mimics</i>   |
| 09.40-09.55 | Discussion  |
| 09.55-10.35 | <b>Alain Brisson</b> (Université Bordeaux 1, F)<br><i>Construction and applications of bio-surfaces with multi-functional 2D protein matrices</i> |
| 10.35-10.50 | Discussion  |
| 10.50-11.20 | Coffee break  |

|             |  |
|-------------|--|
| 11.20-12.00 | <b>Janos Vörös</b> (ETH Zurich, CH)<br><i>In situ, dynamic control of biointerfaces at the micro/nanoscale</i>                           |
| 12.00-12.15 | Discussion   |
| 12.15-12.55 | <b>Abraham Shanzer</b> (Weizmann Institute of Science, IL)<br><i>Fluorescent Iron Chemosensors with Surface-Adhesive Functionalities</i> |
| 12.55-13.15 | Discussion   |
| 13.15       | Lunch  |

### **Session 2: Biomolecules and Polymers at Biointerfaces**

|             |   |
|-------------|---|
| 16.00-16.40 | <b>Flemming Besenbacher</b> (University of Aarhus, DK)<br><i>SPM studies of biomolecules at surfaces</i>  |
| 16.40-16.55 | Discussion  |
| 16.55-17.20 | Coffee break  |
| 17.20-18.00 | <b>Andrew G. Thomas</b> (Univ. of Manchester, UK)<br><i>Titanium dioxide; from mimicking nature to bactericide</i>  |
| 18.00-18.15 | Discussion  |
| 18.15-18.55 | <b>Viola Vogel</b> (ETH Zurich, CH)<br><i>How water molecules regulate the mechanical stability of adhesion proteins and their complexes with integrins</i> |
| 18.55       | Discussion  |
| 19.15       | Dinner  |
| 20.30       | <b>Dave Grainger</b> (Colorado State Univ., US)<br><i>Microarrays of DNA and proteins: smaller spots, big expectations</i>                                  |
| Followed by | Poster Session I and Drinks   |

## **Monday 20 June**

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### **Session 3: NanoBio & Expt Techniques and Biointerface Sensing**

|             |  |
|-------------|--|
| 09.00-09.40 | <b>Vinod Subramaniam</b> (Univ. of Twente, NL)<br><i>Visualizing protein aggregation using hybrid optical and scanning probe microspectroscopies</i>   |
| 09.40-09.55 | Discussion   |
| 09.55-10.35 | <b>Fredrik Höök</b> (Lund University, Lund, S)<br><i>Localized surface plasmon resonance sensing of lipid-membrane mediated biomolecular reactions</i> |
| 10.35-10.50 | Discussion   |
| 10.50-11.20 | Coffee break   |

- 11.20-12.00 **Tomoji Kawai** (Osaka University, J)  
*Nano-structured Biosensors toward Single Molecular Detection*
- 12.00-12.15 Discussion
- 12.15-12.55 **Mischa Bonn** (Leiden University, NL)  
*Non-linear vibrational spectroscopy of model membranes*
- 12.55-13.15 Discussion
- 13.15 Lunch

**Session 3: continued**

- 16.00-16.40 **Melissa Hines** (Cornell University, US)  
*The unexpected role of surface chemistry in nanomechanics*
- 16.40-16.55 Discussion
- 16.55-17.20 Coffee break
- 17.20-19.00 Poster Session I
- 19.00 Dinner
- 20.30 **Amélie Eriksson Karlström** (Royal Institute of Technology, S)  
*The Human Proteom and related biochips*
- followed by Poster Session II and Drinks

**Tuesday 21 June**

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**Session 4: Biofunctional Surfaces: Cells & Bacteria at Surfaces**

- 09.00-09.40 **Joachim Spatz** (Max-Planck-Institute, D)  
*Nano-Patterned Surface as Ruler for Molecular Length Scales and Cell Functional Template in Cell Adhesion*
- 09.40-09.55 Discussion
- 09.55-10.35 **Julie Gold** (Chalmers Univ. of Tech., S)  
*Functionalized supported phospholipid bilayers: Experience in cell culture*
- 10.35-10.50 Discussion
- 10.50-11.20 Coffee break
- 11.20-12.00 **Giovanni Marletta** (University of Catania, I)  
*Cell and Bacteria Adhesion on Patterned Surfaces*
- 12.00-12.15 Discussion
- 12.15-12.55 **Stephen Badylak** (McGowan Inst. for Regenerative Medicine, US)  
*Surface characteristics of biological scaffolds derived from extracellular matrix*
- 12.55-13.15 Discussion

|       |                   |
|-------|-------------------|
| 13.15 | Lunch             |
| 14.15 | Excursion         |
| 20.00 | Conference dinner |

## Wednesday 22 June

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### Session 5: *Biofunctional Surfaces: Medical Implants & Tissues Engineering*

|             |   |
|-------------|---|
| 09.00-09.40 | <b>Henk J. Busscher</b> (University of Groningen, NL)<br><i>Microscopic and macroscopic physico-chemical approaches toward microbial adhesion to surfaces</i>   |
| 09.40-09.55 | Discussion  |
| 09.55-10.35 | <b>Christine Dupont-Gillain</b> (Université catholique de Louvain, B)<br><i>Nanostructured bio-interfaces: topographical versus chemical contrast</i>           |
| 10.35-10.50 | Discussion  |
| 10.50-11.20 | Coffee break  |
| 11.20-12.00 | <b>Gabriel Lopez</b> (Univ. of Texas, US)<br><i>Lipid based systems to deliver interference RNA</i>   |
| 12.00-12.15 | Discussion  |
| 12.15-12.55 | <b>Paul Ducheyne</b> (Univ. of Pennsylvania, US)<br><i>Bioactive ceramics and glasses stimulate cell function through surface and solution mediated effects</i> |
| 12.55-13.15 | Discussion  |
| 13.15       | Lunch   |

### Session 6: *Contributed Presentations*

|             |   |
|-------------|---|
| 16.00-16.45 | Speaker 1<br>Speaker 2<br>Speaker 3   |
| 16.45-17.15 | Coffee break  |
| 17.15-18.00 | Speaker 4<br>Speaker 5<br>Speaker 6   |
| 18.15-19.00 | Poster Session II   |
| 19.00       | Dinner  |
| 20.30       | <b>Wolfgang Knoll</b> (Max-Planck-Institute, D)<br><i>Supramolecular interfacial architectures for biosensing</i> |
| followed by | Posters session II and drinks   |

Thursday 23 June

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**Session 6: Drug Delivery & Targeting**

|             |  |
|-------------|--|
| 09.00-09.40 | <b>Costas Kiparissides</b> (University of Thessaloniki, EL)<br><i>Recent Developments in Targeted Drug Delivery Systems</i>    |
| 09.40-09.55 | Discussion   |
| 09.55-10.35 | <b>Kazunori Kataoka</b> (University of Tokyo, J)<br><i>Smart Polymeric Micelles as Nanocarriers for Gene and Drug Delivery</i> |
| 10.35-10.50 | Discussion   |
| 10.50-11.20 | Coffee break   |
| 11.20-12.00 | Closing Remarks  |
| 12.00       | Lunch and departure  |

**All posters are accepted**, unless the Conference Chair informs you otherwise.

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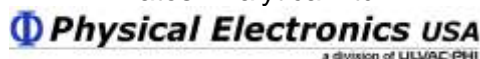
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