



# 4<sup>th</sup> Workshop on Cell Adhesion to Biomaterials

Umeå, January 2015

## Fourth meeting - Umeå January 2015

### 15 people in total, 10 travelling to Umeå

From Department of Chemistry, Umeå University, Sweden

- Madeleine Ramstedt, associate professor
- Olena Rzhapishevskaya, researcher,
- Shoghik Hakobyan, PhD student,

From Department of Fundamental Chemistry, Federal University of Pernambuco, Brazil

- Thereza Soares, professor,
- Roberta Dias, professor,
- Laércio Pol-Fachin, postdoc,
- Fred Pontes, postdoc,
- Julio da Silva post doc,
- Denys Ewerton, undergraduate student,

From School of Engineering and Materials Science, Queen Mary University of London, UK

- Julien Gautrot, lecturer,
- Burcu Colak, PhD student
- Danyang Li, PhD student

### Invited guests

#### Local guests:

- Bernt Eric Uhlin, professor, Department of Molecular Biology, Umeå Centre for Microbial Research (UCMR), Umeå University, Sweden
- Sun Nyunt Wai, professor, Department of Molecular Biology, Umeå Centre for Microbial Research (UCMR), Umeå University, Sweden

#### International guests:

- Alexandre Macedo, professor, Department of Pharmacy, Federal University of Rio Grande do Sul, Brazil

### Site

Strömbäck folkhögskola

<http://konferensstromback.se/upplev>

Funded by



### STINT

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Skeppargatan 8, SE-114 52 Stockholm, Sweden  
Phone +46 8 662 76 90 Fax +46 8 661 92 10  
E-mail [info@stint.se](mailto:info@stint.se) <http://www.stint.se>

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## Program:

### 26<sup>th</sup> January, Monday

15.30 transport to Strömbäck for those that want transport arranged  
18.00 Dinner at Strömbäck

Welcome and informal introduction after dinner

### 27<sup>th</sup> January, Tuesday

07.30 – 08.30 Breakfast

#### Cell responses

8.30-9.00 Julien Impact of the nanoscale physical properties of the matrix on cell adhesion  
9.00-9.30 Discussion  
9.30-9.45 Burcu Peptide-Based Hydrogels via Thiol-Ene Chemistry  
9.45-10.00 Discussion

10.00-10.30 Coffeee break

10.30-10.45 Danyang Study of DNA-PDMAEMA brush interactions for application to gene delivery  
10.45-11.00 Discussion

#### Molecular dynamics simulations

11.00 – 11.30 Thereza Retrospective and prospective on molecular models of LPS  
11.30 – 12.00 Discussion

12.00 – 15.00 Lunch, discussions and afternoon coffee (14.30)

15.00-15.15 Fred Effects of temperature, cation complexation and acyl chain variability on structure and dynamics of Lipid A bilayers phases

15.15-15.30 Discussion

15.30-15.45 Laércio Modeling of the Outer Membrane from Salmonella enteric

15.45-16.00 Discussion

16.00-16.15 Denys Molecular Dynamics Of Antimicrobial Peptides And Its Action Over Gram-Negative Bacterial Outer Membranes

16.15-16.30 Discussion

16.30-16.45 Short break

16.45-17.00 Roberta Looking for a better way to describe LPS membrane

17.00-17.15 Discussion

17.15-17.30 Julio Insights into the Adsorption of Drugs in Molecular Organic Frameworks from Grand Canonical Monte Carlo Simulations

17.30 – 17.45 Discussion

18.00 Dinner

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### 28<sup>th</sup> January, Wednesday

07.30 – 08.30 Breakfast

#### Invited guests

9.00-9.30 Alexandre Macedo

Search for compounds to promote biofilm disruption and to inhibit bacterial adhesion

9.30-10.00 Discussion

10.00-11.00 Coffeee break

11.00-11.30 Sun Nyunt Wai

The type VI and OMV mediated secretion system of *V. cholerae*

11.30-12.00 Discussion

12.00 – 15.00 Lunch, discussions and afternoon coffee (14.30)

15.00 – 15.30 Bernt Eric Uhlin

Studies of biofilm formation by *Escherichia coli* LPS mutants

15.30 – 16.00 Discussion

#### Bacterial responses

16.00-16.30 Madeleine

Retrospective and prospective for bacterial adhesion

16.30-17.00 Discussion

17.00-17.15 Shoghik

Ga-hydrazone complexes as anti-biofilm compounds

17.15-17.30 Discussion

17.30-17.45 Olena

Initial bacterial adhesion to polymer brushes

17.45-18.00 Discussion

18.00 Dinner

### 29<sup>th</sup> January, Thursday

07.30 – 08.30 Breakfast

9.00-10.00 Discussion

10.00-10.30 Coffeee break

10.30-12.00 Discussions

12.00-13.00 Lunch

13.00 Transport to Umeå

Afternoon activity and preparation for symposium

### 30<sup>th</sup> January, Friday

9.30 – 11.00

Open mini- symposium on campus, KBC-building, room KB3A9 (lilla hörsalen) with presentation from Thereza (9.30) and Alex (10.15)

Hope you will enjoy your time here in Umeå!

Umeå University, Sweden