Biomimetic films and their properties

Research Team name: Membrane Properties
Presenter name: Marité Cárdenas Gómez

Team Presentation – Annual Workshop, COST Action MP1106
Dublin, September, 2012

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Team's general info

Research Team Name: Membrane properties

Number of team members: 6

Brief description of team:

- 2 Ph.D. students
- 2 M.S. student
- 1 undergraduate student

Team leader: Physical Chemist

- 4 Nano-science
- 1 Molecular Biology

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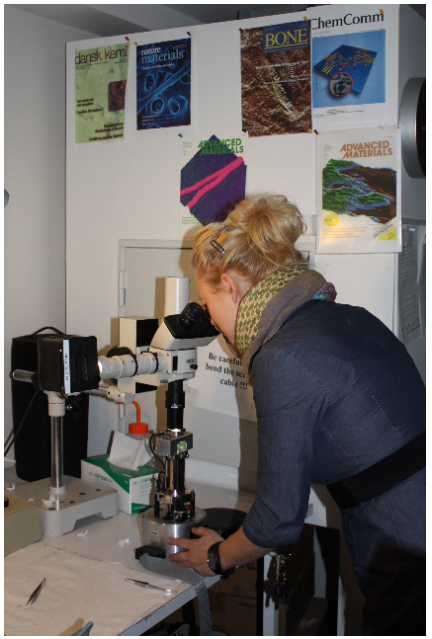
Lab description

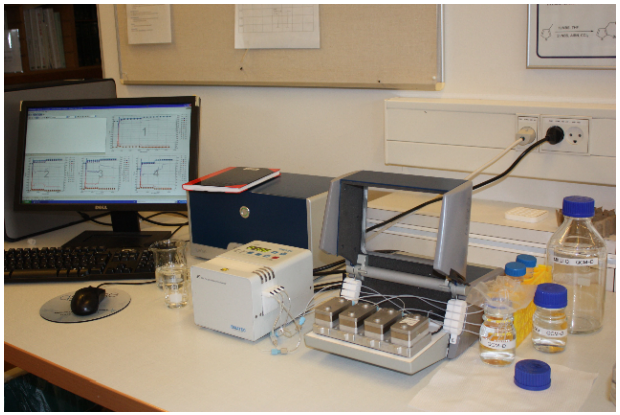
Basic facilities, equipment, devices etc :

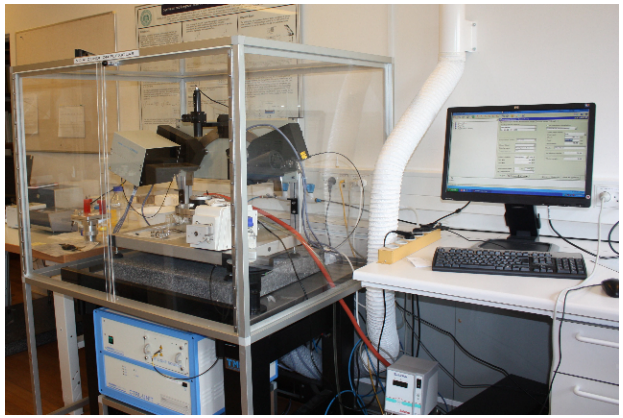
1. QCM-D
2. Spectroscopic ellipsometer
3. AFM, Nanomechanical mode
4. Dynamic Light Scattering

Access to:

1. X-ray Reflectometers
2. Optical and Fluorescence Microscopes
3. UV and Fluorescence Spectrophotometers
4. Langmuir blodget techniques







Relevance to MP1106

Research interests related to MP1106:

1. Multicomponent systems and their complex behavior at interfaces
2. Antibacterial compounds and their mechanism of action
3. Oppositely charged Multilayers of biomaterials in food applications

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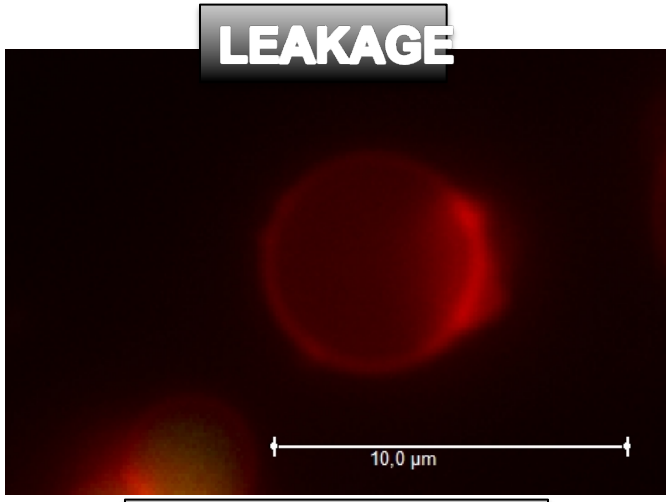
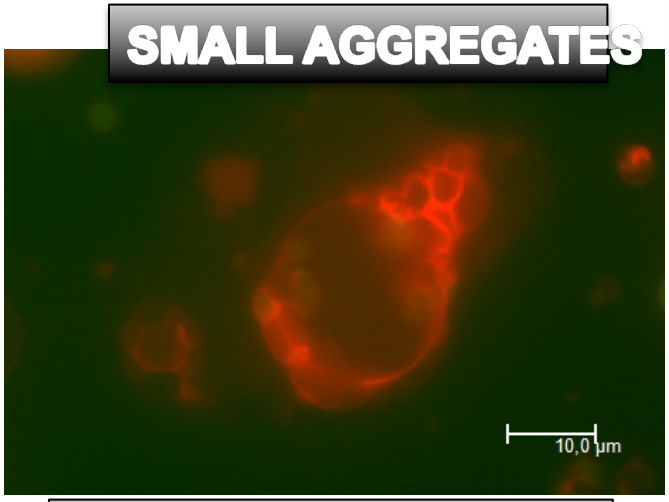
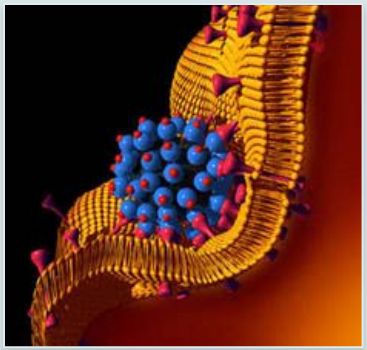
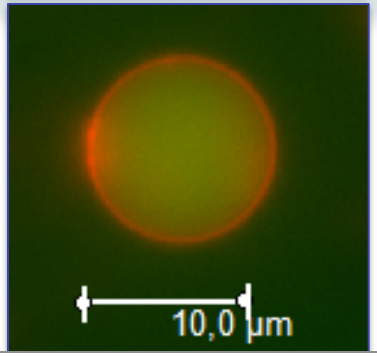
Projects

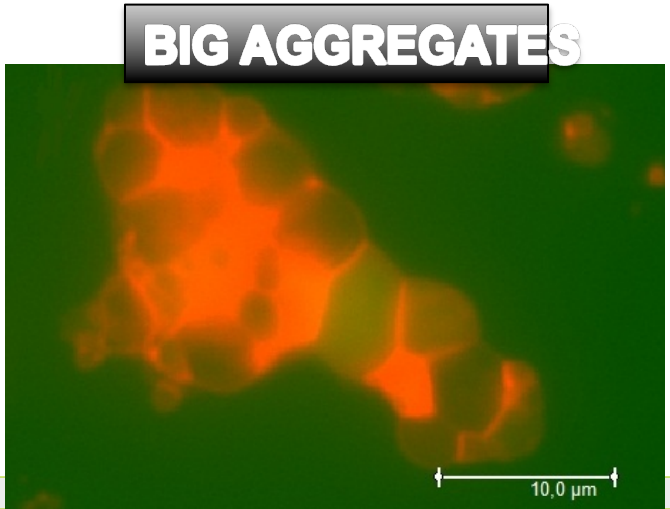
Title: Multicomponent systems and their complex behavior at interfaces
Duration: 3 ½ years so far (1 PhD just finished)
Funding organization: Copenhagen University Scholarships
People involved and their function: 1 master student

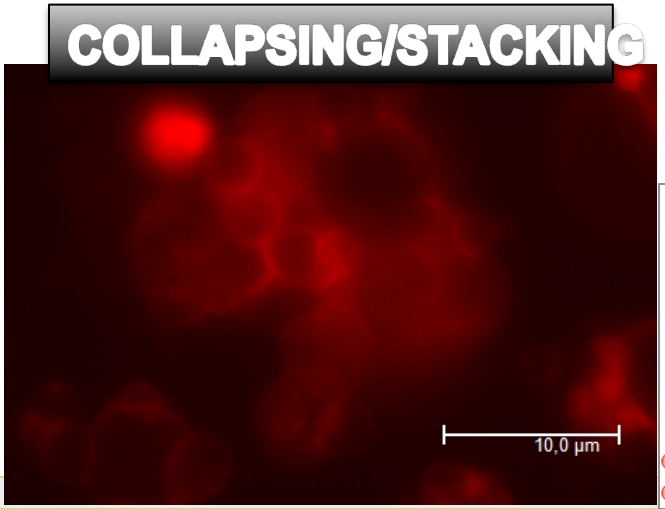


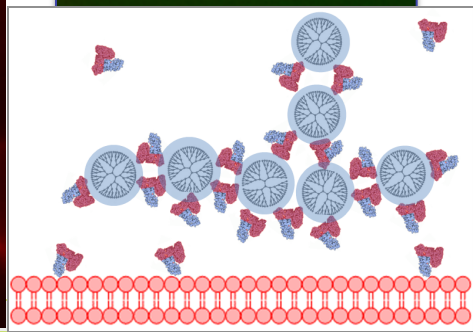












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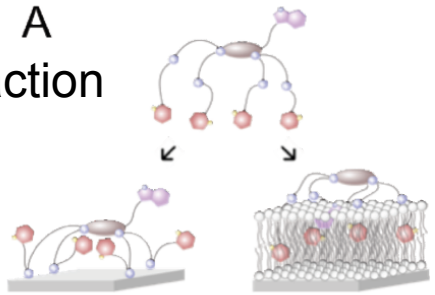
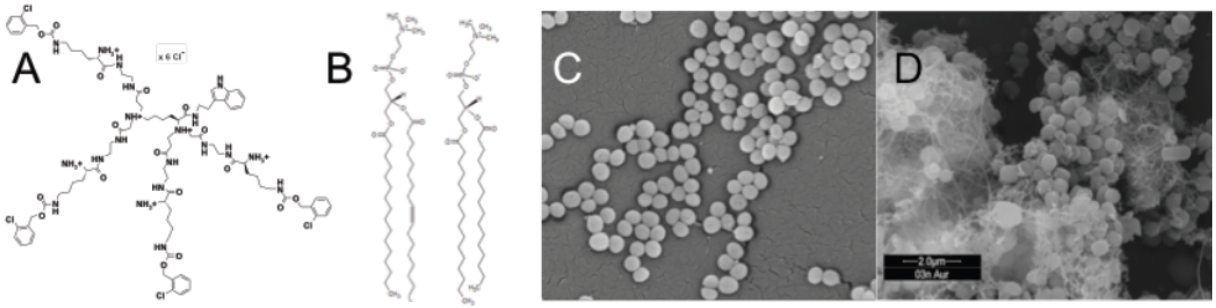
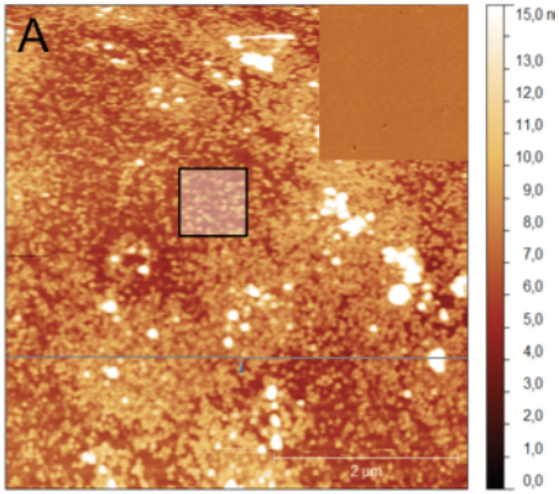
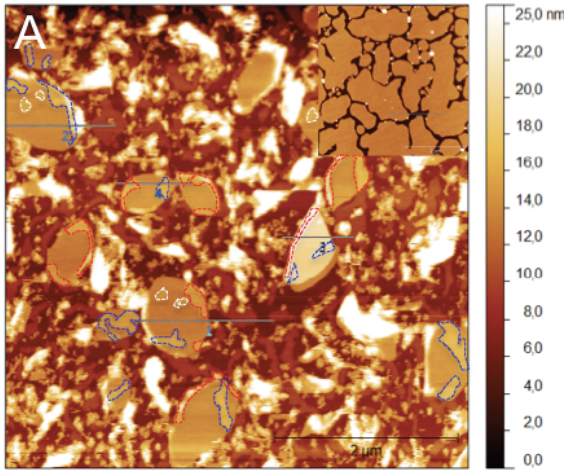
Projects

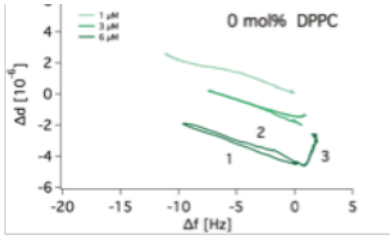
#2 project : Antibacterial compounds and their mechanism of action
Duration: 2 years
Funding organization: ESS and KU
People involved and their function: 1 PhD student

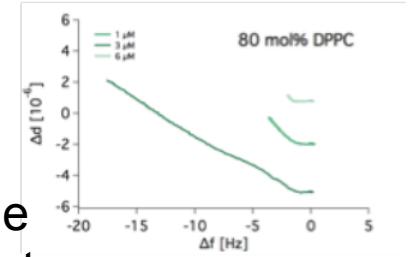


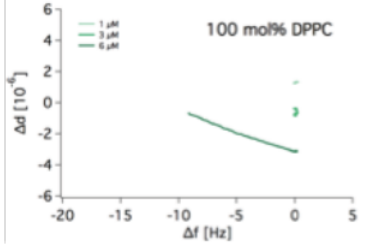












Membrane fluidity effects

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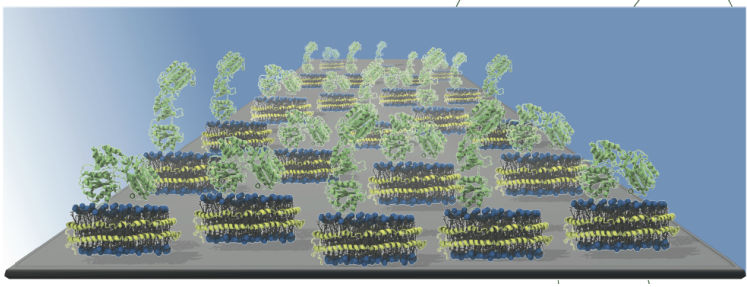
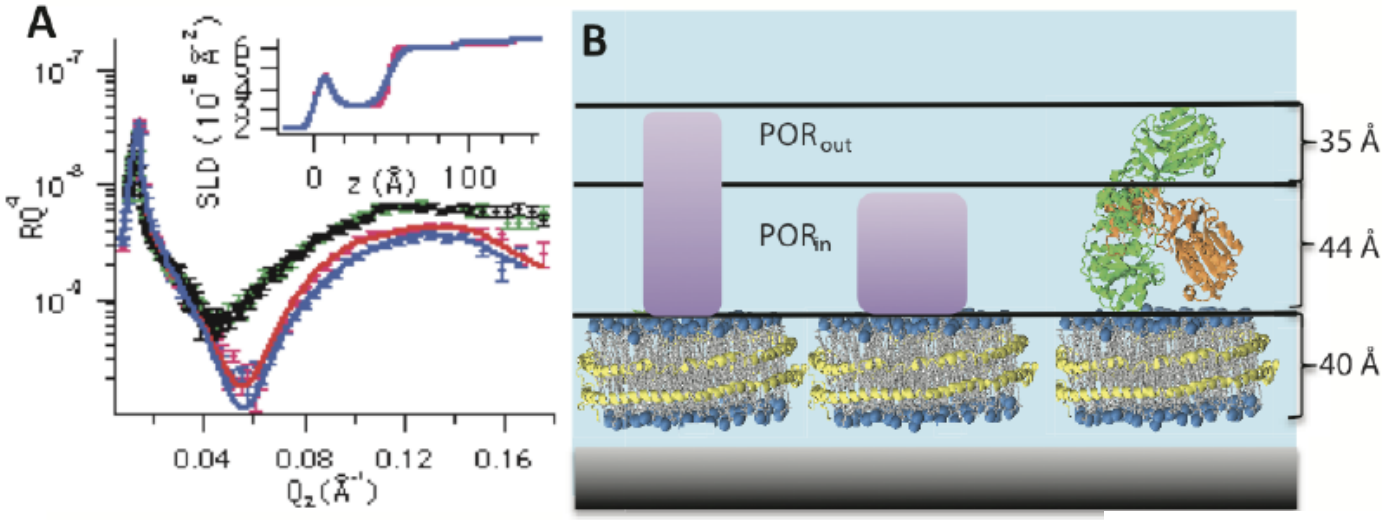
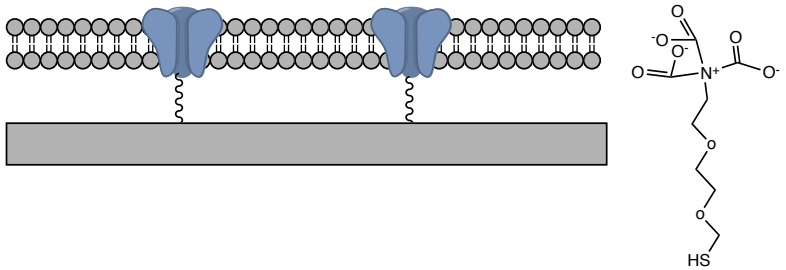
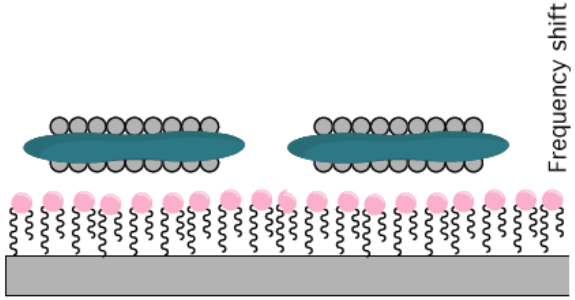


Projects

#3 project: Biosensing and relation structure-funcion of proteins
Duration: 3 1/2 years (1 PhD project just finished)
Funding organization: Denmark, Research Council
People involved and their function: 1 MSc student







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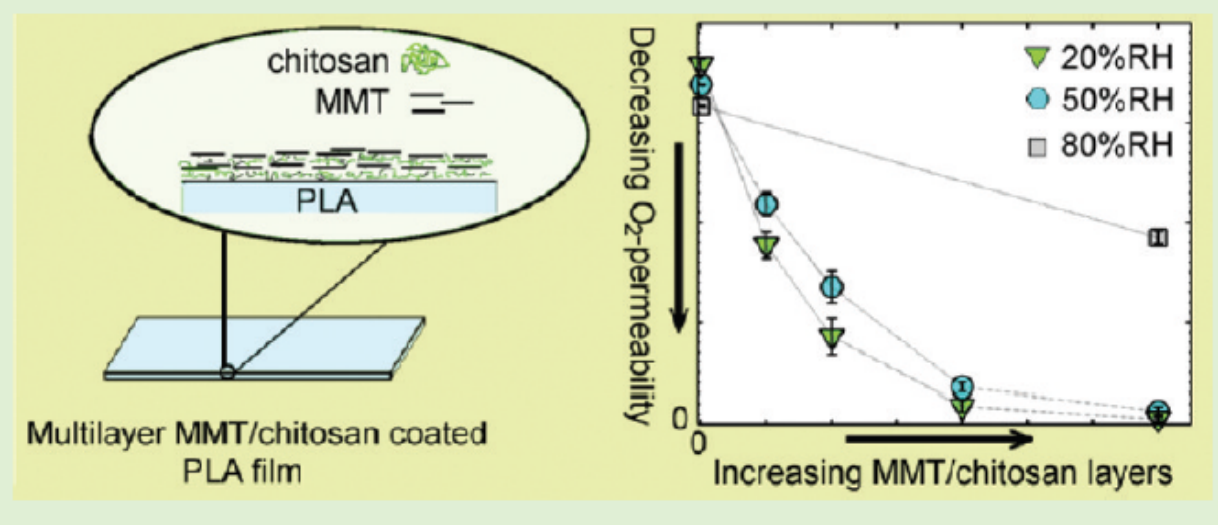
Projects

#4 project : Oppositely charged Multilayers of biomaterials in food applications
Duration: just started
People involved and their function: Master student

BioMACROMOLECULES
Article
pubs.acs.org/Biomac

Transparent Films Based on PLA and Montmorillonite with Tunable Oxygen Barrier Properties

Anna J. Svagan,*,† Anna Åkesson,‡ Marité Cárdenas,‡ Sanja Bulut,§ Jes C. Knudsen,† Jens Risbo,† and David Plackett∥



Topics for Research Proposal

#1 Topic

Title: Hierarchical Suprastructures and Their Use in Food Applications/Drug Delivery

Expertise required: physical chemists, organic chemist, food science, microbiologists,

Facilities/equipment required:
Microscopy
SAXS
Surface sensitive techniques
…

Thank you for your attention