

Last program changes at ECIS 2007

The following lecture is cancelled:

Oshrat Harush-Frenkel, Yoram Altschuler, Simon Benita, *The Hebrew University of Jerusalem, Israel.*

The influence of surface charge on the nanoparticle endocytosis mechanism (keynote lecture 4.2)

This lecture is replaced by:

Florence Delie, A. Cirstoiu-Hapca, M. Gaumet, A. Vargas, R. Gurny, *School of Pharmaceutical Sciences, University of Geneva, University of Lausanne, Switzerland.*

Role of physicochemical properties of nanocarriers as drug delivery systems (keynote lecture 4.2, for abstract see other page)

The following posters are cancelled:

Gayle E. Morris, Marlene J. Cran, Leanne G. Brichter, *Victoria University and University of South Australia, Australia.*

Mineral oxide adsorption: Influence of dispersant architecture (3.A.9)

Mariyka Semchyshyn, Leanne Britcher, Gayle Morris, Marlene Cran, Daniel Fornasiero, *University of South Australia and Victoria University, Australia.*

Phosphonate carboxylate copolymer dispersants for boehmite (3.A.10)

Li Dai, Xin-peng Geng, Dan Wu, Zu-meng Lei, Xiao-yan Feng, Xin-du Geng, *Xi'an Polytechnic University and Institute of Modern Separation Science, Xi'an, China.*

Thermodynamics of the retention for α -amylase in hydrophobic interaction chromatography (2.A.39)

Zu-meng Lei, Xin-peng Geng, Huan Gao, Ying-wei Qiu, Ai-ling Liu, *Xi'an Polytechnic University, China.*

Differential scanning calorimetry and FTIR analysis on RNase A adsorbed at a moderately hydrophobic surface (2.A.40)

Robert Orr, *Norsk Hydro ASA, Porsgrunn, Norway.*

Determination of the interfacial properties of a crude oil-water-gas system at elevated pressures and temperatures (2.B.14)

The authors of the following poster have changed:

Annamária B. Páhi, Tamás Aradi, Zoltán Király, Imre Dékány, József Dudás, Sándor Puskás, Árpád Vágó, *University of Szeged and MOL Hungarian Oil and Gas Plc, Algyő, Hungary.*

Thermodynamics of micelle formation of a novel cocogem surfactant, and the dynamic adsorption of the cocogem on sandstone (5.A.22)

M. Bončina, J. Reščič, V. Vlachy, *University of Ljubljana, Slovenia.*

Depletion interaction and ion-specific effects in protein solutions (4.B.19)

Role of physicochemical properties of nanocarriers as drug delivery systems

F. Delie*, A. Cirstoiu-Hapca, M. Gaumet, A. Vargas, R. Gurny

Department of Pharmaceutics and Biopharmaceutics,
School of Pharmaceutical Sciences, University of Geneva, University of Lausanne,
1211 Geneva 4, Switzerland

Colloidal carriers such as liposomes, polymeric micelles, nanoemulsions or polymeric nanoparticles show great promise as drug delivery systems. Surface properties of such carriers can play a major role in vivo at a cellular level, influencing the biodistribution of the drug. For instance, surface hydrophilicity has been related to long circulating properties. It is also well established that size plays also an important role on cellular uptake and epithelium permeation. Consequently, it is possible to target an organ or a cluster of cells involved in the development of a pathologic state by modifying the physicochemical properties of the carriers. On the other hand, active drug targeting has been achieved by coating colloidal particles with specific recognition moieties, such as monoclonal antibodies or specific proteins or lectins.

To illustrate the role of surface modification on the possible modulation of particle biodistribution for drug delivery, results from our lab will be discussed. Biodegradable nanoparticles with well defined size and surface properties (charge, hydrophilicity) were tested in vitro and in vivo for cellular uptake and efficiency [1,2]. The results show how formulation parameters govern biodistribution and intracellular distribution of the particles. Active targeting has been investigated with biodegradable nanoparticles coated with monoclonal antibodies (Rituximab, Mabthera[®] and Trastuzumab, Herceptin[®]) on lymphoma and ovarian cancer cells, respectively [3].

1. Gaumet M., Gurny R., Delie F., Int. J. Pharm 2007, 342, 222.
2. Vargas A., Pegaz B., Debefve E. et al., Int J Pharm 2004, 286, 131.
3. Cirstoiu-Hapca A., Bossy-Nobs L., Buchegger F., Gurny R., Delie F., Int J Pharm 2007, 331. 190.

*Corresponding author: Email: florence.delie@pharm.unige.ch, Phone: 0041 223796573, Fax: 0041 223796567.