

28 May, 2018, Monday

08:00 Registration

08:30 – 09:00 Opening: Miklós Zrínyi, Éva Kiss, Zoltán Hórvölgyi

ROOM: I

Chair: E Tombacz

09:00 – 09:40 **PL-1:** Anette Schmidt:
Exploiting particle-matrix interactions in hybrid soft matter

09:40 – 09:45 Technical break

ROOM: I - Smart colloidal systems and colloidal particles

Chair: M Zrínyi

09:45 – 10:15 **K-1:** Tatsuo Kaneko
Biopolyimides with ultrahigh performances from transparency to solubility

10:15 – 10:45 *Coffee break*

10:45 – 11:05 O-01: Angéla Jedlovszky-Hajdú
Poly(aspartamide) gel fibers for antibacterial wound dressing

11:05 – 11:25 O-02: Constantinos Voniatis
Poly(vinyl alcohol) meshes for abdominal hernia repair

11:25 – 11:45 O-03: Kristóf Molnár
Poly(aspartic acid) based gel fiber membranes and their properties

11:45 – 12:05 O-04: David Juriga
Novel biocompatible poly(aspartamide) based drug conjugates

12:05 – 12:25 O-05: Attila Forgács
Mechanistic study of the formation of well-defined, size-tunable TiO₂ nanoparticles

ROOM: II - Colloidal particles and self assembly

Chair: T Szabó

09:45 – 10:15 **K-2:** Alberto Tiraferri
Colloidal behavior and injection strategies of iron oxide nanoparticles for aquifer nanoremediation

10:15 – 10:45 *Coffee break*

10:45 – 11:05 O-06: Ruey-an Doong
Enhanced dechlorination and mobilization behaviors of bimetallic iron/nickel-mesoporous silica colloids in porous media

11:05 – 11:25 O-07: Gregor Trefalt
Aggregation of colloids in asymmetric electrolytes: Schulze–Hardy and inverse Schulze–Hardy rules

11:25 – 11:45 O-08: Andra Dedinaite
Trapped states affect temperature-dependent interfacial properties of PIPOZ-containing polymers

- 11:45 – 12:05 O-09: András Deák
Patchy nanoparticles and their assemblies investigated at the single particle level
- 12:05 – 12:25 O-10: Patrick Feicht
Large scale self-assembly of smectic nanocomposite films: impact of crystal quality on barrier properties
- 12:25 – 14:00 *Lunch*

ROOM: I - Smart colloidal systems and colloidal particles

Chair: A Deák

- 14:00 – 14:30 **K-3:** Juraj Bujdák
Resonance energy transfer between dye molecules in the colloids of layered nanoparticles
- 14:30 – 14:50 O-11: Miklos Zrínyi
Colloidal particles that make polymers networks smart
- 14:50 – 15:10 O-12: Dillip Kumar Satapathy
Loosely packed monolayer of soft colloids: order-to-disorder transition
- 15:10 – 15:30 O-13: Yaroslav V. Kudryavtsev
Block copolymers for the phase transfer and stabilization of large Au nanoparticles
- 15:30 – 15:50 O-14: Tamás Veres
Magnetic gel fiber based mesh for theranostics

ROOM: II - Colloidal particles and self assembly

Chair: I Szilágyi

- 14:00 – 14:30 **K-4:** Alexander Talyzin
Temperature dependent swelling of graphite oxides in polar solvents
- 14:30 – 14:50 O-15: Aristeidis Bakandritsos
Fluorographene chemistry: broadening the family and scope of graphene derivatives
- 14:50 – 15:10 O-16: Tamás Szabó
Self-assembly strategies for the deposition of GO and derived graphene-based mono- and multilayers
- 15:10 – 15:30 O-17: Lenke Kócs
Antireflective silica sol-gel coatings: in-depth study of optical properties
- 15:30 – 15:50 O-18: Borbála Tegze
Photodegradation of cationic dyes in the pore structure of titania sol-gel coatings

Chair: P. Jedlovsky

- 15:50 – 17:30 *Coffe Break + Poster Session*
- 18:30 – 20:30 *Welcome Party*

29 May, 2018, Tuesday**ROOM: I***Chair: Z Hórvölgyi*

- 09:00 – 09:40 **PL-2:** Andre Ayrál
Colloidal routes to inorganic and hybrid membranes with unusual nanostructures
- 09:40 – 09:45 Technical break

ROOM: I - Smart colloidal systems and colloidal particles*Chair: I Bányai*

- 09:45 – 10:15 **K-5:** John Texter
Thermodynamically stable dispersions for new materials
- 10:15 – 10:45 *Coffee break*
- 10:45 – 11:05 O-19: Klemen Bohinc
Interaction between charged macroions mediated by charged nanoparticles
- 11:05 – 11:25 O-20: József Kalmár
Aerogel based drug delivery systems – Relationship between matrix structure and release mechanism
- 11:25 – 11:45 O-21: Ratchapol Jenjob
Tuning release profile and release selectivity of silica nanocapsules
- 11:45 – 12:05 O-22: Emőke Albert
Dye adsorption in mesoporous sol-gel coatings
- 12:05 – 12:25 O-23: Davor Kovacevic
Polyelectrolyte-coated cerium oxide nanoparticles

ROOM: II – Biocolloids*Chair: K Sinkó*

- 09:45 – 10:15 **K-6:** István Szilágyi
Antioxidant titania-enzyme hybrid materials
- 10:15 – 10:45 *Coffee break*
- 10:45 – 11:05 O-24: Marek Tatarko
Multi-frequency acoustic biosensor for label-free detection of self-assembled casein layer degradation by serine proteases
- 11:05 – 11:25 O-25: Livia Naszályi Nagy
Ceramic core / shell nanospheres as vaccine carriers
- 11:25 – 11:45 O-26: Erzsébet Csányi
Nanostructured drug delivery systems to overcome the skin barrier function
- 11:45 – 12:05 O-27: Łukasz Lamch
Synthesis and properties of new functionalized polymeric micelles for therapeutic applications

12:05 – 12:25 O-28: Csaba Balazsi
Electrosprayed bioactive calcium phosphate layers starting from biogenic raw materials

12:25 – 14:00 *Lunch*

ROOM: I - Magnetic colloids

Chair: A Bakandritsos

14:00 – 14:30 **K-7:** Ladislau Vekas
From ferrofluids to magneto-responsive nanocomposites and magnetorheological suspensions: tuning properties to applications

14:30 – 14:50 O-29: Milan Timko
Structure and hyperthermia effect in magnetosome solution

14:50 – 15:10 O-30: Erzsébet Illés
The role of coating on magnetic core in hyperthermia efficiency

15:10 – 15:30 O-31: Sofia Housni
Magnetically assisted flocculation of clay suspensions

15:30 – 15:50 O-32: Peter Kopcansky
Magnetoferritin and interaction with amyloids

ROOM: II - Self-assembled and macromolecular systems

Chair: R Mészáros

14:00 – 14:30 **K-8:** Alexander Shchekin
Kinetic theory of micellization

14:30 – 14:50 O-33: Krisztina Bali
Nonequilibrium phase properties of oppositely charged polyelectrolyte/surfactant systems: the effect of concentration gradients

14:50 – 15:10 O-34: Li-Jen Chen
Effect of molecular weight of poly(acrylic acid) on the interaction of ionic surfactant and polyelectrolyte mixtures

15:10 – 15:30 O-35: Elena N Govorun
Self-assembly in amphiphilic polymer – surfactant systems

15:30 – 15:50 O-36: Elena D. Mileva
Highlights on the interaction mechanisms of NSAIDs and biocompatible graft PNIPAM-g-PEO copolymers in aqueous solutions

15:50 – 16:10 *Coffee break*

ROOM: I - Magnetic colloids

Chair: E Illés

16:10 – 16:30 O-37: Tunde Borbath
Temperature resistant magnetic nanofluids for high peripheral speed rotating seals

16:30 – 16:50 O-38: Sedaghat Doost Ali
Cinnamaldehyde nanoemulsions resistant to high salt content and temperature stabilized using hydrophobically modified inulin

16:50 – 17:10 Company presentation: Bernhard Scheicher
Get to Know Your Sample – Characterization of Colloidal Systems

ROOM: II - Self-assembled and macromolecular systems*Chair: Elena D. Mileva*

- 16:10 – 16:30 O-39: Oleksandr Artykulnyi
Impact of poly (ethylene glycol) addition on the structure and interaction parameters of anionic surfactant micellar solutions
- 16:30 – 16:50 O-40: Chien-Hsiang Chang
Characterization of catanionic vesicle containing double-chained cationic surfactant
- 16:50 – 17:10 O-41: Marina D. Rukhadze
Study of sodium bis (2-ethylhexyl) sulfosuccinate and polyoxyethylene (4) lauryl ether mixed reverse microemulsions
- 18:30 – 22:00 *Conference dinner*

30 May, 2018, Wednesday**ROOM: I***Chair: É Kiss*

09:00 – 09:40 **PL-3:** Imre Dékány
Self-assembled nanostructures for drug delivery: structural properties and thermodynamic state functions

09:40 – 09:45 Technical break

ROOM: I - Interfacial phenomena*Chair: I Varga*

09:45 – 10:15 **K-9:** Erwin Klumpp
Effect of colloids on the retention and release of engineered nanoparticles in soil

10:15 – 10:45 *Coffee break*

10:45 – 11:05 **O-42:** Krisztina László
Modified carbon aerogels for electrocatalysis

11:05 – 11:25 **O-43:** Sándor Bárány
Electrophoresis in strong electric fields

11:25 – 11:45 **O-44:** Kamil Wojciechowski
Surface activity of biosurfactants from *Saponaria officinalis*

11:45 – 12:05 **O-45:** Loránd Románszki
On the reproducibility problems of surface pressure – area isotherms of bovine β -casein layers at the air/water interface

12:05 – 12:25 **O-46:** Hristina Petkova
Hydrophobically modified poly(acrylates): behavior at interface and in aqueous media

ROOM: II - Computational studies on colloidal systems*Chair: K Bohinc*

09:45 – 10:15 **K-10:** György Hantal
Chemistry and water dynamics at the surface of hydrated magnetite

10:15 – 10:45 *Coffee break*

10:45 – 11:05 **O-47:** Réka Horváth
Adsorption of methylamine on amorphous ice under interstellar conditions. A Grand Canonical Monte Carlo simulation study

11:05 – 11:25 **O-48:** Bastiaan Molleman
The oxide structure on silver nanoparticles

11:25 – 11:45 **O-49:** Balázs Fábián
Investigation of problems related to the lateral pressure profile

11:45 – 12:05 **O-50:** Nikolai A. Volkov
Transport properties of sodium dodecyl sulfate aqueous solutions in simulation boxes of different size

12:05 – 12:25 O-51: Pál Jedlovsky
Effect of general anesthetics on the properties of lipid membranes of various compositions. A computer simulation study

12:25 – 14:00 *Lunch*

ROOM: I - Interfacial phenomena

Chair: D Kovacevic

14:00 – 14:30 **K-11:** Per M. Claesson
Local surface nanomechanical properties of nanocomposites

14:30 – 14:50 O-52: Norbert Nagy
Capillary bridge probe method: an application of r- θ bridges

14:50 – 15:10 O-53: Attila Ábrahám
Fabrication of antireflective and water-repellent hybrid sol-gel coatings

15:10 – 15:30 O-54: Y. Ildikó Tóth
Characterization of the solvent specific evaporation from the surface of hydrophobic layered double oxide (LDO)/fluoropolymer composite

ROOM: II - Magnetic colloids

Chair: A Jedlovsky-Hajdú

14:00 – 14:30 **K-12:** Ildikó Csóka
Colloidal systems as carriers for peptide drugs: possibilities and challenges

14:30 – 14:50 O-55: Árpád F Szőke
Cross-linking chitosan for improved anticorrosive protection of zinc

14:50 – 15:10 O-56: Andrea Domán
Synthesis and characterisation of copper benzene-1,3,5-tricarboxylate

15:10 – 15:30 O-57: Levente Novák
Characterization and metal complex formation properties of polyaminocarboxylate macromolecular ligands

15:30 – 15:50 **Closing**

POSTER PRESENTATIONS

Chair: P. Jedlovszky

- P-1 Ágota Deák**
Photoreactive hybrid films with superhydrophobic properties
- P-2 Cho Dong Hyu**
Effect of Quinone compound nanoemulsion on ovarian cancer cell
- P-3 Ruey-an Doong**
Interfacially electronic structures of various morphological gold-magnetite colloidal nanoparticles for multifunctional application in catalysis and bioimaging
- P-4 Andrea Elekes**
Study on emulsions for the petroleum industry
- P-5 Erzsébet Illés**
One-pot scalable synthesis of magnetite/graphene oxide nanocomposites under mild conditions
- P-6 Ruba Ismail**
Pharmaceutical applications of colloidal drug delivery systems: case studies for biological drugs
- P-7 Koppány Kovács**
Determination of polymer sizes in multicomponent systems using NMR spectroscopy
- P-8 Sándor Kurunczi**
Fabrication of dextran coatings for biosensors
- P-9 Dávid Nyúl**
Application of NMR-MOUSE for colloids
- P-10 Loránd Románszki**
The versatility of contact angle measurement
- P-11 Sándor Viski**
The effect of dyes on the interaction of HSA with monoclonal antibody
- P-12 Sandra Đ. Bučko**
Preparation of cutin nanoparticles
- P-13 Nóra Nagy**
Preparation and investigation of colloidal drug carrier systems
- P-14 Zoltán Somosi**
Anion specific effects on the size and charge of monodisperse layered double hydroxide particles
- P-15 Árpád Turcsányi**
Chitosan nanoparticle/graphite oxide nanocomposites for controlled drug release

- P-16 Krisztina Bali**
Influence of added anionic surfactant on the polyamine induced reduction process of gold(III)-ions
- P-17 Sándor Bárány**
Effect of cationic surfactant and clay platelets on electrokinetic potential and size distribution in carbon nanotubes aqueous suspensions
- P-18 Sándor Bárány**
Electrosurface properties of bentonite particles in electrolyte and surfactant solutions
- P-19 Peter Karpati**
Production of microcapsules containing active ingredient by a novel complex technology: characterization of wall materials and their mixtures
- P-20 Krisztián Moldován**
Technical aspects of following the kinetics of formation of TiO₂ nanoparticles in aqueous solution
- P-21 Szabolcs Muráth**
Exfoliation of layered double hydroxides in alcohols and amides
- P-22 Mohammed Bbouzbib**
Transparent gamma Al₂O₃ layer for environmental protection
- P-23 Krisztina László**
Mesoporous carbon aerogels tailored by room temperature ionic liquids
- P-24 Vanda Papp**
Pore structure characterization of silica-based aerogels by NMR spectroscopy and N₂ gas porosimetry
- P-25 Markus E Ahlskog**
The interaction between the wetting line and arc-discharge carbon nanotube deposits
- P-26 Tímea Baranyaiová**
Formation of rhodamine dye molecular aggregates in montmorillonite colloids: effects of dye surface concentration
- P-27 Fatima Ouanzi**
Novel carbon quantum dots and their bioimaging applications
- P-28 Edit Pári**
Structural investigation of ordered lipid monolayers
- P-29 Tünde Tóth**
Affinity of drug molecules with increasing hydrophobicity to poly(lactic-co-glycolic acid) monolayer studied by Langmuir-balance
- P-30 Ágnes Ábrahám**
Organic nanolayers for liquid and particle adhesion studies

- P-31 Jan Dusza**
Electrospinning – a unique technology for the production of polymer, ceramic and composite nanomaterials
- P-32 Jaroslav Katona**
Formation of chitosan-sodium lauryl ether sulfate complexes and their deposition at the oil/water interface
- P-33 Flavio Massignan**
Complex drug delivery colloids for encapsulation of hydrophobic and hydrophilic compounds
- P-34 Maiko, K. Okajima**
Anisotropic hydrogels of cyanobacterial super-polysaccharides
- P-35 Evelin Sipos**
Preparation and characterization of cyclodextrin cross-linked poly(aspartic acid) gels
- P-36 Krisztina Tóth**
Drug release and biocompatibility of poly(aspartamide) based nanofibrous drug conjugates
- P-37 Szabolcs Vass**
Hydrated micellar structure of ethoxylated nonyl phenols from PGSE NMR
- P-38 Kamil Wojciechowski**
Antimicrobial latexes and films from acrylic and styrene copolymers
- P-39 Áron Dernovics**
Graphene oxide/polycation layer-by-layer structures assembled from acidic, basic and neutral solutions
- P-40 Patrycja Dynarowicz-Latka**
Non-conventional two-dimensional colloids: $F_mH_nF_m$ triblock semifluorinated n-alkanes
- P-41 Bence Fehér**
The effect of temperature and ionic strength on micellar aggregates of oppositely charged thermoresponsive block-co-polymer polyelectrolytes
- P-42 Elena D. Mileva**
Self-assembled structures in aqueous solutions of antennary oligoglycines
- P-43 Szilárd Pothorszky**
Programmed self-assembly of patchy gold nanoparticles
- P-44 Dániel Péter Szekrényes**
Patch formation on tip-selectively modified gold nanorods at the single particle level
- P-45 Dániel Zámbó**
Perturbation-induced clustering of PEGylated gold nanoparticles

P-46 Péter Ádám

Drawing of aluminum oxide fibers

P-47 Csaba Róth

Synthesis of a functionalized hydrophilic shell on *N*-isopropylacrylamide based microgel particles and crosslinking with glutaraldehyde

P-48 Vlad M. Socoliuc

High frequency magnetic field induces large scale aggregates in a colloidal dispersion of magnetic microgels

P-49 Rodica Paula Turcu

Magnetic nanoparticle clusters as promising material for new composite magnetorheological fluids