

Wednesday, October 5

Tutorial Lectures

10.00 – 12.00 **Understanding of colloidal liquid crystals: Theory and experiment**  
BOHDAN LEV, Bogolyubov Institute of Theoretical Physics, NAS of Ukraine

12.00 – 12.30 COFFEE

12.30 – 13.00 **Life and scientific achievements of Prof. Julius Planer**  
ROSTYSLAV BILYY, Institute of Cell Biology, Lviv, Ukraine

13.00 – 13.30 **Marian Smoluchowski's work at the University of Lviv (1899 – 1913)**  
ANDRIJ ROVENCHAK, Ivan Franko National University of Lviv, Ukraine

14:00 – 17:00 REGISTRATION

17:00 – 17:30 OPENING

Session I

Discussion Leader: SLOBODAN ŽUMER, *University of Ljubljana, Slovenia*

17:30 – 18:10 **Skyrmions and other exotic defect structures in a confined chiral liquid crystal**  
JUN-ICHI FUKUDA, National Institute of Advanced Industrial Science & Technology,  
Japan

18:10 – 18:50 **2D and 3D blue phase colloidal crystals**  
MIHA RAVNIK, University of Oxford, UK

19:00 – 22:00 RECEPTION

## Thursday, October 6

### Session II

Discussion Leader: IGOR MRYGLOD, *Institute for Condensed Matter Physics, Ukraine*

- 8:50 – 9:30 **Diffusion of Colloids at Liquid Crystalline Interfaces**  
NICHOLAS ABBOTT, University of Wisconsin, USA
- 9:30 – 10:00 **Electrically controlled colloidal dynamics in liquid crystals**  
OLEG LAVRENTOVICH, Kent State University, USA
- 10:00 – 10:20 **Anomalous Brownian motion of colloidal particles in a nematic environment**  
ALEXANDER BRODIN, Institute of Physics, NAS of Ukraine
- 10:20 – 10:40 **Soft matter made of hard spheres: Synthesis of liquid crystalline hybrid**  
MICHAL WOJCIK, University of Warsaw, Poland
- 10:40 – 11:00 COFFEE

### Session III

Discussion Leader: YURIJ HOLOVATCH, *Institute for Condensed Matter Physics, Ukraine*

- 11:00 – 11:40 **Self-assembled capillary arrows**  
JEAN-CHRISTOPHE LOUDET, University of Bordeaux 1, France
- 11:40 – 12:10 **Dispersions of carbon nanotubes in LC: a physical picture of aggregate formation**  
LONGIN LISETSKI, Institute for Scintillation Materials, NAS of Ukraine
- 12:10 – 12:40 **Aggregation and percolation phenomena in hybrid colloidal dispersions**  
NIKOLAI LBOVKA, Institute of Biocolloidal Chemistry, NAS of Ukraine
- 12:40 – 13:00 **Memory type colloids based on liquid crystals and carbon nanotubes**  
OLEG YAROSHCHUK, Institute of Physics, NAS of Ukraine
- 13:00 – 14:00 LUNCH

### Session IV

Discussion Leader: VASIL NAZARENKO, *Institute of Physics, Ukraine*

- 14:00 – 14:40 **Interactions and topology of chiral nematic colloids**  
IGOR MUSEVIC, University of Ljubljana, Slovenia
- 14:40 – 15:20 **The abc of the elastic multipoles and their interaction**  
VIKTOR PERGAMENSHCHIK, Korea University, South Korea
- 15:20 – 16:00 **Colloidal particles in a cholesteric liquid crystal**  
PAUL CLEGG, University of Edinburgh, UK
- 16:00 – 16:30 **Colloids stabilized by nematic braids: some topological and geometrical aspects**  
SLOBODAN ZUMER, University of Ljubljana, Slovenia
- 16:30 – 17:00 COFFEE
- 16:30 – 18:00 POSTER SESSION

### Poster Session

Discussion Leader: IVAN SMALYUKH, *University of Colorado-Boulder, USA*

## Friday, October 7

Session V

Discussion Leader: VOJKO VLACHY, *University of Ljubljana, Slovenia*

- 9:00 – 9:40 **Applied topology in liquid crystals**  
GARETH ALEXANDER, University of Warwick, UK
- 9:40 – 10:10 **Rational design of discotic liquid crystals with high charge carrier mobilities**  
DENIS ANDRIENKO, Max Plank Institute for Polymer Research, Germany
- 10:10 – 10:30 **The role of dipole-dipole correlations on biaxial ordering in the bent-core liquid crystals**  
GRZEGORZ PAJAŁ, Jagiellonian University and University of Strathclyde, Poland
- 10:30 – 10:50 **Theory of elastic interaction between colloidal particles in the nematic cell in the presence of an electric or magnetic field**  
STANISLAV CHERNYSHUK, Institute of Physics, NAS of Ukraine
- 10.50 – 11.20 COFFEE

Session VI

Discussion Leader: TARAS BRYK, *Institute for Condensed Matter Phys, Ukraine*

- 11:20 – 12:00 **Temperature controlled liquid crystalline polymorphism of gold nanoparticles**  
EWA GORECKA, University of Warsaw, Poland
- 12:00 – 12:30 **Fluids in contact with surfaces modified by tethered chains**  
STEFAN SOKOLOWSKI, Uniwersytet Marii-Curie Skłodowskiej, Poland
- 12:30 – 13:00 **Microphase separation driven morphologies in nanopatterned pores**  
JAROSLAV ILNYTSKYI, Institute for Condensed Matter Physics, NAS of Ukraine
- 13:00 – 13:20 **Possible mechanism of formation of anisotropic textures in DNA films**  
SERGIY PEREPELYTSYA, Bogolyubov Institute for Theoretical Physics, NAS of Ukraine
- 13:30 – 14:30 LUNCH

Session VII

Discussion Leader: MYROSLAV HOLOVKO, *Institute for Condensed Matter Phys, Ukraine*

- 14:30 – 15:10 **Nanoparticles mediated liquid crystal blue phases**  
LIANG-CHY CHIEN, Kent State University, USA
- 15:10 – 15:50 **Modeling the dynamics of liquid crystalline systems**  
PETER PALFFY-MUHORAY, Kent State University, USA
- 15:50 – 16:20 **Complex-shaped plasmonic nanoparticles in liquid crystals**  
IVAN SMALYUKH, University of Colorado, Bolder, USA
- 16.20 – 16.40 COFFEE

Discussion Leader: ANDRIJ TROKHYMCHUK, *Institute for Condensed Matter Phys, Ukraine*

16:40 – 17:20 **Landau theory examination of the anisotropic susceptibility: field, temperature and fluctuation effects for a nematogen**

DAVID ALLENDER, Kent State University, USA

17:20 – 18:00 **Effective dielectric function and Frederiks transition in ferroelectric liquid-crystal nanosuspensions**

VICTOR RESHETNYAK, National Taras Shevchenko University of Kyiv, Ukraine

18:00 – 18:30 **Conformational effects on the temperature dependence of helical twisting power**

JOHN WEST, Kent State University, USA

18:30 – 18:40 CLOSING REMARKS

## LIST OF POSTERS

- 1. Shapes of macromolecules in porous environments: field theoretical renormalization group approach**  
BLAVATSKA V., Institute for condensed matter physics, Lviv, Ukraine
- 2. Photo induced anchoring on chalcogenide surface**  
BOYARCHUK N., Institute of Physics, Kyiv, Ukraine
- 3. Magnetic twist Fredericksz transition in a rectangular nematic cell**  
BURYLOV S., Institute of Transport Systems and Technologies, Dnepropetrovsk, Ukraine
- 4. Necessary conditions of the modulated structure formation in the filled nematics**  
KLESHCHONOK A., National Taras Shevchenko University of Kyiv, Ukraine
- 5. Synthesis and characterization of H-shaped liquid crystals**  
KOŁPACZYŃSKA M., University of Warsaw, Poland
- 6. Maier-Saupe nematic fluid: integral equation and field theory approaches**  
KRAVTSIV I., Institute for condensed matter physics, Lviv, Ukraine
- 7. Polarization diffraction gratings in liquid crystals cells with chalcogenide glassy surfaces**  
KURIOZ YU., Institute of Physics, Kyiv, Ukraine
- 8. Influence of light beam's narrowness on the hysteresis of Fredericksz transition in a nematic cell**  
LEDNEY M., National Taras Shevchenko University of Kyiv, Ukraine
- 9. The spatial-periodic threshold structure of director in a nematic cell with periodic anchoring energy**  
LEDNEY M., National Taras Shevchenko University of Kyiv, Ukraine
- 10. Helical twisting in nematic-cholesteric mixtures with photoactive components**  
LISETSKI L., Institute for Scintillation Materials, NAS Ukraine
- 11. Elasticity in homeotropically aligned lyotropic chromonic liquid crystal studied with magnetic field Fredericksz transition**  
NASTISHIN YU., Institute of Physical Optics, Lviv, Ukraine
- 12. Modelling smectic layers in confined domains**  
PEVNYI M., Kent State University, United States
- 13. Rod-like mesogens containing thiophene unit**  
PUTEROVA Z., Univeristy of Warsaw, Poland
- 14. Dynamics of the interior molecular structure AFLC with partly fluorinated tail**  
SUFIN M., University of Silesia, Katowice, Poland
- 15. The influence of the anchoring energy strength on the hysteresis of light induced Fredericksz transition in confined light beams**  
TARNAVSKYY O., National Taras Shevchenko University, Kyiv, Ukraine
- 16. Coupled modes theory for a planar nematic waveguide with spatial periodic anchoring energy above the Fredericksz transition threshold**  
TARNAVSKYY O., National Taras Shevchenko University, Kyiv, Ukraine
- 17. Monomer density profiles for polymer solution in semi-infinite space containing big colloidal particles**  
USATENKO Z., Institute for condensed matter physics, Lviv, Ukraine