

## Dear Colleagues – the Participants of ISSHAC-10 Symposium

We are so much pleased to welcome you to the beautiful city of Lublin, and to offer you the interesting scientific program, as well as a number of social events for your satisfaction.

Please read carefully this program. It will help you to avoid unnecessary confusion and complications, and make your participation not only an exciting but also relaxing experience.

### Registration

The registration office will be open at the *Institute of Computer Science, 9 Akademicka Str., 20-033 Lublin* from August 26, Sunday afternoon till the late afternoon of Friday, August 31.

### Lecture halls

The lecture room is located on the first floor of the Computer Science building, 9 Akademicka Str.

The poster sessions will take place near the lecture room.

### Lunches

All lunches for the participants will be served in the restaurant of Mercure Hotel, 12 Raławickie Av.

## Social events

### *Welcome party*

August 26, Sunday afternoon at 7 p.m. on the second floor of the Computer Science building

### *The social event in the Village Museum*

August 28, Tuesday at 19:30-23:30

### *Dinner in the Dominican Monastery*

August 30, Thursday at 19:00-23:00

## Important addresses

Institute of Computer Science, 9 Akademicka Str.

Mercure Hotel, 12 Raławickie Av.

Village Museum, 96 Warszawska Av.

(buses 18 and 30, direction *Sławinkowska*;  
bus 20, direction *Dębowka*)

Dominican Monastery, 9 Złota Str.,  
the Old City of Lublin

## Your journey back home

The symposium desk in the Computer Science building will be open every day up to Friday, August 31. Our Colleagues at the symposium desk will help you with arranging your transportation problems.

## Program for accompanying persons

Apart from the social events organized for all the participants, there is always a special program for accompanying persons organized during the conference time. There is always an English-speaking guide taking care of the accompanying persons.

### **Monday, August 27**

- 09:00 Meeting with an English-speaking guide.  
Program orientation session.
- 13:00-15:00 Lunch in the Hotel Mercure.

### **Tuesday, August 28**

- 09:00-13:00 A guided excursion to visit the Old City of Lublin.
- 13:00-15:00 Lunch in the Hotel Mercure.
- 19:30-23:00 The Accompanying Persons will join the Active Participants for the social event in the Village Museum.

### **Wednesday, August 29**

- 13:00-15:00 Lunch in the Hotel Mercure.
- 15:00 Free time.

### **Thursday, August 30**

- 09:00-17:00 A guided bus tour to Zamość.
- 19:00-23:00 The Accompanying Persons will join the Active Participants for dinner in the Dominican Monastery.

### **Friday, August 31**

- 12:00-14:00 Lunch in the Hotel Mercure.

# Program of ISSHAC-10 Symposium

## August 26, Sunday

15:00-22:00 Registration.

19:00-21:00 Welcome party.

## August 27, Monday

08:00 Late registration.

09:00-09:30 Opening of the Symposium.

### Oral Session 1

Fundamentals of Adsorption: Adsorption in Confined Geometries

**Chairman: Tomasz Pańczyk**

9:30-9:50 *Cavitation of confined fluids in mesopores*,  
Annie Grosman

9:55-10:15 *Comprehensive Modeling of Capillary  
Condensation in Open-Ended Nanopores:  
Equilibrium, Metastability, and Spinodal  
Transitions*, Minoru T. Miyahara

10:20-10:40 *Gelation of patchy ligand shell model  
nanoparticles decorated by liquid-crystalline  
ligands confined in slit-like pores. Computer  
simulation study*, Stefan Sokołowski

10:45-11:20 Coffee break

### Oral Session 2

Fundamentals of Adsorption: Adsorption in Confined Geometries

**Chairman: Stefan Sokołowski**

- 11:20-11:40 *Nitrogen adsorbate packing on nonporous alumina and macroporous silica*, Trevor C. Brown
- 11:45-12:05 *How to select the most appropriate mathematical adsorption model to examine microporous carbonaceous adsorbents*, Janina Milewska-Duda
- 12:10-12:30 *Stochastic Analysis of Capillary Condensation in Disordered Mesopores*, Cedric J. Gommès
- 12:35-12:55 *Porosity and surface heterogeneity of alpha-alumina: does the race towards the universal t-curve have a finish?*, Maksim S. Melgunov
- 13:00-13:20 *Aluminophosphate zeotypes for gas separations – Macroscopic predictions and microscopic insights from Monte Carlo simulations*, Michael Fischer
- 13:30-15:00 Lunch

### Oral Session 3

#### Tailoring Materials for Adsorption Applications

**Chairman: Tim Mays**

- 15:00-15:15 *Functionalized mesoporous silica materials as potential sorbents of pharmaceuticals*, Mariusz Barczak
- 15:20-15:35 *Consequences of Basal Plane Heterogeneities for Adsorption and Permeation in Graphene*, Fernando Vallejos-Burgos
- 15:40-15:55 *Investigating Guest Induced Structural Flexibility of SD-65 Metal-Organic Framework for 1-3-butadiene Capture*, Jose M. Vicent-Luna

- 16:00-16:15 *Adsorption study of thioctic acid-surface modified nano-ZrO<sub>2</sub> via single and two-step modifications for palladium and gold extraction from electronic waste effluent*, Quoc An Trieu
- 16:20-16:35 *Adsorption of chemical warfare agents on surface active carbon textiles*, Mariusz Barczak
- 16:40-16:55 *Heterogeneous composite adsorbents for fuel gas storage*, Tim Mays
- 17:00-18:00 Coffee break and Poster Session 1

#### Oral Session 4

##### Graphene

**Chairman: Katsuyuki Murata**

- 18:00-18:15 *Three dimensional functionalization of graphene obtained from commercial graphite by wet chemistry exfoliation*, Piotr Kamedulski
- 18:2-18:35 *Controlling the Charge Transfer Flow at the Graphene/Pyrene-Nitrilotriacetic Acid Interface*, Silvio Osella

### **August 28, Tuesday**

#### Oral Session 5

##### Theoretical Modelling of Adsorption

**Chairman: Paweł Szabelski**

- 9:00-9:20 *Self-assembly of hairy disks in monolayer films*, Tomasz Staszewski

- 9:25-9:45 *Thermodynamics and simulation of orientational phase transition in the nitrogen contact layer on graphite*, V.A. Gorbunov
- 9:50-10:10 *Self-assembly of tritopic molecules with directional interactions in organic overlayers: insights from computer modeling*, Damian Nieckarz
- 10:15-10:30 *Specific devices for particles (pores) characterization and sorption analysis*, M. Wójtowicz, Syl&Ant Instruments (repr. Micromeritics and Surface Measurement Systems)
- 10:15-11:30 Coffee break and Poster Session 2

#### Oral Session 6

#### Theoretical Modelling of Adsorption

**Chairman: Hee Moon**

- 11:30-11:50 *Two-dimensional fluid – solid coexistence in molecular layers on smooth surfaces*, Eugene A. Ustinov
- 11:55-12:15 *Theoretical modeling of nanostructured surfaces from adsorption and self-assembly of functional molecules*, Paweł Szabelski
- 12:20-12:40 *Reflections on the generalized isotherm for adsorption on heterogeneous solids*, Tim J. Mays
- 12:45-13:05 *Density Functional Theory for Adsorption and Phase Behavior of Water-Like Models of Associating Fluids*, Orest Pizio

13:10-13:25 *Material Characterization Instrumentation – Surface Area, Density and Pore Size,*  
Helena Bogusz-Koziarska, Anton Paar Poland  
(repr. Anton Paar GmbH)

13:30-15:00 Lunch

Oral Session 7

Characterization of Adsorbents

**Chairman: Teofil Jesionowski**

15:00-15:15 *Advantages of employing oxygen adsorption for the characterization of carbon nanopores structure,* Jacek Jagiełło

15:20-15:35 *Gate-Opening Effect in Hydrophilic-Hydrophobic Metal-Organic Framework: Quasi-Equilibrated Thermodesorption Combined with Molecular Simulations,* Andrzej Sławek

15:40-15:55 *Laser-treated Microporous Silicon-Titanium Dioxide Photocatalyst for Water Treatment,* Hader A. Abdulbari

16:00-16:15 *A new computational methodology and software for fast determination of specific surface area and adsorption capacity of metal organic frameworks,* Theodore Steriotis

16:20-16:35 *Analysis of structure and properties of DVB-GMA based porous polymers,* Magdalena Sobiesiak

16:40-16:55 *The evaluation of the sorption capabilities of the biopolymeric microspheres by solid phase extraction,* Marta Goliszek



17:00-18:00 Coffee break and Poster Session 3

19:30-23:00 Barbecue in the Village Museum

## **August 29, Wednesday**

Oral Session 8

Mechanism of Surface Catalytic Reactions

**Chairman: Damian Nieckarz**

09:00-09:20 *Mechanisms of surface reactions and dissolution of fluorite (111) surface in aqueous electrolyte solution,*  
Tajana Preocanin

09:25-09:45 *Photocatalytic degradation of model organic impurities using TiO<sub>2</sub>-ZrO<sub>2</sub>, TiO<sub>2</sub>-SiO<sub>2</sub> and TiO<sub>2</sub>-ZrO<sub>2</sub>-SiO<sub>2</sub> oxide systems,* Katarzyna Siwińska-Stefańska

09:50-10:10 *Catalytic properties of aminoacylase from *Aspergillus melleus* immobilized onto carbonyl-grafted ZrO<sub>2</sub>SiO<sub>2</sub> hybrid material,* Agnieszka Kołodziejczak-Radzimska

10:15-11:30 Coffee break and Poster Session 4

Oral Session 9

Practical Applications of Adsorption Phenomena

**Chairman: Jacek Jagiełło**

11:30-11:50 *Magnetic field influence on water properties,* Aleksandra Szczeń

11:55-12:15 *Adsorption of phosphate using amine-grafted and magnetized SBA-15,* Hee Moon

- 12:20-12:40 *Enhanced olefin/paraffin separation in zeolites: Experimental and computational study*, Azahara Luna-Triguero
- 12:45-13:00 *Structurally and morphologically tailored hydroxyapatite materials for effective immobilization of polluting heavy species from wastewaters*, Michele Ferri
- 13:05-13:25 *Concentrations of antioxidants at the interfaces of oil-in-water emulsions: structure-reactivity relationships*, Carlos Bravo-Diaz
- 13:30-15:00 Lunch
- 15:00 Free time

## **August 30, Thursday**

Oral Session 10

Adsorption Affects the Solid

**Chairman: Artur Terzyk**

- 09:00-09:20 *Phase Transition Induced by Gas Adsorption in ZIU-198 Metal-Organic Framework*, Azahara Luna-Triguero
- 09:25-09:45 *Adsorption induced flexibility – can it be described using the intermediate structures of MOFs*, Justyna Rogacka
- 9:50-10:10 *Phonon-induced deformations of zeolitic imidazolate frameworks*, Filip Formalik
- 10:15-10:35 *Non-Ideality in the Adsorption of Ethanol/Ethyl Acetate/Water mixtures on ZIF-8 Metal Organic Framework*, Gino V. Baron
- 10:40-11:30 Coffee break and Poster Session 5

## Oral Session 11

### Synthesis of Adsorbents for Practical Applications

**Chairman: Grit Kalies**

- 11:30-11:45 *Synthesis and functionality of ionic liquid type polymer brush surface*, Takaya Sato
- 11:50-12:05 *Ionosilicas as tailor-made anion exchange materials*, Benedicte Prelot
- 12:10-12:25 *Design, production and practical utility of TiO<sub>2</sub> -ZnO binary oxide systems*, A. Kubiak
- 12:30-12:45 *The development of hybrid lignosulfonate-based materials for adsorption of active pharmaceutical ingredients*, Filip Ciesielczyk
- 12:50-13:05 *An influence of exopolysaccharide on the selected surface properties of Rhizobium Leguminosarum cells*, Jolanta Cieśla
- 13:10-13:25 *Carbon Dioxide Permselectivity in M-MOF-74: Effect of the Open Metal Site*, Jose M. Vicent-Luna
- 13:30-15:00 Lunch

## Oral Session 12

### Theoretical Studies of Adsorbents and Adsorption

**Chairman: Maxim Melgunov**

- 15:00-15:20 *Adsorption and immersion on carbon molecular sieves*, Grit Kalies
- 15:25-15:45 *Wetting in the nanoscale – recent advances and perspectives*, Artur P. Terzyk
- 15:50-16:10 *Stability of the telomeric DNA i-motif as a function of pH. Molecular dynamics analysis*, Tomasz Pańczyk

- 16:15-16:35 *<sup>29</sup>Si NMR spectra of the silica-based materials – a theoretical investigation*, Piotr Borowski
- 16:40-17:00 *Chaotropic effect in reversed phase liquid chromatography*, Irena Maria Choma
- 19:00-23:00 Dinner in the Dominican Monastery

## **August 31, Friday**

### Oral Session 13

#### Theoretical Studies of Adsorbents and Adsorption

**Chairman: Iza Nowak**

- 09:00-09:15 *Sorption of carbon dioxide on the lithotype concentrates of low rank coal*, Katarzyna Czerw
- 09:20-09:35 *Theoretical investigation of water and formaldehyde adsorption on the functionalized carbon surfaces*, Olga Bąk
- 09:40-09:55 *Electron microscopic studies of the catalysts for steam reforming of ethanol prepared by co-precipitation methods*, Grzegorz Słowik
- 10:00-10:15 *The study of the physicochemical properties of polymeric microspheres based on methacrylic derivatives of thiols and divinylbenzene*, Karolina Fila
- 10:20-10:35 *Temperature dependences of kinetics and equilibrium of nitrophenols adsorption from aqueous solutions on active carbon*, Małgorzata Sęczkowska
- 10:40-10:55 *Formation of polysilsequioxane network within polymer pores*, Agnieszka Kierys

11:00-11:30 Coffee break

11:30-12:00 Closing Ceremony.

**Chairman:Wlodek Rudzinski**

12:00-14:00 Lunch

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## Poster sessions

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## Program of poster presentations

**August 27, Monday**

**17:20-18:20 Poster Session 1**

1. *Effect of alcohol on wetting properties of surfactants,*  
Joanna Krawczyk
2. *Crystallographic structure of quartz and its wetting,*  
Joanna Krawczyk
3. *Wettability of hydrophobic polymers by aqueous solution  
of surfactants with regard to Lifshitz-van der Waals  
component of water surface tension,* Bronisław Jańczuk
4. *Critical surface tension of hydrophobic polymers wetting  
and their surface tension,* Bronisław Jańczuk
5. *Prediction of hydrophobic polymer wetting by aqueous  
solution of binary surfactants mixtures,*  
Anna Zdziennicka
6. *Relations between the critical surface tension of mono-  
and bipolar polymers wetting and their surface tension,*  
Anna Zdziennicka
7. *The anionic polyacrylamide adsorption mechanism on  
the gibbsite and goethite surfaces,*  
Agnieszka Nosal-Wiercińska
8. *The impact of 6-thiouanine-nonionic surfactant on  
double layer parameters at the mercury/chlorates(VII)  
interface: dependence on the water activity,* Agnieszka  
Nosal-Wiercińska
9. *Synthesis and characterization of oligothiophene-carbon  
hybrid materials for photovoltaic applications,*  
Piotr Kamedulski

10. *Role of ester group in the adsorption of methylparaben on activated carbon: Calorimetric study of the adsorbent-adsorbate interaction at different pH and ionic force*, Valentina Bernal
11. *The ultra-trace voltammetric determination of Cr(VI) at bismuth film glassy carbon electrode with the catalytic assistance of nitrate ions*, Katarzyna Tyszczyk-Rotko
12. *Adsorptive stripping voltammetric method for the determination of caffeine at integrated three-electrode screen-printed sensor with carbon/carbon nanofibers working electrode*, Katarzyna Tyszczyk-Rotko
13. *Nanowindow geometry control of single graphene materials by mild oxidation*, Katsuyuki Murata
14. *Aqueous arsenate adsorption on mesostructured silica functionalized with iron-amine complexes*, Jesus M. Arsuaga
15. *Polymer-hybrid silica composite for the azo dye removal from aqueous solution*, Andrzej Sienkiewicz
16. *Lyophilized agar as a hard template for preparation of porous inorganic oxides*, Andrzej Sienkiewicz
17. *The effect of zinc ions on the surface properties of Rhizobium Leguminosarum cells*, Jolanta Cieśla
18. *Mono-tethered nanoparticles at solid surfaces*, Małgorzata Borówko
19. *Adsorption mechanism of poly(vinyl alcohol) on the surfaces of selected zeolites: natural sodalite synthetic Na-P1 and Na-A*, Małgorzata Wiśniewska
20. *Comparison of adsorption affinity of anionic and cationic polyacrylamides for the surface of montmorillonite*, Małgorzata Wiśniewska

21. *Improvement of the antioxidant efficiency of gallates in intact fish oil-in water emulsions*, Carlos Bravo-Diaz
22. *MCM-41 containing amine groups as catalysts in Knoevenagel condensation* Izabela Nowak
23. *Hydrodeodeoxygenation of various chemical compounds catalyzed by SBA-16-type*, Izabela Nowak
24. *Biomaterial based toxic gas sensor using microwave resonant cavity*, Sahib Babae Tooski

## **August 28, Tuesday**

### **10:15-11:30 Poster Session 2**

1. *Porosity of swelling of cross-linked polymers-TGA and PALS study*, Jacek Goworek
2. *Partitioning of selected anisole and veratrole derivatives between water and anionic surfactant micelles*, Andrzej Lewandowski
3. *Adsorption of the monoterpene alcohols at the water-air interface*, Andrzej Lewandowski
4. *Adsorption of surfactant mixtures at the water-air and hydrophobic polymer-water interfaces and contact angle*, Katarzyna Szymczyk
5. *Properties of the polymer-aqueous solutions of ternary mixtures of hydrocarbon nonionic surfactants systems*, Katarzyna Szymczyk
6. *Comparison of adsorptive properties of adenine, cytosine, guanine and thymine in  $Ph_4$  acetate buffer*, Dorota Gugła-Fekner
7. *Photocatalytic and antibacterial properties of  $TiO_2$  ZnO mixed oxides obtained via hydrothermal route*, Katarzyna Siwińska-Stefańska



8. *Bimodal adsorption/biodegradation of dyes by oxide systems with immobilized laccase*, Agnieszka Kołodziejczak-Radzimska
9. *FTIR study of propene adsorption on alkali metal exchanged FER and MFI type zeolites: evidence of bridged complexes formation*, Francisca Solanea de Oliveira Ramos
10. *Ordered mesoporous silica-polymer composites for sustained drug release systems*, Agnieszka Kierys
11. *Photocatalytic performance of titania-silica hybrids conjugated with chlorophyllin*, Filip Ciesielczyk
12. *The adsorptive properties of oxidized activated carbons and their applications as carbon paste electrode modifiers*, Małgorzata Zienkiewicz-Strzałka
13. *Tailoring gas adsorption properties by merging activated graphene with metal-organic frameworks*, Jerzy Choma
14. *Impact of impregnation conditions with phosphoric acid on textural characteristics of activated carbons from apricot stones*, Barbara Gawdzik
15. *Influence of mechanochemical and microwave modification on ion-exchange properties of tin dioxide with respect to uranyl ions*, Barbara Charmas
16. *The quasi-isothermal characterization of active carbons on the basis of spent-ion-exchange resin*, Barbara Charmas
17. *Positron study of adsorption of n-heptane and water in SBA-3 and SBA-15* Radosław Zaleski
18. *Application of microwave heating in the preparation of functionalized bioactivated carbons*, Małgorzata Gil

19. *The quasi-isothermal investigation of silicas with hierarchic porosity* Karolina Kucio
20. *Manufacturing and application of adsorption materials for removal of low concentrations of hexane and heptane emission from polymer catalytic reactor*, Yoon Jong Yoo
21. *DFT Study of Adsorption of Sulfanilamide Antibiotics by Vermiculite*, Alfredo Carvalho
22. *The effect of pH and external magnetic field on doxorubicin release from carbon nanotubes. A molecular dynamics study* Paweł Wolski
23. *The effect of demineralization on physicochemical and sorption properties on activated bio-carbons*, Aleksandra Bazan-Woźniak

## **August 28, Tuesday**

### **17:00-18:00 Poster Session 3**

1. *Modified activated carbons obtained by nitrogenation and physical activation of brown coal as potential adsorbents and electrode materials*, Robert Pietrzak
2. *Physicochemical and sorption properties of micro-mesoporous carbons prepared from environmentally friendly precursors*, Justyna Kaźmierczak-Rażna
3. *Influence of the carbon precursors / copolymer ratio on the physicochemical properties of nanoporous materials prepared by soft-templating*, Justyna Kaźmierczak-Rażna
4. *Comparison of physicochemical and electrochemical properties of nitrogen-doped activated carbons obtained by chemical activation of brown coal with the use of microwave and conventional heating*, Piotr Nowicki

5. *Activated carbons obtained from peat as potential adsorbents of organic molecules from mixed solution of polyacrylic acid polymer and sodium dodecyl sulfate surfactant*, Piotr Nowicki
6. *Catalytic conversion of n-hexane on alumina: supported platinum –palladium alloys*, Monika Radlik
7. *Selected physicochemical properties of lithotype concentrates of low rank coal*, Katarzyna Czerw
8. *Measurement of liquid-phase adsorption on porous solids*, Kalies Grit
9. *The ground state investigation of the phase behavior in the simplest adsorption model of a binary gas mixture* Vasilij Fefelov
10. *Coordination self-assembly of 14-benzenedicarboxylate and Fe on Cu(100) surface : Grand Canonical Monte-Carlo simulation results* Vitaly Gorbunov
11. *Synthesis and characterization of the porous materials with lignin*, Marta Goliszek
12. *On the possible role of amorphous mesoporous silica compressibility in Hg intrusion /extrusion hysteresis*, Maxim Melgunov
13. *Adsorption kinetics from non-equilibrium isotherms*, Fernando Vallejos-Burgos
14. *Kinetic study of the adsorption of Triton X-100 on waste tire char by high-performance liquid chromatography*, Aida Mireya Ramirez Arias
15. *Removal of 2,4-D herbicide from aqueous solution by aminosilane-grafted mesoporous carbons*, Joanna Gościańska

16. *Adsorption and release of paracetamol from mesoporous carbons synthesized via aqueous cooperative assembly route in the presence of basic amino acids*,  
Joanna Gościańska
17. *Geometric properties of MCF supports and albumin adsorption studies*, Małgorzata Sęczkowska
18. *Kinetics of pesticide adsorption on oxidized and thermally treated carbons*, Anna Deryło-Marczewska
19. *Textural and morphological properties of biocomposite HSA/nanosilica system*, Anna Deryło-Marczewska
20. *Application of krypton and nitrogen isotherms to characterisation of hydrophobized fine dispersional limestone material*, Elżbieta Vogt
21. *Electrokinetic and adsorption properties of Ba<sup>2+</sup> ions at the hydroxyapatite/solution interface*, Ewa Skwarek
22. *The study of electrokinetic and adsorption properties in aqueous medium for barium titanate synthesized via different methods*, Ewa Skwarek
23. *Heterostructured Co<sub>0.5</sub>Mn<sub>0.5</sub>Fe<sub>2</sub>O<sub>4</sub>-polyaniline nanofibers: highly efficient photocatalysis and photodegradation of methyl orange*, Wan-Jin Lee
24. *Influence of different surfactant synthesized BiOCl/WO<sub>3</sub> microcomposites for enhanced adsorption properties in aqueous solutions*, Do-Heyoung Kim

## **August 29, Wednesday**

### **10:15–11:30 Poster Session 4**

1. *Determination of critical micelle concentration of sodium dodecylbenzenesulfonate in the presence of strong electrolyte and heavy metal ions as preliminary*

- tests for investigations of heavy metal ions sorption in the presence of anionic surfactants, Anna Wołowicz*
- Static sorption of heavy metal ions on ion exchanger in the presence of sodium dodecylbenzenesulfonate, Anna Wołowicz*
  - Molecular dynamics computer simulations of liquid diiodomethane, Michał Chodkowski*
  - Silica-supported cobalt and nickel nanooxides as perspective catalysts, Konrad Terpiłowski*
  - Hydrophobicity of  $\text{SiO}_2@$ PDMS and  $\text{TiO}_2\text{-ZrO}_2\text{-SiO}_2@$ PDMS nanocomposites, Konrad Terpiłowski*
  - Molecular dynamics simulation of an aqueous  $\text{Na}_2\text{SO}_4$  solution, Krzysztof Nieszporek*
  - Inhibiting effect of water on the natural gas purification by nanoporous graphene, Krzysztof Nieszporek*
  - Extension of the GROMOS 56a6<sub>CARBO/CARBO\_R</sub> Force Field for Charged, Protonated and Esterified Uronates, Karina Pańczyk*
  - The Intelligent MBioF and its Potential Application for Drug Delivery Systems, Marek Wiśniewski*
  - Conformation of the Furanose Ring. Insights from the QM/MM Molecular Dynamics Simulations, Karolina Gawęda*
  - The interfacial and electrokinetic behaviour of BG –  $\text{TiO}_2$  – HA system, Agnieszka Ewa Wiącek*
  - Effect of lauryl gallate on the model tumour cell membrane, Małgorzata Jurak*
  - Recovery of metals from waste nickel-metal hydride batteries using chelating ion exchangers, Dominika Fila*

14. *Adsorption properties of Kolliphor surfactants*, Magdalena Szaniawska
15. *Spectroscopic study of aqueous solutions of Kolliphor surfactants*, Magdalena Szaniawska
16. *Application of titania based adsorbent for removal of acid reactive and direct dyes from textile effluents* Ewelina Polska-Adach
17. *Small molecule substances as molecular probes of structure and texture of coal under sorption process and modeling*, Marta Wójcik
18. *Sulfation effects on the enforced conformational transition in the carrageenan oligosaccharides*, Agnieszka Brzyska
19. *Switching colors under forces—spiropyran mechanophore in action*, Agnieszka Brzyska
20. *Nanoporous carbon composites-characteristics and evaluation of sorption properties*, Magdalena Sobiesiak
21. *Effect of magnetic field on surface tension of water and surfactant solutions*, Emil Chibowski
22. *Hysteresis Loop Study for Adsorption of Fluid in Ink-Bottle Shaped Carbon*, Atichat Wongkoblap

### **August 30 Thursday**

#### **10:15-11:00 Poster Session 5**

1. *Chemical modification of commercial ST-DVB microspheres and their application for metal ions removal*, Przemysław Podkościelny
2. *Effect of surface heterogeneity on aromatic pollutants adsorption from aqueous solutions onto multiwalled carbon nanotubes*, Przemysław Podkościelny

3. *Novel heterobimetallic nanoporous Metal Organic Frameworks with variable topologies for gas storage and separation*, Georgia Charalambopoulou
4. *Influence of organic additives on Co(II) sorption onto  $\gamma$ -alumina*, Benedicte Prelot
5. *Time dependence on surface properties of poly(ethylene terephthalate) activated with air and argon plasma*, Michał Chodkowski
6. *Lubrication properties of ammonium based ionic liquids lubricants in the hydrophilic/hydrophobic smooth tribopair surfaces*, Toshio Kamijo
7. *Recovering nutrients for microalgae cultivation from waste black water through multi-functional mesoporous silica*, Min-Jin Hwang
8. *Spectroscopic studies of surfactant and flavonoid mixtures*, Anna Taraba
9. *Thermodynamic parameters of adsorption of water-alcohol solutions of quercetin and rutin at the water-air interface*, Anna Taraba
10. *Anti-oxidative properties of various metal ions (Zn, Mg, Ca) in cysteine-coordination-polymers*, Adam Bieniek
11. *Heterogeneous adsorption of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub> and H<sub>2</sub> on basalt rock based zeolite 4A*, Wang Geun Shim
12. *Alumina-Silica-Titania based material for adsorptive removal of hazardous dyes from textile effluents* Monika Wawrzekiewicz
13. *Confrontation of various adsorption models for assessing the porous structure of activated carbons*, Mirosław Kwiatkowski

14. *Computer analysis of the porous structure of activated carbon monoliths based on nitrogen , carbon dioxide and methane adsorption isotherms,*  
Mirosław Kwiatkowski
15. *Comparison of the adsorption of chitosan on the alumina and silica surfaces,* Jakub Matusiak
16. *Surface tension measurements as an effective method for determination of the interactions between fluorinated surfactants and polysaccharides,*  
Jakub Matusiak
17. *Properties of dyes used in dye sensitized solar cells-quantum chemical studies,* Roma Musik
18. *Fe<sup>2+</sup> adsorption on iron oxide: analysis of the redox potential of the adsorption system,* Wojciech Piasecki
19. *Functionalized vermiculites as supports of novel catalysts for SCR of NO<sub>x</sub> with ammonia,*  
Bogdan Samojeden
20. *The preparation and physicochemical properties of cenospheres,* Bogdan Samojeden
21. *Aspects affecting modeling of sorption from binary gaseous mixture in coals* Grzegorz Jodłowski
22. *Sorption in CO<sub>2</sub> in different rank coals at low pressures and its interpretation by classic methods and Multiple Sorption Model – effect of coal comminution,* Grzegorz Jodłowski