

**Sunday, 7 July 2013**

16:00 – 19:00 Registration and welcome buffet

**Monday, 8 July 2013**

09:00 – 09:30 OPENING CEREMONY

## LECTURE SESSION 1

*Chaired by:* M. Schönhoff (Germany)

09:30 – 10:10 IL-01

**B. Blümich** (Germany)

Polymer analysis by compact NMR

10:10 – 10:30 OC-01

**L. Bokobza** (France)

Raman spectroscopic investigation of carbon-based materials and their composites

10:30 – 11:00 Coffee break

## LECTURE SESSION 2

*Chaired by:* K.-J. Eichhorn (Germany)

11:00 – 11:20 OC-02

**H. Sato** (Japan)

Intermolecular interactions of polyglycolic acid studied by vibrational spectroscopy, wide angle X-ray diffraction, and quantum chemical calculation

11:20 – 11:40 OC-03

**J. Spěváček** (Czech Republic)

Thermoresponsive polymers in aqueous solutions and hydrogels studied by NMR spectroscopy and other methods

11:40 – 12:00 OC-04

**M. Petkovic Didovic** (France)Local dynamics in amorphous aliphatic-aromatic copolyamides as probed by <sup>13</sup>C solid-state NMR

12:00 – 12:20 OC-05

**P. Wilhelm** (Austria)

Probing deep polymer layers – preparing for a spectroscopic dive

12:20 – 14:00 Lunch

## LECTURE SESSION 3

<i>Chaired by:</i>	<i>M. Müller (Germany)</i>
14:00 – 14:40	IL-02 <b>D. Hinderberger (Germany)</b> EPR spectroscopy on nitroxides: a simple method to elucidate molecular and nanoscale processes in thermoresponsive polymers
14:40 – 15:00	OC-06 <b>J. Pilař (Czech Republic)</b> Opportunities offered by of electron spin resonance imaging for elucidation of properties of polymer systems
15:00 – 15:20	OC-07 <b>K. Bruckmoser (Austria)</b> Comparative spectroscopic study of aged thermoplastic polyurethanes
15:20 – 15:40	OC-08 <b>A. Kaur (India)</b> Investigation of gas sensing mechanism in polypyrrole nanostructures through Raman spectroscopy
15:40 – 16:10	Coffee break
16:10 – 17:40	<b>Poster Session I (P-01 – P-30)</b>

**Tuesday, 9 July 2013**

## LECTURE SESSION 4

<i>Chaired by:</i>	<i>S. G. Kazarian (U.K.)</i>
09:00 – 09:40	IL-03 <b>I. Noda (U.S.A.)</b> Two-dimensional correlation spectroscopy study of polymers
09:40 – 10:00	OC-09 <b>D. K. Hore (Canada)</b> Absolute orientation of polymer surface side chains by interferometric nonlinear vibrational spectroscopy
10:00 – 10:20	OC-10 <b>D. Olmos (Spain)</b> Understanding thermal transitions in polystyrene-barium titanate nanocomposites using Fourier transform infrared spectroscopy
10:20 – 10:40	OC-11 <b>S. D. Khizhnyak (Russian Federation)</b> Application of IR, UV-vis and Raman spectroscopy to study morphology of polymeric blends, composites and porous materials

10:40 – 11:10 Coffee break

## LECTURE SESSION 5

*Chaired by:* L. Bokobza (France)

11:10 – 11:50 IL-04  
**V. Baumruk** (Czech Republic)  
Vibrational optical activity of (bio)polymers

11:50 – 12:10 OC-12  
**G. Yu. Nikolaeva** (Russian Federation)  
Raman structural analysis of random copolymers and polymer blends

12:10 – 12:30 OC-13  
**A. Šturcová** (Czech Republic)  
Associative behaviour of Pluronics and their modifications: hydration, charge formation and gelation

12:30 – 14:00 Lunch

## LECTURE SESSION 6

*Chaired by:* Y. Ozaki (Japan)

14:00 – 14:40 IL-05  
**D. Cangialosi** (Spain)  
Dielectric and calorimetric spectroscopy to unravel dynamics and physical aging in nano-structured polymers

14:40 – 15:00 OC-14  
**V. Cimrová** (Czech Republic)  
Spectroscopic properties of novel copolymers for photonics

15:00 – 15:20 OC-15  
**M. Malanin** (Germany)  
On-flow SEC-FTIR as a tool for the preferential solvation study of polymers

15:20 – 15:40 OC-16  
**M. Grabmann** (Austria)  
Raman spectroscopic analysis of melting transitions in beta-nucleated polypropylene

15:40 – 16:10 Coffee break

16:10 – 17:40 **Poster Session II (P-31 – P-61)**

**Wednesday, 10 July 2013**

## LECTURE SESSION 7

<i>Chaired by:</i>	<i>I. Noda (U.S.A.)</i>
09:00 – 09:40	IL-06 <b>Y. Ozaki (Japan)</b> Low-frequency Raman and THz spectroscopy studies on higher-order structures of poly-( <i>R</i> )-3-hydroxybutyrate and nylons
09:40 – 10:00	OC-17 <b>M. Müller (Germany)</b> <i>In-situ</i> -ATR-FTIR characterization of thin biorelated polymer films
10:00 – 10:20	OC-18 <b>L. Hanyková (Czech Republic)</b> NMR and thermodynamic investigation of thermoresponsive copolymers
10:20 – 10:50	Coffee break

## LECTURE SESSION 8

<i>Chaired by:</i>	<i>M. J. Potrzebowski (Poland)</i>
10:50 – 11:30	IL-07 <b>M. Schönhoff (Germany)</b> Pulsed field gradient NMR diffusion in colloid and polymer science: transport of ions in polymer electrolytes and of active molecules in carrier particle dispersions
11:30 – 11:50	OC-19 <b>J. Q. Chen (People's Republic of China)</b> NMR methods to study salts effects on phase transition of thermoresponsive polymer
11:50 – 13:30	Lunch
13:30 – 17:00	Guided tour in Prague
19:00 – 22:00	<b>Conference dinner</b>

**Thursday, 11 July 2013**

## LECTURE SESSION 9

<i>Chaired by:</i>	<i>P. Wilhelm (Austria)</i>
09:00 – 09:40	IL-08 <b>S. G. Kazarian (U.K.)</b> Emerging applications of spectroscopic imaging to polymers
09:40 – 10:00	OC-20 <b>G. C. Eder (Austria)</b> (In)compatibility of polymeric materials - visualisation of migration by ATR-imaging
10:00 – 10:20	OC-21 <b>D. Fischer (Germany)</b> State of the art of Raman spectroscopy, Raman imaging and SERS applications for the investigation of polymer blends, carbon based polymer composites and nanoassemblies
10:20 – 10:50	Coffee break

## LECTURE SESSION 10

<i>Chaired by:</i>	<i>D. K. Hore (Canada)</i>
10:50 – 11:10	OC-22 <b>B. S. Chernev (Austria)</b> Spectroscopic investigations on thin adhesive layers in multimaterial laminates
11:10 – 11:30	OC-23 <b>J. Horský (Czech Republic)</b> Fingerprint multiplicity in MALDI-TOF mass spectrometry of copolymers
11:30 – 11:50	OC-24 <b>A. Bennett (U.K.)</b> Pyrolytic and elemental analysis of decomposition products from a phenolic resin
11:50 – 12:10	OC-25 R. Wills (U.K.) Novel FTIR solutions for polymer analysis
12:10 – 13:30	Lunch

## LECTURE SESSION 11

<i>Chaired by:</i>	<i>J. Brus (Czech Republic)</i>
13:30 – 14:10	IL-09 <b>M. J. Potrzebowski (Poland)</b> Slow and very fast MAS solid state NMR study of biopolymers
14:10 – 14:30	OC-26 <b>J. Czernek (Czech Republic)</b> NMR crystallography of polylactide
14:30 – 14:50	OC-27 <b>S. Yamamoto (Japan)</b> Raman optical activity study on solution structure of poly-L-lactic acid
14:50	Closing ceremony and farewell

## Poster Session I (P-01 – P-30)

### P-01

A. Ladar, M. Arous, H. Kaddami, M. P. F. Graça, M. Raihane, M. Lahcini, A. Kallel, **L. C. Costa** (*Portugal*)

Dielectric properties of natural rubber nanocomposites

### P-02

**L. Huang**, X. Huang, L. Zhang, C. Gu, B. Liu, T. Li, D. Lu  
(*People's Republic of China*)

An insight into the conformational characteristics of conjugated polymers by fractal dimension

### P-03

**S. Madakbaş**, K. Esmer, M. V. Kahraman (*Turkey*)

Thermal properties of conductive polymers/clay composites

### P-04

**S. Çubuk**, E. Kök Yetimoğlu, M. V. Kahraman, S. Kenan, M. Fırlak  
(*Turkey*)

Polymeric optical fluorescence sensor for the determination of gold (III)

### P-05

**S. Yamamoto**, Y. Morisawa, H. Sato, H. Hoshina, Y. Ozaki (*Japan*)

Intermolecular vibrational modes of crystalline poly-(*R*)-3-hydroxybutyrate

### P-06

**J. Labuta**, S. Ishihara, L. Hanyková, M. Radecki, I. Krakovský, K. Ariga, J.P. Hill (*Japan*)

Phase separation in water soluble porphyrins

### P-07

**N. Kotov**, A. Šturcová, V. Raus, J. Dybal (*Russian Federation*)

Temperature dependence of pluronic–cellulose interactions as investigated by FTIR spectroscopy

### P-08

**Z. Morávková**, M. Trchová, J. Stejskal (*Czech Republic*)

Polyaniline film formation in weakly acidic media – a spectroscopic study

**P-09**

**Z. Morávková**, V. Pokorná, D. Výprachtický, I. Kmínek, V. Cimrová  
(*Czech Republic*)

Raman microspectroscopy of thienothiadiazole-fluorene copolymer and its blends with fullerene

**P-10**

**M. Trchová**, I. Šeděnková, Z. Morávková, J. Stejskal (*Czech Republic*)

Thermal stability of the conducting polymer–ionic liquid composite

**P-11**

J. Petzelt, D. Nuzhnyy, M. Savinov, V. Bovtun, E. Tomšík, **M. Trchová**,  
J. Prokeš, J. Stejskal (*Czech Republic*)

Broadband dielectric spectroscopy of variously conducting polyaniline pellets

**P-12**

**M. Radecki**, L. Hanyková (*Czech Republic*)

Spectroscopic study of the phase separation in poly(vinyl methyl ether)/water mixtures

**P-13**

**M. Bláha**, M. Varga, J. Prokeš, A. Zhigunov, J. Vohlídal (*Czech Republic*)

Effect of reaction temperature on polyaniline structure: spectroscopic and conductivity study

**P-14**

**L. Starovoytova**, L. Hanyková, A. Šturcová, R. Konefał, J. Dybal  
(*Czech Republic*)

Effect of hydrophobic additives on the phase separation of temperature-sensitive PVME

**P-15**

**K. Takashima**, Y. Furukawa (*Japan*)

Infrared spectral changes of poled thin films of ferroelectric vinylidene fluoride/trifluoroethylene copolymer after the removal of an external electric field

**P-16**

**J. Brus**, P. Matějček, A. Zhigunov, L. Kobera (*Czech Republic*)

Amphi-dynamic assemblies of metallacarboranes in polymeric matrices: a solid-state NMR study

**P-17**

**O. Derkacheva**, D. Sukhov (*Russian Federation*)

Analysis of FTIR-spectra of hardwood lignins

**P-18**

**O. Derkacheva**, D. Sukhov (*Russian Federation*)

The structure of cellulose studied by FTIR-spectroscopy

**P-19**

**S.-B. Park**, J.-G. Ha, W.-C. Zin (*Republic of Korea*)

Phase behaviors of binary blends of block copolymers

**P-20**

**J.-G. Ha**, S.-B. Park, W.-C. Zin (*Republic of Korea*)

Thickness-dependent morphological behavior of dendritic (PS)<sub>2</sub>-B-PLA copolymer thin films on SiO<sub>2</sub> substrate

**P-21**

Yu. V. Zavgorodnev, E. A. Sagitova, K. A. Prokhorov, **G. Yu. Nikolaeva**, P. P. Pashinin, T. M. Ushakova, L. A. Novokshonova, E. E. Starchak, A. A. Kovalchuk, P. M. Nedorezova, A. N. Klyamkina, B. F. Shklyaruk, M. A. Guseva, E. M. Antipov, P. Donfack, A. Materny (*Russian Federation*)

Raman evaluation of phase composition and conformational order of polymeric materials

**P-22**

**G. Sun**, X. Zhang, C. Kaspari, K. Haberland, J. Rappich, K. Hinrichs (*Germany*)

In-situ monitoring the deposition of conducting polymers by combining polarized infrared spectroscopy (IRRAS) and reflectance anisotropy spectroscopy (RAS)

**P-23**

E. M. Eminoğlu, **M. V. Kahraman** (*Turkey*)

Polythiophene based nanofibers obtained by reactive electrospinning

**P-24**

**N. Gospodinova**, O. Omelchenko, E. Tomšík (*Czech Republic*)

New inside into structure and optical properties of polyaniline

**P-25**

**S. Noma**, H. Sato, K. R. Reddy, S. Yamamoto, Y. Ozaki (*Japan*)

Crystalline structure and thermal behavior of poly(butylene succinate) studied by Raman spectroscopy and quantum chemical calculations

**P-26**

**E. Onishi**, H. Sato, S. Yamamoto, K. R. Reddy, D. Ishikawa, S. Ishii, H. Suzuki, H. Hoshina, Y. Morisawa, Y. Ozaki (*Japan*)

Temperature-dependent structural changes and intermolecular hydrogen bonds in Nylon 6 studied by low-frequency Raman and Terahertz spectroscopies and Quantum chemical calculation

**P-27**

**H. Sato**, T. Sakiyama, K. Kubot, Y. Ozaki (*Japan*)

Gelation mechanism of gellan gum studied by infrared and Raman spectroscopy

**P-28**

F. A. Sanchez, M. Redondo, L. M. Cortes, **J. Gonzalez-Benito**, D. Olmos (*Spain*)

Near infrared spectroscopy to study thermal transitions of PMMA and PMMA/SiO<sub>2</sub> nanocomposites

**P-29**

G. Soriano-Moro, **M. J. Percino**, A. L. Sánchez, M. Cerón, V. M. Chapela, M. E. Castro (*Mexico*)

Application of IR and UV to polymer molecular weights determination

**P-30**

**M. J. Percino**, G. Soriano-Moro, A. Bañuelos, M. Cerón, V. M. Chapela, M. E. Castro (*Mexico*)

Application of <sup>1</sup>H-NMR for easy measurement of polymer molecular weights

## Poster Session II (P-31 – P-61)

### P-31

**I. Movre Šapić**, L. Bistričić, V. Volovšek, V. Dananić (*Croatia*)  
Vibrational analysis of 3-glycidoxypropyltrimethoxysilane polymer

### P-32

**L. Bistričić**, V. Borjanović, I. Zamboni, M. Jakšić, G. E. McGuire  
(*Croatia*)  
Spectroscopic study of poly(dimethylsiloxane) Zn-O nanocomposites  
exposed to proton irradiation

### P-33

**J. Ortyl**, R. Popielarz (*Poland*)  
Fluorescence probe technology (FPT) for measuring the relative  
efficiencies of new long wavelength UV cationic photoinitiators

### P-34

**J. Ortyl**, I. Kamińska, R. Popielarz (*Poland*)  
Application of new acenaphthene fluorescence probes based on for  
monitoring of photopolymerization processes by fluorescence spectroscopy

### P-35

**P. Vrábel**, O. Fričová, V. Hronský, M. Kovaľaková, D. Olčák (*Slovakia*)  
Solid state <sup>13</sup>C NMR studies of modified poly[(R)-3-hydroxybutyric] acid

### P-36

**Y. Hikima**, J. Morikawa, T. Hashimoto (*Japan*)  
Two-dimensional molecular orientation analysis of poly(L-lactic acid) and  
poly(hydroxybutyrate) spherulites using FT-IR imaging method

### P-37

**O. Omelchenko**, E. Tomšík, A. Zhigunov, O. Guskova, O. Gribkova,  
N. Gospodinova (*Czech Republic*)  
Polyaniline assembling at polymerization stage

### P-38

**B. Hanulíková**, I. Kuřitka (*Czech Republic*)  
Manifestation of conformational defects in electronic spectra of polysilanes  
- a theoretical study

**P-39**

**O. Fričová**, M. Kovaľáková, M. Hutníková, D. Olčák (*Slovakia*)

Solid state NMR study of biodegradable PBAT-PHB blends

**P-40**

**N. Matsuda**, H. Okabe (*Japan*)

*In situ* observation of protein functionality on solid/liquid interfaces by slab optical waveguide spectroscopy

**P-41**

**N. Kasoju**, A. Sahu, U. Bora (*Czech Republic*)

Fluorescence spectroscopy to study drug – polymer carrier interactions

**P-42**

**H. Kouřilová**, J. Spěváček, L. Hanyková (*Czech Republic*)

Temperature-induced phase transitions in aqueous solutions of polymer mixtures - <sup>1</sup>H NMR study

**P-43**

**M. Michalak**, A. A. Marek, M. Kawalec, J. Zawadiak, P. Kurcok (*Poland*)

Structure confirmation of functional PHB by invgate <sup>13</sup>C NMR spectroscopy

**P-44**

**L. Kobera**, R. Poreba, M. Špírková (*Czech Republic*)

NMR spectroscopy as a powerful tool for the characterization of polyurethanes

**P-45**

**K. Gębarowska**, J. Kasperczyk, P. Dobrzyński (*Poland*)

Methodology of polyestercarbonates` microstructure analysis by NMR spectroscopy and its application in biomedical investigations

**P-46**

**S. Ishihara** (*Japan*)

Template polymerization of hydrogen-bonded columnar liquid crystal

**P-47**

**M. Urbanová**, L. Kobera, L. Benešová, J. Brus (*Czech Republic*)

Structural characterizing of nanostructured iron-rich geopolymers: factor analysis of <sup>29</sup>Si and <sup>27</sup>Al MAS NMR spectra

**P-48**

**D. Temnov**, V. Stojarov, E. Fomicheva (*Russian Federation*)  
X-ray spectroscopy of polypropylene/talc and polyethylene/talc systems

**P-49**

**R. Konefal**, J. Spěváček, E. Čadová (*Czech Republic*)  
NMR study of transition behaviour of amphilic block copolymers composed of poly(ethylene glycol) and poly(*N*-isopropylacrylamide) in water

**P-50**

**D. Výprachtický**, V. Pokorná, I. Kmínek, V. Dzhabarov, V. Cimrová (*Czech Republic*)  
Spectroscopic characterization of monomers for organic photovoltaics

**P-51**

M. Urbanová, **J. Kredatusová**, A. Šturcová, O. Policianová, A. Zhigunov, J. Brus (*Czech Republic*)  
Structural analysis of solid dispersion of simvastatin

**P-52**

**V. Dzhabarov**, A. Knyazev, D. Výprachtický, Yu. Galyametdinov, V. Cimrová (*Czech Republic*)  
Photophysical properties of Eu(III) coordination compounds and their blends with conjugated polymers

**P-53**

**O. Policianová**, J. Brus, M. Urbanová (*Czech Republic*)  
A solid-state NMR study of polymeric matrix influence on creation of solid dispersions of acetylsalicylic acid

**P-54**

**U. Kostiv**, D. Horák, H. Macková, A. Zhigunov (*Czech Republic*)  
Upconverting nanoparticles: synthesis and characterization by spectroscopic methods

**P-55**

**I. Kmínek**, V. Cimrová, V. Pokorná, D. Výprachtický, V. Dzhabarov (*Czech Republic*)  
Spectroscopic properties of the novel monomers for conjugated polymers

**P-56**

**K. Michalak**, K. Gdula, M. Barczak (*Poland*)

Amine–modified mesoporous carbons – synthesis, characterization and practical application

**P-57**

**K. Gdula**, K. Michalak, M. Barczak (*Poland*)

Thiol–modified mesoporous carbons – synthesis, characterization and practical application

**P-58**

**N. Ben Tahar**, H. Mimoun (*Algeria*)

Synthesis of catalysts for petroleum refining

**P-59**

**N. Ben Tahar**, H. Mimoun (*Algeria*)

Valorization of petroleum loads by thermal process

**P-60**

**G. Patel**, M. B. Sureshkumar, P. Patel (*India*)

Spectroscopic characterization of polymeric blend films of polyacrylamide (PAM) and poly ethylene oxide (PEO)

**P-61**

**D. Rais**, I. Blinova, J. Pflieger, T. Vitvarová, J. Vohlídal, J. Svoboda (*Czech Republic*)

Exciton dynamics in  $\pi$ -conjugated metallo-supramolecular polymers