

# ~~~~~ POLYCHAR-14 ~~~~~

## 1. Short Course

### **Introduction to Polymer Characterization for Young Students and Researchers**

**Entry fee:        FREE**

**April 16 (Sunday), 2006**

Nara Women's University,  
**E Hall (Faculty of Human Life and Environment), Room E109**

9.00 - 9:10	Opening
9:10 - 10:10	Witold Brostow (University of North Texas, USA) “Tribology of Polymer-based Materials”
10:20 - 11:20	Michael Hess (University of Duisburg, Germany) “Dynamic-Mechanical Properties of Polymers”
11:30 - 12:30	Ulf Gedde (Royal Institute of Technology, Sweden) “Dielectric Properties of Polymers”
12:30 - 14:00	Lunch
14:00 - 15:00	Dusan Berek (Slovak Academy of Sciences, Slovakia) “Liquid Chromatography of Synthetic Polymers”
15:10 - 16:10	Jean-Michel Guenet (Institute Charles Sadron, France) “Light, Neutron, X-ray Scattering by Polymer Systems”
16:20 - 17:20	Goerg Michler (Martin-Luther Universitaet, Germany) “Electron Microscopy of Polymers”

## 2. Technical Program

I	Invited	30 min
O	Oral	15 min (general)
		30 min (committee members)
P	Poster	120 min

~ ~ ~ ~ **General Notification** ~ ~ ~ ~

### Oral Presentation

(1) BEFORE you make an oral presentation, please copy your POWER POINT FILE to the computer set in each room (A or B as shown below) to avoid any trouble and save the time for change. You can copy your file during the coffee break just before the start of your session. The Power Point software is for *Windows version* only.

(2) Please do the **virus check** of your file necessarily before you take it out of your country. Otherwise, one infected file might cause serious troubles for all the speakers !

(3) Basically all the presentations are made using LC projectors. But, a person who wants to use an Over-Head projector is requested to inform us about it *in advance* before his (her) talk.

### Poster Presentation

(1) Posters must be set in the lunch time one day before the opening of actual session.

**\* Poster session 2 (April 20<sup>th</sup>): set on April 19<sup>th</sup> in the lunch time**

(2) Posters are set on the boards of **180 cm (horizontal) x 120 cm (vertical) size** using pins, which can be used freely in the poster session room. Please leave about 5 cm height on the top of each board, which is used for indication of the poster number.

**(3) Posters must be taken off immediately at the closing time.**

## For all participants

**The organizing committee of POLYCHAR is planning to give awards to the excellent presentations made by young researchers and students. Please tell us necessarily your age at the registration desk as long as you are younger than (or equal to) 32.**

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**\*\*\* Room A (University Union) \*\*\***

## April 17<sup>th</sup> (Monday)

**Opening (at University Union) 8:55 – 9:25**

**Session 1 (Characterization) 9:30 – 10:45**

*Chairman : Alexande Bismarck*

- A17-S1-I-01     Akihiro Abe, Yosuke Imada, Toshihiro Hiejima, and Hidemine Furuya  
(30 min)     “The Origin of the Multiformality of  $\alpha$ -Helical Polyaspartates - A Highly Intelligent System Designed by Nature”
- A17-S1-I-02     Takahiro Sato  
(30 min)     “Structure and Some Basic Properties of Associating Polymers in Solution”
- A17-S1-O-03     Itsuko Nakamura, Junji Sugiyama, Masashi Ohmae, and Shunsaku Kimura  
(15 min)     “Preparation and Immobilization of Mutant Cellulase for Enzymatic Polymerization”

**Coffee Break**

**10:45 – 11:00**

**Session 1 (Characterization)**

**11:00 – 12:15**

*Chairman: Bernhard Wolf*

- A17-S1-I-04     Alejandro J. Müller, Verónica Castillo, Julio Albuerne, Philippe Dubois, and Ian  
(30 min)     W.Hamley  
                         “Nucleation, Crystallization Kinetics and Biodegradation in Double Crystalline Diblock Copolymers”
- A17-S1-O-05     Kohji Tashiro, Makoto Hanesaka, Erathimmanna Bhoje Gowd, Ichiro Tanaka,  
(15 min)     Takashi Oohara, Nobuo Niimura, Kazuo Kurihara, Ryota Kuroki, Taro Tamada, and  
                         Satoru Fujiwara  
                         “Crystal Structural Refinement of Polyoxymethylene Based on Wide Angle Neutron Fiber Diffraction Data”
- A17-S1-O-06     Mohammad Mahay Alam and Tsutomu Asano  
(15 min)     “Molecular Orientation in Triple Centrifuged Natural Rubber”
- A17-S1-O-07     Kingsley K. C. Ho and Alexander Bismarck  
(15 min)     “Characterisation of Atmospheric Plasma Fluorinated Carbon Fibres”

**Lunch**

**12:15 – 13:30**

## Session 1 (Characterization)

13:30 – 15:30

*Chairman: Fumitaka Horii*

A17-S1-O-08 Tsunehisa Kimura

(30 min) “Magnetic Alignment of Semicrystalline Polymers”

A17-S1-I-09 Bernhard A. Wolf

(30 min) “Polymer/Polymer Interaction: Consistent Modeling in Terms of Chain Connectivity and Conformational Response”

*Chairman: Yuezhen Bin*

A17-S1-O-10 Fumiko Kimura, Tsunehisa Kimura, Asako Hirai, Masaya Ikuno, and Fumitaka Horii

(15 min) “Magnetic Orientation of Chiral Nematic Phase of Cellulose Microfibrils”

A17-S1-O-11 Ljerka Kratofil, Zlata Hrnjak-Murgić, and Jasenka Jelenčić

(15 min) “Mechanical Recycling of Photo-oxidized LDPE/LLDPE Film”

A17-S1-O-12 Fareha Zafar Khan, Toshikazu Sakaguchi, Yoshiyuki Nishio, and Toshio Masuda

(15 min) “Synthesis, Characterization, and Gas Permeability of Silylated Ethyl Cellulose”

A17-S1-O-13 Hideyuki Nakanishi, Masahiro Satoh, Tomohisa Norisuye, and Qui

Tran-Cong-Miyata

(15 min) “Manipulation of Hierarchical Morphology in Multiphase Polymer Materials by UV-Irradiation with Time Delay”

## Coffee Break

15:30 – 16:00

## Session 1 (Characterization)

16:00 – 18:00

*Chairman: Alejandro J. Muller*

A17-S1-I-14 Françoise Lauprêtre

(30 min) “NMR Investigation of Molecular Organization and Local Motions in Solid Polymers”

A17-S1-O-15 Harumi Sato, Jiri Dybal, Rumi Murakami, Tadahisa Iwata, Jianming Zhang, Kohji

(15 min) Tashiro, Isao Noda, and Yukihiro Ozaki  
“Structure and Orientation of C-H...O=C Hydrogen Bondings in Poly(3-hydroxybutyrate) Studies by Polarized Infrared Spectroscopy and Quantum Chemistry Calculations”

A17-S1-O-16 M. Carme Coll Ferrer and Anthony J. Ryan  
(15 min) “Kinetics and morphology development in polyurethane flexible foam from renewable feedstocks”

*Chairman: Takahiro Sato*

A17-S1-O-17 Hiroyuki Aoki, Toru Ube, and Shinzaburo Ito  
(15 min) “Conformation of Single Polymer Chain in Ultra-Thin Film Studied by Scanning Near-Field Optical Microscopy”

A17-S1-O-18 T. Thimma Reddy, Michiko Hadano, and Atsushi Takahara  
(15 min) “Controlled Release of Model Drug from Biomedical Segmented Polyurethane Ureas: Morphological and Structural Features”

A17-S1-O-19 Gonzalo Martinez-Barrera, Oscar Francisco Coranguez-Sarabia, and Witold Brostow  
(15 min) “Compressive Strength of Irradiated-Polymer Concrete”

A17-S1-O-20 Kingsley K. C. Ho and Alexander Bismarck  
(15 min) “Fluorination of Carbon Fibres in Atmospheric Plasma: Will such Fibres Adhere to Fluoropolymers ?”

## **April 18<sup>th</sup> (Tuesday)**

### **Session 1 (Characterization)**

**8:00 – 10:00**

*Chairman: Tsunehisa Kimura*

A18-S1-I-01 Tae Jin Kang, Moon Heui Hahn, Youngmin Jun, and Chung Hee Park  
(30 min) “Wearing Comfort Evaluation of Caps from Pressure Distribution Measurement”

A18-S1-I-02 S. Seidler  
(30 min) “Macro - Micro - Nano: Scaling Problems in Polymer Characterization and Testing”

*Chairman: Libor Matejka*

A18-S1-I-03     Dusan Berek

(30 min)     “Liquid Chromatography of Synthetic Polymers under Limiting Conditions of Insolubility”

A18-S1-O-04     Hideaki Kimura, Hidehiko Dohi, Marina Kotani, Takanobu Matsunaga, Kazuo

(15 min)     Yamauchi, and Tetsuo Asakura

“Structural Study of Elongated Natural Rubber by Solid-State  $^{13}\text{C}$  NMR”

A18-S1-O-05     Atsushi Noro, Minobu Iinuma, Masatoshi Okuda, Fumitake Odamaki, Daisuke

(15 min)     Kawaguchi, Naoya Torikai, Atsushi Takano, and Yushu Matsushita

“Effect of Chain Length Distribution on Nanophase-Separated Structures for AB and ABA Block Copolymers”

### **Poster Session 1**

**10:00 – 12:00**

(at the Memorial Hall. Please Refer to the Poster Programs)

### **Lunch**

**12:00 – 13:30**

### **Session 1 (Characterization)**

**13:30 – 15:30**

*Chairman: Hiroshi Watanabe*

A18-S1-I-06     Jean-Michel Guenet and Cyrille Rochas

(30 min)     “Agarose Sols and Gels Revisited”

A18-S1-I-07     Smitha S. Nair, C. Ramesh, and K. Tashiro

(30 min)     “Polymorphism in Nylon 11”

*Chairman: Wei Jiang*

A18-S1-I-08     Jiasong He

(30 min)     “Multi-Scale Effect of Microstructure Formation of Liquid Crystalline Polymers in

Filled Polymer Systems”

- A18-S1-O-09 Harumi Sato, Rumi Murakami, Isao Noda, and Yukihiro Ozaki  
(15 min) “Infrared Spectroscopy and X-ray Diffraction Studies on the Thermal Behavior and Compatibility of Poly(3-hydroxybutyrate)/Poly(ethylene glycol) Blends”
- A18-S1-O-10 Kai-Mo Ng, Richard Yiu-Ting Lau, and Chi-Ming Chan  
(15 min) “Chemical Characterization of Proton Exchange Membranes (PEM) by Time-of-Flight Secondary Ion Mass Spectrometry (TOF-SIMS)”

**Special Symposium**

**15:30 – 18:00**

**“Future Development of Women Researchers in Science”**

(at University Union)

**Participation Fee: FREE**

|                           |                     |                                                      |
|---------------------------|---------------------|------------------------------------------------------|
| <b><i>Coordinator</i></b> | Masaru Matsuo       | (Nara Women’s University, Japan)                     |
| <b><i>Panelists</i></b>   | Witold Brostow      | (University of North Texas, U.S.A.)                  |
|                           | Francoise Laupretre | (Laboratoire de Recherche sur les Polymeres, France) |
|                           | Sabin Seidler       | (Vienna University of Technology, Austria)           |
|                           | F. Seniha Güner     | (Istanbul Technical University, Turkey)              |
|                           | ChungHee Park       | (Seoul National University, Korea)                   |
|                           | Takashi Ogawa       | (Universidad Nacional Autonoma de Mexico, Mexico)    |
|                           | Akihiro Abe         | (Tokyo Polytechnic University, Japan)                |
|                           | Koichi Hatada       | (Fukui University of Technology, Japan)              |
|                           | Toyoko Imae         | (Nagoya University, Japan)                           |
|                           | Sachiko Hayashida   | (Nara Women's University, Japan)                     |

**April 19<sup>th</sup> (Wednesday)**

**Session 2 (Nanocomposites)**

**8:00 – 10:00**

*Chairman: Jiasong He*

- A19-S2-I-01     Seungsoon Im, Wan Duk Lee, and Young Hak Shin  
(30 min)     “Preparation and Properties of Polyester Nanocomposites”
- A19-S2-O-02     Yuezhen Bin, Ying Xi, C. K. Chiang, and Masaru Matsuo  
(30 min)     “Temperature Dependence of AC and DC Conductivity of Composite of Polyethylene with Carbon Fillers”

*Chairman: Seungsoon Im*

- A19-S2-O-03     Sylvère Said, Tuan Anh Tran, and Yves Grohens  
(15 min)     “Conformational Changes in syndiotactic Poly(methyl methacrylate) Confined in Organically Modified Clay”
- A19-S2-O-04     Richard T. Olsson, Mikael S. Hedeqvist, Jinglan Deng, Steven J. Savage, and Ulf W. Gedde  
(15 min)     “Nanocomposites based on Ferrite Nanoparticles with Functional Silsesquioxane Coatings”
- A19-S2-O-05     Rangrong Yoksan, Mitsuru Akashi, and Suwabun Chirachanchai  
(15 min)     “Self-Assembling Chitosan Nanosphere: A Novel Material for DDS”
- A19-S2-O-06     Michael Tran, Milo Shaffer, and Alexander Bismarck  
(15 min)     “A Novel Method for the Cutting of Multiwall Carbon Nanotubes for Use in Nanocomposites”

**Coffee Break**

**10:00 – 10:30**

**Session 2 (Nanocomposites)**

**10:30 – 12:15**

*Chairman: A. S. Luyt*

- A19-S2-I-07     Libor Matějka, Irena Kroutilová, and Adam Strachota  
(30 min)     “Nanostructured Organic-Inorganic Polymer Networks. Formation, Structure, and Properties”
- A19-S2-I-08     G. P. Simon, M. Morcom, K. Atkinson, S. Howkins, O. Valentino, and L. Incarnato  
(30 min)     “Structure - Property Relationships in Polymer - Carbon Nanotube Nanocomposites”
- A19-S2-O-09     A. Felten, C. Bittencourt, and J.-J. Pireaux  
(15 min)     “Nano hybrids: Gold Clusters on Plasma Treated MWCNTs”
- A19-S2-I-10     Moonhor Ree, Byeongdu Lee, Jinhwan Yoon, Kyuyoung Heo, Kyeong Sik Jin, Sangwoo Jin, Hyunchul Kim, Ghahee Kim, Seung Chul Choi, Weontae Oh, Young-Hee Park, Yongtaek Hwang, Jong-Seong Kim, Jehan Kim, and Kwang-Woo Kim  
(30 min)     “Quantitative Analysis of Nanostructures in Nanoscale Thin Films of Various Polymer Systems with Synchrotron Grazing Incidence X-ray Scattering”

**Lunch** **12:00 – 13:30**

**Social Program 1** **13:30 – 17:00**

(Nara Park, Todaiji Temple, and Kasuga Shrine)

**Banquet** **18:30 – 21:00**

(at Nara Royal Hotel)

**April 20<sup>th</sup> (Thursday)**

**Session 1 (Characterization)** **8:00 – 10:00**

*Chairman: Yushu Matsushita*

- A20-S1-I-01     Wei Jiang  
                   (30 min)     “Critical Behavior of Brittle-ductile Transition of Polymers”
- A20-S1-I-02     Ewa Piorkowska  
                   (30 min)     “Influence of Spatial Confinement on Polymer Crystallization and Structure”

*Chairman: Hiroshi Jinnai*

- A20-S1-O-03     Irfan Saeed, Masashi Shiotsuki, and Toshio Masuda  
                   (15 min)     “Novel Rh-Based Catalyst Systems for the Living Polymerization of Phenylacetylene”
- A20-S1-O-04     Suttinun Phongtamrug, Kohji Tashiro, Atsushi Funaki, Kiyotaka Arai, and Shigeru Aida  
                   (15 min)     “Crystal Modifications and Phase Transition Behavior of Ethylene-Tetrafluoroethylene Alternating Copolymer”
- A20-S1-I-05     Yushu Matsushita  
                   (30 min)     “Preparation of Topological Polymers and Their Hierarchical Structures in Bulk”

**Coffee Break**

**10:00 – 10:30**

**Session 1 (Characterization)**

**10:30 – 12:00**

*Chairman: Tamaki Nakano*

- A20-S1-O-06     Jianming Zhang, Kohji Tashiro, and Hideto Tsuji  
                   (15 min)     “Structural Study of Uniaxially Oriented Poly(lactide)  $\alpha$  Form and Stereocomplex as Viewed From the Polarized IR/Raman Measurements”
- A20-S1-I-07     Suttinun Phongtamrug, Suwabun Chirachanchai, and Kohji Tashiro  
                   (30 min)     “Supramolecular Structure of *N,N*-Bis(2-hydroxybenzyl)alkylamine: From Hydrogen Bond Assembly to Coordination Network in Guest Acceptance”

*Chairman: Moshe Narkis*

- A20-S1-O-08     Tomoko Hashida and Kohji Tashiro  
                   (15 min)     “Structural Study on Water-induced Phase Transitions of Poly(ethylene imine)”

- A20-S1-O-09     Shigeyoshi Osaki  
(30 min)     “Microwave Dielectric Anisotropy Determine the Orientation of Collagen Fibers in Biological Organs ”

**Lunch**

**12:00 – 13:30**

**Poster Session 2**

**13:30 – 15:30**

(at the Memorial Hall.   Please Refer to the Poster Programs)

**Session 1 (Characterization)**

**15:30 – 17:15**

*Chairman: George Simon*

- A20-S1-I-10     Shinji Ando  
(30 min)     “Solid State <sup>19</sup>F NMR Characterization of Fluorine-containing Polymers for Electronics and Photonics”
- A20-S1-O-11     Kohji Tashiro, Kazuhiro Takeuchi, Yasuaki Ohta, Makoto Hanesaka, Tomoko Hashida, Yayoi Yoshioka, and Chellaswami Ramesh  
(30 min)     “Structural Phase Transition of Aliphatic Nylons Viewed from the Simultaneous Measurements of WAXD and SAXS”
- A20-S1-O-12     E. Bhoje Gowd, Naoya Shibayama, and Kohji Tashiro  
(15 min)     “Thermally-induced Phase Transitions in the Uniaxially-Oriented  $\delta$  Form of syndiotactic Polystyrene”
- A20-S1-O-13     Emiko Mouri, Motokazu Terada, Yoshitaka Okazaki, Hiroyuki Karakawa, and Kohji Yoshinaga  
(15 min)     “Structural Estimation of Polymer-*grafted* Latex Monolayer Formed at the Air-Water Interface”
- A20-S1-O-14     Fumitoshi Kaneko, Yukihiro Uda, Tatsuya Kawaguchi, and Osamu Yamamuro  
(15 min)     “Structure and Dynamical Properties of Guest Molecules Included in the Clathrate

Phase of syndiotactic Polystyrene”

**April 21<sup>st</sup> (Friday)**

**Session 2 (Nanocomposites)**

**8:15 – 10:00**

*Chairman: Masao Sumita*

- A21-S2-O-01    M. Narkis, I. Mironi-Harpaz, and A. Siegmann  
(30 min)        “Curing of Styrene-Free Unsaturated Polyester Alkyd and Development of Novel Related Clay Nanocomposites”
- A21-S2-I-02    A. S. Luyt, B. R. Guduri, and S. Mishra  
(30 min)        “EVA-clay Nanocomposites: An Overview”

*Chairman: Shigeyoshi Osaki*

- A21-S2-O-03    Asako Hirai, Masaya Ikuno, Fumitaka Horii, Nobuo Donkai, and Masaki Tsuji  
(15 min)        “Preparation and Structure of Nanocomposites Composed of Cellulose Microfibrils and Imogolite Nanotubes”
- A21-S2-O-04    Wilson P. S. LAM and P. GAO  
(15 min)        “Fabrication of Electrically Conductive Porous Multiwalled Carbon Nanotube Polycarbonate Nanocomposite Membrane Using a Simple Filtration Method”
- A21-S2-O-05    Laurent Delbreilh, Hugues Couderc, Nandika D’ Souza, Jean Grenet, Jean- Marc Saiter  
(15 min)        “Composition Dependence of Molecular Relaxation in PETG + Montmorillonite Nanocomposites”

**Coffee Break**

**10:00 – 10:30**

**Session 2 (Nanocomposites)**

**10:30 – 12:00**

*Chairman: Gert Strobl*

- A21-S2-I-06     Masao Sumita, Yose Fachmi Buys, Guozhang Wu, and Shigeo Asai  
(30 min)     “Dynamic Percolation of Carbon Particles Filled Polymer Composites”
- A21-S2-O-07     Bong Jun Park, Hyoung Min Lee, and Hyoung Jin Choi  
(15 min)     “Preparation and Rheological Characterization of Polystyrene/Clay Nanocomposites  
via Emulsion Polymerization”
- A21-S2-O-08     Michael Tran, Kingsley Ho, and Alexander Bismarck  
(15 min)     “Development of Ultra-inert Thermoplastic Composites”
- A21-S2-I-09     Matthew Oaten, Namita Roy Choudhury, and Naba Dutta  
(30 min)     “Recent Advances in Multifunctional Hybrids and Nanostructured Materials”

**Lunch**

**12:00 – 13:30**

**Session 1 (Characterization)**

**13:30 – 16:00**

*Chairman: Kohji Tashiro*

- A21-S1-I-10     Gert Strobl  
(30 min)     “Characterizing and Modeling the Tensile Deformation Properties of  
Semi-Crystalline Polymers”
- A21-S1-I-11     Volker Abetz, Adriana Boschetti de Fierro, Günter Reiter, and Alejandro Müller  
(30 min)     “Morphological Properties and Crystallization Behavior of Triblock Terpolymers  
with One or Two Crystalline End Blocks”

*Chairman: Volker Abetz*

- A21-S1-I-12     H. Jinnai  
(30 min)     “3D Characterization of Polymer Nanostructure by Transmission Electron  
Microtomography”
- A21-S1-I-13     Takenao Yoshizaki  
(30 min)     “Some Remarks on the  $\Theta$  State of Dilute Polymer Solutions”
- A21-S1-I-14     T. Rath, C. K. Das, K. Banik, T.N. Chung, and G. Mennig  
(30 min)     “Fibrillation Study in SPS-LCP Blends as Affected by the Processing Parameters”

**Awards Ceremony**

**16:00 – 16:30**

(at the University Hall)

**Closing**

**16:30 – 16:50**

**\*\*\* Room B (the Memorial Hall) \*\*\***

**April 17<sup>th</sup> (Monday)**

**Session 3 (Physical Properties) 9:30 – 10:45**

*Chairman: Chi-Ming Chen*

- B17-S3-I-01     Jae Ryoun Youn, Chaehwan Kim, Sungho Kim, and Hwajin Oh  
(30 min)     “Prediction and Measurement of Residual Stresses in Injection Molded Parts”
- B17-S3-I-02     Goerg Michler  
(30 min)     “Micromechanical Effects and Mechanical Properties of Polymers Based on their Nanostructure”
- B17-S3-O-03     Qian Wang and Birgit K. Storm  
(15 min)     “Migration Study of Polypropylene Oil Blends in Food Simulants”

**Coffee Break 10:45 – 11:00**

**Session 3 (Physical Properties) 11:00 – 12:00**

*Chairman: Jae Ryoun Youn*

- B17-S3-I-04     Daisuke Sawai, Tetsuo Kanamoto, and Liuba Myasnikova  
(30 min)     “Maximum Tensile Properties of Oriented Polyethylene Achieved by Uniaxial Drawing of Solution-Grown Crystal Mats: Effects of Molecular Weight and Molecular Weight Distribution”
- B17-S3-O-05     Yo Nakamura  
(15 min)     “Wormlike-Chain Properties of Polystyrene Polymacromonomers in Solution”
- B17-S3-O-06     Norihiro Kato, Toru Tanaka, Shota Nakagawa, Yu Ozonoe, Tomohiro Morohoshi,  
(15 min)     and Tsukasa Ikeda  
“Control of Bacterial Quorum Sensing with Polymer Gel”

## **Lunch**

**12:15 – 13:30**

## **Session 4 (Syntheses)**

**13:30 – 15:30**

*Chairman: Werner Mormann*

- B17-S4-I-01     Kunio Kimura  
(30 min)     “Precision Polycondensation by Using Phase Separation of Oligomers”
- B17-S4-I-02     Yoshio Okamoto  
(30 min)     “Structure Control of Polysaccharide Derivatives for Efficient Separation of Enantiomers”

*Chairman: Yusuke Kawakami*

- B17-S4-O-03     L. Alexandrova, F. Diaz Camacho, G. Vazquez Lopez, and R. Le Lagadec  
(15 min)     “Application and Modification of Cyclometalated Ru(II) Compounds for ATR Polymerization”
- B17-S4-O-04     Akikazu Matsumoto, Daisuke Furukawa, and Yutaka Mori  
(15 min)     “Change in Crystal Structure and Reaction Mechanism for the Solid-State Polymerization of Muconic Esters”
- B17-S4-I-05     Werner Mormann  
(30 min)     “(Supercritical) Ammonia as Reagent and Reaction Medium for Polymers”

## **Coffee Break**

**15:30 – 16:00**

## **Session 5 (Surface, Interface and Thin Films)**

**16:00 – 17:15**

*Chairman: Stanislav Patlazhan*

- B17-S5-I-01     Atsushi Takahara, Yuki Terayama, Ryosuke Matsuno, Motoyasu Kobayashi,  
(30 min)     Hideyuki Otsuka, and Kazuhiko Ishihara  
“Characterization of Physicochemical Properties of Polymer Brushes Grafted from

Inorganic Surfaces”

- B17-S5-O-02     Ammar Azioune and Jean-Jacques Pireaux  
(15 min)     “RF Plasma Deposition of Ultrathin (In)Organic Films onto Aluminium Alloys from Hexamethyldisiloxane (HMDSO) and Hexamethyldisilazane (HMDSN)”
- B17-S5-I-03     Chi-Ming Chan, Lu-Tao Weng and Kai Mo Ng  
(30 min)     “Polymer Surface Characterization by XPS, TOF-SIMS and AFM”

**April 18<sup>th</sup> (Tuesday)**

**Session 3 (Physical Properties)**

**8:00 – 10:00**

*Chairman: Tetsuo Kanamoto*

- B18-S3-I-01     U. Gafurov  
(30 min)     “Molecular Mechanics Modeling of Creep of an Oriented Linear Crystalline Polymer”
- B18-S3-I-02     Witold Brostow  
(30 min)     “Polymer tribology: An important frontier”

*Chairman: C. Ramesh*

- B18-S3-O-03     A. Takano, K. Masuoka, Y. Ohta, Y. Kushida, K. Aoki, D. Cho, and Y. Matsushita  
(15 min)     “Preparation and Characterization of Ring-shaped Polystyrenes”
- B18-S3-O-04     G. Saunders, Alan Brookes, and Yasuhiko Bando  
(15 min)     “Investigating Polymer Morphology by Gel Permeation Chromatography”
- B18-S3-O-05     Hamed Salehi  
(15 min)     “Monitoring the Postcure and Ageing Behaviors of High Filled Polyurethane (HFPU)”
- B18-S3-O-06     Hongxiang Cui, Jianguo Gong, Lianhong Zhang, Yuchun Ma, and Wang Ying  
(15 min)     “Self-reinforcement of Biodegradable Material Poly(DL-lactic acid) by Equal Channel Angular Extrusion”

## Poster Session 1

10:00 – 12:00

(at the Memorial Hall. Please Refer to the Poster Programs)

## Lunch

12:00 – 13:30

## Session 3 (Physical Properties)

13:30 – 15:30

*Chairman: Chunye Xu*

B18-S3-I-07 Traian Zaharescu

(30 min) “Determination of Electrical Properties of Polymers”

B18-S3-O-08 Kristina Haibach, Angelika Menner and Alexander Bismarck

(15 min) “As Tough as It Gets: Highly Porous Reinforced Polymer Foams with an Interconnected Pore Network Structure *via* Concentrated Emulsion Templating”

B18-S3-O-09 Qingyun Chen, Xiaowen Jiang, Yuezhen Bin, and Masaru Matsuo

(15 min) “Role of Nickel Particles during Carbonizing PAN Film”

*Chairman: Atsushi Takahara*

B18-S3-I-10 V. Oshmyan, S. Patlazhan, and Y. Remond

(30 min) “Modelling of Mechanical Properties of Structure Sensitive Polymer Materials”

B18-S3-I-11 Emilia Visileanu, Alexandra Ene, Carmen Mihai, and Marek Kowalczyk

(30 min) “Polymers for multifunctional textiles”

## Special Symposium

15:30 – 18:00

## “Future Development of Women Researchers in Science”

(at the University union)

**Participation Fee : FREE**

**April 19<sup>th</sup> (Wednesday)**

**Session 4 (Syntheses)**

**8:00 – 10:00**

*Chairman: Yoshio Okamoto*

B19-S4-O-01 Natsuko Yamazaki and Mitsuru Ueda

(30 min) “Facile Synthesis of Fréchet Type Dendrimer”

B19-S4-I-02 Donglin Jiang

(30 min) “Bioinspired Design of Dendritic Macromolecules for Functional Nanomaterials”

*Chairman: Mitsuru Ueda*

B19-S4-O-03 Md. Ilias ali and S. K. Dolui

(15 min) “Synthesis, Characterization and Mesomorphic Properties of Side Chain Functionalized Liquid Crystalline Polymers”

B19-S4-O-04 Hideyuki Otsuka, Takatoshi Muta, and Atsushi Takahara

(15 min) “Macromolecular Olefin Cross-Metathesis between Polybutadiene and Olefin-Containing Polyester”

B19-S4-O-05 Hitoshi Kanazawa, Aya Inada, and Nobukazu Kawana

(15 min) “Reconsideration of Reactivity of N-Carboxy Amino Acid Anhydrides (15): Preparation of Polypeptides with High Molecular Weight and Narrow Molecular Weight Distribution”

**Coffee Break**

**10:00 – 10:30**

**Session 3 (Physical Properties)**

**10:30 – 12:00**

*Chairman: Jean Marc Saiter*

B19-S3-I-01 Ted Provder, Sapon Waghlay, Shyam Malliprakash, Atheer Majid, and John Texter

(30 min) “Dynamical Mechanical Analysis of Fouling Release and Antifouling Coatings and Components”

- B19-S3-I-02     Andrzej Galeski and Andrzej Pawlak  
                   (30 min)     “Nanocavitation in Plastic Deformation of Crystalline Polymers”
- B19-S3-O-03     Witold Brostow, Wunpen Chonkaew, Yakov Soifer, and Arman Verdyan  
                   (15 min)     “Vickers Hardness and Sliding Scratch Resistance of Polymers”
- B19-S3-O-04     Y. Teramoto and Y. Nishio  
                   (15 min)     “Characterization and Functionalization of Biodegradable Cellulosic Graft Copolymers”

### **Lunch**

**12:00 – 13:30**

### **Social Program 1**

**13:30 – 17:00**

(Nara Park, Todaiji Temple, and Kasuga Shrine)

### **Banquet**

**18:30 – 21:00**

(at Nara Royal Hotel)

## **April 20<sup>th</sup> (Thursday)**

### **Session 3 (Physical Properties)**

**8:00 – 10:00**

*Chairman: Andrzej Galeski*

- B20-S3-I-01     A. Mattozzi, P. Serralunga, M. Minelli, B. Neway, M. S. Hedenqvist, and U. W. Gedde  
                   (30 min)     “Small-Molecule Diffusion in Semicrystalline Polymers”
- B20-S3-I-02     Kiyohito Koyama  
                   (30 min)     “Control of Elongational Rheology by Addition of Fillers”

*Chairman: John Texter*

- B20-S3-I-03     Jean Marc Saiter  
                   (30 min)     “The Random Walk Model Used to Interpret the Correlation between Fragility and Size of Cooperative Domain in Glassy Polymeric Materials”
- B20-S3-O-04     Sagar Pal, DeepakRanjan Mal, and Ram Prakash Singh  
                   (30 min)     “A High Performance Flocculating Agents and Viscosifiers Based on Cationic Guar Gum”

### **Coffee Break**

**10:00 – 10:30**

### **Session 3 (Physical Properties)**

**10:30 – 12:00**

*Chairman: Ram Prakash Singh*

- B20-S3-O-05     Witold Brostow, Eli Buchman, and Oscar Olea-Mejia  
                   (15 min)     “Polymer Matrix + Metal Powder Microhybrids”
- B20-S3-O-06     Gabriel O. Shonaiki, Steve C. Manning, Chris E. Schwier, Roger C. Ayotte, and John  
                   (15 min)     J. Tria, Jr  
                               “The Influence of PA618 on Miscibility and Mechanical Properties of PA66/618 Blends”
- B20-S3-O-07     Petronela Drambei, Masaru Matsuo, Yuezhen Bin, and Yumiko Nakano  
                   (15 min)     “Characterization of the Simultaneous Biaxially Stretching Films of Chitosan/Poly(vinyl Alcohol) Blends”

*Chairman: Traian Zaharescu*

- B20-S3-O-08     Takahiko Nakaoki, Shingo Harada, and Yasuyuki Tanimura  
                   (15 min)     “Melting Behavior of Bound Solvent in Isotactic Polypropylene Gel”
- B20-S3-I-09     Chunye XU, Lu LIU, and Minoru TAYA  
                   (30 min)     “Switchable Glass Based on Electrochromic Polymers”

### **Lunch**

**12:00 – 13:30**

## Poster Session 2

13:30 – 15:30

(at the Memorial Hall. Please Refer to the Poster Programs)

## Session 4 (Syntheses)

15:30 – 16:45

*Chairman: Virinder S. Parmar*

- B20-S4-I-01     Yusuke Kawakami  
(30 min)     “Selective Synthesis of Phenylsilsesquioxane Derivatives and Their Chemical Transformations”
- B20-S4-I-02     Jürgen Pionteck, Petra Pötschke, Lothar Jakisch, and Veera Bhadraiah Sadhu  
(30 min)     “Synthesis of Multifunctional Reactive Coupling Agents and their Use in Blends”
- B20-S4-O-03     Piotr Czub  
(15 min)     “Application of Modified Natural Oils as Reactive Diluents for Epoxy Resins”

## April 21<sup>st</sup> (Friday)

## Session 3 (Physical Properties)

8:00 – 10:00

*Chairman: Martin Y. M. Chiang*

- B21-S3-I-01     Jisu Choi, Young Taik Hong, Il Tae Kim, and Sung Chul Kim  
(30 min)     “Polymer Blend Membranes for the Direct Methanol Fuel Cell”
- B21-S3-I-02     Buxing Han, Zhimin Liu, Tao Jiang, Jianling Zhang, and Zhaofu Zhang  
(30 min)     “Study on Supercritical Fluids: Thermodynamics and Applications in Material Processing”

*Chairman: Liuba P. Myasnikova*

- B21-S3-O-03     M. Shameem Ahsan, Ichiro Imae, and Yusuke Kawakami  
(15 min)     “Synthesis and Characterization of a New Polysiloxane Cholesteric Liquid Crystalline Elastomer”

- B21-S3-O-04 M. Tsukiji, H. Kowa, K. Muraki, K. Imoto, M. Kanasaki, and Y. Tajitsu  
(15 min) “Measurement System for Very Small Photoelastic Constant of Polymer Film”
- B21-S3-O-05 Gonzalo Martinez-Barrera, Uriel Texcalpa-Villarruel, Susana Hernandez-Lopez, and  
(15 min) Enrique Vigueras-Santiago  
“Compressive Strength of Fiber Reinforced Polymer Concrete”
- B21-S3-O-06 A. Takano, Y. Ohta, Y. Kushida, D. Kawaguchi, and Y. Matsushita  
(15 min) “Preparation and Characterization of Catenated Copolymers”

### **Coffee Break**

**10:00 – 10:30**

### **Session 3 (Physical Properties)**

**10:30 – 12:00**

*Chairman: Donglin Jiang*

- B21-S3-I-07 Martin Y. M. Chiang  
(30 min) “Combinatorial Approach to the Edge Delamination Test for Thin Film Reliability”
- B21-S3-O-08 S. Wunderlich, S. Dehne, B. Wermeckes, F. Wang, B.-W. Jo, H. Cho, and M. Hess  
(30 min) “Albumin-Interaction with a Drug and a Drug Conjugate”
- B21-S3-I-09 Takeshi Ogawa  
(30 min) “Poly(2,4-hexadiynylene-1,6-benzoates) Containing Polar Dyes and the Relationships between Structure and Non-linear Optical Properties”

### **Lunch**

**12:00 – 13:30**

### **Session 4 (Syntheses)**

**13:30 – 15:00**

*Chairman: Jürgen Pionteck*

- B21-S4-I-01 Virinder S. Parmar and A. C. Watterson  
(30 min) “Biocatalytic Generation of Novel Pharmaceutically and Industrially Important Polymers”

|             |                                                               |
|-------------|---------------------------------------------------------------|
| B21-S4-I-02 | <u>Yoshiki Chujo</u>                                          |
| (30 min)    | “Organic-Inorganic Polymer Hybrids Based on Sol-Gel Reaction” |
| B21-S4-I-03 | <u>F. Seniha Güner</u>                                        |
| (30 min)    | “Triglyceride Oil Based Biopolymers”                          |

**Session 5 (Surface, Interface and Thin Films) 15:00 – 16:00**

*Chairman: Yoshiki Chujo*

|             |                                                                                                               |
|-------------|---------------------------------------------------------------------------------------------------------------|
| B21-S5-I-01 | <u>L. P. Myasnikova</u> , A. A. Kalachev, Yu. P. Ivanov, N. M. Blashenkov, V. A. Marikhin,                    |
| (30 min)    | A. L. Myasnikov, and D. V. Lebedev                                                                            |
|             | “Relaxation Process in Polymer Surface Layers”                                                                |
| B21-S5-O-02 | <u>M. Kobayashi</u> , K. Ishihara, and A. i Takahara                                                          |
| (15 min)    | “Frictional Properties of High-density Ultra-Hydrophilic Polymer Brushes”                                     |
| B21-S5-O-03 | <u>Kenji Yamada</u> , Hirokazu Yamane, Shigenori Matsushima, Hiroyuki Nakamura, and                           |
| (15 min)    | Naoko Iwasawa                                                                                                 |
|             | “Photocatalytic and Thermal Properties of TiO <sub>2</sub> Particles Having Plasma-Polymerized Surface Layer” |

**Awards Ceremony** **16:00 – 16:30**

(at the University Hall)

**Closing** **16:30 – 16:50**

## Poster Session 1

(the Memorial Hall)

**April 18 (Tuesday)**

**10:00 – 12:00**

- P18-01      Nami Arima, Daisuke Sawai, Tetsuo Kanamoto, Moon Sungil, and Suong-Hyu Hyon  
“Structure and Physical Properties of Amorphous PLA Films; Effect of Optical Purities”
- P18-02      Hiroaki Benten, Hideo Ohkita, Shinzaburo Ito, Masahide Yamamoto, and Keita Tani  
“Photoinduced Intramolecular Charge Separation Promoted by the Dielectric Relaxation of Polymer Glassy Matrix”
- P18-03      M. Hess, A. Schlachter, and K. Molt  
“Water-Diffusion in a Polyamide Nanocomposite”
- P18-04      Yun Hu, Harumi Sato, Jianming Zhang, Isao Noda, and Yukihiro Ozaki  
“Multiple Melting Behavior in Isothermally Melt-crystallized Poly(3-hydroxybutyrate-co-3-hydroxyhexanoate)”
- P18-05      Masaaki Ishikawa, Michiya Fujiki, and Masanobu Naito  
“Perpendicularly Growth of 1-D Phthalocyaninato Polymer”
- P18-06      Yong Chae Jung, Hye Jin Yoo, Nam, Seo Goo, and Jae Whan Cho  
“Polyurethane-Crosslinked Nanocomposites by Covalent Bonding of Functionalized Carbon Nanotubes”
- P18-07      Takeshi Kaneko, Kazuya Suda, Hiroshi Jinnai, Kotaro Sato, Masami Kamigaito, Toshinori Kato, Tomohiro Ono, Eiji Nakamura, and Toshi Nishi  
“Three-Dimensional Observation of Microphase-separated Structure of ABC Triblock Copolymers”
- P18-08      Tomoaki Kawaguchi, Masashi Osa, and Takenao Yoshizaki  
“Phase Behavior of Aqueous Solutions of Poly(*N*-isopropylacrylamide)”
- P18-09      Shin-ichiro Kohama, Jin Gong, Shinichi Yamazaki, Kunio Kimura, and Kaoru Shimamura

- “Fabrication of Poly[2,2’-(*p*-phenylene)-5,5’-bibenzimidazole] Nanofibers by Using Reaction-induced Crystallization during Polymerization”
- P18-10 Cédric Lorthioir, Christine Sulpice-Gaillet, Françoise Lauprêtre, Jean-Michel Gloaguen, and Jean-Marc Lefebvre  
“Dynamic Heterogeneities in Polymer/Clay and Polymer Blend/Clay Nanocomposites: a Solid-State NMR Investigation.
- P18-11 Yasuhiro Matsuda, Rika Nojima, Takahiro Sato, Yohei Oishi, and Hiroshi Watanabe  
“Aggregation Behavior of Living Polymer Anions in Solution”
- P18-12 Yumi Matsumiya and Hiroshi Watanabe  
“Non-Newtonian Behavior of Diblock and Triblock Copolymers”
- P18-13 Yosuke Miyazaki, Yoshiaki Togawa, and Yuichi Masubuchi  
“Molecular Dynamics Simulations to Predict Properties of Polymers under Uniaxial Stretch”
- P18-14 Takashi Morinaga, Satoshi Takeno, Kohji Ohno, Yoshinobu Tsujii, and Takeshi Fukuda  
“Structural Analysis of Colloidal Crystals Formed by Suspensions of Silica Particles Grafted with Concentrated Polymer Brush”
- P18-15 Ken-ichi Niihara, Hiroshi Jinnai, and Toshio Nishi  
“3D Observation of Microphase-separated Structures of a Block Copolymer Thin Films”
- P18-16 Keiko Okuyama, Yuezhen Bin, and Masaru Matsuo  
“Polarized Small Angle Light Scattering from Crystalline Polymer Gels”
- P18-17 Domitille Pitard, Cedric Lorthioir, Christine Sulpice-Gaillet, Françoise Lauprêtre, and E. Bryan Coughlin  
“NMR Investigation of Molecular Organization and Polymer Chain Mobility in Hybrid Polymer/Polyhedral Oligomeric Silsesquioxane Nanocomposites”
- P18-18 Daisuke Sawai, Tetsuo Kanamoto, Moon Sungil, and Suong-Hyu Hyon  
“Crystal Transformation and Development of Mechanical Properties on Solid-State Coextrusion in Poly(L-lactic acid): Effect of Molecular Weights”
- P18-19 Taiki Simokuri, Tatsuo Kaneko, Shinji Tanaka, Atsuhiko Ogura, and Mitsuru Akashi  
“Precise Preparation of Tough, Thin Hydrogel Peptide Membrane of

bPBLA-PEGPBLA Triblock Copolymers”

- P18-20 Hidekazu Sugimori, Ukyo Matsuwaki, Hiroshi Morita, Masao Doi, Toshio Nishi, and Hiroshi Jinnai  
“Morphological Change of Microphase-Separated Structures in a Block Copolymer Thin Film Studied by Transmission Electron Microtomography”
- P18-21 Kumiko Tsuda, Yuezhen Bin, Yumiko Nakamura, and Masaru Matsuo  
“Carbonization of Poly(vinyl alcohol) Films Containing Carbon Fillers and Metal Oxides”
- P18-22 E. Viguera-Santiago, S. Hernández-López, L. Gonzáles-Campos, and M. Mayorga-Rojas  
“Conductive Polymeric Composites: Relationship between Chemical Structure and Electrical Properties”
- P18-23 Yasuhiro Yamada, Yuji Yamauchi, and Shinichi Sakurai  
“Studies on Micro-Convections Induced in a Polystyrene/Tricresylphosphate Solution Heated from Above.
- P18-24 Atsuko Yamanaka, Ying Xi, Yuezhen Bin, and Masaru Matsuo  
“Characteristics of Polyethylene-Multiwalled Carbon Nanotubes Composites Prepared by Paraffin Method and by Gelation/crystallization”
- P18-25 Yuuri Yamamoto, Aki Fujikawa, Masato Sone, Shigemitsu Murase, Naofumi Naga, and Hiromichi Kurosu  
“Higher-order Structure of Poly(ethylene-co-1,5-hexadien) as Studied by Solid State NMR”
- P18-26 Takeshi Yamao, Yasuhiro Kawasaki, Satoshi Ota, and Shu Hotta  
“Search of Optimum Conditions for Sublimation Growth of Thiophene/Phenylene co-Oligomer Crystals”
- P18-27 Masafumi Yamato and Tsunehisa Kimura  
“Magnetic Alignment and Crystallization of isotactic Polystyrene”
- P18-28 Hu Yang and Fumitaka Horii  
“Solid-State <sup>13</sup>C NMR Analysis of PVA-Iodine Complexes in the Hydrogel State”
- P18-29 Traian Zaharescu, Silviu Jipa, Wilhelm Kappel, Pitt Supaphol  
“The Control of Thermal and Radiation Stability of Polypropylene Containing

Calcium Carbonate Nanoparticles.

- P18-30 M. Carme Coll Ferrer and Anthony J. Ryan  
“Polyurethane Networks from Renewable Feedstocks”
- P18-31 M. Saeed Butt, Zareen Akhtar, M. Zafar-uz-Zaman, and M. Yasir Razzaq  
“Novel Polyimides Based on Flexible Diamines: Synthesis, Characterization, and Properties”
- P18-32 Chunhai Lu and Yun Bai  
“DFT and MD Study Parylene C”
- P18-33 Edwin A. Murillo and Betty L. López  
“Study of the Influence of the Maleic Anhydride and Peroxide Concentrations on the Functionalization of EPDM”
- P18-34 Koichi Tomoda, Hiroshi Kimura, Katsunori Niitsuma, and Shigeyoshi Osaki  
“Determination of Collagen-fiber Orientation in Human Lung”
- P18-35 Katsunori Niitsuma, Sachiko Miyagawa, and Shigeyoshi Osaki  
“Collagen Fiber Orientation in Cobra Skin”
- P18-36 Chung Hee Park, Yun Kyung Kang, and Seo Gyeongseon  
“Microstructural Changes of Cellulose Fibers During Biodegradation”
- P18-37 Ryuji Matsumoto, Yasuyuki Nagai, and Toshihiko Nagamura  
“Ultrafast Light Modulation by the Guided Wave Mode Composed of Two Polymer Layer”
- P18-38 Mirela Leskovic, Vera Kovačević, Emi Govorčin Bajsić, Petra Hitrec, and Sanja Lučić Blagojević  
“Mechanical and Thermal Properties of Polypropylene/Talc and Polystyrene/Talc Composites”
- P18-39 A. A. Kalachev, A. L. Myasnikov, L. P. Myasnikova, and V. A. Svetlov  
“Producing Fluorine-Based Coating for High-Performance Devices”
- P18-40 V. V. Balasubramanian, H. D. Bhattarai, N. S. Park, and H. W. Shin  
“Antifouling Polymers for Marine Applications”
- P18-41 Daichi Ida, Yo Nakamura, and Takenao Yoshizaki  
“Intrinsic Viscosity of Semiflexible Three-Arm Star Polymers”
- P18-42 Kaori Ueguchi, Takashi Miyata, and Tadashi Uragami

“Preparation of the Urease-immobilized Polymeric Membranes and Their Enzymatic Permeation Activity”

P18-43 Mariko Mine, Ai Koganemaru, Yuezheng Bin, and Masaru Matsuo

“Morphology and Mechanical and Electrical Properties of Oriented PVA-VGCF and PVA-MWNT Composites”

P18-44 Tomoyuki Koga, Keiichi Akabori, Keiji Tanaka, Atsushi Takahara, and Tisato Kajiyama

“Temperature Dependence of Surface Viscoelasticity in Phase-Separated Polymer Blend Films”

P18-45 Ivanka Moneva

“Design and Properties of Liquid-crystal Systems for Use in Electro-Optic Displays”

P18-46 Kaoru Oshimizu, Yuji Shibasaki, and Mitsuru Ueda

“Block Copolymerization by Chain-Growth-Polymerization and its Application to Antireflection Film”

P18-47 Basar Yildiz, M. Ozgur Seydibeyoglu, and F. Seniha Güner

“The Anti-Oxidant Effect of Zinc Borate on Polyurethane Films”

P18-48 S. Yasutake, M. Morita, H. Ishizuka, J. Fukai, and A. Takahara

“Site-selective Coating of Polymer Ultra Thin Films by the Ink-jet Method onto the Substrate with High Wetting Anisotropy”

P18-49 Iusaku Sumida, Takashi Miyata, and Tadashi Uragami

“Preparation and Characterization of Interpenetrating Polymer Network (IPN) Membranes Composed of Poly(dimethylsiloxane)”

P18-50 Yuya Arikawa, Takeshi Serizawa, Takashi Mukose, Yoshiharu Kimura, and Mitsuru Akashi

“Characterization of Biodegradable Poly(lactide)s Hollow Particles”

P18-51 Yumiko Nakano, Teruo Nakashima, Mami Bando, Tsumuko Okuno, Yuezheng Bin, Hiromichi Kurosu, and Masaru Matsuo

“Structure and Mechanical Properties of Chitosan/poly(vinyl alcohol) Blend Films”

P18-52 Kotohiro Nomura, James J. Murphy, Hirotoshi Furusho, Michiya Fujiki, and Yoshitaka Miyamoto

“Synthesis of Various Amphiphilic Block Copolymers, Poly(macromonomer)s

- Containing Sugars by Living Ring-Opening Metathesis Polymerization”
- P18-53 Teruo Nakashima, Mami Bandou, Yuehzen Bin, Yumiko Nakano, and Masaru Matsuo  
Biodegradation and Antibacterial Activity of Chitosan-Poly(vinyl alcohol) Blend Films”
- P18-54 Tsumuko Okuno, Asuka Noda, Kyoko Yoshida, Kotaro Yokoyama, and Masaru Matsuo  
“Morphology and Mechanical Property of Nylon 6 Fibers in the Flags Exposed on Route between Syowa Station and Dome Fuji in the Antarctic”
- P18-55 Sylvère Said, Yves Grohens, and Jean-Marc Saiter  
“Enthalpic Relaxation in Crystalline isotactic PMMA, Influence of Molecular Weight”
- P18-56 Tadahiro Ohba, Kanji Suyama, and Masamitsu Shirai  
“Photocrosslinking and Thermal De-crosslinking of Epoxy-Containing Oligomers Using Photoamine Generators”
- P18-57 Haruka Kuroki, Daisuke Watanabe, Daisuke Sawai, and Tetsuo Kanamoto  
“Development of Structure and Mechanical Properties by PIN Draw of Extruded Poly (tetrafluoroethylene) Reactor Powder Films Annealed above the Static Melting Temperature”
- P18-58 Toshio Tada, Takahiro Mabuchi, Hiromichi Kishimoto, Kazuyoshi Shiga, and Kiyoshige Muraoka  
“Strain Hardening Behavior of Chlorinated Polyethylene”
- P18-59 H. Yoshida, Y. Tsuji, S. Sakurai, and K. Yamamoto  
“Spontaneous Perpendicular Orientation of Cylinders As Mediated by Directional Coalescence of Spheres in a Block Copolymer Film Cast From Its Solution in Selective Solvent””
- P18-60 Jelynn P. Tamayo and Veronica P. Migo  
“Optimization of Chitosan Production from Crab Shell Wastes and their Potential Use for Water Treatment”
- P18-61 Kunihisa Kato, Tomoko Shiraku, and Nobuhiro Kawatsuki  
“Mechanism of Polarization-Preserved Photosensitization in Photoinduced

Reorientation of Photo-cross-Linkable Polymer Liquid Crystal”

P18-62 Hitoshi Kanazawa

“Preparation of Polyolefin Materials with High Water Absorptivity”

P18-63 S. Hernández López, J. M. Ayala-Ibarrola, and J. Asencio-Gutierrez

“Synthesis, Structure and Magnetic Properties of Poly(gadolinium- and samario-methacrylate-co-buthyl methacrylate)”

P18-64 Akira Kamoj, Hirofumi Kuriki, Takeshi Yamao and Shu Hotta

“Improvement of Melt-Molding Conditions of Thiophene/Phenylene Co-Oligomers”

P18-65 Hiromichi Noma, Nozomi Inoue, Ryosuke Matsuno, Nao Hosaka,

Sono Sasaki, Ken-ichi Kato, and Atsushi Takahara

“Influence of Imogolite Nanofiber on Crystallization Behavior of Poly(lactic acid)”

P18-66 Hideyuki Uematsu, Masataka Sugimoto, Takashi Taniguchi and Kiyohito Koyama

“The Effect of Two Types of Sorbitol Nucleator on Uniaxial Elongational Viscosity in PP”

P18-67 Daisuke Wakita, Takashi Miyata and Tadashi Uragami

“Preparation of Organic-Inorganic Hybrid Membranes Based on Carboxymethyl-cellulose and Their Separation Characteristics of an Aqueous Ethanol Solutions”

P18-68 León Pérez, Luis Giraldo, and Betty López

“Study of the Mechanical and Thermal Properties of PMA Synthesized into Nanocages of Interconnected Mesoporous Silica”

## Poster Session 2

(the Memorial Hall)

**April 20<sup>th</sup> (Thursday)**

**13:30 – 15:30**

- P20-01      Yuriko Ando, Harumi Sato, Rumi Murakami, Katuhito Mori, Isao Takahashi, Hikaru Terauchi, Isao Noda, and Yukihiro Ozaki  
“Infrared Spectroscopic Studies on CH...O=C Hydrogen Bonding in the Structure of Polyhydroxyalcanoates”
- P20-02      Tanemi Asai, Tohru Shibata, Shu Shimamoto, Tadatomo Kawai, and Shinya Teramachi  
“Acetyl Composition and Distribution of Cellulose Triacetate by Reversed-Phase High-Performance Liquid Chromatography”
- P20-03      Witold Brostow, Brian Gorman, and Oscar Olea-Mejia  
“Focused Ion Beam (FIB) Milling and Scanning Electron Microscopy (SEM) Characterization of Polymer + Metal Hybrids”
- P20-04      Hiroyuki Furukawa, Seiji Ujiie, Yumi Yano, Akira Mori, and Takeshi Yoshimi  
“Self-Assembly and Liquid Crystalline Properties of Ionic Polymers and Their Nonionic Family”
- P20-05      Kazushi Horio and Yuichi Masubuchi  
“Entangled Polymer Dynamics Calculated by the Pre-Averaged Method of the Entanglement Structure”
- P20-06      Yosuke Imada, Kentaro Hiraga, Toshihiro Hiejima, Akihiro Abe, and Hidemine Furuya  
“Screw-Sense Inversion Characteristic of  $\alpha$ -Helical Poly( $\beta$ -*p*-chlorobenzyl L-aspartate) and Comparison with Other Related Polyaspartates”
- P20-07      Atsushi Kameyama, Kenta Shikakura, and Tomohiro Sato  
“Formation of Nanoparticles with Thiol Groups by Self-Organization of 6-Octylthio-*s*-triazine-2,4-dithiol”
- P20-08      Takuma Kawabe, Masanobu Naito, and Michiya Fujiki

“Detection of Intra- and Intermolecular C-H...F-C and Si...F-C Weak Interactions of Fluoroalkylated Polysilane Copolymer and Application to Building-up of Super-Hierarchical Structures”

P20-09 Kunio Kimura, Yasuhiro Kurihara, Hideki Omori, Shin-ichiro Kohama, Shinichi Yamazaki, and Yuhiko Yamashita

“Morphological Architecture of Poly(*p*-oxybenzoyl) by Modifying Oligomer End-group”

P20-10 Steven Lamoriniere, Emile Greenhalgh, Milo Shaffer, and Alexander Bismarck  
“High Performance Carbon Nanotube Reinforced PEEK Nanocomposites”

P20-11 Sadahiro Masuo, Tomoya Tanaka, Shinjiro Machida, and Akira Itaya  
“Single Molecule Multiparameter Fluorescence Spectroscopy to Reveal Photoluminescent Properties Depending on Chain Conformation of Conjugated Polymer in Solution”

P20-12 Yasuhiro Matsuda and Takahiro Sato  
“Characterization of Aggregates of Xanthan Double Helix Formed during the Renaturation Process”

P20-13 Masashi Minakuchi, Giseop Kwak, Michiya Fujiki, Toshikazu Sakaguchi, and Toshio Masuda

“Diphenylacetylene Polymers Having Long Alkyl Silyl Chains: Lyotropic Liquid-Crystalline and Polarized Fluorescence Properties”

P20-14 Takuya Mori, Yasuhiro Matsuda, and Takahiro Sato  
“Phase Behavior of Aqueous Solutions of a Thermosensitive Polymer”

P20-15 Takahiko Nakaoki, Yumiko Kinose, and Masaki Kuriyama  
“Biosynthesis of Polyhydroxyalkanoate from Sucrose by *Ralstonia eutropha*”

P20-16 Tomohisa Norisuye, Anatoliy Strybulevych, Martin Scanlon, and John Page  
“Ultrasonic Investigation of the Gelation Process of Poly(Acrylamide) Gels”

P20-17 Sylvère Said, Tuan Anh Tran, Mickael Wübbenhorst, and Yves Grohens  
“Dynamics in isotactic Poly(methyl methacrylate) Confined in Organically Modified Clay”

P20-18 Hiroki Sato and Yuichi Masubuchi  
“Direct Observation of Self-Diffusion in Concentrated T4 DNA Solution”

- P20-19 Anicuta Stoica, Marta Stroescu, Tatiana Ofiteru, and Traian Zaharescu  
“Study of Tetracycline Diffusion Through Bacterial Cellulose Membranes”
- P20-20 Yohei Tateishi, Yu Tsuchimura, Keiji Tanaka, and Toshihiko Nagamura  
“Analysis of Thermal Molecular Motion in Polymer Ultrathin Films on the Basis of Photochemical Reactions”
- P20-21 Emi Uchida and Nobuhiro Kawatsuki  
“Synthesis, Characterization, and Photoinduced Orientation of Photo-Cross-Linkable Copolymer Liquid Crystals with Hydrogen Bonds”
- P20-22 Tomonori Yamada, Naoki Tsukamoto, Hironori Kaji, and Fumitaka Horii  
“Conformational Analysis of Amorphous, Crystalline, and Dicationic TPD by 2D Solid-State NMR Spectroscopy and Quantum Chemical Calculations”
- P20-23 Silviu Jipa, Traian Zaharescu, Wilhelm Kappel, Radu Setnescu, and Călin Oros  
“RTL Investigation on the Radiochemical Oxidation of Polyolefins”
- P20-24 Bor-Kuan Chen, Yu-Ting Fang, and Jing-Ru Cheng  
“Synthesis of Low Dielectric Constant Polyetherimide Films”
- P20-25 Witold Brostow, Tamara Holjevac-Grgurić, David Garrett, Oscar Olea-Mejia, Dorota Pietkiewicz, Vesna Rek, and Jay Unni  
“Morphology and Tribological Properties of Polypropylene (PP) + Polystyrene (PS) Blends”
- P20-26 Ben D. Beake, Gerald T. Bell, Witold Brostow, and Wunpen Chonkaew  
“Creep and Glass Transition Temperatures in Polymers”
- P20-27 Yutaka Amao and Yumi Takeuchi  
“Visible Light-operated Sugar-O<sub>2</sub> Biofuel Cell Based on the Photosensitisation of Chlorophyll Derivatives Adsorbed on Nanocrystalline TiO<sub>2</sub> Film”
- P20-28 Takashi Asano, Takashi Miyata, and Tadashi Uragami  
“Separation and Concentration of Ethanol/Water Mixtures through Chitosan/Carboxymethyl Cellulose Polyion Complex Membranes”
- P20-29 Yosuke Kadomae, Masataka Sugimoto, Takashi Taniguchi, and Kiyohito Koyama  
“Effect of Poor Solvent Addition on Beads Formation in Electrospinning of Poly(vinyl alcohol)”
- P20-30 S. Y. Lee, M. S. Cho, J. D. Nam, and Y. Lee

- “Renewable Resource Using Cellulose Derivatives by Melt Process”
- P20-31 Yuji Watanabe, Mamoru Anada, Tomohiro Morohoshi, Tsukasa Ikeda, and Norihiro Kato  
“Controlled Solute Release from Microporous, Thermally-Responsive Cellulose Ether Gel Prepared by Freezing”
- P20-32 Ferhat Yücedag, Tugba Aloglu, Cigdem Atalay-Oral, Z. Petek Cakar, Candan Tamerler, Birgül Tantekin-Ersolmaz, Ahmet Sirkecioglu, and F. Seniha Güner  
“Anti-Bacterial Oil-Based Polyurethane Films for Wound Dressing Applications”
- P20-33 Traian Zaharescu, Viorica Melzer, and Elena Pincu  
“Thermal Behavior of Binary Blends Consisting of Ethylene-Propylene Terpolymer and Acrylonitril Butadiene Rubber”
- P20-34 Takako Ueno, Akitoshi Omayu, and Akikazu Matsumoto  
“Thermal Properties and Intermolecular Hydrogen Bonds of Alternating Copolymers of *N*-(2-hydroxyethyl)maleimide with Isobutene”
- P20-35 Witold Brostow and Dorota Pietkiewicz  
“Polymer Tribology for Retractable Syringes and Catheters”
- P20-36 Tomoyuki Manoshiro, Junko Nakano, Tetsuji Yamaoka, and Yoshiharu Kimura  
“Development of Biomedical Devices from Stereocomplexed Triblock Copolymers of PLLA-PEG-PLLA and PDLA-PEG-PDLA”
- P20-37 Tamaki Nakano, Yasuyuki Fukuda, Kazuo Nakashima, and Takayuki Yaegashi  
“Synthesis of Single-Handed Helical Polymethacrylates with Side-Chain Protonic Groups and Their Application as Chiral Ligands”
- P20-38 Kanji Wakabayashi, Shinichi Yamazaki, and Kunio Kimura  
“Preparation of Poly(4,4'-oxydiphenylene pyromelliteimide) by Using Crystallization of Oligomers under Nonstoichiometric Condition”
- P20-39 Yasuyuki Agari, Taichi Yamamoto, and Ryoki Nomura  
“Preparation and Properties of Polystyrene/SEBS Blends with Compositional Gradients in Their Sheet Direction”
- P20-40 Yoshifumi Amamoto, Yuji Higaki, Hideyuki Otsuka, and Atsushi Takahara  
“Thermodynamic Synthesis of Multi-armed Polymers with Covalently Cross-linked Core”

- P20-41 Tapasi Kotoky and S. K. Dolui  
“Synthesis of Polystyrene/Silica Hybrid Composites by the Sol-gel Method: Effect of Introduction of a Flexible Component (butyl acrylate) into the Silylated Polystyrene Backbone”
- P20-42 Hande Madra, Birgül Tantekin-Ersolmaz, and F. Seniha Güner  
“Uncatalyzed Bulk Polymerization of Oil-Based Polyurethanes for Biomedical Applications”
- P20-43 Yoshikatsu Tsuchiya, Tsuyoshi Nomaguchi, and Kiyoshi Endo  
“Control of Main Chain Structure and Molecular Weight in the Polymerization of Vinyl Chloride by Titanocene/Methylaluminoxane Catalyst”
- P20-44 Kenji Nakatani and Kiyoshi Endo  
“Simultaneous Control of Stereoregularity and Molecular Weight in the Polymerization of 1,3-Butadiene by (Salen) CoII Complexes in Combination with Methylaluminoxane”
- P20-45 Kousuke Tsuchiya and Mitsuru Ueda  
“Synthesis of Poly(naphthylene ether) with a Low Dielectric Constant and a Low Dielectric Loss”
- P20-46 Masato Suzuki, Atsushi Kanazawa, and Singo Namiki  
“Solid-State Polycondensation of Unmodified and Fluoro Saccharides”
- P20-47 H. S. Park, H. Y. Park, Z. R. Xu, and K. H. Seo  
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- P20-48 Hiroko Nakayama, Lin Lin, and Yoshiharu Kimura  
“Microparticles and Thin Films of Enantiomeric Poly(lactic acid)s and their Stereocomplexes”
- P20-49 Koji Honda, Sono Sasaki, Osami Sakata, Masamichi Morita, and Atsushi Takahara  
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- P20-50 Kyota Miyamoto, Nao Hosaka, Motoyasu Kobayashi, Hideyuki Otsuka, Naoya Torikai, and Atsushi Takahara  
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- P20-51 Chiaki Yoshikawa, Atsushi Goto, Yoshinobu Tsujii, and Takeshi Fukuda

- “Chromatographic Study on Surface Interaction of Well-Defined, Concentrated Poly(2-hydroxyethyl methacrylate) Brushes with Proteins”
- P20-52 H. D. Son, M. S. Cho, J. D. Nam, S. M. Cho, C. H. Chung, H. G. Choi, and Y. Lee  
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- P20-53 Jang-Hyun Ryu, Toshihiko Nagamura, Masahiro Shigeta, and Naotoshi Nakashima  
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- P20-54 Yu Tsuchimura, Keiji Tanaka, and Toshihiko Nagamura  
“A Novel Method to Characterize Interfacial Glass Transition of Polymers”
- P20-55 Hironori Atarashi, Fumi Ariura, Keiji Tanaka, Masahiro Hino, Michel Schappacher, Alain Deffieux, Tisato Kajiyama, and Toshihiko Nagamura  
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- P20-56 Anita Ptiček, Ljerka Kratofil, Mirela Leskovac, Zlata Hrnjak-Murčić, Jasenka Jelenčić, Vera Kovačević  
“Modification of Phase Stability in Polymer Blends by Compatibilizers”
- P20-57 Pubali Adhikary, Kailash Narayan Tiwari, and Ram Prakash Singh  
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- P20-58 Enrique Vigueras-Santiago, Susana Hernández-López, L. Gonzáles-Campos, Gonzalo Martinez-Barrera, Oscar Olea-Mejia, and Witold Brostow  
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- P20-59 H. Y. Park, H. S. Park, Z. R. Xu, and K. H. Seo  
“Effect of NBR Components on Adhesion Behaviors between NBR and Metal Joints using Phenol Adhesive”
- P20-60 Ying-Gang Jia, Bao-Yan Zhang, Wen-Qiang Xiao, and Qiang Nie  
“Controlling the Color of Cholesteric Liquid-Crystalline Copolysiloxane Films by Addition of a Chiromesogen”
- P20-61 M. S. Cho, H. J. Seo, J. D. Nam, H. R. Choi, J. C. Koo, and Y. Lee

- P20-62      “Preparation of Solid Polymer Electrolyte based on NBR/Ionic Liquid”  
Hyoungh Jin Choi, Feifei Fang, and Jihye Kim
- “Synthesis and Electrorheological Characterization of Polyaniline-Barium Titanate Hybrid Suspension”
- P20-63      Güncem Gültekin, Cigdem Atalay-Oral, Sibel Erkal, Birgül Tantekin-Ersolmaz, and F. Seniha Güner
- “Fatty Acid Based Polyurethane Films for Wound Dressing Applications”
- P20-64      Natsuko Kohara, Natsumi Maruyama, and Mayumi Kanei
- “Functionalization of Wool Fibers by Chemical Modification - Sorption of Amines in Oxidized Wool Fibers”
- P20-65      Florin Ciuprina, Traian Zaharescu, Pitt Supaphol,
- “Radiation Effects on Electrical Resistivity of Polypropylene Nanocomposites”
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- “Functionalization of High Impact Polypropylene and Evaluation of its Effect on the Properties of PP/PET Blends”
- P20-67      Y. Terayama, M. Kobayashi, and A. Takahara
- “Synthesis and Surface Characterization of Poly(vinyl acetate) Brushes”
- P20-68      R. E. Lazo-Jiménez, L. Alexandrova, Marc J. M. Abadie, and D. Likhatchev
- “Polyester-Imides from 4,4’-Diaminotriphenylmethane”