

{as of August25, 2005}

GelSympo2005
Polymer Gels: Fundamentals and Bio-science
University Conference Hall,
Hokkaido University, Sapporo, Japan
October 15-18, 2005

Chair: Jian Ping Gong (Hokkaido Univ.)
Vice Chair: Ryo Yoshida (Univ. of Tokyo)

Scientific Program (Tentative)

ORAL SESSION

October 16, 2005

SUNDAY

- 8:30 am Registration / Poster Setup
- 9:00 am *Opening Remarks Gong, J. P.*
Chair: Zrínyi, M.
- 9:10 am I PL01 **Soft and Wet Matter for Life Science**
Osada, Y. (Hokkaido University, Japan)
Chair: De Kepper, P.
- 9:50 am I IL01 **Cells, Gels, and Surfaces: Unexpectedly Profound Implications for Life**
Pollack, G. H.; Zheng, J. (University of Washington, USA)
- 10:20 am I CP01 **Gel Biomachine - Based on Muscle Proteins**
Kakugo, A.¹; Shikinaka, K.¹; Kwon, H.¹; Gong, J. P.^{1,2}; Osada, Y.¹
(¹Hokkaido University, Japan; ²SORST, JST, Japan)
- 10:40 am Coffee Break
Chair: Pollack, G. H.
- 11:00 am I IL02 **Molecular Synchronization in the Assemblage of Protein Motors**
Ishiwata, S.; Shimamoto, Y.; Kono, F.; Suzuki, M.; Sasaki, D. (Waseda University, Japan)
- 11:30 am I CP02 **Jellyfying of Non-jellyfied Polysaccharides**
Shchipunov, Y. A.¹; Postnova, I. V.² (¹Russian Academy of Sciences, Russia; ²Far East National University, Russia)
Chair: Ishiwata, S.
- 11:50 am I IL03 **An Intelligent Slime Mold as a Self-organizing System of Cell Shape and Information**
Ueda, T.; Nakagaki, T.; Takagi, S. (Hokkaido University, Japan)
- 12:20 pm I CP03 **Electro-Optical Effects with Macroscopic Deformation in Nematic Gels**
Urayama, K.; Honda, S.; Takigawa, T. (Kyoto University, Japan)
- 12:40 pm Group Photo / Lunch
Chair: Ueda, T.
- 2:00 pm I IL04 **How Does DNA Fold and Condense?**
Osada, K.; Yamasaki, Y.; Kataoka, K. (The University of Tokyo, Japan)
- 2:30 pm I CP04 **Impact Behavior of Gels**
Tanaka, Y. (Hokkaido University, Japan)

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- Chair: Osada, K.*
- 2:50 pm I IL05 **Friction and Lubrication in Polymer Gels**
Kumacheva, E.; Chestakova, A. (University of Toronto, Canada)
- 3:20 pm I CP05 **Small Angle Neutron Scattering Study on the Sol-Gel Transition of Methylated Polyrotaxane**
Karino, T.^{1, 2}; Shibayama, M.^{1, 2}; Okumura, Y.^{1, 2}; Kidowaki, M.¹; Zhao, C.¹; Ito, K.^{1, 2} (¹The University of Tokyo, Japan; ²CREST, JST, Japan)
- 3:40 pm Coffee Break
- Chair: Kumacheva, E.*
- 4:00 pm I IL06 **The Slow Dynamics in Semi-dilute Solution: Temperature Induced Disentanglement of PEO-PPO-PEO Tri-block Copolymer in Semi-dilute Aqueous Solutions**
Yuan, G.²; Wu, C.²; Han, C. C.¹ (¹Chinese Academy of Sciences, China; ²The Chinese University of Hong Kong, China)
- 4:30 pm I CP06 **Scanning Microscopic Light Scattering Study of Inhomogeneous Network and its Mechanical Properties**
Furukawa, H.¹; Gong, J. P.^{1, 2}; Osada, Y.¹ (¹Hokkaido University, Japan; ²SORST, JST, Japan)
- 4:50 pm I IL07 **Re-examination of the Slow Mode in Semidilute Solutions**
Wu, C. (The Chinese University of Hong Kong, China)
- 5:30 pm -
8:30 pm Poster Session

October 17, 2005

MONDAY

- 8:30 am Registration
- Chair: Wu, C.*
- 9:00 am II IL01 **Microscopic Studies of Gel Deformation**
Shibayama, M. (The University of Tokyo, Japan)
- 9:30 am II CP01 **Mechanism of Forming Unique Organic/Inorganic Network Structure and Total Control of Coil-to-Globule Transition in Nanocomposite Hydrogel**
Haraguchi, K. (Kawamura Institute of Chemical Research, Japan)
- Chair: Shibayama, M.*
- 9:50 am II IL02 **Swelling and Elasticity of Entangled Polymer Networks**
Rubinstein, M.¹; Campbell, J.²; Panyukov, S.³ (¹University of North Carolina, USA; ²Massachusetts Institute of Technology, USA; ³Russian Academy of Sciences, Russia)
- 10:20 am II CP02 **Slide-Ring Gel: Topological Gel with Freely Movable Cross-Links**
Okumura, Y.; Zhao, C.; Ito, K. (The University of Tokyo, Japan; CREST, JST, Japan)
- 10:40 am Coffee Break
- Chair: Rubinstein, M.*
- 11:00 am II IL03 **Deformation of Polymer Gels at Large Strains**
Creton, C.¹; Miquelard, G.¹; Webber, R.¹; Hourdet, D.¹; Cram, S.²; Brown, H.

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R.² (¹Laboratoire PPMD, ESPCI, France; ²University of Wollongong, Australia)

- 11:30 am II CP03 **Synthesis of Novel Polysaccharide-based Superabsorbent Hydrogel via Graft Copolymerization of Vinyllic Monomers onto Kappa-carrageenan**
Pourjavadi, A.; Hosseinzadeh, H.; Harzandi, A. M. (Sharif University of Technology, Iran)
Chair: Creton, C.
- 11:50 am II IL04 **Anisotropic Mechanical and Swelling Behaviour of Smart Polymer Gels**
Zrínyi, M. (Budapest University of Technology and Economics, Hungary)
- 12:20 pm II CP04 **Stimuli-sensitive Nanogel for an Intelligent Drug Container**
Nagasaki, Y.; Hayashi, H. (University of Tsukuba, Japan)
- 12:40 pm Lunch
Chair: Han, C. C.
- 2:00 pm II IL05 **Microgels Exhibiting Multiple Responsiveness**
Kawaguchi, H.; Hattori, S.; Kato, M. (Keio University, Japan)
- 2:30 pm II CP05 **Rapid Stimuli-Responsive Poly(*N*-isopropylacrylamide) Gel Containing Polymer Surfactant**
Yan, H.; Tsujii, K. (Hokkaido University, Japan)
Chair: Kawaguchi, H.
- 2:50 pm II IL06 **Technologies to Efficiently Fabricate Photonic Crystal Materials for Controlling Light Transmission and Chemical Sensing Applications**
Asher, S. A. (University of Pittsburgh, USA)
- 3:20 pm II CP06 **Hydrogel Nano-Perforation Materializing Precise ON/OFF Drug Release by Dual Stimuli**
Kaneko, T.; Asoh, T.; Akashi, M. (Osaka University, Japan)
- 3:40 pm II CP07 **Characteristics of Gels Composed of Photosensitive Poly(Vinyl Alcohol)**
Shindo, Y.¹; Fukumoto, K.¹; Kato, N.¹; Ishihara, K.² (¹Toho University, Japan; ²The University of Tokyo, Japan)
- 4:00 pm Coffee Break
Chair: Asher, S. A.
- 4:20 pm II IL07 **Patterning of Sensitive Hydrogels in μm and Sub- μm Range**
Arndt, K.-Fr.¹; Schmidt, T.¹; Hegewald, J.¹; Moench, I.² (¹Technische Universität Dresden, Germany; ²Leibniz-Institute for Solid State and Materials Research Dresden, Germany)
- 4:50 pm II CP08 **Characteristics of Photoresponsive Hydrogel Functionalized with Spiropyran**
Filipcsei, G.^{1,2}; Sumaru, K.²; Takagi, T.²; Kanamori, T.²; Shinbo, T.²; Zrínyi, M.¹; Sudoh, M.³ (¹Budapest University of Technology and Economics, Hungary; ²National Institute of Advanced Industrial Science and Technology, Japan; ³Shizuoka University, Japan)

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- 5:10 pm II CP09 **A Newly Micelle Structure from Graft and Diblock Copolymers**
Hsiue, G.-H.; Lo, C.-L.; Lin, K.-M.; Huang, C.-K. (National Tsing Hua University, Taiwan, ROC)
Chair: Arndt, K.-Fr.
- 5:30 pm II IL08 **Complexation Hydrogels for Biological Recognition and Intelligent Delivery**
Peppas, N. A. (The University of Texas, USA)
- 6:00 pm II CP10 **Preparation of Molecularly Imprinted Gels That Undergo Volume Changes in Response to Target Molecules**
Miyata, T.^{1,2}; Kiguchi, T.^{1,2}; Jige, M.¹; Uragami, T.¹ (¹Kansai University, Japan; ²PRESTO, JST, Japan)
- 6:20 pm II IL09 **Smart Gels over the Years, and Latest Work with Smart Gels**
Hoffman, A. S.; Malmstadt, N.; Hoffman, J.; Ebara, M.; Stayton, P. S. (University of Washington, USA)
- 7:00 pm-
9:00 pm Banquet

October 18, 2005

TUESDAY

- 8:30 am Registration
Chair: Hoffman, A. S.
- 9:00 am III IL01 **Temperature-Responsive ON-OFF Switching Properties of Ultra-thin Nano-layered PIPAAm-Grafted Surfaces**
Kikuchi, A.; Okano, T. (Tokyo Women's Medical University, Japan)
- 9:30 am III CP01 **Bioartificial Hybrid Gel for Tissue Engineering I. Surface Immobilization of Phospholipid Polymer onto a Collagen Gel**
Nam, K.; Kimura, T.; Kishida, A. (Tokyo Medical and Dental University, Japan)
- 9:50 am III IL02 **From Hydrogels to Silicone Hydrogels: An Evolution in Soft Contact Lens Materials**
Vogt, J. (Ciba Vision Corporation, USA)
- 10:20 am Coffee Break
Chair: Vogt, J
- 10:40 am III IL03 **Sustained Travelling Polymer Density Wave Patterns Driven by a Chemomechanical Instability**
De Kepper, P.; Gauffre, F.; Labrot, V.; Boissonade, J. (Centre de recherche Paul Pascal/CNRS, France)
- 11:10 am III CP02 **Novel Polymer Actuators Based on Polymer Gels Containing Ionic Liquids**
Watanabe, M.; Nanjo, S. (Yokohama National University, Japan; CREST, JST, Japan)
- 11:30 am III IL04 **Design of Gels with Temporal Structure: Toward Novel Biomimetic Materials**
Yoshida, R. (The University of Tokyo, Japan)

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12:00 pm

Closing Remarks Yoshida, R.

For each presentation, the speaker's name is underlined within the list of authors.

Presentation Time

a (odd number): 5:30pm - 7:00pm

b (even number): 7:00pm - 8:30pm

Bio-related

- Pa01 **A Novel Approach of the Enzyme Immobilization in Sol-Gel Derived Polysaccharide-Silica Hydrogels**
Shchipunov, Y. A.; Nvyagintseva, T. N. (Russian Academy of Sciences, Russia)
- Pb02 **Polarity and Motility of Polymer-Actin Complexes**
Shikinaka, K.¹; Kwon, H.¹; Kakugo, A.¹; Gong, J. P.^{1,2}; Osada, Y.¹
(¹Hokkaido University, Japan; ²SORST, JST, Japan)
- Pa03 **Control of Cell Proliferation on Tough Gels by Charge Adjustment**
Chen, Y. M.¹; Yasuda, K.¹; Osada, Y.¹; Gong, J. P.^{1,2} (¹Hokkaido University, Japan; ²SORST, JST, Japan)
- Pb04 **Three Dimensional Actin Network Formation by Polycation Diffusion from Polymer Gel**
Kwon, H.¹; Shikinaka, K.¹; Kakugo, A.¹; Gong, J. P.^{1,2}; Osada, Y.¹ (¹Hokkaido University, Japan; ²SORST, JST, Japan)
- Pa05 **Gel-Glasslike Transition of Biopolymer Gels**
Yamada, Y.; Murosaki, T.; Takushi, E. (University of the Ryukyus, Japan)
- Pb06 **Microcapsule Formation of Thermal Heterocomplex Molecules of Amino Acids**
Sakurazawa, S. (Future University-Hakodate, Japan)
- Pa07 **Interaction Analysis between Thermosensitive Microgels and Lysozyme**
Shimizu, H.; Wada, R.; Okabe, M. (Kanagawa Institute of Technology, Japan)

Dynamics

- Pb08 **Effect of Solvent Quality on the Slow Mode in Semidilute Solutions**
Li, W.; Wu, C. (The Chinese University of Hong Kong, China)
- Pa09 **The Deformation Kinetics of Polymer Solution Drop in the Drying Process on Hydrophobic Substrate**
Yamaue, T.; Kajiya, T.; Nishitani, E.; Doi, M. (The University of Tokyo, Japan; CREST, JST, Japan)
- Pb10 **First-Order Phase Transition in DNA Gel and Individual DNA Molecular Chains**
Mayama, H.¹; Takushi, E.²; Tsuji, K.¹; Yoshikawa, K.³ (¹Hokkaido University, Japan; ²University of the Ryukyus, Japan; ³Kyoto University, Japan)
- Pa11 **Elastic-Hydrodynamic Transition of Gel Friction**
Kurokawa, T.¹; Furukawa, H.¹; Gong, J. P.^{1,2}; Osada, Y.¹ (¹Hokkaido University, Japan; ²SORST, JST, Japan)

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- Pb12 **Surface Friction of Hydrogels - Influence of Substrate Contact Angle**
Tominaga, T.¹; Du, M.¹; Furukawa, H.¹; Gong, J. P.^{1,2}; Osada, Y.¹
(¹Hokkaido University, Japan; ²SORST, JST, Japan)
- Pa13 **Modeling on Debonding Dynamics of Pressure Sensitive Adhesives**
Yamaguchi, T.; Morita, H.; Doi, M. (CREST, JST, Japan; The University of Tokyo, Japan)
- Pb14 **Slow Dynamics of Pasty Colloidal Suspensions during Drying and Rewetting**
Narita, T.; Hébraud, P.; Lequeux, F. (PPMD, CNRS-UMR 7615, France)
- Pa15 **Fluid Spreading on Viscoelastic Substrates**
Kaneko, D.^{1,2}; Gong, J. P.^{2,3}; Osada, Y.³; Zrínyi, M.⁴; Doi, M.¹ (¹The University of Tokyo, Japan; ²CREST, JST, Japan; ³Hokkaido University, Japan; ⁴Budapest University of Technology and Economics, Hungary)
- Pb16 **Hierarchical Dynamics in Polyelectrolyte PAMPS Gels Studied by Impulsive Stimulated Light Scattering**
Fukunaga, M.; Yagi, T.; Takesada, M.; Na, Y.-H.; Gong, J. P.; Osada, Y. (Hokkaido University, Japan)
- Pa17 **Rheological Properties of the Condensed Water-swollen Microgel Dispersions and their Morphology by the FF-TEM Images**
Kaneda, I.¹; Sogabe, A.¹; Imae, T.² (¹Shiseido Co., Ltd., Japan; ²Nagoya University, Japan)
- Pb66 **Nonlinear Viscoelasticity of ABA Block Copolymer**
Aoki, T.; Sakiyama, T. (Kyoto Institute of Technology, Japan)
- Structure**
- Pb18 **Self-Assembled Structure Formation in Cellulose Solutions during Drying Process**
Nishida, R.; Takahashi, M. (Japan Women's University, Japan)
- Pa19 **Small-angle Neutron Scattering Study of Hydrophobic Effects on Pressure-induced Micro- and Macro-phase Separations of Block Copolymers**
Osaka, N.¹; Okabe, S.¹; Karino, T.¹; Nasimova, I.¹; Hirabaru, Y.²; Aoshima, S.²; Shibayama, M.¹ (¹The University of Tokyo, Japan; ²Osaka University, Japan)
- Pb20 **Fluctuation Effects of Chemical Gelation**
Ohira, K.; Sato, M.; Kohmoto, M. (The University of Tokyo, Japan)
- Pa21 **Capillary Wave Measurement of Surface Tension on Gel**
Yoshitake, Y.; Mitani, S.; Sakai, K.; Takagi, K. (The University of Tokyo, Japan)
- Pb22 **Morphology Change of Polyelectrolytes Consisting of Amino Acids and Hydrophobic Interaction**
Kunita, M.; Sakurazawa, S. (Future University-Hakodate, Japan)
- Pa23 **Single Molecule Study of Polymer Gels by AFM**
Okajima, T.; Tao, X.; Tokumoto, H. (Hokkaido University, Japan)
- Pb24 **Structural Observation of Heterogeneous and Fast-Responsive Polymer Hydrogels in Highly Hydrated States**

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Kishi, R.¹; Matsuda, A.²; Iio, K.¹; Takeuchi, K.¹ (¹National Institute of Advanced Industrial Science and Technology, Japan; ²Shibaura Institute of Technology, Japan)

Function

- Pa25 **Shrinking Behaviors of Surfactant-grafted Thermosensitive Gels and the Mechanism of Rapid Shrinking**
Okeyoshi, K.; Noguchi, Y.; Yoshida, R. (The University of Tokyo, Japan)
- Pb26 **Polymer-Clay Nanocomposites with Ultra-high Strength, Fracture Energy and Unique Swelling/De-swelling Properties**
Li, H.-J.; Haraguchi, K. (Kawamura Institute of Chemical Research, Japan)
- Pa27 **Preparation of Thermosensitive Gold Nanoparticles and Control of Their Aggregation**
Noguchi, Y.; Yoshida, R. (The University of Tokyo, Japan)
- Pb28 **Gel Electrophoresis with a Bilayer-Membrances-Immobilized Acrylamide Gel**
Ishihara, H.; Ozawa, J.; Matsuo, G.; Tsujii, K. (Hokkaido University, Japan)
- Pa29 **Theoretical Estimation of Deformation of Electrolyte Gel under Electric Fields**
Taniguchi, T.^{1,2}; Sugimoto, M.²; Koyama, K.² (¹CREST, JST, Japan; ²Yamagata University, Japan)
- Pb30 **Fluorescence Properties of Stimuli-Responsive Gels Having Chromophore**
Okawa, K.^{1,2}; Miyata, T.^{1,2}; Uragami, T.¹ (¹Kansai University, Japan; ²PRESTO, JST, Japan)
- Pa31 **Temperature Response of Thermo-sensitive Polyether Grafted onto Gold Substrate**
Inoue, S.; Nakadan, N.; Imabayashi, S.; Watanabe, M. (Yokohama National University, Japan)
- Pb32 **Thermo-Sensitivity of Polymers and Polymer Gels in Ionic Liquids**
Ueki, T.; Tokuda, H.; Watanabe, M. (Yokohama National University, Japan)
- Pa33 **The Gel Network of Poly(silamine) Hydrogel Monitored by a Photo-sensitive Probe**
Sakuma, H.; Hirase, T.; Yamashita, T.; Tsuruta, T.; Nagasaki, Y. (University of Tsukuba, Japan)
- Pb34 **Electrochromism of Structurally-colored Gels**
Ueno, K.¹; Matsubara, K.¹; Takeoka, Y.²; Watanabe, M.¹ (¹Yokohama National University, Japan; ²Nagoya University, Japan)
- Pa35 **Oil Absorbing Ability of Crosslinked Polymers Derived from *N*-Vinylalkylamides and *N*-Alkylacrylamides**
Kida, T.; Sugihara, F.; Akashi, M. (Osaka University, Japan)
- Pb36 **Light Shielding Effect of IPN Gel Based on Photoinduced Cation**
Sonobe, M.; Kashiwada, A.; Matsuda, K. (Nihon University, Japan)
- Pa37 **Effect of Porosigening Method on the Fast Swelling-Deswelling Behavior for Stimuli-Response Gels**
Lee, W.-F.; Yeh, Y.-C. (Tatung University, Taiwan, ROC)

- Pb38 **Thin Films with Periodical Structures Prepared from Hydrogel Particles**
Tsuji, S.; Kawaguchi, H. (Keio University, Japan)
- Pa39 **Preparation and Characterization of Photo-responsive Polymer Gel for Microfluidics Control**
Sugiura, S.; Sumaru K.; Ohi, K.; Hiroki, K.; Takagi, T.; Kanamori, T.
(National Institute of Advanced Industrial Science and Technology, Japan)
- Pb40 **Equilibrium Deformation of the Polyelectrolyte Gel Actuator under a Constant Voltage**
Nakamura, K.; Yamaue, T.; Doi, M. (The University of Tokyo, Japan)
- Pa41 **Temperature Responsive Slide-Ring Gels**
Kidowaki, M.¹; Zhao, C.^{1,2}; Kataoka, T.¹; Ruslim, C.¹; Ito, K.^{1,2} (¹The University of Tokyo, Japan; ²CREST, JST, Japan)
- Pb42 **Microfluidic Devices Based on Smart Hydrogels**
Richter, A.; Klenke, C.; Kuckling, D.; Arndt, K.-F. (Dresden University of Technology, Germany)
- Pa43 **Patterned PEG Gel Surface for Functional Cell Array**
Ichino, M.; Kataoka, K.; Nagasaki, Y. (University of Tsukuba, Japan)
- Pb44 **Preparation and Mechanical Properties of Polyelectrolyte-Filled Multilayer Microcapsules**
Kim, B. S.; Lebedeva, O. V.; Vinogradova, O. I. (Max-Planck Institute for Polymer Research, Germany)
- Pa67 **Preparation and Properties of Poly(acrylic acid) - Clay Nanocomposites Hydrogel**
Chou, C.-W.¹; Hsu, S.-H.¹; Wu, T.-H.²; Chen, C.-C.²; Chen, K.-S.³ (¹National Chung Hsing University, Taiwan, ROC; ²Institute of Nuclear Energy Research, Taiwan, ROC; ³Tatung University, Taiwan, ROC)
- Pa69 **Immobilization of Thermal Sensitive Hydrogels onto Plasma Treated Substrates by Crosslinking and Graft Polymerization on NIPAAm**
Chen, K.-S.¹; Chou, C.-W.² (¹Tatung University, Taiwan, ROC; ²National Chung Hsing University, Taiwan, ROC)
- Synthesis**
- Pa45 **Synthesis of Metallodielectric Microspheres by Using Temperature-sensitive Core-shell Microgels as Templates**
Suzuki, D.; Kawaguchi, H. (Keio University, Japan)
- Pb46 **Surface Modification of Gel by Molecularly Imprinting Method**
Ueda, A.¹; Takeoka, Y.^{1,2}; Seki, T.^{1,2} (¹Nagoya University, Japan; ²CREST, JST, Japan)
- Pa47 **Anisotropic Polyion-complex Gels from Template Polymerization**
Shigekura, Y.¹; Chen, Y. M.¹; Furukawa, H.¹; Kaneko, T.²; Kaneko, D.¹; Gong, J. P.^{1,3}; Osada, Y.¹ (¹Hokkaido University, Japan; ²Osaka University, Japan; ³SORST, JST, Japan)
- Pb48 **Synthesis and Properties of Water-soluble Redox Block Copolymers Having Thermo-sensitive Segments**
Kaino, S.; Araki, S.; Ogura, M.; Nakadan, N.; Kokubo, H.; Imabayashi, S.; Watanabe, M. (Yokohama National University, Japan)

- Pa49 **Preparation and Characterization of Polyrotaxane Derivatives**
Araki, J.; Ito, K. (The University of Tokyo, Japan; CREST, JST, Japan)
- Pb50 **Synthesis and Properties of Hybrid Gels Containing Polymerizable Surfactants**
Matsuo, G.^{1,2}; Söderman, O.²; Tsujii, K.¹ (¹Hokkaido University, Japan; ²Lund University, Sweden)
- Bio-medical Application**
- Pa51 **Temperature-sensitive Nanoparticles as Intelligent Therapeutic Systems**
Owens III, D. E.; Peppas, N. A. (The University of Texas, USA)
- Pb52 **Synthesis and Characterization of pH Responsive Mucoadhesive Tethered Biomaterials**
Thomas, J. B.; McGinity, J. W.; Peppas, N. A. (The University of Texas at Austin, USA)
- Pa53 **Micro-fabrication of Functional Gels and Application to Controlled Drug Release Microchip**
Omata, K.; Yamaura, K.; Yoshida, R. (The University of Tokyo, Japan)
- Pb54 **Quorum Sensing Control in Opportunistic Pathogens with Polymer Gels**
Kato, N.; Tanaka, T.; Nakagawa, S.; Morohoshi, T.; Ikeda, T. (Utsunomiya University, Japan)
- Pa55 **Convective Enhancement of Solute Release from the Microporous Hydroxypropyl Cellulose Gel Sheet**
Anada, M.¹; Kaku, N.¹; Komatsu, R.¹; Morohoshi, T.¹; Ikeda, T.¹; Gehrke, S. H.²; Kato, N.¹ (¹Utsunomiya University, Japan; ²The University of Kansas, USA)
- Pb56 **Inhibitory Control of Gram-Negative Bacterial Cell-to-Cell Communication by Ionized Polymer Gels and Cyclodextrins**
Nakagawa, S.; Matsumoto, H.; Tanaka, T.; Morohoshi, T.; Ikeda, T.; Kato, N. (Utsunomiya University, Japan)
- Pa57 **Bioartificial Hybrid Gel for Tissue Engineering II. Preparation of a Collagen Gel Complex by Cross-linking Collagen/Polymer Blend Film**
Nam, K.; Kimura, T.; Kishida, A. (Tokyo Medical and Dental University, Japan)
- Pb58 **Speeding up the Response of Crystalline Colloidal Array Photonic Crystal Glucose Sensor**
Ben-Moshe, M.; Alexeev, V. L.; Stunja, L. E.; Asher, S. A. (University of Pittsburgh, USA)
- Pa59 **pH-Sensitive Controlled Release of Fibroblast Growth Factor-2 from Intelligent Poly(γ -glutamic acid)-Sulfonate Hydrogel for Tissue Engineering**
Matsusaki, M.; Akashi, M. (Osaka University, Japan)
- Pb60 **Preparation of Target DNA-Responsive Hydrogels by Molecular Imprinting**

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Hishida, Y.¹; Okawa, K.^{1,2}; Ohya, Y.¹; Ouchi, T.¹; Uragami, T.¹; Miyata, T.^{1,2}
(¹Kansai University, Japan; ²PRESTO, JST, Japan)

Pa61 **Release of Gellan Gum from Physical Gels**

Tanaka, S.; Nishinari, K. (Osaka City University, Japan)

Pb68 **Chitosan Sponges Containing Acidic Fibroblast Growth Factor as Wound Dressings**

Hsu, S.-H.¹; Chen, Y.-S.¹; Chou, C.-W.¹; Chang, H.²; Wu, T.-H.³; Cheng, W.-C.²; Wu, T.-Y.⁴ (¹National Chung Hsing University, Taiwan, ROC; ²Chung Shan Medical University Hospital, Taiwan, ROC; ³Institute of Nuclear Energy Research, Taiwan, ROC; ⁴ANYZEN Biopharmaceutical Inc., Taiwan, ROC)

Non-linear Phenomenon

Pb62 **Design of Self-Oscillating Surface as Nano-Conveyer by Using Self-Oscillating Nano-Gel Beads**

Sakai, T.; Hara, Y.; Yoshida, R. (The University of Tokyo, Japan)

Pa63 **Design of Novel Self-Oscillating Polymer under Biological Condition and the Control of the Self-oscillating Behavior**

Hara, Y.¹; Sakai, T.¹; Maeda, S.²; Hashimoto, S.²; Yoshida, R.¹ (¹The University of Tokyo, Japan; ²Waseda University, Japan)

Pb64 **Photo-control of Spatio-temporal Oscillation in a Gel System with Light-sensitive Belousov-Zhabotinsky Reaction**

Shinohara, S.¹; Takeoka, Y.^{1,3}; Seki, T.^{1,3}; Yoshida, R.² (¹Nagoya University, Japan; ²The University of Tokyo, Japan; ³CREST, JST, Japan)

Pa65 **A Robotic Actuator Using Self-oscillating Gel**

Maeda, S.¹; Hara, Y.²; Yoshida, R.²; Hashimoto, S.¹ (¹Waseda University, Japan; ²The University of Tokyo, Japan)