

## Oral Session

29 May (Mon.), 2006

[Masaru Ibuka Memorial Hall]

9:00            **Opening Ceremony/IUPAC Address**

### Session 1-1

**Chairs: H. Nishide and K. Geckeler**

9:30    **KeyNote CANCER: FATAL EVOLUTIONS OF SELFISH CHROMOSOMES**

Peter Duesberg<sup>1</sup>, Ruhong Li<sup>1</sup>, and Rainer Sachs<sup>2</sup>,

*1) Department of Molecular and Cell Biology, Donner Laboratory, and 2) Department of Mathematics & Physics, University of California Berkeley, Berkeley, CA 94720, USA*

10:20   **PL-1    SMART NANO-ASSEMBLIES OF BLOCK COPOLYMERS FOR DRUG AND NUCLEIC ACID DELIVERY**

Kazunori Kataoka<sup>1,2,3</sup>

*1) Department of Materials Engineering, Graduate School of Engineering, The University of Tokyo, Tokyo, Japan, 2) Division of Clinical Biotechnology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan, 3) Center for NanoBio Integration, The University of Tokyo, Tokyo, Japan*

11:10            *Coffee Break*

[Masaru Ibuka Memorial Hall]

### Session 1-2

**Chairs: H. Nishide and K. Geckeler**

11:20   **IL-01    NEW APPROACHES TOWARDS SELF-CONNECTED AND SELFORGANIZED BIOMACROMOLECULAR SYSTEMS**

J.J. Ramsden

*Department of Materials, Cranfield University, MK43 0AL, England*

11:55   **IL-02    NANO-WIRE METAL COMPLEXES WITH ONE-DIMENSIONAL Pt-Pt AND Pt-Rh BONDS**

Kazuko Matsumoto

*Department of Chemistry, Waseda University, Okubo, Shinjuku, Tokyo 169-8555, Japan*

12:30            *Lunch*

[Masaru Ibuka Memorial Hall]

### Session 1-3a

**Chairs: L. Bouteiller and J. Hilborn**

- 13:15 IL-03 DYNAMIC SELF-ASSEMBLY OF BIS-UREAS INTO NANOTUBES**  
L. Bouteiller  
*UMR 7610 : Chimie des Polymères, Université Pierre et Marie Curie - CNRS, case 185, 4 place Jussieu, 75252 Paris cedex 05, France*
- 13:50 IL-04 DNA-PROGRAMMED ASSEMBLY OF ORGANIC COMPOUNDS**  
Kurt V. Gothelf  
*Center for Catalysis and Interdisciplinary Nanoscience Center (iNANO), Department of Chemistry, Aarhus University, 8000 Århus C, Denmark*
- 14:25 IL-05 SYNTHESIS OF BIO-INSPIRED AND BIO-DIRECTED ASSEMBLIES**  
J. Hilborn,<sup>1\*</sup> T. Bowden,<sup>1</sup> F. Nederberg,<sup>1</sup> A. Sugunan<sup>1</sup> and J. Dutta<sup>2</sup>  
*1) Department of Materials Chemistry, Uppsala University, 751 21 Uppsala, Sweden, 2) Microelectronics, AIT, P.O. Box 4, Klong Luang, Pathumthani 12120 Thailand*
- 15:00 OP-01 CARBON NANOTUBES: NOVEL APPROACHES FOR THEIR DISPERSION AND DEBUNDALIZATION**  
D. Nepal and K. E. Geckeler  
*Laboratory of Applied Macromolecular Chemistry, Department of Materials Science, and Engineering, Gwangju Institute of Science and Technology (GIST), 1 Oryong-dong, Buk-gu, Gwangju 500-712, South Korea*
- 15:20** *Coffee Break*

## Session 1-4a

**Chairs: S. Ermer and T. Miyashita**

- 15:35 IL-06 NANOMATERIALS FOR AEROSPACE APPLICATIONS**  
Susan Ermer  
*Lockheed Martin Space Systems Company, Advanced Technology Center, 3251, Hanover Street, Palo Alto, California, 94304-1191, USA*
- 16:10 OP-02 CONDUCTING POLYANILINE/CLAY NANOCOMPOSITE SYNTHESIS AND CHARACTERIZATION**  
Nguyen Duc Nghia,<sup>1\*</sup> Nguyen Thi Thu Thuy,<sup>1</sup> Nguyen Thi Thu Trang,<sup>1</sup> Hoang Mai Ha,<sup>1</sup> Nauven Duc Tuyen,<sup>1</sup> Van Tron Hieu,<sup>1</sup> Nauven Thi Van,<sup>1</sup> and Juno Il Jin<sup>2</sup>  
*1) Division of polymer science and Technology, Institute of Chemistry, Vietnamese Academy of Science and Technology, 2) Korea University, Seoul, Korea*
- 16:30 OP-03 HELIX-SENSE-SELECTIVE POLYMERIZATION OF PHENYLACETYLENES BEARING GALVINOXYL RESIDUES**  
T. Kaneko,<sup>1</sup> Y. Umeda,<sup>2</sup> S. Hadano,<sup>3</sup> M. Teraguchi,<sup>1,2,4</sup> and T. Aoki<sup>1,2,3,4</sup>  
*1) Center for Transdisciplinary Research, Niigata University, Ikarashi 2-8050, Niigata 950-2181, Japan, 2) Graduate School of Science and Technology, Niigata University, Ikarashi 2-8050, Niigata 950-2181, Japan, 3) Venture Business Laboratory, Niigata University, Ikarashi 2-8050, Niigata 950-2181, Japan, 4) Department of Chemistry and Chemical Engineering, Faculty of Engineering, Niigata University, Ikarashi 2-8050, Niigata 950-2181, Japan*
- 16:50 OP-04 CONTROL OF METAL ION ASSEMBLY USING NOVEL FUNCTIONAL MODULES**  
Masayoshi Higuchi  
*National Institute for Materials Science, Tsukuba 305-0044, Japan*
- 17:10 IL-07 NANO-STRUCTURES IN TRANSIENT SURFACTANT SYSTEMS: ERODED MYELINS AND INTERCONNECTED FUNNELS**  
M. A. Arunagirinathan<sup>1</sup>, C. Manohar<sup>1</sup> and Jayesh R. Bellare<sup>1,2</sup>  
*1) Department of Chemical Engineering and 2) School of Biosciences and Bioengineering, I.I.T. Bombay, Powai, Mumbai – 400 076, India*

- 17:45 OP-05 **SELF-ASSEMBLED MONOLAYERS AND GOLD NANOPARTICLES FOR ELECTROCHEMICAL AND OPTICAL ANION SENSING**  
J. J. Davis, P. D. Beer and T. M. Gray  
*Department of Chemistry, Inorganic Chemistry Laboratory, University of Oxford, South Parks Road, Oxford, OX1 3QR, United Kingdom.*
- 18:05 IL-08 **FUNCTIONAL DEVICES BASED ON POLYMER NANO-SHEET ASSEMBLY**  
T. Miyashita  
*Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai 980-8577, Japan*

[2nd Conference Room, 3rd Floor]

### Session 1-3b

Chairs: K. Kuroda and R. Laine

- 13:15 IL-09 **RATIONAL DESIGN OF INORGANIC NANOPOROUS MATERIALS**  
Kazuyuki Kuroda  
*Department of Applied Chemistry, Waseda University, Ohkubo-3, Shinjuku-ku, Tokyo, 169-8555, Japan, Kagami Memorial Laboratory for Materials Science and Technology, Waseda University, Nishiwaseda-2, Shinjuku-ku, Tokyo 169-0051, Japan, CREST, Japan Science and Technology Agency, Japan*
- 13:50 OP-06 **NANOMATERIALS BASED ON INTERCALATED CLAYS**  
P. Capková<sup>1\*</sup>, Z. Klika<sup>1</sup>, G. Simha-Martynková<sup>1</sup>, M. Valášková<sup>1</sup>, L. Kulhánková<sup>1</sup>, P. Malý<sup>2</sup>, M. Pospíšil<sup>2</sup> and R. Machán<sup>2</sup>.  
1) *Technical University Ostrava, Institute of Materials Chemistry, Trida 17.listopadu, Ostrava, 70833, Czech Republic, 2) Charles University Prague, Faculty of Mathematics and Physics, Ke Karlovu 3, Prague 2, 12116 Czech Republic.*
- 14:10 IL-10 **PERFECT AND NEARLY PERFECT SILSESQUOXANE NANOCONSTRUCTION SITES FOR NANOCOMPOSITES**  
Richard M. Laine, C. Brick, M. Roll, S. Sulaimann, M. Asuncion, K. Takahashi  
*Depts. of Materials Science and Engineering, Chemistry, and Macromolecular Science and Eng. University of Michigan, Ann Arbor, MI. 48109-2136, U.S.A.*
- 14:45 OP-07 **PREPARATION AND PROPERTIES OF POLYAMIDE-TETHERED POSS NANOCOMPOSITES**  
Y.-L. Liu,<sup>\*</sup> and H.-C. Lee  
*Department of Chemical Engineering and R&D center for Membrane Technology, Chung Yuan Christian University, Chungli, Taoyuan 32023, Taiwan*
- 15:05 OP-08 **SYNTHESISING CORE-SHELL NANOPARTICLES IN LIQUID HELIUM DROPLETS**  
A. M. Ellis,<sup>1\*</sup> K. von Haeften,<sup>1</sup> C. Binns,<sup>2</sup> S. Baker,<sup>2</sup> S. C. Thornton<sup>1</sup> and S. Taylor<sup>2</sup>  
1) *Department of Chemistry, University of Leicester, University Road, Leicester LE1 7RH, UK, 2) Department of Physics and Astronomy, University of Leicester, University Road, Leicester LE1 7RH, UK*
- 15:25 *Coffee Break*

### Session 1-4b

Chairs: M. Lu and D. Díaz

- 15:35 IL-11 **NANOPOROUS AND NANOCOMPOSITE MATERIALS FOR CLEAN ENERGY STORAGE AND CONVERSION TECHNOLOGIES**  
G.Q. Max Lu  
*Federation Fellow and Director, Australian Research Council Centre for Functional Nanomaterials, The University of Queensland, Brisbane, QLD 4072 Australia*

- 16:10 OP-09 SEMICONDUCTOR NANOCRYSTALS: SYNTHESIS, ASSEMBLY AND APPLICATIONS**  
A. L. Rogach<sup>1,2</sup>  
1) *Department of Physics & Department of Clinical Medicine, Trinity College Dublin, Dublin 2, Ireland, 2) Department of Physics and Center for NanoScience (CeNS), Ludwig-Maximilians- Universitaet Muenchen, 80799 Munich, Germany*
- 16:30 OP-10 THERMAL AND GEOMETRIC PROPERTIES OF NANOALLOY CLUSTERS**  
C.W. Yen and S.K. Lai\*  
*Complex Liquids Laboratory, Department of Physics, National Central University, Chungli 320, Taiwan*
- 16:50 OP-11 PHOTOFUNCTIONAL POLYMER NANOSHEETS ASSEMBLED WITH METAL NANOPARTICLES**  
M. Mitsuishi,\* H. Tanaka and T. Miyashita  
*Institute of Multidisciplinary Research for Advanced Materials (IMRAM), Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai 980-8577, Japan*
- 17:10 OP-12 DIELECTROPHORESIS OF NANOPARTICLES**  
E. Salonen,<sup>1</sup> E. Terama,<sup>1</sup> I. Vattulainen,<sup>1,2</sup> and M. Karttunen<sup>3</sup>  
1) *Laboratory of Physics and Helsinki Institute of Physics, P.O.Box 1100, FIN-02015 Helsinki University of Technology, Finland, 2)Memphys-Center for Biomembrane Physics, University of Southern Denmark, DK- 5230 Odense M, Denmark; and Institute of Physics, Tampere University of Technology, P.O. Box 692, FIN-33101, Finland, 3)Department of Applied Mathematics, University of Western Ontario, London (ON), Canada N6A 5B7*
- 17:30 OP-13 MICROWAVE HEATING - EFFICIENT ROUTES TO MONODISPERSED FePt AND FePd NANOPARTICLES**  
H. Loc Nguyen<sup>a</sup>, Luciano E. M. Howard<sup>a</sup>, Brian K. Tanner<sup>b</sup>, Ian Terry<sup>b</sup>, Andrew K. Hughes<sup>a</sup>, Ian M. Ross<sup>c</sup>, Arnaud Serres<sup>b</sup>, Hannah Bürckstümmer<sup>a</sup> Charles D. Clarke<sup>a</sup> and John S. O. Evans<sup>a</sup>  
*a) Department of Chemistry/ b)Department of Physics, University Science Laboratories, University of Durham, South Road, DH1 3LE, U.K. c) Department of Electronic and Electrical Engineering, University of Sheffield, Mappin Building, Mappin Street, Sheffield,*
- 17:50 IL-12 SYNTHESIS AND POTENTIAL APPLICATIONS OF SILVER AND METAL OXIDE COLLOIDAL NANOPARTICLES**  
David Díaz<sup>1</sup>, Geonel Rodríguez-Gattorno<sup>1</sup>, Rita Patakfalvi<sup>1</sup>, Donaji Velasco-Arias<sup>1</sup>, Guadalupe Osorio-Monreal<sup>1</sup>. and Patricia Santiago-Jacinto<sup>2</sup>  
1) *Department of Chemistry, 2) Institute of Physics, National Autonomous University of Mexico, Coyoacan 04510, Mexico City, Mexico.*
- 18:25 IL-13 ARTIFICIAL GENETIC NETWORKS AS AN APPROACH TO NANOTECHNOLOGY**  
R. Bar-Ziv  
*The Weizman Institute of Science) Rehovot, Israel*

30 May (Tue.), 2006

[Masaru Ibuka Memorial Hall]

**Session 2-1**

Chair: H. Nishide

9:00 PL-2 **HYPERSTRUCTURED POLYACETYLENE**

K. Akagi

*Department of Polymer Chemistry, Kyoto University, Katsura, Kyoto 615-8510, Japan*

[Masaru Ibuka Memorial Hall]

**Session 2-2a**

Chairs: M. Fujiki and Y. W. Park

9:50 IL-14 **ONE-DIMENSIONAL CHARGE TRANSPORT IN CONDUCTING POLYMER NANOFIBERS**

A. N. Aleshin<sup>1,2</sup> and Y. W. Park<sup>1,\*</sup>

*1) School of Physics and Nano Systems Institute - National Core Research Center, Seoul National University, Seoul 151-747, Korea, 2) A. F. Ioffe Physical-Technical Institute, Russian Academy of Sciences, St. Petersburg 194021, Russia*

10:25 *Coffee Break*

10:35 IL-15 **VERSATILE HELICAL POLYMER-BASED SUPRAMOLECULAR FILMS: CHIROPTICAL INVERSION SWITCHING AND MEMORY WITH RE-WRITABLE (RW) AND WRITE-ONCE READ-MANY-TIMES (WORM) MODES**

Michiya Fujiki,<sup>1\*</sup> Akihiro Ohira,<sup>1</sup> Masanobu Naito<sup>1</sup> and Masashi Kunitake<sup>2</sup>

*1) Graduate School of Materials Science, Nara Institute of Science and Technology, 8916-5, Takayama, Ikoma, Nara 630-0101, Japan, 2) Department of Applied Chemistry and Biochemistry, Kumamoto University, 2-39-1, Kurokami, Kumamoto 860-8555, Japan*

11:10 OP-14 **MOLECULAR DESIGN AND HOST-GUEST COMPLEXATION PROPERTIES OF SUPRAMOLECULAR BIS-PORPHYRIN "MOLECULAR TWEEZERS"**

Davor Margetic,<sup>1\*</sup> Ronald N. Warrener,<sup>2</sup> David Officer,<sup>3</sup> Douglas N. Butler,<sup>2</sup> Zemin Dong,<sup>2</sup> Zul Merican,<sup>2</sup> Tanu Heshen<sup>4</sup> and Maxwell J. Gunter<sup>5</sup>

*1) Department of Organic Chemistry and Biochemistry, Institute Ruder Boškovic, Bijenicka c. 54, 11000 Zagreb, Croatia, 2) Intelligent Polymer Research Institute, The University of Wollongong, Northfields Avenue, Wollongong, NSW, 2522, Australia, 3) Nanomaterials Research Centre, Massey University, Palmerston North, Private Bag 11-222, New Zealand, 4) Centre for Molecular Architecture, Central Queensland University, Rockhampton, 4702, Australia, 5) The University of New England, School of Biological, Biomedical and Molecular Sciences, Armidale, NSW 2351, Australia*

11:30 IL-16 **CONJUGATED POLYMERS FOR MOLECULAR PHOTOMEMORY AND PHOTOSWITCH**

Tsuyoshi Kawai

*Graduate School of Materials Chemistry, Nara Institute of Science and Technology, Ikoma, Nara 630-0192, Japan*

12:05 OP-15 **SELF-ASSEMBLED SUPRAMOLECULAR NANOSTRUCTURES DIRECTED BY AMPHIPHILIC POLYETHYLENEOXIDE-b-OLIGOPHENYLENEVINYLENE AND ITS HYBRIDS**

C. C. Hsieh,<sup>1</sup> A. T. Chien,<sup>2</sup> J. H. Jaw<sup>1</sup> and K. F. Lin<sup>1,2\*</sup>

*1) Department of Material Science and Engineering, National Taiwan University, Taipei, Taiwan, 2) Institute of Polymer Science and Engineering, National Taiwan University, Taipei, Taiwan*

[1st and 3rd Conference Room, 3rd Floor]

12:25 *Poster/Lunch*

[Masaru Ibuka Memorial Hall]

### Session 2-3a

Chairs: T. Kawai and S.-Y. Park

13:45 OP-16 **NONLINEAR OPTICAL STUDY ON THE STRUCTURECONTROLLED CONJUGATED POLYMERS**

H. Kishida<sup>1,2</sup>, H. Okamoto<sup>2</sup>, H. Kokubo<sup>3</sup>, and T. Yamamoto<sup>3</sup>

1) *Department of Applied Physics, Nagoya University, Furo-cho, Chikusa-ku, Nagoya, 464-8603, Japan*, 2) *Department of Advanced Materials Science, University of Tokyo, Kashiwa, Chiba 277-8561, Japan*, 3) *Chemical Resources Laboratory, Tokyo Institute of Technology, Yokohama 226-8503, Japan*

14:05 IL-17 **MOLECULAR NANOSTRUCTURES AND NANOPHOTONICS**

Soo Young Park

*School of Materials Science and Engineering, Seoul National University, Shillim-dong, Kwanak-gu, Seoul 151-744, Korea*

14:40 OP-17 **POLYMERIZATION OF BUTADIENE IN CRYSTALLINE STATE STIMULATED BY RADICAL INITIATORS**

Shuji Okada<sup>1</sup> and Makoto Arai

*Department of Polymer Science and Engineering, Faculty of Engineering, Yamagata University, 4-3-16 Jonan, Yonezawa 992-8510, Japan*

15:00 OP-18 **ELECTRON SPIN RESONANCE OBSERVATION OF CHARGE CARRIERS IN CONJUGATED-POLYMER THIN-FILM DEVICES**

S. Kuroda<sup>1</sup> and K. Marumoto<sup>2</sup>

1) *Department of Applied Physics, Nagoya University, Nagoya 464-8603, Japan*, 2) *Department of Materials Science, University of Tsukuba, Tsukuba 305-8577, Japan*

15:20 *Coffee Break*

### Session 2-4a

Chairs: H. Lemmetyinen and B.-Z. Tang

15:30 IL-18 **PORPHYRIN- AND PHTHALOCYANINE-FULLERENE DYADS AND TRIADS AS MOLECULAR LAYERSFOR LIGHT CONVERSION TO ELECTRICITY**

H. Lemmetyinen,\* N. Tkachenko, T. Vuorinen, K. Kaunisto, H. Vahasalo, V. Chucharev and A. Efimov

*Institute of Materials Chemistry, Tampere University of Technology, P.O. Box 541, FIN-33101 Tampere, Finland*

16:05 OP-19 **MODEL OF A MOLECULAR SWITCH ON A METAL SURFACE**

Bidisa Das, Shuji Abe\*

*Nanotechnology Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Umezono 1-1-1, Tsukuba, Ibaraki 305-8568, Japan*

16:25 IL-19 **FUNCTIONAL POLYACETYLENES: MESOMORPHIC ORGANIZATION, MACROMOLECULAR HELICITY, SUPRAMOLECULAR ASSEMBLY, AND**

Ben Zhong Tang<sup>1,2</sup>

1) *Department of Chemistry, The Hong Kong University of Science & Technology, Clear Water Bay, Kowloon, Hong Kong, China*, 2) *Key Laboratory of Macromolecular Synthesis and Functionalization of the Ministry of Education, Department of Polymer Science & Engineering, Zhejiang University, Hangzhou 310027, China*

- 17:00 OP-20 **UNIDIRECTIONAL LASER EMISSION FROM ASYMMETRY MICRODISK BASED ON -CONJUGATED POLYMER**  
A. Fujii,<sup>\*</sup> T. Takashima, N. Tsujimoto, T. Nakao, Y. Yoshida and M. Ozaki  
*Division of Electrical, Electronic and Information Engineering, Graduate School of Engineering, Osaka University, Suita, Osaka 565-0871, Japan*
- 17:20 OP-21 **FIELD EFFECT CHARGE ACCUMULATION IN ORGANIC SEMICONDUCTOR VIA LIQUID GATE DIELECTRIC**  
W. Takashima,<sup>1\*</sup> M. Andersson<sup>2</sup>, K. Kaneto<sup>1</sup> and O. Inganäs<sup>2</sup>  
1) *Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology, Iizuka, Fukuoka 808-0196, Japan*, 2) *IFM, Linköping University, 581 83*
- 17:40 OP-22 **ELECTRONIC STATES OF SALMON AND METAL DOPED DNA**  
K. Mizoguchi, S. Tanaka, M. Ojima, S. Sano and H. Sakamoto  
*Department of Physics, Tokyo Metropolitan University, Hachioji, Tokyo 192-0397, Japan*

[2nd Conference Room, 3rd Floor]

### Session 2-2b

Chairs: H. Fenniri and L.-J. Wan

- 9:50 IL-20 **MEMORY AND CATALYTIC TRANSFER OF CONFORMATIONAL CHIRALITY**  
Hicham Fenniri  
*National Institute for Nanotechnology and Department of Chemistry, University of Alberta, Edmonton, Alberta T6G 2V4, Canada*
- 10:25 *Coffee Break*
- 10:35 IL-21 **GREASY FRÉCHET DENDRONS - FROM FLOPPY BALLS TO HIGHLY ORDERED TWO-DIMENSIONAL ARRAYS**  
Edwin C. Constable  
*Department of Chemistry, University of Basel, Switzerland*
- 11:10 IL-22 **SELF-ORGANIZED COMPLEX ARCHITECTURES: MOLECULAR ENGINEERING AND SCANNING TUNNELING MICROSCOPY**  
Qun-Hui Yuan, Li-Jun Wan<sup>\*</sup>  
*Institute of Chemistry, Chinese Academy of Sciences, Beijing 100080, China*
- 11:45 IL-23 **ORGANIC/INORGANIC HYBRID NANOPARTICLES – FROM SYNTHETIC ROUTES TO APPLICATIONS**  
H.-J. P. Adler and A. Pich  
*Department of Macromolecular Chemistry and Textile Chemistry, Technische Universität Dresden, D-01069 Dresden, Germany*

[1st and 3rd Conference Room, 3rd Floor]

- 12:25 *Poster/Lunch*

[2nd Conference Room, 3rd Floor]

### Session 2-3b

Chairs: E. Constable and H. Adler

- 13:45 OP-23 SUPRAMOLECULAR CHEMISTRY AT THE LIQUID/SOLID INTERFACE**  
Steven De Feyter  
*Department of Chemistry, Katholieke Universiteit Leuven, Celestijnenlaan 200 F, B-3001 Leuven, Belgium*
- 14:05 OP-24 HIERARCHICAL SUPRAMOLECULAR SELF-ASSEMBLIES OF HYDROGEN-BONDED DIBLOCK COMPLEXES**  
L.X. Wu, Q.T. Liu, H. Zhang, S.Y. Yin and Y.L. Wang  
*Key Laboratory for Supramolecular Structure and Materials of Ministry of Education, Jilin University, Changchun 130012, P.R. China*
- 14:25 OP-25 SELF-SORTING SOFT MATERIALS – THE IMPACT OF CHIRALITY ON SELF-ASSEMBLY AND GELATION**  
A.R. Hirst,<sup>\*</sup> B. Huang and D.K. Smith  
*Department of Chemistry, University of York, Heslington, York, YO10 5DD, UK*
- 14:45 OP-26 THERMORESPONSIVE HYBRID SELF-ASSEMBLIES IN AQUEOUS MEDIA**  
L. Petit, F. Lafuma, N. Pantoustier and D. Hourdet<sup>\*</sup>  
*Physico-chimie des Polymères et des Milieux Dispersés (PPMD) UMR 7615 (UPMC – CNRS – ESPCI), 10 rue Vauquelin, 75231 Paris Cedex 05, France.*
- 15:05 OP-27 NANOSCALE METAL OXIDES BY USING A SUPRAMOLECULAR APPROACH**  
T. Premkumar and K. E. Geckeler<sup>\*</sup>  
*Laboratory of Applied Macromolecular Chemistry, Department of Materials Science and Engineering, Gwangju Institute of Science and Technology (GIST), 1 Oryong-dong, Buk-gu, Gwangju 500-712, South Korea*
- 15:25** *Coffee Break*

## Session 2-4b

Chairs: H.-C. Zeng and S.-M. Peng

- 15:35 OP-28 HOST-GUEST INTERACTION OF METALLACROWNS WITH HERBICIDE COMPLEXES**  
Elias Samaras<sup>2</sup>, Tereza Afrati<sup>1</sup>, Anastasia Dimitrakopoulou<sup>1</sup>, Dimitris P. Kessissoglou<sup>1</sup>, Catherine Dendrinou-Samara<sup>1</sup>  
*1) Department of General and Inorganic Chemistry, Aristotle University of Thessaloniki, Thessaloniki, 54006, Greece; 2) Laboratory of Biotechnology, Technological Educational Institution, Sindos, Thessaloniki, Greece.*
- 15:55 IL-24 SYNTHETIC ARCHITECTURE OF NANOMATERIALS**  
Hua Chun Zeng  
*Department of Chemical and Biomolecular Engineering, Faculty of Engineering, National University of Singapore, Singapore 119260*
- 16:30 IL-25 SMALL NANOCCLUSERS: MECHANICAL AND COOPERATIVE ELECTRONIC BEHAVIOUR THEREIN**  
Ishenkumba A. Kahwa  
*Department of Chemistry, The University of the West Indies, Mona Campus, Kingston 7, Jamaica*
- 17:05 IL-26 MOLECULAR METAL WIRES AND MOLECULAR SWITCHES**  
Shie-Ming Peng  
*Department of Chemistry, National Taiwan University, Taipei, Taiwan*

31 May (Wed.), 2006

[Masaru Ibuka Memorial Hall]

**Session 3-1**

Chair: S. Takeoka

**9:00 PL-3 NANO-CHEMISTRY FOR CONTROLLING THE BIOLOGICAL MATERIALS INTERFACE**

Christopher Ober<sup>1,3\*</sup>, Wageesha Senaratne<sup>1,2,3</sup>, Prabuddha Sengupta<sup>2</sup>, Barbara Baird<sup>2,3</sup>  
1) *Materials Science and Engineering, Cornell University, Ithaca, NY 14853, USA*, 2) *Chemistry and Chemical Biology, Cornell University, Ithaca, NY 14853, USA*, 3) *Nanobiotechnology Center, Cornell University, Ithaca, NY 14853, USA*

[Masaru Ibuka Memorial Hall]

**Session 3-2a**

Chairs: S. Takeoka and A. Guiseppi-Elie

**9:50 IL-27 DESIGN AND PREPARATION OF BLOOD SUBSTITUTES USING MOLECULAR ASSEMBLING TECHNOLOGIES**

S. Takeoka  
*Department of Applied Chemistry, Faculty of Science and Engineering, Waseda University, Shinjuku, Tokyo 169-8555, Japan*

**10:25** *Coffee Break*

**10:35 IL-28 CHEMICALLY MODIFIED CARBON NANOTUBES FOR AMPEROMETRIC BIOSENSING**

Anthony Guiseppi-Elie  
*Center for Bioelectronics, Biosensors and Biochips, (C3B), Department of Chemical and Biomolecular Engineering, and Department of Bioengineering, Clemson University, Clemson, SC 29634, USA.*

**11:10 OP-29 DEVELOPMENT OF POLYMER TYPE OF GELATORS BASED ON SUPRAMOLECULAR CHEMISTRY**

K. Hanabusa  
*Graduate School of Science and Technology, Shinshu University, Ueda, Nagano 386-8567, Japan*

**11:30 OP-30 SYNTHESIS AND CHARACTERIZATION OF STIMULI-RESPONSIVE CORE-SHELL NANOGELS**

D. Kuckling<sup>1\*</sup>, S. Mendrek<sup>1,2</sup>, H.-J. Adler<sup>1</sup>, A. Dworak<sup>2</sup>  
1) *Fachrichtung Chemie und Lebensmittelchemie, TU Dresden, D-01062 Dresden, Germany*, 2) *Polish Academy of Sciences, Institute of Coal Chemistry, 44-100 Gliwice, Poland*

**11:50 OP-31 BIOSENSORS AND BIOANALYTICAL SYSTEMS BASED ON NANOMATERIALS: QUANTUM DOTS, GOLD NANOPARTICLES AND CARBON NANOTUBES**

Arben Merkoçi, Martin Pumera and Salvador Alegret  
*Departament de Química, Universitat Autònoma de Barcelona, E-08193 Bellaterra Barcelona, Spain*

**12:10 OP-32 THE WATER-SOLUBILITY OF [60]FULLERENE: ITS IMPLICATIONS FOR BIOMEDICAL APPLICATIONS**

C. N. Murthy, Rashmika R. Patel  
*Applied Chemistry Department, Faculty of Technology and Engineering, PO Box 51, Kalabhavan, The M. S. University of Baroda, Vadodara-390001, INDIA.*

[1st and 3rd Conference Room, 3rd Floor]

12:30 *Poster/Lunch*

[Masaru Ibuka Memorial Hall]

### Session 3-3a

Chairs: H. Ritter and A. Hariyono

- 13:50 OP-33 **INTERACTIONS OF RHODAMINE B WITH WATER-SOLUBLE POLYMERS CONTAINING AROMATIC RINGS**  
Ignacio Moreno-Villoslada,<sup>1</sup> Susan Hess<sup>1</sup>, Rodrigo González<sup>1</sup>, Tamara Sotelo<sup>1</sup>, Gustavo Parra<sup>1</sup>, Bernabé L. Rivas<sup>2</sup>  
*1) Laboratorio de Polímeros, Instituto de Química, Facultad de Ciencias, Universidad Austral de Chile, Valdivia, Chile 2) Departamento de Polímeros, Facultad de Ciencias Químicas, Universidad de Concepción, Concepción, Chile*
- 14:10 OP-34 **MULTIVALENT DENDRONS FOR HIGH-AFFINITY ADHESION OF PROTEINS TO DNA**  
M. Kostianen,<sup>1\*</sup> G. Szilvay<sup>2</sup>, D. Smith<sup>3</sup>, M. Linder<sup>2</sup> and O. Ikkala<sup>1</sup>  
*1) Department of Engineering Physics and Mathematics and Center for New Materials, Helsinki University of Technology, P.O. BOX 2200, 02015 HUT, Espoo, Finland 2) VTT Biotechnology, Tietotie 2, P.O. BOX 1500, FIN-02044 VTT, Finland 3) Department of Chemistry, University of York, Heslington, York, YO10 5DD, UK*
- 14:30 IL-29 **STIMULI-RESPONSIVE MATERIALS VIA INTERACTION OF CYCLODEXTRINS WITH POLYMERS**  
Helmut Ritter  
*Institute of Organic Chemistry and Polymer Chemistry University of Duesseldorf, Germany*
- 15:05 OP-35 **LINEAR BIPOLAR ACTUATOR WITH UNIDIRECTIONAL ACTUATION**  
D.M.G. Preethichandra, W. Takashima, A. K. Thakur, K.Kaneto  
*Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology 2-4, Hibikino, Wakamatsu-ku, Kitakyushu 808-0196, Japan*
- 15:25 *Coffee Break*

### Session 3-4a

Chairs: E. Rosenberg and K. Geckeler

- 15:35 OP-36 **SYNTHESIS, THERMAL PROPIERTES AND DIELECTRIC RELAXATION PROCESSES ON DENDRONIZED POLY(METHACRYLATE)S**  
D. Radic<sup>1\*</sup>, L. Alegría<sup>1</sup>, L. Gargallo<sup>1</sup>, R. Díaz-Calleja<sup>2</sup> and M. J. Sanchis<sup>2</sup>  
*1) Departamento de Química Física, Facultad de Química. Pontificia Universidad Católica de Chile, Casilla 306, Santiago 22, Fax: 56-2-6864744, 2) Departamento de Termodinámica Aplicada, E.T.S.I.I. Universidad Politécnica de Valencia, Camino de Vera s/n, Apartado 2212, 46071 Valencia Spain.*
- 15:55 OP-37 **CHEMISTRY AT SURFACES WITH THE AID OF POLYMER BRUSHES**  
Omar Azzaroni,<sup>\*</sup> Andrew A. Brown and Wilhelm. T.S. Huck  
*Melville Laboratory for Polymer Synthesis, Department of Chemistry – University of Cambridge – Lensfield Rd. (CB2 1EW) – United Kingdom*
- 16:15 OP-38 **CONTACT LENSES FOR OPHTHALMIC DRUG DELIVERY: ACHIEVING CONTROLLED RELEASE WITH NOVEL NANOSTRUCTURED POLYMER MATRIX**  
P.Y. Chow and Y.Y. Yang  
*Institute of Bioengineering and Nanotechnology, Singapore 138669*

16:35 IL-30 **NANO-EMULSION FORMED BY PALM OIL SURFACTANTS**  
Agus Haryono, Evi Triwulandari and Dieni Mansur  
*Polymer Chemistry Group - Research Center for Chemistry, Indonesian Institute of Sciences-LIPI, Kawasan Puspiptek Serpong, Tangerang 15314, Indonesia*

17:10 IL-31 **IMMOBILIZED METAL POLYAMINE COMPOSITES (IMPACS): SELECTIVE ANION CAPTURING MATERIALS**  
Edward Rosenberg,\* Raj Kaliasam, Paul Miranda  
*Department of Chemistry, University of Montana, Missoula, MT 59812, USA*

[2nd Conference Room, 3rd Floor]

### Session 3-2b

Chairs: F. Ciardelli and T. Momma

9:50 IL-32 **REACTIVE BLENDING OF POLYOLEFINS "TO NANOSTRUCTURED FUNCTIONAL THERMOPLASTIC MATERIALS"**  
F. Ciardelli<sup>1</sup>, E. Passaglia<sup>2</sup>, S. Coiai<sup>2</sup>, A. Pucci<sup>1</sup> and G. Ruggeri<sup>1</sup>  
1) *Dipartimento di Chimica e Chimica Industriale, Università di Pisa, Via Risorgimento 35, 56126 Pisa, Italy and Polylab, CNR/INFM, Pisa 2) ICCOM, CNR sezione di Pisa, c/o Dipartimento di Chimica e Chimica Industriale, Università di Pisa, Via Risorgimento 35, 56126 Pisa, Italy*

10:25 *Coffee Break*

10:35 OP-39 **NANOHYBRID OF ELECTROCONDUCTIVE POLYANILINE AND NOBLE METAL NANOPARTICLES FOR THERMOELECTRIC MATERIALS**  
Naoki Toshima\* and Hiromasa Marutani  
*Department of Materials Science and Environmental Engineering, Tokyo University of Science, Yamaguchi, SanyoOnoda-shi, Yamaguchi 756-0884, Japan*

10:55 IL-33 **ELECTROCHEMICAL FORMATION OF MESOPOROUS METAL MATERIALS**  
T. Momma,<sup>1,2</sup> Y. Yamauchi,<sup>1</sup> T. Osaka<sup>1</sup> and K. Kuroda<sup>1,2</sup>  
1) *Graduate School of Science and Engineering and Kagami Memorial Laboratory for Materials Science and Technology, Waseda Univ.* 2) *CREST, Japan Science and Technology Corporation.*

11:30 OP-40 **NOVEL QUANTUM DOT-BASED HYBRID NANOMATERIALS WITH SMALL SIZE AND DUAL/MULTIMODAL PROPERTIES FOR BIOMEDICAL IMAGING**  
Z. Zhelev, R. Bakalova and H. Ohba  
*1On-Site Sensing and Diagnosis Research Laboratory, National Institute of Advanced Industrial Science and Technology, AIST-Kyushu, 807-1 Shuku-machi, Tosu, Japan*

11:50 IL-34 **NANOCOMPOSITE RESINS FOR RESTORATIVE MATERIALS IN DENTISTRY**  
F.Schue,<sup>\*1</sup> N.Mignard-Laleque<sup>1</sup> and M.Kaba<sup>1,2</sup>  
1) *OMEMF UMR CNRS 5073 University Montpellier II, 34095 Montpellier, France* 2) *Laboratory of Engineering Processes, Faculty of Sciences Ibn Tofail, Kenitra, Morocco*

[1st and 3rd Conference Room, 3rd Floor]

12:30 *Poster/Lunch*

[2nd Conference Room, 3rd Floor]

### Session 3-3b

Chairs: F.Schue and R. Quijada

- 13:50 IL-35 **POLYPROPYLENE NANOCOMPOSITES: STUDY OF DIFFERENT NANOPARTICLES AND COMPATIBILIZERS**  
Raul Quijada  
*Departamento de Ingeniería Química and Center for Advanced Interdisciplinary Research in Materials-CIMAT, Universidad de Chile, Santiago, Chile*
- 14:25 OP-41 **METAL COMPLEXES ON CARBON PARTICLES AS PLATINUM-FREE CATALYSTS FOR FUEL CELL CATHODES**  
K. Oyaizu,<sup>1\*</sup> Y. Iai,<sup>2</sup> T. Imai,<sup>2</sup> M. Yamamoto,<sup>2</sup> H. Kimura,<sup>2</sup> S. Sasaki,<sup>2</sup> and M. Yuasa<sup>1,2</sup>  
1) *Institute of Colloid and Interface Science, Tokyo University of Science, Tokyo 162-8601, Japan* 2) *Department of Pure & Applied Chemistry, Faculty of Science and Engineering, Tokyo University of Science, Noda, 278-8510, Japan*
- 14:45 OP-42 **NANOSTRUCTURED LUMINESCENT SENSORS FOR POLYPROPYLENE DEFORMATION**  
A. Pucci,<sup>1</sup> M. Bernabò,<sup>1</sup> S. Bronco,<sup>2</sup> G. Ruggeri,<sup>1,3</sup> and F. Ciardelli<sup>1,2</sup>  
1) *Department of Chemistry and Industrial Chemistry, University of Pisa, via Risorgimento 35, I-56126 Pisa, Italy* 2) *PolyLab-CNR-INFM, c/o Department of Chemistry, and Industrial Chemistry, University of Pisa, via Risorgimento 35, I-56126 Pisa, Italy* 3) *INSTM, c/o Department of Chemistry, and Industrial Chemistry, University of Pisa, via Risorgimento 35, I-56126 Pisa, Italy*
- 15:05 OP-43 **PHOTO-REVERSIBLE LEAD COMPLEXATION OF THERMOSENSITIVE SPIROPYRAN HYDROGELS**  
T. Suzuki \*  
*Department of Environmental Materials Science, Tokyo Denki University, Chiyodaku, Tokyo 101-8457, Japan*
- 15:25 *Coffee Break*

### Session 3-4b

Chairs: Y.Messaddeq and E.Karakhanov

- 15:35 OP-44 **NANOCONFINED IONIC LIQUIDS : NEW ROUTE FOR NEW MONOLITHIC ELECTROLYTES**  
J. Le Bideau,<sup>1\*</sup> M.Y. Miah,<sup>1</sup> S. Bellayer,<sup>1</sup> M-A. Néouze,<sup>1</sup> A. Vioux,<sup>1</sup> A. Galarneau,<sup>1</sup> F. Fajula,<sup>1</sup> F. Leroux<sup>2</sup>  
1) *Institut Charles Gerhardt - CNRS, CC007, Université Montpellier 2, 34095 Montpellier Cedex 5, France* 2) *LMI - UMR CNRS 6002, Université Blaise Pascal, 63177 Aubière, France*
- 15:55 OP-45 **NANOFOAMS FOR INDUSTRIAL APPLICATIONS: CHALLENGES IN SYNTHESIS AND CHARACTERISATION**  
C. C. Egger \*, V. Raman, M. Fricke and V. Schädler  
*Institut de Sciences et d'Ingénierie Supramoléculaires, BASF Group, Strasbourg, France*
- 16:15 IL-36 **PREPARATION AND CHARACTERIZATION OF NANOSTRUCTURES LATEX AND SILICA SPHERES FOR PHOTONICS APPLICATIONS**  
R. Bertholdo, A. Papacediro, M.C.Schiavetto, S.J.L.Ribeiro and Y.Messaddeq \*  
*Instituto de Química, UNESP, CP 355, CEP 14801-970, Araraquara, SP, Brazil.*
- 16:50 OP-46 **NANOENGINEERED EQUICHIRAL AND AMBICHIRAL BRAGG REFLECTORS – INSPIRATION FROM SCARAB BEETLES**  
Lakshman De Silva <sup>1</sup>, Sam Lowrey<sup>1</sup>, Ian Hodgkinson<sup>1</sup> and John Leader<sup>2</sup>

1) *Department of Physics, University of Otago, Dunedin, New Zealand* 2) *Department of Physiology, University of Otago, Dunedin, New Zealand*

**17:10 IL-37 NANOCATALYSTS BASED ON MOLECULAR RECEPTORS - A ROUT TO GREEN CHEMISTRY**

E.Karakhanov

*Department of Chemistry, Moscow State University, Moscow, 119992, Russia*

[Masaru Ibuka Memorial Hall]

**17:50 Closing Remarks**