

## Sunday, June 12

08:00 – 09:00

**Registration**  
Main Lounge, NEC

09:00 – 17:00

**SHORT COURSES**  
Auditorium, NEC

09:00

**SC1**

**BASIC OVERVIEW OF MOLECULAR POLYMER ANALYTICS**

A.M. Van Herk  
Institute of Chemical and Engineering Sciences, Singapore

10:30

**Break**

11:00

**SC2**

**NMR CHARACTERIZATION OF POLYMERS: REVIEW AND UPDATE**

H.N. Cheng  
U.S. Department of Agriculture, USA

12:30

**Lunch**

13:30

**SC3**

**X-RAY CHARACTERIZATION OF SOFT MATERIALS**

M. Toney  
Stanford Synchrotron Light Source, USA

15:00

**Break**

15:30

**SC4**

**ELECTRON MICROSCOPY OF SOFT MATERIALS**

H. Jinnai  
Tohoku University, Japan

17:00

**Break/Conference Registration**

Main Lounge, NEC

17:30

**Welcome Reception**

The Attic Wine Lounge & Bistro

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## Monday, June 13

08:00 – 08:45

**Registration**  
Main Lounge, NEC

08:45 – 09:00

**Opening Ceremony**  
Prof. Freddy Boey, Provost of Nanyang Technological University  
Auditorium, NEC

09:00 – 11:00

**S1: CHARACTERIZATION CHALLENGE 1**

*Invited Talks*

Session Chair: G.J. Vancso

University of Twente, the Netherlands

Auditorium, NEC

09:00

I1

**DIRECT CHARACTERIZATION OF IN-PLANE PHASE SEPARATION IN A POLYMER BRUSH IN SOLVENT**

D. Murakami, Y. Higaki, A. Takahara

Kyushu University, Japan

Y. Norizoe

National Institute of Advanced Industrial Science and Technology, Japan

H. Jinnai

Tohoku University, Japan

09:30

I2

**CHARACTERIZATION OF POLYMER CONFORMATIONS AT SURFACES AND INTERFACES BY TOF-SIMS**

C.M. Chan, R.Y.T. Lau, X. Ren, L.-T. Weng, K.M. Ng

Hong Kong University of Science and Technology, Hong Kong

10:00

I3

**POLYMER BRUSHES PREPARED VIA SURFACE-INITIATED CONTROLLED RADICAL POLYMERIZATION – SYNTHETIC AND ANALYTICAL CHALLENGES**

H.-A. Klok

Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

10:30

**Panel Discussion**

11:00

**Break**

11:20 – 12:40

**S2a: CHARACTERIZATION CHALLENGE**

*Contributed Talks*

Session Chair: H.-A. Klok

Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

Auditorium, NEC

11:20

SO1.1

**PRECISE CHARACTERIZATION OF POLYMERS PREPARED BY ANIONIC POLYMERIZATION**

*Special Contributed Talk*

T. Chang

Pohang University of Science and Technology, Republic of Korea

- 11:40    **O1.1**    **PEEK AND POLYARYLEETHERKETONE POLYMERS ANALYSIS BY SIZE-EXCLUSION SEC AND LIQUID ADSORPTION LAC CHROMATOGRAPHY**  
N. Longiéras  
PEAKEXPERT, France
- 12:00    **O1.2**    **SEPARATION AND CHARACTERIZATION OF LIVING AND DEAD CHAIN IN POLYSTYRENE SYNTHESIZED BY ATRP**  
J. Oh, J. Kuk, T. Chang  
Pohang University of Science and Technology, Republic of Korea
- 12:20    **O1.3**    **METAL-CHELATING POLYMERIC TAGS FOR "CLICK"-BASED SINGLE CELL MASS CYTOMETRY**  
R. Liu, X. Chen, S.W. Tay, N. Tomczak  
Institute of Materials Research and Engineering, Singapore  
K.B. Larbi, M. Fehlings, K. Teng, E.W. Newell  
Singapore Immunology Network, Singapore

11:20 – 12:40    **S2b: COMBUSTION & THERMAL BEHAVIOR**

*Contributed Talks*

Session Chair: G. Camino

Polytechnic University of Turin, Italy

Lecture Room 1, NEC

- 11:20    **O2.1**    **SOLUTIONS AGAINST WEATHERING OF INTUMESCENT FIRE RESISTANT COATINGS?**  
M. Jimenez, A. Beaugendre, M. Casetta, S. Bellayer, S. Duquesne, S. Bourbigot  
École Nationale Supérieure de Chimie de Lille, France
- 11:40    **O2.2**    **RECENT ADVANCES ON THE AGEING OF FLAME RETARDED POLYLACTIDE**  
N. Lesaffre, M. Jimenez, G. Fontaine, S. Bourbigot  
École Nationale Supérieure de Chimie de Lille, France
- 12:00    **O2.3**    **EFFECT OF TACTICITY ON THERMAL OXIDATIVE DEGRADATION KINETICS OF HYDROXYL TERMINATED POLYBUTADIENE**  
A.K. Mahanta  
Defence Research & Development Organization, India
- 12:20    **O2.4**    **ON THE OXIDATION RESISTANCE OF STABILIZED AND UNSTABILIZED LOW DENSITY POLYETHYLENE FILMS**  
M.I. Babaghayou, S.F. Chabira, M. Sebaa  
Ammar Telidji University, Algeria  
A.I. Mourad  
United Arab Emirate University, UAE  
A. Ochoa, V. Lorenzo Universidad Politécnica de Madrid, Spain

12:40

**Lunch**  
**Poster Session & Company Talks**  
Main Lounge & Auditorium, NEC

14:10 – 16:10

**S3: COMBUSTION & THERMAL BEHAVIOR**

*Invited Talks*

Session Chair: A. Dasari  
Nanyang Technological University, Singapore  
Auditorium, NEC

14:10

**I4**

**POLYMER COMBUSTION TESTING FOR FIRE RISK  
OR FIRE PERFORMANCE**

G. Camino  
Polytechnic University of Turin, Italy

14:40

**I5**

**NEW TRENDS IN FLAME RETARDANCY OF  
POLYMERS: EVALUATION, CHARACTERIZATION  
AND MECHANISM**

S. Bourbigot  
École Nationale Supérieure de Chimie de Lille, France

15:10

**I6**

**WATER-BASED FLAME RETARDANT  
NANOCOATINGS FROM ENVIRONMENTALLY-  
BENIGN INGREDIENTS**

J. Grunlan  
Texas A&M University, USA

15:40

**Panel Discussion**

16:10

**Break**

16:30 – 17:30

**S4a: CHARACTERIZATION CHALLENGE**

*Contributed Talks*

Session Chair: C.M. Chan  
Hong Kong University of Science and Technology, Hong  
Kong  
Auditorium, NEC

16:30

**SO1.2**

**MULTIDETECTOR THERMAL FIELD-FLOW  
FRACTIONATION FOR MONITORING THE  
STRUCTURE AND DYNAMICS OF BLOCK  
COPOLYMER MICELLES**

*Special Contributed Talk*  
H. Pasch, G. Greyling  
University of Stellenbosch, South Africa

- 16:50    **O1.4**    **SELF-ASSEMBLY OF POLY(N,N-DIMETHYLACRYLAMIDE)-*b*-POLYSTYRENE: A COMPREHENSIVE CHARACTERIZATION**  
R. Simonutti, D. Bertani, M. Mauri  
University of Milan-Bicocca, Italy
- 17:10    **O1.5**    **RHEOLOGY MODIFIERS – SHEAR THICKENING COMPLEX FLUID FROM NOVEL POLYBETAINES**  
V.A. Vasantha and A. Parthiban  
Institute of Chemical and Engineering Sciences, Singapore

16:30 – 17:30    **S4b: COMBUSTION & THERMAL BEHAVIOR**  
*Contributed Talks*  
Session Chair: S. Bourbigot  
École Nationale Supérieure de Chimie de Lille, France  
Lecture Room 1, NEC

- 16:30    **O2.5**    **ENHANCED THERMAL AND ELECTRICAL PROPERTIES OF POLYMER BY INFUSION OF 3D GRAPHENE FOAM**  
F.N. Leong, M. Loeblein, S.H. Tsang, E.H.T. Teo  
Nanyang Technological University, Singapore
- 16:50    **O2.6**    **THE STUDY ON AN EFFICIENT FIRE TEST METHOD DESIGN WITHOUT REAL SCALE FIRE TEST**  
S.-H. Ryu, M.G. Suk, B.K. Kim  
FESTEC International Co. Ltd., South Korea
- 17:10    **O2.7**    **UNDERSTANDING THE ROLE OF CLAY CATALYSIS IN COMBUSTION OF POLYMER/CLAY NANOCOMPOSITES**  
I.S. Zope and A. Dasari  
Nanyang Technological University, Singapore

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## Tuesday, June 14

08:00 – 08:30    **Registration**  
Main Lounge, NEC

08:30 – 10:30    **S5: CHARACTERIZATION CHALLENGE 2**  
*Invited Talks*  
Session Chair: Y.M. Lam  
Nanyang Technological University, Singapore  
Auditorium, NEC

- 08:30 **I7** **CHARACTERIZATION OF MATERIALS FOR POLYMER AND HYBRID PHOTOVOLTAICS**  
C. Deibel  
Technische Universität Chemnitz, Germany
- 09:00 **I8** **GRAZING INCIDENCE X-RAY SCATTERING FROM FUNCTIONAL ORGANIC THIN FILMS**  
M. Toney  
Stanford Synchrotron Radiation Lightsource, USA
- 09:30 **I9** **SCANNING TRANSMISSION X-RAY MICROSCOPY – MAPPING CHEMICAL COMPOSITION AT THE NANOSCALE**  
P. Dastoor  
The University of Newcastle, Australia
- 10:00 **Panel Discussion**
- 10:30 **Break**

10:50 – 12:10 **S6a: CHARACTERIZATION CHALLENGE**  
*Contributed Talks*  
Session Chair: C. Deibel  
Technische Universität Chemnitz, Germany  
Auditorium, NEC

- 10:50 **O1.6** **IN SITU TEM CHARACTERIZATION OF A WORKING PEROVSKITE SOLAR CELL**  
M. Duchamp, C.B. Boothroyd, R.E. Dunin- Borkowski  
Forschungszentrum Jülich, Germany  
C.B. Boothroyd, H. Hu, Y.M. Lam  
Nanyang Technological University, Singapore
- 11:10 **O1.7** **SIMULTANEOUS SAXS/WAXS INVESTIGATION OF ELECTRO-ACTIVE FLUORINATED COPOLYMERS**  
P. Høghøj, P. Panine, M. Fernandez-Martinez, S. Desvergne-Bléneau, B. Lantz  
Xenocs SA, France  
S. Tencé-Girault  
Matière Molle et Chimie, France  
F. Bargain  
Arkema-Piezotech CRRA, France
- 11:30 **O1.8** **IMPROVING THE PERFORMANCE OF LITHIUM-SULFUR BATTERIES BY EMPLOYING POLYIMIDE PARTICLES AS HOSTING MATRIXES**  
P. Gu and Q. Zhang  
Nanyang Technological University, Singapore

11:50    **O1.9**    **UNRAVELLING THE EFFECTS OF SINGLE-WALLED CARBON NANOTUBES ON SELF-ASSEMBLY OF POLYMER BLENDS FOR ENERGY-HARVESTING APPLICATIONS**

T. Salim, Z. Bao, Y.M. Lam  
Nanyang Technological University, Singapore

10:50 – 12:10

**S6b: INTERFACES & INTERPHASES**

*Contributed Talks*

Session Chair: N. Tomczak

Institute of Materials Research and Engineering, Singapore

Lecture Room 1, NEC

10:50    **SO3.1**    **POLYMER BRUSHES AT SURFACES: THE CHARACTERIZATION CHALLENGE**

*Special Contributed Talk*

G.J. Vancso

University of Twente, the Netherlands

Nanyang Technological University, Singapore

11:10    **O3.1**    **QUANTITATIVE AM-FM MODE FOR FAST AND VERSATILE IMAGING OF NANOSCALE ELASTIC MODULUS**

M. Kocun, P. Cheng, J.J. Yao, A. Labuda, W. Meinhold, D. Beck, R. Proksch

Asylum Research, USA

11:30    **O3.2**    **NANOSCALE CHEMICAL CHARACTERIZATION OF INTERPHASE REGIONS IN POLYMERIC SYSTEMS USING AFM-IR SPECTROSCOPY AND IMAGING**

C. Marcott

University of Delaware, USA

Q. Hu, E. Dillon, K. Kjoller

Anasys Instruments, USA

11:50    **O3.3**    **THERMODYNAMIC WORKS OF ADHESION BETWEEN NANOFILLER MATERIALS AND POLYMER MATRICES**

M. Naderi, A. Kondor, D. Williams

Surface Measurement Systems, UK

Asylum Research, USA

D.J. Burnett

Surface Measurement Systems, USA

P. Yong

DKSH, Singapore

12:10

**Lunch**

**Poster Session & Company Talks**

Main Lounge & Auditorium, NEC

13:40 – 14:50

**S7: INTERFACES & INTERPHASES**

*Invited Talks*

Session Chair: L.P. Tan

Nanyang Technological University, Singapore

Auditorium, NEC

13:40

**I10**

**FUNCTIONAL BIOINTERFACES TO HARNESS STEM CELL FATE**

M. Salmerón-Sánchez

University of Glasgow, United Kingdom

14:10

**I11**

**SPECTROSCOPIC CHARACTERIZATION OF OLIGOMERIC ARCHITECTURES ON SOLID SUPPORTS**

B. Liedberg

Nanyang Technological University, Singapore

14:40

**Panel Discussion**

15:00

**Break**

15:20 – 16:20

**S8a: CHARACTERIZATION CHALLENGE**

*Contributed Talks*

Session Chair: Y.M. Lam

Nanyang Technological University, Singapore

Auditorium, NEC

15:20

**O1.10**

**RAPID REVERSE ENGINEERING OF LAMINATED POLYMER COMPOSITES**

E. Widjaja, M. Garland

Institute of Chemical and Engineering Sciences, Singapore

15:40

**O1.11**

**VALORIZATION OF RECYCLED LDPE BY ECO-FRIENDLY NANOCOMPOSITES**

J.R.N. Macedo, D.S. Rosa

Federal University of ABC, Brazil

16:00

**O1.12**

**ON THE DURABILITY PREDICTION OF FRP COMPOSITES**

Z.H. Zakaria, A.-H.I. Mourad

United Arab Emirates University, UAE

B.M. Abdel-Magid

Winona State University, USA

15:20 – 16:20

**S8b: INTERFACES & INTERPHASES**

*Contributed Talks*

Session Chair: L.P. Tan

Nanyang Technological University, Singapore

Lecture Room 1, NEC



- 15:20    **03.4**    **THE EFFECT OF BIOMOLECULAR INTERACTION AND CHONDROCYTE ADHESION TO SURFACE GRAFTED HYALURONAN LAYERS**  
E. Nilebäck, G. Ohlsson  
Brolin Scientific, Sweden  
N. Altgårde, A. Kunze, L. de Battice, S. Svedhem  
Chalmers University of Technology, Sweden  
L. Enochson, A. Lindahl  
Sahlgrenska Academy, Sweden  
I. Pashkuleva, R.L. Reis  
University of Minho, Portugal  
I. Pashkuleva, R.L. Reis  
PT Government Associate Laboratory, Portugal  
J. Becher, S. Möller, M. Schnabelrauch  
INNOVENT e.V., Germany
- 15:40    **03.5**    **INVESTIGATION ON THE SURFACE ACTIVITY OF E2 PROTEIN NANOCAGE AT LIQUID-LIQUID INTERFACE**  
M. Sarker, S. Lim  
Nanyang Technological University, Singapore  
N. Tomczak  
Institute of Materials Research and Engineering, Singapore
- 16:00    **03.6**    **NANO INFLUENCE OF SUBSTRATE TOPOGRAPHY ON CELL MIGRATION**  
H. Chen, L.P. Tan  
Nanyang Technological University, Singapore
- 16:20                    **Departure for River Cruise & Banquet Dinner**
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## Wednesday, June 15

08:00 – 08:30    **Registration**  
Main Lounge, NEC

08:30 – 10:30    **S9: PERSONAL CARE & DRUG DELIVERY**  
*Invited Talks*  
Session Chair: A. Kelly  
Procter & Gamble, Singapore  
Auditorium, NEC

08:30 I12 **POLYELECTROLYTE-SURFACTANT ASSOCIATION-  
FROM FUNDAMENTALS TO APPLICATIONS**  
B. Lindman  
Nanyang Technological University, Singapore  
B. Lindman, T. Nylander, F. Antunes  
Lund University, Sweden  
M. Miguel  
Coimbra University, Portugal

09:00 I13 **MICROSTRUCTURE AND YIELDING OF SPARSE  
MICROFIBER GELS**  
J. Song, P. Spicer  
University of New South Wales, Australia  
M. Caggioni  
Complex Fluid Microstructures, Procter & Gamble, USA  
T.M. Squires  
University of California, USA

09:30 I14 **CHARACTERISATION OF POLYMERS IN  
FORMULATED PRODUCTS IN PERSONAL CARE**  
E. Robles  
Procter & Gamble, United Kingdom

10:00 **Panel Discussion**

10:30 **Break**

10:50 – 12:10 **S10a: CHARACTERIZATION CHALLENGE**  
*Contributed Talks*  
Session Chair: R.G. Gilbert  
The University of Queensland, Australia  
Auditorium, NEC

10:50 SO1.3 **NMR CHARACTERIZATION OF POLYMERS FROM  
TRIGLYCERIDES**  
*Special Contributed Talk*  
H.N. Cheng, A. Biswas  
USDA Agricultural Research Service, USA

11:10 O1.13 **POLYMER NANOCOMPOSITES IN ACTIVE FOOD  
PACKAGING: EFFECT OF SURFACE  
CHARACTERISTICS OF ELECTROSPUN FIBERS ON  
MICROBIAL GROWTH**  
L. Natarajan, A. Dasari  
Nanyang Technological University, Singapore

11:30 O1.14 **CELLULOSE NANOWHISKERS FROM PAPER  
INDUSTRY RESIDUES**  
A.G. Souza, D.B. Rocha, D.S. Rosa  
Federal University of ABC, Brazil

- 11:50    **O1.15**    **EVALUATION OF EFFECTIVE MECHANICAL STIMULATION ON COMPOUND MEMBRANE FOR CELL SHEET ENGINEERING**  
C. Bai and Y. Zhang  
Southeast University, PRC

10:50 – 12:10    **S10b: PERSONAL CARE & DRUG DELIVERY**  
*Contributed Talks*  
Session Chair: B. Lindman  
Nanyang Technological University, Singapore  
Lecture Room 1, NEC

- 10:50    **O4.1**    **THE CHARACTERIZATION OF POLYMERS USED IN PHARMACEUTICAL APPLICATIONS**  
G. Cleaver  
Agilent Technology, Inc., USA

- 11:10    **O4.2**    **SYNTHESIS AND NMR ANALYSIS OF DIAZIRINE-GRAFTED BIOADHESIVE POLYMERS**  
I. Djordjevic, O. Pokhonenko, T.W.J. Steele  
Nanyang Technological University, Singapore

- 11:30    **O4.3**    **MODULATION OF PROTEIN RELEASE BEHAVIOR OF PLGA MICROSPHERES USING IONIC SALT**  
H.S. Nanda, N. Kawazoe, G. Chen  
University of Tsukuba, Japan  
H.S. Nanda, N. Kawazoe, G. Chen  
National Institute for Materials Science, Japan  
H.S. Nanda  
Nanyang Technological University, Singapore

- 11:50    **O4.4**    **CHARACTERIZATION OF RECOMBINANT PROTEIN-co-PEG HYDROGELS**  
W.W. Chen, M. Tan, E. Fong  
Nanyang Technological University, Singapore

12:10    **Lunch**  
**Company Talks**  
Auditorium, NEC

13:40 – 14:50    **S11: CHARACTERIZATION CHALLENGE 3**  
*Invited Talks*  
Session Chair: A.M. Van Herk  
Institute of Chemical and Engineering Sciences, Singapore  
Auditorium, NEC

- 13:40    **I15**    **USING BIOSYNTHESIS - STRUCTURE - PROPERTY RELATIONS TO DEVELOP TAILOR-MADE STARCHES WITH IMPROVED FUNCTIONAL PROPERTIES**  
R.G. Gilbert  
The University of Queensland, Australia
- 14:10    **I16**    **MICROSTRUCTURAL ANALYSIS OF BIOPOLYMERS IN FOOD APPLICATIONS**  
K.-P. Chan  
Institute of Chemical Engineering Sciences, Singapore
- 14:40    **Panel Discussion**
- 15:00    **Break**

15:20 – 16:20    **S12a: CHARACTERIZATION CHALLENGE**  
*Contributed Talks*  
Session Chair: A.C. Grimsdale  
Nanyang Technological University, Singapore  
Auditorium, NEC

- 15:20    **O1.16**    **ORIENTATION BASED MECHANICAL BEHAVIOR ASSESSMENT OF LDPE GREENHOUSE COVERING FILMS**  
M. I. Babaghayou, S. F. Chabira, M. Sebaa  
Ammar Telidji University, Algeria  
A. I. Mourad  
United Arab Emirate University, UAE
- 15:40    **O1.17**    **UNDERSTANDING THE FLEXURAL PERFORMANCE OF NANOCLAY EPOXY COMPOSITES MANUFACTURED BY TWO STAGE WET LAYUP METHOD**  
N. Srinivasababu  
Vignan's Lara Institute of Technology & Science, India
- 16:00    **O1.18**    **CHARACTERIZATION OF LOW DENSITY POLYETHYLENE FILMS SUBJECTED TO HARSH ENVIRONMENTAL CONDITIONS**  
K. Djakhdane, A. Dehbi  
Université d'Ibn Khaldoun, Algeria  
A.-H. I. Mourad  
United Arab Emirates University, UAE  
A. Zaoui  
Université Djilali Liabes, Algeria  
P. Picuno  
University of Basilicata, Italy

15:20 – 16:20

**S12b: PERSONAL CARE & DRUG DELIVERY**

*Contributed Talks*

Session Chair: H. Pasch

University of Stellenbosch, South Africa

Lecture Room 1, NEC

15:20

**O4.5**

**GPC UNKNOWN PEAK IDENTIFICATION BY  
MULTIPLE DETECTOR GPC-DRI/UV/MS SYSTEM**

W. Cao, N. Al-Harbi

SABIC Technology Center, Saudi Arabia

15:40

**O4.6**

**ANALYSIS OF POLYMERS FOR DRUG DELIVERY  
AND PERSONAL CARE USING LATEST ADVANCED  
MULTI-DETECTOR GPC SYSTEMS**

H. Teo

DKSH Technology Pte Ltd, Singapore

M.R. Potheary

Malvern Instruments, USA

16:00

**O4.7**

**RAPID, SIMPLIFIED ANALYSIS AND DATA  
INTERPRETATION OF POLYMER MIXTURES USING  
MALDI-ION MOBILITY MASS SPECTROMETRY**

P.J. Lee, M. J. O'Leary

Waters Corporation, USA

K.G. Craven

Waters Corporation, UK

16:20

**Closing Remark**

Y.M. Lam (ISPAC 2016 Chair)

Auditorium, NEC

## Poster Session

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Posters will be displayed throughout the conference. Special **poster sessions** will take place on **Monday, June 13, 12:40–14:10 (odd-numbered posters)** and **Tuesday, June 14, 12:10–13:40 (even-numbered posters)**. Presenting authors should attend their poster boards during these sessions.

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**P1 REVERSIBLE PHASE TRANSITION BEHAVIOR OF FUSED DITHIOPHENE-THIENO[3,2-*b*]THIOPHENE BASED MOLECULAR DONOR MATERIAL FOR PHOTOVOLTAIC APPLICATION**

Y. Abe, H. Li, Y. Jun, G. C. Andrew, C. Soci, Y. M. Lam  
Nanyang Technological University, Singapore

**P2 RETENTION BEHAVIOR OF POLYMERS OF VARIOUS TYPE AT THE CRITICAL ABSORPTION POINT OF CHROMATOGRAPHY**

J. Ahn, Y. Jeong, T. Chang  
Pohang University of Science and Technology, Republic of Korea

**P3 ONE-POT SYNTHESIS OF FE(III)-POLYDOPAMINE COMPLEX NANOSPHERES: MORPHOLOGICAL EVOLUTION, MECHANISM AND APPLICATION IN CATALYSIS**

J. M. Ang, J. Kong, X. Lu  
Nanyang Technological University, Singapore  
Y. Du, B. Y. Tay, L. P. Stubbs  
Institute of Chemical and Engineering Sciences, Singapore

**P4 DE-FORMULATION OF SURFACTANTS-ADDITIVES IN POLYMERS BY LC-APCI-MS**

W. Cao, N. Al-Harbi  
SABIC Technology Center, Saudi Arabia

**P5 EFFECTS OF SMALL POLAR ADDITIVES ON THE LIQUID CRYSTALLINE STRUCTURE OF A CATIONIC DOUBLE TAIL SURFACTANT**

R.A.G. Cardoso, Y.M. Lam, B. Lindman, M.G. Miguel  
Nanyang Technological University, Singapore  
B. Lindman  
Lund University, Sweden  
M.G. Miguel  
University of Coimbra, Portugal  
T. Iwata  
Procter & Gamble, Singapore

**P6 PREPARATION AND CHARACTERIZATION OF BIODEGRADABLE POLY(L-LACTIDE) (PLLA) REINFORCED WITH CELLULOSE FROM RICE STRAW**

I. G. A. G. Chandra Divta, D. N. Rizkiyah, H. Ni'mah  
Sepuluh Nopember Institute of Technology, Indonesia

- P7 ELECTRODE INTERFACIAL MODIFICATION FOR PLANAR HETEROJUNCTION PEROVSKITE SOLAR CELLS**  
B. Chen, H. Hu, T. Salim, Y. M. Lam  
Nanyang Technological University, Singapore  
G. Tu, B. Hu  
Huazhong University of Science and Technology, PRC
- P8 SPME-GC/MS FOR THE CHARACTERIZATION OF VOLATILE COMPOUNDS EMITTED FROM POLYMER MATERIALS**  
O. Chiantore, C. Riedo, T. Poli  
University of Torino, Italy
- P9 DEVELOPMENT AND *IN VITRO* EVALUATION OF ANTI-VEGF PROTEIN-LOADED HYDROGELS BASED ON THIOLATED POLY ACRYLIC ACID FOR TREATING RETINAL DISEASES**  
A. Dickescheid, M. R. Moreno, S. Venkatraman  
Nanyang Technological University, Singapore  
R. Agrawal  
Tan Tock Seng, Hospital
- P10 CHARACTERIZATION OF HOT MELT ADHESIVES THROUGH TIME DOMAIN NUCLEAR MAGNETIC RESONANCE**  
M. Farina, M. Mauri, R. Simonutti  
University of Milano-Bicocca, Italy  
D. Cimino, T. Poli, O. Chiantore  
University of Turin, Italy
- P11 ROLE OF TMPTMA IN LONGCHAIN BRANCHING OF POLYPROPYLENE/POLYBUTENE-1 BLENDS**  
A. Foroozan, Y. Jahani  
Iran Polymer and Petrochemical Institute, Iran
- P12 ENGINEERING OF POLYMERIC-MATRIX COMPOSITE MATERIALS INSPIRED BY DOSIDICUS GIGAS BEAK**  
C. Hao, A. Miserez  
Nanyang Technological University, Singapore
- P13 SELF-ASSEMBLY OF ORGANIC-INORGANIC HYBRID PEROVSKITE INTO LAYERED STRUCTURE**  
H. Hu, T. Salim, B. Chen, Y. Abe, Y. M. Lam  
Nanyang Technological University, Singapore
- P14 SYNTHESIS AND STRUCTURE DETERMINATION OF ORGANIC-INORGANIC HYBRID RESIN**  
K. Jeong, H. J. Cho, J. Y. Lim, J. H. Cho, D. B. Eom, C. Y. Lee  
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Harbin Institute of Technology, PRC

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Nanyang Technological University, Singapore

P. Chiew, Z. M. Wang

Agri-Food & Veterinary Authority of Singapore, Singapore

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J. Zhang, Q. Zhang

Nanyang Technological University, Singapore