

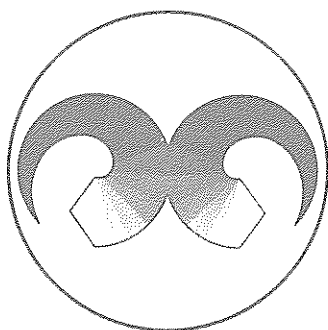
JOHN VLACHOPOULOS

PPS-14

**THE POLYMER
PROCESSING SOCIETY**

FOURTEENTH ANNUAL MEETING
YOKOHAMA, JAPAN
JUNE 8-12, 1998

EXTENDED ABSTRACTS



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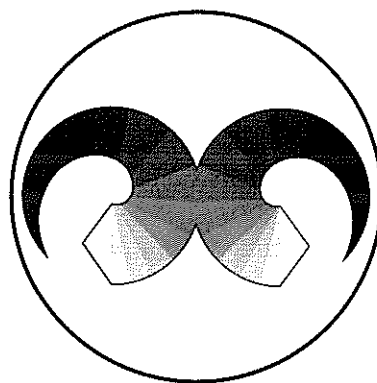
The Japan Society of Polymer Processing
The Society of Rheology, Japan

PPS-14

**THE POLYMER
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The Japan Society of Polymer Processing
The Society of Rheology, Japan

This meeting is partly supported by the grant of The Commemorative Association for the Japan World Exposition (1970)

Cooperated by

Association of Japan Plastics Machinery	Japanese Society of Die and Mold Technology
Japan Reinforced Plastic Society	Material Life Society, Japan
Society of Interfacial Materials Science	Society of Plastic Engineers Japan Section
The Japan Society for Composite Materials	The Japan Society for Precision Engineering
The Japan Society of Mechanical Engineers	The Japan Society of Plastic Technology
The Japan Society of Technology of Plasticity	The Society of Chemical Engineers, Japan
The Society of Fiber Science and Technology, Japan	The Society of Materials Science, Japan
The Society of Polymer Science, Japan	The Society of Rubber Industry, Japan

The PPS-14 Conference Committee
gratefully acknowledges
the support of the following foundations,
companies, and others:

Foundations:

Amada Foundation for Metal Work Technology
The Asahi Glass Foundation
The Precise Measurement Technique Promoting Foundation

Companies:

Asahi Chemical Industry Co., Ltd.	FANUC Ltd.
NAC Inc.	Nissei Plastic Industrial Co., Ltd.
Polyplastics Co., Ltd.	Sekisui Chemical Co., Ltd.
Sumitomo Heavy Industries, Ltd.	The Japan Steel Works, Ltd.

Others:

City of Yokohama
The Commemorative Association for the Japan World Exposition (1970)

PREFACE

On behalf of the Conference Committee, I would like to extend a warm welcome to all the participants and attendees of the Fourteenth Annual Meeting of the Polymer Processing Society, PPS-14 held in Yokohama, Japan. The PPS-14 will consist of 2 plenary lectures, 3 invited lectures, and more than 400 presentations including 100 posters. With participants from 27 countries all over the world, PPS-14 is literally an international conference. I believe participants and attendees will be able to obtain valuable information through the presentations of researchers and engineers most active in their fields.

The Conference Committee deeply appreciates the cooperation of the Japan Society of Polymer Processing and the Society of Rheology, Japan, the cosponsoring societies. We would also like to express our gratitude to all those who have worked hard to make this conference a success. We are particularly grateful to all the participants who have traveled far distance to attend this meeting. We hope you will have a pleasant and exotic stay in Yokohama and other places of Japan you will be visiting, and that you will enjoy the conference programs.



Kazumori Funatsu
Conference Chairman

PPS-14 CONFERENCE COMMITTEE

Conference Chairman:	K. Funatsu			
Secretary General:	H. Yokoi			
Technical Program Co-Chairmen:	K. Koyama	T. Sakai		
Local Organizing Committee Chairman:	T. Kikutani			
Social Program Committee Chairman:	S. Arai			
Members:				
H. Hamada	T. Inoue	T. Kitano	Y. Miyano	T. Nishio
N. Nishiwaki	K. Osaki	I. Satoh	H. Takahashi	M. Takahashi

Conference Advisory Board

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I. Narisawa	T. Nishi	F. Ohishi	Y. Oyanagi	

Social Program Committee Members

Secretary:	H. Hamada			
Members:	A. Fujita	S. Fujita	S. Hori	S. Izumi
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	M. Muranaka	Y. Murata	T. Nishio	M. Okamoto
	T. Ougizawa	K. Tada	S. Takahashi	K. Takemura
	K. Tomari	M. Yamabe	H. Yamane	

Local Organizing Committee Members

Secretary:	I. Satoh			
Members:	A. Fujita	M. Ishijima	H. Ito	S. Hori
	A. Kikuchi	K. Kubota	T. Kuriyama	N. Masuda
	T. Morii	Y. Murata	Y. Okoshi	T. Ougizawa
	Y. Suetsugu	J. Takimoto		

PPS-14 Secretariat

T. Ayato	Y. Ito	Y. Kawabata	N. Masuda
H. Moriya	Y. Murata	M. Namba	M. Sato
E. Yamagata			

THE POLYMER PROCESSING SOCIETY (PPS)

The PPS was founded in March, 1985 in Akron, Ohio, USA. The goal of the PPS, as embodied in its constitution, is to foster scientific understanding and technical innovation in polymer processing. In addition to annual conferences, PPS activities include the arrangement of regional and local meetings in various parts of the world, publication of the journal "*International Polymer Processing*", and sponsorship of educational seminars. Membership is open to all individuals who feel the activities of the society will advance their professional development. Members will receive the Journal, *free of charge*, and be given the privilege of attending meetings at reduced fees. The annual membership fee is \$80US for 1998.

Executive Committee

President:	S. C. Kim, Korea
President-Elect:	G. Vassilatos, USA
Secretary:	M. Cakmak, USA
Treasurer:	J. Curry, USA
Past President:	L. A. Goettler, USA
Editor-in-Chief, IPP:	J. L. White, USA
Editor, PPP:	W. E. Baker, Canada
Members-at-Large:	K. Funatsu, Japan A. J. Ryan, UK

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S. F. Bush, UK	J. M. Haudin, France
A. N. Hrymak, Canada	T. Kikutani, Japan
I. Manas-Zloczower, USA	H. E. H. Meijer, Netherlands
V. M. Nadkarni, India	L. Nicolais, Italy
H. Potente, Germany	P. Saha, Czech Republic
K. Suchiva, Thailand	S. H. Teoh, Singapore
X. Xu, China	

Secretariat

N. Gallo, USA

COSPONSORS

THE JAPAN SOCIETY OF POLYMER PROCESSING (JSPP)

The JSPP was founded in 1988, and became a corporate juridical person in 1994. Currently it has about 1,400 individual members and 170 supporting members. The JSPP organizes Annual and Autumn Meetings, where over 200 papers are presented every year, and publishes the monthly journal "*Seikei-Kakou (The Journal of JSPP)*."

THE SOCIETY OF RHEOLOGY, JAPAN (SRJ)

The SRJ was founded in 1973 and currently has about 1,000 regular members and 100 supporting members. It publishes a quarterly journal "*Nihon Reoroji Gakkaishi (The Journal of SRJ)*" and organizes Annual and Autumnal Meetings. The SRJ has five Special Divisions, which hold regular discussions and meetings.

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SYMPOSIA ORGANIZERS

[Special Symposia]

- | | | | |
|---|----------------------|-------------------------|----------------------|
| S1. Hybrid Injection Molding | H. Hamada, Japan | F. Lai, USA | W. Michaeli, Germany |
| S2. Gas Injection Molding | H. Eckardt, Germany | N. Shields, Netherlands | H. Tateyama, Japan |
| S3. Fabrication of Optical and Electronic Devices | M. Fukui, Japan | R.W. Peterson, USA | K. Yakemoto, Japan |
| S4. Visualization and On-line Sensing for Polymer Processing | I. Satoh, Japan | C. K. Shih, USA | S. Y. Yang, ROC |
| S5. Single-site Catalyzed Polymers | O. Georjon, Belgium | T. Kanai, Japan | S. Y. Lai, USA |
| S6. Recycling and Biodegradable Polymers | H. G. Fritz, Germany | T. Kimura, Japan | M. Xanthos, USA |
| S7. Symposium Honoring Prof. White's 60th Birthday | S. Lim, Korea | K. Min, USA | H. Yamane, Japan |

[General Symposia]

- | | | | |
|---|------------------------------|-------------------------|----------------------|
| G1. Rheology and Rheometry | G. G. Fuller, USA | H. M. Laun, Germany | M. Takahashi, Japan |
| G2. Mathematical Modeling | J. F. Agassant, France | S. J. Lee, Korea | T. Matsuoka, Japan |
| | C. L. Tucker III, USA | | |
| G3. Injection Molding | M. R. Kamal, Canada | H. Takahashi, Japan | G. Titomanlio, Italy |
| G4. Extrusion | T. Kajiwara, Japan | T. H. Kwon, Korea | H. Potente, Germany |
| | C. Rauwendaal, USA | | |
| G5. Mixing and Compounding | H. E. H. Meijer, Netherlands | K. Nakamura, Japan | J. L. White, USA |
| G6. Alloys and Blends | G. Groeninckx, Belgium | T. Inoue, Japan | C. E. Park, Korea |
| | L. A. Utracki, Canada | | |
| G7. Morphology and Structure Development | M. Cakmak, USA | G. Eder, Austria | T. Kanamoto, Japan |
| G8. Polymerization and Reactive Processing | G. H. Hu, France | S. C. Kim, Korea | J. L. Lee, USA |
| | S. Omi, Japan | | |
| G9. Blow Molding and Thermoforming | S. F. Bush, UK | J. Vlachopoulos, Canada | M. Yamabe, Japan |
| G10. Fiber and Film | J. M. Haudin, France | S. J. Kurz, USA | K. Yabuki, Japan |
| G11. Fillers and Composites | H. Ishida, USA | T. Kitano, Japan | |

REGISTRATION

1. Registration Fees(After April 1, 1998)

Registration Fees	PPS Members	¥45,000
	Non-members	¥54,000
	Students	¥11,000
	Accompanying Persons	¥11,000

2. Registration Place and Hours

Place	: Foyer on the 3rd Floor of Pacifico Yokohama Conference Center
Hours	: Monday, June 8 12:00-18:00
	Tuesday, June 9 09:00-16:00
	Wednesday, June 10 09:00-16:00
	Thursday, June 11 09:00-12:00

SOCIAL PROGRAM

1. Welcome Party

Monday, June 8, 17:00-19:00
Rooms C & D

2. Young Researchers Luncheon

Tuesday, June 9, 12:20-13:40
Rooms ⑧ & ⑨

- LC-1. M. Cakmak—Professor, University of Akron, USA
Survival Guide in the Academia Jungle: A Humble Perspective
LC-2. J. Vlachopoulos—Professor, McMaster University, Canada
Academic Research and Industrial Applications

3. Banquet

Wednesday, June 10, 18:30-20:30
Grand Ball Room "HOH-SHOH"(3F), Yokohama Royal Park Hotel Nikko in Landmark Tower

4. "SAYONARA" Party

Thursday, June 11, 18:00-20:00
Sky Banquet Room "AURORA" (70F), Yokohama Royal Park Hotel Nikko in Landmark Tower

5. Technical Tours

Friday, June 12

- TT-1. Nissan Motor Co., Ltd. (Oppama Plant), and Asahi Chemical Industry Co., Ltd. (Plastics Technical Center)
TT-2. Toshiba Machine Co., Ltd. (Numazu Plant), and Yazaki Parts Co., Ltd.(Haibara Factory)
TT-3. FANUC Ltd. (Yamanashi Factory), and Fuji Photo Film Co., Ltd. (Ashigara Factory)

6. Communication Plaza

Monday, June 8 - Wednesday, June 10, 20:30-22:30
"Harbor light" (19F), International Plaza Hotel

7. Accompanying Persons Program

Wednesday, June 10, 13:30-17:00
"Japanese Culture Practice" in Sankei-en (Japanese garden)

- Dressing a Japanese Kimono • Tea ceremony (Cha-no-yu) • Flower arrangements (Ikebana)

OPTIONAL TOURS

- OP-1. KAMAKURA Full-day Tour ¥8,000 per person (lunch included)
Tuesday, June 9, 8:30-around 17:00
Itinerary: Pacifico - Daibutsu - Tsurugaoka Hachimangu Shrine - Pacifico

- OP-2. TOKYO Full-day Tour** **¥12,000 per person (lunch included)**
 Thursday, June 11, 7:30-around 18:20
 Itinerary: Pacifico - Meiji Shrine - Tasaki Pearl Gallery - lunch -
 Asakusa (Sensoji Temple) - Pacifico
- OP-3. MT. FUJI-HAKONE Full-day Tour** **¥16,000 per person (lunch included)**
 Friday, June 12, 7:30-around 19:00
 Itinerary: Pacifico - Mt. Fuji (lunch) - Lake Ashi Cruise - Mt. Komagatake -
 Hakone-en - Pacifico
- OP-4. YOKOHAMA Dinner Cruise** **¥10,000 per person (dinner included)**
 (A) Tuesday, June 9, 19:20-around 21:00
 (B) Thursday, June 11, 19:20-around 21:00
 Itinerary: Pacifico - Yokohama Bay Cruise (dinner) - Pacifico

Official Travel Agent

Japan Travel Bureau, Inc.(JTB) has been appointed the Official Travel Agent for the Conference to handle all travel arrangements in Japan. All inquiries regarding Hotel Accommodation and Optional Tours described herein should be addressed to JTB. A JTB Desk will be set up near the Registration Desk.

EXHIBITION

There will be an exhibition of scientific instruments, software for polymer processing and rheology, books, journals, and catalogues concurrently with the conference from June 9 to 11. It will be held in the lounge for the poster presentation and coffee break.

Exhibition hours:	Tuesday, June 9	09:00-18:00
	Wednesday, June 10	09:00-18:00
	Thursday, June 11	09:00-15:30

TECHNICAL PROGRAM LECTURERS

The meeting will consist of 2 plenary lectures, 3 invited lectures, 7 special symposia, and 11 general symposia, covering different aspects of the processing of polymeric materials. Each symposium will feature keynote lectures by world renowned researchers, followed by contributed papers.

1. Plenary Lecturers

- PL1. A. Morita**—Director, Member of the Board, Toyota Motor Corporation, Japan
Prospect of Plastic Materials in Automotive Applications
- PL2. H. G. Fritz**—Director, Professor, Institut für Kunststofftechnologie,
 University of Stuttgart, Germany
*Reactive Compounding Creates Fresh Stimulus for Polymer Compounding and
 Plastics Processing Companies*

2. Invited Lecturers

- IV1. T. Masuda**—Professor, Kyoto University, Japan
Extensional Rheology of Polymer Systems
- IV2. T. Nakagawa**—Professor, University of Tokyo, Japan
Rapid Manufacturing of Molds by High Speed Milling and Rapid Tooling
- IV3. T. H. Kwon**—Professor, Pohang University of Science and Technology, Korea
Mixing Enhancement of Single-Screw Extrusion Process via Chaotic Flows

3. Keynote Lecturers

[Special Symposia]

S1. Hybrid Injection Molding

- M. Sakagami**—Sekisui Chemical, Co., Ltd., Japan
- C. Jaroschek**—Ferromatik Milacron Maschinenbau GmbH, Germany

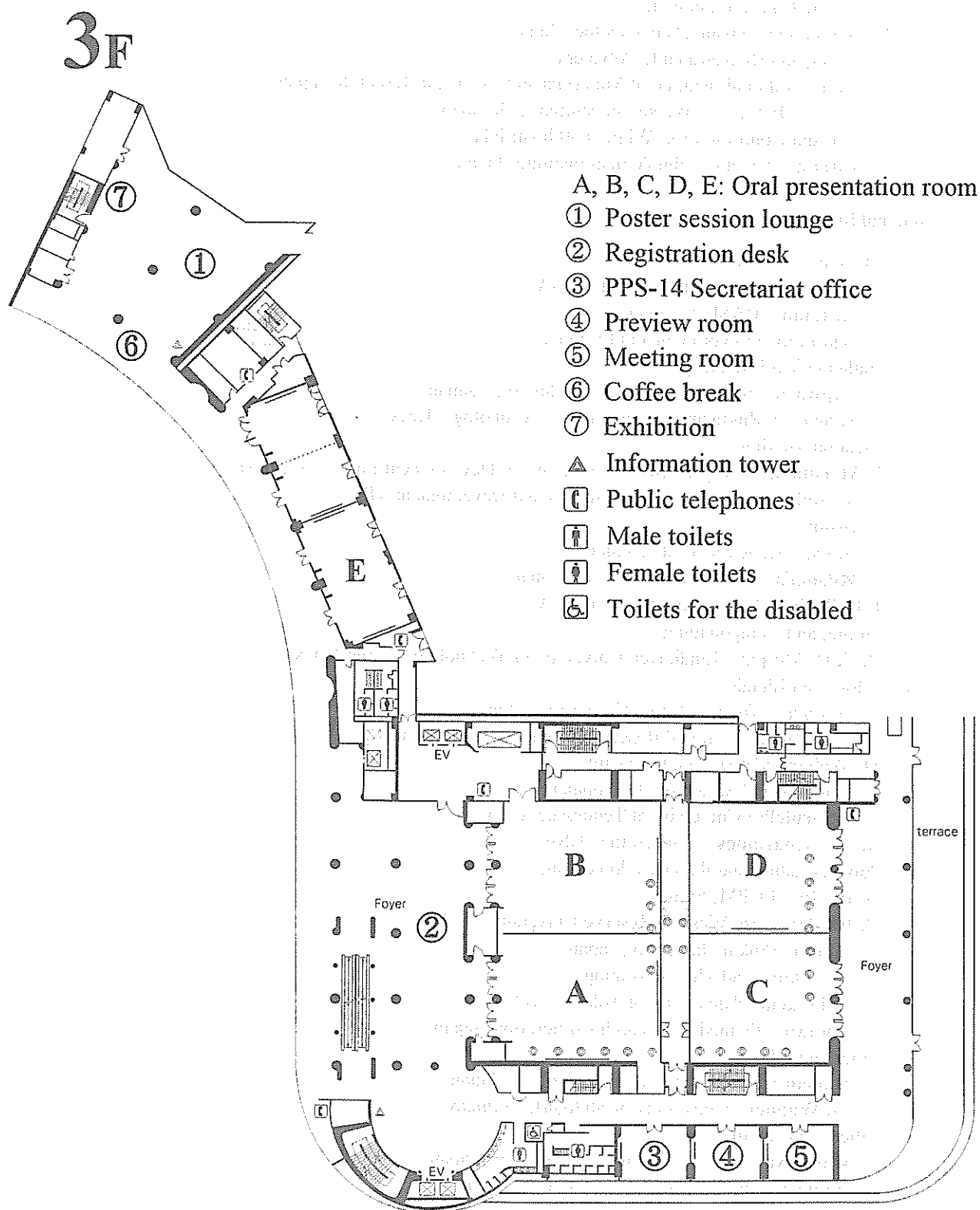
- S2. Gas Injection Molding
B. L. Brookshaw—Cinpres Ltd., UK
H. Eckardt—Battenfeld GmbH, Germany
- S3. Fabrication of Optical and Electronic Devices
Y. Koike—Keio University, Japan
- S4. Visualization and On-line Sensing for Polymer Processing
P. D. Coates—University of Bradford, UK
- S5. Single-site Catalyzed Polymers
Y. Suematsu—Mitsui Chemicals Inc., Japan
- S6. Recycling and Biodegradable Polymers
T. Sako—National Institute of Materials and Chemical Research, Japan
T. Seidenstücker—University of Stuttgart, Germany
- S7. Symposium Honoring Prof. White's 60th Birthday
T. Kotaka—Toyota Technological Institute, Japan

[General Symposia]

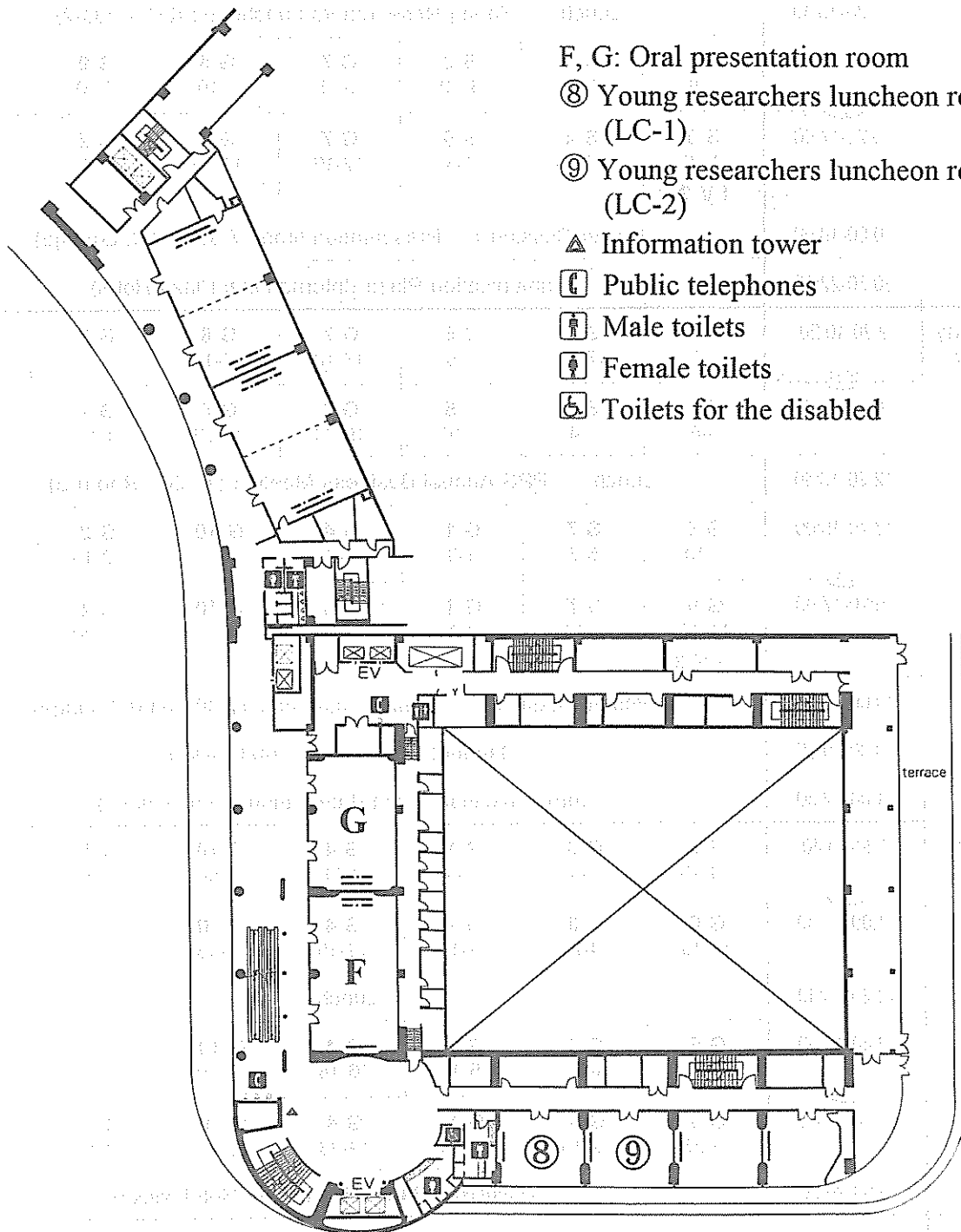
- G1. Rheology and Rheometry
G. G. Fuller—Stanford University, USA
H. M. Laun—BASF, Germany
H. Watanabe—Kyoto University, Japan
- G2. Mathematical Modeling
T. Kajiwara—Kyushu Institute of Technology, Japan
C. E. Scott—Massachusetts Institute of Technology, USA
- G3. Injection Molding
T. Matsuoka—Toyota Central Research and Development Labs., Inc., Japan
V. K. Stokes—GE Corporate Research and Development, USA
- G4. Extrusion
K. Inoue—Kobe Steel, Ltd., Japan
E. Mitsoulis—University of Ottawa, Canada
J. L. White—University of Akron, USA
- G5. Mixing and Compounding
H. E. H. Meijer—Eindhoven University of Technology, Netherlands
- G6. Alloys and Blends
T. Nomura—Toyota Motors Corporation, Japan
L. A. Utracki—National Research Council Canada, Canada
M. Weber—BASF AG, Germany
- G7. Morphology and Structure Development
J. E. Spruiell—University of Tennessee, USA
A. E. Zachariades—Polteco Inc., USA
- G8. Polymerization and Reactive Processing
G. H. Hu—ECPM, France
H. Ishida—Case Western Reserve University, USA
H. Tobita—Fukui University, Japan
- G9. Blow Molding and Thermoforming
S. A. Jabarin—University of Toledo, USA
S. Tanifuji—Plamedia Research Corporation, Japan
- G10. Fiber and Film
T. Matsuo—Kyoto Institute of Technology, Japan
M. H. Wagner—University of Stuttgart, Germany
- G11. Fillers and Composites
Z. Maekawa—Kyoto Institute of Technology, Japan
I. Souma—Kyoto Institute of Technology, Japan

MAP OF CONFERENCE ROOMS

Pacifico Yokohama Conference Center, 3rd and 4th Floor
1-1-1 Minato Mirai, Nishi-ku, Yokohama 220, JAPAN
Tel: +81-45-221-2121 Fax: +81-45-221-2136



4F



F, G: Oral presentation room

⑧ Young researchers luncheon room (LC-1)

⑨ Young researchers luncheon room (LC-2)

▲ Information tower

☎ Public telephones

♂ Male toilets

♀ Female toilets

♿ Toilets for the disabled

CONFERENCE AT A GLANCE

Date	Time	Room A	Room B	Room C	Room D	Room E	Room F	Room G
Monday June 8	12:00-18:00 14:00-14:20 14:40-16:40 17:00-19:00 20:30-22:30	Registration (Foyer) Opening Ceremony (Room A+B) Plenary Lectures (PL1, PL2) (Room A+B) Welcome Party (Room C+D) Communication Plaza (International Plaza Hotel)						
Tuesday June 9	9:20-10:20	IV 1	S 4 1-2	S 2 1-2	G 7 1-2	G 8 1-2	G 9 1-2	G 11 1-2
	10:40-12:20	S 3 1-4	S 4 3-7	S 2 3-7	G 7 3-7	G 8 3-6	G 9 3-6	G 11 3-7
	12:20-13:40	Lunch / Young Researchers Luncheons (LC-1, LC-2)						
	13:40-15:00	S 3 5-8	S 4 8-11	S 2 8-10	G 7 8-11	G 8 7-10	G 9 7-10	G 11 8-11
	15:20-17:00	S 3 9-10	S 4 12-16	S 5 1-3	G 7 12-16	G 8 11-15	G 2 1-4	G 11 12-15
	10:00-18:00	Poster Session I (Presentation time 17:00-18:00, Lounge)						
	20:30-22:30	Communication Plaza (International Plaza Hotel)						
Wednesday June 10	9:20-10:20	G 6 1-2	S 4 17-19	S 5 4-6	G 7 17-18	G 8 16-17	G 2 5-7	G 11 16-18
	10:40-12:20	G 6 3-6	S 7 1-4	S 5 7-10	G 7 19-23	G 8 18-22	G 2 8-11	S 6 1-4
	12:20-13:40	Lunch / PPS Annual Business Meeting (12:20-, Room B)						
	13:40-15:00	G 6 7-10	S 7 5-8	G 1 1-3	G 4 1-3	G 10 1-3	G 2 12-15	S 6 5-7
	15:20-17:00	G 6 11-12	S 7 9-13	G 1 4-8	G 4 4-8	G 10 4-8	G 2 16-20	S 6 8-12
	10:00-18:00	Poster Session II (Presentation time 17:00-18:00, Lounge)						
	18:30-20:30	Banquet (Royal Park Hotel Nikko)						
	21:00-22:30	Communication Plaza (International Plaza Hotel)						
Thursday June 11	9:20-10:40	G 6 13-15	G 3 1-3	G 1 9-11	G 4 9-11	G 10 9-12	S 1 1-3	G 5 1-2
	11:00-12:00	G 6 16-19	G 3 4-7	G 1 12-14	G 4 12-15	G 10 13-16	S 1 4-7	G 5 3-6
	12:20-13:40	Lunch						
	13:40-15:00	G 6 20-22	G 3 8-11	G 1 15-18	G 4 16-18	G 10 17-19	S 1 8-11	G 5 7-10
	15:20-17:00	G 6 23-27	G 3 12-15	G 1 19-23	G 4 19-23	G 10 20-24	S 1 12-15	G 5 11-14
	18:00-20:00	"SAYONARA" Party (Royal Park Hotel Nikko)						
Friday June 12	8:30-17:30	Technical Tours (TT-1, TT-2, TT-3)						

OPENING SESSION PROGRAM

Monday Afternoon, June 8

14:00-14:20	OPENING CEREMONY	(ROOM A & B)
• Welcome Address - K.Funatsu — PPS-14 Conference Chairman - S.C.Kim — PPS President • Congratulatory Address - H.Yoshikawa — President, Science Council of Japan		
14:40-15:40	PLENARY LECTURE I	(ROOM A & B)
PL1. "Prospect of Plastic Materials in Automotive Applications" A.Morita Director, Member of the Board, Toyota Motor Corporation, Japan		
15:40-16:40	PLENARY LECTURE II	(ROOM A & B)
PL2. "Reactive Compounding Creates Fresh Stimulus for Polymer Compounding and Plastics Processing Companies" H.G.Fritz Director, Professor Institut für Kunststofftechnologie, University of Stuttgart, Germany		
17:00-19:00	WELCOME PARTY	(ROOM C & D)

ORAL PRESENTATION PROGRAM

Tuesday Morning, June 9

TIME	ROOM A	ROOM B
		VISUALIZATION AND ON-LINE SENSING FOR POLYMER PROCESSING (S4)
9:20	INVITED LECTURE 1	S4-01KN Visualisation and On-line Sensing for Polymer Processing P.D.Coates, C.Nakason, M.Kamala, M.T.Martyn (University of Bradford, UK)
10:00	Extensional Rheology of Polymer Systems T.Masuda (Kyoto University, JAPAN)	S4-02 Visual Analysis of Rubber Flow Behavior by Glass-Inserted Mold T.Ohta, H.Minagawa, Y.Sato, S.Ono (NOK Co., JAPAN)
10:20	COFFEE BREAK	COFFEE BREAK
10:40	FABRICATION OF OPTICAL AND ELECTRONIC DEVICES (S3)	S4-03 A Study of Shear Stresses Experienced during Extrusion and Blending Using Novel Dye Containing Microcapsules W.E.Baker, D.C.Clark (Queen's University, CANADA)
11:00	S3-01KN Fabrication of Optical and Electronic Devices Y.Koike (Keio University, JAPAN)	S4-04 Visualization Analysis of Plastication Process under Starve-feeding Conditions H.Yokoi, S.Takatsugi (FANUC Ltd., JAPAN)
11:20	S3-02 Novel Processing Technique for the Fabrication of Gradient Index Plastic Optical Fibers C.W.Park, J.K.Walker (University of Florida, USA)	S4-05 Visualization Analysis of Influence of Screw Feed Length on Plastication Process by Glass-Inserted Visual Heating Cylinder H.Yokoi, M.Tatsuno (Nissei Plastic Industrial Co., Ltd., JAPAN)
11:40	S3-03 Novel Micro-molded Plastic Components for Precise Coupling between Optical Fibers and Devices M.Amano, Y.Tamura, Y.Shuto, K.Yokoyama, H.Sato, S.Tohno (NTT, JAPAN)	S4-06 Visual Analysis of Bubble Nucleation in Foam Extrusion Die I.Tsujimura, T.Zenki, M.Ishida (Kaneka Corporation, JAPAN)
12:00	S3-04 Eccentricity Control of Injection Molded Plastic Ferrule for Single-mode Optical Fiber Applications S.Yanagi, H.Sato, Y.Shuto, M.Ohno, S.Tohno (NTT, JAPAN)	S4-07 Experimental and Simulation Results of Flow in an Intermeshing Co-rotating Twin Screw Extruder S.A.Jaffer, V.L.Bravo, A.N.Hrymak, J.D.Wright, P.E.Wood (McMaster University, CANADA)

TIME	ROOM C	ROOM D
	GAS INJECTION MOLDING (S2)	MORPHOLOGY AND STRUCTURE DEVELOPMENT (G7)
9:20	S2-01KN Gas Assisted Injection Moulding with Internal and External Gas Pressure - State of the Art - Latest Developments - Future Trends <u>H.Eckardt</u> (Battenfeld GmbH, GERMANY)	G7-01KN Crystallization Kinetics of Polymers Measured under High Cooling Rates <u>J.E.Spruiell, G.Holt, P.Supaphol</u> (University of Tennessee, USA)
10:00	S2-02 A Study on Void Shape in Gas-channel Ribs in Gas-assisted Molded Plates <u>S.Y.Yang, P.T.Chu, S.H.Parng</u> (National Taiwan University, ROC)	G7-02 A Unified Model for Flow-induced and Quiescent Crystallization in Polymer Processing <u>A.I.Isayev, X.Guo</u> (University of Akron, USA)
10:20	COFFEE BREAK	COFFEE BREAK
10:40	S2-03 A Study of Fingering Phenomena in the Gas-assisted Injection Molding Process <u>K.H.Lee, F.Lai, N.Schott</u> (University of Massachusetts Lowell, USA)	G7-03 Simulation of Structure Development during Injection Molding of Slowly Crystallizing Polymers <u>C.M.Hsiung, S.Duan, Q.Sheng</u> (University of SW Louisiana, USA)
11:00	S2-04 Process Specific Layout of Operating Conditions of Thin Walled Parts with Gas Conveying Ribs <u>H.Potente, H.P.Heim</u> (University of Paderborn, GERMANY)	G7-04 Crystal Orientation in Injection Moldings of Talc-filled Polyolefins <u>M.Fujiyama</u> (Tokuyama Corporation, JAPAN)
11:20	S2-05 Penetration of a Long Gas Bubble through Polymeric Fluids under Non-isothermal Conditions <u>M.R.Tendulkar, V.Gauri, D.P.Kim, K.W.Koelling</u> (Ohio State University, USA)	G7-05 Precrystallisation Fluctuation Phenomena in Homopolymer Melts <u>A.J.Ryan, N.J.Terrill, J.P.A.Fairclough</u> (University of Sheffield, UK)
11:40	S2-06 A Study of Surface Blush for Gas Injection Molding <u>Y.Shibata, H.Ae, M.Aiba</u> (Idemitsu Petrochemical Co., Ltd., JAPAN)	G7-06 Stabilized Polyethylene Morphology by Pressure Crystallization <u>H.Shii, K.Kikuchi</u> (The Furukawa Electric Co., Ltd., JAPAN)
12:00	S2-07 Prediction of Product Properties for Gas-assisted Injection Moulding through Simulation <u>G.A.A.V.Haagh, F.N.van de Vosse, G.W.M.Peters, H.E.H.Meijer</u> (Eindhoven University of Technology, NETHERLANDS)	G7-07 Site-resolved X-ray and Microscopical Studies on Injection Moldings from Graphite-filled Polypropylene <u>P.Zipper, K.Schnetzinger, W.Geymayer</u> (University of Graz, AUSTRIA)

Tuesday Morning, June 9

TIME	ROOM E	ROOM F
	POLYMERIZATION AND REACTIVE PROCESSING (G8)	BLOW MOLDING AND THERMOFORMING (G9)
9:20	G8-01KN A Class of Highly Processable Phenolic Resins with Ring-opening Polymerization : Polybenzoxazines H.Ishida (Case Western Reserve University, USA)	G9-01KN Blow Molded Heat Set Container Technology S.A.Jabarin (University of Toledo, USA)
10:00	G8-02 Living Polymerization of ϵ -caprolactone: Application to Reactive Processing J.Gimenez, P.Cassagnau, A.Michel (University of Claude Bernard, FRANCE)	G9-02 The Effect of Elongational Properties on Thickness Uniformity in Blow Molding T.Tajiri, K.Obata, R.Kamoshita, N.Shimizu (Mitsubishi Chemical Corporation, JAPAN)
10:20	COFFEE BREAK	COFFEE BREAK
10:40	G8-03 Thin Film Polymerization of Poly(2,6-oxynaphthoate/p-oxybenzoate) T.S.Chung, S.Cheng, S.Mullick (National University of Singapore, SINGAPORE)	G9-03 Study of the Dynamic Mechanical Properties of Long Glass Fibre Reinforced Polymer Sheets S.F.Bush, F.G.Torres (UMIST, UK)
11:00	G8-04 Solid Phase Grafting of Maleic Anhydride onto Polypropylene during Pan-milling Q.Wang, C.Liu (Chengdu University of Science and Technology, CHINA)	G9-04 New Device for Characterisation of Thermoforming and Blow Moulding Materials by Membrane Inflation E.M.Kjaer, C.L.Lauridsen (Technical University of Denmark, DENMARK)
11:20	G8-05 Development of a Manufacturing Process of Lactic Acid-based Biodegradable Polymers K.Koyanagi, T.Fukushima, Y.Sumihira, N.Hashimoto, Y.Kimura, T.Sakai (The Japan Steel Works, Ltd., JAPAN)	G9-05 The Bubble Nucleation Mechanism in Microcellular Polycarbonate Foams Y.Fukasawa, J.E.Weller, V.Kumar, H.Saito, T.Inoue (Asahi Chemical Industry Co., Ltd., JAPAN)
11:40	G8-06KN Markovian Approach to Nonlinear Polymer Formation H.Tobita (Fukui University, JAPAN)	G9-06KN Numerical Analysis of Extrusion Blow Molding Process S.Tanifuji, K.Saito, K.Tada, K.Watanabe, J.Takimoto, K.Koyama (Plamedia Research Corporation, JAPAN)

TIME	ROOM G
	FILLERS AND COMPOSITES (G11)
9:20	G11-01KN Flexible and Rigid Composites Z.Mackawa (Kyoto Institute of Technology, JAPAN)
10:00	G11-02 Continuous-filament Reinforced Thermoplastics for Automotive Body-panels N.Nakajima, J.Shah (University of Akron, USA)
10:20	COFFEE BREAK
10:40	G11-03 The Effect of Filament Winding Parameters on Polypropylene/Glass Fibre Composites M.Pelto, P.Jarvela (Tampere University of Technology, FINLAND)
11:00	G11-04 Fabrication of Long Fiber Reinforced Thermoplastic Composites by Braiding Technique H.Hamada, A.Nakai, M.Sakaguchi (Kyoto Institute of Technology, JAPAN)
11:20	G11-05 Deformation Mechanisms in Glass Fibre Reinforced Polypropylene G.Nilsson, M.L.Ericson (Swedish Institute for Composites, SWEDEN)
11:40	G11-06 Prediction of Short Fiber-glass Volume Fraction Distribution in Compression Molded SMC J.S.Cheon, S.Y.Kim, Y.T.Im (KAIST, KOREA)
12:00	G11-07 Fibre Mat Structure on Compression Moldability during Fibre-Reinforced Polymeric Composites E.G.Kim, Y.J.Oh, D.G.Lee, S.H.Jo (Kookmin University, KOREA)

Tuesday Afternoon, June 9

TIME	ROOM A	ROOM B
	FABRICATION OF OPTICAL AND ELECTRONIC DEVICES (S3)	VISUALIZATION AND ON-LINE SENSING FOR POLYMER PROCESSING (S4)
13:40	S3-05 Novel Polymeric Materials to be Nominated as New Photo Sensors and Electronic Devices <u>A.Talaie</u> , K.Adachi, T.Taguchi, J.A.Romagnoli (Osaka National Research Institute, JAPAN)	S4-08 Numerical Visualization of Mixing in Kneading Discs of Twin Screw Extruders <u>S.Kihara</u> , S.Katsuki, M.Yoshinaga, M.Miyazaki, K.Funatsu (Kyushu University, JAPAN)
14:00	S3-06 In-process Measurement of Die-pad Behavior in IC Packaging Process Using Hall Elements <u>M.Sato</u> , H.Yokoi (University of Tokyo, JAPAN)	S4-09 Real-time Blend Morphology in Mixing Zones of a ZSK40 <u>M.Stephan</u> , O.Franzheim, T.Rische, P.Heidemeyer, U.Burkhardt (Institute of Polymer Research Dresden, GERMANY)
14:20	S3-07 IC Packaging with a Granulated Molding Compound <u>T.Yamaguchi</u> , H.Yokoi (APIC Yamada Corporation, JAPAN)	S4-10 Melt Process Monitoring of Extrusion and Injection Moulding Variables Using Ultrasound <u>E.C.Brown</u> , T.Collins, A.J.Dawson, P.Olley, P.D.Coates (University of Bradford, UK)
14:40	S3-08 Fabrication of a Chip Scale Package for High Pin Count LSI Devices <u>J.Sacki</u> , R.Haruta, T.Hashizume, N.Tanaka, A.Nagai (Hitachi, Ltd., JAPAN)	S4-11 Development of Visualization Technique Inside a Feed Block for Co-extrusion <u>H.Yokoi</u> , J.Narita (Mitsui Chemicals, Inc., JAPAN)
15:00	COFFEE BREAK	COFFEE BREAK
15:20	S3-09 Thixomolding of Magnesium Alloy <u>K.Takeya</u> (The Japan Steel Works, Ltd., JAPAN)	S4-12 On-line Measurement of Rapid Birefringence Changes from Preoriented Polyester Films: PET, PEN and PEN/PEI Blends Using Two Color Laser System and Spectral Birefringence Techniques <u>J.M.Galay</u> , T.Serhatkulu, M.Cakmak (University of Akron, USA)
15:40	S3-10 The All Electric Servo-driven Injection Molding Machine Specialized for Optical Disc <u>M.Kaneoka</u> , K.Kasugai, N.Sasamura, A.Morii (The Japan Steel Works, Ltd., JAPAN)	S4-13 A Study of Programmed Injection Velocity on Polymer Melt Flow in Injection Moulding Using a Glass Mould <u>W.L.Chan</u> , F.Daver, E.Kosior (RMIT, AUSTRALIA)
16:00	INVITED LECTURE 2 Rapid Manufacturing of Molds by High Speed Milling and Rapid Tooling <u>T.Nakagawa</u> (University of Tokyo, JAPAN)	S4-14 Visualization Analysis of the Influence of Rib-inclination-angle on the Cavity Filling Process <u>Y.F.Chuang</u> , H.Yokoi (University of Tokyo, JAPAN)
16:20		S4-15 Injection Moulding Visualisation with a Sliding Frame Mould <u>A.M.Brito</u> , A.M.Cunha (University of Minho, PORTUGAL)
16:40		S4-16 Visualization of the Splitting Melt-air Interface during Injection Molding <u>L.R.Schmidt</u> (LR Schmidt Associates, USA)

TIME	ROOM C	ROOM D
	GAS INJECTION MOLDING (S2)	MORPHOLOGY AND STRUCTURE DEVELOPMENT (G7)
13:40	S2-08KN Specific Processes and Equipment in Gas Injection Moulding <u>B.L.Brookshaw</u> (Cinpres Ltd., UK)	G7-08 Crystallization Kinetics of Blends of PP/LCP <u>A.A.Lucas, R.E.S.Bretas</u> (University Federal de Sao Carlos, BRAZIL)
14:00		G7-09 Fundamental Understanding of the Surface Energy of Thermotropic Liquid Crystalline Polymers <u>K.X.Ma, T.S.Chung</u> (National University of Singapore, SINGAPORE)
14:20	S2-09 A Unified CAE Model for the Integrated Simulations of Gas Injection Molding Process and Part Structural Performance <u>S.C.Chen, N.T.Cheng, S.Y.Hu</u> (Chung Yuan University, ROC)	G7-10 Double Melting Behavior of a Liquid Crystalline Polyimide <u>S.L.Liu, T.S.Chung, H.Oikawa, A.Yamaguchi</u> (National University of Singapore, SINGAPORE)
14:40	S2-10 Control of Gas Penetration Velocity in Gas-assisted Injection Molding by In-cavity Movable Plug <u>K.Ochiai, S.Kiboshi, Y.Kayano, A.Kaneishi</u> (Mitsubishi Engineering Plastics Corporation, JAPAN)	G7-11 Study on the Morphology and Impact Property of the Blend of LCP and Engineering Plastics <u>T.Okumura, H.Hamada</u> (Technology Research Institute of Osaka Prefecture, JAPAN)
15:00	COFFEE BREAK	COFFEE BREAK
	SINGLE-SITE CATALYZED POLYMERS (S5)	
15:20	S5-01KN Characteristics and Applications of Metallocene Catalyzed Polymers <u>Y.Suematsu</u> (Mitsui Chemicals, Inc., JAPAN)	G7-12 A Ginzburg-Landau Model for Macrovoid Formation during Diffusion Induced Phase Separation <u>M.Verschueren, F.N.van de Vosse, H.E.H.Meijer</u> (Eindhoven University of Technology, NETHERLANDS)
15:40		G7-13 An Evolution Equation for the Contact Interface Density in Spherulitic Crystallization <u>G.Eder, A.Micheletti</u> (Linz University, AUSTRIA)
16:00	S5-02 A New Family of LLDPEs with LDPE Processability Using Constrained Geometry Catalysts (CGC) Technology <u>S.Y.Lai, S.Ellebracht, J.Lastovica</u> (Dow Chemical Pacific Ltd., SINGAPORE)	G7-14 Morphology Control of Aromatic Polymers by Phase Separation of Oligomers during Solution Polymerization <u>K.Kimura, Y.Yamashita</u> (Okayama University, JAPAN)
16:20	S5-03 Blown Film Making Machine for Single-site Catalyzed Linear Low Density Polyethylene <u>M.Inoue</u> (Placo Co., Ltd., JAPAN)	G7-15 Effect of Pressure and Temperature Histories on the Volume Relaxation of PS <u>R.Pantani, C.Oliva, L.Guadagno, V.Vittoria, G.Titomanlio</u> (University of Salerno, ITALY)
16:40		G7-16 On the Structure of Silicate-polymer Compositions <u>E.F.Kudina</u> (V.A.Belyi Metal-Polymer Research Institute of National Academy of Sciences of Belarus, BELARUS)

Tuesday Afternoon, June 9

TIME	ROOM E	ROOM F
	POLYMERIZATION AND REACTIVE PROCESSING (G8)	BLOW MOLDING AND THERMOFORMING (G9)
13:40	G8-07 Interpenetrating Polymer Networks of Epoxy Resin and Urethane Acrylate Resin 1. Kinetics of Network Formation C.P.Hu, F.J.Hua (East China University of Science and Technology, CHINA)	G9-07 Numerical and Experimental Study of the Blow Molding Process A.Rodriguez-Villa, J.F. Agassant, M.Bellet (Ecole des Mines de Paris, FRANCE)
14:00	G8-08 Improvement of Barrier Properties of Plasticized PVC Materials by Plasticizer Crosslinking C. Heydel, A. Michel (University of Claude Bernard, FRANCE)	G9-08 FEM Simulation of the Thermoforming Process and the Experimental Verification S.Wang, A.Makinouchi, T.Tosa, K.Kidokoro, M.Okamoto, T. Kotaka, T.Nakagawa (University of Tokyo, JAPAN)
14:20	G8-09 Formation of Morphology Spectrum during Curing of the Thermoplastic Modified Thermosets H.S.Min, Y.S.Kim, S.C.Kim (KAIST, KOREA)	G9-09 Relationship between Molecular Motion and Blow Molding Condition of Poly(ethylene-terephthalate)(PET) by Means of Thermal Analysis T. Hama, I.Hata, R.Sato, J.Morikawa, T.Hashimoto (Tokyo Institute of Technology, JAPAN)
14:40	G8-10 Time-cure-temperature Superposition for Predicting the Viscoelastic Properties of a Curing Epoxy-amine System Y.Eom, L.Booghi, P.Sunderland, J.A.Manson (Ecole Polytechnique Federale de Lausanne, SWITZERLAND)	G9-10 Numerical Analysis of Annular Extrudate Swell of Polymer Melts Using Various Viscoelastic Models Y.Otsuki, T.Kajiwaru, S. Kihara, K.Funatsu (Kyushu University, JAPAN)
15:00	COFFEE BREAK	COFFEE BREAK
		MATHEMATICAL MODELING (G2)
15:20	G8-11 Kinetic and Rheological Changes of Vinyl Ester Resins L.Li, X. Sun, L.J.Lee (Ohio State University, USA)	G2-01KN Lattice-Boltzmann Simulation of Multiphase Flow in Polymer Processing C.E.Scott, A.Suwa (Massachusetts Institute of Technology, USA)
15:40	G8-12 The Morphology and Property of Poly(urethane urea) Copolymers Formed by Reaction Injection Molding: the Study for a Chemical Crosslinked System N.Luo, D.N.Wang, S.K.Ying (East China University of Science and Technology, CHINA)	
16:00	G8-13 The Analysis of Injection - Compression Liquid Composite Molding C.H.Wu, Y.R.Pan (Da-Yeh University, ROC)	G2-02 Towards Modeling of Coalescence and Break-up Using a Mean Field Ginzburg-Landau Model F.N.van de Vosse, M.Verschueren, H.E.H.Meijer (Eindhoven University of Technology, NETHERLANDS)
16:20	G8-14 Compatibilization of PP/PET Blends M.F.Champagne, M.A.Huneault, C.Roux (Industrial Materials Institute, CANADA)	G2-03 Prediction of the Toughness Enhancement of Rubber-modified Polymer Systems by Micro-macro Finite Element Modeling R.J.M.Smit, W.A.M.Brekemans, H.E.H.Meijer (Eindhoven University of Technology, NETHERLANDS)
16:40	G8-15 Reactive Blending of Polyolefins Using Functionalized Liquid Polybutadienes Z.Krulis, M.Sufcak (Synthetic Rubber Research Institute, CZECH)	G2-04 Progress towards a Finite Element Model for Biaxial Orientation Processing of Stress-crystallising Polymers C.Gerlach, C.P.Buckley, P.J.Dooling, D.P.Jones (University of Oxford, UK)

TIME	ROOM G
	FILLERS AND COMPOSITES (G11)
13:40	G11-08 Measurement of Three Dimensional Fiber Orientation Distribution in FRP by Observing Interference Fringe Patterns M.Kawamura, S.Morita (Industrial Technology Institute, Yamaguchi Prefectural Government, JAPAN)
14:00	G11-09 Fabrication of TLCP Reinforced Composites with Structural Gradient from Sheath-core Bicomponent Fibers T.Furuta, J.Radhakrishnan, H.Ito, T.Kikutani, N.Okui (Tokyo Institute of Technology, JAPAN)
14:20	G11-10 The Processing Conditions of the Plywood Coating with Thermoplastics O.Tervala, P.Jarvela (Tampere University of Technology, FINLAND)
14:40	G11-11 Numerical Simulation of Initial Deformation State in SMC Compression Moldings H.Hamada, T.Hasegawa, E.Tanigaki, H.Naito (Kyoto Institute of Technology, JAPAN)
15:00	COFFEE BREAK
15:20	G11-12 Gravity Effects on Preform Impregnation during Resin Transfer Molding K.A.Olivero, M.C.Altan (University of Oklahoma, USA)
15:40	G11-13 Numerical Prediction of Flow in a Twin Screw Extruder of Glass Fiber Reinforced Phenolic Resin H.Murayama, K.Min (University of Akron, USA)
16:00	G11-14KN 21 Century Seeks Nanostructured Materials I.Souma, O.Nomura (Kyoto Institute of Technology, JAPAN)
16:40	G11-15 Effect of Microwave Irradiation on Mechanical Properties of Filled HDPE X.Xu, A.Zhang (Chengdu University of Science and Technology, CHINA)

Wednesday Morning, June 10

TIME	ROOM A	ROOM B
	ALLOYS AND BLENDS (G6)	VISUALIZATION AND ON-LINE SENSING FOR POLYMER PROCESSING (S4)
9:20	G6-01KN Mixing in Extensional Flow <u>L.A.Utracki</u> (National Research Council Canada, CANADA)	S4-17 The Generation of Wavelike Flow Marks in Injection Molding <u>L.Tredoux, Y.Kurosaki, I.Satoh</u> (Tokyo Institute of Technology, JAPAN)
9:40		S4-18 Observations of Gas Penetrations in Symmetrical Tapering Ribs during Gas-assisted Injection Molding <u>S.Y.Yang, S.H.Parn</u> (National Taiwan University, ROC)
10:00	G6-02 Drop Deformation and Break-up in Converging-diverging Flows <u>F.D.Godbille, J.J.C.Picot</u> (University of New-Brunswick, CANADA)	S4-19 The Effects of Adding Compression to Transfer Molding Process for IC Encapsulation <u>S.Y.Yang, P.I.Ho</u> (National Taiwan University, ROC)
10:20	COFFEE BREAK	COFFEE BREAK
		SYMPOSIUM HONORING PROF. WHITE'S 60TH BIRTHDAY (S7)
10:40	G6-03 Fibrillar Morphology Development of PE/PBT Blends: Rheology and Solvent Permeability <u>A.Monticciolo, P.Cassagnau, A.Michel</u> (University of Claude Bernard, FRANCE)	S7-01 Reactive Blending of PPS/PC/EPOXY System <u>S.Lim, J.Choi, J.Kim, C.R.Choe</u> (KIST, KOREA)
11:00	G6-04 Shear Effect on the Phase Behavior and Morphology of PMMA/SAN-29.5 Blend <u>S.Madbouly, T.Ougizawa, T.Inoue</u> (Tokyo Institute of Technology, JAPAN)	S7-02 Continuous Polymerization of Lauryl Lactam in a Modular Intermeshing Corotating Twin Screw Extruder <u>H.Kye, H.Gil</u> (MokWon University, KOREA)
11:20	G6-05 Rheological Study of Thermotropic LCP/Nylon Blends <u>H.M.Wang, K.W.Lee, S.H.Teoh, T.S.Chung</u> (National University of Singapore, SINGAPORE)	S7-03 Morphological Study on Deformation of Strained Elastomers Loaded with Crumb Rubber <u>J.K.Kim</u> (Gyeongsang National University, KOREA)
11:40	G6-06 Extrusion of PE, PS and Their Blends with Supercritical Carbon Dioxide <u>M.Lee, C.Tzoganakis, C.B.Park</u> (University of Waterloo, CANADA)	S7-04KN Application of Elongational Flow Opto-rheometry to Some Multiphase Polymeric Liquids <u>T.Kotaka, M.Okamoto</u> (Toyota Technological Institute, JAPAN)
12:00		
12:20		Polymer Processing Society Membership Annual Business Meeting

TIME	ROOM C	ROOM D
	SINGLE-SITE CATALYZED POLYMERS (S5)	MORPHOLOGY AND STRUCTURE DEVELOPMENT (G7)
9:20	S5-04 Rheo-Optical Studies of Conventional and Metallocene Polyethylene Melts Subject to Transient Simple Shear Flow H.Randrianantoandro, C.K.Chai, P.Navard (BP Chemicals, FRANCE)	G7-17KN Engineering of Polymer Properties through Solid State Processing A.E.Zachariades (Polteco Inc., USA)
9:40	S5-05 Preferred Molecular Structure for Metallocene Polyethylene with Superior Processability S.H.Wasserman, R.H.Vogel (Univation Technologies, USA)	
10:00	S5-06 Rheology of Metallocene Catalyzed Ethylene/ α -Olefin Copolymers H.Shikuma, A.Nisioka, K.Koyama (Yamagata University, JAPAN)	G7-18 The Effects of Processing Parameters on the Microstructure and Properties of Rotationally Moulded PE and PP Articles M.C.Cramez, M.J.Oliveira, R.J.Crawford (University of Minho, PORTUGAL)
10:20	COFFEE BREAK	COFFEE BREAK
10:40	S5-07 Elongational Flow-induced Crystallization in Supercooled Syndiotactic Polystyrene M.Okamoto, H.Kubo, T.Kotaka (Toyota Technological Institute, JAPAN)	G7-19 A New Process to Produce High-performance UHMW-PE Fibers in a Pilot Scale Plant without Using Solvents or Melting the Material O.Otsu, S.Yoshida, T.Kanamoto, R.S.Porter (Nippon Oil Company, Ltd., JAPAN)
11:00	S5-08 Sprayability of Hot-melt Adhesives Based on Metallocene Catalyzed Plastomers O.Georjon, M.Faissat, F.Chambon (Exxon Chemical Europe Inc., BELGIUM)	G7-20 The Effect of Processing Conditions on the Structural Gradients Developed in Injection Molded Bacterial Poly (3-hydroxybutyrate -CO ₂ -Hydroxyvalerate) Parts T.Yamamoto, M.Khalil, M.Kadota, M.Cakmak (University of Akron, USA)
11:20	S5-09 New Isotactic Polypropylene by Metallocene Catalyst J.Saito, T.Ushioda, H.Fujita (Chisso Petrochemical Corporation, JAPAN)	G7-21 Development of Structure in High-speed Spun Poly(ethylene 2,6-naphthalene Dicarboxylate) Fibres under Different Spinning Conditions K.Miyata, N.J.Terrill, A.J.Ryan, H.Ito, T.Kikutani, N.Okui (Tokyo Institute of Technology, JAPAN)
11:40	S5-10 Theoretical Analysis of Non-Woven Fiber and its Application for Single-site Catalyzed PP and Conventional PP T.Kanai (Idemitsu Petrochemical Co., Ltd., JAPAN)	G7-22 Processing-induced Microstructure Development L.J.Mendes, K.A.High, M.S.High, D.A.Tree (Oklahoma State University, USA)
12:00		G7-23 Orientation Development and Relaxation in PET and Syndiotactic PS A.Aiji, R.Matthews, R.Yan, K.C.Cole, M.M.Dumoulin (National Research Council Canada, CANADA)

Wednesday Morning, June 10

TIME	ROOM E	ROOM F
	POLYMERIZATION AND REACTIVE PROCESSING (G8)	MATHEMATICAL MODELING (G2)
9:20	G8-16 Chemical Modification of Bisphenol-A Polycarbonate by Reactive Blending with Cyclic Anhydrides C.Berti, M.Colonna, <u>M.Fiorini</u> , E.Marianucci (University of Bologna, ITALY)	G2-05 A Validated Model for Wall Ironing of Polymer Coated Sheet Metal M.A.H.van der Aa, P.J.G.Schreurs, <u>F.P.T.Baaijens</u> (Eindhoven University of Technology, NETHERLANDS)
9:40	G8-17 KN Free Radical Grafting of Monomers onto Polymers by Reactive Extrusion <u>G.H.Hu</u> (ECPM, FRANCE)	G2-06 Numerical Analysis of Fiber Distribution during Filling Stage in Injection Molding in Consideration of Fiber-die Surface Interaction K.Kato, Z.Youxin, N.Otake (Tokyo Institute of Technology, JAPAN)
10:00		G2-07 Dynamic Simulation Method for Particle Dispersed Systems S.Yamamoto, T.Matsuoka (Toyota Central R&D Labs., Inc., JAPAN)
10:20	COFFEE BREAK	COFFEE BREAK
10:40	G8-18 Modelling of Peroxide Induced Degradation of Polypropylene in a Twin Screw Extruder F.Berzin, <u>B.Vergnes</u> , L.Delamare (Ecole des Mines de Paris, FRANCE)	G2-08 Semi-Lagrangian Aproximation of the Orientation Tensor in the Numerical Simulation of a Short Fiber Reinforced Thermoplastic Flow F.Chinesta, <u>A.Poitou</u> , R.Torres, I.Monton (ENS de Cachan, FRANCE)
11:00	G8-19 Analysis of Micromixing in Twin Screw Extruders Using Reactive Polymer Tracers G.Shearer, <u>C.Tzoganakis</u> (University of Waterloo, CANADA)	G2-09 Linear Stability of Two- and Three-layer Poiseuille Flows, Application to the Coextrusion of Polymers S.Scotto, <u>P.Laure</u> , Y.Demay, L.Gavrus, B.Vergnes, J.F.Agassant, A.Fortin (Institut Non-Lineaire de Nice, FRANCE)
11:20	G8-20 Synthesis of a Crosslinkable Polymer by Reactive Extrusion <u>P.Schwarz</u> , W.Michaeli (IKV, GERMANY)	G2-10 1-Dimensional Modeling of Relatively Simple Polymer Processing Operations E.J.Choi, S.Y.Kim, <u>Y.Kwon</u> (Sung Kyun Kwan University, KOREA)
11:40	G8-21 Modification of PP with Sunflower Oil for Application in Food Packaging R.Hettema, L.P.B.M.Janssen (University of Groningen, NETHERLANDS)	G2-11 KN Numerical Study on Extrudate Swell Using Integral and Differential Viscoelastic Constitutive Equations T.Kajiwara (Kyushu Institute of Technology, JAPAN)
12:00	G8-22 Bulk and Dispersed Phase Polymerization of Urethane in Twin Screw Extruder T.Nietsch, <u>P.Cassagnau</u> , A.Michel (University of Claude Bernard, FRANCE)	

TIME	ROOM G
	FILLERS AND COMPOSITES (G11)
9:20	G11-16 Multi-mode Microwave Welding of Thermoplastic Composites Using Carbon-black Modified Agents M.Jauss, P.Eyerer, E.Siores (University of Stuttgart, GERMANY)
9:40	G11-17 Mechanical Properties of Talc Filled Injection Moldings M.Kinoshita, T.Semba, T.Hasegawa, H.Hamada (Kyoto Institute of Technology, JAPAN)
10:00	G11-18 Characterization of Organic-inorganic Nanocomposite Derived from Triethoxysilyl Terminated Polypropyleneoxide S.Yano, K.Iwata, K.Kurita, K.Ishimoto, M.Kodomari (Nihon University, JAPAN)
10:20	COFFEE BREAK
	RECYCLING AND BIODEGRADABLE POLYMERS (S6)
10:40	S6-01KN Synthesis, Compounding and Properties of a Variety of Compostable Polymeric Materials of Commercial Interest Taking into Account Renewable Resources and Their Compostability T.Seidenstucker (University of Stuttgart, GERMANY)
11:20	S6-02 The Relationship among Branching Factor, Rheological Properties and Processability of Branched Poly (butylene succinate) III. Improvement of Processability M.Imaizumi, R.Fujihira, J.Suzuki, K.Yoshikawa, R.Ishioka (Showa Denko K. K., JAPAN)
11:40	S6-03 PLA-Packaging Material from Renewable Resources S.Jacobsen, H.G.Fritz (University of Stuttgart, GERMANY)
12:00	S6-04 Environmentally Responsible New Packaging Film Developments D.Tijunelis, J.R.Escoubas (Viskase Corporation, USA)

Wednesday Afternoon, June 10

TIME	ROOM A	ROOM B
	ALLOYS AND BLENDS (G6)	SYMPOSIUM HONORING PROF. WHITE'S 60TH BIRTHDAY (S7)
13:40	G6-07 Reactive Immiscible Polymer Blends: Investigation of the Interfacial Reactions, Phase Morphology Generation and Stabilization G.Groeninckx, K.Dedecker (Katholieke University of Leuven, BELGIUM)	S7-05 Rheology of Fiber Forming Cellulose Solutions W.S.Lee, S.M.Jo, D.B.Kim, <u>B.C.Kim</u> (KIST, KOREA)
14:00	G6-08 Effect of Interface Interaction on the Mechanical Performance of Blends with Inclusion Domains M.D.Wang, H.Aoki, A.Kuramizu (Mitsui Chemicals, Inc., JAPAN)	S7-06 Die Swell of Lyotropic Liquid Crystal-forming Cellulosic Solutions S.Suto (Hirosaki University, JAPAN)
14:20	G6-09 Properties of Blends of High-crystallinity Polypropylene and Metallocene-catalysed Linear Low Density Polyethylene N.Kukaleva, E.Kosior, F.Cser (RMIT, AUSTRALIA)	S7-07 Analysis of Crystalline Polymer Orientations during Polymer Fabrication Processes <u>J.P.Wu</u> , J.L.White (Myong Ji University, KOREA)
14:40	G6-10 Toughening Mechanism of Rubber Modified Acrylonitrile-methacrylic Acid Copolymer T.Kuriyama, I.Narisawa, A.Takahashi (Yamagata University, JAPAN)	S7-08 The Crystallization Behavior of Poly (L-lactic Acid) in Melt Processing S.W.Chun, S.Y.Kim, Y.H.Kim, <u>H.J.Kang</u> (Dankook University, KOREA)
15:00	COFFEE BREAK	COFFEE BREAK
15:20	G6-11 Evaluation of the Fracture Behaviour of Nylon 6/SEBS-g-MA <u>Y.Kayano</u> , H.Keskkula, D.R.Paul (University of Texas, USA)	S7-09 High-speed Melt Spinning of Rectangular Cross-section Fibers <u>T.Kikutani</u> , W.Takarada, K.Morohoshii, H.Ito, K.Kumazawa, H.Tabata (Tokyo Institute of Technology, JAPAN)
15:40	G6-12 The Effect of Molecular Weight and Strength of Elastomers on Mechanical Properties of PPS/SEBS Polymer Alloys T.Hisamatsu, S.Nakan, M.Ishikawa (Yamagata RIT, JAPAN)	S7-10 Spatial Variation of Structural Hierarchy in Injection Molded Polypropylene H.Ayrom-Keuchel, M.Cakmak (University of Akron, USA)
16:00	INVITED LECTURE 3 Mixing Enhancement of Single-screw Extrusion Process via Chaotic Flows <u>T.H.Kwon</u> , W.R.Hwang (Pohang University of Science and Technology, KOREA)	S7-11 Ordered and Locally Ordered Thermoplastic Composites System T.Matsuo (Kyoto Institute of Technology, JAPAN)
16:20		S7-12 Dispersed State of Glass Fibers and Dynamic Viscoelasticity of Glass Fiber Filled Polypropylene Melts H.Yamane, S.Komoto, M.Takahashi (Kyoto Institute of Technology, JAPAN)
16:40		S7-13 Characterization and Implication of Thixotropy and Yield in the Processing of Filled Thermoplastic Compounds <u>Y. Wang</u> (Tunghai University, ROC)

TIME	ROOM C	ROOM D
	RHEOLOGY AND RHEOMETRY (G1)	EXTRUSION (G4)
13:40	G1-01KN Partial Wall Slip of Polymer Melts by Squeeze Flow and Capillary Rheometry <u>H.M.Laun</u> (BASF, GERMANY)	G4-01KN Recent Development of Polymer Mixing and Extrusion Technology <u>K.Inoue</u> , <u>Y.Kuroda</u> , <u>Y.Yamane</u> (Kobe Steel Ltd., JAPAN)
14:20	G1-02 On-line Capillary Rheometry for Mobile Systems <u>J.A.Covas</u> , <u>J.M.Maia</u> , <u>J.M.Nobrega</u> (University of Minho, PORTUGAL)	G4-02 Effect of Volatiles on Gear Pump Performance <u>D.B.Todd</u> , <u>J.Kale</u> , <u>S.K.Dey</u> (Stevens Institute of Technology, USA)
14:40	G1-03 Rheological Evolution of Nylon-rubber Blends along the Extruder <u>J.A.Covas</u> , <u>A.V.Machado</u> , <u>M.vanDuijn</u> (University of Minho, PORTUGAL)	G4-03 Comparison of Residence Time Distributions for a Kneader, Modular Co-rotating Twin Screw Extruder, Continuous Mixer and an Intermeshing Counter-rotating Twin Screw Extruder <u>K.J.Shon</u> , <u>D.H.Chang</u> , <u>J.L.White</u> (University of Akron, USA)
15:00	COFFEE BREAK	COFFEE BREAK
15:20	G1-04 Additional Information from Rheological Experiments: The Melt Flow Index Equivalent <u>W.Gleissle</u> , <u>H.Braun</u> (Gebruder HAAKE GmbH, GERMANY)	G4-04 Melting and Mixing in Modular Co-rotating Twin Screw Extruders for Single and Two Component Polymer Systems <u>S.H.Lee</u> , <u>S.Bawiskar</u> , <u>J.W.Cho</u> , <u>J.L.White</u> (University of Akron, USA)
15:40	G1-05 Melt Flow Behavior and Surface Defects at Step Change in Injection Moulding <u>N.Stepanov</u> , <u>E.Kosior</u> , <u>G.Churchward</u> (RMIT, AUSTRALIA)	G4-05 3D, Numerical Simulation on Three-tip Kneading Disc in Twin Screw Extruders and Their Mixing Mechanism <u>M.Yoshinaga</u> , <u>M.Miyazaki</u> , <u>S.Katsuki</u> , <u>S.Kihara</u> , <u>K.Funatsu</u> (Kyushu University, JAPAN)
16:00	G1-06 Viscoelastic Flow Properties of PP-g-PE in Molten State at High Shear Rate in Injection Molding <u>K.Iwakura</u> , <u>Y.Sibuta</u> , <u>T.Hisamatu</u> , <u>S.Nakano</u> (Yamagata University, JAPAN)	G4-06 New Dispersive Mixers for Single and Twin Screw Extruders <u>C.Rauwendaal</u> , <u>T.Osswald</u> , <u>P.Gramann</u> , <u>B.Davis</u> (Rauwendaal Extrusion Engineering Inc., USA)
16:20	G1-07 A Numerical/Experimental Study on the Performance of Viscoelastic Constitutive Equations <u>G.W.M.Peters</u> , <u>J.F.M.Schoonen</u> , <u>H.E.H.Meijer</u> (Eindhoven University of Technology, NETHERLANDS)	G4-07 An Experimental Investigation of Solids Conveying in Smooth and Grooved Barrel Single-Screw Plasticating Extruders <u>K.S.Hyun</u> , <u>M.A.Spalding</u> (Dow Chemical Company, USA)
16:40	G1-08 Applicability of the PSMLT and the WDFO Models in the BKZ-Type Constitutive Equation to Extensional Flow of Polymer Melts <u>T.Isaki</u> , <u>M.Takahashi</u> , <u>O.Urakawa</u> , <u>T.Masuda</u> (Mitsui Chemicals, Inc., JAPAN)	G4-08 Combination of Functional Models to an Overall Plasticising Extruder Model: Solids Conveying, Melting and Melt Conveying <u>H.Potente</u> , <u>J.Jungemann</u> (University of Paderborn, GERMANY)

Wednesday Afternoon, June 10

TIME	ROOM E	ROOM F
	FIBER AND FILM (G10)	MATHEMATICAL MODELING (G2)
13:40	G10-01KN Rheotens-mastercurves and Isothermal Melt Spinning M.H.Wagner (University of Stuttgart, GERMANY)	G2-12 Applicability of Differential Constitutive Equations for Steady Shear Flow, Elastic Recovery and Uniaxial Elongational Flow of High Density Polyethylene M.Shinohara, T.Kajiwara, K.Funatsu (Idemitsu Petrochemical Co., Ltd., JAPAN)
14:00		G2-13 Numerical Modeling of Molecular Chain Conformations in Polymer Flows S.F.Bush, F.G.Torres (UMIST, UK)
14:20	G10-02 Studies of Structure-property Relationships in High Performance Fibers I.Karacan, N.Shah, V.Markova, B.Dal (UMIST, UK)	G2-14 3-D Flow Analysis for Injection Molding Y.Inoue, T.Higashi, T.Matsuoka (Toyota Central R&D Labs, Inc., JAPAN)
14:40	G10-03 Control of Fiber Structure Development of Poly(ethylene terephthalate) by High-speed Coextrusion Fiber Spinning with Polystyrene J.Radhakrishnan, H.Ito, T.Kikutani, N.Okui (Tokyo Institute of Technology, JAPAN)	G2-15 Example of 3D Injection Molding CAE Directly Connected with 3D CAD R.Nakano, T.Tanaka (Toray Industries, Inc., JAPAN)
15:00	COFFEE BREAK	COFFEE BREAK
15:20	G10-04 Morphological Changes during the Processing of Poly(ethylene terephthalate) Fibers as Measured by the Uptake of Different Dyestuffs S.F.Bush, C.G.A.Clayton, S.B.Strong (UMIST, UK)	G2-16 Modeling and Numerical Simulation of Precision Injection/Compression Molding Process K.H.Lee, Y.B.Lee, T.H.Kwon (Pohang University of Science and Technology, KOREA)
15:40	G10-05 1-D Nonisothermal Fiber Spinning Model for Thermotropic Polymeric Liquid Crystals M.G.Forest, H.Zhou, Q.Wang (Indiana University, USA)	G2-17 Adaptive Remeshing for the Simulation of Viscoelastic Fluid Flow Problems A.Fortin, A.Liorct (Ecole Polytechnique de Montreal, CANADA)
16:00	G10-06 Thermal Conductivity Anisotropy for Oriented Polymers N.E.Mathis, B.A.J.Saunders, J.J.C.Picot (University of New Brunswick, CANADA)	G2-18 Injection Molding for Charged Viscoelastic Fluid Flow Problems A.Fortin, A.Beliveau (Ecole Polytechnique de Montreal, CANADA)
16:20	G10-07 Numerical Simulation on Die Swell in Spinning Process of Hollow Fiber Membranes H.Watanabe, S.Kihara, K.Funatsu (Kyushu University, JAPAN)	G2-19 The Application of Artificial Neural Network for the Prediction of Mechanical Property in Injection Molding Process J.G.Kim, H.J.Park, J.W.Lee (Sogang University, KOREA)
16:40	G10-08 Finite Element Modeling of Mechanical Deformation of Nonwovens S.Tanaka, Y.Velu, B.Pourdeyhimi (Toyobo Co., Ltd., JAPAN)	G2-20 Estimation of Material Parameters for Numerical Analysis of Injection Molding by Genetic Algorithm Y.Maki, A.Yokoyama, K.Nakata, Y.Hashimoto, K.Higashi (Mie University, JAPAN)

TIME	ROOM G
	RECYCLING AND BIODEGRADABLE POLYMERS (S6)
13:40	S6-05KN Recycling of Waste Plastics Using Supercritical Fluids <u>T.Sako</u> , T.Sugeta (National Institute of Materials and Chemical Research, JAPAN)
14:20	S6-06 A Study of Recycling Technology for Paint-coated Plastic Automotive Bumper N.Ohori, N.Yagi, T.Nagaoka (Isuzu Advanced Engineering Center Ltd., JAPAN)
14:40	S6-07 Recycle of Painted Thermoplastic Bumper by Shear Flow Stage Reaction Control Technology N.Tatsuda, N.Sato, K.Fukumori, T.Ohta, H.Takahashi, N.Takahashi, S.Ikeda, M.Kito, H.Iwai (Toyota Central R&D Labs., Inc. JAPAN)
15:00	COFFEE BREAK
15:20	S6-08 Recycling of Waste Vulcanized Rubbers and Cross-linked PE by Solid-state Shear Extrusion N.Shinada, T.Kuriyama, I.Narisawa, N.Kikuti, K.Naka, H.Yui (Yamagata University, JAPAN)
15:40	S6-09 Recovery of Metal-polymer Components through Electromagnetic Rapid Heating A.Schwartz, G.Langstedt, C.H.Andersson, T.Cedell (A.S. Separering, GERMANY)
16:00	S6-10 Multi-layer Sandwich Injection Molding Process T. Kitamura, N.Azagami, T. Takahashi (Isuzu Motors Limited, JAPAN)
16:20	S6-11 Development of Advanced Technology in Recycling Phenolic Resin Wastes by Carbonization K.Kitagawa, T.Nakano, Y.Kankawa, T.Shimamura, M.Sato (Kyoto Municipal Institute of Industrial Research, JAPAN)
16:40	S6-12 Injection Molding of Polyolefin Composite Using Wastes of Fibrous Material as Matrix and Reinforcement T.Kimura, Y.Kataoka, Y.Kondo (Fukui University, JAPAN)

Thursday Morning, June 11

TIME	ROOM A	ROOM B
	ALLOYS AND BLENDS (G6)	INJECTION MOLDING (G3)
9:20	G6-13KN Nano-composite "TSOP" (The Super Olefin Polymer) <u>T.Nomura</u> (Toyota Motor Corporation, JAPAN)	G3-01KN Recent Developments of CAE for Injection Molding <u>T.Matsuoka</u> (Toyota Central R&D Labs., Inc., JAPAN)
10:00	G6-14 Diffusion at Polymer/Polymer Interfaces Probed by Rheological Tools <u>M.Bousmina</u> , <u>H.Qiu</u> , <u>M.Grmela</u> , <u>Y.Sapieha</u> (University of Laval, CANADA)	G3-02 Numerical Prediction of Flow-induced Orientation Structure in Injection Mold Filling <u>K.A.Olivero</u> , <u>C.F.Khoo</u> , <u>M.C.Altan</u> (University of Oklahoma, USA)
10:20	G6-15 Styrene-Butadiene Multiblock Copolymers as Compatibilizers of Immiscible Polymers <u>D.Hlavata</u> , <u>Z.Horak</u> (Academy of Sciences of the Czech Republic, CZECH)	G3-03 Experimental Characterization of Flow-induced Orientation Structure in Injection Mold Filling <u>K.A.Olivero</u> , <u>N.D.Corbitt</u> , <u>T.A.Lee</u> , <u>M.C.Altan</u> (University of Oklahoma, USA)
10:40	COFFEE BREAK	COFFEE BREAK
11:00	G6-16 Reinforcement of Amorphous and Semicrystalline Polymer Interfaces via In-situ Reactive Compatibilization <u>K.Cho</u> , <u>F.Li</u> (Pohang University of Science and Technology, KOREA)	G3-04 Pressure and Temperature Dependence of Thermal Conductivity of Amorphous Polymers <u>T.Kikuchi</u> , <u>Y.Masubuchi</u> , <u>J.Takimoto</u> , <u>K.Koyama</u> (Yamagata University, JAPAN)
11:20	G6-17 In Situ Compatibilization of Immiscible Blends: Influence of the Molecular Architecture of Compatibiliser <u>G.H.Hu</u> , <u>H.Cartier</u> (ECPM, FRANCE)	G3-05 Modified Hybrid Closure Approximation in Simulation of Injection Molding of Short Fiber Reinforced Composites <u>K.H.Han</u> , <u>Y.T.Im</u> (KAIST, KOREA)
11:40	G6-18 Chemical Conversion and Morphology Evolution of a Nylon-rubber Blend in a Corotating Twin Screw Extruder <u>A.V.Machado</u> , <u>J.A.Covas</u> , <u>M.van Duin</u> (University of Minho, PORTUGAL)	G3-06 Numerical Analysis of Co-injection Mold Filling with Phase Change Problem <u>Y.K.Shen</u> (Chien Hsin College of Technology and Commerce, ROC)
12:00	G6-19 Reactive Blending of Polysulfone with Polyamide: Morphology Control and Mechanical Properties <u>P.Charoensirisomboon</u> , <u>H.Saito</u> , <u>T.Inoue</u> , <u>M.Weber</u> (Tokyo Institute of Technology, JAPAN)	G3-07 Modelling the Injection Moulding Process of Semi-crystalline Polymers <u>H.Zuidema</u> , <u>G.W.M.Peters</u> , <u>H.E.H.Meijer</u> (Eindhoven University of Technology, NETHERLANDS)

TIME	ROOM C	ROOM D
	RHEOLOGY AND RHEOMETRY (G1)	EXTRUSION (G4)
9:20	G1-09KN Recent Advances in Optical Rheometry G.G.Fuller (Stanford University, USA)	G4-09KN Experimental and Theoretical Studies of the Flow of Blends of Thermoplastics and Low Viscosity Liquids in a Corotating Twin Screw Extruder J.L.White (University of Akron, USA)
10:00	G1-10 An Instrument for Combined X-ray Scattering and Rheology A.J.Ryan, J.P.A.Fairclough, I.W.Hamley, J.A.Pople (University of Sheffield, UK)	G4-10 Comparison of Fluid Flow and Temperature Rise in Extrusion H.Cheng, C.Wang, G.A.Campbell (Clarkson University, USA)
10:20	G1-11 Observation of Deformation and Recovery of Droplets under Large Step Strain in PDMS/PIB Blend M.Takahashi, R.Hayashi, H.Yamane (Kyoto Institute of Technology, JAPAN)	G4-11 Melt Homogenization of Branched Low Density Polyethylene C.I.Chung, T.Powell, C.L.Werling (Rensselaer Polytechnic Institute, USA)
10:40	COFFEE BREAK	COFFEE BREAK
11:00	G1-12 Rheological Properties of Immiscible Polymer Blends: Applications to Processing C.Lacroix, M.Grmela, P.J.Carreau (CRASP, CANADA)	G4-12 Simulation of Blown Film Extrusion from the Feeding Zone to the Freeze Line J.Vlachopoulos, V.Sidiropoulos (McMaster University, CANADA)
11:20	G1-13 A Study of Interfacial Effects in Polymer Blends under Shear and Extensional Flow T.Saito, C.W.Macosko (University of Minnesota, USA)	G4-13 Extrusion and Flow Slippage of Blends of Fluoroelastomers and Various Thermoplastics E.Lee, J.L.White (University of Akron, USA)
11:40	G1-14KN Rheology of Diblock Copolymer Micelles H.Watanabe (Kyoto University, JAPAN)	G4-14 Extrusion Microcellular Foam Processing of PS and HIPS C.B.Park, A.H.Behravesh, R.D.Venter (University of Toronto, CANADA)
12:00		G4-15 Appropriate Operating Conditions of a Polymeric Foaming Extrusion Process K.Inamori, M.Takada, K.Hayama, M.Ohshima, M.Tanigaki (Kyoto University, JAPAN)

Thursday Morning, June 11

TIME	ROOM E	ROOM F
	FIBER AND FILM (G10)	HYBRID INJECTION MOLDING (S1)
9:20	G10-09 Twin Screw Extrusion in Melt Spinning - A New Technology for Special Fibers R.Beyreuther, R.Vogel, M.Hoffmann, B.Tandler (Institute of Polymer Research Dresden, GERMANY)	S1-01KN Latest Developments in Hybrid Injection Molding M.Sakagami (Sekisui Chemical Co., Ltd., JAPAN)
9:40	G10-10 Phase Structure and Physical Properties of PVA/PAN Polymer Blend H.Takeda (Fukuoka Women's University, JAPAN)	
10:00	G10-11 Spontaneous Electret Charge of Fibrous Polymer Materials Filled by Magnetics L.Pinchuk, A.Kravtsov (V.A.Belyi Metal-Polymer Research Institute of National Academy of Sciences of Belarus, BELARUS)	S1-02 Analysis and Optimization of the Multi-component Injection Molding Process K.Kuhmann, G.W.Ehrenstein (University of Erlangen-Nurnberg, GERMANY)
10:20	G10-12 Structural Study on PBO Fiber T.Kitagawa, H.Murase, K.Yabuki (Toyobo Co., Ltd)	S1-03 Two Component Injection Moulding for a Movable Butterfly Valve R.Vaculik (Filterwerk MANN+HUMMEL GmbH, GERMANY)
10:40	COFFEE BREAK	COFFEE BREAK
11:00	G10-13 An Automatic Simulation System of Film Blowing Processing T.Shoji, S.Yao, E.Kamei (Ube Industries, Ltd., JAPAN)	S1-04 Controlled Orientation of Reflective Pigment and Optical Property Characterisation of Injection Moulded Polypropylene K.Yasuda, K.W.Rawson, P.S.Allan, M.J.Bevis (Brunel University, UK)
11:20	G10-14 Tubular Blown Film Simulation; Effect of Cooling Air on Bubble O.Akaike, T.Tsuji, Y.Nagano (Mitsubishi Chemical Corporation, JAPAN)	S1-05 Two Shots Injection Moulding L.Borregaard, K.Mortensen (Bang & Olufsen A/S, DENMARK)
11:40	G10-15 Structure Development and Mechanical Properties of Blown Polyethylene Films J.M.Andre, J.M.Haudin, J.J.Labaig, J.M.Colin, J.F.Agassant, Y.Demay, B.Monasse (Ecole des Mines de Paris, FRANCE)	S1-06 Internal Structure of PC/ABS Sandwich Injection Moldings H.Hamada, T.Semba (Kyoto Institute of Technology, JAPAN)
12:00	G10-16 A Stability Diagram for the Onset of LLDPE Sharkskin Extrudates P.Wongsomnuk, A.Sirivat (Chulalongkorn University, Thailand)	S1-07 Structural Hierarchy Developed in Co-injection Molded Polystyrene/Polypropylene Parts M.Kadota, M.Cakmak, H.Hamada (University of Akron, USA)

TIME	ROOM G
	MIXING AND COMPOUNDING (G5)
9:20	G5-01KN Mixing Analysis: From Prototype Mixing Flows to Static Mixers H.E.H.Meijer, P.D.Anderson (Eindhoven University of Technology, NETHERLANDS)
10:00	G5-02 3-D Numerical Simulation on Non-Newtonian and Non-isothermal Flow in Mixing Element Regions of Twin Screw Extruders T.Ishikawa, S.Kihara, K.Funatsu (Kyushu University, JAPAN)
10:40	COFFEE BREAK
11:00	G5-03 3D FEM Analysis of Thermal Flow and Mixing in the Metering Zone with Mixing Sections of a Single-screw Extruder W.G.Yao, S.Tanifuji, K.Takahashi, K.Koyama (Yamagata University, JAPAN)
11:20	G5-04 Prediction of Morphology Development of Immiscible Polyblends in Co-rotating Twin Screw Extruders with SIGMA M.Bastian, H.Potente (University of Paderborn, GERMANY)
11:40	G5-05 Wear and Corrosion Behavior and Their Counter-measures for Twin Screw Compounding Extruders T.Sakai, H.Ohyabu, K.Chikara, K.Nakamura (The Japan Steel Works, Ltd., JAPAN)
12:00	G5-06 Effect of Composition on the Impact Properties of Polypropylene G.A.Campbell, J.Savoca, S.Campbell (Clarkson University, USA)

Thursday Afternoon, June 11

TIME	ROOM A	ROOM B
	ALLOYS AND BLENDS (G6)	INJECTION MOLDING (G3)
13:40	G6-20 The Effect of the Amount of In-situ Formed Copolymers on the Final Morphology of Reactive Polymer Blends with an In-situ Compatibilizer <u>H.K.Jeon</u> , <u>J.K.Kim</u> (Pohang University of Science and Technology, KOREA)	G3-08 Measurement of Melting Behavior of Resin Using Ultrasonic Waves <u>N.Nishiwaki</u> , <u>S.Hori</u> , <u>T.Arai</u> (Tokyo University of Agriculture and Technology, JAPAN)
14:00	G6-21 Primary Amine Terminated Polystyrene as a Reactive Compatibilizer for Impact Modified SMA/PPO Blends <u>C.Koning</u> , <u>W.Bruls</u> , <u>F.O.D. Buijsch</u> , <u>L.v.d.Vondervoort</u> (DSM Research, NETHERLANDS)	G3-09 Measurement of Melt Temperature Profiles along Cavity Thickness Direction by Using a New Integrated Thermocouple Sensor <u>Y.Murata</u> , <u>S.Abe</u> , <u>H.Yokoi</u> (University of Tokyo, JAPAN)
14:20	G6-22KN Novel Polyarylether/Polyamide-Alloys <u>M.Weber</u> , <u>W.Heckmann</u> , <u>W.Schrepp</u> (BASF AG, GERMANY)	G3-10 Mechanism of Formation of Gloss Variations in Injection Moulded Polypropylene <u>N.Stepanov</u> , <u>E.Kosior</u> , <u>G.Churchward</u> (RMIT, AUSTRALIA)
14:40		G3-11 An Investigation of Micro-injection Molding on the Fabrication of Fiber Spinnerets <u>S.C.Tseng</u> , <u>C.T.Shi</u> , <u>C.L.Kuo</u> , <u>Y.Cheng</u> (National Yunlin University of Science and Technology, ROC)
15:00	COFFEE BREAK	COFFEE BREAK
15:20	G6-23 In-situ X-ray Studies during Deformation of Rubber Toughened Amorphous Polymers <u>B.J.P.Jansen</u> , <u>S.Rastogi</u> , <u>H.E.H.Meijer</u> , <u>P.J.Lemstra</u> (Eindhoven University of Technology, NETHERLANDS)	G3-12KN Dimensional Changes and Residual Stresses in Solidifying Thermoplastic Melts <u>V.K.Stokes</u> (GE Corporate Research Development, USA)
15:40	G6-24 Phase Separation Behavior of Cyanate Ester Resin/Polysulfone Blends <u>C.E.Park</u> , <u>J.W.Hwang</u> (Pohang University of Science and Technology, KOREA)	
16:00	G6-25 Thermoplastic Vulcanizates from EPDM and PP <u>Y.B.Vasudeo</u> , <u>R.Rangaprasad</u> , <u>R.R.Sequeira</u> (Reliance Industries Ltd., INDIA)	G3-13 Injection Moulding Nozzle Measurements and Associated Process Measurements in the Laboratory and Factory <u>A.Dawson</u> , <u>A.Key</u> , <u>N.Khoshooee</u> , <u>C.Panesar</u> , <u>R.M.Rose</u> , <u>P.D.Coates</u> (University of Bradford, UK)
16:20	G6-26 Intensification of Phase Interactions in Dynamically Vulcanized Thermoplastic-rubber Blends <u>H.J.Radusch</u> , <u>B.Corley</u> (Martin Luther University, GERMANY)	G3-14 Optimisation of the Impact Strength of Injection Moulded Plates <u>J.C.Viana</u> , <u>A.M.Cunha</u> (University of Minho, PORTUGAL)
16:40	G6-27 Dynamic Vulcanization of Halogenated Butyl Rubber/Natural Rubber Blend <u>Y.Minagawa</u> , <u>A.Nakahara</u> , <u>T.Inoue</u> (Sumitomo Rubber Industries, LTD., JAPAN)	G3-15 Study of Material Properties Prediction with Injection Molding Simulation <u>M.Ishijima</u> , <u>S.Takahashi</u> , <u>M.Yamabe</u> , <u>M.Shimbo</u> , <u>Y.Miyano</u> (Nissan Motor Co., Ltd., JAPAN)

TIME	ROOM C	ROOM D
	RHEOLOGY AND RHEOMETRY (G1)	EXTRUSION (G4)
13:40	G1-15 Effect of Miscibility/Immiscibility on Rheological and Mechanical Properties of PCL/SAN Blends L.Keyzlarova, P.Saha (Technical University of Brno, CZECH)	G4-16KN Viscoelastic Modelling in Flows through Extrusion Dies E.Mitsoulis (University of Ottawa, CANADA)
14:00	G1-16 Flow Behavior of Polyethylenes and Silicone Rubber Blends P.K.Patra, C.K.Das (Materials Science Centre, INDIA)	
14:20	G1-17 Morphological and Rheological Properties of a PETcopolymers/LCP Blends L.B.Silva, R.E.S.Bretas (Universidade Fderal de Sao Carlos, BRAZIL)	G4-17 The Engineering Prediction of Extrusion and Die Swell for Molten Polyethylene Flowing in Slit, Capillary and Annular Dies P.A.Husband, M.R.Mackley (University of Cambridge, UK)
14:40	G1-18 The Relationship among Branching Factor, Rheological Properties and Processability of Branched Poly (butylene succinate) II. Rheology M.Takahashi, T.Miyagi, M.Imaizumi, K.Yoshikawa (Kyoto Institute of Technology, JAPAN)	G4-18 Numerical Simulation of Three-dimensional Viscoelastic Flows Using a Thermodynamic Interpolation Models S.Kihara, Y.Hashimoto, T.Gohda, K.Matsunaga, K.Funatsu (Kyushu University, JAPAN)
15:00	COFFEE BREAK	COFFEE BREAK
15:20	G1-19 Viscoelastic Behavior and Infrared Kinetics of Bulk Diallyl Phthalate Cross-linking C.Heydel, P.Cassagnau, A.Michel (University of Claude Bernard, FRANCE)	G4-19 Numerical Simulation of Three-dimensional Viscoelastic Flow in a Die of Extrusion Y.Hashimoto, T.Gohda, K.Matsunaga, S.Kihara, K.Funatsu (Kyushu University, JAPAN)
15:40	G1-20 Rheological Aspects of ABS Thermoforming S.E.Solovyov, T.L.Virkler, C.E.Scott (Massachusetts Institute of Technology, USA)	G4-20 Numerical Analysis on Wrap around Phenomena of Stratified Two Phase Flow T.Uwaji, V.Legat, M.J.Crochet (Mitsubishi Heavy Industries, Ltd., JAPAN)
16:00	G1-21 Measurements and Modeling of PS/Supercritical CO ₂ Solution Viscosities C.B.Park, M.Lec, C.Tzoganakis (University of Toronto, CANADA)	G4-21 Alternative Approach to Coextrusion Die Design J.Svabik, T.Mikulenka, M.Manas (Technical University, Zlin, CZECH)
16:20	G1-22 Extension of Use of Theory of Polymer Viscosity for Explanation of High Steepness of Logarithmic Dependence of Isothermal Viscosity on Molar Mass for Low-molecular-weight Epoxy Resins A.Kastanek, M.Bohdanecky (SYNPO, CZECH)	G4-22 Mixture Rules for Critical Shear Values of Extruded Blends P.Filip, L.Keyzlarova, P.Saha (Academy of Sciences of the Czech Republic, CZECH)
16:40	G1-23 Rheological Behaviour of Some New Polypropylene Copolymers L.Halasz, O.C.Vorster, I.Masalova, I.Tincul, A.H.Potgieter (Technikon Pretoria, SOUTH AFRICA)	G4-23 Melt Filtration of Post Consumer Expanded Polystyrene (EPS) G.Shah, F.Yi, E.Kosior (RMIT, AUSTRALIA)

Thursday Afternoon, June 11

TIME	ROOM E	ROOM F
	FIBER AND FILM (G10)	HYBRID INJECTION MOLDING (S1)
13:40	G10-17 Double Bubble Tubular Film Extrusion of Polyesters and Polyester Blends: PBT, PET and PEN K. Song, J.L. White (University of Akron, USA)	S1-08 A Study of Flow Behavior for Injection-compression Molding T.Abe, Y.Saito, S.Matsumoto (Idemitsu Petrochemical Co., Ltd., JAPAN)
14:00	G10-18 Measurement of Absolute Birefringence in Biaxially Oriented Films A.Aiji, N.Legros, M.M.Dumoulin (National Research Council Canada, CANADA)	S1-09 Development of the Low Pressure Molding Technology M.Matsumoto, N.Usui, T.Kitayama (Sumitomo Chemical Co., Ltd., JAPAN)
14:20	G10-19KN Analysis of Flat Film Casting Process T.Matsuo (Kyoto Institute of Technology, JAPAN)	S1-10 Recent Development of SCI Molding K.Tomari, H.Hamada (Osaka Municipal Technical Research Institute, JAPAN)
14:40		S1-11 Improvement of Transcription Property of Fine Surface Structure by Rapid Heating Mold T.Yasuhara, K.Kato, N.Fujisawa, N.Otake (Tokyo Institute of Technology, JAPAN)
15:00	COFFEE BREAK	COFFEE BREAK
15:20	G10-20 Modeling of Stretching Operation in the Production of PTFE Porous Membranes T.Kitamura, M.Tanigaki, K.Kurumada, M.Ohshima, S.Kanazawa (Kyoto University, JAPAN)	S1-12 Physical Simulation for the Evaluation of Welding Defect in Ceramic Injection Molding K.Kato, Y.H.Chung, N.Otake (Tokyo Institute of Technology, JAPAN)
15:40	G10-21 Structure and Orientation Development during the Inverse Sequence of Biaxial Stretching Process of PET Films J.F.Tassin, M.Vigny, D.Veyrat, F.Bouquerel (University of Maine, FRANCE)	S1-13 Structure and Property of Sandwich Injection Moldings of Polyacetal W.Mizuno, H.Hamada, K.Tomari (Kyoto Institute of Technology, JAPAN)
16:00	G10-22 New Approach to the Design of Slit Dies for the Production of Thermoplastic Films and Sheets H.Gross (Gross Kunststoff-Verfahrenstechnik, GERMANY)	S1-14 Mechanical Properties of PA Sandwich Injection Moldings A.Fujita, F.Baba, H.Hamada (Mitsubishi Electric Corporation, JAPAN)
16:20	G10-23 The Development of Air Cushioned Cooling Rolls Open up New Possibilities in the Field of Sheet and Film Extrusion H.Gross (Gross Kunststoff-Verfahrenstechnik, GERMANY)	S1-15KN—Elegant? Economical? Or even both? Sandwich and Gas-assisted Injection Molding C.Jaroschek (Ferromatik Milacron Maschinenbau GmbH, GERMANY)
16:40	G10-24 New Control System to Produce Polymer Sheets with Automatic Membrane Dies W.Michaeli, U.Langkamp, H.Gross (Gross Kunststoff-Verfahrenstechnik, GERMANY)	

TIME	ROOM G
	MIXING AND COMPOUNDING (G5)
13:40	G5-07 Comparison of Different Mixing Elements with Regard to Their Thermal Mixing Efficiency <u>T.Wolff</u> , <u>M.Michaeli</u> (IKV, GERMANY)
14:00	G5-08 Kinetics of Mixing during Batch Compounding of Polymer Blends <u>C.K.Shih</u> (E.I. DuPont de Nemours and Co., Inc, USA)
14:20	G5-09 A Newly Invented, Self-wiping, Co-rotating, Twin Screw <u>M.Sakagami</u> (Sekisui Chemical Co., Ltd., JAPAN)
14:40	G5-10 Predictions of Particles Dispersion and Fluid Properties in Ceramic Injection Molding Mixtures <u>K.Okada</u> , <u>S.Qian</u> , <u>Y.Nagase</u> (Kurashiki University of Science and the Arts, JAPAN)
15:00	COFFEE BREAK
15:20	G5-11 Direct Injection Molding Process for Glass Fiber Reinforced Plastics - Development and Prospective Future - <u>T.Moriwaki</u> , <u>T.Sakaguchi</u> (Kishimoto Sangyo Co., Ltd, JAPAN)
15:40	G5-12 Dispersion of Ultrafine Calcium Carbonate in the Twin Screw Extruder <u>M.Bories</u> , <u>M.A.Hunéault</u> , <u>P.G.Lafleur</u> (CRASP, CANADA)
16:00	G5-13 Simulation of the Reactive Extrusion for Grafting Vinyl Silanes onto Polyethylenes <u>T.Fukuoka</u> , <u>H.Kurio</u> , <u>M.Okabe</u> (Sekisui Chemical Co., Ltd., JAPAN)
16:20	G5-14 Analysis of Mixing Behavior in Industrial Mixers: the Multiflux Static Mixer <u>P.G.M.Kruijt</u> , <u>O.S.Galaktionov</u> , <u>G.W.M.Peters</u> , <u>H.E.H.Meijer</u> (Eindhoven University of Technology, NETHERLANDS)

POSTER SESSION PROGRAM

《SESSION I》

10:00-18:00 Tuesday, June 9 (Presentation time: 17:00-18:00)

1. GAS INJECTION MOLDING (S2)

- S2-P01 **A Computer Simulation System of Gas-assisted Injection Molding**
H.Zhang, D.Li (Huazhong University of Science and Technology, CHINA)
- S2-P02 **Visualization Analysis of Melt Filling Phenomena in Gas-assisted Injection Molding**
H.Yokoi, T.Otake (Toyoda Gosei Co., Ltd., JAPAN)
- S2-P03 **Influence of the Gas Channel Configurations on Surface Profile for Large Injection Molded Parts**
A.Suzuki, H.Tateyama (Tohoku Munekata Co., Ltd., JAPAN)

2. FABRICATION OF OPTICAL AND ELECTRONIC DEVICES (S3)

- S3-P01 **Adaptive Quality Assurance in Injection Molding**
K.Yakemoto, T.Shiroganeya, H.Ito, T.Sakai (The Japan Steel Works, Ltd., JAPAN)

3. VISUALIZATION AND ON-LINE SENSING FOR POLYMER PROCESSING (S4)

- S4-P01 **Development of Temperature Distribution Measurement Method along Depth of Screw Channel**
H.Yokoi, S.Ohwada (University of Tokyo, JAPAN)
- S4-P02 **Visualization Analysis of Preceding Flow Phenomena along Cavity Sides by Gate-Magnetization Method**
M.Imade, H.Miyauchi, S.Okada, H.Yokoi (Chugoku National Industrial Research Institute, JAPAN)
- S4-P03 **Theoretical Study on Twin Screw Extrusion Melting Process with Three-dimension Successive Windowed Extruder**
Y.Guo, F.Zhu (Beijing University of Chemical Technology, CHINA)
- S4-P04 **Flow Visualization of a Compound Fan-gating System for Injection of Plastics Composite Materials in Preventing Electromagnetic Interference**
Y.L.Chou, C.C.A.Chen, C.B.Lin, H.L.Hung, M.S.Huang (TamKang University, ROC)

4. SINGLE-SITE CATALYZED POLYMERS (S5)

- S5-P01 **The Recent Application of Cyclo-olefin Polymers**
M.Tada, T.Kohara (Nippon Zeon Co., Ltd., JAPAN)

5. MORPHOLOGY AND STRUCTURE DEVELOPMENT (G7)

- G7-P01 **Chain Folding in Crystallisable Cyclic Homo- and Co-polymers**
A.J.Ryan, J.Cooke, J.P.A.Fairclough, I.W.Hamley, M.Wallwork, D.A.M.Smith, S.M.Mai, C.Booth (University of Sheffield, UK)
- G7-P02 **Dependence of Lamellar Thickness of Polyethylene Single Crystals on Molecular Weight and Solution Concentration**
T.Ikawa (Okayama University of Science, JAPAN)
- G7-P03 **Crystal/crystal Transformations and Melting/Recrystallization in Poly(1-butene) during Drawing**
K.Nakamura, T.Aoike, K.Usaka, T.Kanamoto (Science University of Tokyo, JAPAN)
- G7-P04 **Development of Ductility and Tensile Properties on Two-stage Draw of Atactic Poly (acrylonitrile)**
D.Sawai, A.Yamane, T.Kanamoto, R.S.Porter (Science University of Tokyo, JAPAN)
- G7-P05 **Crystallization Mechanism and Morphological Development of Polyesters**
T.Komoto, H.Uehara, T.Takai, T.Amagai, T.Yamanobe (Gunma University, JAPAN)
- G7-P06 **Morphology and Thermal Properties of Nascent Isotactic Polypropylene Powders**
H.Uehara, A.Sato, H.Matsuda, T.Yamanobe, T.Komoto, M.Terano (Gunma University, JAPAN)

- G7-P07 **TEM Studies on Oriented Crystallization of Natural Rubber and Polychloroprene**
T.Shimizu, S.Nakano, M.Tsuji, S.Kohjiya (Kyoto University, JAPAN)
- G7-P08 **Morphological Studies on Poly(ethylene 2,6-naphthalate) Crystallized from the Melt**
F.Novillo, M.Fujita, S.Murakami, M.Tsuji, S.Kohjiya (Kyoto University, JAPAN)
- G7-P09 **Structure Development in the Chemically Treated Nylon 6**
A.Takahashi, M.Ito, K.Mizuuchi, T.Kanamoto (Science University of Tokyo, JAPAN)
- G7-P10 **Ultra-drawing of Poly(tetrafluoroethylene) Virgin Powder by Two-stage Drawing Techniques**
R.Endo, T.Kanamoto (Science University of Tokyo, JAPAN)
- G7-P11 **Superdrawing of Ultra-high Molecular Weight Polyethylene Reactor Powder above the Static Melting Temperature**
K.Nakazato, T.Kanamoto (Science University of Tokyo, JAPAN)
- G7-P12 **Production of Microcellular Foam Polystyrene at High Temperature**
Sumarno, K.Hayashi, Y.Sato, S.Takishima, H.Masuoka (Hiroshima University, JAPAN)
- G7-P13 **Modified Orientation by Rotational Core Molding**
S.Arai, N.Mori (Aeolotropic Design Studio, JAPAN)
- G7-P14 **Effect of Molecular Weight and Molecular Weight Distribution on Drawing of Polyethylene Single Crystal Mats**
K.Nagai, M.Nagai, T.Kanamoto, T.Ohama (Science University of Tokyo, JAPAN)
- G7-P15 **Optimize the Joint Property of Ultrasonically Welded Thermoplastics**
S.J.Liu, W.F.Lin, P.C.Chang (Chang Gung University, ROC)
- G7-P16 **Environmental Stress Cracking Resistance of Die Drawn Tubes**
I.Ulas, T.Tanaka, M.Nakamaru (Mitsubishi Chemical Corporation, JAPAN)

6. POLYMERIZATION AND REACTIVE PROCESSING (G8)

- G8-P01 **Distannoxanes and Titanium Alkoxides as Efficient Catalysts for Chemical Modification of Polymers during Processing Operations**
A.Michel, I.Pesneau, O.Primel (University of Claude Bernard, FRANCE)
- G8-P02 **Decomposition of Waste Polystyrene by the Novel Reactor (Visbreaker Type)**
Y.Ishihara, M.Mizuno, K.Saido, T.Kuroki (Nippo Ltd., JAPAN)
- G8-P03 **Kinetics of Phenolic Resol Resin Formation by HPLC**
G.A.Aierbe, J.M.Echeverria, I.Mondragon (University of the Basque, SPAIN)
- G8-P04 **Chemorheology and Dynamic Mechanical Behavior of Cyanate Ester-Epoxy Thermosetting Mixtures**
M.D.Martin, I.Harismendy, P.Remiro, I.Mondragon (University of the Basque, SPAIN)

7. BLOW MOLDING AND THERMOFORMING (G9)

- G9-P01 **Annular Die Swell Simulation of Polymer Melts with Wall Slip Effect**
T.Kohchu, K.Matsunaga, S.Kihara, K.Funatsu (Kyushu University, JAPAN)

8. FIBER AND FILM (G10)

- G10-P01 **Application of High-temperature Hot-air Drawing Method to Poly(ethylene 2,6-naphthalate) Fibers**
A.Suzuki, Y.Nakamura, T.Kunugi (Yamanashi University, JAPAN)
- G10-P02 **Biaxial Hot-drawing of PET Films: Effects of Varying the Molecular Weight**
J.Shirodkar, C.P.Buckley, J.L.Harvie (University of Oxford, UK)
- G10-P03 **Cooling Behavior in the High Temperature Melt Spinning Process**
Y.Ohkoshi, C.Park, Y.Gotoh, M.Nagura, T.Kikutani (Shinshu University, JAPAN)
- G10-P04 **Solid-state Deformation of β -form Crystals of Poly(ethylene 2,6-naphthalate)**
K.Tajima, T.Ogura, M.Ito, T.Kanamoto (Science University of Tokyo, JAPAN)
- G10-P05 **New Process for Producing an Extrusion Laminated Film without Any Chemical Primer - Non Anchor Coating Extrusion Laminating Process**
H.Takahata, F.Ishibashi, Y.Sato, H.Hayashida, T.Nishio (Sumitomo Chemical Co, Ltd., JAPAN)
- G10-P06 **Low-temperature Plasma Treatment of Fine and Ultrafine Polypropylene Fibers**
M.Zhu, Y.Chen, X.Huang, Y.Zhang (China Textile University, CHINA)

G10-P07 **Dynamics of Banded Structure Formation in Liquid Crystalline Polymer Fibers**

T.Kyu, A.Guenther, X.Y.Wang (University of Akron, USA)

G10-P08 **Biospinning - Fiber Formation of Silk -**

J.Magoshi, H.Zhang, S.Zarkoob, Y.Magoshi, M.Kato, M.A.Becker, T.Hata, S.Nakamura
(National Institute of Agrobiological Resources, JAPAN)

9. FILLERS AND COMPOSITES (G11)

G11-P01 **Effects of the Carbon Fiber Orientation on the EMI Shielding of Epoxy/Carbon Fiber Composites**

D.Ra, S.Chun, H.J.Kang (Dankook University, KOREA)

G11-P02 **High-Filled Extrusion Wood-Polymer Composites**

V.M.Shapovalov, S.V.Kudin (V.A.Belyi Metal-Polymer Research Institute of National Academy of Sciences of Belarus, BELARUS)

G11-P03 **Precision Preforming of a Ribbed Panel and Its Compressive Behavior**

M.Park, C.R.Choe, R.E.Robertson (KIST, KOREA)

G11-P04 **The Induction of Interfacial Stress on the Extended-chain Crystals of the Matrix of Glass Fiber-reinforced HDPE**

Y.Zhang, Z.Hui, R.Chen (Nanjing University of Chemical Technology, CHINA)

G11-P05 **The Effect of Interfacial Stress-induced Crystallization on CaCO_3 /HDPE Filled Composites and their Toughened-mechanisms**

Y.Zhang, R.Chen, E.Pan (Nanjing University of Chemical Technology, CHINA)

G11-P06 **The Application of Flame Retardants FR-1 and FR-2 to PET**

J.Liu, H.Li (Beijin Institute of Technology, CHINA)

G11-P07 **Toughening of Glass Mat-reinforced Polypropylene**

X.Zhou, W.Guo, G.Dai (East China University of Science and Technology, CHINA)

G11-P08 **The Permeability of Glass Mat in GMT Melt Impregnation**

M.Li, J.Huang, G.Dai (East China University of Science and Technology, CHINA)

《SESSION II》

10:00-18:00 Wednesday, June 10 (Presentation time: 17:00-18:00)

10. HYBRID INJECTION MOLDING (S1)

- S1-P01 **Evaluation of Adhesive Strength of In-mold Coating Molded Parts**
N.Ikegawa, K.Higashi, S.Yamauchi (Matsushita Electric Works, Ltd., JAPAN)
- S1-P02 **Processing and Mechanical Properties of Sandwich Injection Moldings**
T.Nishiwaki, A.Fujita, Y.Tanimoto, A.Tange, Z.Maekawa
(Mitsubishi Electric Corporation, JAPAN)
- S1-P03 **The Feasibility Study of Observing the Cavity Filling Phenomena from the Thickness Direction by Co-injection Molding Technology**
Y.F.Chuang, H.Yokoi (University of Tokyo, JAPAN)

11. RECYCLING AND BIODEGRADABLE POLYMERS (S6)

- S6-P01 **Deformation Behavior of Aliphatic Polyesters Blend**
Y.Kodama, L.C.ter Beek, K.Qi, K.Nakayama (National Institute of Materials and Chemical Research, JAPAN)
- S6-P02 **The Relationship among Branching Factor, Rheological Properties and Processability of Branched Poly (butylene succinate) - I. Characterization**
K.Yoshikawa, T.Yoshikawa, M.Imaizumi, R.Ishioka (Showa Denko K. K. JAPAN)
- S6-P03 **Chemical Recycling of Polystyrene by Thermal Degradation**
T.Sawaguchi, Y.Suzuki, S.Yano, M.Seno (Nihon University, JAPAN)
- S6-P04 **Problems Regarding Farm-film Waste Recycling by Single-screw Extruders**
N.Jiang, P.Xue, F.Zhu, H.L.Qiu (Beijing University of Chemical Technology, CHINA)
- S6-P05 **On the Dynamic Characteristics of the Protective Device of Thermoplastic Elastomer for Ship Collision**
K.Shoji, S.Mita, C.Nonomura (Tokyo University of Mercantile Marine, JAPAN)
- S6-P06 **Material Recycling of Heterogeneous Plastic Wastes, Especially from the Automotive Industry**
F.Endler, J.V.Schulze, G.Roth, K.Graser (HP Pelzer Group, GERMANY)
- S6-P07 **Compression Molding of Sandwich-type Board Using Waste of Fibrous Material as Core Layer**
T.Kimura, Y.Kataoka (Fukui University, JAPAN)
- S6-P08 **Thermoplastic Starches; Molecular Structures and Properties**
R.V.Tuil, S.Hulleman, H.Feil (ATO-DLO, NETHERLANDS)

12. SYMPOSIUM HONORING PROF. WHITE'S 60TH BIRTHDAY (S7)

- S7-P01 **Comparison of the Characteristics of Polymer Melts under Uniaxial, Biaxial and Planar Elongational Flows**
K.Koyama, A.Nishioka (Yamagata University, JAPAN)

13. RHEOLOGY AND RHEOMETRY (G1)

- G1-P01 **Deformation and Recovery of Droplets and Stress Relaxation under Large Step Strain in PC/PS Blend Melts**
K.Okamoto, M.Takahashi, H.Yamane, H.Kashihara, T.Masuda
(Kyoto Institute of Technology, JAPAN)
- G1-P02 **Mechanical and Thermal Properties of Ionomers Based on Ethylene-co-Methacrylic Acid Copolymers in the Solid State**
X.S.Zeng, M.Takahashi, H.Yamane, O.Araki, T.Takigawa, T.Masuda
(Kyoto Institute of Technology, JAPAN)
- G1-P03 **Effects of Ionic Clusters on the Dynamic Viscoelasticity and Stress Relaxation for Ionomers Based on Ethylene-co-Methacrylic Acid Copolymer in the Melt State**
X.S.Zeng, M.Takahashi, H.Yamane, T.Takigawa, T.Masuda
(Kyoto Institute of Technology, JAPAN)
- G1-P04 **Uniaxial Elongational Flow Behavior of PS/UHMW-PS Melts**
A.Minegishi, A.Nishioka, T.Takahashi, Y.Masubuchi, J.Takimoto, K.Koyama
(Yamagata University, JAPAN)

- G1-P05 **Effect of Physical Aging on the Creep Deformation of Epoxy Resin**
M.Nakada, Y.Miyano, M.Kasamori (Kanazawa Institute of Technology, JAPAN)

14. MATHEMATICAL MODELING (G2)

- G2-P01 **Speed of the Screw and Thermal Equation of State of Autothermally Extruded Polyethylene**
R.Sikora, B.Kowalska, Z.Xu (Technical University of Lublin, POLAND)
- G2-P02 **Practical Use of Computer-aided Impact Analysis in Development of Plastic Pallets**
M.Sato (Idemitsu Petrochemical Co., Ltd., JAPAN)
- G2-P03 **Processing Optimization and End-use Behavior Simulation of Fluoropolymers Manufactured by FEA**
B.Giambattista, F.Polastrì (AUSIMONT SpA, ITALY)
- G2-P04 **Data Processing, Mathematical Modeling and Pattern Recognition in Conducting Polymer Sensors**
A.Talaie, K.Adachi, T.Taguchi, J.A.Romagnoli (Osaka National Research Institute, JAPAN)
- G2-P05 **Simulation of Die Drawing of Polyvinyl Chloride (PVC) Tubes**
I.Ulas (Mitsubishi Chemical Corporation, JAPAN)

15. INJECTION MOLDING (G3)

- G3-P01 **Measurement of Melt Temperature Profiles inside Nozzle by Using Integrated Thermocouple Ceramic Sensor II (Influence of Screw Configuration)**
W.K.Kim, H.Yokoi (University of Tokyo, JAPAN)
- G3-P02 **Flow Birefringence of Molten Polymers in Injection Molding**
T.Okumoto, M.Nagasawa (Toyota Technological Institute, JAPAN)
- G3-P03 **Studies on the Slow/Down Factors of Injection Velocity during Thin Wall Molding Processes**
M.Suganuma, Y.Saito, A.Nomura (Nissei Plastic Industrial Co., Ltd., JAPAN)
- G3-P04 **Boundary Conditions in CAE in Thermoplastics Injection Molding**
T.Shibayama (JAPAN)
- G3-P05 **Processing, Application and Acoustic Performance of SikaBaffle-240 - AN Acoustic Baffle Material**
V.Schulze, W.Ast, T.Hasler (HP Pelzer GmbH, GERMANY)
- G3-P06 **Multi Purpose Glass-Inserted Mould for Visualisation of Injection Moulding Process**
N.Stepanov, E.Kosior, G.Churchward (RMIT, AUSTRALIA)
- G3-P07 **Experimental Analysis of Flash Generation Process by Using an Integrated Thermocouple Sensor**
H.Yokoi, H.Yokomizo (Teijin Limited, JAPAN)
- G3-P08 **Effects of Molding Conditions on In-Mold Sink Mark Generation Process Measured by Optical Fiber Sensors**
N.Masuda, Y.Yokoi (University of Tokyo, JAPAN)
- G3-P09 **Visualization Analysis of Correlation Between Fiber Orientation Angles and Flow Patterns by Gate-Magnetization Method**
H.Miyauchi, M.Imade, S.Okada, H.Yokoi (Chugoku National Industrial Research Institute, JAPAN)
- G3-P10 **Development of the Gate-flow-meter Based on Gate-Magnetization Method**
H.Yokoi, Y.Kanetoh (Ube Industries, Ltd., JAPAN)

16. EXTRUSION (G4)

- G4-P01 **Gear Pumps for Improved Polymer Processing**
N.Naffah, U.Gull (Maag Pump Systems Textron AG, SWITZERLAND)
- G4-P02 **Numerical Analysis on Non-isothermal Flow of Polymer Melts in the Nipping Region**
R.Katsumoto, K.Ozaki, S.Kihara, K.Funatsu (Fuji Photo Film Co., Ltd., JAPAN)
- G4-P03 **Numerical Analysis of the Encapsulation Phenomena in Coextrusion**
M.Takase, T.Gohda, S.Kihara, K.Funatsu (Kyushu University, JAPAN)
- G4-P04 **3-D Numerical Simulation on Flow in Double-flight Screw and Two-tip Kneading Discs Assembly of Intermeshing Co-rotating Twin Screw Extruders**
S.Katsuki, M.Yoshinaga, S.Kihara, K.Funatsu (Kyushu University, JAPAN)

- G4-P05 **Extrusion Foaming Processability and Elongational Flow Behavior of Polypropylene-polystyrene Graft Copolymers**
T.Murata, T.Noma, J.Takimoto, K.Koyoma (Yamagata University, JAPAN)
- G4-P06 **Development of Simulation Technique of Extrudate Swell for Polymer Melts by Differential Viscoelastic Models with Multiple Relaxation Times**
H.Tomiyama, S.Kobayashi, Y.Sueyoshi, T.Kajiwara (Kyushu Institute of Technology, JAPAN)

17. MIXING AND COMPOUNDING (G5)

- G5-P01 **Investigation of High-viscous Blend Compositions of Polyamide 6 with Functionalized Polymers and Olefine Copolymers**
S.S.Pesetskii, A.A.Bogoslavsky, O.A.Makarenko (V.A.Belyi Metal-Polymer Research Institute of National Academy of Sciences of Belarus, BELARUS)
- G5-P02 **The Formation and Properties of Polycarbonate Blend Composition with Polysulfone Polydimethyl Siloxane Block Copolymers**
V.N.Koval, B.Jurkowski, I.P.Storozhuk, S.S.Pesetskii (V.A.Belyi Metal-Polymer Research Institute of National Academy of Sciences of Belarus, BELARUS)
- G5-P03 **Visualization of Viscoelastic Droplet Deformation and Retraction under Steady Shear Flow**
C.Ishii, R.Hooper, C.W.Macosko (University of Minnesota, USA)

18. ALLOYS AND BLENDS (G6)

- G6-P01 **Thermal, Mechanical, and Thermo-Mechanical Properties of Extruded Sheets from Blends Containing Liquid Crystalline Copolyesters with Polycarbonate**
K.Qi, K.Nakayama (National Institute of Materials and Chemical Research, JAPAN)
- G6-P02 **Study of Crystalline Behavior and Morphology of Polymer Blends with Image Processing Technology**
M.Zhu, L.Li, Y.Chen (China Textile University, CHINA)
- G6-P03 **Effect of Morphology on the Mechanical Properties of Polycarbonate/Acrylonitrile-Butadiene-Styrene Blends**
M.Notomi, M.Ishikawa, K.Kishimoto, H.Inoue, T.Shibuya (Meiji University, JAPAN)
- G6-P04 **An Appearance of Heterogeneous Structure in One-phase Region of a Miscible Polymer Blend**
H.Shimizu, S.Horiuchi, T.Kitano (National Institute of Materials and Chemical Research, JAPAN)
- G6-P05 **Thermally Stimulated Depolarization Current Study of the Blends of P(VDF-TrFE) Copolymer and PMMA**
T.Hirayama, K.Koyama (Yamagata University, JAPAN)
- G6-P06 **Thermal and Spectroscopic Studies of Blends of Poly(di-n-hexylsilane) and Poly(methyl n-propylsilane)**
J.Radhakrishnan, N.Tanigaki, M.Wada, A.Kaito
(National Institute of Materials and Chemical Research, JAPAN)
- G6-P07 **Properties of Polyurethane Synthesized from 4,4'-diphenylmethane Diisocyanate (MDI) and Various Polyols**
H.C.Jung, S.J.Kang, W.N.Kim, S.B.Kim, S.H.Hong, Y.B.Lee (Korea University, KOREA)