

IUPAC POLYMER DIVISION (DIVISION IV)

Report to Council for 2006 – 2007

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1. Objective

The objective of this report is to highlight and summarize activities of the Polymer Division (Division IV) for the past two years. In particular, new developments in 2006 – 2007 will be updated. The division presently has six subcommittees besides the Division Committee.

2. Off – Year Meeting, August 2006

The Off – Year Meeting was held in Rio de Janeiro, Brazil, 15 – 16 August 2006. It was attended by 7 TMs, 4 AMs, 2NRs, 12 Subcommittee Members and 1 Observer. The minutes will be posted on the web after being approved by the next Division Committee meeting scheduled on 4 – 5 August 2007, Torino, Italy.

3. Subcommittees and New Responsibilities

During the past two years two new subcommittees were formed in addition to the existing four subcommittees. There are now six subcommittees in Division IV.

DIVISION SUBCOMMITTEES (2006 – 2007)		
1. Polymer Terminology	Chairman	R. G. Jones
2. Structure and Properties of Commercial Polymers	Cochairman	R. S. Bailey
		S. C. Kim
3. Modelling of Polymerisation, Kinetics, and Processes	Chairman	M. Buback
	Co-Vice Chairman	G. T. Russell R. Hutchinson
4. Developing Polymer Materials Systems	Cochairman	C. K. Ober
		J. Stejskal
5. Polymer Education	Chairman	J.-P. Vairon
6. Molecular Characterisation of Polymers	Cochairman	J. Pasch
		T. Chang

All the TMs and AMs have been involved in the activities of the 6 Subcommittees. In addition there were small groups of Division members responsible for the initial evaluation of the Application of Sponsored Conferences, study of divisional Strategy and recruiting New Members, and Division Web Page and Electronic Publication. In light of the necessity to strengthen the Division's activities connected to Industrial and International Relations, this new responsibility has been decided to be added. It also was agreed that after the next Division Election, either one TM or AM will be assigned for the initial evaluation of Project Applications. This responsibility will be combined with Strategy.

4. Projects

Division IV is one of the most active divisions in attracting and handling projects. Some of the projects are interdivisional especially with Division II and III. Presently, 16 projects (some of them are extensions of earlier projects) with

2005 –, and 2006 – numbers are proceeding (**Appendix I**). It is expected that several projects with 2007 – numbers will soon be included in the list.

5. Conferences

In the last year 9 conferences including the World Polymer Congress – 2006 (41st IUPAC International Symposium on Macromolecules, earlier IUPAC MACRO) were sponsored by the division. This year 7 conferences have been granted sponsorship and some more are on pending.

In particular, Division is deeply involved in organizing the IUMACRO, New York City, 10 – 13 June 2007, which is the second international conference sponsored by IUPAC together with a local society. The meeting is coorganized by Division IV and the ACS Polymer Division and Polymeric Materials Engineering and Science Division with the theme of 'Macromolecules for a Sustainable, Safe and Healthy World'.

The Division has been working very closely in finalizing the Congress Program of the Torino meeting related to polymer science. This was the first serious attempt by the Division to cooperate with the local organizers in formulating polymer sessions in IUPAC Congress.

The World Polymer Congress (Aug 2006, Brazil. Organizer: Prof. Ailton de Souza Gomes) attracted more than 1,200 participants from 50 different countries. The next WPC (WPC 2008) is scheduled on 29 June – 4 July 2008, Taipei, Taiwan. WPC – 2010 is going to be held in Glasgow, U.K., in 2010.

6. Samsung-IUPAC Fund and Award

The Samsung Total Chemical Co. (President: Mr. Hong-Sik Ko) donated additional USD 25,000 to IUPAC to increase the Fund to USD 150,000, for which we are very much thankful.

During the last World Polymer Congress (Aug. 2006, Rio do Janeiro, Brazil), the 2nd Samsung – IUPAC Young Polymer Scientist Award (USD 2,000 and award plaque) was given to Prof. Greg. Tew of the Polymer Science and

Engineering Department, University of Massachusetts, Amherst, U.S.A..

The WPC – 2006 Organizing Committee was given USD 5,000 to help students of the economically disadvantaged countries to attend the conference and to defray the cost of plenary speakers. The short Course in Polymer Characterization associated with POLYCHAR – 15 (April, Brazil) was given USD 4,000 to help South American students to take the course.

7. Division Election

Division election is in progress to electronically elect 5 TMs and 6 TMs. Christopher K. Ober (Division VP) is chairing the Nominating Committee. The Division Secretary also has to be elected anew. It is expected that all the vacancies will be filled before the Torino GA.

8. Others

i) The DSM company of Netherlands approached IUPAC in order to establish a special program in Division IV by which we can award the DSM Performance Materials Award during each World Polymer Congress. Div. IV and DSM have been working out details and an agreement is expected to be signed soon. The first Award will be given in the next WPC, June 2008, Taiwan.

ii) The following Macromolecular Symposia volumes have been published as of May 1, 2007 by Wiley – VCH in 2006 – 2007, based on the presentations in the sponsored conferences.

- Volume 233 (2006), Fillers, Filled Polymers and Polymer Blends ed. By P. Dubois, G. Groeninckx, R. Jerome and R. Legras
- Volume 235 (2006), Recent Advances and Novel Approaches in Macromolecules – Metal Complexes ed. by R. Barbucci, F. Ciardelli and G. Ruggeri
- Volume 237 (2006), Molecular Mobility and Order in Polymer Systems ed. by A. A. Darinskii
- Volume 239 (2006), Advanced Polymers, Composites and Technologies ed. by Gy. J. Marosi and T. Czigany

- Volume 240 (2006), Recent Trends in Ionic Polymerization ed. by D. Baskaran and S. Sivaram
- Volume 242 (2006), Polychar-14 World Forum on Advanced Materials ed. by M. Matsuo, K. Tashiro and Y. Bin
- Volume 245-246 (2006), World Polymer Congress – MACRO 2006 ed. by A. de Souza Gomes
- Volume 248 (2006), Radical Polymerization: Kinetics and Mechanism ed. by M. Buback and A. M. V. Herk
- Volume 249 – 250 (2007), Advanced Polymers for Emerging Technologies ed. by B. C. Kim and K. D. Ahn

Appendix I

Projects with 2005 – , 2006 – , and 2007 – numbers

2005-005-2-400

Definitions of terms relating to individual macromolecules, their assemblies, and dilute polymer solution (Chang, Planned end date: 31/12/08)

2005-007-1-400

Guide to macromolecular terminology and nomenclature (Wilks, Planned end date: 31/12/05)

2005-009-3-400

Efficiency and reproducibility of temperature rising elution fractionation (TREF) (Brüll, Planned end date: 01/07/08)

2005-011-3-400

Repeatability and reproducibility of sample preparation and analysis in high-temperature SEC (Grumel, Planned end date: 31/12/08)

2005-021-3-400

Accuracy and reproducibility of functionality type analysis of Poly (ethylene oxide) homo and copolymers by LC-CC (Ritting, Planned end date: 31/12/07)

2005-023-2-400

Micro-Structural, melt processing and mechanical properties of compatibilised PA 6/ABS blends (Steiminger, Planned end date: 31/12/08)

2005-043-2-400

Terminology for self-assembly and aggregation of polymers (Ober and Jones, Planned end date: 01/04/09)

2006-002-1-400

Extension of 2002-006-2-400 (Jekins and Moad, Planned end date: 31/12/07)

2006-003-1-400

Short Course in Polymer Characterization associated with POLYCHAR-14 (Matsuo, Planned end date: 30/06/06)

2006-004-1-400

Recommendations on the abbreviated terms of polymers (He, Planned end date: 01/05/09)

2006-005-1-400

Extension of 2002-014-1-400 Glossary of class names of polymers based on

their chemical structure and molecular architecture (Vohlidal, Planned end date: 30/06/07)

2006-006-1-400

Extension of 1999-051-1-800 nomenclature for chemically modified polymers (Kitayama, Planned end date: 30/06/09)

2006-007-1-400

Extension of 2003-019-2-400 Definitions of terms relating to crystalline polymers revision of IUPAC Recommendations 1988 (Allegra, Planned end date: 30/09/08)

Projects in Review

2006-018-2

Infrared spectroscopy of conducting polymer nanotubes (Trchova)

2007-007-1

Terminology Relevant to Biorelated Polymer Science and Applications (supplement to 2004-043-1-400) (Vert)

2007-008-1

Development of a multilingual encyclopaedia of polymer terminology (dos-Santos)

2007-004-1-

Guidelines for shear rheometer calibration and performance check (Ruellmann)

2007-009-1

Nomenclature for rotaxane polymers (Vohlidal)

Jung-Il JIN
President of Div. IV