

PROGRAMME SCHEDULE

The Workshop will be divided into 5 sessions. Two of the session will be presented on Saturday, April 8, 2000, and three on Sunday, April 9, 2000.

Saturday: 8 April 2000: PRE-CONFERENCE WORKSHOP

SESSION 1: INTRODUCTION TO POLYMERS		
Time	Title	Speaker
08:00 -	Registration (Aneli Fourie)	
08:15 – 09:15	Introduction: Polymerization, Polymers and Plastics	Dr GP Hellmann , Deutsches Kunststoff Inst, Darmstadt, Germany
09:15 – 10:15	Polymerization: Introduction and Special Topics I.	Prof LJ Mathias , Univ of Southern Mississippi, Hattiesburg, USA
10:15 – 10:30	Coffee / Tea Break	
SESSION 2: CHAIN POLYMERISATION REACTIONS		
10:30 – 11:30	Polymerization: Introduction and Special Topics II.	Dr AJ van Reenen , Univ of Stellenbosch Stellenbosch, SA
11:30 – 12:30	Crystalline Polymers: Nucleation, Growth and Structure	Dr Bernard Lotz , CNRS, Institut Charles Sadron, Cedex, France
12:30 – 13:25	Lunch Break (Finger Lunch)	
SESSION 2 (CONTINUED): CHAIN POLYMERISATION REACTIONS		
13:30 – 14:30	Controlled Free Radical Polymerisation	Dr Bert Klumperman , Eindhoven University, The Netherlands
14:30 – 15:30	VACANT	VACANT
15:30 – 16:30	Ring-opening polymerization	Dr Helmut Keul , RWTH-Aachen Melaten SB, Chemie, Germany

SESSION 5: SPECIAL TOPICS (See Sunday Programme)

Sunday: 9 April 2000: PRE-CONFERENCE WORKSHOP

SESSION 3: POLYMER DEGRADATION AND STABILISATION		
Time	Title	Speaker
08:00 – 10:00	Degradation and Stabilization of Polymers	Session Chairman: Dr Samuel Affolter Dr JP Kaiser EMPA St Gallen, Switzerland
10:00 – 10:30	Coffee / Tea Break	
SESSION 4: ANALYSIS AND CHARACTERIZATION OF POLYMERS		
10:30 – 11:30	NMR Spectroscopy of Polymers	Prof LJ Mathias , University of Southern Mississippi, Hattiesburg, USA
11:30 – 12:30	New Chromatographic Techniques for Polymer Analysis	Prof Harald Pasch , Deutsches Kunststoff-Inst, Darmstadt, Germany
12:30 – 13:30	Lunch Break (Finger Lunch)	
SESSION 4: (CONTINUED) ANALYSIS AND CHARACTERIZATION OF POLYMERS		
13:30 – 14:15	Thermal Analysis of Polymers	Dr Piero Scotto , PerkinElmer Inc, USA
14:15 – 15:00	Dynamic Mechanical Analysis (DMA) and Its Applications on Viscoelastic Materials Characterization	Prof Lin Li , PerkinElmer Inc, USA
15:00 – 15:45	Temperature modulated calorimetry – Applications to polymers	Prof Christoph Schick , University of Rostock Rostock, Germany
15:45 – 16:30	Crystallization and Melting	Prof Vincent BF Mathot DSM Research, Belgium

Sunday: 9 April 2000, also on Saturday from 16:30 – 18:30: PRE-CONFERENCE WORKSHOP

SESSION 5: SPECIAL TOPICS (These topics and times to be confirmed)		
	Purpose-Built Nanostructured Metal Oxides: The emergence of a new generation of smart materials	Dr Lionel Vayssieres, University of Uppsala Sweden
	Macromolecular Photochemistry Applied to Polymer Phototransformation	Prof Jacques Lemaire, University Blaise Pascal CNEP, France
	Molecular and Mesoscale Dynamics for the Prediction of Aggregation and Phase Behaviour in Polymer Blends, Aqueous Surfactants and Emulsions	Dr Hubert Kuhn, Universitat-GH-Essen Essen, Germany
	Aspects of Mechanical Recycling of Polymers	Dr Hans Zweifel, Ciba Speciality Chemicals Inc., Basel, Switzerland
	New Developments in Process Control by Spectroscopic Methods – Near Infrared Miniature Spectrometer and High Temperature and High Pressure Near Infrared and Raman probes	Dr Dieter Fischer, Institute Polymer Research, Dresden, Germany

Monday, April 10, 2000: UNESCO SCHOOL & IUPAC CONFERENCE: PLENARY LECTURES

Time	Title	Speaker
07:30 –	Registration, Aneli Fourie	
08:00 – 08:15	Opening Address: Vice-President of IUPAC	Prof PS Steyn , Research & Development, Stellenbosch Univ, SA
08:15– 09:00	Combinatorial Chemistry of Materials, Polymers and Catalysts	Prof WF Maier , Max-Planck-Institut für Kohlenforschung, Germany
09:00 – 09:45	Isotactic Polypropylene: Crystal Structures and Morphologies	Dr Bernard Lotz , Institute Charles Sadron, Strasbourg, France
09:45 – 10:25	Polymers with Fischer Tropsch Olefins	Dr Ioan Tincul , Sasol Technology
10:25 – 10:40	Coffee / Tea Break	
10:40 – 11:20	Crystallization, Melting and Morphology of Homogeneous Ethylene Copolymers with High Comonomer Contents	Prof Vincent BF Mathot , DSM Research, Belgium
11:20 – 12:00	New Routes to [n]-polyurethanes	Dr Helmut Keul & Hartwig Höcker, RWTH-Aachen Melaten SB Chemie, Germany
12:00 – 12:40	VACANT	VACANT
12:40 – 13:25	Lunch Break (Finger Lunch)	
13:25 – 14:05	Simulations of Properties of Surfactants and Macromolecules at Interfaces and in Aqueous Solution	Dr Hubert Kuhn , Universitat-GH-Essen Essen, Germany
GENERAL PAPERS		
Time	Title	Speaker
14:05 – 14:30	The Free Radical Copolymerisation of Difuryl Methane with Maleic Anhydride and the Homopolymerisation of the 1:1 Difuryl Methane-Maleic Anhydride Diels-Alder Adduct.	Dr WAA Ddamba , Dept of Chemistry, University of Botswana, Gaborone, Botswana
14:30 – 14:55	Propylene/ α -olefin copolymers: Synthesis and Characterisation	Dr AJ van Reenen , Univ of Stellenbosch, Stellenbosch, SA
14:55 –15:20	Synthesis and Properties of Poly(α -olefins)	Dr UM Wahner , Univ of Stellenbosch, SA
15:20 – 15:45	Copolymerisation of Propene and Higher 1-Olefins	Dr R Brüll , Univ of Stellenbosch, Stellenbosch, SA
15:45 – 16:00	Coffee / Tea Break	
16:00 – 16:25	Styrene-Butadiene Rubber Synthesized by Anionic Polymerisation	Dr Mihaela Iovu , University Western Cape, Bellville, SA
16:25 – 16:50	Catalytic Chain Transfer Copolymerisation of Methacrylates and Acrylates	Bas Pierik , Eindhoven University The Netherlands
16:50 – 17:15	Tying up loose ends: Some Mechanistic Aspects of Catalytic Chain Transfer	Rainer Vollmerhaus , Eindhoven University, The Netherlands
17:15 – 17:40	Studies of DifurylMethane-Maleic Anhydride Copolymer as Ion-Responsive Membrane for the Determination of Mono-, Di- and Trivalent Cations	Dr JC Ngila , University of Botswana Chemistry Department, Botswana
18:00 – 19:30	Cocktails/Snacks and Poster Session	

Tuesday, 11 April 2000: UNESCO SCHOOL & IUPAC CONFERENCE: PLENARY LECTURES

Time	Title	Speaker
08:00 – 08:45	New StepScan Differential Scanning Calorimetry (DSC) and Its Application on Polymers	Prof Lin Li , PerkinElmer Inc, USA
08:45 – 09:30	Molecular dynamics revealed from frequency dependent heat capacity	Prof Christoph Schick , University of Rostock, Rostock, Germany
09:30 – 10:15	Present and Future Strategies for Liquid Chromatographic Separation of Synthetic Complex Polymer Systems	Dr Dusan Berek , Polymer Institute of the Slovak, Bratislava, Slovakia
10:15 – 10:30	Coffee / Tea Break	
10:30 – 11:15	Recent Developments in Polyolefin Characterization	Prof Harald Pasch , Deutsches Kunststoff-Inst, Darmstadt, Germany
11:15 – 12:00	Advances in NMR of Polymers	Prof LJ Mathias , Univ Southern Mississippi, Hattiesburg, USA
12:00 – 12:45	Elastomers: Sulfur or Peroxide Crosslinked? A Chemical-Analytical Approach	Dr Samuel Affolter , EMPA St Gallen, Switzerland
12:45 – 13:30	Lunch Break (Finger Lunch)	
13:30 – 14:15	Microphase Structures in Modern Thermoplastics	Dr GP Hellmann , Deutsches Kunststoff-Inst, Darmstadt, Germany
14:15 – 15:00	Kinetic investigation of propylene polymerization with stopped-flow method	Prof Minoru Terano , Japan Advanced Inst of Science & Technology, Japan
15:00 - 15:15	Coffee / Tea Break	

IUPAC CONFERENCE SESSION 2:

Time	Title	Speaker
15:15 – 15:40	Mechanical Properties of Rubber-Toughened Polyester Resins	Dr MO Munyati , Univ of Zambia Lusaka, Zambia
15:40 – 16:05	Structure-Property Relationships in Polypropylene Impact Copolymers	Dr Kashif Marcus , Cape Town University, Cape Town, SA
16:05 – 16:30	The effect of Crystallinity on Large Molecule Diffusion Rates in Polypropylene	Niall Marshall , Polifin PP Division Modderfontein, SA
16:30 – 16:55	Higher Education in the 21 st Century: Choosing Between Macromolecular and Materials Science	Diafer Benachour , Universite Ferhat Abbas, Setif, Algeria
16:55 – 17:30	Opportunities and Protocol for the Teaching of Materials Science in Africa	Prof RD Sanderson , J Makawa-Mbewe & JJ de Kock, Stellenbosch Univ, Stellenbosch, SA
19:00 -	Conference Dinner: Boschendal Estate, Groot Drakenstein (R200 per person)	

Tuesday, April 11, 2000: SASOL SPONSORED PARALLEL SESSION, UNESCO SCHOOL & IUPAC CONFERENCE, SPECIAL TOPICS

Time	Title	Speaker
08:00 – 09:00	Materials Processing with Supercritical Fluids: Applications to Polymers	Frank Wubbolts & Gerda M van Rosmalen , Delft University, The Netherlands
09:00 – 10:00	The Interface between Ceramic and Polymer Materials Subtitle: Similarities and Differences, Opportunities and Limitations	Prof JC Jansen , Delft University, The Netherlands

Wednesday, 12 April 2000: UNESCO SCHOOL & IUPAC CONFERENCE: PLENARY LECTURES

Time	Title	Speaker
08:00 – 08:45	Self Assembling and Nanostructured Materials through Supramolecular Chemistry	Dr Samuel I Stupp , Dept of Chemistry, Northwestern University, Illinois, USA
08:45 – 09:30	Electrospinning as an emerging technology of manufacturing these nanofibres	Dr Yuris A Dzenis , Dept of Engineering Mechanics, Univ of Nebraska-Lincoln, USA
09:30 – 10:15	Metal Oxide Nanomaterials from aqueous solution	Dr Lionel Vayssieres , Univ of Uppsala, Uppsala, Sweden
10:15 – 10:40	Crystalline and Polymeric Nanostructures by Synthetic Materials	Prof RD Sanderson , J Mcleary, Stellenbosch Univ, Stellenbosch, SA
10:40 – 11:00	Coffee / Tea Break	
11:00 – 11:45	Stabilization of Polymeric Materials, State-of-the-Art, Scope and Limitations	Session Chairman: Dr S Affolter Hans Zweifel , CH-4054 Basel, Switzerland
11:45 – 12:30	Service Lifetime Prediction of Polymeric Materials in Environmental Conditions based on Artificial Accelerated Photo-Ageing Experiments	Prof Jacques Lemaire , Universite Blaise Pascal, CNEP, France
12:30 – 13:15	Testing the Compostability of "Biodegradable Garbage Bags"	Dr Jean-Pierre Kaiser , EMPA St Gallen, Switzerland
13:15 – 14:00	Lunch Break (Finger Lunch)	
14:00 – 14:35	Controlled Free Radical Polymerization	Session Chairman: Prof B Klumperman, Eindhoven University, The Netherlands, Prof Yves Gnanou , Univ Bordeaux, France
14:35 – 15:00	Synthesis of grafted and hyperbranched copolymers via ATRP	Alex Mueller , Univ Bayreuth, Germany
15:00 – 15:45	Controlled Free Radical Polymerization	Dave Haddleton or Stefan Bon , Univ Warwick, UK
15:45 – 16:00	Coffee / Tea Break	
16:00 – 16:45	Controlled Free Radical Polymerization	San Thang , CSIRO, Australia
16:45 – 18:00	Concluding remarks by industrial R&D	
16:45 – 17:00	Research developments and needs of the coating industry	Session Chairman: Dr Boyd Cooray , Plascon Paints SA, Johannesburg
17:00 – 17:15	Rohm & Haas's needs	Rohm & Haas
17:15 – 17:30	BASF's needs	BASF
17:30 – 17:45	Revertex's needs	Revertex
17:45 – 18:00	Polifin's Technology goals Closing Remarks	Mrs Karol Cameron , Polifin, Modderfontein
19:00 -	Conference Braai (Venue to be confirmed)	