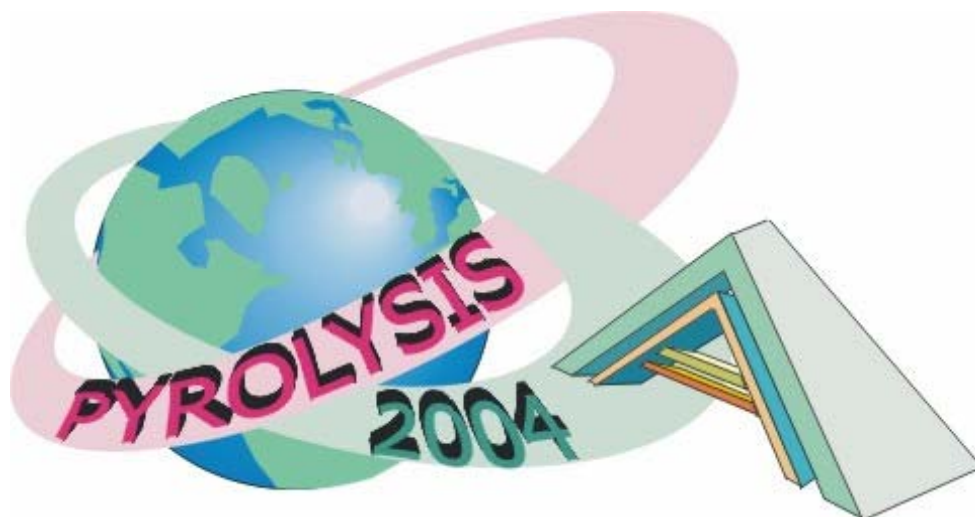


ALICANTE-SPAIN



PROGRAMME

16th International Symposium on Analytical and Applied Pyrolysis

May 23-27, 2004



Universitat d'Alacant
Universidad de Alicante
Department of Chemical Engineering

General Information

TOPICS

All the abstracts of the plenary lectures and the contributions of the different authors have been organised inside the following topics of pyrolysis:

1. Instrumentation and Analytical Methods,
2. Application to Geosciences, Biology, Medicine and Arts,
3. Characterization and Degradation of Synthetic Polymers, Biopolymers and other Organic Compounds
4. Mechanisms and Kinetics
5. Wastes, Coal, Biomass and Emissions
6. Catalysis: Effects and Applications.

LOCATION

The venue of the Symposium is the Meliá Hotel, in Alicante.

PUBLICATION

The Organizing Committee has agreed with Elsevier to produce a Special Issue of the "Journal of Analytical and Applied Pyrolysis" dedicated to the most relevant papers presented during Pyrolysis 2004 in Alicante. The special issue is included in the registration fee, and will be shipped when published (approx. beginning of 2005) to conference attendees.

Please note that all papers for the special issue will be peer-reviewed and must be written according to the instructions of the Journal of Analytical and Applied Pyrolysis.

(www.elsevier.com/locate/jaap)

All special issue papers must be either brought to the conference and given to the Pyrolysis 2004 Organizing Committee at the registration desk, or posted directly to either of the Journal's Editors (see Journal's website for contact details) to arrive by 27th June. Please, provide three copies of each paper along with a covering letter indicating that the paper is for the Pyrolysis 2004 Special Issue.

SOCIAL EVENTS

Sunday, May 23th: Welcome Reception (20:00-22:00)

Monday, May 24th: Visit to the castle and dinner (20:30)

Wednesday, May 26th: Conference Dinner (20:30)

Schematic Schedule

	MONDAY, May 24	TUESDAY, May 25	WEDNESDAY, May 26	THURSDAY, May 27
SCHEMATIC SCHEDULE 16th International Symposium on Analytical and Applied Pyrolysis	Registration (8:00-8:45) Opening Act (8:45-9:00)			
	Plenary Lecture: M. Blazsó (9.00-9.40)	Plenary lecture: G. Montaudo (9.00-9.40)	Plenary lecture: W. Kaminsky (9.00-9.40)	Plenary lecture: S. Tsuge (9.00-9.40)
	Session 1: Instrumentation and analytical methods L1 (9:40-10:00) L2 (10:00-10:20) L3 (10:20-10:40)	Session 3: Characterization and degradation of synthetic polymers, biopolymers and other organic compounds L15 (9:40-10:00) L16 (10:00-10:20) L17 (10:20-10:40)	Session 5: Waste, coal, biomass and emissions L30 (9:40-10:00) L31 (10:00-10:20) L32 (10:20-10:40)	Session 6: Catalysis: effects and applications L44 (9:40-10:00) L45 (10:00-10:20) L46 (10:20-10:40)
	Coffee break (10:40-11:00) Poster Session (11:00-12:00)	Coffee break (10:40-11:00) Poster Session (11:00-12:00)	Coffee break (10:40-11:00) Poster Session (11:00-12:00)	Coffee break (10:40-11:00) Poster Session (11:00-12:00)
	Session 1 (cont'd) L4 (12:00-12:20) L5 (12:20-12:40) L6 (12:40-13:00) L7 (13:00-13:20)	Session 3 (cont'd) L18 (12:00-12:20) L19 (12:20-12:40) L20 (12:40-13:00) L21 (13:00-13:20)	Session 5 (cont'd) L33 (12:00-12:20) L34 (12:20-12:40) L35 (12:40-13:00) L36 (13:00-13:20)	Session 6 (cont'd) L47 (12:00-12:20) L48 (12:00-12:40) L49 (12:40-13:00) L50 (13:00-13:20) Closing ceremony
	LUNCH (13:20-15:00)	LUNCH (13:20-15:00)	LUNCH (13:20-15:00)	
	Plenary Lecture: C. Largeau (15:00-15:40)	Plenary Lecture: K. Voorhees (15:00-15:40)	Plenary Lecture : R. Zimmermann (15:00-15:40)	FAREWELL LUNCH (14:00-15:30)
	SUNDAY, May 23	Session 2. Application to geosciences, biology, medicine and arts L8 (15:40-16:00) L9 (16:00-16:20) L10 (16:20-16:40)	Session 3 (cont'd). L22 (15:40-16:00) L23 (16:00-16:20) L24 (16:20-16:40)	Session 5 (cont'd). L37 (15:40-16:00) L38 (16:00-16:20) L39 (16:20-16:40)
	Registration & Welcome Reception (20:00-22:00)	Coffee break (16.40-16.55) Poster Session (16:55-17:45)	Coffee break (16.40-16.55) Poster Session (16:55-17:45)	Coffee break (16.30-16.55) Poster Session (16:55-17:40)
Session 2 (cont'd) L11 (17:45-18:05) L12 (18:05-18:25) L13 (18:25-18:45) L14 (18:45-19:05)		Session 4 Mechanisms and kinetics L25 (17:45-18:05) L26 (18:05-18:25) L27 (18:25-18:45) L28 (18:45-19:05) L29 (19:05-19:25)	Session 5 (cont'd) L40 (17:45-18:05) L41 (18:05-18:25) L42 (18:25-18:45) L43 (18:45-19:05)	
20.30 VISIT CASTLE .DINNER		LEISURE	20:30 GALA DINNER	

SCHEDULE WITH ORAL PRESENTATIONS

16th International Symposium on Analytical and Applied Pyrolysis

MONDAY, May 24	
8:45-9:00	<i>Opening Act</i>
9:00-9:40	<i>Plenary Lecture: M. BLAZSÓ</i> IN SITU MODIFICATION OF PYROLYSIS PRODUCTS OF MACROMOLECULES IN AN ANALYTICAL PYROLYSER Research Laboratory of Materials and Environmental Chemistry, CRC, Hungarian Academy of Sciences, Hungary
	<i>Session 1: Instrumentation and analytical methods</i> Chairman: K. Voorhees
9:40-10:00	L1 COMPARISON BETWEEN OFF-LINE AND ON-LINE DERIVATISATION METHODS IN THE CHARACTERISATION OF SICCATIVE OILS. ANNA PICCIRILLO, DOMINIQUE SCALARONE, OSCAR CHIANTORE Dip. Chimica IFM, Università degli Studi di Torino, Italia
10:00-10:20	L2 THIN-LAYER CHROMATOGRAPHY-THERMALLY ASSISTED HYDROLYSIS METHYLATION GC/MS FOR PROFILING FATTY ACIDS IN DIFFERENT LIPID CLASSES. SANDRA L. ESTÉVEZ, ROBERT HELLEUR Department of Chemistry, Memorial University of Newfoundland, Canada
10:20-10:40	L3 INVESTIGATION OF PYROLYSIS OF PVC AND TOBACCO SAMPLES APPLYING ON-LINE SOFT LASER IONISATION METHODS IN TIME OF FLIGHT-MASS SPECTROMETRY BASED ON RESONANCE ENHANCED MULTI-PHOTON AND VUV SINGLE PHOTON IONISATION (REMPI7SPI-TOFMS). T. STREIBEL ^{1,3} , T. ADAM ^{1,3} , S. MITSCHKE ^{1,3} , L. CAO ⁴ , F. MÜHLBERGER ³ , R. ZIMMERMANN ^{1,2,3} ¹ AMU-Anwenderzentrum für Material und Umweltforschung und Analytische Chemie, Institut für Physik, Universität Augsburg, Germany ² BfA-Bayerisches Institut für Umweltforschung und -technik, Abteilung Umwelt- und Prozesschemie, Augsburg, Germany ³ GSF Forschungszentrum Umwelt und Gesundheit GmbH, Institut für Ökologische Chemie, Neuherberg, Germany ⁴ National Analysis Center for Iron and Steel, Beijing, P. R. China
10:40-11:00	<i>Coffee break</i>
11:00-12:00	<i>POSTER SESSION</i>

MONDAY, May 24

	Session 1 (cont'd) Chairperson: M. Blazsó
12:00-12:20	L4 COMPREHENSIVE TWO DIMENSIONAL GC STUDY OF THOLINS USING PYROLYSIS INLET AND TIME-OF-FLIGHT MS DETECTION MEGAN MCGUIGAN, RICHARD SACKS, J. HUNTER WAITE Department of Chemistry, The University of Michigan, Ann Arbor, USA
12:20-12:40	L5 MULTIDIMENSIONAL GC/MS ANALYSIS OF PYROLYTIC OILS ANDRES FULLANA, RICHARD C. STRIEBICH, SUKH S. SIDHU Environmental Engineering, University of Dayton, Ohio, USA
12:40-13:00	L6 COUPLING OF A CURIE-POINT PYROLYSIS SYSTEM AND AN ION MOBILITY SPECTROMETER (IMS) ALFRED GOLLOCH, TATJANA STELTZ CAI, Centrum für Analytik und Information, Aachen, Germany
13:00-13:20	L7 MICROWAVE ASSISTED PYROLYSIS OF OIL-CONTAMINATED DRILL CUTTINGS SAM KINGMAN, HUI SHANG, COLIN E. SNAPE School of Chemical, Environmental and Mining Engineering, University of Nottingham, University Park, UK.
13:20-15:00	LUNCH

MONDAY, May 24	
15:00-15:40	<p>Plenary lecture: C. LARGEAU SCOPE AND LIMITATIONS OF PYROLYTIC STUDIES FOR ELUCIDATING THE CHEMICAL STRUCTURE AND SOURCES OF INSOLUBLE REFRACTORY MACROMOLECULAR ORGANIC MATTER IN SEDIMENTS AND SOILS LCBOP, UMR CNRS 7573, Ecole Nationale Supérieure de Chimie de Paris, France</p>
15:40-16:00	<p>Session 2: Application to geosciences, biology, medicine and arts Chairman: B. Helleur</p> <p>L8 MOLECULAR FEATURES OF ORGANIC MATTER FROM ANDOSOLS AS SEEN BY ANALYTICAL PYROLYSIS J.A. GONZÁLEZ-PÉREZ^{1*}, C.D. ARBELO², F.J. GONZÁLEZ-VILA¹, A. RODRÍGUEZ RODRÍGUEZ², C.M. ARMAS², O. POLVILLO¹ ¹IRNAS-CSIC, Sevilla, Spain. ²Univ. de La Laguna, Tenerife, Spain</p>
16:00-16:20	<p>L9 MOLECULAR CHARACTERIZATION OF REFRACTORY ORGANIC MATTER FROM MARINE SEDIMENTS BY ANALYTICAL PYROLYSIS J.M. DE LA ROSA^a, O. POLVILLO^a, F.J. GONZÁLEZ-VILA^a, J.A. GONZÁLEZ-PÉREZ^a, J.R. DE ANDRES^b ^aIRNAS-CSIC, Sevilla, Spain. ^bIGME, Madrid, Spain</p>
16:20-16:40	<p>L10 APPLICATION OF ¹³C-LABELED TETRAMETHYLAMMONIUM HYDROXYDE PYROLYSIS TO THE STUDY OF LIGNIN ALTERATION IN RIVERINE DISSOLVED ORGANIC MATTER JOELLE TEMPLIER¹, SYLVIE DERENNE¹, TIMOTHY R. FILLEY² AND CLAUDE LARGEAU¹ ¹LCBOP, CNRS, ENSCP France. ² Earth and Atmospheric Sciences, Purdue University, USA</p>
16:40-16:55	Coffee break
16:55-17:45	POSTER SESSION

MONDAY, May 24

	Session 2 (cont'd) Chairman: F. González-Vila
17:45-18:05	L11 COMPOSITIONAL DEPENDENCE OF PYROBITUMEN FORMATION IN PETROLEUM RESERVOIRS ANDREW MORT ^{1*} , FATIMA LAGGOUN-DÉFARGE ¹ , ISABELLE KOWALEWSKI ² ¹ ISTO UMR 6113, CNRS/Université d'Orléans, Orléans ² IFP, Geology/Geochemistry, Rueil-Malmaison, France
18:05-18:25	L12 NON-DISCRIMINATING PYROLYSIS AS A TECHNIQUE FOR BIOMARKERS ANALYSIS. ZIBA PARSI, TADEUSZ GÓRECKI, JUERGEN POERSCHMANN ¹ Department of Chemistry, University of Waterloo (ON), Canada, and ¹ UFZ-Center for Environmental Research, Leipzig-Halle, Germany
18:25-18:45	L13 INFLUENCE OF CHROMATOGRAPHIC CONDITIONS ON THE PYROLYSIS/GC/MS CHARACTERIZATION OF COMPOST ORGANIC MATTER. M.-F. DIGNAC ¹ , S. HOUOT ² , S. DERENNE ³ ¹ Laboratoire de Biogéochimie des Milieux Continentaux, INRA-CNRS-Paris VI, Thiverval-Grignon, France ² Environnement et Grandes Cultures, INRA INAP-G, Thiverval-Grignon, France ³ Laboratoire de Chimie Bioorganique et Organique Physique, Paris, France
18:45-19:05	L14 IDENTIFICATION OF FUNGI WITH ANALYTICAL PYROLYSIS AND THERMALLY ASSISTED HYDROLYSIS AND METHYLATION CLEMENS SCHWARZINGER Institute for Chemical Technology of Organic Materials, Johannes Kepler University Linz, Austria
20:30	<i>VISIT TO THE CASTLE AND DINNER</i>

TUESDAY, May 25	
9:00-9:40	<p>Plenary Lecture: G. MONTAUDO CHARACTERIZATION OF POLYMERS BY MALDI. INVESTIGATIONS ON PYROLYSIS, THERMO-OXIDATION AND PHOTO-OXIDATION Dipartimento di Scienze Chimiche, Università di Catania, Italy</p>
	<p>Session 3: Characterization and degradation of synthetic polymers, bio-polymers and other organic compounds Chairman: C. E. Snape</p>
9:40-10:00	<p>L15 THERMAL DECOMPOSITION OF POLYMER/CARBON BLACK COMPOSITES EMMA JAKAB^{*1}, MÁRIA OMASTOVÁ² ¹Research Laboratory of Materials and Environmental Chemistry, Chemical Research Center, Hungarian Academy of Sciences, Hungary ²Polymer Institute, Slovak Academy of Sciences, Bratislava, Slovakia</p>
10:00-10:20	<p>L16 A COMPARATIVE STUDY ON THERMO-OXIDATIVE DEGRADATION OF POLYACRYLAMIDOXIME-METALLIC IONS CHELATES GABRIELA MOROI *, NICOLAE BILBA, DOINA BILBA “Petru Poni” Institute of Macromolecular Chemistry, Iasi ; University “Al.I. Cuza”, Iasi; Technical University, Iasi , Romania</p>
10:00-10:40	<p>L17 PYROLYSIS MASS SPECTROMETRY. ANALYSES OF POLY(3- METHYLTHIOPHENE) TUBA GOZET, JALE HACALOGLU Department of Chemistry, Middle East Technical University, Ankara, Turkey</p>
10:40-11:00	Coffee break
11:00-12:00	POSTER SESSION

TUESDAY, May 25

	Session 3 (cont'd) Chairman: D. Fabbri
12:00-12:20	L18 THE ANALYSIS OF ANTIOXIDANTS IN POLYMERS BY PY-GC/MS T. P. WAMPLER, C. P. ZAWODNY, L. A. MANCINI CDS Analytical, Limestone, USA
12:20-12:40	L19 CHARACTERIZATION OF TEXTILES BY PYROLYSIS-GC-MS INGER ERICSSON Pyrolab, LUND, Sweden
12:40-13:00	L20 DISCRIMINATION OF CELLULOSE AND LIGNIN BIOPOLYMERS IN WHITE-ROT DEGRADED WHEAT STRAW USING TG-DSC AND TG-MS ANALYSIS E. LOPEZ-CAPEL ¹ , G.D. ABBOTT ¹ , K. M. THOMAS ² , D.A.C. MANNING ¹ ¹ School of Civil Engineering and Geosciences ² School of Natural Sciences, both of University of Newcastle upon Tyne, UK
13:00-13:20	L21 DIRECT ANALYSIS OF LIGNIN AND LIGNIN-LIKE COMPONENTS FROM PULP BY PYROLYSIS-GC/MS TECHNIQUES TAINA OHRA-AHO* AND TARJA TAMMINEN KCL, Espoo, Finland
13:20-15:00	LUNCH

TUESDAY, May 25	
15:00-15:45	Plenary lecture: . K. J. VOORHEES NEW APPROACHES IN ANALYTICAL PYROLYSIS Colorado School of Mines, Golden, USA
15:40-16:00	Session 3 (cont'd) Chairperson: I. Ericsson L22 THE APPLICATION OF PYROLYSIS GAS CHROMATOGRAPHY- MASS SPECTROMETRY IN FORENSIC INVESTIGATIONS OF SEXUAL ASSAULTS A.L. GORDON ^a , G.P. CAMPBELL ^b ^a ESR, Auckland, New Zealand. ^b University of Auckland, New Zealand
16:00-16:20	L23 CHARACTERIZATION OF TOTAL FATTY ACIDS IN WOOD BY REACTIVE THERMAL DESORPTION-GAS CHROMATOGRAPHY WITH TETRABUTYLAMMONIUM HYDROXIDE MIHO MIZUMOTO ¹ , TERUYUKI SEINO ² , TOSHIHIRO ONA ¹ , YASUYUKI ISHIDA ³ , HAJIME OHTANI ⁴ ¹ Graduate School of Bioresource and Bioenvironmental Sciences, Kyusyu University, Fukuoka, Japan ² NEDO fellow, Institute for Environmental Management Technology AIST, Tsukuba, Japan ³ Research Center for Advanced Energy Conversion, Nagoya University, Japan ⁴ Department of Applied Chemistry, Graduate School of Engineering, Nagoya University, Japan
16:20:16:40	L24 THE PYROLYSIS OF NON-VOLATILE TOBACCO INGREDIENTS USING A SYSTEM THAT SIMULATES CIGARETTE COMBUSTION CONDITIONS RICHARD R. BAKER, LOUISE J. BISHOP British American Tobacco, R&D Centre, Southampton, U.K.
16:40-16:55	Coffee break
16:55-17:45	POSTER SESSION

TUESDAY, May 25

	Session 4: Mechanisms and kinetics Chairman: J. A. Caballero
17:45-18:05	L25 KINETIC STUDY OF MEAT AND BONE MEAL PYROLYSIS AYLLÓN, M. ⁺ ; GEA G.; MURILLO M.B.; SÁNCHEZ J.L.; ARAUZO, J. Thermochemical Processes Group (GPT). Aragón Institute of Engineering Research (I3A), University of Zaragoza, Spain
18:05-18:25	L26 STEPWISE PYROLYSIS FOR SCRAP TIRES R. MIRANDA, C SOSA_BLANCO, C. SEGOVIA, D. BUSTOS Universidad Autónoma de Nuevo León , San Nicolás de los Garza, México
18:25-18:45	L27 PYROLYSIS OF BIOMASS: PREDICTION OF KINETIC BEHAVIOR IN FLUIDIZED BED FROM THERMOGRAVIMETRIC DATA RESENDE, F.L.P, SÁNCHEZ, C.G., FERREIRA, M.M. Faculdade de Engenharia Mecânica da Unicamp, Campinas – SP-, Brazil
18:45-19:05	L28 PYROLYSIS AND COMBUSTION OF MIXTURES OF OLIVE BAGASSE AND COAL L. SALVADOR, C. FERNÁNDEZ-BACO, A. PLUMED, E. SÁNCHEZ Chemical and Environmental Engineering Department. University of Seville, Spain
19:05-19:25	L29 PEAK PROPERTY METHOD: A SIMPLE AND ACCURATE METHOD FOR ESTIMATING THE PYROLYSIS KINETIC PARAMETERS FROM SINGLE DTG CURVE SEUNGDO KIM, EUN-SUK JANG, DAE-HYUN SHIN*, KYONG-HWAN LEE* Dept. of Environ. System Eng., Hallym University, Chuncheon, Korea *Korea Institute of Energy Research, Taejon, Korea
	LEISURE

WEDNESDAY, May 26	
9:00-9:40	<i>Plenary Lecture: W. KAMINSKY</i> PYROLYSIS OF POLYMERS FOR FEEDSTOCK RECYCLING Institute for Technical and Macromolecular Chemistry, University of Hamburg, Germany,
	<i>Session 5: Waste, coal, biomass and emissions</i> Chairman: M. Olazar
9:40-10:00	L30 FEEDSTOCK RECYCLING OF POLYETHYLENE AND POLYPROPYLENE BY COPYROLYSIS WITH NAPHTHA ELENA HAJEKOVA, MARTIN BAJUS, JANA DANISKOVA Slovak University of Technology, Faculty of Chemical and Food Technology, Bratislava, Slovakia
10:00-10:20	L31 PYROLISATION OF SHREDDER RESIDUE FINES IN A CONTINUOUS KILN M K HARDER, L. MCGRADY, S. MIKHALOVSKY, M M SINGH Waste and Energy Group (WERG), University of Brighton, Sussex, U.K.
10:20-10:40	L32 A PREDICTIVE MODEL FOR INDUSTRIAL WASTE IN SLOW PYROLYSIS: PILOT VALIDATION C.GISELE JUNG, EMMANUEL DE BELDER, ANDRE FONTANA Université Libre de Bruxelles. Solvay Business School – Centre Emile Bernheim, Brussels, Belgium
10:40-11:00	<i>Coffee break</i>
11:00-12:00	<i>POSTER SESSION</i>

WEDNESDAY, May 26

	Session 5 (cont'd) Chairperson: C.G. Jung
12:00-12:20	L33 PYROLYSIS OF TYRES. COMPARISON BETWEEN A LABORATORY FIXED BED REACTOR AND A PILOT PLANT ROTATORY KILN C. Díez ^a , A. Morán ^a , M.E. Sánchez ^a , P. Haxaire ^b , O. Martínez ^a ^a Instituto de Recursos Naturales. Universidad de León, Spain ^b Recuperación de Materiales Diversos (RMD), Ardoncino, León, Spain
12:20-12:40	L34 PYROLYSIS OF TYRES AND PLASTICS WASTES IN PRESENCE OF AN H-DONOR MEDIUM. EFFECT OF H-DONOR CAPACITY ON PRODUCTS YIELDS AND COMPOSITION MIGUEL MIRANDA, FILOMENA PINTO, PAULA COSTA, I. GULYURTLU, I. CABRITA, ARLINDO MATOS INETI-DEECA, Lisboa, Portugal
12:40-13:00	L35 EFFECT OF TEMPERATURE ON THE PROPERTIES OF THE FUEL OBTAINED BY SCRAP TYRE PYROLYSIS P. GONZÁLEZ, M. ARABIOURRUTIA, R. PRIETO, R. AGUADO*, J. BILBAO Department of Chemical Engineering, University of the Basque Country, Bilbao (Spain)
13:00-13:20	L36 DESCRIPTION OF TIRE PYROLYSIS BY THERMAL DEGRADATION BEHAVIOUR OF MAIN COMPOUNDS S. SEIDELT, H. BOCKHORN, M. MÜLLER-HAGEDORN Institut für Chemische Technik, Universität Karlsruhe (TH), Karlsruhe, Germany
13:20-15:00	LUNCH

WEDNESDAY, May 26	
15:00-15:45	<p>Plenary lecture: R. ZIMMERMANN APPLICATION OF TIME OF FLIGHT-MASS SPECTROMETRY WITH LASER-BASED IONIZATION METHODS IN FOR FAST ON-LINE CHARACTERIZATION OF PYROLYSIS AND COMBUSTION PROCESSES R. Zimmermann^{a,b,c}, F. Mühlberger^a, R. Dorfner^a, T. Adam^{a,b}, T. Streibel^{a,b}, S. Mitschke^{a,b}, L. Cao^d ^a Institute of Ecological Chemistry, GSF - National Research Center for Environment and Health, Neuherberg, Munich, Germany ^b University of Augsburg, Analytical Chemistry, Augsburg, Germany ^c BIfA GmbH, Augsburg, Germany ^d Center for Iron and Steel, Beijing, China</p>
15:40-16:00	<p>Session 5 (cont'd) Chairperson: M.J. Lázaro</p> <p>L37 PROPERTIES AND PERFORMANCE OF NITROGEN-ENRICHED CARBONS FOR CARBON DIOXIDE REMOVAL A. ARENILLAS, T. DRAGE, K. SMITH, C.E. SNAPE Nottingham Fuel and Energy Centre, University of Nottingham, UK</p>
16:00-16:20	<p>L38 PYROLYSIS OF POLYPHENOLS IN THE PRESENCE OF AMMONIA EUN-JAE SHIN, MOHAMMAD R. HAJALIGOL, W. GEOFFREY CHAN Philip Morris USA Postgraduate Research Program, Richmond, USA</p>
16:20-16:40	<p>L39 INVESTIGATION OF THE SWELLING PRESSURE DEVELOPMENT DURING SLOW PYROLYSIS OF THERMOPLASTIC COALS VLADIMIR STREZOV¹, JOHN A. LUCAS² AND LES STREZOV² ¹Graduate School of Environment, Macquarie University, Australia ²School of Chemical Engineering, University of Newcastle, Australia</p>
16:40-16:55	Coffee break
16:55-17:45	POSTER SESSION

WEDNESDAY, May 26

	Session 5 (cont'd) Chairman: W. Kaminsky
17:45-18:05	L40 BIOMASS LIQUEFACTION BY FAST OR HYDROTHERMAL PYROLYSIS, A PREPARATION STEP FOR ENTRAINED FLOW GASIFICATION EDMUND HENRICH*, NIKOLAOS BOUKIS, KLAUS RAFFELT Forschungszentrum Karlsruhe, ITC-CPV, Karlsruhe, Germany
18:05-18:25	L41 THE EFFECT OF WATER AS REACTION MEDIUM IN CLOSED VESSEL PYROLYSIS OF BIOMASS TANJA BARTH, ANNA ELISABET BORGUND, GRO VALLE BRUSTAD Dept. of Chemistry, U. of Bergen, Norway
18:25-18:45	L42 PYROLYSIS OF BIOMASS AND WASTE; ROBUST PRE-TREATMENT FOR FUEL CELL APPLICATION A.B.J. OUDHUIS, A. BOS, J.P. OUWELTJES AND G. RIETVELD Netherlands Energy Research Foundation ECN, Petten, The Netherlands
18:45-19:05	L43 USING PISTACHIO SHELL AS A RENEWABLE ENERGY SOURCE TO PRODUCE HIGH QUALITY BIO-OIL AND CHAR ESIN APAYDIN, NURGÜL ÖZBAY ⁱ , AYŞE E. PÜTÜN Department of Chemical Engineering, Anadolu University, Eskişehir, Turkey ⁱ Bozüyük Vocational School, Anadolu University, Bozüyük/Bilecik, TurkeyL
20:30	<i>GALA DINNER</i>

THURSDAY, May 27	
9:00-9:40	<i>Plenary lecture: S. TSUGE</i> CATALYTIC PYROLYSIS IN THE PRESENCE OF REAGENTS AS A POWERFUL TECHNIQUE FOR CHARACTERIZING NATURAL AND SYNTHETIC MATERIALS Graduate School of Engineering, Nagoya University, Japan
	<i>Session 6: : Catalysis: effects and applications</i> Chairman: Seungdo Kim
9:40-10:00	L44 CATALYTIC DEGRADATION OF POLYOLEFIN WASTES BY THERMOGRAVIMETRIC ANALYSIS D.P. SERRANO, J.AGUADO, J.M. ESCOLA, G. SAN MIGUEL, J.M. RODRÍGUEZ Universidad Rey Juan Carlos, ESCET, Madrid, Spain
10:00-10:20	L45 THERMAL AND CATALYTIC DECOMPOSITION BEHAVIOR OF PVC MIXED PLASTIC WASTE WITH PETROLEUM RESIDUE MOHAMMAD FARHAT ALI, MOHAMMAD NAHID SIDDIQUI Department of Chemistry, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia.
10:00-10:40	L46 CATALYTIC PYROLYSIS OF EUPHORBIA RIGIDA IN THE WATER VAPOUR ATMOSPHERE FUNDA ATEŞ, AYŞE E. PÜTÜN, ERSAN PÜTÜN Department of Chemical Engineering, Faculty of Engineering and Arch., Anadolu University, Eskişehir, Turkey
10:40-11:00	<i>Coffee break</i>
11:00-12:00	<i>POSTER SESSION</i>

THURSDAY, May 27

	<i>Session 6 (cont'd)</i> Chairman: D. Serrano
12:00-12:20	L47 EFFECT OF MANGANESE BASED PIGMENT CATALYST ON THE CO REMOVAL DURING BIOMASS PYROLYSIS S. GEDEVANISHVILI, S. PALDEY, F. RASOULI Philip Morris USA, Richmond, USA
12:20-12:40	L48 STUDY OF ORGANIC MATERIAL IN FILTER DUST FROM METALLURGICAL PROCESSES BY PYROLYSIS-GC/MS ROBERT CARLEER ¹ , JOHANNES CZECH ¹ , NADEZHDA ZYAYKINA ² , ALFONS BUEKENS ² ¹ Limburgs Universitair Centrum, Diepenbeek, Belgium ² Vrije Universiteit Brussel, Brussels, Belgium
12:40-13:00	L49 HYDROGEN PRODUCTION BY CATALYTIC DECOMPOSITION OF METHANE OVER Ni AND Ni-Cu BASED CATALYSTS I.SUELVES, M.J. LÁZARO, R. MOLINER Instituto de Carboquímica CSIC, Zaragoza, Spain
13:00-13:20	L50 INTENSIVE PYROLYSIS OF UNSATURATED ORGANIC PRECURSORS OVER ACIDIFIED OXIDE SURFACES A. EVSTRATOV ¹ , L. MAJOLI ¹ , J.-M. GUILLOT ¹ , J.-F. CHAPAT ² , J.-L. LE LOARER ² ¹ Ales School of Mines; France ² AXENS – Salindres, France
	<i>Closing Ceremony</i>
14:00-15:30	<i>FAREWELL LUNCH</i>

POSTERS

INSTRUMENTATION AND ANALYTICAL METHODS

Automated
pyrolyzer

P1
A NEW AUTOMATED PYROLYZER FOR ANALYSIS OF COMPLEX SAMPLES
HELENA JÖNSSON, INGER ERICSSON
Pyrol AB, Lund, Sweden

Rapid
heating
apparatus

P2
DEVELOPMENT OF A RAPID HEATING APPARATUS FOR BIOMASS PYROLYSIS: HEATING RATE EFFECT ON CO, CO₂ EVOLUTION DURING TOBACCO PYROLYSIS
S. GEDEVANISHVILI, J. REGRUT, S. WALDRUP, K. SAOUD, , J. FELTER
Philip Morris USA, Richmond, USA

GC-
retention
times

P3
APPLICATION OF CHROMATOGRAPHIC RETENTION INDICES IN PYROLYSIS GAS CHROMATOGRAPHY OF PMMA
MONIKA ÁDAMOVÁ, ANDREJ ORIŇÁK AND LADISLAV HALÁS
University of P.J.Šafárik, Faculty of Science, Department of Physical and Analytical Chemistry, Košice, Slovakia

APPLICATION TO GEOSCIENCES, BIOLOGY, MEDICINE AND ARTS

Organic matter-subsoil	<p>P4 PYROLYTIC CHARACTERISATION OF ORGANIC MATTER IN SUBSOIL HORIZONS UNDER FOREST C. RUMPEL^a, M.-F. DIGNAC^a, F. GONZALES-VILA^b, I. KÖGEL-KNABNER^c ^aBIOMCO, Centre INRA Versailles-Grignon, Thiverval-Grignon, France. ^bInstituto de Recursos Naturales, CSIC, Sevilla, Spain. ^cLehrstuhl für Bodenkunde, Technische Universität München, Freising-Weihenstephan, Germany</p>
Organic matter-soil	<p>P5 VEGETATION INFLUENCE ON SOIL ORGANIC MATTER COMPOSITION ALONG A TRANSECT FROM TERRESTRIAL TO AQUATIC SITES C. RUMPEL^a, A. CHABBI^{a,b}, J.A. GONZALES-PEREZ^c, O. POLVILLO^c, F. GONZALES-VILA^c ^aBIOMCO, Centre INRA Versailles-Grignon, Thiverval-Grignon, France. ^bDepartment of Soil Protection and Recultivation, BTU Cottbus, Cottbus, Germany. ^cInstituto de Recursos Naturales, CSIC, Sevilla, Spain</p>
Organic matter-soil	<p>P6 COMPARISON BETWEEN TMAH PYROLYSIS AND RUTHENIUM TETROXIDE OXIDATION OF SOIL REFRACTORY ORGANIC MATTER K. QUENEA^{1,2}, S. DERENNE¹, C. LARGEAU¹, P. SCHAEFFER², P. ALBRECHT², A. MARIOTTI³ ¹LBCOP, ENSCP, PARIS, France ²Laboratoire de géochimie bioorganique, ECPM. France ³Biomco, INA-PG.</p>
Organic residue-soil	<p>P7 COMPARISON BETWEEN DIRECT CURIE POINT PYROLYSIS AND “DOUBLE SHOT” PYROLYSIS ON A FOREST SOIL REFRACTORY ORGANIC RESIDUE KATELL QUENEA^{1,2}, JOSE ANTONIO GONZALEZ³, FRANCISCO GONZALEZ-VILA³, SYLVIE DERENNE¹, CLAUDE LARGEAU¹, ANDRÉ MARIOTTI² ¹LCBOP, UMR CNRS 7573, ENSCP, PARIS, France. ²BioMCo, Grignon, France. ³CSIC, Sevilla, Spain.</p>

Organic Matter-Rock Eval	<p>P8 ORGANIC MATTER CHARACTERIZATION BY STEPWISE ROCK EVAL PYROLYSIS MAGDOLNA HETÉNYI, TÜNDE NYILAS Department of Mineralogy, Geochemistry and Petrology, University of Szeged. Hungary</p>
Protein remnants-kerogens	<p>P9 DETECTION OF PROTEIN REMNANTS IN DIFFERENT TYPES OF KEROGENS UPON PYROLYSIS IN THE PRESENCE OF TMAH JOSÉ C. DEL RÍO¹, FRANCISCO J. GONZÁLEZ-VILA¹, ANDRÉ AMBLÈS² AND HEIKE KNICKER³ ¹Instituto de Recursos Naturales y Agrobiología de Sevilla, CSIC, Seville, Spain ²Faculté des Sciences, Université de Poitiers, France ³Lehrstuhl für Bodenkunde, Technische Universität München, Germany</p>
Asphaltene-sediments	<p>P10 PYROLYTIC BEHAVIOUR OF ASPHALTHENE FRACTIONS FROM CEUTA HARBOUR SEDIMENTS J. M. GUERRA-GARCÍA^a, F. J. GONZÁLEZ-VILA^b, J. C. GARCÍA-GÓMEZ^a, O. POLVILLO^b ^aLaboratorio de Biología Marina, Dpto. Fisiología y Zoología, Facultad de Biología, Sevilla, Spain. ^bIRNAS-CSIC. Sevilla, Spain</p>
Organic matter-sediments	<p>P11 PYROLYTIC STUDIES ON ORGANIC RICH SEDIMENTS WITH DIFFERENT SULPHUR RICHNESS ¹SAJGÓ, CS., ¹BRUKNER-WEIN, A., ²HETÉNYI, M., ¹TÓTH, G. ¹Lab. for Geochemical Research; Hung. Acad. of Sci., Budapest, Hungary ²Univ. of Szeged, Hungary</p>
Humic matter-sea	<p>P12 PYROLYTIC INVESTIGATION OF HUMIC-MATTER-RICH FRESHWATER DISCHARGE INTO THE EAST FRISIAN WADDEN SEA SVEN GEBHARDT, JÜRGEN RULLKÖTTER Institute of Chemistry and Biology of the Marine Environment (ICBM), Carl von Ossietzky University of Oldenburg. Germany.</p>

Humic acids-soil	<p>P13 CHANGES IN PYROLYTIC PATTERNS OF HUMIC ACIDS IN TERMS OF TILLAGE SYSTEMS ON A SEMIARID MEDITERRANEAN SOIL J. DORADO^a, C. LÓPEZ-FANDO^a, G. ALMENDROS^a, F.J. GONZÁLEZ-VILA^b ^aCentro de Ciencias Medioambientales, CSIC, Madrid, Spain. ^bInstituto de Recursos Naturales y Agrobiología, CSIC, Seville, Spain.</p>
Xylitic and humic coals	<p>P14 CHEMICAL COMPOSITION OF POLISH XYLITIC AND HUMIC BROWN COALS AS SEEN BY FLASH-PYROLYSIS AND PYROLYSIS METHYLATION F. CZECHOWSKI¹, J.C. DEL RÍO², F.J. GONZÁLEZ-VILA² ¹Institute of Chemistry and Technology of Petroleum and Coal, Technical University of Wroclaw, Wroclaw, Poland. ²Instituto de Recursos Naturales y Agrobiología, CSIC, Seville, Spain.</p>
Cretaceous ambers-Py-GC/MS	<p>P15 PY-GC/MS STUDY OF SOME CRETACEOUS AMBERS OF NORTH AMERICA A. SHEDRINSKY^a, T. WAMPLER^b, D. GRIMALDI^c ^aLong Island Univ. Brooklyn, USA. ^bCDS Analytical, Oxford, USA. ^cDept. of Entomology, NY, USA.</p>
Amber-analysis	<p>P16 ANALYSIS OF ANCIENT AMBER FINDS IN ARCHAEOLOGICAL COLLECTIONS OF THE STATE HERMITAGE MUSEUM A. SHEDRINSKY^a, T. WAMPLER^b, A. MAZURKEVICH^c ^aLong Island Univ. Brooklyn USA. ^bCDS Analytical, Oxford. USA. ^cThe State Hermitage Museum, Dept. of Archaeology, St. Petersburg, Russia</p>
Fossile resins	<p>P17 COMBINATION OF PYROLYSIS-GC/MS FOR CLASSIFICATION OF FOSSILE RESINS ALFRED GOLLOCH, CHRISTOPH LÜHR CAI, Centrum für Analytik und Information, Aachen, Germany</p>
Pine needles-analysis	<p>P18 ANALYSIS OF PINE NEEDLES BY THERMALLY-ASSISTED HYDROLYSIS METHYLATION GC/MS: PROFILING THE CHANGES IN PHENOLIC AND DITERPENE RESIN ACID COMPOSITIONS IN PINE TREES FUMIGATION BY OZONE SANDRA ESTÉVEZ^a, ROBERT HELLEUR^a, ROGER COX^b ^aDepartment of Chemistry, Memorial University, St. John's. Canada. ^bCanadian Forest Service, NRCan, Fredericton, Canada.</p>

Pine wood	<p>P19 ABILITY OF <i>STREPTOMYCES</i> TO MODIFY PINE WOOD FOR MECHANICAL PULPING. PYROLYSIS-GC/MS ASSESSMENT M.E. ARIAS^{1*}, O. POLVILLO², J.A. GONZÁLEZ-PÉREZ², J.M. MOLINA¹, M. HERNÁNDEZ¹, F.J. GONZÁLEZ-VILA² ¹ Dpto. Microbiología y Parasitología. Universidad de Alcalá., Madrid, Spain ² IRNAS-CSIC, Sevilla, Spain</p>
Cystins-Algal blooms	<p>P20 PYROLYTIC BEHAVIOUR OF MICROCYSTINS. AN APPROACH TO DIRECT DETECTION IN ALGAL BLOOMS A. CAMEAN^a, I. MORENO^b, T. VERDEJO^b, F.J. GONZÁLEZ-VILA^b, J.A. GONZÁLEZ-PÉREZ^b ^aDepartment of Toxicology. Pharmacy Faculty. University of Seville. Sevilla, Spain. ^bIRNAS-CSIC. Sevilla, Spain.</p>
Algae-Py/GC	<p>P21 PYROLYSIS GAS CHROMATOGRAPHIC QUANTIFICATION OF METHYL ACRYLATE MONOMER (MMA) IN ALGAE <i>CHLORELLA KESSLERI</i> BODY LADISLAV HALÁS^a, ANDREJ ORIŇÁK^a, JAN T. ANDERSSON^b, MARTINA JUSTINOVÁ^a, ABUBAKER SHARIF^c AND MONIKA ÁDAMOVÁ^a ^aInstitute of Chemistry, University of P.J.Safarik, Kosice, Slovakia. ^bWilhelm Westphalien University, Department of Inorganic and Analytical Chemistry, Münster, Germany. ^cSebha University, Faculty of Science, Department of Chemistry, Sebha, Libya.</p>
Biological samples-CGC	<p>P22 THE ANALYSIS OF BIOLOGICAL SAMPLES WITH ON-LINE COUPLED PYROLYTIC INJECTOR CAPILLARY GAS CHROMATOGRAPHY (CGC) (SHARIF ABUBAKER^a, ANDREJ ORIŇÁK^b, LADISLAV HALÁS^b, AMAR IBRAHIM^a AND KHLIFA MOUSSA^a ^aSebha University, Faculty of Science, Department of Chemistry, Sebha Libya. ^bUniversity of P.J.Safarik, Institute of Chemistry, Department of Physical and Analytical Chemistry, Košice, Slovakia.</p>

Vessel-Py/GC	<p>P23 RAPID ASSESSMENT OF VESSEL MORPHOLOGY BY PYROLYSIS-GAS CHROMATOGRAPHY MARI TATEISHI¹, TERUYUKI SEINO², TOSHIHIRO ONA¹, JYUNICHI OHSHIMA³, KODAI ADACHI³, SHINSO YOKOTA³, NOBUO YOSHIZAWA³ ¹Graduate School of Bioresource and Bioenvironmental Sciences, Kyusyu University, Hakozaki, Japan. ²NEDO fellow, Institute for Environmental Management Technology AIST Tsukuba West, Japan. ³Faculty of Agriculture, Utsunomiya University, Japan.</p>
Tobacco/ TGA-FTIR	<p>P24 PYROLYSIS OF ELEVEN POLYSACCHARIDE TOBACCO INGREDIENTS: A TGA-FTIR INVESTIGATION RICHARD R. BAKER, STEVEN COBURN, CHUAN LIU, JOHN TETTEH* British American Tobacco, R&D Centre, Southampton, U.K. *DiKnow Ltd, Kent, U.K.</p>
Pigments-oil painted layers	<p>P25 PIGMENTS MATRIX EFFECTS IN THE ANALYSIS OF LINSEED OIL PAINTED LAYERS BY MEANS OF REACTIVE PYROLYSIS G. CHIAVARI, D. FABBRI AND S. PRATI Laboratory of Chemistry, CIRSA, University of Bologna, Italy.</p>
Paint-Py/GC	<p>P26 PRACTICAL USE OF PYROLYSIS GAS CHROMATOGRAPHY IN PAINT ANALYSIS M. FROGH, H. LINDSTROM, S.I. HAUG. Analytical Laboratory, Jontum As. Sandefjord. Norway.</p>

CHARACTERIZATION AND DEGRADATION OF SYNTHETIC POLYMERS, BIO-POLYMERS AND OTHER ORGANIC COMPOUNDS

Synthetic Polymers EVA, TG/FTIR	P27 TG/FTIR STUDY OF THE THERMAL PYROLYSIS OF EVA COPOLYMERS A. MARCILLA, A. GÓMEZ, S. MENARGUES Departamento de Ingeniería Química, Universidad de Alicante, Spain
PET, PBT Maldi/NMR	P28 THERMAL DEGRADATION OF POLY(BUTYLENE TEREPHTHALATE) AT THE PROCESSING TEMPERATURE FILIPPO SAMPERI*, CONCETTO PUGLISI, ROSSANA ALICATA, GIORGIO MONTAUDO. Istituto di Chimica e Tecnologia dei Polimeri, Sez. Catania Consiglio Nazionale delle Ricerche, Viale A. Doria, 6 - 95125 Catania, Italy. Dipartimento di Scienze Chimiche, Università di Catania, , Italy
PET Maldi/NMR	P29 THERMAL DEGRADATION OF PET AT THE PROCESSING TEMPERATURE FILIPPO SAMPERI *, CONCETTO PUGLISI, ROSSANA ALICATA, GIORGIO MONTAUDO. Istituto di Chimica e Tecnologia dei Polimeri, Sez. Catania Consiglio Nazionale delle Ricerche, Catania, Italy. Dipartimento di Scienze Chimiche, Università di Catania, Catania, Italy
PET+MSW/ TG	P30 CO-PYROLYSIS OF RESIDUES: THERMOGRAVIMETRIC ANALYSIS M.E. SÁNCHEZ, O. MARTÍNEZ, A. MORÁN Natural Resources Institute, University of León, León, Spain
PAN/PTh Py-MS	P31 PYROLYSIS MASS SPECTROMETRY ANALYSIS OF POLYACRYLONITRILE/POLYTHIOPHENE GRAFT COPOLYMERS GULCAN OGUZ, JALE HACALOGLU, AHMET M. ONAL * Department of Chemistry, Middle East Technical University, Ankara, Turkey
PTh+PMBTA CV, FTIR..	P32 CHARACTERIZATION OF A COPOLYMER OF POLYTHIOPHENE VIA PYROLYSIS MASS SPECTROSCOPY ANIL LEVENT, JALE HACALOGLU*, LEVENT TOPPARE Department of Chemistry, Middle East Technical University, Ankara, Turkey

PET, PEEK, HNMR	<p>P33 IN SITU ¹H NMR TO INVESTIGATE CONDENSED PHASE TRANSFORMATIONS IN THE THERMAL DEGRADATION OF POLYMERS TREVOR C. DRAGE¹, JOHN J. LIGGAT², COLIN E. SNAPE¹ ¹Nottingham Fuel and Energy Centre, SChEME, University of Nottingham, UK. ²Dept. of Pure and Applied Chem, University of Strathclyde, Glasgow, UK.</p>
Polymers library, GC/MS	<p>P34 DEVELOPMENT OF A NEW POLYMER LIBRARY USING PYROLYSIS-GC/MS AND EVOLVED GAS ANALYSIS –MS CHU. WATANABE¹, H. OHTANI², S. TSUGE^{1,3}) 1) Frontier Laboratories Ltd, Saikon, Koriyama, Fukushima, Japan, 2) Nagoya University, Chikusa, Nagoya, Japan, 3) Aichi Institute of Technology, Yagusa, Toyota, Japan</p>
Tiourea+PP HNMR, FTIR	<p>P35 SYMMETRICALLY & UNSYMMETRICALLY SUBSTITUTED THIOUREA BASED THERMOOXIDATION STABILIZERS FOR POLYPROPYLENE M.IMRAN UL-HAQ* Department of Chemistry, Quaid-i-Azam University, Islamabad, Pakistan.</p>
PAN Py-GC	<p>P36 STRUCTURAL CHANGES ON STEREOREGULARITY OF POLYACRYLONITRILE CARBON FIBER PRECURSORS DURING OXIDATIVE THERMAL STABILIZATION STUDIED BY PYROLYSIS-GAS CHROMATOGRAPHY HAJIME OHTANI¹, YOSUKE KONDO¹, SHIN TSUGE¹, MASATOMO MINAGAWA² 1: Graduate School of Engineering, Nagoya University, Nagoya, Japan. 2: Department of Materials Science and Engineering, Faculty of Engineering, Yamagata University, Yonezawa, Japan.</p>
P(3HB-co-eHV), HNMR	<p>P37 CHARACTERIZATION OF POLY(3-HYDROXYBUTYRATE-CO-3-HYDROXYHEXANOATE) BY THERMALLY ASSISTED HYDROLYSIS AND METHYLATION-GAS CHROMATOGRAPHY HIROAKI SATO¹, MASUKI HOSHINO², HIROMI AOI², YASUYUKI ISHIDA², HAJIME OHTANI², KEIGO AOI³ ¹: Institute for Environmental Management Technology, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki Japan. ²: Graduate School of Engineering, Nagoya University, Nagoya, Japan. ³: Graduate School of Bioagricultural Sciences, Nagoya University, Nagoya, Japan.</p>

Melamine /THM	<p>P38 PYROLYSIS AND THM REACTIONS OF MELAMINE AND ITS RESINS MANUELA LEIDL, CLEMENS SCHWARZINGER* Institute for Chemical Technology of Organic Materials, Johannes Kepler University Linz Austria</p>
Lignite, AP-TPR	<p>P39 SULPHUR FUNCTIONALITY OF STEAM PYROLYSED LIGNITE HUMIC ACIDS S.P.MARINOV, M.STEFANOVA, V.STAMENOVA, R.CARLEER*, J.YPERMAN* Institute of Organic Chemistry, Bulg. Acad. Sciences, Sofia, Bulgaria * Lab. of Applied Chemistry,CMK, Limburgs Univ. Centrum, Diepenbeek, Belgium</p>
Lignin, PY-GC/MS	<p>P40 IDENTIFICATION OF ACETYLATED SYRINGYL LIGNIN IN NON-WOOD FIBERS UPON PY-GC/MS JOSÉ C. DEL RÍO¹, ANA GUTIÉRREZ¹, ÁNGEL T. MARTÍNEZ² ¹Instituto de Recursos Naturales y Agrobiología de Sevilla, CSIC, Seville, Spain ²Centro de Investigaciones Biológicas, CSIC, Madrid, Spain</p>
Lignin/wood Py-GC-MS	<p>P41 CORRELATION BETWEEN LIGNIN SIRINGYL/GUAIACYL RATIO IN EUCALYPT WOOD AND PAPER PULP YIELD J.C. DEL RÍO¹, A. GUTIÉRREZ¹, M. HERNANDO², P. LANDÍN², J. ROMERO², A.T. MARTÍNEZ³ ¹Instituto de Recursos Naturales y Agrobiología de Sevilla, Seville, Spain; ²ENCE-CIT, Pontevedra, Spain; ³Centro de Investigaciones Biológicas, Madrid, Spain</p>
Lignin/ Py-GC/MS, FTIR	<p>P42 CHEMICAL CHARACTERIZATION OF RESIDUAL LIGNINS FROM EUCALYPT PAPER PULPS D. IBARRA^A, J.C. DEL RÍO^B, A. GUTIÉRREZ^B, I.M. RODRÍGUEZ^B, J. ROMERO^C, M.J. MARTÍNEZ^A, Á.T. MARTÍNEZ^A ^aCentro de Investigaciones Biológicas, CSIC, Madrid, Spain ^bInstituto de Recursos Naturales y Agrobiología, CSIC, Sevilla, Spain ^cENCE, CIT, Pontevedra, Spain</p>
Lignin Py-GC/MS	<p>P43 INFLUENCE OF PARAMETERS IN THM (THERMALLY ASSISTED HYDROLYSIS) PY- GC/MS OF LIGNIN A. KLINGBERG¹, J. ODERMATT¹, D. MEIER² ¹University of Hamburg, Centre for Wood Science and Forest Products, Wood Chemistry, Hamburg, Germany ²Federal Research Centre for Forestry and Forest Products, Wood Chemistry, Hamburg, Germany</p>

Wood /TG	<p>P44 THE EFFECT OF EXTRACTIVE COMPONENTS ON THE THERMAL BEHAVIOR OF YOUNG WOOD SAMPLES ERIKA MÉSZÁROS^{A*}, EMMA JAKAB^A, PÁL SZEPESVÁRY^B, BÉLA MAROSVÖLGYI^C, MARIANNE BLAZSÓ^A ^aResearch Laboratory of Materials and Environmental Chemistry, Chemical Research Center, Hungarian Academy of Sciences, Budapest, Hungary ^bDepartment of Chemistry, Eötvös Loránd University, Budapest, Hungary ^cInstitute of Energetics, University of West Hungary, Sopron, Hungary</p>
Vitrinite, NMR, 2DNMR	<p>P45 NMR AND 2DNMR ANALYSIS OF THE DEGRADATION THERMAL PRODUCTS OF VITRINITES IN RELATION TO NATURAL HYDROGEN ENRICHMENT AND ITS IMPLICATIONS M.J. IGLESIAS¹, M.J. CUESTA², F. LAGGOUN-DÉFARGE³, I. SUÁREZ-RUIZ^{2*} ¹ Área Química Orgánica. Univ. Almería. Almería. Spain ² Instituto Nacional del Carbón (CSIC), Oviedo, Spain. ³ISTO/UMR 6113 CNRS-Université d'Orléans, France.</p>
Biopolymer TMAH/themo chemolysis	<p>P46 REINTERPRETATION OF THE TMAH/THERMOCHEMOLYSIS DATA OF THE ALIPAHTIC BIOPOLYMER CUTAN: PROPOSAL OF A NEW CHEMICAL STRUCTURAL MODEL JOSÉ C. DEL RÍO Instituto de Recursos Naturales y Agrobiología de Sevilla, Consejo Superior de Investigaciones Científicas, Seville, Spain.</p>
Aminoacids, proteins CP Py/GC/MS	<p>P47 CURIE-POINT PYROLYSIS / GAS CHROMATOGRAPHY / MASS SPECTROMETRY OF STANDARD AMINO ACIDS AND PROTEINACEOUS MATERIALS IN THE PRESENCE OF TETRAMETHYLAMMONIUM HYDROXIDE (P41) NICOLAS GALLOIS, JOËLLE TEMPLIER, SYLVIE DERENNE, CLAUDE LARGEAU Laboratoire de Chimie Bioorganique et Organique Physique, CNRS UMR France</p>

MECHANISMS AND KINETICS

Modeling	<p>P48 MATHEMATICAL MODELING AND SIMULATION OF HEAT TRANSFER AND REACTION ALLIED FOR PREDICTION OF KINETIC AND TERMIC PARAMETERS IN PYROLYSIS PILOT PLANT WIGGERS, V.R.¹ , MEIER, H.F.², BARROS, A.A.C.², WOLF MACIEL, M.R.¹ ¹-LDPS, DPQ, FEQ, State University of Campinas, UNICAMP, Campinas, SP, Brasil. ² -LDPS, LFC, DEQ, Regional University of Blumenau, FURB, Blumenau – SC – Brasil.</p>
Polymers mixtures	<p>P49 KINETIC STUDY OF THE THERMAL DECOMPOSITION OF POLYPROPYLENE, MOROCCAN OIL SHALE, AND THEIR MIXTURE K. EL HARFI*, A. ABOULKAS, A. MOKHLISSE Laboratoire de Chimie Physique, Université Caddi Ayyad, Faculté des Sciences de Marrakech, Semlalia, Morocco</p>
Waste plastic	<p>P50 PYROLYSIS OF DIFFERENT WASTE PLASTIC. KINETIC STUDY J. M. ENCINAR, J.F. GONZÁLEZ , J.L. CANITO Departamento de Ingeniería Química y Energética. UEX. Badajoz (Spain)</p>
PP, PE, PS	<p>P51 STUDY OF PE, PP AND PS PYROLYSIS KINETICS PAULA COSTA*, FILOMENA PINTO, MIGUEL MIRANDA, I. GULYURTLU, I. CABRITA INETI-DEECA, 1649-038 Lisboa, Portugal, Estrada do Paço do Lumiar 22,</p>
Neoprene	<p>P52 KINETIC STUDY OF THE PYROLYSIS OF NEOPRENE. J. A. CABALLERO, J.A. CONESA, I. MARTÍN-GULLÓN, R. FONT Departamento de Ingeniería Química. Universidad de Alicante, Spain</p>
PVC	<p>P53 THERMO-OXIDATIVE DECOMPOSITION OF POLYVINYL CHLORIDE I. ARACIL, RAFAEL FONT, J.A. CONESA Department of Chemical Engineering, University of Alicante, Spain</p>

Terpene-Type resins	<p>P54 CHEMICAL -STRUCTURAL CHANGES DURING THERMAL TREATMENT OF HYDROGEN - RICH VITRINES CAUSED BY THE PRESENCE OF TERPENE - TYPE RESIN M. J. IGLESIAS¹, M. J. CUESTA², F. LAGGOUN-DÉFARGE³, I. SUÁREZ-RUIZ^{2,*}. ¹ Área Química Orgánica., Univ. Almería. Carretera de Sacramento, 04120 Almería, Spain. ^b Instituto Nacional del Carbón (CSIC), Ap. Co. 73, 33080 Oviedo, Spain. ^c ISTO/UMR 6113 CNRS-Université d'Orléans, 45067 Orléans cedex 2, France.</p>
Coal	<p>P55 REACTIVITY OF PYROLYSIS CHARS FROM PERHYDROUS COALS M.J. CUESTA¹, A. ARENILLAS¹, F. RUBIERA¹, M. J. IGLESIAS², I. SUÁREZ-RUIZ^{1,*}, J.J. PIS¹ ¹ Instituto Nacional del Carbón (C.S.I.C.). Apartado 73. 33080 Oviedo. Spain ² Área Química Orgánica. Univ. Almería. Carretera de Sacramento. 04120 Almería. Spain</p>
Cellulose	<p>P56 IDENTIFICATION OF REACTION MODEL FUNCTION OF CELLULOSE PYROLYSIS SEUNGDO KIM[†], YUJIN EOM, JOO-SIK KIM[*], YOUNG-KWON PARK[*], SOYOUNG MYUNG[*], JONG-KI JEON^{**} Dept. of Environ. System Eng., Hallym University, Korea [*]Faculty of Environmental Engineering, University of Seoul, Korea ^{**}Dept. of Chemical Engineering, DongYang University, Korea</p>
Sugarcane bagasse	<p>P57 STUDIES OF THE MEXICAN SUGARCANE BAGASSE PYROLYSIS KINETICS R. MIRANDA, C SOSA_BLANCO, F. TRISTÁN, D. BUSTOS Universidad Autónoma de Nuevo León , San Nicolás de los Garza , Nuevo León, México</p>
Sewage sludge	<p>P58 AN INTEGRAL MODEL FOR THE KINETICS OF SEWAGE SLUDGE PYROLYSIS RESENDE, F.L.P.; GONZALO, A.; SÁNCHEZ, J.L., ARAUZO, J. Departamento de Ingeniería Química y Tecnologías del Medio Ambiente, C.P.S., Universidad de Zaragoza, C/ Maria de Luna, 3, 5018, Zaragoza, Spain.</p>
Sewage sludge	<p>P59 KINETIC MODELS FOR THE PYROLYSIS AND COMBUSTION OF TWO TYPES OF SEWAGE SLUDGE. R. FONT; A. FULLANA; J.A. CONESA Department of Chemical Engineering University of Alicante, Spain.</p>

Tobacco	<p>P60 INFLUENCE OF TOBACCO TYPE ON SMOKE COMPOSITION FROM THE PYROLYSIS MODELING OF TOBACCO PYROLYSIS SUNG-CHUL YI^{a*}, SEIKI MOON^a, SEONG YOUL BAE^b, MOHAMMAD R. HAJALIGOL^c ^a Dept. of Chemical Engineering, CPRC, Hanyang University, Seoul, 133-791, Korea ^b Dept. of Chemical Engineering, Hanyang University, Kyounggi-do, Ansan-si 425-791, Korea ^c Philip Morris USA, Research Center, Richmond, VA 23234, U.S.A.</p>
Tobacco	<p>P61 MODELING OF PHYSICO-CHEMICAL PROCESSES OCCURING INSIDE A PYROLYZING TOBACCO PARTICLE NA-YA HA, SUNG-CHUL YI* Department of Chemical Engineering, Hanyang University, Seoul, South Korea</p>
Poplar clones	<p>P62 DISCRIMINATION OF GENETICALLY MODIFIED POPLAR CLONES BY ANALYTICAL PYROLYSIS - GAS CHROMATOGRAPHY AND PRINCIPAL COMPONENT ANALYSIS DIETRICH MEIER; INGRID FORTMANN; JÜRGEN ODERMATT*; OSKAR FAIX Federal Research Centre for Forestry and Forest Products, Institute for Wood Chemistry, Hamburg, Germany *University of Hamburg, Centre of Wood Science and Technology, Germany</p>

	WASTE, COAL, BIOMASS AND EMISSIONS
Emissions	<p>P63 PYROLYSIS, PYROSYNTHESIS AND POLYAROMATIC EMISSIONS A M MASTRAL, M S CALLEN, R MURILLO, J M LOPEZ, M V NAVARRO ICB-CSIC Zaragoza, Spain</p>
Biomass (lignin-polysaccharides)	<p>P64 $\delta^{13}\text{C}$ OF WOOD HYDROPYROLYSIS RESIDUES: EVIDENCE OF CROOS-LINKING BETWEEN LIGNIN AND POLYSACCHARIDES LAURA BERAMENDI-OROSCO, COLIN E. SNAPE, DAVID J. LARGE Nottingham Fuel and Energy Centre, University of Nottingham, UK.</p>
Biomass (tobacco)	<p>P65 PYROLYSIS AND COMBUSTION OF TOBACCO WASTES. INFLUENCE OF PARAMETERS AND ANALYSIS OF EMISSIONS CARIDAD CURBELO¹, ANGELA N. GARCÍA², RAFAEL FONT², ELIMOY RAMOS¹, JOSÉ GUZMÁN¹, YOHANDRA QUESADA¹, PILAR BLASCO³ ¹ Faculty of Chemical Engineering. Higher Politechnical Institute “José Antonio Echeverría”. Havana City. Cuba ² Department of Chemical Engineering. University of Alicante. Spain ³ Technical Research Services. University of Alicante. Spain</p>
Biomass (glucose)	<p>P66 CHEMISTRY OF GLUCOSE CONVERSION TO LEVOGLUCOSAN IN HIGH TEMPERATURE WATER KENJI TAKAHASHI¹, HIROE SATOH¹, HARUMI KAGA² 1. Dept. Chem.&Chem. Eng., Kanazawa University, Japan 2. National Institute of Advanced Industrial Science and Technology (AIST), Sapporo, Japan</p>
Biomass (timber)	<p>P67 POSSIBILITY OF THE USE OF SLOW PYROLYSIS FOR UTILIZATION OF WASTE TIMBER MATERIALS ZHURINSH A., ZANDERSONS J., DOBELE G. Latvian State Institute of Wood Chemistry, Riga, Latvia</p>
Biomass (cotton)	<p>P68 THERMOGRAVIMETRIC ANALYSIS OF COTTON FABRICS DECOMPOSITION IN A HELIUM AND OXYGEN ENVIRONMENT J. MOLTÓ, I. MARTÍN-GULLÓN, J.A. CONESA, R. FONT, Department of Chemical Engineering, University of Alicante, Spain</p>

Biomass (saw dust)	<p>P69 PRODUCTION OF PYROLIGNEOUS ACID USING SAW DUST IN A BUBBLING FLUIDIZED BED REACTOR KYUNG-SEUN YOO[†], MIN-SEOP EOM, NAM-CHAN KIM, SEUNGDO KIM[*], SEE-HOON Lee^{**}, JAE-GOO LEE^{**}, JAE-HO KIM^{**} Dept. of Environ.Eng., Kwangwoon University, Korea [*]Dept. of Environ. System Eng., Hallym University, Korea ^{**}Gasification Application Research Center, Korea Institute of Energy Research, Korea</p>
Biomass (wood)	<p>P70 PYROLYSIS PRODUCT DISTRIBUTION. INFLUENCE OF WOOD STRUCTURE FOR TWO DIFFERENT EUCALYPTUS SPECIES. GARCÍA, L.⁺; AGUIAR L M.⁺; GONZALO A.; SÁNCHEZ J.L.; ARAUZO, J. Thermochemical Processes Group (GPT), Aragón Institute of Engineering Research (I3A), University of Zaragoza, Spain ⁺ Mechanical Eng. Dept., Pinar del Río University, Cuba</p>
Biomass (almond shells)	<p>P71 PYROLYSIS OF ALMOND SHELLS. ENERGY APPLICATIONS OF FRACTIONS JUAN F. GONZÁLEZ [*], ANTONIO RAMIRO, CARMEN M. GONZÁLEZ-GARCÍA, JOSÉ GAÑÁN, JOSÉ M. ENCINAR, EDUARDO SABIO, JESÚS RUBIALES Dpto. Ingeniería Química y Energética. UEX. Badajoz. Spain</p>
Biomass (olive oil waste)	<p>P72 EMISSIONS FROM PYROLYSIS AND COMBUSTION OF OLIVE OIL SOLID WASTE J. JAUHAINEN, I. MARTIN-GULLON, J.A. CONESA, R.FONT Chemical Engineering Department, University of Alicante, Spain</p>
Biomass/ silylation	<p>P73 CHARACTERISATION OF THERMAL DEGRADATION PRODUCTS FROM BIOMASS BY ANALYTICAL OFF-LINE PYROLYSIS AND PYROLYSIS/SILYLATION DANIELE FABBRI, SILVIA PRATI, GIUSEPPE CHIAVARI, AMEDEO GAZZETTI, IVANO VASSURA Laboratory of Chemistry, CIRSA, University of Bologna, Ravenna, Italy</p>
Biomass-acids	<p>P74 MODIFICATION OF THE PYROLYSIS AND COMBUSTION BEHAVIOUR OF LIGNOCELLULOSIC MATERIALS BY TREATMENT WITH ACIDS P. ÁLVAREZ, C. BLANCO, R. SANTAMARÍA, M. GRANDA Instituto Nacional del Carbón, CSIC. Oviedo, Spain</p>

Biomass (wood charcoal)	<p>P75 STUDY OF WOOD CHARCOALS MANUFACTURED IN EXTREMADURA (SPAIN) AND CHARS PREPARED AT DIFFERENT TEMPERATURES J.F. PASTOR VALLE, J. MENESES RODRÍGUEZ, A. SIERRA SERRANO, J. PASTOR-VILLEGAS Inorganic Chemistry Dept., Universidad de Extremadura, Cáceres, Spain</p>
Biomass (carbonization)	<p>P76 TEMPERATURE DYNAMICS AND PRODUCTS YIELDS OF BIOMASS CARBONIZATION CARMEN BRANCA, COLOMBA DI BLASI Dipartimento di Ingegneria Chimica, Università degli Studi di Napoli "Federico II", Italy</p>
Biomass (oil)	<p>P77 CHARACTERIZATION OF THE PYROLYSIS OIL PRODUCED IN THE SLOW PYROLYSIS OF OLIVE RESIDUE K. EL HARFI*, A. MOKHLISSE Laboratoire de Chimie Physique, Université Caddi Ayyad, Semlalia, Morocco</p>
Biomass (vegetable oil)	<p>P78 VOC FORMATION FROM THERMAL DECOMPOSITION OF VEGETABLE OILS ANDRES FULLANA, SUKH S. SIDHU Environmental Engineering Dept, University of Dayton, USA</p>
Carbon (soots)	<p>P79 A STUDY OF DIFFERENT SOOTS USING PYROLYSIS-GC/MS AND ITS COMPARISON TO SOLVENT EXTRACTABLE MATERIAL A.ROSS, S.JUNYAPOON, J.M JONES, A.WILLIAMS, K.D. BARTLE Energy and Resources Research Institute, University of Leeds, UK</p>
Carbon (nanofiber)	<p>P80 CARBON NANOFIBER CHARACTERIZATION BY PYROLYSIS J. VERA, E. VILLAPLANA, J.A. CONESA, I. MARTÍN-GULLÓN Chemical Engineering Dpt. University of Alicante, Spain</p>
Carbon (activation)	<p>P81 EFFECT OF THE ACTIVATION PROCEDURE ON THE SURFACE PROPERTIES OF THE RESULTING ACTIVATED CARBON A.HUIDOBRO, J.P BOUDOU, A.SEPÚLVEDA-ESCRIBANO, F.RODRIGUEZ-REINOSO Universidad de Alicante, Spain</p>
Carbon (activated)	<p>P82 PYROLYSIS OF EXHAUSTED ACTIVATED CARBONS C.O. ANIA, J.B. PARRA, C. PEVIDA, A. ARENILLAS, F. RUBIERA, J.J. PIS Instituto Nacional del Carbón. (INCAR) C.S.I.C., Oviedo, Spain.</p>

Carbon (activated)	<p>P83 THERMAL CRACKING OF N-TETRADECANE OVER ACTIVATED CARBON SEUNGDO KIM[†], EUN-SUK JANG, YOUNG-MIN KIM, XING FAN, KYUNG-SEUN YOO[*] Dept. of Environ. System Eng., Hallym University, Chuncheon, Korea [†]Dept. of Environ. Eng., Kwangwoon University, Seoul, Korea</p>
Carbon (coke)	<p>P84 INHIBITION OF COKE DEPOSITS DURING PYROLYSIS PROCESS I.Z. LYAHNOVICH, S.M. TKACHOV Polotsk State University, NAFTA, Novopolotsk, Belarus</p>
Coal (coke)	<p>P85 APPLICATION OF TGA TO COKE QUALITY PREDICTION E. DÍAZ-FAES, C. BARRIOCANAL, M.A. DÍEZ, R. ALVAREZ Instituto Nacional del Carbón (INCAR), CSIC, Oviedo. Spain</p>
Coal	<p>P86 ARTIFICIAL MATURATION ON ONE ASTURIAN COAL IN A PYROLYSIS CONFINED SYSTEM: COMPARISON WITH OTHERS MATURATION PARAMETERS NOÉ PIEDAD-SÁNCHEZ¹, LUIS MARTÍNEZ^{1*}, ISABEL SUÁREZ-RUIZ², ALAIN IZART¹, MARCEL ELIE¹, CÉDRIC MENETRIER¹, LUBNA AMIR¹ ¹ UMR G2R/7566 - Géologie et Gestion des Ressources Minérales et Energétiques. Université Henri Poincaré, Nancy, France ². Instituto Nacional del Carbón (CSIC). Oviedo, Spain.</p>
Coal (chars)	<p>P87 EFFECT OF COAL PRE-OXIDATION ON THE OPTICAL TEXTURE AND POROSITY OF PYROLYSIS CHARS B.RUIZ, J.B. PARRA, J.A. PAJARES, J.J PIS Istituto Nacional del Carbón, CSIC, Oviedo, Spain</p>
Coal (coking)	<p>P88 GRAY-KING PYROLYSIS OF COALS WITH DIFFERENT RANK AND COKING PRESSURE CHARACTERISTICS (P45) M.D. CASAL, C.S. CANGA, M.A. DÍEZ, R. ALVAREZ, C. BARRIOCANAL Instituto Nacional del Carbón (INCAR), CSIC, Oviedo. Spain</p>
Coal (semicoke)	<p>P89 RELATIONSHIP BETWEEN COAL PYROLYSIS AND SEMICOKE CONTRACTION M.D. CASAL, C.S. CANGA, M.A. DÍEZ, R. ALVAREZ, C. BARRIOCANAL Instituto Nacional del Carbón (INCAR), CSIC, Oviedo. Spain</p>

Coal-Biomass	<p>P90 SYNERGISTIC BEHAVIOUR DURING CO-PYROLYSIS OF COAL AND BIOMASS J.M. JONES, M.KUBACKI, A.ROSS, A.WILLIAMS Energy and Resources Research Institute, University of Leeds, UK</p>
Coal-MSW	<p>P91 CARBONIZATION PROCESS OF COAL AS A RECYCLING PROCESS FOR MUNICIPAL PLASTIC WASTES M.A. DÍEZ, R. ÁLVAREZ, M.A. REYES, M.D. CASAL, C.S. CANGA Instituto Nacional del Carbón (INCAR), CSIC, Oviedo. Spain</p>
Coal-waste oil	<p>P92 THERMAL BEHAVIOUR OF WASTE OILS BLENDED WITH COAL M.A. DÍEZ, R. ÁLVAREZ, C. BARRIOCANAL Instituto Nacional del Carbón (INCAR), CSIC, Oviedo. Spain</p>
Coal/PMMA	<p>P93 CO-PYROLYSIS OF PMMA/ BROWN COAL MIXTURES AND SOME ASPECTS OF PYROLYSATE ANALYTES IDENTIFICATION ANDREJ ORIŇÁK, RENÁTA ORIŇÁKOVÁ, LADISLAV HALÁS, MONIKA ÁDÁMOVÁ University of P.J.Šafárik, Faculty of Science, Department of Physical and Analytical Chemistry, Košice, Slovakia</p>
Char	<p>P94 OXIDATION OF EUCALYPTUS CHAR PRODUCED AT DIFFERENT HEATING RATES M. GUERRERO, M.P. RUIZ, M.U. ALZUETA, R. BILBAO, A.MILLERA Aragón Institute of Engineering Research. Department of Chemical and Environmental Engineering. University of Zaragoza, Spain.</p>
Soot	<p>P95 AN EXPERIMENTAL STUDY OF THE SOOT FORMED IN THE PYROLYSIS OF HYDROCARBONS T. MENDIARA, M.P. DOMENE, A. MILLERA, R. BILBAO, M.U. ALZUETA Aragón Institute of Engineering Research. Department of Chemical and Environmental Engineering. University of Zaragoza, Spain.</p>
Oil Shale	<p>P96 A DEVOLATILIZATION STUDY OF THE ESTONIAN OILSHALES VAHUR OJA Department of Chemical Engineering, Tallinn Technical University, Estonia</p>

Oil (waste)	<p>P97 ON-SITE PRODUCTION OF HYDROGEN FROM MINERAL WASTE OILS BY THERMOCATALYTIC DECOMPOSITION: A THEORETICAL APPROACH M. J. LÁZARO, I. SUELVES, R. MOLINER Instituto de Carboquímica CSIC, Zaragoza, Spain</p>
Petroleum Pitch	<p>P98 PYROLYSIS BEHAVIOUR OF PITCHES MODIFIED WITH DIFFERENT ADDITIVES V.G. ROCHA, M. GRANDA, E.I. DIESTRE*, R. MENÉNDEZ Instituto Nacional del Carbón, CSIC. -Oviedo, Spain *REPSOL YPF, Móstoles, Spain</p>
Plastic-coal	<p>P99 EFFECTS OF PLASTIC WASTES ON COAL PYROLYSIS BEHAVIOUR L. VIVERO, C. BARRIOCANAL, R. ÁLVAREZ, M.A. DÍEZ Instituto Nacional del Carbón (INCAR), CSIC, Oviedo, Spain</p>
Polymer Mixtures	<p>P100 PYROLYSIS OF POLYMER MIXTURES : THERMAL ANALYSIS AND ON-LINE FTIR STUDY OF EVOLVED GASES YANNICK SOUDAIS[#], DIDIER LECOMTE[#], FLORENT LEMORT[§] [#]EMAC, LGPSD -UMR 2392, CNRS; Albi, France [§]CEA VALRHU, DIEC/SCDV, Bagnols sur Cèze, France</p>
Elec. Waste, fixed-bed reactor	<p>P101 PYROLYSIS OF ELECTRICAL AND ELECTRONIC WASTES I. DE MARCO, B.M. CABALLERO, M.J. CHOMÓN, M.F. LARESGOITI, A. TORRES, G. FERNÁNDEZ Dpto. Ingeniería Química y del Medio Ambiente-Escuela de Ingenieros de Bilbao. Spain.</p>
Polyolefin (waxes)	<p>P102 CHARACTERIZATION OF WAXES OBTAINED BY POLYOLEFIN PYROLYSIS M. ARABIOURRUTIA, R. AGUADO, P. GONZÁLEZ, M. OLAZAR, J. BILBAO Department of Chemical Engineering, University of the Basque Country, Bilbao, Spain</p>
PP-COC	<p>P103 CHEMICAL RECYCLING AND CHARACTERIZATION OF CYCLOOLEFIN-COPOLYMERS (COC) BY PYROLYSIS AND CATALYTIC PYROLYSIS OF POLYPROPYLENE (PP) M DONNER, I JAVIER NÚÑEZ ZORRIQUETA, W KAMINSKY Institute of Technical and Macromolecular Chemistry, University of Hamburg, Germany</p>

PVB	<p>P104 EFFECTS OF ATMOSPHERE AND CERAMIC-FEEDSTOCK MATRICES ON THE THERMAL DECOMPOSITION OF POLY(VINYL BUTYRAL) M. GERNSBECK^{1,2}, H. BOCKHORN², D. WELTING¹, F. PLUMERÉ¹, M. MÜLLER-HAGEDORN² ¹: Robert Bosch GmbH, Stuttgart, Germany ²: Institut für Chemische Technik, Universität Karlsruhe, Germany</p>
PVC	<p>P105 SEMIVOLATILE AND VOLATILE COMPOUNDS FROM THE PYROLYSIS AND COMBUSTION OF POLYVINYL CHLORIDE I. ARACIL, R. FONT, J.A. CONESA Department of Chemical Engineering, University of Alicante, Spain</p>
Sewage Sludge	<p>P106 INFLUENCE OF THE ORGANIC MATTER IN THE PYROLYSIS BEHAVIOR OF SEWAGE SLUDGES GASCÓ, G.¹ BLANCO, C. G.²; GUERRERO, F.¹. AND MÉNDEZ, A.³. 1 Departamento de Edafología. Universidad Politécnica de Madrid, Spain 2 Instituto Nacional del Carbón, Oviedo, Spain 3 Departamento de Ciencia y Tecnología del Medio Ambiente. Universidad Católica de Avila, Spain</p>
Sewage Sludge	<p>P107 MICROWAVE-INDUCED DRYING, PYROLYSIS, GASIFICATION (MWDPG) OF SEWAGE SLUDGE (P43) J.A. MENÉNDEZ *, A. DOMÍNGUEZ, M. INGUANZO, J.J. PIS. Instituto Nacional del Carbón (INCAR) C.S.I.C., Oviedo, Spain.</p>
Sewage Sludge	<p>P108 PHYSICO-CHEMICAL PROPERTIES OF SEWAGE SLUDGE-BASED CHARS: EFFECT OF SLUDGE PRE-TREATMENT ANNA ROS¹, M. DOLORS BALAGUER¹, ENRIQUE FUENTE², MARÍA J. MARTIN¹, MIGUEL A. MONTES-MORÁN², MIQUEL RIGOLA¹ ¹ Laboratori d'Enginyeria Química i Ambiental, Universitat de Girona, Spain. ² Instituto Nacional del Carbón, CSIC, Oviedo, Spain</p>
Sewage Sludge	<p>P109 SEWAGE SLUDGE DECOMPOSITION IN THE PRESENCE OF CEMENT RAW MATERIAL ARACELI GÁLVEZ, JUAN A. CONESA, IGNACIO MARTÍN-GULLÓN, R. FONT Department of Chemical Engineering, University of Alicante, Spain</p>

Sewage Sludge	<p>P110 STUDY OF THE EVOLUTION OF ORGANIC MATTER IN SLUDGE FROM WASTEWATER TREATMENT PLANTS BY Py-GC-MS C. TOMAS, G. MEJÍA, L. COMELLAS , F. BROTO-PUIG Section of Chromatography, Institut Químic de Sarrià (Universitat Ramon Llull), Barcelona, Spain</p>
Sewage Sludge	<p>P111 THE NESA PYROLYSIS PROCESS, AN INNOVATIVE SOLUTION FOR THE TREATMENT OF SLUDGE AND RESIDUES PAUL DOMINIQUE OUDENNE NESA, Product Line of Umicore Engineering, Louvain La Neuve, Belgium</p>
Sewage Sludge	<p>P112 THERMOGRAVIMETRIC STUDY OF DIFFERENT SEWAGE SLUDGES AND THEIR RELATIONSHIP WITH THE NITROGEN CONTENT M. F. GÓMEZ-RICO, R. FONT, I. MARTÍN-GULLÓN Department of Chemical Engineering, University of Alicante, Spain</p>
Sheeder residue	<p>P113 DETERMINATION OF LEAD SOURCES IN PYROLYSED AUTOMOTIVE SHREDDER RESIDUE - BY MATERIAL M K HARDER, N MOLES, O T FORTON, S MIKHALOVSKY University of Brighton, United Kingdom</p>
Shredder residue	<p>P114 DETERMINATION OF LEAD SOURCES IN PYROLYSED AUTOMOTIVE SHREDDER RESIDUE – BY SIZE FRACTION L J MCGRADY, M K HARDER, N MOLES, OT FORTON University of Brighton, United Kingdom</p>
Shredder residue	<p>P115 CHARACTERISATION OF LIQUID PRODUCTS FROM THE PYROLYSATION OF SHREDDER RESIDUE FINES OPTIMISED FOR METAL RECOVERY M K HARDER, LUCAS MCGRADY, SERGEY MIKHALOVSKY University of Brighton, United Kingdom</p>
Tyre	<p>P116 CHARACTERIZATION OF CARBON BLACK OBTAINED BY PYROLYSIS OF SCRAP TYRES M. OLAZAR, M. ARABIOURRUTIA, P. GONZÁLEZ, R. PRIETO, R. AGUADO Department of Chemical Engineering, University of the Basque Country, Bilbao, Spain</p>

Tyre	<p>P117 PREPARATION OF ACTIVATED CARBONS FROM GASIFICATION OF AUTOMOBILE TYRE PYROLYSED WITH STEAM AND CO₂ JUAN F. GONZÁLEZ, JOSÉ M. ENCINAR, CARMEN M. GONZÁLEZ-GARCÍA, JOSÉ L. CANITO* AND JOSÉ GAÑÁN. Dpto. Ingeniería Química y Energética. UEX. Badajoz. Spain *Dpto. Expresión Gráfica. UEX. Badajoz. Spain</p>
Tyre	<p>P118 PYROLYSIS OF ACCELERATORS USED IN RUBBER INDUSTRY AT DIFFERENT TEMPERATURES KARL G. ROSELL Department of Chemistry, Jonkoping University, Sweden</p>
Tyre	<p>P119 PYROLYSIS OF WASTE TYRES IN AN ATMOSPHERIC STATIC-BED BATCH REACTOR: ANALYSIS OF THE GASES OBTAINED J.F. MASTRAL, C. BERRUECO*, E. ESPERANZA, S. SERRANO, P. GARCÍA-BACAICOA Dept. Chemical & Environmental Engineering, University of Zaragoza, Spain</p>
Tyre	<p>P120 RUBBER TIRE THERMAL DECOMPOSITION IN A USED OIL ENVIRONMENT J. A. CONESA, I. MARTÍN-GULLÓN, R. FONT Department of Chemical Engineering, University of Alicante, Spain</p>
Tyre	<p>P121 SIMULATION OF FLUIDISED BED REACTOR FOR TYRE PYROLYSIS A M MASTRAL, R MURILLO, M V NAVARRO, M S CALLEN, J M LOPEZ ICB-CSIC Zaragoza, Spain</p>

CATALYSIS: EFFECTS AND APPLICATIONS

PE / MCM-48	<p>P122 CATALYTIC DEGRADATION OF POLYETHYLENE OVER MCM-48 YOUNG-KWON PARK¹, JOO SIK KIM^{1*}, JONG-KI JEON², JI MAN KIM³, SEUNGDO KIM⁴, YOUNG-MIN KIM⁴ ¹Faculty of Environmental Engineering, University of Seoul, Korea ²Dept. of Chemical Engineering, DongYang University, Korea ³Dept. of Molecular Science & Technology, Ajou University, Korea ⁴Dept. of Environmental System Engineering, Hallym Univ., Korea</p>
PE / HZSM-5	<p>P123 INFLUENCE OF THE HZSM-5 EXTERNAL SURFACE ON THE CATALYTIC CRACKING OF POLYOLEFINS D.P. SERRANO, J. AGUADO, J.M. ESCOLA, J.M. RODRÍGUEZ Rey Juan Carlos University, ESCET, Spain</p>
PE / Composite materials	<p>P124 CATALYTIC CRACKING OF HDPE OVER HYBRID ZEOLITIC-MESOPOROUS MATERIALS R. GARCÍA, D. P. SERRANO, D. OTERO. Chemical and Environmental Engineering Group. ESCET, Universidad Rey Juan Carlos. Spain.</p>
PE / Py-GC/MS	<p>P125 INVESTIGATION OF THE CATALYTIC CRACKING OF LDPE USING PY-GC/MS J. AGUADO, D.P. SERRANO, J.M. ESCOLA, G. SAN MIGUEL Universidad Rey Juan Carlos, ESCET, Spain</p>
PE/ HZSM-5	<p>P126 THERMAL STABILITY AND ANALYSIS OF GASES EVOLVED DURING THE THERMAL AND CATALYTIC PYROLYSIS OF DIFFERENT COMMERCIAL POLYETHYLENES R. NAVARRO, M. BELTRÁN, A. MARCILLA Departamento de Ingeniería Química, Universidad de Alicante, Spain</p>
EVA / MCM-41	<p>P127 MS STUDY OF THE EVOLUTION OF THE GASES EVOLVED IN THE PYROLYSIS OF EVA. COMPARISON BETWEEN THERMAL AND CATALYTIC PROCESSES A. MARCILLA, A. GÓMEZ, D. BERENGUER, J. AGULLÓ AND S. MENARGUES Departamento de Ingeniería Química, Universidad de Alicante, Spain</p>

PE /HZSM-5	<p>P128 ANALYSIS OF GASES OBTAINED IN THERMAL AND CATALYTIC FLASH PYROLYSIS OF HDPE IN A FLUIDIZED BED REACTOR M. R. HERNÁNDEZ, Á. N. GARCÍA, A. MARCILLA Departamento de Ingeniería Química, Universidad de Alicante, Spain</p>
PE /HZSM-5	<p>P129 LIQUIDS OBTAINED IN THE THERMAL AND CATALYTIC FLASH PYROLYSIS OF HDPE IN A FLUIDIZED BED REACTOR M. R. HERNÁNDEZ, Á. N. GARCÍA, A. MARCILLA Departamento de Ingeniería Química, Universidad de Alicante, Spain</p>
PE /HZSM-5	<p>P130 CATALYTIC FLASH PYROLYSIS OF PE IN A PYROPROBE 1000 A. MARCILLA, A. GOMEZ AND J. AGULLÓ Department of Chemical Engineering, University of Alicante, Spain</p>
PE/ HZSM-5	<p>P131 HZSM-5 AND HUSY DEACTIVATION DURING CATALYTIC PYROLYSIS OF POLYETHYLENE R. NAVARRO, M. BELTRÁN, A. MARCILLA Departamento de Ingeniería Química, Universidad de Alicante, Spain</p>
PE/ HZSM-5	<p>P132 EFFECT OF REGENERATION CONDITIONS ON THE ACTIVITY OF HUSY AND HZSM-5 ZEOLITES DURING CATALYTIC PYROLYSIS OF POLYETHYLENE R. NAVARRO, M. BELTRÁN, A. MARCILLA Departamento de Ingeniería Química, Universidad de Alicante, Spain</p>
PE+PP/ zeolites	<p>P133 STUDY OF THE PYROLYSIS BEHAVIOUR OF POLYPROPYLENE-POLYETHYLENE BLENDS A. MARCILLA, S. SÁNCHEZ, R. RUIZ AND J.C. GARCÍA-QUESADA Departamento de Ingeniería Química, Universidad de Alicante, Spain</p>
Hydropyrolysis/ Ni/Mo catalyst	<p>P134 MAXIMISING THE YIELD OF ALIPHATIC BIOMARKERS VIA A CONVENIENT TWO-STAGE HYDROLYSIS PROCEDURE WILL MEREDITH, COLIN E. SNAPE, CHRISTOPHER A. RUSSELL AND GORDON D. LOVE Nottingham Fuel and Energy Centre, School of Chemical, Environmental and Mining Engineering, University of Nottingham, UK</p>

Hydro-pyrolysis/ Mo catalyst	<p>P135 BEHAVIOUR OF FUNCTIONALISED MODEL COMPOUNDS IN CATALYTIC HYDROPYROLYSIS WILL MEREDITH, COLIN E. SNAPE, CHRISTOPHER A. RUSSELL, GORDON D. LOVE Nottingham Fuel and Energy Centre, School of Chemical, Environmental and Mining Engineering, University of Nottingham, UK.</p>
Wood /Fe	<p>P136 CHANGE OF THE MECHANISM OF PYROLYSIS OF WOOD AND ITS COMPONENTS UNDER THE ACTION OF IRON (3+) IONS G. DOBELE^{A,*}, T. DIZHBITE^A, G. ROSSINSKAJA^A, G. TELYSHEVA^A, D. MEIER^B, O. FAIX^B ^aLatvian State Institute of Wood Chemistry, Riga, Latviav ^bBFH, Institute for Wood Chemistry and Chemical Technology of Wood,, Hamburg, Germany</p>
PAH /CuO	<p>P137 PARTIAL OXIDATION OF PAH OVER CUO ANDRES FULLANA AND SUKH S. SIDHU Environmental Engineering, University of Dayton, Ohio, USA</p>

