

**OPERANDO III, April 19 - 23, 2009, Rostock-Warnemünde, Germany**  
**Scientific Program**

Technical structure

	Sunday	Monday	Tuesday	Wednesday	Thursday
08:30			PL3	PL4	PL5
09:00		Opening			
09:30		PL1	O3-2	O4-4	O5-8
09:50			O3-3	O4-5	O6-1
10:10			O3-4	O4-6	O2-7
10:30		Break	Break	Break	Break
11:00		O1-1	O3-5	O4-7	KL5 30 min
11:20		O1-2	O3-6	O4-8	11:30 /O6-3
11:40		O1-3	O3-7	O4-9	11:50 /O6-4
12:00		O1-4	O3-8	O5-1	12:10 /O6-5
12:20		Lunch	Lunch	Lunch	12:30 closing remarks 12:45 Lunch
14:30		KL1	KL2	KL3	
15:00		O1-5	O4-1	O5-2	
15:20		O2-1	O4-2	O5-3	
15:40		O2-2	O4-3	O5-4	
16:00		Break	Poster/ Break	Break	
16:30		O2-3		O5-5	
16:50		O2-4		O5-6	
17:10		O2-5		O5-7	
17:30		O2-6	Excursion (on own expense)	KL4	
17:50		O6-2			
18:10		O3-1		18:00 Poster	
18:30		PL2			
19:00	Welcome Reception				
20:00				Conference Dinner	

PL – Plenary lectures, 50 min. + 10 min. discussion

KL – Keynote lectures, 25 min. + 5 min. discussion

O – Oral contributions, 15 min. + 5 min. discussion

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Plenary lectures

Program No.	Title	Authors
PL1	MRI: The Catalyst Working in the Reactor Environment	Lynn Gladden
PL2	CO and C2= caught Red-Handed a Combined Reactor/Spectroscopy Study	Heiko Oosterbeek
PL3	Combining Operando Spectroscopy with Experimental Design, Signal Processing and Advanced Chemometrics. State-of-the-Art and a Glimpse of the Future.	Marc Garland
PL4	Combining diffuse reflectance infrared spectroscopy (DRIFTS) with transmission based synchrotron techniques for the time resolved study of working catalysts	Mark A. Newton
PL5	Spectroscopic and Molecular Modeling Approaches to Mechanistic Studies of Surface Reactivity	Zbigniew Sojka

Keynote lectures

Program No.	Title	Authors
KL1	Insights into NO <sub>x</sub> Storage-Reduction Mechanisms by Vibrational Spectroscopic Techniques	<u>Atsushi Urakawa</u> , Eva Rödel, Nobutaka Maeda, Holger Hesske, and Alfons Baiker
KL2	X-Ray Scattering and Spectroscopy Studies of Model Nanocatalysts	<u>Stefan Vajda</u> , Sungsik Lee, Byeongdu Lee, Sönke Seifert, Jeffrey Elam, Michael Pellin, Randall E. Winans, Kristian Sell, Ingo Barke, Armin Kleibert, Viola von Oeynhausen, Karl-Heinz Meiwes-Broer, Sonja A. Wyrzgol, Xuebing Li and Johannes A. Lercher
KL3	Pd at work during liquid-phase alcohol oxidation: combined ATR-IR, XANES, FTIR and UV study	<u>Davide Ferri</u> , Cecilia Mondelli, Jan-Dierk Grunwaldt, Alfons Baiker
KL4	The power of quantitative kinetic studies of adsorbate reactivity by operando/in situ spectroscopy	F. C. Meunier
KL5	Zeolites in the act: A combined micro-spectroscopic approach	<u>Marianne H. F. Kox</u> , Eli Stavitski and Bert M. Weckhuysen

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Oral contributions

Program No.	Title	Authors
O1-1	Spatio-temporally resolved fluorescence measurements of single catalytic turnovers	<u>Maarten B. J. Roeffaers</u> , Rob Ameloot, Gert De Cremer, Bert F. Sels, Dirk E. De Vos, Johan Hofkens
O1-2	Dealumination of Y-zeolite investigated by in situ Al K-edge XANES and parametric Rietveld refinement of time resolved XRPD patterns	<u>G. Agostini</u> , C. Lamberti, L. Palin, M. Milanesio, N. Danilina; B. Xu, J. A. van Bokhoven
O1-3	Sub second liquid transient ATR FT-IR micro flowcell for in-situ analysis of sorption phenomena and surface kinetics	<u>T. J. A. Renckens</u> , A. R. Almeida, M. R. Damen, G. Mul, M. T. Kreutzer
O1-4	Space- and Time-resolved operando DRIFT and Raman spectroscopic study on NOx storage-reduction	<u>Nobutaka Maeda</u> , Atsushi Urakawa, Alfons Baiker
O1-5	Nanoscale Chemical Imaging of a Working Fischer-Tropsch Catalyst by in situ Scanning X-ray Transmission Microscopy	<u>Emiel de Smit</u> , Ingmar Swart, J. Fredrik Cremer, Gerard H. Hoveling, Mary K. Gilles, Tolek Tyliczszak, Patricia J. Kooyman, Henny W. Zandbergen, Cynthia Morin, Bert M. Weckhuysen, & Frank M.F. de Groot
O2-1	Decoupling of the deactivation mechanisms in Co-based Fischer-Tropsch catalysts by a wide range of in situ spectroscopies at realistic working conditions	<u>Magnus Rønning</u> , Alexey Voronov, Nikolaos Tsakoumis, Øyvind Borg, Erling Rytter, Anders Holmen
O2-2	On line Raman investigations of the catalytic behavior of Wells-Dawson heteropolycompounds in the oxidation of propene	<u>E. Arendt</u> , E. M. Gaigneaux
O2-3	An operando XPS-MS study of the oscillations in the propane oxidation over nickel	<u>Vasily V. Kaichev</u> , Alexey Yu. Gladky, Igor P. Prosvirin, Valerii I. Bukhtiyarov, Raoul Blume, Michael Hävecker, Axel Knop-Gericke, Robert Schlögl
O2-4	SAPO Methanol to Olefin Catalysts Under Working Conditions	<u>David Wragg</u> , Poul Norby, Helmer Fjellvåg, Arne Grønvold, Terje Fuglerud, Jasmina Hafizovic, Ørnulv Vistad, Duncan Akporiaye
O2-5	In situ determination of hydrogen inside a catalytic reactor using Prompt Gamma Activation Analysis	<u>Detre Teschner</u> , János Borsodi, Zsolt Révay, Tamás Belgya, László Szentmiklósi, Zoltán Kis, Marc Armbrüster, Kirill Kovnir, Matthias Friedrich, Manfred Swoboda, Malte Behrens, Axel Knop-Gericke, Robert Schlögl
O2-6	Dynamic structure of supported platinum catalysts during oxidation of carbon monoxide	<u>Jagdeep Singh</u> , Evalyn M.C. Alayon, Moniek Tromp, Olga V. Safonova, Pieter Glatzel, Maarten Nachtegaal, Ronald Frahm, Jeroen A. van Bokhoven
O2-7	New Insights into Hydroformylation Kinetics	Mario Baseda, Klaus-Diether Wiese, Dieter Hess, <u>Robert Franke</u> , Michael Veith
O3-1	HP-NMR Investigations on Rhodium Catalysts for Hydroformylation	<u>Detlef Selent</u> , Wolfgang Baumann, Armin Börner, Klaus-Diether Wiese
O3-2	Kinetic and mechanistic investigations on rhodium complexes using operando UV/Vis-spectroscopy	<u>Christian Fischer</u> , Torsten Beweries, Angelika Preetz, Hans-Joachim Drexler, Uwe Rosenthal, Detlef Heller

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Program No.	Title	Authors
O3-3	The Catalytic Binuclear Elimination Reaction: Confirmation from In-situ FTIR studies of Homogeneous Rhodium Catalyzed Hydroformylation	<u>Chuanzhao Li</u> , Li Chen, Effendi Widjaja, Marc Garland
O3-4	Specific insight of active sites by operando resonance Raman spectroscopy: the case of new catalysts efficient for selective oxidation of isobutane	<u>Stéphane Loridant</u> , Quyen Huynh, Jean-Marc M. Millet
O3-5	In situ control of the crystal growth of g-Bi <sub>2</sub> MoO <sub>6</sub> catalyst in the presence of cobalt by combination of XRD, XAS and Raman spectroscopy	<u>Chanapa Kongmark</u> , Vladimir Martis, Annick Rubbens, Caroline Pirovano, Axel Löfberg, Gopinathan Sankar, Rose-Noëlle Vannier, Elisabeth Bordes-Richard
O3-6	Differences in nitrite reduction mechanism over Pt/Al <sub>2</sub> O <sub>3</sub> and Pd/Al <sub>2</sub> O <sub>3</sub> as found by ATR-IR spectroscopy	<u>B. L. Mojet</u> , S. D. Ebbesen, L. Lefferts
O3-7	Catching the red-ox state of Cu sites isolated in a nanoporous P4VP polymeric matrix during gas phase reactions	<u>E. Groppo</u> , M. J. Uddin, S. Bordiga, C. Lamberti, G. Spoto and A. Zecchina
O3-8	Caught in the Act: The Self-Assembly of Nanoporous Aluminophosphates Observed Using a Multi-technique Operando Approach	<u>Andrew M. Beale</u> , Matthew G. O'Brien, David S. Wragg, Russell E. Morris, Bert M. Weckhuysen
O4-1	Multidimensional insight into the synthesis of molybdate catalyst precursors by linking simultaneous in situ WAXS/SAXS/Raman with Raman/ATR/UV-vis spectroscopy	<u>Ursula Bentrup</u> , Jörg Radnik, Jork Leiterer, Franziska Emmerling, Angelika Brückner
O4-2	In situ monitoring of the drying process during the preparation of complex Mo-based oxides in levitated droplets with synchrotron X-ray scattering	<u>J. Radnik</u> , U. Armbruster, U. Bentrup, J. Leiterer, F. Emmerling, A. Brückner
O4-3	Shining new light on nucleation and growth processes of nanoparticles during chemical synthesis via coupled in situ SAXS/XANES	<u>Jörg Polte</u> , Friedmar Deließen, Torsten T. Ahner, Sergey Sokolov, Ralph Kraehnert, Martin Radtke, Uwe Reinholz, Heinrich Riesemeier, Franziska Emmerling, Andreas F. Thünemann, Ulrich Panne
O4-4	TiO <sub>2</sub> -supported oxorhenate catalysts: A multi-techniques operando study	<u>Elise Berrier</u> , Xavier Secordel, Sylvain Cristol, Mickaël Capron, Anne-Sophie Mamede, Christophe Dujardin, Edmond Payen, Angelika Brückner
O4-5	AGIR: new tool combining Analysis by Gravimetry and IR spectroscopy	<u>A. Alenda</u> , P. Bazin, F. Thibault-Starzyk
O4-6	Identification of hydrocarbon deposits present on methane reforming catalysts	<u>Ian Silverwood</u> , Neil G. Hamilton, R. Mark Ormerod, Hayley Parker, John Staniforth, Stewart F. Parker, Chris Frost and David Lennon
O4-7	Novel fibre-based mid-infrared spectroscopic sensor systems and their application in structured continuous flow reactors	Clemens B. Minnich, Lukas Küpper, Willi Hempelmann, Lasse Greiner, <u>Marcel A. Liauw</u>

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Program No.	Title	Authors
O4-8	Michael addition and alkylation of imidazoles in basic media monitored by in situ raman spectroscopy	Vanesa Calvino-Casilda, Miguel A. Bañares, <u>Enrique Lozano Diz</u>
O4-9	A new reaction cell for the FTIR operando study of monolith-supported catalysts	F. C. Meunier, P. Bazin, V. Blasin-Aube, O. Marie, <u>M. Daturi</u>
O5-1	Combined DFT modelling and operando techniques for better structure and reactivity understanding	Karim Hamraoui, Gautier Laval, Elise Berrier, <u>Sylvain Cristol</u> , Jean-François Paul, Edmond Payen
O5-2	Role of exposed metal sites in adsorptive properties of CPO-27-M (M= Mg, Zn, Co and Ni): combined use of ab-initio modeling and experimental results	C. Lamberti, E. Groppo, L. Valenzano, B. Civalieri, S. Chavan, F. Bonino, J. G. Vitillo, A. Zecchina and S. Bordiga
O5-3	On the mechanism of gas-phase methylation of phenol catalyzed by MgO: a combined computational, in-situ spectroscopic and reactivity approach	Nicola Ballarini, <u>Fabrizio Cavani</u> , Luca Maselli, Sauro Passeri and Johannes A. Lercher
O5-4	Resonance Raman spectroscopic and theoretical study of alumina supported vanadium oxide catalyst	<u>Hack-Sung Kim</u> , Stanislaus Zygmunt, Larry A. Curtiss, and Peter C. Stair
O5-5	Potential of the in situ FTIR for analysis of the oscillating system: Solving the riddles of non-steady state behavior of N <sub>2</sub> O decomposition over Fe/Pt-FER	<u>Z. Sobalik</u> , K. Jíša, A. Vondrová, D. Kaucký, B. Bernauer
O5-6	Pure Component Spectral Recovery: Algorithmic improvements and a new software	<u>Klaus Neymeyr</u> , Mathias Sawall, Dieter Hess
O5-7	When the nature of the reactant controls the structure of the catalyst: hydro-genation of alkynes on palladium	<u>Philippe Sautet</u> , Daniel Torres, Detre Teschner, Axel Knop-Gericke, Robert Schlögl
O5-8	In Situ Investigation of the Zinc-mediated biomimetic Hydration Reaction of Allene with Raman-spectroscopic Methods	<u>Burkhard O. Jahn</u> , Martin Presselt, Wilhelm A. Eger, Jürgen Popp, Ernst Anders
O6-1	Resolving the Contributions of Surface Lewis and Bronsted Acid Sites during NO <sub>x</sub> /NH <sub>3</sub> SCR: An Operando TP-IR Spectroscopic Investigation	Kevin Doura, Irène Malpartida, Marco Daturi, <u>Israel E. Wachs</u>
O6-2	FT-IR studies on Ga <sub>2</sub> O <sub>3</sub> and Pd-Ga <sub>2</sub> O <sub>3</sub> : reactivity for (reverse) water-gas shift	<u>K. Föttinger</u> , A. Haghofer, W. Jochum, B. Klötzer, A. Knop-Gericke, R. Schlögl, G. Rupprechter
O6-3	The observation of equilibria present in stepwise gas phase hydrogenation reactions	Andrew McFarlane, Liam McMillan, Ian Silverwood, Neil Hamilton, David T. Lundie and <u>David Lennon</u>
O6-4	Toward hypersensitive NMR of heterogeneous catalytic hydrogenations	<u>Igor V. Koptuyug</u> , Kirill V. Kovtunov, Vladimir V. Zhivonitko, Ivan V. Skovpin, Renad Z. Sagdeev
O6-5	Haloperoxidase reaction events monitored at single molecule level: Comparison between a Haloperoxidase enzyme and its inorganic biomimic	<u>Gert De Cremer</u> , Maarten Roeffaers, Virginia Martinez Martinez, Dirk De Vos, Johan Hofkens, Bert Selsa

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Posters

Program No.	Title	Authors
P1-01	Space- and Time-resolved In-Situ Spectroscopy on the Coke formation on H-SAPO-34 and H-ZSM-5 during the Methanol-to-Olefin Conversion	<u>Davide Mores</u> , Eli Stavitski and Bert M. Weckhuysen
P1-02	The role of additives in the ethylene oxychlorination chemistry	<u>N. B. Muddada</u> , U. Olsbye, T. Fuglerud, E. Groppo, S. Bordiga, C. Lamberti
P2-01	Dehydration of Glycerol to Acrolein on Heteropolyacids: Assessing Structure-Reactivity Relationships by Operando-EPR	Silke Erfle, Udo Armbruster, Andreas Martin, <u>Angelika Brückner</u>
P2-02	Comparing UV and visible operando Raman: An effective tool for reduced catalyst analysis	Xavier Secordel, <u>Elise Berrier</u> , Mickaël Capron, Jean-François Paul, Edmond Payen
P2-03	Operando fluorescent X-ray spectroscopy studies on the role of noble metal sensitizers in tin dioxide based gas sensors	<u>D. Koziej</u> , M. Hübner, J.-D. Grunwaldt, N. Barsan, U. Weimar
P2-04	Electrical conductivity of M2-type MoVTaNbO oxide during the gas phase partial oxidation of propylene: an operando approach	M. Caldararu, M. Scurtu, C. Hornoiu, C. Munteanu, <u>T. Blasco</u> and J. M. López Nieto
P3-01	Molecular structure and reactivity of MoO <sub>3</sub> /TiO <sub>2</sub> catalysts for the oxidative dehydrogenation of ethane	<u>George Tsilomelekis</u> and Soghomon Boghosian
P3-02	An Operando UV-vis study on the activity of Cu-ZSM-5 in the decomposition of N <sub>2</sub> O and the selective oxidation of CH <sub>4</sub>	Pieter J. Smeets, Marijke H. Groothaert, Emiel J.M. Hensen, Bert F. Sels and <u>Robert A. Schoonheydt</u>
P3-03	Effect of alkaline ions on the selectivity for SCR of NO with CH <sub>4</sub> : a comparison between Co-Na-MOR and Co-H-MOR catalysts	<u>Daniela Pietrogiacomi</u> , Maria Cristina Campa, Valerio Indovina
P3-04	Catalytic activity of In,H- and In,Pd,H-zeolite catalysts in the NO <sub>x</sub> -SCR reaction by methane	Hanna Solt, <u>Ferenc Lónyi</u> and József Valyon
P3-05	Highly Dispersed WO <sub>x</sub> Species on Titania Nanotubes Surface by In-Situ Thermo-Raman Study	M. A. Cortés-Jacome, C. Angeles Chavez, E. López Salinas and <u>J. A. Toledo</u>
P3-06	Dehydrogenation of propane over chromium catalysts: New insights into the nature of active chromium species	<u>M. Santhosh Kumar</u> , N. Hammer, M. Rønning, A. Holmen, De Chen, J.C. Walmsley, G. Øye
P3-07	Support effect on the sulfidation of Ni-Mo hydrotreatment catalysts	M. Olga Guerrero-Pérez, Aida Gutierrez-Alejandre, Jorge Ramirez, <u>Miguel A. Bañares</u>
P3-08	Study of Au/CeZrO <sub>4</sub> catalysts for the low temperature Water Gas Shift reaction; identification of the active Au species	H. Daly, <u>F. C. Meunier</u> , R. Pilasombat, R. Burch, A. Goguet and C. Hardacre
P3-09	Combined on-line transmission FTIR spectroscopy and BTEM studies for monitoring consecutive base-catalyzed aqueous-phase organic reactions	<u>Martin Tjahjono</u> , Effendi Widjaja, Chong Huiheng, and Marc Garland
P3-10	Combination of Mid-Infrared Spectroscopy and chemometric factorization tools to study the oxidation of lubricating base oils	<u>N. Gracia</u> , S. Thomas, L. Duponchel, F. Thibaut-Starzyk, O. Lerasle

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P3-11	Combination of Spectroscopic Measurements: in situ NMR and UV/Vis Spec-troscopy to understand the Formation of Group 4 Metallacyclopentanes from the corresponding Metallacyclopropenes	Torsten Beweries, Christian Fischer, <u>Stephan Peitz</u> , Vladimir V. Burlakov, Perdita Arndt, Wolfgang Baumann, Anke Spannenberg, Detlef Heller, and Uwe Rosenthal
P3-12	Coumarins Synthesis Monitoring by Raman Spectroscopy to Control the Preparation of Pharmaceuticals	V. Calvino-Casilda, <u>M. A. Bañares</u> and E. Lozano-Diz
P3-13	In-situ spectroscopic (FTIR and UV-Vis) investigation of the acid-catalysed oligomerization of unsaturated (methyl-acetylene) and aromatic (pyrrole, thiophene and furane) monomers inside the NAFION membrane	Jain Sagar Motilal, Svetoslava Vankova, <u>Elena Groppo</u> , Adriano Zecchina and Giuseppe Spoto
P3-14	In Situ Monitoring of Turbid Immobilized Enzymatic Systems: Lipase-Catalyzed Esterification of Oleic Acid Using Fiber-Optic Raman Spectroscopy	Erick Elfanso, Marc Garland, Kai Chee Loh, M. M. Rahman Talukder, <u>Effendi Widjaja</u>
P3-15	On-line NMR Spectroscopy of Technical Samples – Challenges and Solutions	Michael Maiwald
P3-16	Experimental Systems for Convenient and Robust In-Situ Liquid-Phase Spectroscopic Studies	<u>Feng Gao</u> , Chuanzhao Li, Cheng Shuying, Marc Garland
P3-17	Kinetic Investigations on Rhodium Catalyzed Ligand Modified Hydroformylation	<u>Christoph Kubis</u> , Ralf Ludwig, Detlef Selent, Armin Börner, Klaus-Diether Wiese, Dieter Hess
P3-18	Operando Raman-GC study of Mo-V-Nb-O catalytic system during the selective oxidation of propane to acrylic acid	Ricardo López-Medina, M. Olga Guerrero-Pérez and <u>M. A. Bañares</u>
P4-01	Automated Sampling Device for Kinetic Analysis of High Pressure Reactions: An Example from Rhodium Catalyzed Hydroformylation	<u>Christoph Kubis</u> , Detlef Selent, Hans-Joachim Stiller, Armin Börner, Ralf Ludwig, Kerstin Thurow
P4-02	New Insight in the Activation-Deactivation Processes of PtSn-based Propane Dehydrogenation Catalysts	<u>Ana Iglesias Juez</u> , Karin Maaijen, Bert M. Weckhuysen
P4-03	Reaction monitoring of heterogeneously catalysed hydrogenation of imines via coupled ATR-FTIR/Raman spectroscopy	<u>Leif R. Knöpke</u> , Navid Nemati, Angela Köckritz, Ursula Bentrup, Angelika Brückner
P4-04	An in situ multiple-technique setup to reveal greater insight into catalysts	<u>Matthew G. O'Brien</u> , Andrew M. Beale, Bert M. Weckhuysen
P4-05	In-Situ ESR/GC Study of n-, iso- Butanes Hydrogenolysis over Ni-Re Catalysts	<u>E. H. Ismailov</u> , Yu. A. Ganbarova, M. J. Maharramov, D. B. Tagiyev, M. I. Rustamov
P4-06	In-Situ IR Investigations on the Equilibria of Ligand Modified Rhodium Catalyst Species	<u>Enrico Barsch</u> , Ralf Ludwig, Detlef Selent, Armin Börner, Klaus-Diether Wiese, Dieter Hess
P4-07	The structure of supported vanadium oxide under reaction conditions determined during the oxidation of H <sub>2</sub> S to sulphur by XAS and Raman	J. P. Holgado, M. D. Soriano, J. Jimenez-Jiménez, A. Jiménez-López, <u>P. Concepción</u> , A. Caballero, E. Rodríguez-Castellón, J. M. López Nieto

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Program No.	Title	Authors
P4-08	Development of a magnetometer for operando catalyst characterization	<u>Michael Claeys</u> , Simon Kelly, Eric van Steen, Kobus Visagie, Jan van de Loosdrecht, Igor Krylov
P4-09	Monitoring Reactions of Gases in the NMR tube	<u>Wolfgang Baumann</u> , Detlef Heller, Detlef Selent
P4-10	Coupling Techniques for operando Catalysis Experiments involving X ray absorption spectroscopy (XAS)	<u>Camille La Fontaine</u> , Françoise Villain, Valérie Briois, François Baudelet, Quingyu Kong, Xavier Sécordel, Anthony Yoboué, Elise Berrier, Sylvain Cristol
P4-11	Combination of a multi-channel reactor system with UV/vis spectroscopy or XRD: proof of principle	<u>M. J. G. Fajt</u> , M. Schneider, E. V. Kondratenko, D. Linke, J. Tilgner, A. Bjeoumikhov, M. Brettschneider, U. Rodemerck
P5-01	Nickel-Catalyzed Isomerization of 2-Methyl-3-Butenenitrile (2M3BN) to 3-Pentenenitrile (3PN) A Kinetic Study Using in situ FTIR-ATR Spectroscopy	<u>Laura Bini</u> , Evgeny Pidko, Christian Müller, and Dieter Vogt
P5-03	Effects of Ni as a promoter atom on sulfidation of NiMo/ $\gamma$ -Al <sub>2</sub> O <sub>3</sub> hydrotreating catalysts	<u>Ana Hrabar</u> , Johannes A. Lercher
P5-04	Combination of theory and experiment to study the effect of alkali additives on the structure and reactivity of the vanadium catalytic system	<u>A. E. Lewandowska</u> , M. Calatayud, C. Minot, M. A. Bañares
P5-05	Combining in-situ DRIFTS and BTEM for Heterogeneous Catalytic Studies. Comparison of Pt/Al <sub>2</sub> O <sub>3</sub> and Pd/Al <sub>2</sub> O <sub>3</sub> systems for CO and NO adsorption	<u>Srilakshmi Chilukoti</u> , Feng Gao, Effendi Widjaja, Huajun Zhang, Bruce G. Anderson, J. W. (Hans) Niemantsverdriet and Marc Garland
P6-01	In situ Synchrotron-based Infrared Microspectroscopic Study of Styrene and Thiophene Conversion on ZSM-5	<u>Eli Stavitski</u> , Marianne H.F. Kox, Ingmar Swart, Frank M.F. de Groot and Bert M. Weckhuysen
P6-02	Enhanced reactivity of chromocene carbonyls confined inside the cavities of NaY zeolite via an electron transfer mechanism	J. Estephane, <u>E. Groppo</u> , A. Damin, J. G. Vitillo, D. Gianolio, C. Lamberti, S. Bordiga, C. Prestipino, S. Nikitenko, E. A. Quadrelli, M. Taoufik, J. M. Basset, and A. Zecchina
P6-03	Operando Spectroscopy: In-situ Analysis of Supported Pt Catalysts during H <sub>2</sub> Oxidation	V. A. Self and <u>P. A. Sermon</u>
P6-04	CO Oxidation Over Titania Nanotubes Surface by FTIR Study	<u>J. A. Toledo Antonio</u> , M. A. Cortes-Jácome, J. Navarrete, C. Angeles Chávez, E. López Salinas, A. Rendon River
P6-05	In-situ DRIFTS-MS study of preferential oxidation of CO in H <sub>2</sub> rich stream over CeO <sub>2</sub> coated Cu <sub>0.9</sub> M <sub>0.1</sub> O (M = Co, Zn and Sn) catalysts	<u>Parthasarathi Bera</u> , Aitor Hornés, Arturo Martínez-Arias
P6-06	Catalysis Science of Bulk Mixed Metal Oxide Catalysts: An Operando IR-TPSR Spectroscopic Study	Kamalakanta Routray, <u>Israel E. Wachs</u>