8th International Symposium on Group Five Elements  
Málaga, 24-27 June, 2014

**Tuesday 24th**

18:00 – 20:00 Registration

20:30 Welcome Reception at “Lamoraga Antonio Martin”

**Wednesday 25th**

9:00 – 9:25 Conference Opening Ceremony

9:25 – 10:10 Plenary 1  
Chair Session: M.O. Guerrero-Pérez (Universidad de Málaga, Spain)

  Vadim V. Guliants, University of Cincinnati (OH, USA)  
  “Mechanism of Propane Ammoxidation over Mo-V-Tc-Nb-O M1 Phase Investigated by Density Functional Theory”

10:10 – 13:30 Oral Session 1  
Chair Session: Guido Busca (Università di Genova, Italy)

O1 10:10 – 10:30 I.E. Wachs Lehigh University (USA)  
“A critical literature review of the kinetics for the oxidative dehydrogenation of propane over well-defined supported vanadium oxide catalysts”

O2 10:30 – 11:10 G. Mestl, Clariant AG (Germany)  
“Improved selective oxidation of n-butane to maleic anhydride over latest generation SynDane vanadyl pyrophosphate catalysts”

O3 11:10 – 11:30 Alessandro Chieregato, Università di Bologna (Italy)  
“Substituted-hexagonal tungsten bronzes: correlation between physical-chemical features and catalytic performance. The example of glycerol oxidehydration.”

11:30 – 12:00 Coffee Break

O4 12:00 – 12:20 F. Averseng, UPMC (France)  
“Pseudo-tetrahedral V species as the active sites of the selective oxidative dehydrogenation of propane”

O5 12:20 – 12:40 Benajamín Solsona, Universitat de València (Spain)  
“Total oxidation of VOCs in vanadia-promoted platinum-alumina catalysts: influence of the order of impregnation”

O6 12:40 – 13:00 Katrine Lie Bøyesen, Norwegian University of Science and Technology (Norway)  
“Exposing the Synergistic Effect between Copper and Vanadium in AlPO-5 for the Selective Oxidation of Propene”

O7 13:00 – 13:20 K. Nakajima, Tokyo Institute of Technology (Japan)
“5-hydroxymethyl furfural production from glucose aqueous solution over Nb2O5 with water-tolerant Lewis acid site”

13:30 – 15:00 Lunch

15:00 – 15:45 Plenary 2
Chair Session: Israel E. Wachs (Lehigh University, USA)

Mònica Calatayud, Universite P. M. Curie (Paris, France)
“Theoretical insights on V2O5 materials: from the gas phase to supported catalysts”

15:45 – 19:15 Oral Session 2
Chair Session: Israel E. Wachs (Lehigh University, USA)

O8 15:45 – 16:05 Beatriz Irigoyen, Universidad de Buenos Aires, (Argentina)
“A first-principles modeling of glycerol and ammonia interactions on the cation-deficient VSbO4(110) surface”

O9 16:05 – 16:25 S. Shaikhudinov, Fritz Haber Institute (Germany)
“Model Studies on Vanadia on Planar Oxide Supports: Continued”

O10 16:25 – 16:45 Young-Kwon Park, (University of Seoul, Korea)
“Catalytic fast pyrolysis of cellulose and xylan over V2O5 loaded catalysts”

O11 16:45 – 17:05 Roxana S. Marin, University of Bucharest (Romania)
“Mesosstructured vanadia-alumina catalysts for the synthesis of vitamin K3”

O12 17:05 – 17:25 G. Licini, University of Padova (Italy)
“V(V)-Aminotriphenolate Complexes as Effective Catalysts for Oxidations”

17:25 – 17:55 coffee break

O13 17:55 – 18:15 Izabela S. Pieta, Institute of Power Engineering, Research & Developing Centre (Warsaw, Poland)
“Biofuel Steam Reforming Catalyst for Fuel Cell Application”

O14 18:15 – 18:35 Aimery De Mallmann (University of Lyon, France)
“Vanadium Oxo Organometallic Species Supported on Silica for the Selective Non-oxidative Dehydrogenation of Propane”

O15 18:35 – 18:55 A. Malmusi, Università di Bologna (Italy)
“Vanadium - Based Mixed Oxides for Ethanol Transformation”

O16 18:55 – 19:15 M. Mhamdi, Université de Tunis El Manar (Tunisie)
“Influence of the molybdenum salts precursor on the molybdenum speciation and catalytic properties of V-Mo-ZSM-5 prepared by solid-state reaction”

19:30 - 23:00 Guided visit to Malaga old City with dinner at Pimpi Restaurant.
Thursday 26th

8:30 – 9:15 Plenary 3
Chair Session: M.O. Guerrero-Pérez (Universidad de Málaga, Spain)

José M. López Nieto, ITQ UPV CSIC (Valencia, Spain)
“V- and/or Nb containing mixed oxides bronzes as multifunctional catalysts for the selective oxidative transformation of hydrocarbons”

9:15 – 11:15 Oral Session 3
Chair Session: Miguel A. Bañares (ICP CSIC, Spain)

O17 9:15 – 9:35 Sébastien Maussang, Ranishaw Ibérica (Spain)

O18 9:35 – 9:55 Olga Lapina, Boreskov Institute of Catalysis (Russia)
“Multinuclear SSNMR/DFT GIPAW for molecular structure and reactivity relationships for supported vanadia catalysts”

O19 9:55 – 10:15 M. Setnička, University of Pardubice (Czech Republic)
“Benefits and limitations of multiwavelength Raman and DR UV–vis spectroscopy in characterization of VOX/SiO2 complexes speciation”

O20 10:15 – 10:35 Søren Rasmussen, Topsoe (Denmark)
“The Lewis-Broństed acid sites interplay on vanadia-based catalyst for NH3-SCR”

O21 10:35 – 10:55 E. Rodríguez-Castellón, Universidad de Málaga (Spain)
“Vanadium oxide supported on porous clay heterostructures for the partial oxidation of H2S to sulfur”

O22 10:55 – 11:15 M. Gallastegi, UPV (Spain)
“VOx/TiO2 catalyst activity in the simultaneous removal of NOx and PCDD”

11:15 – 11:45 Coffee Break

11:45 – 13:00 Oral Session 4
Chair Session: Goutam Deo (Lehigh University, India)

O23 11:45 – 12:05 I. Sobczak, AMU (Poland)
“AuCu bimetallic system based on Nb/MCF and Nb2O5 – surface characterization and catalytic activity in alcohols oxidation”

O24 12:05 – 12:25 M.A. Bañares, ICP CSIC (Spain)
“Acetalization of glycerol with acetone over mesoporous cellular foams (MCF) modified with niobium and tantalum”

O25 12:25 – 12:45 M. Di Serio, University of Naples Federico II (Italy)
“New niobium-phosphate-silicate catalysts for esterification reactions”

O26 12:45 – 13:05 E. Lachter, Universidade Federal do Rio de Janeiro (Brazil)
“Niobium Phosphate as Catalysts in the Acetalization Reaction”

13:30 – 15:00 Lunch

15:00 – 17:00 Oral Session 5
Chair Session: J. Rodriguez-Mirasol (Universidad de Málaga, Spain)

O27 15:00 – 15:20 M. Ziolek, AMU (Poland)
“Insight into the interaction of hydrogen peroxide with niobium(V) and tantalum(V) oxides”

O28 15:20 – 15:40 Atsushi Takagaki, The University of Tokyo (Japan)
“Selective Cyclodehydration of Sorbitol over Layered Niobium/Tantalum Molybdate”

O29 15:40 – 16:00 Agata Wawrynczak, AMU (Poland)
“Nioboorganosilicates of SBA-15 and MCM-41-types as universal platforms for drug and vitamin administration”

O30 16:00 – 16:20 Matteo Guidotti, CNR-ISTM, (Italy)
“Grafted non-ordered niobium-silica catalysts for the selective oxidation of cyclic alkenes and substituted phenols”

O31 16:20 – 16:40 T. Souza, UFMG (Brazil)
“Amphiphilic niobium oxyhydroxide as catalyst for acetalisation of residual glycerol”

O32 16:40 – 17:00 K. Stawicka, AMU (Poland)
“The reduction of MCF synthesis time by the application of MPTMS and Nb or Ta”

17:00 – 19:00 Poster Session

20:30 Gala Dinner (typical “Moraga” party) at Candado Club
Friday 27th

8:30 – 9:15 Plenary 4
Chair Session: M.O. Guerrero-Pérez (Universidad de Málaga, Spain)

Valeria Conte, University of Roma Tor Vergata (Italy)
“V-catalysis in Sustainable Oxidations with H₂O₂”

9:15 – 11:15 Oral Session 6
Chair Session: M. Ziolek (AMU, Poland)

O33 9:15 – 9:35 Hongqi Sun, Curtin University (Australia)
“Single C-, N-doping and co-doping of Ta2O5 for photodegradation of dye under UV or visible light”

O34 9:35 – 9:55 Tetsuya Shishido, Tokyo Metropolitan University (Japan)
“Photocatalytic Cross-Dehydrogenative Coupling Reactions Over Nb2O5”

O35 9:55 – 10:15 K. Maeda, Tokyo Institute of Technology (Japan)
“Construction of photocatalytic water splitting assemblies using nanostructured niobates”

O36 10:15 – 10:35 C. Pan, National Institute of Materials Science (Japan)
“Photocatalytic overall water splitting on a Ta-oxynitride with an adsorption band edge of ca. 600 nm”

O37 10:35 – 10:55 Juan Coronado, IMDEA (Spain)
“Effect of the noble metal co-catalyst on the photocatalytic H₂ production over modified NaTaO₃ semiconductors”

O38 10:55- 11:15 A.M. Ferrari Lima, Universidade Tecnológica Federal do Paraná, (Brazil)
“Synthesis, characterization and photocatalytic activity of N-doped TiO₂/Nb₂O₅”

11:10 – 11:45 Coffee Break

11:45 – 13:30 Oral Session 7
Chair Session: P. Maireles (Universidad de Málaga, Spain)

O39 11:45 – 12:05 Thivolle-Cazat, CNRS (France)
“Dynamic Behaviour of the Tantalum Hydride Supported on MCM-41 in the Metathesis of Alkanes.”

O40 12:05 – 12:25 M. Moreno Recio, Universidad de Málaga (Spain)
“Mesoporous tantalum oxide as catalyst for dehydration of glucose to 5-hydroxymethylfurfural”

O41 12:25 – 12:45 M. Cortés-Reyes, Universidad de Málaga (Spain)
” Ta-supported catalysts for DME production“

O42 12:45 – 13:05 J.N. Kondo, Tokyo Institute of Technology (Japan)
“Emergence of Brönsted and Lewis Acid Sites on Ta2O5 Layer on SBA-15.”

O43 13:05 – 13:25 I.E. Wachs, Lehigh University (PA, USA)
“Nature of Catalytic Active Sites present on the surface of advanced bulk tantalum mixed oxide photocatalysts”

13:25 M.O. Guerrero-Perez, Universidad de Málaga (Spain)
Concluding remarks
Posters

Agata Wawrynczak (Adam Mickiewicz University, Poland)
“Catalytic Baeyer-Villiger oxidation of citral using mesoporous materials containing niobium and tin”

Agata Wawrynczak (Adam Mickiewicz University, Poland)
“Synthesis and characterization of cubic and hexagonal silicas modified with Nb, Al or Pt”

Alba E. Díaz Alvarez (ICP CSIC, Spain)
“Calalytic activity of supported Nb and Ta acid catalysts”

Anna Wojtaszek-Gurdak (Adam Mickiewicz University, Poland)
“Comparative study of MCM-22 and MCM-56 modified with niobium and zirconium - metal impact on acidic and redox properties”

Akila Barama (Faculty of Chemistry-UST HB, France)
“Physico-chemical characterization of V-Mg-O mixed oxides. Catalytic performances in the oxidative dehydrogenation of ethane.”

Leoš Balatka (University of Parbudice, Czech Republic)
“VOX-Ti-SBA-15 CATALYSTS WITH DIFFERENT RATIO Ti/Si AND V/Ti IN OXIDATIVE DEHYDROGENATION OF n-BUTANE”

Pavel Čičmanec (University of Pardubice, Chezc Republic)
“Influence of guest VOx phase deposited on surface of porous support to its textural properties determined by physical adsorption”

G. Pavarelli, University of Bologna (Italy)
“An in-situ Raman and reactivity study of the transformations occurring in Nb-doped vanadyl pyrophosphate catalyst”

Miguel A. Bañares (ICP-CSIC, Spain)
“The reduction of MCF synthesis time by the application of MPTMS and Nb or Ta.”

Cristina Tiozzo (ISTM-CNR, Italy)
“Stability of niobium-silica catalysts in repeated liquid-phase epoxidation tests: in-framework and grafted mixed oxides”

Aimery De Mallmann (University of Lyon, France)
“Cyclohexyl Hydroperoxide Decomposition Catalyzed by Supported Tantalum Complexes”

Rosa Turco (University of Naples Federico II, Italy)
“Influence of Niobium Oxide structure in the epoxidation reaction.”

M. Di Serio, University of Naples Federico II (Italy)
“Influence of Niobium Oxide structure in the epoxidation reaction.”

M. Florea, University of Bucharest (Romania)
“Vanadium-aluminum based catalysts doped with iron for the selective oxidation of p-xylene”

R. Portela, ICP CSIC (Spain)
“Vanadia-titania based catalysts for ammonia removal”
F. Rodriguez, Universidad de Málaga (Spain)
“Niobium oxide modified catalyst for biodiesel production by esterification of fatty acids”

F. Bautista, Universidad de Córdoba (Spain)
“Surface chemical properties and catalytic performance in the 2-propanol decomposition of vanadium oxides supported on amorphous-AlPO4”

H. Oliveira, Universidade Federal de Minas Gerais (Brazil)
“A floating photocatalyst device based on polypropylene impregnated with niobium oxide”

H. Oliveira, Universidade Federal de Minas Gerais (Brazil)
“Nanostructured vanadium-doped iron oxide: catalytic oxidation of organic contaminants”

P. Maireles, Universidad de Málaga (Spain)
“V and V-P containing Zr-SBA-15 catalysts for dehydration of glicerol to acrolein”

J.M. Jehng, National Chung Hsing University (Taiwan)
“Water splitting efficiency of InVO4 catalysts synthesized by the hydrothermal process with various In/V molar ratio”

Libor Capek, University of Pardubice (Czech Republic)
“Oxidative dehydrogenation of ethane over vanadium supported alumina, silica and alumina-SBA-15 materials. Characterization of VOx species under reaction conditions.”

M. Olejniczak, AMU (Poland)
“Comparative study of Zr, Nb, Mo containing SBA-15 grafted with amino-organosilanes”

M.J. Campos, ICP CSIC (Spain)
“Exploitation of niobium oxide effective acidity for xylose dehydration to furfural”

M. Godino, UNED (Spain)
“Eco-friendly Synthesis of 2-Amino-4H-chromenes Catalyzed by Niobium Mesoporous Cellular Foams (NbMCF)”

M. Cortés-Reyes, Universidad de Málaga (Spain)
“V, Nb and Ta alumina-supported catalysts for methanol dehydration”

M.O. Guerrero-Pérez, Universidad de Málaga (Spain)
“Vanadium based Catalysts with Controlled Morphology and Porous Structure obtained by a simple and low cost method”

G. Deo, IIT Kanpur (India)
“Titania-Silica Supported Vanadia Catalysts for the ODH of Propane”

D. Svadlak, University of Pardubice (Czech Republic)
“Mesoporous vanado-silicate materials prepared by direct synthesis and impregnation method”

J. Thivolle-Cazat, CNRS (France)
“Olefin Hydro-Metathesis Versus Alkane Metathesis: Similarities and Differences”

M. Trejda, AMU (Poland)
“The impact of various Nb containing supports on acid sites formation using MPTMS”
P. Wallis, Leibniz Institute for Catalysis (Germany)
“New vanadia-based catalysts for the selective oxidation of methane to formaldehyde”