

## INFORMAZIONI PERSONALI

Jan Kašpar

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Ricerca Italiana

POSIZIONE PER LA QUALE SI  
CONCORRE  
POSIZIONE RICOPERTA  
OCCUPAZIONE DESIDERATA  
TITOLO DI STUDIO PER LA  
QUALE SI CONCORRE

Valutatore

ESPERIENZA  
PROFESSIONALE

2017-attuale	Professore ordinario di Chimica Industriale e Tecnologica. Università degli studi di Trieste
2005-2017	Professore ordinario di Chimica Generale ed Inorganica. Università degli studi di Trieste
1998-2005	Professore associato di Chimica Generale ed Inorganica. Università degli studi di Trieste
1983-1998	Ricercatore in Chimica Generale ed Inorganica. Università degli studi di Trieste
Esperienze all'estero	
1988	Visiting researcher National Institute of Health, Bethesda,
1989	Visiting researcher Polytechnic University New York
1997, 1998, 1999, 2000,	Visiting professor Universidad Cadiz
200, 2012, 2015	Visiting professor Queens University of Belfast / Comitato Scientifico CENTACAT (Centre for the Theory and Application of Catalysis).
2006, 2007	Chalmers University of Goteborg
2014	

## ISTRUZIONE E FORMAZIONE

Dicembre 1980 Laurea in Chimica (110/100 e lode) Università di Trieste

## COMPETENZE PERSONALI

Lingua madre Italiano e Ceco

Altre lingue	COMPRESIONE		PARLATO		PRODUZIONE SCRITTA
	Ascolto	Lettura	Interazione	Produzione orale	
Inglese	C2	C2	C2	C2	C2
Sostituire con il nome del certificato di lingua acquisito. Inserire il livello, se conosciuto					
Spagnolo	B2	B2	B2	B2	A1
Russo	A1	B2	A1	A1	A1
Sostituire con il nome del certificato di lingua acquisito. Inserire il livello, se conosciuto					

Livelli: A1/2 Livello base - B1/2 Livello intermedio - C1/2 Livello avanzato  
 Quadro Comune Europeo di Riferimento delle Lingue

Competenze comunicative Docente universitario con esperienza pluriennale.

Competenze organizzative e gestionali Gestione progetti di ricerca, regionali, nazionali, europei nonché quelli industriali. Co-fondatore di uno spin-off Universitario.  
 Direttivo/Giunta del Consorzio Nazionale Interuniversitario La Chimica per l'Ambiente  
 Valutatore per National Science Foundation (USA), Finland Science Foundation, ecc.  
 Valutatore da oltre 5 anni di progetti regionali POR-FESR Regione Toscana:  
**2018 Valutatore di progetti POR-FESR – Regione Campania**  
**2018-2017 Valutatore Commissione Valutazione progetti POR-FESR Toscana – Coordinatore Area Chimica/Nanotecnologie**  
**2015 Valutatore e uno dei coordinatori della Commissione di Valutazione progetti POR-FESR Regione Toscana**  
**2015- Valutatore POR-FESR per Regione Sardegna**  
**2014-2013 Uno dei coordinatori della Commissione di Valutazione delle proposte progettuali Smart Specialization Toscana 2014-2020. Collaborazione alla predisposizione della S3 Toscana**  
**2014-2013 Collaborazione alla predisposizione della S3 Regione F.V.G.**  
**2012 Commissione di Valutazione progetti POR-FESR Regione Toscana**  
**2010-2016 Valutatore per Progetti MIUR (FIRB, PRIN...)**  
**Esperto MIUR iscritto a Reprise: Ricerca di base; Ricerca industriale competitiva e per lo sviluppo sociale.**

Competenze professionali

- Coautore di oltre 120 pubblicazioni su riviste internazionali, di cui oltre 80 come corresponding author e 6 domande brevettuali. H-index 45.
- Responsabile di numerosi progetti di ricerca in collaborazione con Industrie in diversi settori (Magnetit Marelli (FIAT Holding), MEL Chemicals (UK), Fincantieri S.p.A., Cetena (Fincantieri Holding), R.I.N.A. (Registro Navale Italiano), Wartsila Italia S.p.A., Danieli & co, ecc.

Competenze informatiche Esperienza di ca. 40 anni nell'utilizzo di computer, software applicativi, ivi inclusa la programmazione.

Altre competenze

- Valutatore per numerose Istituzioni, sia nazionali che internazionali (National Science Foundation (USA), Finlandia, TWAS, UK, Svezia).
- CdA di Consorzio Nazionale Interuniversitario La Chimica per Ambiente (INCA)
- Fondatore spin-off NANOXER. – Vincitore del 1° Premio Nazionale Innovazione (2007)
- UNIDO expert for Automotive Catalysis
- Referee per numerose riviste ISI

Patente di guida B

#### ULTERIORI INFORMAZIONI

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Pubblicazioni Cfr. CV allegato  
Presentazioni  
Progetti  
Conferenze  
Seminari  
Riconoscimenti e premi  
Appartenenza a gruppi /  
associazioni Rotary Italia  
Referenze

Dati personali Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".

Trieste, 30/10/2018

#### ALLEGATI

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CV ed elenco delle pubblicazioni..

Jan Kašpar is a full professor in industrial and Technological Chemistry at the University of Trieste, Department of Chemical and Pharmaceutical Sciences. He has spent periods as a visiting researcher in USA (Polytechnic University, New York), NIH (Bethesda), and Spain (University of Cadiz). He is co-author of over 120 publications and six patent applications/patents in the fields of homogeneous, heterogenised and heterogeneous catalysis (H-index of over 40, cit. > 8800). In particular, the research in the heterogeneous catalysis has been focused on innovative catalytic systems for the abatement of the automotive exhausts, using nanostructured CeO<sub>2</sub>-ZrO<sub>2</sub> mixed oxides as oxygen storage promoters in the automotive three-way catalysts. This research has been performed in co-operation with leading industries such as Magneti Marelli (FIAT Holding) and MEL Chemicals. In the last years, research concerning the Environmental aspects was focused on the problems of the abatement of emissions from ships: the group was part of the ECOMOS project led by Fincantieri S.p.A. aimed at developing a combined strategy for PM, NO<sub>x</sub> and SO<sub>x</sub> removal. Specifically, different engineering problems have been addressed: A laboratory micro-pilot plant equipped with an engine and scrubber has been designed and realized for preliminary testing of the various sections real-scale pilot plant. This micro-plant has then been successfully employed for sizing of a real-scale prototype. Testing and certification of marine engine emissions was performed in co-operation with CETENA S.p.A. Assessment of the emission system of the FSRU - OLT (floating storage and regasification unit) has been carried out in collaboration with Saipem. The research group also cooperated with Wartsila Italia S.p.A. in testing and developing of commercial deNO<sub>x</sub> technology.

In addition to development of catalysts for pollution abatement, the research focused the fields of nanostructured catalysts for hydrogen production and purification and nanostructured aerogel-like materials as thermal superinsulators. The results of the research on aerogel-like materials led to novel materials and in 2007 a business plan denominated [NANOXER](#), based on the industrialisation of the aerogel-like materials, has won the first prize in the PNI competition ([Premio Nazionale Innovazione](#) - National Innovation Award). In 2008 the academic spin-off [Nanoxer s.r.l.](#) has been established; Jan Kaspar is a co-founder. The spin-off company started working on the industrialization of the aerogel-like insulation materials. Despite the hard work and successful industrialisation on a pilot scale of the aerogel synthesis process, durable and cost-effective commercial super-insulators could not be attained. Consequently, this project has been abandoned despite that relevant results could be attained in a joint project (Porta Tagliafuoco Innovative - Innovative Fireproof Doors) with Fincantieri as group leader concerning the development of materials for advanced fireproof naval doors. Since 2011, jointly with the Department and industrial partners, Nanoxer has also carried out research in the fields of marine engine pollution abatement and steel-making processes. This latter research, carried out in co-operation with Danieli Centro Ricerche (Danieli Research Center), led to

development of effective instrumentation capable to perform full composition/real-time off-gas analysis. The instrumentation has recently been industrialized by Nanoxer.

He has been invited to give series of lectures at international conferences, leading automotive and catalyst industries, in addition to a number of invited reviews and papers contributed to international journals. He has been a member of the editorial board of Catalysis Today and Journal of Rare Earths (ISI journals). He has been a member of the executive board of the former Interuniversity Consorziom "Chemistry for the Environment" ([INCA](#)) that jointed research groups from 32 Italian Universities working in the field on Environmental/Sustainable Chemistry.

## **Elenco delle conferenze tenute su invito, delle pubblicazioni e dei brevetti del Prof. Jan Kašpar.**

### **a) Elenco delle conferenze tenute su invito a congressi nazionali/internazionali**

- Divisione di Chimica Inorganica della SCI, Palermo, Giugno 1996. (Plenary Lecture)
- 4th European Mediterranean Conference in Inorganic Chemistry, Corfu, Grecia, Ottobre 1997. (Session Lecture)
- 3rd international Conference on f Elements, Paris, Francia, Settembre 1997, (Session Lecture).
- 3rd Japan-EU joint workshop on the Frontiers of Catalytic Science & Technology for energy, Environment and Risk Prevention, Tsukuba, Giappone, Novembre 1997, (Session Lecture).
- Workshop on New Catalytic Systems and Processes Applicable to Small and Medium Enterprises, Bratislava, Rep. Slovacca, Settembre 1998 (Invited lecture).
- SECAT-99, Biannual meeting of «Sociedad Española de Catálisis (SECAT)» (Spanish Society of Catalysis), Cadiz, Spagna, Settembre 1999, (Plenary lecture).
- Workshop: Chimica e luce di sincrotrone: programmi attuali e prospettive future ad ELETTRA, Elettra Sincrotron, Trieste, Maggio 2001, (Invited Lecture).
- New Perspectives on Catalysis for Sustainable Chemical Technologies, Beijing, Cina, Settembre 2001, (Keynote lecture).
- 23rd Rare Earth Research Conference (RERC), Davis (CA), USA, Luglio, 2002, (Keynote lecture).
- 10<sup>th</sup> Euchems Conference on Chemistry and the Environment, Rimini, Italy, September 2005 (Invited Lecture).
- XXXVII Czech and Slovak Symposium on Catalysis, Prague, Czech Republic, November 2005 (Plenary lecture).
- “Mastering textural and redox properties of CeO<sub>2</sub>-ZrO<sub>2</sub> nanostructured oxides”, International Workshop on “New Approaches to Surface Engineering of Nanoxide Catalysts”, February 24-25<sup>th</sup>, 2006, Krakow (Poland), (Plenary lecture).
- “Abbattimento di inquinamento atmosferico da navi: problemi e prospettive?”, Attività maritime e tutela ambientale, International Propeller Club, Monfalcone, Italy, November 2006 (Invited lecture).
- “Selective CO oxidation for H<sub>2</sub> clean-up”, NIS Colloquium – Nanostructured Materials for H<sub>2</sub> Production and Purification, March 9<sup>th</sup>, 2007, Torino (Italy), (Invited Lecture).
- “Use of CeO<sub>2</sub>-ZrO<sub>2</sub> mixed oxides in environmental catalysis: state of art and challenges”. The 5th International Conference on Rare Earth Development and Application, The Chinese Society of Rare Earths, Baotou (China), 7-11<sup>th</sup> August 2007, (Section Lecture).

## b) Elenco delle pubblicazioni

- 1) J.Kaspar, R.Spogliarich, G.Mestroni and M.Graziani, "Water Gas Shift Reaction Homogeneously Catalyzed by  $[\text{Ir}(\text{diene})\text{L}_2]^+$  Complexes", J.Organometal.Chem., **208**, C15 (1981).
- 2) R.Spogliarich, G.Zassinovich, J.Kaspar and M.Graziani, "Asymmetric Transfer Hydrogenation of Ketones Catalyzed by Iridium(I) Complexes", J.Mol.Catal., **16**, 359 (1982).
- 3) J.Kaspar, R.Spogliarich and M.Graziani, "Hydrogen Transfer Reactions Catalyzed by Rhodium(III) and Iridium(III)-Tin(II) Systems", J.Organometal.Chem., **231**, 71 (1982).
- 4) R.Spogliarich, A.Tencich, J.Kaspar and M.Graziani, "Hydrogenation of Ketones and Olefins via Hydrogen Transfer Reaction Catalyzed by Rhodium and Iridium Phosphine Complexes", J.Organometal.Chem., **240**, 453 (1982).
- 5) J.Kaspar, R.Spogliarich, A.Cernogoraz and M.Graziani, "Homogeneous Catalytic Reduction of Benzalacetone with CO and  $\text{H}_2\text{O}$ ", J.Organometal.Chem., **255**, 371 (1983).
- 6) M.Visintin, R.Spogliarich, J.Kaspar and M.Graziani, "Selective Reduction of Unsaturated Ketones to Unsaturated Alcohols Catalyzed by an Iridium-Phosphine System", J.Mol.Catal., **24**, 277 (1984).
- 7) J.Kaspar, R.Spogliarich and M.Graziani, "Selective Reduction of Dienes to Monoenes via Hydrogen Transfer Reaction in the Presence of Carbonyl Clusters", J.Organometal.Chem., **281**, 299 (1985).
- 8) R.Spogliarich, J.Kaspar, M.Graziani, F.Morandini and O.Piccolo, "Asymmetric Transfer Hydrogenation of Acetophenone with Rhodium(I) Complexes Containing Chiral Diphosphines", J.Catal., **94**, 292 (1985).
- 9) M.Visintin, R.Spogliarich, J.Kaspar and M.Graziani "Selective Reduction of  $\alpha,\beta$  Unsaturated Aldehydes Catalyzed by Iridium Phosphines Systems". J.Mol.Catal., **32**, 349, (1985).
- 10) R.Spogliarich, F.Morandini, J.Kaspar and M.Graziani "Asymmetric Transfer Hydrogenation of Ketones Catalyzed by Rhodium(I) and Iridium(I) Complexes", J.Organometal. Chem., **306**, 407, (1986).
- 11) E.Farnetti, M.Pesce, J.Kaspar, R.Spogliarich and M.Graziani "Hydrogenation of  $\alpha,\beta$  Unsaturated Aldehydes and Ketones Catalyzed by Hydrido-iridium Phosphine Complexes", J.C.S.Chem.Comm., 746, (1986).
- 12) M.Lenarda, R.Ganzerla, J.Kaspar and M.Graziani, "Catalysis by Mono and Polynuclear Compounds Supported on Zeolites", in *Homogeneous and Heterogeneous Catalysis*, 999, (1986), Yu.Yermakov, V.Likholobov eds., VNU Science Press, Utrecht, The Netherlands.
- 13) E.Farnetti, M.Pesce, J.Kaspar, R.Spogliarich and M.Graziani, "Selective Hydrogenation of Cinnamic Aldehyde to Unsaturated Alcohol Catalyzed by Iridium Phosphine Systems", J.Mol.Catal., **43**, 35 (1987).
- 14) E.Farnetti, J.Kaspar, R.Spogliarich and M.Graziani, "Selective Hydrogenation of  $\text{PhCH}=\text{CHCOCH}_3$  to Unsaturated Alcohol Catalyzed by  $\text{H}_3\text{IrP}_3$ ", J.Chem.Soc.Dalton, 947, (1988).
- 15) M.Lenarda, J.Kaspar, R.Ganzerla, A.Trovarelli and M.Graziani, "Water Gas Shift Reaction Catalyzed by Osmium Carbonyls Supported on Zeolites", J.Catal., **112**, 1 (1988).

- 16) J.Kaspar, A.Trovarelli, M.Graziani, C.Dossi, R.Psaro, R.Ugo, G.M.Zanderighi, M.Lenarda and R.Ganzerla, "Hydrogen Transfer Reduction of Hexan-2-one Catalyzed by a Silica Surface Grafted Osmium Cluster", J.Mol.Catal., 44, 183 (1988).
- 17) J.Kaspar, A.Trovarelli, G.Dolcetti and M.Graziani, and R.Ganzerla, "Silica Supported Ruthenium and Osmium Carbonyls as Catalysts for Cycloocta-1,5-diene Isomerization", J.Mol.Catal., 48, 29 (1988).
- 18) R.Spogliarich, E.Farnetti, J.Kaspar, M.Graziani and E.Cesarotti, "Selective Hydrogenation of Benzilideneacetone Catalyzed by Iridium Diphosphine Complexes", J.Mol.Catal., 50, 19 (1989).
- 19) J.Kaspar, A.Trovarelli, M.Graziani, C.Dossi, R.Psaro, R.Ugo, A.Fusi, M.Lenarda and R.Ganzerla, "A Molecular Approach to Hydrogen Transfer Reduction of Ketones Catalyzed by a Silica Supported Osmium Cluster", J.Mol.Catal., 51, 181 (1989)
- 20) J.Kaspar, A.Trovarelli, M.Lenarda, and M.Graziani, "A Meerwein- Ponndorf-Verley Type Reduction of  $\alpha,\beta$  Unsaturated Ketones to Allylic Alcohols Catalyzed by MgO", Tetrahedron Letters, 30, 2705 (1989).
- 21) J.Kaspar, M.Graziani, A.Trovarelli, and G.Dolcetti, "Groups 8 and 9 Metal Carbonyls as Catalysts for 1,5-Cyclooctadiene Isomerization", J.Mol.Catal., 55, 229 (1989).
- 22) F.Demanins, M.Graziani, J.Kaspar, S.Modesti, F.Raicich, R.Rosei, F.Tommasini and A.Trovarelli, "Search for the Neutron Production in Niobium Deuteride", J.Solid State Commun., 71, 559 (1989).
- 23) C.Ebert, T.Gianferrara, M.Graziani, J.Kaspar, P.Linda, and A.Trovarelli, "Application of Chemometrics to Heterogeneous Catalysis: Optimization of 1,4-Cyclooctadiene Yield and Selectivity in the Isomerization of 1,5-Cyclooctadiene Catalyzed by Silica-Supported Ir<sub>4</sub>(CO)<sub>12</sub>", J.Catal., 124, 433 (1990).
- 24) A.Trovarelli, C.Mustazza, G.Dolcetti, J.Kaspar and G.Dolcetti, "Carbon Dioxide Hydrogenation on Rhodium Supported on Transition Metal Oxides: Effects of Reduction Temperature on Product Distribution", Appl.Catal., 65, 129 (1990).
- 25) E.Farnetti, J.Kaspar and M.Graziani, "Electron Rich Iridium Complexes. Metal-Basicity Controlled Chemoselectivity in Hydrogen Transfer Reductions.", J.Mol.Catal., 63, 5 (1990).
- 26) A.Trovarelli, J.Kaspar, G.Dolcetti and M.Graziani, "A Kinetic Approach to the Problem of Reaction Yield Optimization: Isomerization of 1,5-Cyclooctadiene Catalyzed by Ir<sub>4</sub>(CO)<sub>12</sub>", J.Catal., 129, 288 (1991).
- 27) A.Trovarelli, C.Malitesta, L.Sabbatini, S.Maschio and J.Kaspar, "A Multitechnique Analytical Characterisation of the Isomerisation Catalyst Ir<sub>4</sub>(CO)<sub>12</sub> on Silica", Mater.Chem.Phys., 29, 405 (1991).
- 28) J.Kaspar, A.Trovarelli, F.Zamoner, E.Farnetti and M.Graziani, "Chemoselective Reduction of Enones to Allylic Alcohols", in *Heterogeneous Catalysis and Fine Chemicals II*, Elsevier, Amsterdam, Stud.Surf.Sci.Catal., 59, 253 (1991).
- 29) M.Lenarda, R.Ganzerla, L.Storaro, A.Trovarelli, R.Zanoni and J.Kaspar, "Vapour Phase Hydroformylation of Ethylene and Propene Catalyzed by a Rhodium Containing Aluminum Pillared Smectite Clay", J.Mol.Catal., 72, 75 (1992).
- 30) J.Kaspar, G.Picasso Escobar, A.Trovarelli, and M.Graziani, "Chemoselective Hydrogenation of Unsaturated Carbonyl Compounds over Group 8 and 9 Titania Supported Metal Catalysts". J.Mol.Catal., 72, 243 (1992).



- 31) A.Trovarelli, G.Dolcetti, C.de Leitenburg, J.Kaspar, P.Finetti, and A.Santoni, "Rh-CeO<sub>2</sub> Interaction Induced by High Temperature Reduction. Characterization and Catalytic Behaviour in Transient and Continuous Conditions", J.C.S.Faraday Trans, 88, 1311 (1992).
- 32) C.Bianchini, M.Graziani, E.Farnetti, J.Kaspar, and F.Vizza "Molecular Solid-State Organometallic Chemistry of Tripodal- (polyphosphine)metal Complexes. Catalytic Hydrogenation of Ethylene at Iridium", J.Amer.Chem.Soc., 115, 1753 (1993).
- 33) C.Bianchini, P.Frediani, M.Graziani, J.Kaspar, A.Meli, M.Peruzzini and F.Vizza, "Molecular Solid-Gas Organometallic Chemistry. Catalytic and Stoichiometric Transformations of Ethyne at Iridium", Organometallics, 12, 2886 (1993).
- 34) C.Bianchini, F.Vizza, M.Graziani and J.Kaspar, "Molecular Solid-State Organometallic Chemistry of Tripodal-(polyphosphine)metal Complexes. Catalytic Hydrogenation of Ethylene at Iridium", in *Advances in Catalyst Design II*, 327, (1993), C.N.R.Rao and M.Graziani eds, World Scientific Publisher, Singapore.
- 35) Trovarelli, A., Dolcetti, G., de Leitenburg, C. and Kaspar, J., "CO<sub>2</sub> Hydrogenation over Platinum Group Metals Supported on CeO<sub>2</sub>: Evidence for a Transient Metal-Support Interaction" in *New Frontiers in Catalysis*, Elsevier, Amsterdam, Stud.Surf.Sci.Catal., 75 2781 (1993).
- 36) J.Kaspar, C. de Leitenburg, P.Fornasiero, A.Trovarelli, and M.Graziani, "NO Reduction by CO over Rh/Al<sub>2</sub>O<sub>3</sub>. Effect of Rhodium Dispersion on the Catalytic Properties", J.Catal., 146, 136, (1994).
- 37) G.Ranga Rao, J.Kaspar, R. di Monte, S.Meriani and M.Graziani, "NO Decomposition over Partially Reduced Metallized CeO<sub>2</sub>-ZrO<sub>2</sub> Solid Solution", Catalysis Lett., 24, 107 (1994).
- 38) C.Bianchini, M.Graziani, J.Kaspar, A.Meli, M.Peruzzini, and F.Vizza "Molecular Solid-Gas Organometallic Chemistry. Catalytic and Stoichiometric Iridium-Assisted C-C Bond-Forming Reactions Involving Ethyne and Ethene". Organometallics, 13, 1165, (1994),
- 39) J.Kaspar, M.Graziani, A.M.Rahman, A.Trovarelli, E.J.S.Vichi and E.C. Silva, "Carbon Dioxide Hydrogenation over Iron Containing Catalysts", Appl.Catal.A: General, 117, 125 (1994).
- 40) P.Fornasiero, R.Di Monte, G.Ranga Rao, J.Kaspar, S.Meriani and M.Graziani, "Rh-loaded CeO<sub>2</sub>-ZrO<sub>2</sub> Solid Solutions As Highly Efficient Oxygen Exchangers: Dependence of the Reduction Behavior and the Oxygen Storage Capacity on the Structural Properties.", J.Catal., 151, 168 (1995).
- 41) G.Ranga Rao, P.Fornasiero, J.Kaspar, S.Meriani, R.Di Monte and M.Graziani, "NO Decomposition over Partially Reduced Metallized CeO<sub>2</sub> Containing Catalysts", Stud.Surf.Sci.Catal., 96, 631 (1995).
- 42) C.Bianchini, M.Peruzzini E.Farnetti, J.Kaspar and M.Graziani, "Chemoselective Reduction of  $\alpha,\beta$  Unsaturated Ketones Catalyzed by Transition Metal Complexes with Polydentate Ligands", J.Organomet.Chem., 488, 91 (1995).
- 43) G.Balducci, P.Fornasiero, R.Di Monte, J.Kaspar, S.Meriani and M.Graziani, "An Unusual Promotion of the Redox Behaviour of CeO<sub>2</sub>-ZrO<sub>2</sub> Solid Solutions upon Sintering at High Temperature", Catal.Lett., 33, 193 (1995).
- 44) J.Kaspar, P.Fornasiero and M.Graziani, "Role of the Metal in the Automotive Catalytic Converters.", in *Perspectives in Inorganic Chemistry, New Compounds and Materials*, S.Daolio, E.Tondello, P.A.Vigato, SCI-Divisione Chimica Inorganica, Bressanone, vol.V, (1995), p.53, .

- 45) P.Fornasiero, G.Balducci, J.Kaspar, G.Vlaic, S.Meriani, R.Di Monte, and M.Graziani, "Metal-Loaded CeO<sub>2</sub>-ZrO<sub>2</sub> Mixed Oxides as Innovative Automotive Exhaust Catalysts." in *Environmental Catalysis*, G.Centi, C.Cristiani, P.Forzatti, S.Perathoner eds., SCI Publisher, Roma, (1995), p.383.
- 46) P.Fornasiero, G.Balducci, J.Kaspar, S.Meriani, R.di Monte and M.Graziani, "Metal-Loaded CeO<sub>2</sub>-ZrO<sub>2</sub> Solid Solutions as Innovative Catalysts for Automotive Catalytic Converters.", *Catal.Today*, 29, 47 (1996).
- 47) G.Ranga Rao, P.Fornasiero, R.di Monte, J. Kašpar, G. Vlaic, G.Balducci, S.Meriani, G.Gubitosa, A.Cremona, and M.Graziani, "Reduction of NO over Partially Reduced Metal-loaded CeO<sub>2</sub>-ZrO<sub>2</sub> Solid Solutions.", *J.Catal.*, 162, 1 (1996).
- 48) P.Fornasiero, G.Balducci, R.Di Monte, J.Kašpar, V.Sergo, G.Gubitosa, A.Ferrero, and M.Graziani, "Modification of the Redox Behaviour of CeO<sub>2</sub> Induced by Structural Doping with ZrO<sub>2</sub>", *J.Catal.*, 164, 173 (1996).
- 49) P. Fornasiero, J. Kašpar, and M. Graziani, «Redox Behaviour of High Surface Area Rh-loaded Ce<sub>0.5</sub>Zr<sub>0.5</sub>O<sub>2</sub> Mixed Oxide», *J.Catal.*, 167 (1997) 576.
- 50) C.de Leitenburg, A.Trovarelli, and J.Kaspar, «A Temperature Programmed and Transient Kinetic Study of CO<sub>2</sub> Activation and Methanation over CeO<sub>2</sub> Supported Noble Metals», *J.Catal.*, 166 (1997) 98.
- 51) G.Vlaic, P.Fornasiero, S.Geremia, J.Kašpar, and M.Graziani, " Relationship between the Zirconia-Promoted Reduction in the Rh-loaded CeO<sub>2</sub>-ZrO<sub>2</sub> Mixed Oxide and Zr-O Local Structure ", *J.Catal.*, 168 (1997) 386.
- 52) G.Balducci, M.S.Islam, J.D.Gale, J.Kašpar, P.Fornasiero, and M.Graziani, "Computer Simulation Studies of Bulk Reduction and Oxygen Migration in Ce<sub>x</sub>Zr<sub>1-x</sub>O<sub>2</sub> Solid Solutions", *J.Phys.Chem.B*, 101 (1997) 1750.
- 53) H.C.Long, M.L.Turner, P.Fornasiero, J.Kašpar, M.Graziani, and P.M.Maitlis, "Vinylc Initiation of the Fischer-Tropsch Reaction over Ruthenium on Silica Catalysts", *J.Catal.*, 167 (1997) 172.
- 54) P.Vidmar, P.Fornasiero, J.Kašpar, G.Gubitosa and M.Graziani, «Effects of Trivalent Dopants on the Redox Properties of Ce<sub>0.6</sub>Zr<sub>0.4</sub>O<sub>2</sub> Mixed Oxide», *J.Catal.* 171 (1997) 160.
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