

## CURRICULUM VITAE (31/12/2019)

BENNICI Simona  
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### ACADEMIC QUALIFICATIONS

- HDR, University of Lyon 1, France (November 2013), Title: “*Study of hydrogen storage and production by calorimetry and thermal analysis techniques* »
- Ph.D in Industrial Chemistry, University of Milano, Italy (December 2005)  
Thesis Title: “*Development of Mono- and Binary Oxide Catalysts for NO<sub>x</sub> Abatement*”
- 2<sup>nd</sup> Level Master Degree in Physical Chemistry of Catalysis and Industrial Processes, University of Milano (June 2002)

### PROFESSIONAL EXPERIENCE

- 2016 – present    CNRS - Institut de Science des Matériaux de Mulhouse (Mulhouse, France)  
**Function:** Senior Researcher and head of the "Transfers, Reactivity, Materials for Clean Processes" team, in charge of co-directing national and international projects in the catalysis and energy storage fields. **Main research areas:** thermochemical heat storage, fatal energy saving, biosourced products valorization, catalysis.
- 2007 – 2016    CNRS - Institut de Recherche sur la Catalyse et l'Environnement de Lyon (Villeurbanne)  
**Function:** Senior researcher and head of the "Clean and Renewable Energy" team, nowadays in charge of co-directing one European, one ADEME and several ANR projects and supervising post-docs, PhD students and master students. I am responsible for the research executed and for the scientific contacts with the academic and industrial partners of the projects. Besides I am involved in the technical and financial organization of the laboratory of calorimetry. My main research results showed the high potential of applying calorimetry to hot topics in the energy field.  
**Main research areas:** development/application of calorimetric techniques, hydrogen vector, thermochemical heat storage, acid-base catalysis.
- 2006    Utrecht University – Department of Inorganic Chemistry (Utrecht, The Netherlands).  
**Function:** post-doc responsible for the development of reactor control by online spectroscopy, financed by the ASPECT consortium. Reactor controls were developed for the selective oxidation of n-butane to maleic anhydride over industrial-like vanadium phosphorous oxide catalysts and for the propane dehydrogenation over chromium oxide catalysts. **Research areas:** catalysis, process control, in-situ spectroscopy, propane dehydrogenation, selective oxidation of light hydrocarbons.

- 2002-2005 Milano University – Department of Physical-Chemistry (Milano, Italy).  
**Function:** PhD in industrial chemistry in the field of heterogeneous catalysis.  
 Thesis subject: *"Development of Mono- and Binary Oxide Catalysts for NO<sub>x</sub> Abatement"*.  
 CuO-based oxide catalysts were synthesized and tested in the Selective Catalytic Reduction and in the decomposition of NO, NO<sub>2</sub> and N<sub>2</sub>O to N<sub>2</sub>. (Supervisors: Prof. A. Gervasini and V. Ragaini).  
**Research areas:** De-NO<sub>x</sub>, HC-SCR, oxide catalyst preparation and characterization.
- 2004 Institut de Recherches sur la Catalyse (IRC-CNRS) (Villeurbanne). Research internship for the determination of the surface properties of Cu/Ga and Cu/Sn bimetallic catalysts by adsorption calorimetry. 7 months. (Supervisor: Dr. Aline Auroux)
- 2002 Milano University – Department of Physical-Chemistry (Milano, Italy). Research internship on the "Synthesis of Oxide Materials with Different Acidity used as Catalyst Supports" (8 months).  
 Teaching assistant in "Catalytic Materials: Characterization and application", European Master in "Chemistry of the Composite Materials and of the Industrial Formulations", Milano University.
- 2001 – 2002 Milano University – Department of Physical-Chemistry (Milano, Italy). Master internship at the Department of Physical Chemistry and Electrochemistry on the "Preparation and Study of Copper Based Catalysts on New Oxidic Supports for the SCR process of NO<sub>x</sub>. (12 months).

### **AWARDS AND HONORS**

- Bronze medal of the CNRS in 2011.
- National Research Excellence Award for researcher with high level scientific activity in their area of research (evaluated periods: 2008-2011; 2012-2015; 2016-2019)

### **RESEARCH INTERESTS**

1. **Thermochemical Heat Storage:** applications to building heating (solar energy storage) and district heating networks (fatal heat recovery), and storage materials development (composites).
2. **Biosourced Products Valorisation:** catalytic transformation of biosourced molecules (i.e. Guerbet reaction, aldolisation reactions, transesterification, nitrilation, ...), pyrolysis, gasification of different biomasses
3. **Heterogeneous Catalysis, depollution:** Exhaust gas treatment from automotive sources (selective catalytic reduction of NO<sub>x</sub>), removal of pollutants from aqueous effluents (pharmaceutical, tobacco industry residues,...), CO<sub>2</sub> valorisation (transformation to methanol)....

### **PROFESSIONAL ACTIVITIES**

Reviewer for different international journals: Applied Energy, RSER, Applied Catalysis A, Solar Energy Materials and Solar Cells, Energies, Applied Catalysis B, International Journal of Hydrogen Energy, Catalysis Letters, Catalysis Today, ChemSusChem, Colloids and surface A, Energies, Fuel

Processing and technologies, IFP journal, Journal of Catalysis, Energy and Fuels, Thermochemical Acta, ACS Catalysis, Applied Energy, Journal of Energy Storage, Journal of Thermal Analysis and Calorimetry, Inorganics, Applied Thermal Engineering, Open Chemical Engineering Journal...

Scientific Expert for projects submitted in the frame of:

- ANR projects 2018-2019, France
- Serbian Ministry, 2019
- CNRS projects 2016, France
- GRIS 2016, Czech Republic
- Netherlands Organisation Of Scientific Research Projects, 2015, The Netherlands

Conferences and Schools Organization Activities

- Scientific committee of “IREC 2018” congress, 26-28 March 2019, Sousse, Tunisia.
- Scientific committee of “Heraklion 2019” congress, 26-29 Juin 2018, Heraklion, Greece.
- Scientific committee of “Matériaux 2018” congress, 19-23 November 2018, Strasbourg, France.
- Scientific committee of IIREC-2018 (The International Renewable Energy Congress), 20-22 March 2018, Hammamet, Tunisia.
- Scientific committee of the Calorimetry school 2017 in Lyon, 19-24 June 2017, Lyon, France.
- Organizer and member of the scientific committee of 11 editions of the “Summer School of calorimetry and thermal analysis” 2007-2017 in Lyon, Lyon, France (around 90 participants and 10 teachers).
- Organizer of the « 44èmes Journées de Calorimétrie et d'Analyse Thermique », JCAT44, 21-23 Mai 2013, Lyon, France.
- Organizer of the CTEC2012 congress (Calorimetry and Thermal Effects in Catalysis), 26-29 June 2012, Lyon, France.
- Organizing committee of Eurobioref school, 18-24 September 2011, Lecce, Italy.
- Organizing committee of the European Master in " Chemistry of Composite materials and Industrial Formulations", duration 6 months, in 2003 and 2005, Milano, Italy.
- Organizing committee of International congress CTEC (Calorimetry and Thermal Effects in Catalysis), 6-9 July 2004, Villeurbanne, France.

## **INVITED PRESENTATIONS**

### International

1. 10-14/09/2007– Ninth Yugoslav Materials Research Society Conference, YUCOMAT 2007, Herceg-Novi (Serbie) - “NO<sub>x</sub> abatement over supported binary oxide catalysts containing CuO coupled with Ga<sub>2</sub>O<sub>3</sub> and SnO<sub>2</sub>” (Keynote)
2. 27-30/08/2013 - 2nd Central and Eastern European Conference on Thermal Analysis and Calorimetry, CEEC-TAC2, Vilnius (Lithuanie) “Thermal and calorimetric methods: application in the clean and renewable energies field”

3. 20-23/05/2015 - JCAT46, Montpellier (France), “Calorimetry and thermal analysis as conclusive tools in the screening and choice of heat storage materials” (Keynote)
4. 18-20/04/2016 - Debye Spring School 2016, Egmond aan Zee (The Netherlands) “Thermal energy storage”
5. 28-29/11/2018 - Build&Connect, Strasbourg (France) – “Stockage thermochimique de la chaleur” (Pitch et Table Ronde)
6. 12-14/02/2020 – ENERCHEM-2, Padova (Italy) – “Thermochemical heat storage: issues, solutions and applications” (Keynote)
7. 5-7/10/2020 – IsyMC - 2nd International Symposium on Materials Chemistry, Boumerdes (Algeria) – “Thermochemical heat storage: from materials conception to large scale applications” (Plenary)

#### National

8. 7/04/2016 - Journée d'application de l'analyse thermique au stockage de l'énergie thermique (AFCAT), Saint-Étienne (France) « Thermochemical heat Storage on solid materials » (Keynote)
9. 25/04/2017 - CLIMAXION « Valoriser la chaleur en industrie », Benfeld (France) “Stockage thermochimique de la chaleur” (Keynote and round table)
10. 12/12/2019 - J'innove avec l'ANR , Paris (France) “Récupération de la chaleur fatale” (Round table)

### **THESIS SUPERVISION**

#### Doctor of Philosophy

1. NGUYEN Minh Hoang (2019-2023) - Subject: Energy storage by water sorption on salt/carbon composites
2. Elliot SCUILLER (2019-2023) - Subject: Development of a thermochemical heat storage unit for the recovery of fatal heat
3. Marion BRUNEAU (2017/2020) – Subject: Elaboration of hybrid composite materials for the encapsulation of molecules of interest, released under different stimuli
4. Dylan CHAILLOT (2017/2020) – Subject: Design of new catalytic materials for the valorization of biobased products
5. Kawthar FRICKA (2018-2020) – Subject: Cu, Co, Ni-based catalysts prepared by microwaves assisted synthesis
6. Djaouida ALLAM (2017-2019) - Subject: CO<sub>2</sub> valorisation
7. Téo POLIMANN (2015-2019) – Subject: Impact of air pollutants on the durability of materials dedicated to the thermochemical storage of solar heat for buildings
8. Aleksandra LILIC (2014-2017) - Subject: Oxidation of biobased isobutene: impact of the presence of impurities on the catalysts
9. Emeline LEFEBVRE (2012-2015) - Subject: Study and characterization of the innovative sorption couples for an inter-seasonal storage process of solar energy

10. Amira JABBARI-HICHRI (2012-2015) – Subject: Synthesis of new composites for the chemical storage of heat
11. Jingxuan CAI (2011-2015) - Subject: Synthesis and applications of mesoporous carbons modified by nitrogen
12. Adrian MEKKI-BERRADA (2010-2013) – Subject: Production of fatty nitriles by direct reaction of fatty acids and esters with ammonia: development of efficient catalysts at reduced temperature
13. Hao YU (2009-2012) – Subject: Hydride materials for the irreversible or reversible storage of hydrogen
14. Dusan STOSIC (2009-2012) – Subject: Acid-base properties of catalysts for biomass conversion
15. Reem KOURIEH (2009-2012) – Subject: Preparation and characterization of catalysts based on tungsten oxide
16. Hongying ZHAO (2007-2010) – Subject: Study of catalysts based on titanium oxide and sulphated vanadium oxide for the selective oxidation of methanol to dimethoxymethane (*DMM*)

## SCIENTIFIC PRODUCTION :

- **Book chapters**

1. S. Bennici, A. Auroux\*. *Thermal analysis and calorimetric methods*. S.J. Hargreaves, S.D. Jackson, Eds., *Metal oxide catalysis*, Weinheim: WILEY-VCH Verlag GmbH & Co. Ch.9, VCH-Wiley **2009**, volume 1, chapter 9, ISBN 978-3-527-31815-5, 391-441.
2. S. Bennici\*, A. Auroux. *Hydrogen and calorimetry: case studies*. A. Auroux Ed., *Calorimetry and thermal methods in catalysis*, Springer **2013**, volume 154, ISBN 978-3-642-11953-8, Chapter 11, p.409-426.
3. B. Khiari\*, M. Jeguirim, S. Bennici, L. Limousy. *Chars combustion*. M. Jeguirim, L. Limousy Ed. *Char and Carbon from Biomass - Production, Characterization and Applications*, Elsevier **2019**, ISBN 978-0-12-814893, Chapter 5, p. 147-185.
4. S. Bennici\*, C. Courson. Applications in *Catalysis*. M. Jeguirim, L. Limousy Ed. *Char and Carbon materials from Biomass - Production, Characterization and Applications*, Elsevier **2019**, ISBN 978-0-12-814893, Chapter 8, p. 291-339.

- **Articles**

- A1. K. S. Bennici, A. Gervasini\*, V. Ragaini - *Preparation of Highly Dispersed CuO Catalysts on Oxide Supports for de-NO<sub>x</sub> Reactions* - *Ultrason. Sonochem.*, 10 (**2003**) 61-64. **IF=7.279**
- A2. S. Bennici, A. Gervasini\*, N. Ravasio, F. Zaccheria - *Optimization of Tailoring of CuO<sub>x</sub> Species of Silica Alumina Supported Catalysts for the Selective Catalytic Reduction of NO<sub>x</sub>* – *J. Phys. Chem. B*, 107 (**2003**) 5168-5176. **IF=2.983**
- A3. S. Bennici, P. Carniti, A. Gervasini\*- *Bulk and Surface Properties of Dispersed CuO Phases in Relation with Activity of NO<sub>x</sub> Reduction* – *Catal. Lett.*, 98 (**2004**) 187-194. **IF=2.372**

- A4. S. Bennici, A. Gervasini\*, M. Lazzarin, V. Ragaini - *CuO Based Catalysts on Modified Acidic Silica Supports Tested in the NO<sub>x</sub> Reduction* - Ultrason. Sonochem., 12 (2005) 307-312. **IF=7.279**
- A5. P. Carniti\*, A. Gervasini\*, S. Bennici - *Experimental and Modelisation Approach in the Study of Acid Site Energy Distribution by Base Desorption. Part I: Modified Silica Surfaces* – J. Phys. Chem. B, 109 (2005) 1528-1536. **IF=2.983**
- A6. A. Gervasini\*, S. Bennici - *Dispersion and Surface States of Copper Catalysts by Temperature-Programmed-Reduction of Oxidized Surfaces (s-TPR)* – Appl. Catal. A: Gen., 281 (2005) 199-205. **IF=4.630**
- A7. S. Bennici, A. Gervasini\*- *Catalytic Activity of Dispersed CuO Phases Towards Nitrogen Oxides (N<sub>2</sub>O, NO, and NO<sub>2</sub>)* - Appl. Catal. B: Environ., 62 (2006) 336-344. **IF=14.229**
- A8. S. Bennici, A. Auroux, C. Guimon, A. Gervasini\*- *Supported Binary Oxide Catalysts Containing CuO Coupled with Ga<sub>2</sub>O<sub>3</sub> and SnO<sub>2</sub>* - Chem. Mater., 18 (2006) 3641-3650. **IF=10.159**
- A9. A. Gervasini\*, P. Carniti, S. Bennici, C. Messi - *Influence of the chemical nature of the support (niobic acid and niobium phosphate) on the surface and catalytic properties of supported CuO* – Chem. Mater., 19 (2007) 1319-1328. **IF=10.159**
- A10. S. Bennici, B.M. Vogelaar, T. A. Nijhuis, B.M. Weckhuysen\*- *Real-time control of a catalytic solid in a fixed bed reactor based on in-situ spectroscopy*- Angew. Chem. Int. Edit., 46 (2007) 5412-5416. **IF=12.102**
- A11. A. Gervasini\*, S. Bennici, A. Auroux, C. Guimon - *Surface acidic properties of supported binary oxides containing CuO coupled with Ga<sub>2</sub>O<sub>3</sub> and SnO<sub>2</sub> studied by complementary techniques* - Appl. Catal. A: Gen., 331 (2007) 129-137. **IF=4.630**
- A12. R. Bouarab\*, A. Boudjemaa, M. Trari, S. Bennici, A. Auroux - *Influence du support sur la structure cristalline, les propriétés acido-basiques et l'activité des systèmes à base de fer en réaction CO + H<sub>2</sub>O* - C. R. Chim., 12 (2009) 527-532. **IF=2.366**
- A13. J. Andrieux\*, D. Swierczynski, L. Laversenne, A. Garron, S. Bennici, C. Goutaudier, P. Miele, A. Auroux, B. Bonnetot - *A multifactor study of catalyzed hydrolysis of solid NaBH<sub>4</sub> on cobalt nanoparticles: thermodynamics and kinetics* - Int. J. Hydrogen Energy, 34 (2009) 938-951. **IF=4.084**
- A14. A. Garron, D. Swierczynski, S. Bennici\*, A. Auroux\* - *New insights into the mechanism of H<sub>2</sub> generation through NaBH<sub>4</sub> hydrolysis on Co based nano-catalysts studied by differential reaction calorimetry* – Int. J. Hydrogen Energy, 34 3 (2009) 1185-1199. **IF=4.084**
- A15. H. Zhao, S. Bennici, J. Shen, A. Auroux\*- *The influence of the preparation method on the structural, acidic and redox properties of V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>/SO<sub>4</sub><sup>2-</sup> catalysts*, Appl. Catal. A: Gen., 356 (2009) 121-128. **IF=4.630**
- A16. H. Zhao, S. Bennici, J. Shen, A. Auroux\*- *Surface and catalytic properties of V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>/SO<sub>4</sub><sup>2-</sup> catalysts for the oxidation of methanol prepared by various methods*, J. Mol. Catal. A, 309 (2009) 28-34. **IF=4.211**
- A17. G. Postole, S. Bennici, A. Auroux\*- *Calorimetric study of the reversibility of CO pollutant adsorption on high loaded Pt/carbon catalysts used in PEM fuel cells*- Appl. Catal. B: Environ., 92 (2009) 307-317. **IF=14.229**
- A18. A. Garron, S. Bennici, A. Auroux\*- *In-situ generated nanocatalysts for NaBH<sub>4</sub> hydrolysis studied by liquid phase calorimetry: influence of the nature of the metal*, Appl. Catal. A: Gen., 378 (2010) 90-95. **IF=4.630**
- A19. H. Zhao, S. Bennici, J. Shen, A. Auroux\*- *Calorimetric study of the acidic character of V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>/SO<sub>4</sub><sup>2-</sup> catalysts used in methanol oxidation to dimethoxymethane*, J. Therm. Anal. Calorim., 99 (2010) 843-847. **IF=2.471**

- A20. R. Kourieh, S. Bennici, A. Auroux\* - *Study of acidic commercial  $WO_x/ZrO_2$  catalysts by adsorption microcalorimetry and thermal analysis techniques*, J. Therm. Anal. Calorim., 99 (2010) 849-853. **IF=2.471**
- A21. L. Damjanovic, S. Bennici, A. Auroux\* - *A direct measurement of the heat evolved during the sodium and potassium borohydride catalytic hydrolysis*, J. Power Sources, 195 (2010) 3284-3292. **IF=7.467**
- A22. H. Zhao, S. Bennici, J. Shen, A. Auroux\* - *Nature of surface sites of  $V_2O_5-TiO_2/SO_4^{2-}$  catalysts and reactivity in selective oxidation of methanol to dimethoxymethane*, J. Catal., 272 (2010) 176-189. **IF=7.723**
- A23. S. Boumaza, A. Auroux, S. Bennici, A. Boudjemaa, M. Trari, A. Bouguelia, R Bouarab\* - *Water gas shift reaction over the  $CuB_2O_4$  spinel catalysts*, React. Kinet. Mechan. Catal., 100 (2010) 145-151. **IF=0.569**
- A24. H. Zhao, S. Bennici, J. Cai, J. Shen, A. Auroux\* - *Effect of vanadia loading on the acidic, redox and catalytic properties of  $V_2O_5-TiO_2$  and  $V_2O_5-TiO_2/SO_4^{2-}$  catalysts for partial oxidation of methanol*, Catal. Today, 152 (2010) 70-77. **IF=4.888**
- A25. M. Leon, E. Diaz, S. Bennici, A. Vega, S. Ordonez\*, A. Auroux - *Adsorption of  $CO_2$  on hydrotalcite-derived mixed oxides: sorption mechanisms and consequences on the adsorption irreversibility*, Ind. Eng. Chem. Res., 49 (2010) 3663-3671. **IF=3.375**
- A26. H. Zhao, S. Bennici, J. Shen, A. Auroux\* - *Influence of the host oxide of sulphated-titania catalysts on partial oxidation methanol reaction*, Appl. Catal. A: Gen., 385 (2010) 224-231. **IF=4.630**
- A27. S. Bennici, A. Garron, A. Auroux\* - *Maximizing the hydrogen yield in the catalyzed hydrolysis of pure borohydride powder*, Int. J. Hydrogen Energy, 35 (2010) 8621-8625. **IF=4.084**
- A28. H. Zhao, S. Bennici, J. Cai, J. Shen, A. Auroux\* - *Influence of the metal oxide support on the surface and catalytic properties of sulphated vanadia catalysts for selective oxidation of methanol*, J. Catal., 274 (2010) 259-272. **IF=7.723**
- A29. L. Damjanovic, M. Majchrzak, S. Bennici, A. Auroux\* - *Determination of the heat evolved during sodium borohydride hydrolysis catalyzed by  $Co_3O_4$* , Int. J. Hydrogen Energy, 36 (2011) 1991-1997. **IF=4.084**
- A30. J. Delmas\*, L. Laversenne, I. Rougeaux, P. Capron, A. Garron, S. Bennici, D. Świerczyński, A. Auroux - *Improved hydrogen storage capacity through hydrolysis of solid  $NaBH_4$  catalyzed with cobalt boride*, Int. J. Hydrogen Energy, 36 (2011) 2145-2153. **IF=4.084**
- A31. S. Bennici, H. Yu, E. Obeid, A. Auroux\* - *Highly active heteropolyanions supported Co catalysts for fast hydrogen generation in  $NaBH_4$  hydrolysis*, Int. J. Hydrogen Energy, 36 (2011) 7431-7442. **IF=4.084**
- A32. D. Stosic, S. Bennici, J-L. Couturier, J-L. Dubois, A. Auroux\* - *Influence of surface acid-base properties of zirconia and titania based catalysts on the product selectivity in gas phase dehydration of glycerol*, Catal. Commun. 17 (2012) 23-28. **IF= 3.674**
- A33. R. Kourieh, S. Bennici, A. Auroux\* - *Acid and redox properties of tungstated zirconia catalysts*, React. Kinet. Mechan. Catal. 105 (2012) 101-114. **IF=0.569**
- A34. A. Gervasini\*, P. Carniti, S. Bennici - *Catalytic performances of CuGa and CuSn binary oxide catalysts towards  $N_2O$  decomposition and reduction*, React. Kinet. Mechan. Catal. 105 (2012) 53-67. **IF=0.569**

- A35. R. Kourieh, S. Bennici, M. Marzo, A. Gervasini, A. Auroux\*- *Investigation of the  $WO_3/ZrO_2$  surface acidic properties for the aqueous hydrolysis of cellobiose*, Catal. Commun., 19 (2012) 119-126. **IF= 3.674**
- A36. A. Mekki-Berrada, D. Grondin, S. Bennici, A. Auroux\*- *Design of amphoteric mixed oxides of zinc and IIIA elements (Al, Ga, In): migration effects on basic features*, Phys. Chem. Chem. Phys., 14(12) (2012) 4155-4161. **3.567**
- A37. D. Stosic, S. Bennici, V. Rakic, A. Auroux\*-  *$CeO_2-Nb_2O_5$  mixed oxide catalysts: preparation, characterization and catalytic activity in fructose dehydration reaction* – Catal. Today, 1 (2012) 160-168. **IF=4.888**
- A38. D. Stosic, S. Bennici, S. Sirotin, C. Calais, J-L. Couturier, J-L. Dubois, A. Travert, A. Auroux\*- *Glycerol dehydration over calcium phosphate catalysts: effect of acidic-basic features on catalytic performance*, Appl. Catal. A: gen., 447-448 (2012) 124-134. **IF=4.630**
- A39. R. Kourieh, V. Rakic, S. Bennici, A. Auroux\*- *Relation between surface acidity and reactivity in fructose conversion into 5-HMF using tungstated zirconia catalysts*, Catal. Commun., 30 (2013) 5-13. **IF= 3.674**
- A40. R. Kourieh, L. Retailleau, S. Bennici, A. Giroir-Fendler, A. Auroux\*- *Influence of the acidic properties of  $ZrO_2$  based mixed oxides catalysts in the selective reduction of  $NO_x$  with n-decane*, Catal. Letters, 143 (2013) 74-83. **IF=2.372**
- A41. G. Whiting, D. Grondin, S. Bennici, A. Auroux\*- *Heats of water sorption studies on zeolite- $MgSO_4$  composites as potential thermochemical heat storage materials*, Solar Energy Materials and Solar Cells, 112 (2013) 112-119. **IF=6.019**
- A42. A. Mekki-Berrada, S. Bennici, J-P. Gillet, J.L. Couturier, J.L. Dubois, A. Auroux\*- *Fatty acid methyl esters into nitriles : acid-base properties for enhanced catalysts*, J. Catal. 306 (2013) 30-37. **IF=7.723**
- A43. T. Caillot\*, Z. Salama, N. Chanut, F.J. Cadete Santos Aires, S. Bennici, A. Auroux - *Hydrothermal synthesis and characterization of zirconia based catalysts*, J. Solid St. Chem., 203 (2013) 79-85. **IF=2.291**
- A44. R. Kourieh, S. Bennici, A. Auroux\*- *Tuning of the acid–base properties of primary  $Me_2O_3$  ( $Me = Al, Ga, In$ ) and binary ( $ZrO_2-Me_2O_3$ ) ( $Me = B, Al, Ga, In$ ) oxides by adding  $WO_3$ : A calorimetric study*, Thermochim. Acta 567 (2013) 1-7. **IF=2.251**
- A45. A. Mekki-Berrada, S. Bennici, J-P. Gillet, J-L. Couturier, J-L. Dubois, A. Auroux\*- *Ammoniation-dehydration of fatty acids into nitriles: heterogeneous or homogeneous catalysis?*, Chem. Sus. Chem., 6(8) (2013) 1478-1489. **IF=7.804**
- A46. A. Mekki-Berrada, S. Bennici, J-L. Dubois, A. Auroux\*- *Experimental Solid–Liquid Phase Equilibria of a Methyl Ester/Amide/Nitrile Ternary System by DSC*, J. Am. Oil Chem. Soc 90 (2013) 1621-1627. **IF=1.421**
- A47. D. Stosic, S. Bennici, S. Sirotin, P. Stelmachowski, J-L. Couturier, J-L. Dubois, A. Travert, A. Auroux\*- *Examination of acid-base properties of solid catalysts for gas phase dehydration of glycerol: FTIR and adsorption microcalorimetry studies*, Catal. Today, 226 (2014) 167-175. **IF=4.888**
- A48. M. León, L. Faba, E. Díaz, S. Bennici, A. Vega, S. Ordóñez\*, A. Auroux - *Consequences of  $MgO$  activation procedures on its catalytic performance for acetone self-condensation*, Appl. Catal. B: Environ., 147 (2014) 796-804. **IF=14.229**

- A49. G. Whiting, D. Grondin, D. Stosic, S. Bennici, A. Auroux\*- *Zeolite-MgCl<sub>2</sub> composites as potential heat storage materials: Influence of zeolite properties on heats of water sorption* - Solar Energy Materials and Solar Cells, 128 (2014) 289-295. **IF=6.019**
- A50. D. Stosic, S. Bennici, V. Pavlovic, V. Rakic, A. Auroux\*- *Tuning the acidity of niobia: characterization and catalytic activity of Nb<sub>2</sub>O<sub>5</sub>-MeO<sub>2</sub> (Me = Ti, Zr, Ce) mesoporous mixed oxides*, Materials Chemistry and Physics, 146 (2014) 337-345. **IF=2.781**
- A51. R. Bouarab\*, S. Bennici, C. Mirodatos, A. Auroux - *Hydrogen production from the water-gas shift reaction on iron oxide catalysts*, J. Catalysts, (2014), Article ID 612575, 6 pages, <http://dx.doi.org/10.1155/2014/612575>.
- A52. J. Cai, S. Bennici, J. Shen, A. Auroux\* - *Study of phenol and nicotine adsorption on nitrogen-modified mesoporous carbons* - Water, Air, & Soil Pollution, 225(9) (2014) Article 2088. **IF=1.774**
- A53. H. Yu, S. Bennici\*, A. Auroux - *Hydrogen storage and release: kinetic and thermodynamic studies of MgH<sub>2</sub> activated by transition metal nanoparticles* - Int. J. Hydrogen Energy, 39 (2014) 11633-11641. **IF=5.537**
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