

Vladimir V. Galvita

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Profile

- Chemical looping
- Kinetic experiments: transient techniques (TAP, SSITKA,...).
- Synthesis and characterization of nano-structured catalysts and materials.
- Characterization techniques: XAS, TEM, FTIR, Raman, and XRD.
- Microkinetics of heterogeneous reaction
- Methane/biogas conversion

Publications – Published 90 papers in refereed journals giving 2800 citations and Hirsch index of 27. Three patents. Three chapter in the books.

Most important publications:

1. Lukas C. Buelens, Vladimir V. Galvita, Hilde Poelman, Christophe Detavernier, Guy B. Marin, Super-dry reforming of methane intensifies CO₂ utilization via Le Chatelier's Principle, *Science*, 354(2016)449.
2. Kristof Van der Borght, Rakesh Batchu, Vladimir V. Galvita, Konstantinos Alexopolous, Marie-Françoise Reyniers, Joris W. Thybaut, Guy B. Marin, New insights into the reaction mechanism of ethanol conversion to hydrocarbons on H-ZSM-5, *Angewandte Chemie*, 128(2016)13009.
3. V. Galvita, G. Siddiqi, P. Sun, A.T. Bell, Ethane dehydrogenation on Pt/Mg(Al)O and PtSn/Mg(Al)O catalysts, *J. Catal.*, 271(2010) 209.
4. S.A. Theofanidis, V.V. Galvita, H. Poelman, G.B. Marin, Enhanced carbon-resistant dry reforming Fe-Ni catalyst: role of Fe, *ACS Catalysis*, 5(2015)3028.
5. U. Menon, H. Poelman, V. Bliznuk, V. V. Galvita, D. Poelman, G.B. Marin, Nature of the active sites for the total oxidation of toluene by CuO-CeO₂/Al₂O₃, *J. Catal.*, 295(2012)91.

Experience

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|---|---------------------|
| Boreskov Institute of Catalysis, Russia | 1999 -2002 |
| Max-Planck- Institute, Magdeburg, Germany Postdoctoral researcher | 2002 - 2007 |
| University of California Berkeley, USA Research Scientist | 2007 - 2009 |
| Ghent University, Belgium Head of the research group "Design of advanced catalytic materials (DACMA)" | September 2009 |

Graduated Students

Unmesh Menon 2013 Present: Research Associate, University of Houston
Diana Maria Gomez Cobal 2014
Kristof Van der Borght 2016 Present: Production Manager at EuroChem Antwerpen NV
Rakesh Batchu 2017 Present: Researcher at Idaho National Laboratory
Naga Venkata Ranga Aditya Dharanipragada 2017 Present: Post doc at Stockholm University

Stavros-Alexandros Theofanidis 2017 Present: Postdoc at Aristotle University of Thessaloniki, Greece

Jolien De Waele 2018 Present: Catalyst Specialist at Solvay

Lukas Buelens 2018

Jiawei Hu 2018

Invited lectures at universities and scholarly institutions

- Keynote, "CO₂ as oxidant for high-temperature catalytic reactions", " 8th World Congress on Oxidation Catalysis (WCOC 2017), Krakow, Poland, 3-8 September 2017
- "Development and performance of iron based oxygen carriers for chemical looping", East China University of Science and Technology, July, 2016.
- "Cyclic water gas shift reactor for hydrogen production", University of California, Berkeley, August, 2007.
- "Cyclic water gas shift reactor for carbon monoxide removal from hydrogen feed gas for low temperature fuel cells", University of Alberta, Canada, October, 2007.
- "Partial oxidation of methane in SOFC", Ulm University, Germany – June, 2002.
- "Partial oxidation of methane to synthesis gas in a solid oxide electrolyte cell", Jülich Research Center, Germany, 11.09.2001.

Academic service

Scientific responsibilities at the Laboratory for Chemical Technology:

- Coordinator of steady-state and batch kinetics equipment (six set-ups)
- Coordinator of advanced transient techniques
- Coordinator of materials synthesis and Catalyst Library.
- Organization of campaigns to synchrotron facilities (together with Dr. Hilde Poelman)

Scientific/organizing committee:

- XXIII International Conference on Chemical Reactors (CHEMREACTOR-23, Ghent, Belgium, 2018)
- The Brussels Sustainable Development Summit, Closing the carbon loop: Carbon dioxide Capture and Utilization, Session: Chemical Looping Processes, Brussel, Belgium, 19-20 Oct 2015
- 2nd International Conference on Chemical Looping, Darmstadt, Germany, 26-28 Sept 2012

Conference Session Chair:

- 8th World Congress on Oxidation Catalysis (WCOC 2017), Session: New concepts in oxidation processes- Oxidation reactions in fine and green chemistry, Krakow, Poland, 3-8 Sept 2017
- The Brussels Sustainable Development Summit, '*Closing the carbon loop: Carbon dioxide Capture and Utilization*', Session: Chemical looping, Brussel, Belgium, 19-20 Oct 2015

Education

Ph.D. in Kinetics and Catalysis, Boreskov Institute of Catalysis, Novosibirsk (1999), " Partial Oxidation of Methane to Synthesis Gas in a Solid Oxide Electrolyte Cell"

Diploma in Physics was awarded Novosibirsk State University, Russia(1993)