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Research keywords: heterogeneous catalysis, biomass valorization, high-throughput experiments.

Sébastien PAUL is Full Professor at Centrale Lille, a generalist engineer school in the North of France, where he was the head of the Sciences of the Matter department between 2009 and 2016. After his PhD in Chemical Engineering at the University of Technology of Compiègne, France (1996), he was hired by Centrale Lille as an Assistant Professor (1998). From 2004 to 2009 he was at the head of the Chemical Engineering Department, which then became the Sciences of the Matter Department. In 2009, he was nominated Associate Professor and in 2011 Full Professor. His research work is carried out in the Unité de Catalyse et Chimie du Solide (UCCS - UMR CNRS 8181), France, which comprises 300 persons. More particularly he is leading the VAALBIO group (standing for VALORIZATION of the ALkanes and of compounds issued from the BIOmass).

Sébastien PAUL is also the coordinator of the REALCAT platform ('Advanced High-Throughput Technologies Platform for Biorefineries Catalysts Design' ; 9.4 M€; www.realcat.fr) and the French head of the CNRS French-Japanese International Associate Lab NANOXCAT (2018-2022).

He has supervised or co-supervised 18 PhD, 17 post-docs, is co-author of more than 80 scientific articles ($h_{\text{index}} = 22$ – more than 2000 citations), 18 patents, and more than 80 oral communications. He has also co-founded the start-up company TEAMCAT SOLUTIONS in 2015.

He is involved in the development of a large variety of catalytic processes (hydrogenation, oxidation dehydration...) starting from compounds issued from biomass (like glycerol, furfural, sugars, fatty acids, etc.) or light hydrocarbons such as propylene. This research is carried out in the frame of many academic and industrial collaborations.

Most recent papers

- Ni promotion by Fe: what benefits for catalytic hydrogenation?
D. Shi, R. Wojcieszak, S. Paul, E. Marceau
Catalysts, 9, 451, (2019)
DOI:10.3390/catal9050451
- Catalytic decarboxylation of fatty acids to hydrocarbons over non-noble metal catalysts: The state of the art, R. Wojcieszak, A. Kiméné, S. Paul, F. Dumeignil
J. Chem. Technol. Biotechnol., 94 (3), 658-669, (2019)
DOI: 10.1002/jctb.5776
- Rational design of selective metal catalysts for alcohol amination with ammonia
T. Wang, J. Ibañez, K. Wang, L. Fang, M. Sabbe, C. Michel, S. Paul, M. Pera-Titus, P. Sautet
Nature Catalysis, accepted (2019)
- The Production of 1,3-butadiene from bio-1-butanol over Re-W/ γ -Al₂O₃ porous ceramic converter
A. Fedotov, G. Konstantinov, V. Uvarov, M. Tsodikov, S. Paul, S. Heyte, P. Simon, F. Dumeignil
Catal. Comm.,128, 105714 (2019)
DOI: 10.1016/j.catcom.2019.105714
- Fully integrated high-throughput methodology for the study of Ni- and Cu-based supported catalysts for glucose hydrogenation
F. Ramos, L. Silvester, J. Thuriot-Roukos, S. Heyte, M. Araque Marin, S. Paul, R. Wojcieszak
Catal. Today, accepted (2019)
- Catalytic dehydration of glycerol to acrolein in a Two-Zone Fluidized-Bed Reactor
B. Katryniok, R. D. Meléndez, V. Bellière-Baca, P. Rey, F. Dumeignil, N. Fatah, S. Paul
Front. Chem., 7, 127 (2019)
DOI: 10.3389/fchem.2019.00127
- Extending catalyst life in glycerol-to-acrolein conversion using non-thermal plasma
L. Liu, X. P. Ye, B. Katryniok, M. Capron, S. Paul, F. Dumeignil
Front. Chem., 7, 108 (2019)
DOI: 10.3389/fchem.2019.00108
- Exploiting the synergetic behavior of Pt-Pd bimetallic catalysts in the selective hydrogenation of glucose and furfural
P. M. de Souza, L. Silvester, A. G. M. da Silva, C. G. Fernandes, T. S. Rodrigues, S. Paul, P. C. Camargo, R. Wojcieszak

Catalysts, 9, 132 (2019)

DOI: 10.3390/catal9020132

- Isoprene formation from isoamyl alcohol in microchannels of a converter modified with nanoscale catalytic iron-chromium-containing systems
A. S. Fedotov, D. O. Antonov, V. I. Uvarov, M. V. Tsodikov, S. Paul, S. Heyte, F. Dumeignil
Pet. Chem., 59, 4, 405-411 (2019)
DOI: 10.1134/S0965544119040066
- Direct amination of 1-octanol with NH₃ over Ag-Co/Al₂O₃: Promoting effect of H₂ pressure on the reaction rate
J. Ibañez, M. Araque-Marin, S. Paul, M. Pera-Titus
Chem. Eng. J, 358, 1620-1630, (2019)
DOI: 10.1016/j.cej.2018.10.021
- Glycerol partial oxidation over Pt/Al₂O₃ catalysts under basic and base-free conditions – effect of the particles size
E. Skrzyńska, A. El Roz, S. Paul, M. Capron, F. Dumeignil
J. Am. Oil Chem. Soc., 96, 63-74 (2019)
DOI : 10.1002/aocs.12159
- Bimetallic Fe-Ni/SiO₂ catalysts for furfural hydrogenation: identification of the interplay between Fe and Ni during deposition-precipitation and thermal treatments
D. Shi, Q. Yang, C. Peterson, A.-F. Lamic-Humblot, J.-S. Girardon, A. Constant-Griboval, L. Stievano, M. T. Sougrati, V. Briois, P. A. J. Bagot, R. Wojcieszak, S. Paul, E. Marceau
Catal. Today, in press (2019)
DOI: 10.1016/j.cattod.2018.11.041