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Short Biography

Philippe M. Heynderickx obtained in 2004 his degree of Civil Chemical Engineer (Chemical Technology) *magna cum laude*. He did his engineers' thesis at the Faculty of Engineering and Architecture (Ghent University) where he focused on selective and total oxidation reactions of hydrocarbons over metal oxide catalysts. After completion of his studies, he started his PhD studies (ibidem) in the field of catalysis. In 2009 he obtained his PhD with a dissertation that dealt with mechanistic insights in heterogeneous catalysis using metal oxide catalysts.

After his PhD, he worked at the Department of Environmental Organic Chemistry and Technology (Faculty of Bioscience Engineering, Ghent University) from 2010 to 2014. The main focus was on the modeling and mathematical description of heterogeneous photocatalysis processes, biofilters, compound release in micelle utilization and mass spectrometry applications in odor detection and fragrance release.

From February 2015 on, being a professor at Ghent University Global Campus, his research takes care of modeling of chemical and physical processes and mathematical treatment of experimental data. His field mainly focuses on heterogeneous catalysis, kinetics, modeling and characterization of catalyst materials. During these activities, he is affiliated with the Faculty of Bioscience Engineering, Ghent University.

In his research, the main driving force is the mathematical description (modelling) of physical and chemical processes from engineering point of view: towards a better understanding going back to the fundamental basics. More specific, the long-term strategy is the development, construction and implementation of intrinsic kinetic models describing catalytic reactions for daily relevant applications. Especially environmental applications in 'green chemistry' conversion, environmental sensors, catalysis and energy storage applications are envisaged.

Nowadays, he is working on the prediction of catalyst material behavior with respect to conversion and selectivity, e.g., in transesterification and oxidation reactions on MOFs and exploration of industrial relevant reactions using nanomaterials.

He is (co-)author of several publications in high-impact journal and he has

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	presented his research on both national and international important conferences. He received the Young Scientist Award on the 14th International Congress on Catalysis (ICC) in Seoul, Korea (2008).
Research Area	· Catalysis · Kinetic studies · Modelling · Engineering
Education	· (2004) Master of Science Chemical Engineering, option Chemical Technology (Dutch: Burgerlijk Scheikundig Ingenieur), Laboratory for Chemical Technology (LCT), Department of Chemical Engineering and Technical Chemistry, Faculty of Engineering and Architecture, Ghent University · (2009) PhD Chemical Engineering (option Chemical Technology, field: catalysis, simulation and modeling), Laboratory for Chemical Technology (LCT), Department of Chemical Engineering and Technical Chemistry, Faculty of Engineering and Architecture, Ghent University
Experience	· (2010-2014) Postdoctoral researcher, Department of Environmental Organic Chemistry and Technology (EnVOC), Faculty of Bioscience Engineering, Ghent University · (2015 – current) Professor Organic Chemistry, Environmental Chemistry, Green Chemistry and Technology, Process Engineering at Ghent University Global Campus
Selected Publications	· Heynderickx P.M., Španěl P., Van Langenhove H. Quantification of octanol-water partition coefficients of several aldehydes in a bubble column using selected ion flow tube mass spectrometry. **J. Fluid. Phase Eq. (IF = 2.473)**, 367, 22-28 (2014).

- Van Doorslaer X., Demeestere K., Heynderickx P. M., Caussyn M., Van Langenhove H., Devlieghere F., Vermeulen A., Dewulf J. Heterogeneous photocatalysis of moxifloxacin: identification of degradation products and determination of residual antibacterial activity. **Appl. Catal. B: Environ. (IF = 9.446)**, 138-139, 333-341 (2013).
- Heynderickx P. M., De Clercq, S., Saveyn, P., Dewulf, J., Van Langenhove, H. Determination of the sorption and desorption kinetics of perfume raw materials in the liquid phase with vesicular dispersion: application of SIFT-MS. **Chem. Eng. J. (IF = 6.216)**, 217, 281-288 (2013).
- Van Doorslaer X., Heynderickx P. M., Demeestere K., Debevere K., Van Langenhove H., Dewulf J. TiO_2 mediated heterogeneous photocatalytic degradation of moxifloxacin: operational variables and scavenger study. **Appl. Catal. B: Environ. (IF = 9.446)**, 111-112, 150-156 (2012).
- Van Doorslaer, X., Demeestere, K., Heynderickx, P.M., Van Langenhove, H., Dewulf, J. UV-A and UV-C induced photolytic and photocatalytic degradation of aqueous ciprofloxacin and moxifloxacin: Reaction kinetics and role of adsorption. **Appl. Catal. B: Environ. (IF = 9.446)**, 101, 540 – 547 (2011).
- Heynderickx P. M., Thybaut J. W., Poelman H., Poelman D., Marin G. B. Kinetic modeling of the total oxidation of propane over CuO-CeO_2/γ-Al_2O_3. **Appl. Catal. B: Environ. (IF = 9.446)**, 95, 26–38 (2010).
- Heynderickx P. M., Thybaut J. W., Poelman H., Poelman D., Marin G. B. The total oxidation of propane over supported Cu and Ce oxides: A comparison of single and binary metal oxides. **J. Catal. (IF = 6.844)**, 272, 109-120 (2010).
- Heynderickx P. M., Thybaut J. W., Poelman H., Poelman D., Marin G. B. Kinetic modeling of the total oxidation of propane over anatase and vanadia sputter deposited catalysts. **Appl. Catal. B: Environ. (IF = 9.446)**, 90, 295-306 (2009).