Curriculum Vitae Pieter Reyniers

General information

Full name	Pieter Reyniers
Date of birth	December 31st, 1991
E-mail	pieter.reyniers@ugent.be

Work experience

2020 – present	Guest Professor Sustainable Chemical Production Processes, Ghent University, Belgium
2018 – present	**Process Manager Steam Cracker**: Aromatics and Utilities, BASF Antwerpen N.V. Belgium
2014 – 2018	**PhD researcher in Chemical Engineering**, Ghent University, Belgium *"First-principles 3D reactor design: large eddy simulation with detailed chemistry"*, promotors: prof. K. M. Van Geem, prof. G. B. Marin. Fellowship from the Fund for Scientific Research – Flanders (FWO)
2016	**Visiting PhD researcher**, Centre Européen de Recherche et de Formation Avancée en Calcul Scientifique (CERFACS, Toulouse, France) (3 months)
2016 – 2018	**Secretary of the Department Council** (Department of Materials, Textiles and Chemical Engineering, Ghent University)
2013	**Process engineering intern**, Taminco (currently Eastman) (Baton Rouge, LA, USA) (6 weeks)
2012	**Process engineering intern**, Bayer Technology Services (currently Covestro) (Antwerp, Belgium) (6 weeks)

Education

Faculty of Engineering and Architecture, Ghent University, Belgium

2012 – 2014	Master of Science in Chemical Engineering (greatest distinction, 848/1000)
2009 – 2012	Bachelor of Science in Chemical Engineering and Material Science (great distinction, 786/1000)

Software skills

Languages	bash, Python, Fortran, C++, VBA
Software suites	ASPEN Plus, ANSYS Fluent, ANSYS Chemkin, OpenFOAM, Matlab

Publications

Reyniers, P. A.; Schietekat, C. M.; Van Cauwenberge, D. J.; Vandewalle, L. A.; Van Geem, K. M.; Marin, G. B., Necessity and Feasibility of 3D Simulations of Steam Cracking Reactors. Ind. Eng. Chem. Res. **2015**, 54, 12270-12282.

Reyniers, P. A.; Sarris, S. A.; Marin, G. B.; Van Geem, K. M., Computational Fluid Dynamic Design of Jet Stirred Reactors for Measuring Intrinsic Kinetics of Gas-Phase and Gas-Solid Reactions. Int. J. Chem. Kinet. **2016**, 48, 556-569.

Gonzalez-Quiroga, A.; **Reyniers, P. A.**; Kulkarni, S. R.; Torregrosa, M. M.; Perreault, P.; Heynderickx, G. J.; Van Geem, K. M.; Marin, G. B., Design and cold flow testing of a Gas-Solid Vortex Reactor demonstration unit for biomass fast pyrolysis. Chem. Eng. J. **2017**, 329, 198-210.

Zhang, Y.; **Reyniers, P. A**.; Du, W.; Qian, F.; Van Geem, K. M.; Marin, G. B., Incident Radiative Heat Flux Based Method for the Coupled Run Length Simulation of Steam Cracking Furnaces. Ind. Eng. Chem. Res. **2017**, 56, 4156-4172.

Zhang, Y.; **Reyniers, P. A.**; Schietekat, C. M.; Van Geem, K. M.; Marin, G. B.; Du, W.; Qian, F., Computational fluid dynamics-based steam cracking furnace optimization using feedstock flow distribution. AlChE J. **2017**, 63, 3199-3213.

Reyniers, P. A.; Vandewalle, L. A.; Saerens, S.; de Smedt, P.; Marin, G. B.; Van Geem, K. M., Techno-economic analysis of an absorption based methanol to olefins recovery section. Appl. Therm. Eng. **2017**, 115, 477-490.

Reyniers, P. A.; Schietekat, C. M.; Kong, B.; Passalacqua, A.; Van Geem, K. M.; Marin, G. B., CFD simulations of Industrial Steam Cracking Reactors: Turbulence–Chemistry Interaction and Dynamic Zoning. Ind. Eng. Chem. Res. **2017**, 56, 14959-14971.

Van Cauwenberge, D. J.; Vandewalle, L. A.; **Reyniers, P. A.**; Van Geem, K. M.; Marin, G. B.; Floré, J., Periodic reactive flow simulation: Proof of concept for steam cracking coils. AIChE J. **2017**, 63, 1715-1726.

Vangaever, S.; **Reyniers, P.A.**; Visser, C.; Jakobi, D.; Heynderickx, G.J.; Marin, G.B.; Van Geem, K.M., Computational Fluid Dynamics-Based Study of a High Emissivity Coil Coating in an Industrial Steam Cracker. Ind. Eng. Chem. Res. **2018**, 57, 16782-16794

Dedeyne, J. N.; Van Cauwenberge, D. J.; **Reyniers, P. A.**; Van Geem, K. M.; Marin, G. B., Large eddy simulation of tubular reactors with spherical dimples. Chem. Eng. J. **2020**, 380, 122463.

Reyniers, P. A.; Schietekat, C. M.; Sarris, S. A.; Van Geem, K. M.; Marin, G. B., Improving Laboratory Reactors: Computational Fluid Dynamics And Detailed Chemical Kinetics. In 9th International Conference on Chemical Kinetics, Ghent, Belgium, **2015**.

Reyniers, P. A.; Ristic, N. D.; Djokic, M. R.; Van Geem, K. M.; Marx, R.; Foerch, M.; Improving temperature measurement and control using the EXACTUS® optical thermometers, 28th Ethylene Producers' Conference, Houston, TX, USA, **2016**.

Reyniers, P. A.; Plehiers, P. P.; Van Cauwenberge, D. J.; Van Geem, K. M.; Marin, G. B., Large Eddy Simulation of Enhanced 3D Pyrolysis Reactors. In 24th International Symposium on Chemical Reaction Engineering, Minneapolis, MN, USA, **2016.**

Reyniers, P.A.; Van Cauwenberge, D.J.; Marin, G.B.; Van Geem, K.M., Towards Large Eddy Simulations with Detailed Kinetics. In 10th International Conference on Chemical Kinetics (ICCK), Chicago, IL, USA, **2017**

Gómez, N. A.; Vandewalle, L. A.; **Reyniers, P. A.**; Van Cauwenberge, D. J.; Molina, A.; Fox, R. O.; Van Geem, K. M.; Marin, G. B. Investigation of Particle Cluster Morphology in a Downflow Reactive System Via Large Eddy Simulations. In AIChE Annual Meeting, Minneapolis, MN, USA, **2017**.