

Pieter Levecque

Work Experience

January 2014-present: Department of Chemical Engineering, University of Cape Town

Associate Professor: Jan 2018 - present

Senior Lecturer: Jan 2014-Dec 2017

August 2010-Dec 2013: HySA/Catalysis Competence Centre, Centre for Catalysis Research, Department of Chemical Engineering, University of Cape Town

Research Officer (academic appointment equivalent to lecturer)

May 2009-Dec 2010: Science and Industrial Leadership Initiative (SAILI)

Mathematics teacher/tutor Grade 12, FET enrichment programme

January-June 2010: Department of Chemistry, University of Cape Town

Contract lecturer

July 2008-July 2010: Department of Chemistry, University of Cape Town

Postdoctoral research fellow (Claude Leon Foundation)

Education and training

2004-2008: Katholieke Universiteit Leuven (Belgium), Centre for Surface Chemistry and Catalysis

PhD in Bioscience Engineering (Catalytic Technology)

PhD thesis: *"Introduction of Heterogeneous Catalysis in Sugar Chemistry"*

Promotors: Prof. Bert Sels (KUL), Prof. Dirk De Vos (KUL), Prof. D. Gammon (UCT).

1999-2004: Katholieke Universiteit Leuven (Belgium), Centre for Surface Chemistry and Catalysis

Masters in Bioscience Engineering, major Catalytic Technology

MSc Thesis: *"Heterogeneous Catalysis as a solution for selective transformations in sugar chemistry"*

Promotors: Prof. Dirk De Vos, Prof. Pierre Jacobs

Supervisors: Prof. Bert Sels (KUL), Prof. David Gammon (UCT, South Africa)

Graduated Magna Cum Laude

Skills and experience

-Synthesis of catalysts and support materials via different methods: homogeneous catalysts, heterogeneous catalysts, electrocatalysts for fuel cells, zeolites, highly dispersed materials.

-High throughput catalyst preparation robot operation

-Preparation and testing of membrane electrode assemblies for Polymer Electrolyte Fuel Cells.

- Experience with various electrochemical characterisation techniques like: cyclic voltammetry, CO-stripping voltammetry, linear sweep voltammetry (RDE and RRDE), electrical impedance spectroscopy and polarisation curves.
- Experience with various conventional analytical and characterization techniques like: XRD, N₂ adsorption (BET), CO-chemisorption, TGA, TEM, FT-IR, ATR-IR, UV-Vis, GC, GC-MS, NMR (1D, 2D and solid state)
- Performing of chemical reactions in different media (gas, liquid) and under different conditions (extra cold, inert atmosphere, *etc.*)
- Organic synthesis of different classes of compounds (glycols, glycosides, nitrones, oxazoles)
- Extensive experience with literature related databases like SciFinder and Isiknowledge

Student supervision

Current supervision

- 4 MSc students
- 3 PhD students

Past supervision

- 4 PhD students graduated
- 10 MSc students graduated
- 20 final year/Honours project students

Publications

Journal articles

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- 22 publications in international journals
- Scopus: h-index 10, 344 citations
<https://www.scopus.com/authid/detail.uri?authorId=16316901100>
- Google Scholar: h-index 12, 436 citations
<https://scholar.google.co.za/citations?user=3EefvMIAAAAJ&hl=en>

Awards

Electrocatalysis Annual Authorship Award for 2016 (Springer)

Professional Memberships

- International Society of Electrochemistry (ISE)
- Catalysis Society of South Africa