

PERSONAL INFORMATION



Pablo Daniel Druetta

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Sex Male | Date of birth 04/04/1980 | Nationality Argentinian / Italian

PERSONAL STATEMENT

I am a professional with 20 years of experience in the fields of oil & gas, petrochemistry and research/higher education, helping students to find their passion for engineering.

WORK EXPERIENCE

September 2022 – Present

Freelancer (ZZP'er)

Three Ponds Engineering (the Netherlands)

Lead engineer for mechanical & piping teams. Senior piping and stress engineering. CFD simulation of different chemical processes (part-time).

Business or sector Engineering & Research

January 2022 – Present

Assistant Professor of Chemical Product Technology

University of Groningen (the Netherlands) (www.rug.nl)

Full time lecturer/coordinator in the BSc. and MSc. courses: *Numerical Methods for Chemical Engineering*, *Compressible Flows*, *CFD for Engineers*, *Physical Transport Phenomena* and *Transport Phenomena 2* (Chemical, Industrial and Mechanical Engineering degrees). Research on the CFD simulation applied to engineering processes.

Business or sector Education & Research

March 2020 – December 2021

Lead engineer

Tebodin Bilfinger (the Netherlands) (www.tebodin.bilfinger.com)

Lead and senior stress engineer, involved in improvement of the quality standards. Projects: Clariant Romania; Borealis Belgium – Semicon ANTICO Project; Shell Deutschland Oil GmbH.

Business or sector Engineering Company

January 2019 – December 2020

Researcher & Lecturer

University of Groningen (the Netherlands) (www.rug.nl)

Lecturer/coordinator in the courses: *Advanced Polymer Processing*, *Compressible Flows*, *CFD for Engineers*, *Dynamic of Engineering Systems* (partial), and *Transport Phenomena 2*.

Business or sector Education & Research

January 2019 – December 2019

Project leader/manager

Sweco (the Netherlands) (www.sweco.nl)

Senior piping and stress engineer. Coordinator of the Hydrogen development group. Projects: Gasunie; Delamine; Teijin Aramid.

Business or sector Engineering Company

September 2014 – October 2018

Ph.D. Researcher

University of Groningen (the Netherlands) (www.rug.nl)

Ph.D. Thesis – Numerical Simulation of Chemical Enhanced Oil Recovery Processes

Full time lecturer in the courses: *Advanced Polymer Processing*, *Compressible Flows* and *CFD for Engineers* (Chemical, Industrial and Mechanical Eng. degrees) (2016-2018).

Business or sector Education & Research

November 2011 – August 2014

Sr. Piping Engineer/Lead EngineerSkanska Latin America, Buenos Aires (Argentina) (www.la.skanska.com)

Projects Department Leader. Stress analyst. Project support & assistance. Projects: Profertil; Carboclor.

Business or sector Oil & Gas related Engineering and Construction Company

April 2011 – November 2011

Project EngineerSkanska Poland, Poznań (www.skanska.pl)

Construction of the new expressway "Zachodnia Obwodnica Poznania" in Poznań, Poland.

Project support & assistance. Material and technical bid analysis specialist.

Business or sector Civil Construction Company

May 2005 – April 2011

Semi - Sr. Piping EngineerSkanska Latin America, Buenos Aires (Argentina) (www.la.skanska.com)

Project support & assistance. Material and stress analysis specialist. Projects: Petrobras; Vale; YPF; Puerto Rico Power Electrical Authority; TGN; Total Austral.

Business or sector Oil & Gas related Engineering and Construction Company

April 2004 – May 2005

Jr. Piping Engineer

Intec – Arcan Engineering, Buenos Aires (Argentina)

Elaboration of data sheets, Piping and Instrumentation Diagrams and process simulation. Projects: TGS; PLUSPETROL Bolivia; TGN; Oil Tanking.

Business or sector Oil & Gas related Engineering and Construction Company

March 2004 – August 2014

University LecturerUniversidad Tecnológica Nacional, Buenos Aires (Argentina) (www.frba.utn.edu.ar)Courses: *Fluid Mechanics* (4th year) and *Fluid Transport in Pipelines* (5th year) in the career of Mechanical Engineering.**Business or sector** Education**EDUCATION AND TRAINING**

2014 – 2018

Ph.D. in Engineering

University of Groningen (the Netherlands)

Research Topic: Modelling of EOR Processes. Interests: Numerical Simulation, Applied Chemistry, Computational Fluid Dynamics, Enhanced Oil Recovery, Rheology.

2004

Postgraduate course in selection of materials for mechanical applications

Universidad Tecnológica Nacional, Regional Buenos Aires (Argentina)

1999 – 2003

Mechanical Engineer (five-year degree)

Universidad Tecnológica Nacional, Regional Buenos Aires (Argentina). Average Grade: 8.4/10.

PERSONAL SKILLS**Mother tongue(s)**

Spanish

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	C1	C1	C1
IELTS (Academic) Overall 7.5					
Polish	B2	B2	B2	B2	B2
Portuguese	B1	C1	B2	B2	B1

Dutch	B2	C1	B2	B2	C1
Italian	B1	B1	A2	A2	B1
French	A1	A2	A1	A1	A1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills Excellent communication and team working skills, developing myself in different environments, from research to large engineering groups. Vast experience in working with different cultures.

Organizational / managerial skills Good organizational and proactive skills gained as project leader and as lecturer, developing and coordinating Masters courses. Good team-leading skills (I have managed teams of up to 15 people).

Job-related skills Good knowledge of oil & gas processes (up- and downstream) and materials applied to industry, as well as the application of different teaching techniques. Good mentoring skills.

Computer skills Experience in Process Simulation: HYSYS, TLNET, AFT Fathom, CCM+ and COMSOL. Excellent knowledge of 3D Design and FEA Simulation: I-DEAS v.11, Coade Caesar, and CATIA. Good command of 2D and 3D Design: AutoCAD, AutoPlant, and Solid Edge. Experience in Programming: MATLAB, LaTeX, Python (basic) and Visual Basic (basic).

ADDITIONAL INFORMATION

Books Numerical Simulation of Chemical Enhanced Oil Recovery Processes. PhD Thesis. University of Groningen (the Netherlands), 592 pages. ISBN 978-94-034-0983-2 – 2018.
Chemical Enhanced Oil Recovery – Advances in Polymer Flooding and Nanotechnology. De Gruyter (Germany), 173 pages. ISBN 978-3-11-065025-0 – 2019.
Numerical Modeling of Nanotechnology-Boosted Chemical Enhanced Oil Recovery Processes, in *Computational Fluid Dynamics Simulations*, ed. by G. Ji, IntechOpen. ISBN 978-1-83880-750-4 – 2020.
Transport by pipelines and its Optimization – A Sustainable Approach to the Design. Springer Nature (UK), 325 pages. ISBN 978-3-031-66568-4 – 2025.

Memberships Member of the American Society of Mechanical Engineers (ASME).
Member of the Society of Petroleum Engineers (SPE).
Member of MENSA Netherlands.
Member of the Koninklijk Instituut Van Ingenieurs (KIVI).

Seminars & Courses Course in ASME B31.3 – Process Piping (by IAS) – 2008.
Basiskwalificatieonderwijs (University Teaching Qualification) – Rijksuniversiteit Groningen – 2018.
VCA V.O.L. – Security course for supervisors – 2019.
Senior kwalificatie onderwijs (Senior Teaching Qualification) – Rijksuniversiteit Groningen – 2024.

Publications (selection) Druetta, P., Raffa, P. and Picchioni, F. (2018) Plenty of Room at the Bottom: Nanotechnology as Solution to an Old Issue in Enhanced Oil Recovery. *Applied Sciences*, 8, 2596.
Druetta, P. and Picchioni, F. (2019) Polymer and Nanoparticles Flooding as a New Method for Enhanced Oil Recovery. *Journal of Petroleum Science and Engineering*, 177, 479-495.
Druetta, P., Raffa, P. and Picchioni, F. (2019) Chemical Enhanced Oil Recovery and the Role of Chemical Product Design. *Applied Energy*, 252, 113480.
Kousemaker, T. M., Druetta, P., Picchioni, F. and Vakis, A. I. (2024) Modelling Supercritical CO₂ Flow in a Co-Rotating Twin Screw Extruder Using the Level-Set Method. *Chemical Engineering Research and Design*. 205, 569-577.
Kousemaker, T. M., Druetta, P., Picchioni, F. and Vakis, A. I. (2025) Numerical Modelling of Mass Transfer and the Plasticization Effect of Supercritical CO₂ on Polypropylene during Extrusion. *International Journal of Thermofluids*, 26, 101087.
Ying, Y., Raffa, P. and Druetta, P. (2025) Nano-technologically boosted CO₂-EOR techniques: A review of theoretical, experimental, and field aspects. *Chemical Engineering Journal*, 526, 171134.
Ying, Y., Raffa, P. and Druetta, P. (2025) Recent advances on the numerical modeling and simulation of nanoparticle-assisted CO₂ enhanced oil recovery. *Chemical Engineering Journal*, 525, 170396.