

CURRICULUM VITAE : PH. DE SMEDT

Personal data



Name : Philip de Smedt.
Date of birth : 27 August 1958.
Marital status : married to Helga Verstraeten.
Children : Joanna (14/2/1992) and Laurens (6/8/1993).
Nationality : Belgian.
Address : Ph. de Smedt,
de Meulenaerstraat 8, 9100 Sint Niklaas, België.
Tel : 03/766.15.95
Fax : 03/777.65.86
GSM : 00-33-6-19.42.17.96
E-mail address : philip.de-smedt@total.com

Education

1970-1976 : Secondary school : "Latijn Wetenschappen".
Onze Lieve Vrouwe College Antwerpen.

1976-1978 : Candidate in Physics : Greatest Distinction
Candidate in Mathematics : Great Distinction
K.U. Leuven

1978-1980 : Licenciate in Physics : Greatest Distinction
K.U. Leuven

1980-1983 : Ph.D. in Physics : Greatest Distinction
Promotor : Prof. A. Verbeure (KUL) Copromotor : Prof. J.V. Pulè (UC Dublin).
"Thermodynamic and dynamic properties of Bose Systems"
K.U. Leuven

1989-1991 : Chemical Engineer.
U. Twente, Nederland.

Employment record.

2009-Current : University of Ghent

Visiting professor, Faculty of Engineering.

Professor Chair sponsored by Total. One day per week (in total about 22 days per year).

Two courses given to Master Students Chemical Engineering.

Industrial Design (1st year Master Students), Industrial project (2nd Year Master Students)

2015-current : Cefic

Manager Lower Olefins and a few other sector groups of Petrochemicals Europe, Cefic.

- Organising meetings for various sector groups.
- Informing members of sector groups on ongoing legislative proposals or issues that could affect the business.
- Developing advocacy plans for sector groups.
- Organising yearly conference of European Ethylene Producers (EEPC).
- Providing technical input on issues such as ETS, IED.

2013-2015: Total Refining and Chemicals

Head of Energy Department. Stationed in Etablissement de Flandres, Mardyck, France

- Definition of methods and evaluation tools to measure Energy Efficiency
- Definition of industrial strategy to improve the energy efficiency of the refining and petrochemicals branch.
- Deployment of action plan in line with this strategy
- Assist refineries and petrochemicals sites to develop their action plans with respect to Energy Efficiency in line with overall strategy.
- Consolidation and communication of best practices with respect to energy efficiency
- Lead Energy Network of all energy coordinators of Refining and Petrochemicals : exchange forum for best practices and messages with respect to Energy Efficiency
- Represent Refining and Chemicals Branch in the Energy Committee of the Total Group
- Managing a team of 5 staff and 7 technicians
 - Technicians give support to sites on a number of energy related domains
 - Combustion
 - Thermography
 - Other energy related services eg Aircoolers.

2012 : Total Research and Technology Center Feluy.

Energy Efficiency Expert in the Energy Department of the Refining and Chemicals Branch of Total.

- Propose objectives on energy efficiency
- Develop appropriate energy efficiency indicators.
- Assist sites for developing strategy for improving energy efficiency of the refining and chemical sites of Total Group
- Audit energy management systems of sites

Activities retained from previous function

- Project manager bioethanol dehydration development project (with IFPEN and Axens)
- Member of Technical Working Group IPPC BREF LVOC revision.

2003-2011 : Total Petrochemicals Research Feluy

Group Leader Energy and Environment

- Technological Support with respect to Energy Efficiency, Utilities and Environmental Technologies to the Base Chemicals Units of Total Petrochemicals.

- Managing 3 specialists and 1 expert in the above domain.
- Support the sites to identify projects to improve Energy Efficiency of the Sites.
- Development of NOx strategy for Base Chemicals.
- Project manager for development of Ethanol Dehydration Technology, in collaboration with Axens and IFPEN.
- Member of the CEFIC delegation in the Technical Working Group for the Revision of the BREF LVOC (2010-2012).
- Member of CEFIC benchmarking group on CO2 allocations : active contributor to the document for the Rule book on CO2 allocations for crackers (2010) and Rule book for CO2 allocations for aromatics units (2010).
- Member of CEFIC TWG for the BREF on Energy Efficiency (2005-2007)
- Member of Essenscia Energy Work Group.

1999 - present : Jacobs Comprimo Belgie, Antwerpen

Operations Manager Technology

- Team leader of the start-up assistance team for 80 kt/y ECH (Epichlorohydrine) plant + overall coordinator for start-up support for 70 kt/y MMA (Methylmetacrylate) plant at Formosa Plastics Cooperation, Taiwan (both plants were built under a Comprimo licence).
- Technology manager for project for FCC in Iran : Green field site including Acrylonitrile, Methyl Methacrylate and Ammonium Sulphate including all utilities. Involved in project definition, sales, organisation of financial support (KBC and Delcredere) and process support.
- Project manager for cyanuric chloride and monochloro acetic acid economic assesment report.
- Identification of new technology opportunities and definition of research projects.
- Developing strategy for Technology Cel.
- Job Engineer Process for Basic Design of Bayer Antwerp Polyols project.
- Project Manager EPC fase for inuline project for Sensus, Roozendaal (part of the Suikerunie group)
- Consultant/project engineer at Solvay for the Vinyloop® project (PVC recycling project).

1997- 1998 : Stork Comprimo Belgie, Antwerpen

Principal Process Engineer.

- Member of basic engineering team for AMOCO Feluy LAO expansion project. Responsible for debottlenecking of compressors
- Project manager for technology cell Comprimo. Development of Comprimo proprietary technology for :
 - Methacrylic acid basic engineering design for FPC (Taiwan) .
 - PMMA basic engineering design for PCHZ (Slovakia).
 - Epichlorohydrine detailed engineering assistance for FPC (Taiwan). Responsible for start-up of this plant.
- Project manager for EPC phase of Inuline Production Project at Sensus, Roozendaal.
- Process Engineer Conceptual Design Phase for development of Solvay Vinyloop Process (PVC recycling).

1995-1997 : Shell Nederland Chemie bv, Moerdijk

Senior cracker technologist.

- Responsible for day to day optimisation of cracker conditions and selection of feedstock.
- Responsible for coaching two junior cracker technologists. Main activities of technology team : improve energy efficiency, increase throughput, reduce environmental emissions.
- Responsible for negotiations/contacts with nearby electricity company for contract for importing high and medium pressure steam.
- Member of team responsible for developing/implementing plan of action to reduce site emissions of NOx, SO2 emissions.

1992-1995 : Shell Internationale Chemie Maatschappij, Den Haag (SICM)

Chemical process engineer.

- Member of the "core" team for the design of a chemical complex at Nanhai (China). Responsible for the design of the Alpha-Olefin section of a Higher Olefins plant for this complex.
- Advising process engineer at the start-up of a new Dope Acid plant at Stanlow (England). This involved carrying out a Taguchi analyse to prepare the start-up and involved a lot of troubleshooting during actual start-up.
- Member of the Technical Safety & Integrity Audit Team for the Higher Olefins Plant at Stanlow (England).
- Member of the Safety Desk Review team for the SMPO plant (Styrene Monomer Propylene Oxide) for Singapore.
- Involved in developing dynamic models to establish better operating strategies for a Higher Olefins plant and a "CARILON" plant.
- Member of a team responsible for developing the Group Safety Philosophy for Expandable Polystyrene (EPS) reactors for existing Shell EPS plants and translating this into a design.
- Coordinating process engineer for Ethyl Benzene Unit debottlenecking project at Stanlow. Coordination of information stream between engineering contractor (Badger bv, The Hague) and Stanlow : ensure inclusion of Shell expertise in engineering work : control quality of work of Badger.

1987-1992 : Koninklijke Shell Laboratorium Amsterdam (KSLA)

1989-1992 : Chemical Processing department.

Chemical Technologist.

Responsible for the pilot plant of a new engineering thermoplastic (Shell Trade name = "CARILON")

- Definition of the research programme and analysis of the results. The aim of this programme was to develop a commercial "CARILON" process.
- Focal point for the process know-how in the contacts with the Shell Central Office at the Hague (design of commercial plant) and with the MDU at Shell Moerdijk (Market Development Unit).
- Chairman of a multidisciplinary team of 5 people : the role of team was to propose a fundamental research programme to get a better understanding of the particle growth process in the CARILON reactor.
- Author of about 4 patents.

1987-1989 : Engineering Physics department.

Research Physicist.

Theoretical study on the effect of various parameters on the morphology of polymer particles formed in slurry processes.

1980-1984, 1985-1987 : National Foundation for Scientific Research (NFWO)

Research Assistant.

Working at the Physics Department of the K.U. Leuven and at the Department of Mathematics of the Rutgers University, USA (1985-1986).

Theoretical study of phase transitions in Bose-Einstein systems, spin-glasses and other model systems.

15 publications in the open literature.

Stays at several universities and institutes:

- CERN (Switzerland)

- Dublin Institute for Advanced Studies (Ireland).
 - Ecole Polytechnique Fédérale de Lausanne (Switzerland)
 - Joint Institute For Nuclear Research (Russia).
- Scientific awards :
- Fulbright Scholar (1985-1986).
 - NATO scientific award (1985-1986).

Languages.

Dutch : mother tongue.
English : fluent.
French : fluent.
German : reading, good : speaking, moderate.

Army service.

1984 : Reserve Officer. Artillery School at Brasschaat.

Other activities.

- Officer of the American Institute of Chemical Engineers, Belgian Section.
- Officer of the “MilieuGenootschap” of the Royal Institute of Flemish Engineers..
- Secretary of the Orde van den Prince, Afdeling Heerlykheid Bevere
- Member of an investment club. President of club between 2008-2010.
- A number of lectures on climate change given at social clubs (Rotary, Orde van den Prince, Beleginsclub) on climate change.
- Responsible for introducing since 2009, one industrial design project work per year for the master students Chemical Engineering at University of Leuven.

Hobbys

- Karate (brown belt), cooking, reading, skydiving

Publications and patents.

1) Patents

GB 2278366 A 19941130 (199445)* EN 14[0]

US 5434243 A 19950718 (199534) EN 5[0]

Prepn. of copolymer of carbon monoxide and ethylene for unsatd. cpd(s) by reacting monomers in presence of catalyst comprising Gp.-VIII metal cation source, bidentate ligand and source of anions for high bulk density
DE SMEDT P J M M; MASTENBROEK B; TUMMERS C H M
SHELL INT RES MIJ BV; SHELL OIL CO

EP 605062 A1 19940706 (199426)* EN 9[0]

CA 2112540 A 19940701 (199434) EN

JP 06234849 A 19940823 (199438) JA 7[0]

US 5352766 A 19941004 (199439) EN 5[0]

EP 605062 B1 19990714 (199932) EN

DE 69325637 E 19990819 (199939) DE

Carbon monoxide and unsatd. cpd. copolymer prepn. for films - with catalyst contg. Gp.-VIII metal cation, di-phosphine anion, diluent and alkoxylate of mono-alcohol or polymer of vinyl* amide* monomer, as anionic surfactant, delaying agglomeration of polymer particles
MUIJS H M; MULDER J H; SMEDT P J M M
SHELL INT RES MIJ BV; SHELL OIL CO

EP 453011 A 19911023 (199143)* EN

NL 9000812 A 19911101 (199147) NL

AU 9174096 A 19911010 (199148) EN

BR 9101360 A 19911126 (199201) PT

CA 2039769 A 19911007 (199201) EN

FI 9101617 A 19911007 (199203) FI

CS 9100930 A 19911112 (199205) CS

ZA 9102497 A 19911224 (199206) EN

HU 58355 T 19920228 (199213) HU

CN 1055370 A 19911016 (199229) ZH

US 5138032 A 19920811 (199235) EN 6[0]

JP 04225027 A 19920814 (199239) JA 8

AU 636732 B 19930506 (199325) EN

EP 453011 A3 19920318 (199326) EN

HU 210061 B 19950130 (199510) HU

RU 2026868 C1 19950120 (199533) RU 7[0]

EP 453011 B1 19970604 (199727) EN 12[0]

DE 69126363 E 19970710 (199733) DE

ES 2103294 T3 19970916 (199744) ES

FI 101974 B1 19980930 (199845) FI

CZ 284275 B6 19981014 (199847) CS
SG 72642 A1 20000523 (200033) EN
KR 204812 B1 19990615 (200063) KO

Continuous production of polyketone polymers having high bulk density by polymerisation of carbon monoxide and olefin(s), in diluent which at beginning of start-up period contains suspended solid.

MASTENBROEK B; PETRUS L; SMEDT P J M M
SHELL INT RES MIJ BV; SHELL OIL CO

EP 448177 A 19910925 (199139)* EN
AU 9173698 A 19911003 (199147) EN
BR 9101083 A 19911105 (199149) PT
CA 2038654 A 19910923 (199150) EN
HU 57242 T 19911128 (199151) HU
FI 9101357 A 19910923 (199201) FI
ZA 9102061 A 19911127 (199202) EN
CS 9100751 A 19911112 (199205) CS
CN 1054990 A 19911002 (199227) ZH
US 5122591 A 19920616 (199227) EN
JP 04222830 A 19920812 (199239) JA
EP 448177 A3 19920325 (199327) EN
AU 637888 B 19930610 (199330) EN
HU 210081 B 19950228 (199514) HU
RU 2021288 C1 19941015 (199524) RU
EP 448177 B1 19951227 (199605) EN
DE 69115737 E 19960208 (199611) DE
CZ 280546 B6 19960214 (199614) CS
ES 2081421 T3 19960316 (199618) ES
FI 101971 B1 19980930 (199845) FI
KR 178527 B1 19990515 (200052) KO

Polyketone polymers preparation by continuous polymerisation in which product of higher bulk density is obtained by controlling catalyst and diluent addition rates

DE SMEDT P J M; GEUZE M M; PETRUS L; SALTER J A
SHELL INT RES MIJ BV; SHELL OIL CO

EP 416681 A 19910313 (199111)* EN
CA 2023326 A 19910218 (199118) EN
JP 03106935 A 19910507 (199124) JA
US 5077384 A 19911231 (199204) EN
US 5177185 A 19930105 (199304) EN
EP 416681 A3 19920429 (199329) EN
JP 2877470 B2 19990331 (199918) JA

Linear polymer of carbon monoxide and unsaturated compounds shows improved melt flow behaviour plus improved flex modulus and yield stress

DE SMEDT P J M M; PETRUS L
SHELL INT RES MIJ BV; SHELL OIL CO

2) Publicaties

1. Ph de Smedt How to define energy efficiency. CEFIC paper. Used as basis for chapter 1.3.2 and 1.4 of BREF on Energy Efficiency (EIPPCB document : can be downloaded from <http://eippcb.jrc.es/>)
2. Ph de Smedt, E. Petela, I. Moore, M. Brodkorb. Model based Utilities Optimisation and management. Aspentech White Paper 2006.
3. B. Smit, Ph de Smedt, D. Frenkel. Computer simulations in the Gibbs ensemble. *Molecular Physics* (1989), 68, 931-950.
4. Ph. de Smedt, D. Durr, J.L. Lebowitz, C. Liverani. Quantum systems in contact with a thermal environment: rigorous treatment of a simple model. *Communications in Mathematical Physics* (1988), 120, 195-231.
5. Ph. de Smedt, P. Nielaba, J.L. Lebowitz, J. Talbot, L. Doms. Static and dynamic correlations in fluids with internal quantum states: computer simulations and theory. *Physical Review A (Gen. Phys.)* (1988), 38, 1381-1394.
6. P. Ballone, Ph de Smedt, J.L. Lebowitz, J. Talbot, E. Waisman. Computer simulation of a classical fluid with internal quantum states. *Physical Review A: (Atomic, Molecular, and Optical Physics)* (1987), 35, 942-944.
7. Ph. de Smedt, V.A. Zagrebnov. Van der Waals limit of an interacting Bose gas in a weak external field. *Physical Review A (Gen. Phys.)* (1987), 35, 4763-4769.
8. Ph. de Smedt, P.; A. Gonzalez Lopez. On the asymptotic behaviour of the solutions of the Caldirola-Kanai equation. *Letters in Mathematical Physics* (1986), 12, 291-300.
9. Ph. de Smedt, J. Talbot, J.L. Lebowitz. Hard spheres in the isobaric-isoenthalpic ensemble. *Molecular Physics* (1986), 59, 625-635.
10. Ph. de Smedt. The effect of repulsive interactions on Bose-Einstein condensation. *Journal of Statistical Physics* (1986), 45, 201-213.
11. J.O. Indekeu, Ph. de Smedt, R. Dekeyser. Correlation-induced re-entrant spin-glass behavior in an Ising model with random interactions. *Physical Review B (Cond. Matter)* (1984), 30, 495-497
12. E. Buffet, Ph. de Smedt, J.V. Pulè. On the dynamics of Bose-Einstein condensation. *Annales de l'institut Henri Poincaré (C : Analyse non linéaire)* (1984), 1, 413-451.

13. E. Buffet, Ph. de Smedt, J.V. Pulè. The dynamics of the open Bose gas. *Annals of Physics* (1984), 155, 269-304
14. M. Van den Berg, J.T. Lewis, Ph. de Smedt. Condensation in the imperfect Boson Gas. *Journal of Statistical Physics* (1984), 37, 697-707.
15. J.T. Lewis, J.V. Pulè, Ph de Smedt. The superstability of pair-potentials of positive type. *Journal of Statistical Physics* (1984), 35, 381-385.
16. E. Buffet, Ph. De Smedt and J.V. Pulè. The condensate equation of some Bose Systems. *J. Phys. A (Math. Gen.)* (1983), 16, 4309-4324.
17. Ph. de Smedt, G. Stragier. On the pressure of boson and fermion systems. *Journal of Physics A (Math. Gen.)* (1982), 15, 2483-2498,
18. Ph. de Smedt, G. Stragier. The KMS condition and regularity for the ideal Bose gas. *Journal of Mathematical Physics* (1981), 22, 2918-2920