Curriculum Vitae A.N.R. (René) Bos

René Bos is currently Senior Principal Researcher within the department *Next Generation Breakthrough Research* at Shell Projects & Technology, Amsterdam. Since June 2018 he is also part time (0.2 fte) seconded to Ghent University as guest professor “Industrial Reaction Engineering” at the Laboratory of Chemical Technology (LCT).

He received his chemical engineering degree from University Twente where he also obtained his PhD in 1992 on “Reactor and catalyst dynamics and stability - the hydrogenation of ethyne in ethene” in the research group *Industrial Processes and Products* of Prof. Roel Westerterp.

He joined Shell in September 1991 where he has had a variety of roles in Amsterdam, Pernis and Houston, mostly within research and technology but also at manufacturing sites as advising technologist. From 1991 to 2007 he worked as (senior) scientist on topics comprising ethylene oxide, ethylene glycol, DeNOx, EpiChloroHydrin, Methanol To Olefins, catalytic oxidation of NH3, Versatic Acids production, Butadiene Rubber, Carilon and Carilite, PIB/MALA production and SMPO (Styrene + Propylene Oxide). In January 2008 he became Principal Scientist and overall project lead for all Fischer-Tropsch / GTL exploratory and explanatory R&D, with an annual budget varying between 5 and 10 Million US$/yr. In 2013 he took on the role of Team Lead Process Innovation within *Emerging Technologies*, focusing on lead generation, experimental proof of concept and subsequent process development mostly, but not exclusively, in the field of Gas to Chemicals (C1 – C3 to bulk chemicals, most notably E-ODH and OCM), the broader field of Methane to Products and thermo-catalytic conversions of CO2. This team works with a wide range of experimental equipment, including small pilot plants, many micro-flow reactors suitable for high pressures and temperatures (up to 50 bar, 1400 ^{0}C) and also a range of advanced analytical / surface science techniques. Next to this, he also co-runs the “Reactor Engineering skill network” and the advanced internal course “Industrial Reaction Engineering and Conceptual Process Design”.

In 2021 he was appointed as Senior Principal Science Expert (Process Development).

Externally from Shell, he has been several times invited lecturer for the post-graduate OSPT-course "Process Development and Scale-up" (University Amsterdam), the graduate course “Scale-up of fixed and moving bed reactors” (University Twente), the post graduate NIOK course “Advanced Catalysis Engineering” (TU Delft) and invited lecturer on Reaction Engineering (TU Eindhoven and TU Delft).
With Prof. Marin (Ghent, but then TU Eindhoven) and representatives from DSM and DOW, he was one of the founding members of the consortium "EuroKin", which is still operative today. From 2005 to 2010 he represented Shell as executive officer of the Dutch-Belgium branch of the American Institute of Chemical Engineers and from 2013 onwards as member of “College van Toezicht” of the University of Applied Sciences Utrecht.

Overall, he (co-) authored 41 scientific publications in the open literature (next to >100 Shell internal research reports) and is (co-)inventor of 43 Patent Applications. Recently he is co-editor of a forthcoming book on Methane Conversion Routes and co-author of a new textbook on Multiphase Reactors.

Career

2023 – present	Senior Principal Researcher Chemical Engineering, Shell, Amsterdam
2018 – present	Guest Professor Industrial Reaction Engineering, Ghent University
2021 – present	Senior Principal Science Expert, Process Development
2019	Principal Researcher Emerging Technologies, Shell, Amsterdam
2013	Team Lead Emerging Technologies, Shell, Amsterdam
2008	Principal Scientist & Overall Project Lead GTL Exploratory/Explanatory, Shell, Amsterdam
2003	Senior Research Technologist Styrene Monomer / Propylene Oxide, Shell, Amsterdam
1999	Senior Research Technologist Ethylene Oxide and Ethylene Glycols, Shell, Amsterdam
1998	Process Development Engineer EO/EG, Shell Oil Company, Houston
1995	Advising Technologist Versatic Acids Plant, Shell Nederland Chemie, Pernis
1991	Reactor Engineer, Koninklijke Shell Laboratorium, Amsterdam (KSLA)

Education

1992	PhD in Chemical Engineering, University Twente, advisor Prof. K.R. Westerterp Committee members include Prof. van Swaaij, Prof. Eigenberger, Prof. Ross and Prof. Geus
1987	Scheikundig Ingenieur (Master in Chemical Engineering), University Twente

Attached: List of publications and patent applications

November 21, 2023

List of publications, books and patents of A.N.R. Bos, dd November 2023.

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