

Information about the speakers and lectures.

Dr. Cees de Visser



1963-1973: Chemistry studies (Major in Physical Chemistry, Graduated in 1970) and PhD (Advisor: Gus Somsen), Vrije Universiteit Amsterdam 1982-1983: Hospital Policy Training (in collaboration with Katholieke Universiteit Tilburg)

1970-1980: Scientific (Senior) Researcher at Vrije Universiteit, (sub)faculty of Chemistry. Course 1975/1976: Worked at the University of Sherbrooke (Quebec) with a scholarship from the Canadian government. Positions held included Faculty of Science and Nature board member, Chemistry sub-faculty board member, and acting administrator. 1980-1987: Director-Administrator of the Main Department of Internal Medicine at Leiden University Medical Center (LUMC), Leiden University.

1987 - 2011 General Director successively at CBG (Medicines Evaluation Board), NEN institute (standards), Nefarma (umbrella organization of pharmaceutical industry), and NWO (Netherlands Organization for Scientific Research)

Making connections, trust, and a bit of luck...

In the mid-20th century, it was quite a step for a farmer's son to pursue higher education. After my brother, I was the second person from the village of Aagtekerke to attend university. People used to tell our parents, "Those two are surely too lazy to work." But it was thanks to our parents' encouragement that we went on; I even went to the big city, Amsterdam, and studied Chemistry at VU. Following my studies, I completed my PhD and obtained a permanent position. I conducted research in Thermochemistry at VU and spent a year at a Canadian university. It was eye-opening and highly recommended. Back at VU, I was still drawn to administrative roles. After serving on the Faculty and Subfaculty boards, I took on the role of administrator in the absence of the regular administrator due to illness. Then came the "big step": I became the director of internal medicine (11 departments) at Leiden University Medical Center. I left behind chemistry and knew I couldn't go back. I'll explain that transition and share what I retained from my chemistry education, both in

subsequent public and private roles. How did collaborations with the organizations' leadership unfold? And how did it work within different governance models (Anglo-Saxon and Rhenish)? What did I gain from these experiences when I became a leader (supervisor) myself? In church, healthcare, education, and various other roles. "Almost everything is chemistry, and with a chemistry education, you can tackle almost anything..." Cees de Visser

Dr. Daniëlle Vugts



Dr. Daniëlle Vugts Dr. Danielle Vugts is an Associate Professor at Amsterdam UMC, VUmc location, in the Department of Radiology and Nuclear Medicine. Her research focuses on PET radiochemistry, particularly in the context of drug development imaging. Following her Chemistry studies at Hogeschool Brabant and Vrije Universiteit (Major in Organic Chemistry, Graduated in 2002), she pursued her PhD in organic chemistry under the guidance of Romano Orru (PhD awarded in 2006). After her PhD, she worked as a postdoc in the Ear, Nose, and Throat Department at VUmc, where she worked on pre-targeting. This laid the foundation for a significant portion of her current work: radiolabeling antibodies with radioactive isotopes for PET imaging in the human body. Her current research focuses on developing new methods for synthesizing radioactive tracers for PET imaging and gaining a deeper understanding of novel drugs. This work has resulted in over 110 articles. She also teaches radiochemistry at VU. Starting from May 2023, she is the President-Elect for the Society of Radiopharmaceutical Sciences (SRS), and she will become its president in 2025.

Moleculs: from Lab to Patient

After learning organic chemistry in the lab and synthesizing numerous molecules, I delved into the fascinating world of radiochemistry. I learned about preparing radioactive tracers, also known as tracers, for individual patients. This involved ultra-fast syntheses and quality control, short shelf lives, and the ability to visualize these tracers within the human body using Positron Emission Tomography (PET) scans. The fact that the molecules I synthesized in the lab could be injected into a patient within a few hours captured my interest. In my presentation, I will share my journey from the laboratory to the patient and discuss the current state of PET imaging in clinical research. I'll also explore how imaging can enhance drug development, making it more efficient and faster.

Prof. Dr. Pieterneel Levelt



Prof. Dr. Pieterneel Levelt is the current Director of the ACOM (Atmospheric Chemistry Observations and Modeling) Lab at NCAR (National Center for Atmospheric Research) as well as an Associate Director at NCAR. Pieterneel Levelt has been serving in both of these positions since June 2021. She was previously the Department Head of R&D Satellite Observations at KNMI (The Royal Netherlands Meteorological Institute) as well as a Professor at TUD (Delft University of Technology) and maintains an affiliation with both organizations. Pieterneel Levelt did her bachelor and master studies (major: Physical Chemistry, minor: Theoretical Chemistry; degree in 1987) as well as her Ph.D. work (Promotor: Wim

Hoogervorst; Co-Promotor: Wim Ubachs; Ph.D. degree in 1992) at Vrije Universiteit Amsterdam. Since 1998, she is the Principal Investigator for the Ozone Monitoring Instrument (OMI), launched on NASA's Eos-Aura satellite in 2004 and was the Principal Investigator of the Tropospheric Monitoring Instrument (TROPOMI) from 2003 to 2009 and continues as the Scientific Initiator for TROPOMI. TROPOMI was launched in 2017 on ESA/EU's Sentinel-5 precursor satellite. Both instruments are spectrometers that measure the chemical composition of the Earth Atmosphere from space. Dr. Levelt is also the co-lead investigator of ESA's proposed Earth Explorer 11 Nitrosat mission that focuses on the nitrogen cycle. Dr. Levelt received multiple Awards, of which the USGS/NASA Pecora Award (2018) and the AMS Special Award for the international OMI team (2021) are the most prominent. Dr. Levelt received the distinction of 'Ridder in de Orde van de Nederlandse Leeuw' in April 2021.

From Spectroscopy in the Lab to Observations of Molecules from Space

This lecture will cover my scientific endeavors, OMI and TROPOMI, both spectrometers that measure the chemical composition of the atmosphere from space. The data from these spectrometers play a crucial role in monitoring the expected recovery of the ozone layer, improving air quality, and understanding emissions relevant to climate change. You will be surprised by how much information about our daily human activities and their impact can be derived from space-based measurements of atmospheric composition. Examples include industrial emissions, forest fires, oil and gas extraction, and agriculture. Natural sources like volcanic eruptions, forests, and wetlands are also discernible. These sources change over

time due to climate change, emission policies, COVID-19 lockdowns, and political instability. Throughout the lecture, I will emphasize how my career, shaped by my Chemistry

As a common thread throughout the lecture, I will focus on how my career has been shaped by my chemistry studies at VU, followed by my doctoral work in the physics department at the same university. I will highlight the pivotal choices that have been instrumental in achieving a globally leading position in observing the Earth's atmosphere from space.