



Prof. Fred Roozeboom

(University of Twente, the Netherlands)

Fred Roozeboom holds a doctorate in technical sciences from University of Twente (Netherlands) with specialization in inorganic chemistry and catalysis. After three years in catalysis at ExxonMobil R&D Labs in Baton Rouge (USA), he joined Philips Research (from 2007: NXP) in Eindhoven, Netherlands to work most of his life on thin-film technology and plasma processing (1983-2009). From 1997-2009 he led a team that focused here on applications in 3D passive and heterogeneous integration for System-in-Package devices for wireless communication and power management. In 2007 he became Research Fellow and also full professor at TU Eindhoven (2007-2021), working on atomic layer deposition (incl. area-selective) and etching. In 2009 he left NXP to join TNO Holst Centre to work on spatial atomic layer process and reactor design for photovoltaics and displays.

In 2021 he left TU Eindhoven and TNO to join University of Twente as guest (emeritus) professor, where his research focuses on tuning nanofiltration membranes by ALD and MLD. Since 2021 he is or was also consultant for high-tech industry in applications of thin-film processing for Atomic Layer Etching based patterning, EUV optics lifetime, 3D Li-ion batteries, CO₂ capture and greenhouse gas emission reduction.

For over 30 years he has organized many conferences and workshops in the domain of thin-film processing, recently as Program Chair of the 11th International Atomic Layer Etching Workshop (ALE 2024) as part of ALD2024 in Helsinki, Aug. 2024.

Fred holds over 50 US patents, granted or pending, and published 200+ papers in journals (h-index 44 Scopus). He is ECS Fellow and AVS Fellow, and recipient of the ECS 2023 Gordon E. Moore Medal Award.