Curriculum Vitae

Eggo Ulphard Thoden van Velzen

Senior researcher at Wageningen Food & Biobased Research
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Google Scholar:https://scholar.google.com/citations?hl=nl&user=-KJ3cfoAAAAJ

Concise biography

Ulphard Thoden van Velzen is a 57 year old Dutchman that studied chemistry in Utrecht and Enschede, worked for one year as a post-doc in Sydney and ever since at Wageningen Food & Biobased Research; a technological contract research organisation. Up to about 2008 the focus of the contract research was to extend the shelf life of perishable foods with advanced packaging solutions and hence avoid food loss. From 2008 on the focus shifted towards the understanding packaging waste and mechanical recycling. The main challenge is to relate the design-aspects of packages to the quality of recycled plastics. He has an extended network of clients from packaging industries, waste management companies, recycling facilities, EPR organisation, Ministries, material organisations and sectorial stakeholders.

Academic education

Universiteit Utrecht	Chemistry, 1985-1990
Propaedeutisch exam	August 25th 1986 (cum laude)
Doctoral exam	April 23rd 1990 (cum laude)
Universiteit Twente	Ph.-D. student in organic chemistry, 1990-1994
Thesis:	"Self-assembled monolayers of receptor adsorbates on gold; preparation, characterization, and application", August 18th 1994, prof. D.N. Reinhoudt

Work

1994 – 1995	Post-doctoral fellow at a predecessor of Ambri Ltd (AUS).
From 1995 on	Senior researcher at Wageningen Food & Biobased Research, a contract research organisation of Wageningen University & Research (NL). Focus is on executing contract research for packaging companies and FMCG companies. Besides trouble shooting and consultancy most focus is on developing and implementing: • Packaging solutions for fresh foods, mostly MA and active packages for fresh foods (fruits, vegetables, meats and meals), 1995-2008 • Packaging waste analysis and recycling, 2008 to now

Recent scientific projects

Working in a contract research organisation implies that there is a constant flow of projects, some very practical for small and medium enterprises, others more focussed on shifting the boundaries of scientific knowledge. From this latter category three recent projects are:

- TiFN, SD002, Sustainable packaging, 2014-2018
- TiFN, Recycled PET in PET bottles, 2016-2019
- MOOI, InReP, mechanical recycled polyolefines for food packaging, 2021-2025

Publication impact

H index: 18 (Google Scholar and Web of Science)

Recent publications

Thoden van Velzen, E.U, Workala, Y., Teunissen, W., Smeding, I., Volatile organic contaminants in HDPE milk bottles along the mechanical recycling value chain, revealing origins and contamination pathways, Journal of Cleaner Production, 2024, 142571, https://doi.org/10.1016/j.jclepro.2024.142571.

Cimpan, C., Iacovidou, E., Rigamonti, L., & Thoden van Velzen, E. U. Keep circularity meaningful, inclusive and practical: A view into the plastic value chain. Waste Management**,** **2023,** 166*,* 115-121. https://doi.org/10.1016/j.wasman.2023.04.049

Maaskant-Reilink, E., Post, W., Brouwer, M. T., van Es, D. S., & Thoden van Velzen, E. U. Strategic selection tool for thermoplastic materials in a renewable circular economy: Identifying future circular polymers. *Sustainable Production and Consumption*, **2023**, *38*, 174-185 https://doi.org/10.1016/j.spc.2023.04.005

Thoden van Velzen, E. U., Chu, S. S. M., Molenveld, K., & Jaso, V. Effect of poly lactic acid trays on the optical and thermal properties of recycled poly (ethylene terephthalate).Packaging Technology and Science*,* **2022**, 35*(*4), 351-360. Article Wiley PTS 2633. https://doi.org/10.1002/pts.2633

Thoden van Velzen, E.U., Santomasi, G. Tailor-made enzymes for plastic recycling, Nature, 2022, 604, 631-633. https://doi.org/10.1038/d41586-022-01075-6

Roosen, M., Mys, N., Kleinhans, K., Lase, I.S., Huysveld, S., Brouwer, M.T., Thoden van Velzen, E.U., Van Geem, K.M., Dewulf, J., Ragaert, K., Dumoulin, A., de Meester, S. Expanding the collection portfolio of plastic packaging: Impact on quantity and quality of sorted plastic waste fractions, Resources, Conservation and Recycling, 2022, 178, 106025, https://doi.org/10.1016/j.resconrec.2021.106025.

Picuno, C., van Eygen, E., Brouwer, M., Kuchta, K., & Thoden van Velzen, E. U. Factors Shaping the Recycling Systems for Plastic Packaging Waste—A Comparison between Austria, Germany and The Netherlands, Sustainability (Switzerland), **2021**, 13(12), [6772]. https://doi.org/10.3390/su13126772

Thoden van Velzen, E. U., Chu, S. S. M., Alvarado Chacon, F., Brouwer, M. T., & Molenveld, K. The impact of impurities on the mechanical properties of recycled polyethylene. Packaging Technology and Science*,* **2021**, 34(4), 219-228. https://doi.org/10.1002/pts.2551

Brouwer, M. T., Thoden van Velzen, E. U., Ragaert, K., & ten Klooster, R. Technical Limits in Circularity for Plastic Packages. Sustainability (Switzerland)*,* **2020**, 12*,* 1-29. https://doi.org/10.3390/su122310021

Alvarado Chacon, F., Brouwer, M. T., & Thoden van Velzen, E. U. Effect of recycled content and rPET quality on the properties of PET bottles, part I: Optical and mechanical properties. Packaging Technology and Science*,* **2020**, 33(9), 345-394. https://doi.org/10.1002/pts.2490

Thoden van Velzen, E. U., Brouwer, M. T., Stärker, C., & Welle, F. Effect of recycled content and rPET quality on the properties of PET bottles, part II: Migration. Packaging Technology and Science*,* **2020**, 33*(*9), 359-371. https://doi.org/10.1002/pts.2528

Brouwer, M. T., Alvarado Chacon, F., & Thoden van Velzen, E. U. Effect of recycled content and rPET quality on the properties of PET bottles, part III: Modelling of repetitive recycling. Packaging Technology and Science, **2020**, 33(9), 373-383. https://doi.org/10.1002/pts.2489

Brouwer MT, Picuno C, Thoden van Velzen EU, Kuchta K, De Meester S, Ragaert K, "The impact of collection portfolio expansion on key performance indicators of the Dutch recycling system for Post-Consumer Plastic Packaging Waste, a comparison between 2014 and 2017" Waste Management, **2019,** 100, 112-121. https://doi.org/10.1016/j.wasman.2019.09.012

Thoden van Velzen EU, Brouwer MT, Feil A, "Collection behaviour of lightweight packaging waste by individual households and implications for the analysis of collection schemes" Waste Management, **2019**, 89, 284-293, https://doi.org/10.1016/j.wasman.2019.04.021 .

Brouwer MT, Thoden van Velzen EU, Augustinus A, Soethoudt H, DeMeester S, Ragaert K, "Predictive model for the Dutch post-consumer plastic packaging recycling system and implications for the circular economy" Waste Management, **2018** 71 62–85, https://doi.org/10.1016/j.wasman.2017.10.034