

Rienk Nieuwland, biologist (PhD), is head of the “Vesicle Observation Center” of the Amsterdam University Medical Center (Amsterdam, Netherlands). We focus on isolation, detection, functional characterization (coagulation), and standardization of measurements on extracellular vesicles (EVs).

We introduced size-exclusion chromatography to isolate EVs, described “swarm detection”, developed a method to measure the refractive index of EVs in suspension, and developed a model that converts the light scatter signal from arbitrary units into SI units, which enables to derive the diameter of EVs and is a prerequisite to standardize EV concentration measurements.

Regarding standardization, RN coordinated the EURAMET project METVES (HLT02), a collaboration between metrological and biomedical researchers aimed at the dimensional characterization of EVs, and currently coordinates METVES II (18HLT01), aimed to standardize EV concentration measurements (www.metves.eu). He chaired the Scientific Standardization Committee on Vascular Biology of the International Society on Thrombosis and Haemostasis (ISTH), coordinated writing of methodological guidelines to study blood EVs on behalf of the American Heart Association. At present, he co-chairs the Rigor and Standardization Committee of ISEV, is adjunct board member of ISEV, chairs the ISEV Educational Committee of ISEV, chairs the blood EV task force of ISEV, is co-founder and member of the Extracellular Vesicle Flow Cytometry Working Group (www.evflowcytometry.org), and is vice-president of the Netherlands Society for Extracellular Vesicles (www.nlsev.nl).