

obituary: Francoise Winnik



It was very sad news indeed to learn that Francoise Winnik, our good friend and colleague for many years, passed away on 13th February in Helsinki. She was widely known and appreciated around the world for her outstanding contributions to the field of colloid and interface science, both in academia and in industry.

Francoise was born in France. She obtained the *diplome d'Ingenieur chimiste* degree at the *Ecole Nationale Supérieure de Chimie de Mulhouse*. She then obtained her MSc and her PhD (with Prof. Peter Yates) at the University of Toronto. During her post-doctoral studies in the Department of Medical Genetics at the University of Toronto, from 1979 to 1981, she studied cell/cell interactions, in particular, the role of cell-surface carbohydrates. She then joined the Xerox Research Center of Canada in Mississauga from 1981 to 1993, where she investigated new materials for xerographic toners and ink-jet inks. Her main interest at this time was the design of novel polymer-based nanoparticles. Francoise returned to academia in 1993, when she was appointed to an associate professorship at the department of chemistry at McMaster University in Hamilton, and then from 2000 to a full professorship in chemistry and pharmacy at the University of Montreal. Francoise retired in 2017 from Montreal and took up a professorial position at the University of Helsinki in Finland from 2018 to 2020, after which she was appointed as a professor emeritus there.

Her main research focus, when she returned to academia, concerned the interaction of polymeric nanoparticles with biological cells and also the chemistry of amphiphilic polymers and their self-assembly in water. She played a pioneering role in the design and fundamental understanding of “responsive” nanomaterials, loosely named “stimuli-responsive systems”, that are able to translate on the macroscopic scale minute motions at the molecular level generated by a ray of light or a small change of temperature. She started to work in this field in the early 1990s during her industrial career, working first with cellulose ethers, then with poly-(N-isopropylacrylamide), the “smart polymer” *par excellence*. One particular technique she developed, amongst several, was microcalorimetry, in particular pressure-perturbation calorimetry.

In more recent years, Francoise, was involved in several interdisciplinary projects, most notably as a Finnish Distinguished Professor (TEKES) of the University of Helsinki and as a Principal Investigator at the Satellite Laboratory (in Montreal 2011-2017, then in Helsinki 2018-present) of the International Center for Materials Nanoarchitectonics (MANA) of the National Institute for Materials Science, in Japan. She was developing strong collaborations with scientists worldwide in areas ranging from polymer physics and organic/inorganic nanoparticle synthesis to protein chemistry, pharmacology, nanomedicine, cardiology and medical imaging.

Francoise was a great ambassador for colloid and interface science. She travelled widely and lectured around the world. She was perhaps best known to many in our field through her editorial role with the American Chemical Society journal *Langmuir* which began in 2001. In 2008 she was appointed the executive editor, then the editor-in chief from 2015 to 2019 of *Langmuir*. Francoise was an outstanding editor-in-chief. In addition to performing the usual tasks of the editor-in-chief, she was actively showing her presence world-wide during many international and domestic conferences each year throughout her term as the editor-in-chief. She explained to young colleagues and students the role of the journal and how to write a good manuscript and gave practical tips and answers to questions they had. Her advice was of great assistance to young people.

Francoise was still very much active in research when she died. Indeed, she published her most recent paper a month or so ago. She was one of the twelve recipients of the IUPAC 2021 “Distinguished Women in Chemistry / Chemical Engineering” award, which was announced on February 8th, in the same week of her last day with us. We will miss her greatly.

Brian Vincent (University of Bristol) and Kazue Kurihara (Tohoku University, Sendai).
3rd March 2021.