

## **Pushing the limits of ion-selective sensors**

Agata Michalska

Faculty of Chemistry, University of Warsaw

The aim of this presentation is to show the current challenges and achievements in the search for improved ion-selective sensors.

Although ion-selective sensors, originally developed for open circuit electrochemical applications, have been known for decades, they are still important and vivid research topic. Ion-selective sensors have been studied and developed at Faculty of Chemistry, University of Warsaw for nearly six decades, significantly contributing to this field. In the recent years so called “classical ion-selective potentiometric sensors” evolved to a large group of novel sensors, that can be applied in different modes: potentiometric, current trigger electrochemical, colorimetric or fluorimetric, offering analytically useful signals dependent on concentration of analyte in the sample. The current interest in the field includes offering sensors useful for applications by non-professional users, for screening / monitoring purposes. Ion-selective sensors have benefited significantly from the development of conducting polymers and rapidly growing field of nanomaterials of different properties, leading to miniature sensors of improved analytical performance.