



SOCIÉTÉ CHIMIQUE DE GENÈVE

Ion-selective electrodes: From the first beginnings to the current state of the art

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Performing chemical analysis *in-situ* on an unperturbed sample, without delays or the need for sample preparation, would fill important needs in clinical diagnostics and environmental monitoring.

The earliest systems to achieve this were ion-selective electrodes, first with development of the ubiquitous pH electrode more than hundred years ago, then later with similarly operating sensors for the analysis of a multitude of ionic species.

This talk will explain some of the early efforts to develop ion-selective electrodes and to understand their functioning. It will be shown that early thinking based on ill-understood experimental results gave rise to heated discussions in the field that lasted for the better of 20 years and were finally settled in the 1990s. It was only then that an improved understanding of these devices allowed the field to truly move forward, long after the original wave of excitement in the field had passed. The talk will trace these more recent advances and culminate in the development of calibration free sensor concepts based on ion-selective electrodes, which is one of our current research topics in Geneva.

Conférence présentée le

LUNDI 30 JANVIER 2012 à 17h30

Université de Genève – Bâtiment Sciences II
Auditoire A. Pictet – A100
30, quai Ernest-Ansermet, Genève

La conférence est publique

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