

Quality Aspects in Industrial Chemistry



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Quality is the overriding theme of this special issue compiled by the Division of Industrial and Applied Chemistry DIAC. The DIAC is a forum for chemists, chemical engineers, and process engineers interested in industrial chemistry, chemical production, development, and related fields. By organizing conferences such as the biennial Freiburger Symposium, we advocate the importance of process development and chemical production and provide a network for knowledge transfer, discussion and interdisciplinary collaborations.

Quality is simply defined as meeting the requirements of the customer. This statement still holds true, but management of quality has undergone a massive evolution. In the pharma, consumer and electronics industries, the purity and quality consistency requirements have increased dramatically leading to a rising number of regulations issued by authorities or original equipment manufacturers. Examples from Novartis and BASF show how these requirements are integrated into the production routine.

The Swiss Chemical Industry, like all others, competes globally not only on quality, but also on delivery and price. Increasing the quality can also reduce costs. DSM is using Lean Six Sigma methodology to improve quality by reducing variations and thereby increasing the performance and capacity of their processes.

Any process optimization requires process understanding first. Modern in-line techniques such as FT-NIR are an important and precise tool for analysis and improvement of chemical transformations or unit operations directly in the plant as described by Firmenich and Bruker Optics. However, all precision is worthless if the measurements are not accurate. METAS, the Federal Institute of Metrology, provides the expertise to ensure the accuracy of the measured process parameters, e.g. by developing accurate and traceable calibration methods for flow devices in production.

Let me conclude with a quote from Aristotle: *“Quality is not an act, it is a habit.”*
The contributions in this issue surely follow this philosophy.

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Front cover photo: Quality control and color consistency test, 1965. Source: BASF Corporate History, photographer: Robert Häusser.

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