Statistical tools and approaches to optimize processes

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This presentation explores statistical tools and methodologies for process optimization in the chemical industry. Using Design of Experiments (DoE), it identifies key parameters affecting yield and impurity levels in a multi-step synthesis. A case study illustrates how statistical modeling improves process robustness, reduces impurities, and enhances efficiency. The results highlight the importance of data-driven decision-making in process development.

Short CV: Guillaume Journot holds a Ph.D. in Organic Chemistry from the University of Neuchâtel. With more than 10 years of experience in pharmaceutical R&D, he specializes in process optimization and active pharmaceutical ingredient (API) development. He is currently the Head of Process Development at Siegfried Evionnaz, leading teams dedicated to improving chemical processes and industrial problem-solving. Previously, he held leadership roles at Servier in chemical development and conducted postdoctoral research at Ludwig-Maximilians University under the supervision of Prof. Dirk Trauner and The Scripps Research Institute with Prof. Phil Baran. With multiple publications and a patent, he combines technical expertise and leadership to drive innovation in process chemistry.