Title: Intelligent Processes for High-Quality Food Production

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Abstract:
The optimization of food production processes is crucial for a sustainable, resilient and human centric transformation. The main goal of this research project is to optimise the process control based on both initial matrix and desired product properties with special focus on drying food products. To reach that objective, innovative hybrid methods based on data- and physical-modelling have high potential. The key idea is to combine process understanding and its representation in the form of corresponding mechanistic models so that machine learning models based on high-dimensional sensor and process data can optimize the corresponding complex processes as well as the process control.

Desired skills of the applicant:
AI/data-driven modelling, mathematical modelling, understanding of the food processing system

References:
Sturm, Barbara & Martynenko, Alex. (2022). Towards a System View on Intelligent Drying. 10.55900/gwngnxdw.

Raut, Sharvari & von Gersdorff, Gardis & Schemminger, Jörg & Adolphs, Julian & **Sturm, Barbara.** (2022). Improving food processing through integration of artificial intelligence in the drying process: a perspective.