

Title Oat protein as an alternative protein source for semi-solid foods

Date 29 May, 2017 **Time** 2 pm CET

Duration 30 min

Abstract:

Oat is an important source of soluble dietary fiber, β -glucan. During the industrial production of β -glucan a protein-rich fraction remains as a by-product. Recovery of this protein results in a source of vegetable protein for food and will improve the overall economy of the process. Within the framework of the ERA-Net SUSFOOD project OATPRO, "Engineering of oat proteins: Consumer driven sustainable food development process" food applications for the protein-rich by-product arising from β -glucan production have been developed. The challenge is to characterize but also functionalize the resulting oat protein concentrate for application in semi-solid food to replace dairy or soy and to produce plant-protein enriched products. Depending on the classification of the food system, different functional properties are important. Among all, protein solubility is the most important property, followed by surface-activity (foaming and emulsification), gelling capacity, fat- and water-binding.

The present webinar gives insight into the composition, functional properties as well as limitations of oat protein concentrate regarding its applicability in semi-solid food for example foams, emulsions and acid-induced gels. Possibilities of improvement can be examined from the low solubility especially at acidic pH limiting the functional properties. To broaden oat protein applications as a food ingredient, tailoring of functionality is necessary. From the existing literature it is evident that significant improvements of protein's functional properties such as solubility, emulsifying and foaming ability can be achieved by protein modification. Presented results of possible ways of modification indicate the optimization potential.

Participants requirement profile (please specify target group)

Food technologists/scientists/engineerings working/studying in food processing area.

Speaker 1:

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Monika Brückner-Gühmann received her Ph. D. 2011 at the Technische Universität Berlin and gained experience in characterization of food proteins and their functionality. During her postdoctoral work at the Technische Universität Berlin she worked on functional properties of different types of octenylsuccinate-derivatised starch. Currently, she is working in the ERA-NET SUSFOOD project “OATPRO, Engineering of oat proteins: Consumer driven sustainable food development process”.