Formation and stability of foam beverages

Bachelor Thesis / Master Thesis

INTRODUCTION

The formation of foam requires the introduction of a gas into a liquid. This process can be performed by releasing the gas from a super-saturated solution because of a pressure drop. This technique is widely used in the food industry to introduce foam in food products, in order to improve the texture, appearance and taste. Therefore, foam on food products is a feature that strongly drives consumer preference in visual as well as in mouth conditions.

Parameters such as pressure, temperature, depressurization rate or the type of gas used play an important role on the foam formation and the structure of the foam, which will predetermine the characteristics of the final product. In some cases, a mixture of gases is used, which will contribute to an improvement of the stability of the foam.

The aim of the current work is to have a better understanding about the formation and stability of beverage foams when they are produced by a depressurization.

TIME-LINE OF THE PROJECT

• Start: From mid-August / September 2019
• Duration of the project: Full time during approximately 6 months
• Language: English

STUDENT TASKS

• Determination of the solubility of a mixture of gases in different liquid systems
• Study the foam formation upon depressurization of different gas-liquid systems under different conditions of pressure, temperature and depressurization rates
• Study the effect of a mixture of different gases in foam formation and stability
• Characterization of the bubble structure at different conditions

SUPERVISION

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