



Exploitation of pomegranate peel based on ultrasound-assisted extraction of phenolic compounds and their encapsulation by spray drying

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Department of Food Science and Technology

- Food Microbiology and Hygiene
- Food Chemistry and Biochemistry
- Dairy Technology

● Food Processing and Engineering (Head: Ch. Lazaridis)

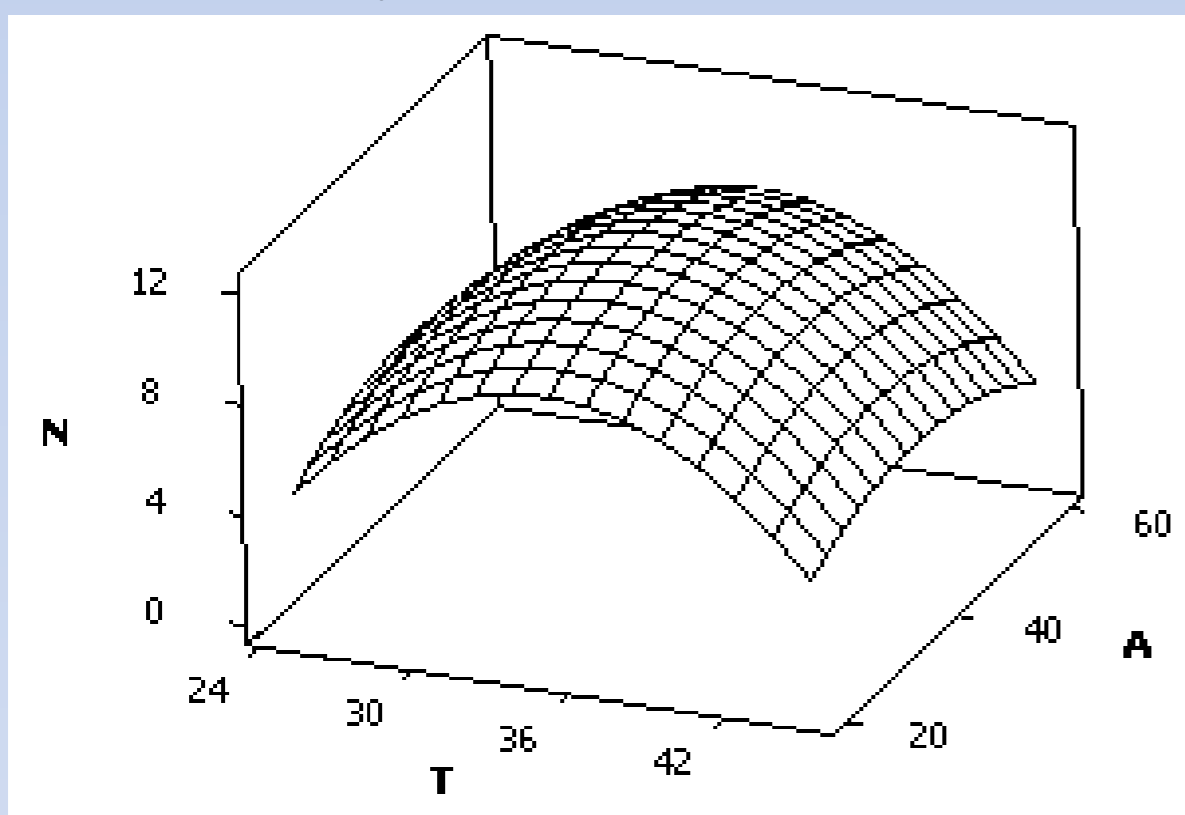
Research Interests

Design and optimization of various food processing processes (drying, evaporation, extraction, physical separation processes, encapsulation), Development of management system of industrial food waste (components recovery), Design and development of standard food processing equipment, Development of mathematical models describing the change in the physicochemical characteristics of food during various treatment processes

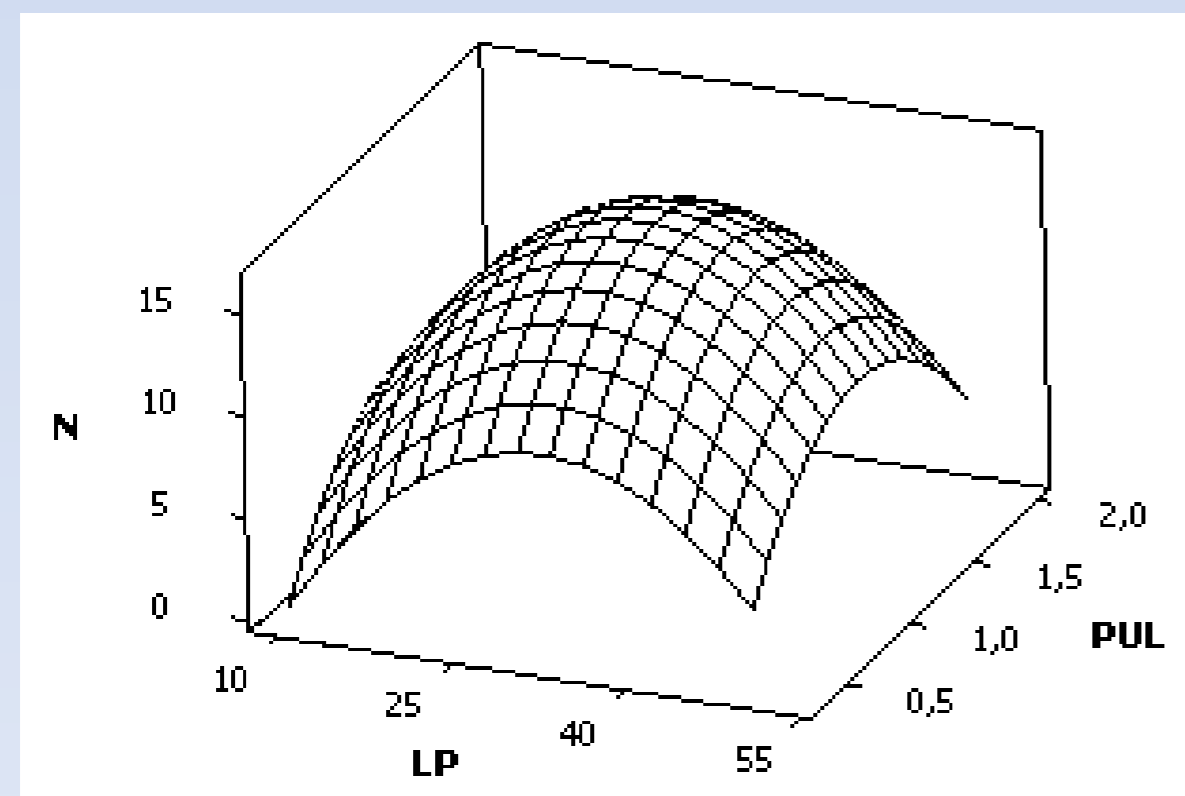
Effects of various parameters on extraction yield (N)

Solvent type: Water
Extraction time: 10min

- Effect of extraction temperature, (T, °C)
- Effect of amplitude level, (A, %)



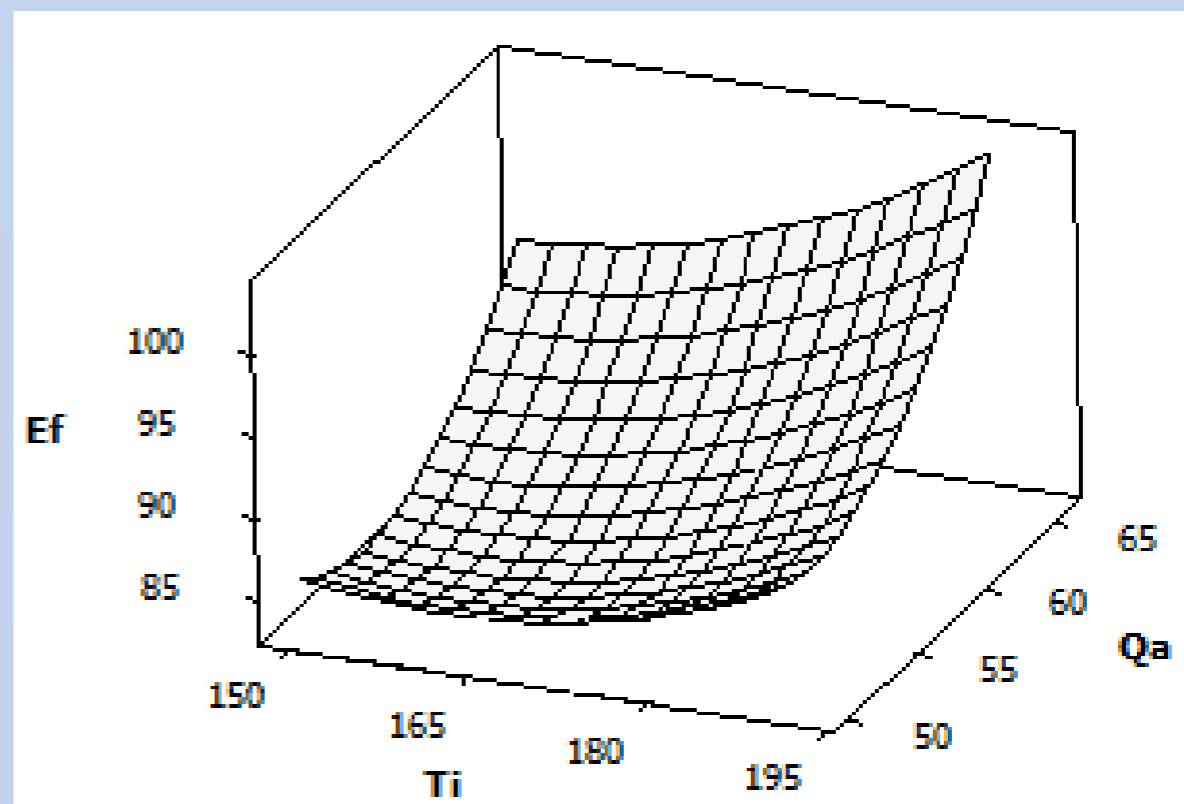
- Effect of solvent/solid ratio, (LP)
- Effect of pulse duration/pulse interval ratio, (PUL)



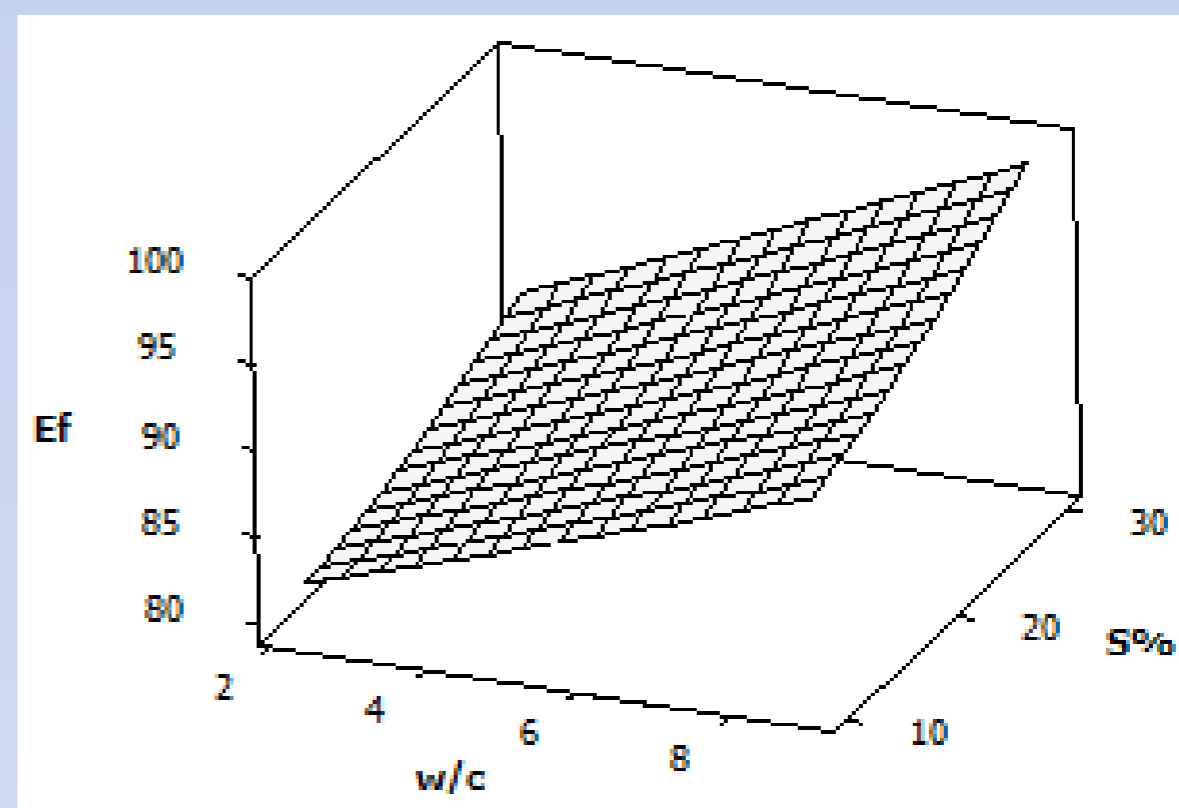
Effects of various parameters on encapsulation efficiency (Ef)

Wall material: Skim milk powder

- Effect of inlet air temperature, (Ti, °C)
- Effect of drying air flow rate, (Qa, %)



- Effect of ratio of core to wall material, (w/c)
- Effect of feed solids concentration, (S, %)



TOOLS

Statistical software
Minitab

Response surface
experimental design

Anova analysis

Statistical software
Matlab

Empirical modelling

