

Postgraduate Course

Reaction Kinetics in Food Science

16-20 October 2023, 12th edition
(Wageningen University, The Netherlands)



AIM OF THE COURSE

The aim of the course is to acquire in-depth knowledge about kinetic modelling, and to apply and use kinetics in food science problems using modern software. The use of kinetics is necessary for many aspects of food and nutrition research. Enzymatic, chemical, physical and microbial reactions in foods occur simultaneously during processing and storage, and usually it is a cascade of reactions. The food scientist needs to optimize the quality of food, and this can only be done in a quantitative way with the proper use of kinetics. Furthermore, the food process engineer needs kinetics in order to optimize processes. In addition, kinetic modelling is also useful for the nutritionist, to study the kinetics of changes during digestion and assimilation in the body (digestion and bioavailability).

COURSE CONTENTS

The course will be composed of lectures, demonstrations and computer exercises. There is a possibility to discuss kinetic problems in relation to own work of participants. In the lectures, the importance of kinetic modelling will be put in perspective, including the interplay between statistics and science, followed by detailed treatment of kinetic modelling of chemical reactions, of enzymatic reactions, of microbial growth and inactivation and of some physical processes, also in combination with (bio)chemical reactions. Also, the application of kinetics in reactor engineering will be treated, and most importantly, special attention will be given to complicating conditions as present in foods.

PARTICIPANTS

A basic knowledge on food science and technology as well as some fundamental knowledge of mathematics and statistics is required.

COURSE ORGANISERS & LECTURERS

- Prof. Tiny van Boekel, / Dr Matthijs Dekker, Food Quality and Design, WU
- Prof. Heidi den Besten, Food Microbiology, WU
- Dr Michael Caracotsios, Clinical Associate Professor, Chemical Engineering Dept., Univ. of Illinois at Chicago and President, AthenaVisual, Inc., Naperville, Illinois, USA
- Yvonne Smolders, MSc, The Graduate School VLAG, WU

COURSE FEES ¹

	Fee
VLAG / WU PhD candidates	€ 325
All other PhD candidates	€ 550
University staff / non-profit organisations	€ 825
Participants from the private sector	€ 2000

¹ includes digital learning materials, lunches/tea/coffee and one course dinner.

REGISTRATION AND INFORMATION

www.vlaggraduateschool.nl/en/courses/course/rk23.htm

For information contact:
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