DEPT. OF FOOD SCIENCE
UNIVERSITY OF COPENHAGEN

NOVA UNIVERSITY NETWORK

24 – 28 August 2015
Copenhagen, Denmark

International PhD course:

'Food Stability'

organized by the Department of Food Science, University of Copenhagen, and funded by the NOVA University Network

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Background

The Food Stability PhD course is a part of the NOVA University Network, and is organized in collaboration between food chemistry groups at Århus University, University of Helsinki, SLU and University of Copenhagen. The course will bring together for the first time Food Chemistry groups at the four Nordic universities in a joint teaching effort based on their complementary scientific competencies within the field of chemical and physical food stability. It will be organized as a one-week intensive program during August 2015 at University of Copenhagen where lecturers from the four partner universities cover physical and chemical stability of foods from a Nordic viewpoint.

Course design

The course is intended for PhD students with a basic understanding of general food chemistry or a similar natural science background. The course aims to give the students a holistic understanding of the interactions and connections between food structure, physical phenomena and chemical changes that affect the shelf life of typical foods intended for Nordic consumers.

An introduction to food structure focusing on methods to characterize microstructure will be followed by physical stability issues occurring during production, handling and storage. Chemical stability of foods will cover lipid and protein oxidation as well as the use of antioxidants. One half day will be devoted to milk based products, as a specific example of a holistic approach to stability issues from the point of view of a narrow group of food products. Finally, the course will cover new mild industrial food processing techniques and their impacts on physical and chemical stability. Guests from Nordic food companies will be invited to present actual examples of handling food stability issues in the Nordic Markets.

Teaching and learning methods

The course is based on a mixture of lectures, theoretical exercises, and discussions of specific cases in groups and plenum. The students will receive reading material and small introductory assignments before the course starts in Copenhagen (approx. equivalent to half week work). The assignments will form the basis for case discussions during the week. The course is finished with an individually written report (approx. one and a half week of work). The total workload for the students will be 3 weeks consisting of one week in Copenhagen and 2 weeks of work at home.

Learning outcomes

<u>Knowledge:</u>

- Understanding common physical and chemical factors affecting food stability
- Understanding detailed mechanisms of and interactions between chemical and

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Course responsible:

Professor Mogens Larsen Andersen, Department of Food Science, University of Copenhagen

Register by 17 August 2015

physical changes that affect food stability during handling and storage
- Knowledge about different preventive measures and novel processing techniques having a positive effect on food stability
- Knowledge about unique requirements to food stability in the Nordic markets

Skills:
- Be able to design new scientific experiments, related to food stability
- Be able to identify necessary information required for reliably assessing food stability

Competences:
- Be able to evaluate the stability of a given food based on available information
- Be able to suggest measures that can improve physical and chemical stability

Course details

Duration/Language

The course will be held from 24 to 28 August 2015, teaching hours 8:30 to 16:30 all days, and will be conducted in English.

Study load

4 ECTS (115 hours - including written assignment).

Work load in hours

Preparation:	80
Lectures:	20
Class Instruction:	15
Total:	115

Exam

Evaluation of written assignment (passed/not passed). The assignment must be delivered 2 weeks after the end of the course.

Course material

Selected scientific papers and chapters from textbooks; details will be provided after acceptance of registration.

Venue

Department of Food Science
University of Copenhagen
Rolighedsvej 26
DK-1958 Frederiksberg C
Denmark

Fee (including tuition and material)

EUR 200. A number of scholarships are available to cover course fees for some PhD students from NOVA and BOVA institutions:

NOVA: https://www.nmbu.no/en/students/nova
BOVA: http://bova-university.org/

Registration/Information

Final registration date: **17 August 2015.**

Register online:
http://food.ku.dk/english/education/phd/application-forms/food-stability/

Any questions about registration should be directed to Lisbet S. Christensen: lsm@food.ku.dk

Max. number of participants: 25.

Please direct questions about course contents to Professor Mogens Andersen: mola@food.ku.dk.

Course responsible:

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