Dietary assessment and biomarkers of intake and health

The course will be offered by the **National Research School in Nutrition, NutriNor.**

Course aim

The purpose of the course is to introduce the use of dietary assessment methods and calculations in nutrition research today and tomorrow. It will address their strength and limitations, providing a fundamental understanding necessary for selecting appropriate methods and interpreting the data obtained.

Course content

The initial three days of the course will encompass lectures and practical work focused on various issues related to dietary assessments and calculations. On the first day, students will be introduced to novel, digital dietary assessment methodologies and will have the opportunity to test these tools hands-on. Day two will provide a comprehensive presentation on the assessment of sustainable diets. On the third day, the course will delve into energy adjustments and substitution models for nutritional studies. The last day of the course will focus on use of metabolomics in human dietary intervention studies. The students will be introduced to metabolomics and how this methodology can be used to identify novel biomarkers of dietary intake and understanding metabolic effects of diet.

The 4-days course includes lectures, hands-on practice and group work. In addition, all attendees will need to prepare and deliver a presentation on their own nutrition research project. The lecturers are national and international experts in the field. The PhD students will receive an overview of selected literature (approx. 200 pages) before the course begins, and are expected to read this material before the course starts. The students will demonstrate their knowledge of the literature during group work and discussions. The course scope is equivalent to 2 ECTS.

Learning outcome

The candidates gain competence in dietary assessment methods and calculations in nutrition research, encompassing both current and future approaches. They will acquire knowledge about the strengths and limitations of these methods. The course aims to equip students with critical skills needed to evaluate the robustness of data based on chosen method.

Teaching

The course will run for four full days and will include lectures, group work, and individual presentations by the students.

The compulsory literature will be provided after registration and include published literature.

Documentation of credits

The attendees must participate in at least 80 % of the teaching sessions, take part in group work and give a presentation to receive the credits. Attendance will be registered.

Timetable

Monday 2.12. 2024: *Dietary assessment methods*

0900-0915: Course introduction by Anette Hjartåker and Stine M Ulven, Department of Nutrition, UiO

0915-0930: Introduction to dietary assessment by Monica Hauger Carlsen, Department of Nutrition, UiO

0930-1015: Food composition work and NutriFoodCalc by Monica Hauger Carlsen, Department of Nutrition, UiO

1030-1115: Group work on dietary assessment in own PhD project by Anette Hjartåker and Monica Hauger Carlsen, Department of Nutrition, UiO

1130-1200: 3 short PhD candidate presentations (10 min each). Facilitator: Anette Hjartåker, Department of Nutrition, UiO

Lunch

1245-1310: DigiKost by Monica Hauger Carlsen, Department of Nutrition, UiO

1310-1410: Practical session on DigiKost by Monica Hauger Carlsen and Anette Hjartåker, Department of Nutrition, UiO

1420-1505: MinMatForsk, lecture and practical session by Mari Mohn Paulsen, Norwegian Institute of Public Health and Frida Severinsen, Department of Nutrition, UiO

1515-1545: 3 short PhD candidate presentations (10 min each)

Facilitator: Anette Hjartåker, Department of Nutrition, UiO

Tuesday 3.12.2024: *Sustainable diets*

0900-0905: Short overview of the day by Lene Frost Andersen, Department of Nutrition, UiO

0905-0935: The big picture – food, health and sustainability by Lene Frost Andersen, Department of Nutrition, UiO

0950-1045: How to include the Sustainable Developmental Goals into our everyday life (practical exercise) (40 min group discussion + 20 min for presentations and plenum discussion) by Lene Frost Andersen, Department of Nutrition, UiO

1100-1130: 3 short PhD candidate presentations (10 min each)
Facilitator: Anette Hjartåker, Department of Nutrition, UiO

Lunch

1215-1245: Sustainable diet in a Nordic setting sustainability by Lene Frost Andersen, Department of Nutrition, UiO

1300-1345: The Norwegian LCA food database by Monica Hauger Carlsen, Department of Nutrition, UiO

1400- 1445: How to facilitate the dietary transitions necessary? What are the foremost challenges and barriers? Group discussion by Lene Frost Andersen and Monica Hauger Carlsen, Department of Nutrition, UiO

1500-1530: 3 short PhD candidate presentations (10 min each)
Facilitator: Anette Hjartåker, Department of Nutrition, UiO

Wednesday 4.12.2024: *Energy adjustments and substitution models*

0900-0945: Adjustment for energy intake in nutritional epidemiology by Georgia Tomova, University of Leeds

1000-1045: Modelling strategies for dietary substitution effects by Georgia Tomova, University of Leeds

1100-1120: 2 short PhD candidate presentations (10 min each)
Facilitator: Anette Hjartåker, Department of Nutrition, UiO

Lunch

1200-1230: Introduction to group work by Ane Sørlie Kværner, Norwegian Institute of Public Health

1230-1400: Group work by Ane Sørlie Kværner, Norwegian Institute of Public Health, Georgia Tomova, University of Leeds and Anette Hjartåker, Department of Nutrition, UiO

1415-1515: 6 short PhD candidate presentations (10 min each) Facilitator: Anette Hjartåker, Department of Nutrition, UiO

Thursday 5.12.2024: *Metabolomics*

0900-0945: Principles of targeted and untargeted mass spectrometry-based metabolomics by Kati Hanhineva, University of Turku

1000-1045: Use of untargeted metabolomics to search for biomarkers of health to better understand the health effects of diet by Kati Hanhineva, University of Turku

1100-1120: 2 short PhD candidate presentations (10 min each) Facilitator: Stine M Ulven, Department of Nutrition, UiO

Lunch

1200-1245: Biomarkers of food intake using LCMS by Lars Dragsted, University of Copenhagen

1300-1345: Biomarkers of food intake using LCMS by Lars Dragsted, University of Copenhagen

1400-1445: Biomarkers of food intake using NMR technology by Helen Lindquist, University of Gothenburg

1445-1500: Concluding remarks by Anette Hjartåker and Stine M Ulven, Department of Nutrition, UiO