

16.30h **Research with humans: What I need for an intervention study?**  
Begoña Olmedilla Alonso (ICTAN)

17.30h Coffee/Tea time and **conclusions of the day**. Evert van Schothorst (WUR), Begoña Olmedilla Alonso (ICTAN), Paula Oliver, Catalina A Pomar, Sebastià Galmès, Bàrbara Reynés (UIB)

18.00h End

### Friday 14

09.00h **Working groups:** Selection and optimization of preferred study design. Finalizing ppt. Evert van Schothorst (WUR), Joan Ribot, Sebastià Galmès, Bàrbara Reynés (UIB)

10.30h Coffee/Tea

11.00h **Plenary Presentations and Discussion.** Evert van Schothorst (WUR), Joan Ribot, M Luisa Bonet, Joana Sánchez, Ana M Rodríguez (UIB)

13.00h **Final conclusions.** Evert van Schothorst (WUR), Joan Ribot, M Luisa Bonet (UIB).

13.30h Good bye

### VENUE

Centre for Postgraduate Studies-Doctoral School  
University of the Balearic Islands  
Building: Antoni M. Alcover i Sureda  
University Campus  
Cra. de Valldemossa, km 7.5  
07122 Palma



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## Functional and omics analysis of carotenoid interventions\*

COST Training School

February 10-14<sup>th</sup> 2020

Palma de Mallorca, Spain

Coordinators:

Joan Ribot, Jaap Keijer, Evert van Schothorst & M Luisa Bonet

\* Activity organized within the Interuniversity Doctorate  
in Nutrigenomics and Personalized Nutrition



**Universitat**  
de les Illes Balears

Laboratori  
de Biologia Molecular,  
Nutrició i Biotecnologia



**WAGENINGEN**  
UNIVERSITY & RESEARCH

## PROGRAM

### Monday 10

18.00h Registration

18.30h **Welcome and introduction to the training school.** Problem-based learning. Ana M Rodríguez (Director of the Doctoral School of the University of the Balearic Islands, UIB) and Joan Ribot (UIB)

19.00h Opening Lecture: **Health claims and nutritional information.** Andreu Palou (UIB)

20.30h Welcome Cocktail

### Tuesday 11

09.00h **Introduction** to definition of hypothesis, objectives and analysis parameters. Joan Ribot, Sebastià Galmès, Bàrbara Reynés (UIB)

Things to consider: What is your product? What are a priori potential health effects? Are there similar products? What do I want to show? What experimental model should I use?

9.30h **Tutor supervised working groups:** Define hypothesis, objective and analysis parameters (preparation of a research project) Joan Ribot, Sebastià Galmès, Bàrbara Reynés (UIB)

10.30h Coffee/Tea time

11.00h **Absorption and metabolism of carotenoids in mammals.** Joan Ribot (UIB)

11.30h **What I need for animal experimentation?** Teresa de Francisco (UIB)

12.15h **Visualizing animals' facilities and routinely procedures.** Catalina A Pomar, Pedro Castillo (UIB)

13.00h Lunch

15.30h **Research with animals: How to approach a study related to metabolic health and obesity.** Animal models. Experimental questions. Methodological considerations. Examples of studies on mechanistic aspects and omic studies. M Luisa Bonet (UIB)

17.00h **Communicating with the tutors.** Joan Ribot, M Luisa Bonet, Catalina A Pomar (UIB)

17.30h Coffee/Tea time and **conclusions of the day.** Joan Ribot, M Luisa Bonet, Catalina A Pomar (UIB)

18.00h End

### Wednesday 12

9.00h **Working groups:** Design an experimental protocol with an animal model to test your product (preparation of a research project) Jean François Landrier (C2VN, AMU), Joan Ribot, Sebastià Galmès, Bàrbara Reynés (UIB)

10.30h Coffee/Tea time

11.00h **Cell culture. Culture medium. Biosafety. How to deliver a lipophilic compound to cells in culture?** Jean François Landrier (C2VN, AMU)

12.00 h **Examples of studies in cells systems: How to approach a study related to metabolic aspects and oxidative stress? Mechanistic aspects studies.** Jean François Landrier (C2VN, AMU)

13.00h Lunch

15.30h **Examples of studies in cells systems: How to evaluate anticancer activity? Mechanistic aspects studies.** Priam Villalonga (UIB)

*Group A*

16.15h **Introduction to cell culture laboratories and visiting a cell culture laboratory.** Joana Sánchez, Sebastià Galmès (UIB)

17.15h Coffee/Tea time and **communicating with the tutors.** Jean François Landrier (C2VN, AMU), Priam Villalonga, Joan Ribot, Catalina A Pomar (UIB)

*Group B*

16.15h Coffee/Tea time and **communicating with the tutors.** Jean François Landrier (C2VN, AMU), Priam Villalonga, Joan Ribot, Catalina A Pomar (UIB)

17.15h **Introduction to cell culture laboratories and visiting a cell culture laboratory.** Joana Sánchez, Sebastià Galmès (UIB)

18.00h End

### Thursday 13

09.00h **Working groups:** Design an experimental protocol with a cell culture cell system to test your product (preparation of a research project) Evert van Schothorst (WUR), Joana Sánchez, Sebastià Galmès, Bàrbara Reynés (UIB)

10.30h Coffee/Tea time

11.00h **Omics based biomarkers.** Evert van Schothorst (WUR)

12.00h **Functional tests and challenges tests.** Evert van Schothorst (WUR)

13.00h Lunch

15.30h **Use of blood cells as a source of biomarkers.** Paula Oliver (UIB)