



ORGANOIDS and EPIGENETICS in PERSONALIZED LIFESTYLE training course

November 6-8, 2018

Universidad de Oviedo, Principado de Asturias

The ability to generate *in vitro* complex structures resembling whole organs have revolutionized the study of response to the exposure to xenobiotics (i.e. drug discovery, food bioactive compounds, etc) considering the interaction of surrounding cells that normally form part of the niche of the tissue. The use of 3D culture organoids has the potential to model human diseases and improve personalized medicine, as well as open up novel tools to study the response to lifestyle changes.

Aims

The aim of this training course is to bring together researchers from the field of epigenetics, nutrition, exercise activity, disorders of dietary excess and basic biology, to enhance our understanding and development of personalized lifestyle. The practical training course will be focused on the establishment, culture and manipulation of intestinal organoids as a tool for model human diseases and their response to lifestyle changes

In which consist the course?

The theoretical-practical course (20h) will be composed of sessions from experts on the field of epigenetics, organoids and personalized lifestyle. This intensive course will have ≈50% of practical sessions of establishment, culturing and manipulation of organoids. 20 participants will be selected according to their motivation letter and CV. Selected participant will be notified via e-mail by September October 24, 2018.

Practical

- Day 1: Isolation and culture of mouse intestinal crypts
- Day 2: Maintenance, passage and cryopreservation of intestinal organoids
- Day 3: Downstream applications and analysis. Observation of mouse Hepatic organoids.

Where?

Departamento de Biología Funcional
Área de Fisiología (4ª Planta)
Facultad de Medicina y Ciencias de la Salud
C/ Julián Clavería, s/n
33006, Oviedo, Asturias
Spain

Agenda:

Date (mm/dd/yy)	Time		Cell Step Training - Beginner
	Start	End	Topic
11/06/2018	9:30	10:00	Registration of participants (signature of list of attendance)
	10:00	10:30	Welcome and Introduction Presented by: Nutri-EpiGen Consortium and STEMCELL Technologies
	10:30	11:30	Lecture 1: Introduction to Intestinal Organoid Culture Presented by: STEMCELL Technologies
	11:30	12:00	Break and Network
	12:00	13:00	Lecture 2: Isolation and Culture of Mouse Intestinal Crypts Presented by: STEMCELL Technologies
	13:00	14:00	Lunch (Courtesy of STEMCELL Technologies)
	14:00	18:00	Practical Session 1: Primary Isolation and Culture of Intestinal Crypts from Mouse Intestine Observe morphology of mouse intestinal organoids Observe demonstration and practice primary isolation of mouse intestinal crypts Perform organoid culture with IntestiCult™ Organoid Growth Medium (Mouse)
	18:00	18:15	Wrap up

Date (mm/dd/yy)	Time		Cell Step Training - Beginner
	Start	End	Topic
11/07/2018	9:00	9:30	Welcome and Introduction Nutri-EpiGen Consortium and STEMCELL Technologies
	9:30	10:30	Lecture 3: Guest speaker "Basic concepts of Epigenetics" Presented by: Nutri-EpiGen Consortium
	10:30	11:00	Break and Network
	11:00	12:00	Lecture 4: Maintaining and Cryopreservation of Mouse Intestinal Organoids Presented by: STEMCELL Technologies
	12:00	13:00	Lecture 5: Guest speaker "Nutrition and Epigenetics" Presented by: Nutri-EpiGen Consortium
	13:00	14:00	Lunch (Courtesy of STEMCELL Technologies)
	14:00	17:00	Practical Session 2: Passaging and Cryopreservation of Mouse Intestinal Organoids Observe morphology of mouse intestinal organoids Observe demonstration and practice passaging Mouse Intestinal Organoids Discuss cryopreservation and thawing of Mouse Intestinal Crypts
	17:00	18:00	Lecture 6: Guest speaker "Physiology of Physical Activity" Lecture 7: Guest speaker "Developing Personalized Exercise" Presented by: Nutri-EpiGen Consortium
	18:00	18:15	Wrap up

Date (mm/dd/yy)	Time		Cell Step Training - Beginner
	Start	End	Topic
11/08/2018	8:30	9:00	Lecture 8: Guest speaker "Developing Personalized Nutrition" Presented by: Nutri-EpiGen Consortium
	9:00	10:00	Lecture 9: Overview of Organoid Cultures (Hepatic and Pancreatic) Presented by: STEMCELL Technologies
	10:00	11:00	Lecture 10: Guest speaker "Methylation analysis of biological samples" Presented by: Nutri-EpiGen Consortium

	11:00	11:30	Break and Network
	11:30	13:30	Practical Session 3: Mouse intestinal Organoids Downstream Applications and Analysis Presented by: Nutri-EpiGen Consortium
	13:30	14:00	Practical Session 4: Culture Observation of Mouse Hepatic Organoids
	14:00	14:30	Wrap up

Speakers:

- Prof. Mario Fernández Fraga, Centro de Investigación en Nanomateriales y Nanotecnología CINN-CSIC (Oviedo, Spain)
- Prof. Benjamín Fernández García, University of Oviedo (Oviedo, Spain)
- Dra. Ana B. Crujeiras, Instituto de Investigación Sanitaria de Santiago de Compostela (Santiago de Compostela, Spain)
- Dr. Alberto Dávalos Herrera, IMDEA Food Institute (Madrid, Spain)
- Prof. Eduardo Iglesias Gutierrez, University of Oviedo (Oviedo, Spain)
- Dr. Raymond Lam, STEMCELL Technologies (Grenoble, France)
- Dr. Philippe Tropel, STEMCELL Technologies (Grenoble, France)
- Judit Gil Zamorano, IMDEA Food Institute (Madrid, Spain)
- Juan Ramón Tejedor, Centro de Investigación en Nanomateriales y Nanotecnología CINN-CSIC (Oviedo, Spain)



INTERVENCIONES
TRASLACIONALES
PARA LA SALUD