Virtual academy on Lung Microbiome: from study design to data analysis

1 - 2 December 2022

Thursday, 01 December 2022

	Session 1 - Microbiome in lung disease: 2F/2M
09:00–09:15	Introduction and aims - D. Bogaert, N. Ubags
09:15–09:45	How to think about the microbiome - R. Dickson
09:45–10:15	Spatial considerations in lung microbiome research: which sample site is most suited for your study - C. Pattaroni
10:15–10:30	*Coffee break*
10:30–11:00	Environmental exposures and the lung microbiome - P. Hansbro
11:00–11:30	Microbiome and the virome in lung disease - M. Clokie
11:30–12:30	*Lunch*
	Session 2 - Workshop: Study design for lung microbiome research *R. Dickson, D. Bogaert, P. Hansbro, L. Segal, A. Crabbe, N. Ubags, C. Pattaroni*
12:30–13:00	How to design a microbiome study (Clinical and experimental aspects) - R. Dickson
13:00–14:15	Group work on own study design or using an 'example study' - R. Dickson
14:15–14:45	Presentation & discussion - R. Dickson, D. Bogaert, P. Hansbro, L. Segal, A. Crabbe, N. Ubags, C. Pattaroni
14:45–15:00	*Coffee break*
	Session 3 - Host-microbe interactions in lung disease 2F/2M
15:00–15:30	Role of biofilm formation on the lung microbiome - A. Crabbé

15:30–16:00	Chronic inflammation and the lung microbiome: cause or consequence - P. Molyneaux
16:00–16:30	Orchestration of the lung microbiome by the gut - N. Ubags
16:30–17:00	Integrated data analysis to study host-microbe interactions - L. Segal

Friday, 02 December 2022

Session 4 – Workshop: Lab aspects of lung microbiome research
M. Cox, C. Pattaroni, A. Ruiz Rodriguez, N. Ubags

09:00–09:30	Contamination and the 'reagent microbiome' - M. Cox
09:30–10:00	How to set up your lab for microbiome analysis - A. Ruiz Rodriguez
10:00–10:30	Discussion using real-life studies and related questions to discuss challenges from sampling to data
10:30–10:45	*Coffee break*

Session 5 – Therapeutic strategies and the microbiome

10:45–11:15	Antibiotics and immunosuppressant medication in microbiome studies - S. Chotirmall
11:15–11:45	Nutritional and environmental drivers of a healthy microbiome - S. Michael
11:45–12:15	Vaccines and the microbiome: a two-way street? - D. Bogaert
12:15–12:45	Alternative interventions and the microbiome (Pre-/pro-biotics and phages) - S. Lebeer
12:45–13:30	*Lunch*

Session 6 – Workshop: Data analysis in lung microbiome research
D. Bogaert, W. de Steenhuijsen Piters, J. Thorsen

13:30–14:00	The basic needs to analyse microbiome data - J. Thorsen
14:00–14:30	Tools for data analysis - W. de Steenhuijsen Piters
14:30–15:30	Case presentation – example ranging from basic analysis to advanced tools
15:30–15:45	*Coffee break*
15:45–16:45	Review and Q&A on the dummy dataset (requires having previously watched the pre-recorded module or executed the dummy exercise)
16:45–17:30	Share learning experience/course-feedback - D. Bogaert, N. Ubags
	Closing remarks – End of the course