



Extracellular Vesicles: From Biology to Biomedical Applications

EMBO PRACTICAL COURSE



We have moved our website to embl.org/events. The content below is no longer being updated.

EMBL Courses and Conferences during the Coronavirus pandemic

With the onsite programme paused, many of our events are now being offered in virtual formats.

Registration is open as usual for many events, with back-up plans in place to move further courses and conferences online as necessary. Registration fees for any events affected by the COVID-19 disruption are fully refundable.

More information for participants of events at EMBL Heidelberg can be found [here](#).

Programme

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Day 1 - Sunday, 8 April 2018

Time	Speaker	Location
18:00 - 19:00	Welcome and introductions	ISG Hotel
19:00 - 20:00	Flash talks by participants	ISG Hotel

Time	Speaker	Location
20:00	Dinner at ISG Hotel	ISG Hotel

Day 2 - Monday, 9 April 2018

Time	Speaker	Location
09:00 - 10:00	Group activity/ Outline of the day An Hendrix, Ghent University, Belgium	Flex Lab A & B
10:00 - 10:45	Lecture: Heterogeneity in EV isolation and characterization An Hendrix, Ghent University, Belgium	Flex Lab A & B
10:45 - 11:00	Coffee break	Flex Lab A & B
11:00 - 11:45	Lecture: Extracellular vesicles diversity Edit Buzas, Semmelweis University, Hungary	Flex Lab A & B
11:45 - 12:45	Lunch break	EMBL Canteen
12:45 - 13:00	Lecture: Introduction to practicals An Hendrix, Ghent University, Belgium	Flex Lab A & B
13:00 - 14:00	Practical: EV Isolation/ Preparation of the samples by differential ultracentrifugation An Hendrix, Ghent University, Belgium	Training Lab B
14:00 - 14:45	Lecture: EV Isolation/ Fluorescent labeling of EVs Esther Nolte-'t Hoen, Utrecht University, The Netherlands	Flex Lab A & B
14:45 - 15:00	Coffee break	Flex Lab A & B
15:00 - 15:30	Lecture: Biogenesis of extracellular vesicles Guillaume Van Niel, Institut Curie, France	Flex Lab A & B

Time	Speaker	Location
15:30 - 18:00	Practical: EV Isolation/ Fluorescent labeling and Isolation of EVs using Optiprep density gradient centrifugation An Hendrix, Ghent University, Belgium Esther Nolte-'t Hoen, Utrecht University, The Netherlands	Training Lab B
18:00 - 19:00	Dinner	EMBL Canteen
19:00 - 20:30	Poster session I	Top of Helix A

Day 3 - Tuesday, 10 April 2018

Time	Speaker	Location
09:00 - 09:15	Outline of the day Guillaume Van Niel, Institut Curie, France	Flex Lab A & B
09:15 - 10:15	Practical: EV Isolation and Characterization/Collect fractions from density gradients and centrifuge An Hendrix, Ghent University, Belgium Esther Nolte-'t Hoen, Utrecht University, The Netherlands	Training Lab B
10:15 - 11:15	Practical: EV Isolation and Characterization/Isolation of EVs using size exclusion chromatography An Hendrix, Ghent University, Belgium Esther Nolte-'t Hoen, Utrecht University, The Netherlands	Training Lab B
11:15 - 11:30	Coffee break	Flex Lab A & B
11:30 - 12:30	Lecture: Impact of pre-analytical factors on EV isolation Cecilia Lässer, Gothenburg University, Sweden	Flex Lab A & B
12:30 - 13:30	Lunch break	EMBL Canteen

Time	Speaker	Location
	Practical: EV Isolation and Characterization/ NTA & TRPS & particle metrix An Hendrix, Ghent University, Belgium	
13:30 - 17:00	Esther Nolte-'t Hoen, Utrecht University, The Netherlands Jan Van Deun, Ghent University, Belgium Sten Libregts, Utrecht University, The Netherlands	Training Lab B
17:00 - 18:00	Group activity: Data analysis	Training Lab B
18:00 - 19:00	Dinner	EMBL Canteen
19:00 - 20:30	Poster Session II	Top of Helix A

Day 4 - Wednesday, 11 April 2018

Time	Speaker	Location
09:00 - 09:15	Outline of the day Esther Nolte-'t Hoen, Utrecht University, The Netherlands	Flex Lab A & B
09:15 - 10:00	Lecture: EV isolation, characterization and function/ Quantitative and qualitative EV analysis by flow cytometry Marca Wauben, University of Utrecht, The Netherlands	Flex Lab A & B
10:00 - 10:15	Coffee break	Flex Lab A & B
10:15 - 11:00	Lecture: EV characterization and function/EV characterization by transmission electron microscopy and western blot analysis Guillaume Van Niel, Institut Curie, France	Flex Lab A & B
11:00 - 12:00	Group activity: EV characterization and function/ Tour of electron microscopy core facility with Q&A session	Flex Lab A & B Electron Microscopy Core Facility

Time	Speaker	Location
12:00 - 13:00	Lunch break	EMBL Canteen
13:00 - 19:00	Practical: EV characterization and function/ Electron Microscopy Guillaume Van Niel, Institut Curie, France Roberta Palmulli, Institut Curie, France	Training Lab B
13:00 - 19:00	Practical: EV characterization and function/ Treatment of cells with fluorescent labeled Evs Esther Nolte-'t Hoen, Utrecht University, The Netherlands Sten Libregts, Utrecht University, The Netherlands	Training Lab B
13:00 - 19:00	Practical: EV characterization and function/ Implementation of EV-TRAQ An Hendrix, Ghent University, Belgium Jan Van Deun, Ghent University, Belgium	Training Lab B
19:00 - 20:00	Dinner	EMBL Canteen

Day 5 - Thursday, 12 April 2018

Time	Speaker	Location
09:00 - 09:15	Outline of the day Esther Nolte-'t Hoen, Utrecht University, The Netherlands	Flex Lab A & B
09:15 - 10:00	Lecture: EV characterization and function/ Isolation of EVs from different biofluids Olivier de Wever, Ghent University, Belgium	Flex Lab A & B
10:00 - 12:30	Practical: Quantification of fluorescent labeled EVs and analysis of EV transfer by flow cytometry Sten Libregts, Utrecht University, The Netherlands	Training Lab B
12:30 - 13:30	Lunch break	EMBL Canteen

Time	Speaker	Location
13:30 - 15:15	Group activity: Data analysis	Flex Lab A & B
15:15 - 17:00	Group activity: Discussion of results	Flex Lab A & B
17:00	Free evening	

Day 6 - Friday, 13 April 2018

Time	Speaker	Location
09:00 - 09:15	Outline of the day An Hendrix, Ghent University, Belgium	Flex Lab A & B
09:15 - 10:15	Lecture: Validation of the EV transcriptome by RT-qPCR Jo Vandesompele, Ghent University, Belgium	Flex Lab A & B
10:15 - 11:00	Lecture: EV composition: RNA, protein, lipid/ Transcriptomics Pieter Mestdagh, Ghent University, Belgium	Flex Lab A & B
11:15 - 11:30	Coffee break	Flex Lab A & B
11:30 - 12:30	Lecture: EV composition: RNA, protein, lipid/ Lipidomics Johan Swinnen, KU Leuven, Belgium	Flex Lab A & B
12:30 - 13:30	Lunch break	EMBL Canteen
13:30 - 14:30	Lecture: Isolation of extracellular vesicles: separation from lipoprotein particles and protein aggregates Willem Stoorvogel, University of Utrecht, The Netherlands	Flex Lab A & B
14:30 - 15:30	Lecture: Proteomics: exosomes, secretome and system biology Suresh Mathivanan, La Trobe University, Australia	Flex Lab A & B

Time	Speaker	Location
15:30 - 15:45	Coffee break	Flex Lab A & B
15:45 - 16:45	Practical: Bioinformatic analysis of EV protein, RNA, lipid content Suresh Mathivanan, La Trobe University, Australia	Training Lab B
16:45 - 18:00	Group activity: Protein and lipid - Identification of Do's and Don't's	Flex Lab A & B
18:45	Course dinner downtown	Downtown restaurant

Day 7 - Saturday, 14 April 2018

Time	Speaker	Location
09:00 - 09:15	Outline of the day Guillaume Van Niel, Institut Curie, France	Flex Lab A & B
09:15 - 10:15	Lecture: EVs nomenclature, subtypes, functions and biomedical applications Identification of EV function by <i>in vivo</i> imaging Michiel Pegtel, VU University Medical Center, The Netherlands	Flex Lab A & B
10:15 - 11:15	Lecture: EVs nomenclature, subtypes, functions and biomedical applications The therapeutic use of Evs Bernd Giebel, Uniklinik Essen, Germany	Flex Lab A & B
11:15 - 11:30	Coffee break	Flex Lab A & B
11:30 - 12:00	Wrap-up and Conclusions & Poster awards	Flex Lab A & B
12:00	Packed Lunch and Departure	Flex Lab A & B