



# Extracellular Vesicles: From Biology to Biomedical Applications

EMBO PRACTICAL COURSE



**We have moved our website to [embl.org/events](https://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 The content below is no longer being updated.**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 2 June 2019

Time	Speaker	Location
18:00 - 19:00	<b>Registration &amp; Welcome drink</b>	ISG Hotel
19:00 - 20:00	<b>Flash talk session &amp; journal club paper selection</b>	ISG Hotel

Time	Speaker	Location
from 20:00	<b>Barbecue Dinner</b>	ISG Hotel

## Day 2 - Monday 3 June 2019

Time	Speaker	Location
09:00 - 09:30	<b>General introduction and outline of the day</b> An Hendrix - Ghent University, Belgium	Courtyard Room A&B
09:30 - 10:15	Lecture: <b>Heterogeneity in EV methods</b> An Hendrix - Ghent University, Belgium	Courtyard Room A&B
10:15 - 11:00	Lecture: <b>Heterogeneity in EV subtypes</b> Edit Buzas - Semmelweis University, Hungary	Courtyard Room A&B
11:00 - 11:15	<b>Coffee break</b>	Outside Courtyard Rooms
11:15 - 11:30	Lecture: <b>Introduction to practicals and isolation methods</b> An Hendrix - Ghent University, Belgium	Courtyard Room A&B
11:30 - 12:00	Lecture: <b>Fluorescent labeling of EVs</b> Esther Nolte-'t Hoen - Utrecht University, The Netherlands	Courtyard Room A&B
12:00 - 13:00	<b>Lunch break</b>	EMBL Canteen
13:00 - 14:00	Practical: <b>Preparation of EVs by differential ultracentrifugation and fluorescent labeling</b> Edward Geurickx - Ghent University, Belgium An Hendrix - Ghent University, Belgium Estefanía Lozano - Utrecht University, The Netherlands Esther Nolte-'t Hoen - Utrecht University, The Netherlands	Training Lab B
14:00 - 14:45	Lecture: <b>EV biogenesis</b> Guillaume Van Niel - Institut Curie, France	Courtyard Room A&B

Time	Speaker	Location
14:45 - 15:00	<b>Coffee break</b>	Outside Courtyard Rooms
15:00 - 15:45	Lecture: <b>RNA sorting in EVs</b> Esther Nolte-'t Hoen - Utrecht University, The Netherlands	Courtyard Room A&B
15:45 - 18:00	Practical: <b>EV isolation using Optiprep density gradient centrifugation</b> Edward Geeurickx - Ghent University, Belgium An Hendrix - Ghent University, Belgium Estefanía Lozano - Utrecht University, The Netherlands Esther Nolte-'t Hoen - Utrecht University, The Netherlands	Training Lab B
18:00 - 19:00	<b>Dinner</b>	EMBL Canteen
19:00 - 21:00	<b>Poster Session I</b>	Top of Helix B

### Day 3 - Tuesday 4 June 2019

Time	Speaker	Location
09:00 - 09:15	<b>Outline of the day</b> Guillaume Van Niel - Institut Curie, France	Courtyard Room A&B
09:15 - 10:15	Practical: <b>EV isolation using size exclusion chromatography</b> An Hendrix - Ghent University, Belgium Esther Nolte-'t Hoen - Utrecht University, The Netherlands	Training Lab B
10:15 - 11:15	Practical: <b>Collect fractions from density gradients and centrifuge</b> Edward Geeurickx - Ghent University, Belgium An Hendrix - Ghent University, Belgium Estefanía Lozano - Utrecht University, The Netherlands Esther Nolte-'t Hoen - Utrecht University, The Netherlands	Training Lab B

Time	Speaker	Location
11:15 - 11:30	<b>Coffee break</b>	Outside Courtyard Rooms
11:30 - 12:15	Lecture: <b>Impact of pre-analytical factors on EV isolation</b> Cecilia Lässer - Gothenburg University, Sweden	Courtyard Room A&B
12:15 - 13:15	<b>Lunch break</b>	EMBL Canteen
13:15	<b>Group photo</b>	
13:15 - 17:00	Practical in groups: <b>Particle analysis (Malvern, Izon, Flow cytometry)</b> Edward Geurickx - Ghent University, Belgium An Hendrix - Ghent University, Belgium Estefanía Lozano - Utrecht University, The Netherlands Esther Nolte-'t Hoen - Utrecht University, The Netherlands	Training Lab B
17:00 - 18:00	Group activity: <b>Data analysis</b>	Courtyard Room A&B
18:00 - 19:00	<b>Dinner</b>	EMBL Canteen
19:00 - 21:00	<b>Poster Session II</b>	Top of Helix B

## Day 4 - Wednesday 5 June 2019

Time	Speaker	Location
09:00 - 09:15	<b>Outline of the day</b> Esther Nolte-'t Hoen - Utrecht University, The Netherlands	Courtyard Room A&B
09:15 - 10:00	Lecture: <b>Quantitative and qualitative EV analysis by flow cytometry</b> Marca Wauben - University of Utrecht, The Netherlands	Courtyard Room A&B
10:00 - 10:15	<b>Coffee break</b>	Outside Courtyard Rooms

Time	Speaker	Location
10:15 - 11:15	Lecture: <b>EV characterization by transmission electron microscopy and western blot analysis</b> Guillaume Van Niel - Institut Curie, France	Courtyard Room A&B
11:15 - 12:15	Group activity: <b>Tour of electron microscopy core facility with Q&amp;A session</b>	Electron Microscopy Core Facility
12:15 - 13:15	<b>Lunch break</b>	EMBL Canteen
13:15 - 19:00	Practical in groups: <b>Particle analysis Electron Microscopy</b> Estefanía Lozano - Utrecht University, The Netherlands Esther Nolte-'t Hoen - Utrecht University, The Netherlands Roberta Palmulli - Institut Curie, France Guillaume Van Niel - Institut Curie, France	Training Lab B
	<b>Implementation of EV-TRACK</b> Edward Geurickx - Ghent University, Belgium An Hendrix - Ghent University, Belgium	Courtyard Room A&B
	<b>Journal club preparation</b>	Breakout Room
19:00 - 20:00	<b>Dinner</b>	EMBL Canteen

## Day 5 - Thursday 6 June 2019

Time	Speaker	Location
09:00 - 09:15	<b>Outline of the day</b> Cecilia Lässer - Gothenburg University, Sweden	Courtyard Room A&B
09:15 - 10:00	Lecture: <b>Lipidomics</b> Johan Swinnen - KU Leuven, Belgium	Courtyard Room A&B
10:00 - 12:30	<b>Data analysis</b>	Courtyard Room A&B
12:30 - 13:30	<b>Lunch break</b>	EMBL Canteen
13:30 - 15:30	Group activity: <b>Presentation data analysis and discussion</b>	Courtyard Room A&B

Time	Speaker	Location
15:30 - 15:45	<b>Coffee break</b>	Outside Courtyard Rooms
15:45 - 16:30	Lecture: <b>in vivo and functional EV analysis</b> Michiel Pegtel - VU University Medical Center, The Netherlands	Courtyard Room A&B
from 16:30	<b>Free evening</b>	
18:00	<b>Optional - guided tour of Heidelberg</b>	Neckarmünzplatz

## Day 6 - Friday 7 June 2019

Time	Speaker	Location
09:00 - 09:15	<b>Outline of the day</b> An Hendrix - Ghent University, Belgium	Courtyard Room A&B
09:15 - 10:00	Lecture: <b>Validation of the EV transcriptome by RT-qPCR</b> Jo Vandesompele - Ghent University, Belgium	Courtyard Room A&B
10:00 - 10:45	Lecture: <b>Isolation of EVs from different biofluids</b> Olivier de Wever - Ghent University, Belgium	Courtyard Room A&B
10:45 - 11:00	<b>Coffee break</b>	Outside Courtyard Rooms
11:00 - 11:45	Lecture: <b>Proteomics: exosomes, secretome and system biology</b> Suresh Mathivanan - La Trobe University, Australia	Courtyard Room A&B
11:45 - 12:45	<b>Lunch break</b>	EMBL Canteen
12:45 - 15:15	Practical: <b>Bioinformatic analysis of EV protein, RNA, lipid content</b> Suresh Mathivanan - La Trobe University, Australia	Courtyard Room A&B

Time	Speaker	Location
15:15 - 15:30	<b>Coffee break</b>	Outside Courtyard Rooms
15:30 - 16:15	Lecture: <b>Clinical application</b> Mario Gimona - Paracelsus Medizinische Privatuniversität, Austria	Courtyard Room A&B
16:15 - 18:15	Group activity: <b>Journal club</b>	Courtyard Room A&B
18:15 - 18:45	<b>Wrap-up and Conclusions &amp; Poster awards</b>	Courtyard Room A&B
from 18:45	<b>Course dinner downtown</b>	Restaurant in downtown Heidelberg