

**EMBO PRACTICAL COURSE
“Metabolomics Bioinformatics in Human Health”**

**16–20 September 2019
IARC, Lyon, France**

DETAILED PROGRAMME

Monday 16 September 2019

8:30–9:30	Registration	Karine/Sandrine
9:30–9:50	Welcome and overview of the course	Reza Salek
9:50–10:00	Introduction to IARC	Augustin Scalbert
10:00–10:45	Flash oral poster presentation by participants	All
<i>10:45–11:15</i>	<i>Coffee Break</i>	
11:15–12:00	Flash oral poster presentation by participants	All
12:00–13:00	Metabolomics: From experimental design to data analysis (limitations and advantages)	Oscar Yanes Torrado
<i>13:00–14:15</i>	<i>Lunch</i>	
14:15–15:30	Dissecting the multidisciplinary nature of an untargeted metabolomics workflow vs targeted	Oscar Yanes Torrado
<i>15:30–16:00</i>	<i>Tea break</i>	
16:00–18:00	Experimental design–Group activity	Reza Salek
18:00–18:30	Experimental design–Statistical point of view	Pietro Franceschi
18:30–19:00	Poster session	All
<i>19:00</i>	<i>Welcome drinks and Buffet reception in IARC lobby</i>	

Tuesday 17 September 2019

09:00–09:05	Overview of day	Reza Salek
09:05–10:30	Analysis of LC-MS-based metabolomics data using XCMS	Pietro Franceschi
<i>10:30–11:00</i>	<i>Coffee Break</i>	
11:00–12:00	Analysis of LC-MS-based metabolomics data using XCMS	Pietro Franceschi
12:00–12:45	Exploring LC-MS data matrix dealing with missing values	Pietro Franceschi Reza Salek
<i>12:45–13:45</i>	<i>Lunch</i>	
13:45–14:15	Poster session	All
14:15–15:15	The whole story in real-time: MS data processing	Steffen Neumann
15:15–16:15	The whole story in real-time: MS metabolite identification	Steffen Neumann
<i>16:15–16:45</i>	<i>Tea break</i>	
16:45–18:45	Why is lipidomic a world apart in metabolomics?	Justine Bertrand-Michel
18:45–19:30	Discussion, short presentation	All
<i>19:45</i>	<i>Dinner at Monplaisir Côté Cour Restaurant</i>	

Wednesday 18 September 2019

09:00–09:05	Overview of day	
09:05–10:30	GC-MS workflow; from data processing to metabolite identification	Maria Vinaixa Crevillent
<i>10:30–11:00</i>	<i>Coffee Break + Group photo</i>	
11:00–12:45	NMR and Computer-assisted structure elucidation	Christoph Steinbeck
<i>12:45–13:45</i>	<i>Lunch</i>	

Wednesday 18 September 2019 (contd)

- 13:45–14:15 Poster session
- 14:15–16:00 Integrative analysis of metabolomics data through computational modelling Johannes Hertel
- 16:00–16:30 Tea break*
- 16:30–18:30 Metabolomics data analysis in the context of metabolic networks Fabien Jourdan
- 18:30–19:30 Discussion, short presentation
- 19:30 Dinner at IARC Restaurant*

Thursday 19 September 2019

- 09:00–09:05 Overview of day
- 09:05–10:30 Simple statistics, QC, data normalisation and scaling Hermann Wehrens
- 10:30–11:00 Coffee Break*
- 11:00–12:45 Multivariate statistics: only the brave Hermann Wehrens
- 12:45–13:45 Lunch*
- 13:45–14:15 Poster session All
- 14:15–15:45 Data fusion and batch correction Johannes Westerhuis
- 15:45–16:15 Tea break*
- 16:15–17:30 "What's Next for Metabolomics?" David Wishart
- 17:30–18:30 LC-MS approaches for the measurement of the Exposome Agneta Kiss
- 18:30–20:00 Free time
- 20:00 Gala Dinner at Le Vivarais Restaurant*

Friday 20 September 2019

09:00–09:05 Overview of day

09:05–10:30 Deciphering metabolism using Stable Isotope Resolved
Metabolomics (SIRM) using GC-MS Silvia Marín Martínez

10:30–11:00 Coffee Break

11:00–12:45 Metabolomics flux with applications in Cancer
Marta Cascante Serratos
& Igor Marín De Mas

12:45–13:45 Lunch

13:45–14:45 FAIR Metabolomics, metabolomics resources and
reproducibility, are we there? Reza Salek

14:45–15:15 Course feedback and wrap-up Reza/Karine/Sandrine

15:15 End of course