

EMBO
Workshop



Lipid droplets:

Metabolic hubs in health and disease

17 – 22 September 2023 | Sant Feliu de Guíxols, Spain

Workshop Program

meetings.embo.org/event/23-lipid-droplets



Science
MAGS



lipotype

Journal of
Cell Science

Company of
Biologists

SFB190

Cell Metabolism

Developmental
Cell

FEBS
Letters

THE
EMBO
JOURNAL

EMBOpress

General Information

Venue:

Hotel Eden Roc:

Punta de Port Salvi, s/n, 17220 Sant Feliu de Guíxols, Costa Brava, Girona, Spain

Registration Desk:

Mrs. Magali Mizrahi from Diesenhaus-Unitours will operate the registration, travel, and hospitality desk throughout the meeting, as follows:

Sunday: 12:00-18:00 (main lobby)

Monday-Thursday: from 09:00 during session hours (in front of lecture hall)

Information for Chairs & Speakers:

Speakers are required to meet the chairperson at least 15 minutes prior to their session, in the conference room. It is important to strictly adhere to the timetable. Do not depart from the announced times. Chairs are asked to keep sessions in time.

Technical setup: The lecture hall will be equipped with a projector and an Apple laptop. You can bring your presentation on a USB stick or connect your own computer to the projector *via* HDMI. Please verify that your presentation is running as expected before the start of your session.

Invited speakers: max. 20 min talk (+ 5 min discussion)

Short talks: max. 15 min talk (+ 5 min discussion)

Flash talks: max. 2 min (!), please send your 1-2 power point slides (16:9 format) to Robin Klemm before 10 September, 2023, Flash talks for posters A will be on Monday 18 September 2023, for posters B on Tuesday 19 September 2023.

Meet-The-Speaker Tables During Lunches:

Students and postdocs will have the opportunity to have joint lunch with invited speakers.

Invited speakers are asked to find their dedicated lunch table at the restaurant on the day of their talk so that young scientists can join them.

Information for Poster Presenters:

Posters are categorized in A and B and will be presented in 2 sessions each:

Posters A (Poster Session I+II): Monday, 18 September 2023 afternoon and evening

Mount posters on Sunday and remove them Monday after the evening session.

Posters B (Poster Session III+IV): Tuesday, 19.09.2023 afternoon and evening

Mount posters on Tuesday morning

Airport Shuttle Times:

Barcelona airport - Eden Roc Hotel: Sunday, 17 September 2023: 11 am, 1 pm, 3 pm

Girona airport - Eden Roc Hotel: Sunday, 17 September 2023: 3 pm

Eden Roc Hotel - Barcelona airport: Friday, 22 September 2023: 7 am, 9 am

Eden Roc Hotel - Girona airport: Friday, 22 September 2023: 9 am

Please make sure that you have booked your favorite shuttle time in the registration form and send an email to Magali Mizrahi in case of changes,

Organizers:

Bianca Schrul (Saarland University, Germany)
Maria Bohnert (University of Münster, Germany)
Robin Klemm (University of Oxford, UK)

Conference Secretariat and Official Travel Agent:

Diesenhaus-Unitours Travel Agency Conventions Department
3, Hamelacha St, Tel Aviv, Israel, Tel: +972-3-5651344
WhatsApp Messages & Calls: +972-52-8090122 (Magali) E-mail: meetings@diesenhaus.com

Sponsors:

Workshop Program

Day 1 | Sunday, 17 September 2023

- 12:00-17:30 *On-site Registration*
- 17:45-18:00 **Opening Remarks by the Organizers**
- 18:00-19:00 **Opening Keynote Lecture**
Chair: Robin Klemm
Stephen O’Rahilly & David Savage
The control of energy balance and nutrient disposition in health and disease
- 19:00-20:30 **Dinner**
- 20:30 **Welcome Cocktails & Ice-Breaker event**

Day 2 | Monday, 18 September 2023

- 08:00-09:00 *Breakfast*
- 09:00-10:30 **Session 1a: LD Biogenesis & Turnover I**
Chair: Bianca Schrul
- 09:00-09:25 **Pedro Carvalho**
Mechanisms of lipid droplet biogenesis at the endoplasmic reticulum
- 09:25-09:50 **Julia Mahamid**
Molecular views of lipid droplets along their life cycle
- 09:50-10:10 **Ximing Du**
Lipid scrambling by TMEM41B regulates lipid droplet formation
- 10:10-10:30 **Micah Schott**
Alcohol disrupts a novel lipid droplet-lysosomal trafficking pathway orchestrated by Rab5.
- 10:30-11:00 *Coffee Break*
- 11:00-12:10 **Session 1b: LD Biogenesis & Turnover II**
Chair: Maria Bohnert
- 11:00-11:25 **James Olzmann**
Hepatocellular determinants of lipid storage and secretion
- 11:25-11:50 **Peng Li**
Molecular mechanism of lipid droplet fusion and growth controlled by CIDE proteins
- 11:50-12:10 **Yehonathan Malis**
Live cell imaging and photoswitching FRET to characterize the role of Rab1 in promoting lipid droplet growth.
- 12:10-12:40 **Poster Flash Talks (Posters A)**
- 13:00-14:30 **Lunch (with meet-the-speaker tables)**

- 14:30-15:30 Career & Networking Session I:**
Introduction of the "Conference Coach Club" and Q/A session
- 15:30-17:30 Poster Session I**
Posters A (afternoon session) with refreshments
- 17:30-18:40 Session 2: Computational Modelling of LDs**
Chair: Bob Farese
- 17:30-17:55 Stefano Vanni**
A molecular view of lipid accumulation and transport
- 17:55-18:15 Rehani Perera**
Novel insight into the structural rearrangement of hairpin proteins during ER-to-LD partitioning
- 18:15-18:40 Jessica Swanson**
Exploring the physicochemical control of the lipid droplet proteome
- 19:00-20:30 Dinner**
- 20:30-22:30 Poster Session II**
Posters A (evening session) with refreshments

Day 3 | Tuesday, 19 September 2023

- 08:00-09:00 Breakfast**
- 9:00- 10:35 Session 3a: Inter-Organelle Communication of LDs: Contact Sites**
Chair: Yoel Klug
- 09:00-09:25 Sarah Cohen**
Visualizing lipid droplet-organelle contacts during cell differentiation and neurodegeneration
- 09:25-09:50 Francesca Giordano**
Regulation of lipid droplet biogenesis and maintenance at ER-mitochondria contact sites
- 09:50-10:15 Lena Pernas**
Cellular metabolism in the defense against microbes
EMBO Young Investigator Lecture
- 10:15-10:35 Adam Fletcher**
Lipid droplet protein RNF213 connects cellular energy to antimicrobial defense
- 10:35-11:05 Coffee Break**
- 11:05-12:35 Session 3b: Inter-Organelle Communication of LDs: Metabolic Coupling**
Chair: Veijo Salo
- 11:05-11:30 Hanaa Hariri**
Pathways for metabolic organization at lipid droplet contact sites
- 11:30-11:50 Silvia Barbiero**
Dynamic cycles of free fatty acid storage and release in lipid droplets regulate intestinal stem cells potential and function
- 11:50-12:15 Anne Spang**
Arf1 coordinates fatty acid metabolism and mitochondrial homeostasis

- 12:15-12:35 **Duy Diep**
A metabolically controlled contact site between lipid droplets and vacuoles
- 12:35-13:00 **Poster Flash Talks (Posters B)**
- 13:00-14:30 **Lunch (with meet-the-speaker tables)**
- 15:00-17:00 **Poster Session III**
Posters B (afternoon session) with refreshments
- 17:30-18:40 **Session 4: Biophysics of LD Proteins**
Chair: Joëlle Bigay
- 17:30-17:55 **Rachid Thiam**
From the biophysics to the cell biology of lipid droplets
- 17:55-18:20 **Alenka Copic**
Perilipin protein team gymnastics
- 18:20-18:40 **Monika Oberer**
Unveiling the mighty impact of a miniature protein on the surface of lipid droplets: Structural and biochemical insights of the ATGL-inhibitor GOS2
- 19:00-20:30 **Dinner**
- 20:30-22:30 **Poster Session IV**
Posters B (evening session) with refreshments

Day 4 | Wednesday, 20 September 2023

- 08:00-09:00 *Breakfast*
- 9:00-10:30 **Session 5a: LDs in Health & Disease: Lipid Storage**
Chair: Jieqiong Gao
- 09:00-09:25 **Carla Petra Horvath-Rudigier**
Adipocyte diversity and their development roadmap
- 09:25-09:50 **Leanne Hodson**
Liver fat and metabolic dysregulation – is it all about quantity
- 09:50-10:10 **Anja Zeigerer**
The ESCRT-I component Tsg101 is essential to prevent liver inflammation, lipotoxicity and cell death
- 10:10-10:30 **Tomaz Martini**
A novel hepatic lipoprotein cycle
- 10:30-11:00 *Coffee Break*
- 11:00-12:30 **Session 5b: LDs in Health & Disease: Host-pathogen interactions**
Chair: Sheetal Gandotra
- 11:00-11:25 **Albert Pol**
Eukaryotic LDs are metabolic hubs and immune first responders

11:25-11:45	Kasey Vickers RNA lipidation facilitates cellular deposition of LDL-delivered small RNAs in macrophage lipid droplets
11:45-12:10	Eva Herker The role of lipid droplets in flavivirus infection
12:10-12:30	Karla Helbig Virally induced lipid droplets are a platform for innate immune signalling complexes
13:00-14:00	Lunch (with meet-the-speaker tables)
14:00-18:30	Excursion: Guided Tour in Girona
19:00-20:30	Dinner
20:30-21:30	Keynote Lecture <i>Chair: Maria Bohnert</i> Elina Ikonen Coordination of cellular lipid metabolism and storage: how to get the big picture when the devil is in the detail?
21:30	<i>Free evening with Open Bar</i>

Day 5 | Thursday, 21 September 2023

08:00-09:00	<i>Breakfast</i>
9:00-10:30	<u>Session 6: Lipid Droplet Diversity</u> <i>Chair: Marisa Brini</i>
09:00-09:25	Bernd Helms Lipid dynamics and storage in distinct lipid droplet pools of hepatic stellate cells
09:25-09:45	Chiara Beretta Amyloid beta pathology causes impaired lipid metabolism in human astrocytes.
09:45-10:05	Ozren Stojanovic Perilipin membrane association determines lipid droplet heterogeneity in differentiating adipocytes
10:05-10:30	Natalie Krahmer Elucidating cellular lipid storage by spatial proteomics
10:30-11:00	<i>Coffee Break</i>
11:00-12:30	<u>Session 7: Advanced Technologies to Study LDs</u> <i>Chair: Douglas Mashek</i>
11:00-11:25	Theodore Alexandrov Spatial single-cell lipidomics helps interrogate lipid droplets accumulation and fatty acid synthesis
11:25-11:45	Anne Gemmink A novel microscopy tool to study in vitro lipid droplet dynamics in human primary myotubes
11:45-12:10	Arun John Peter METALIC reveals interorganelle lipid flux in vivo

12:10-12:30	Christian Klose Machine learning of human plasma lipidomes for obesity estimation in a large population cohort
13:00-14:30	Lunch (with meet-the-speaker tables)
14:30-15:30	Career & Networking Session II "How to pick a postdoc lab" <i>Moderated panel discussion</i>
15:30- 16:45	<u>Session 8a: New Functions of LDs I</u> <i>Chair: María Moriel-Carretero</i>
15:30-15:55	Mike Henne Exploring the properties of liquid-crystalline lipid droplets in metabolic adaptation
15:55-16:20	Symeon Siniosoglou Compartmentalized lipid storage at the endoplasmic reticulum
16:20-16:45	Maria Fedorova Using epilipdomics for assessing the role of lipid droplets in lipid quality control
16:45-17:15	<i>Coffee Break</i>
17:15- 18:15	<u>Session 8b: New Functions of LDs II</u> <i>Chair: Joachim Füllekrug</i>
17:15-17:35	Toni Petan Lipid droplets drive lipid mediator production and modulate ferroptosis
17:35-18:15	Tobias Walther & Bob Farese Mechanisms and physiology of lipid droplet formation <i>Closing Talk</i>
18:15-18:45	Closing Remarks and Poster Prizes <i>Organizers</i>
19:00	Gala Dinner and Farewell Party

Day 6 | Friday, 22 September 2023

08:00-09:00	<i>Breakfast and Departure</i>
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Poster Flash Talks

Session 1 – Monday 18 September 2023

Talk	Poster number	Name	
1	A7	Cervellini	Francesca
2	A15	Fakih	Zacharias
3	A22	Gao	Jieqiong
4	A25	Greig	Justin
5	A26	Gueroui	Zoher
6	A28	Herzog	Helena
7	A29	Hipp	Lena
8	A30	Jacob	Reeba S.
9	A33	Kim	Siyoung
10	A36	Klug	Yoel
11	A42	Maestri	Alice

Session 2 – Tuesday 19 September 2023

Talk	Poster number	Name	
1	B1	Pasdeloup	David
2	B5	Mathiowetz	Alyssa
3	B7	Mena Gómez	Alba
4	B11	Panfilova	Diana
5	B12	Pedró-Cos	Laura
6	B18	Salo	Veijo
7	B21	Sapia	Jennifer
8	B22	Saukko-Paavola	Aksel
9	B25	Shimobayashi	Mitsugu
10	B31	Tyedmers	Jens
11	B34	Weber	Laura
12	B39	Ye	Cunqi

Poster Presenters

Posters A in Poster Sessions I + II - Monday, 18 September 2023

Session	Poster number	Name	
I & II	A1	Banducci-Karp	Adrianna
I & II	A2	Bello	Abdoul Akim
I & II	A3	Botté	Cyrille
I & II	A4	Breithofer	Johannes
I & II	A5	Cadena del Castillo	Carla
I & II	A6	Cali	Tito
		Brini	Marisa
I & II	A7	Cervellini	Francesca
I & II	A8	Colaço-Gaspar	Mariana
I & II	A9	Damm	Alicia
I & II	A10	Dargham	Tonia
I & II	A11	Dudka	Wioleta
I & II	A12	Durmus	Emine Berna
I & II	A13	Enkler	Ludovic
I & II	A14	Faas	Victoria
I & II	A15	Fakih	Zacharias
I & II	A16	Fausten	Rebecca
I & II	A17	Fernandes	Hugo
I & II	A18	Ferrari	Alessandra
I & II	A19	Ferreira	Joana
I & II	A20	Füllekrug	Joachim
I & II	A21	Gandotra	Sheetal
I & II	A22	Gao	Jieqiong
I & II	A23	Garcia-Macia	Marina
I & II	A24	Gilk	Stacey
I & II	A25	Greig	Justin
I & II	A26	Gueroui	Zoher
I & II	A27	Guyard	Valentin
I & II	A28	Herzog	Helena
I & II	A29	Hipp	Lena
I & II	A30	Jacob	Reeba S.
I & II	A31	Jain	Raghav
I & II	A32	Jarc Jovičić	Eva
I & II	A33	Kim	Siyoun
I & II	A34	Kim	Jaetaek
I & II	A35	Kintscher	Ulrich
I & II	A36	Klug	Yoel
I & II	A37	Kristóf	Endre Károly
I & II	A38	Kuang	Shihuan
I & II	A39	Kumar	Saurabh
I & II	A40	Latorre Leal	Maria
I & II	A41	MacCannell	Amanda
I & II	A42	Maestri	Alice
I & II	A43	Malet-Engra	Gema
I & II	A44	Lakhal	Leila
I & II	A45	Færgeman	Nils

Posters B in Poster Sessions III + IV - Tuesday, 19 September 2023

Session	Poster number	Name	
III & IV	B1	Mallet	Corentin
		Pasdeloup	David
III & IV	B2	Manandhar	Yelina
III & IV	B3	Mashek	Douglas
III & IV	B4	Mass Sanchez	Paola Berenice
III & IV	B5	Mathiowetz	Alyssa
III & IV	B6	McLelland	Gian-Luca
III & IV	B7	Mena Gómez	Alba
III & IV	B8	Monson	Ebony
III & IV	B9	Moriel-Carretero	María
III & IV	B10	Myeni	Sebenzile
III & IV	B11	Panfilova	Diana
III & IV	B12	Pedró-Cos	Laura
III & IV	B13	Percifull	Louis
III & IV	B14	Perez-Marti	Albert
III & IV	B15	Radner	Franz
III & IV	B16	Sabbagh	Bayane
III & IV	B17	Safi	Rémi
III & IV	B18	Salo	Veijo
III & IV	B19	Salvaing	Juliette
III & IV	B20	Samardak	Kseniya
III & IV	B21	Sapia	Jennifer
III & IV	B22	Saukko-Paavola	Aksel
III & IV	B23	Savkovic	Suzana
III & IV	B24	Schablowski	Moritz
		Krauss	Louisa
III & IV	B25	Shimobayashi	Mitsugu
III & IV	B26	Soares	Vinicius
III & IV	B27	Teixeira	Vitor
III & IV	B28	Teo	Chin-Fen
III & IV	B29	Thomasson	Lee
III & IV	B30	Tian	Wenyue
III & IV	B31	Tyedmers	Jens
III & IV	B32	Vanharanta	Lauri
III & IV	B33	Wang	Surui
III & IV	B34	Weber	Laura
III & IV	B35	Windham	Ian
III & IV	B36	Xiao	Fanqian
III & IV	B37	XU	LI
III & IV	B38	Yang	Guang
III & IV	B39	Ye	Cunqi
III & IV	B40	Zareifi	Danai Stella
		Schormeier	Katharina
III & IV	B41	Zatta	Veronica
III & IV	B42	Zerio	Anna
III & IV	B43	Silva	Liana
III & IV	B44	Sumara	Grzegorz