

Program International Conference



Brown and Beige Fat
Organ Crosstalk,
Signaling
and Energetics

BATenergy

Bonn, March 31st - April 02nd 2025

Conference Venue

University Hospital Bonn (UKB)

Biomedical Center I (Building B13) - Lecture Hall

Supported by

DFG Deutsche
Forschungsgemeinschaft
German Research Foundation

 **SABLE
SYSTEMS
EUROPE GmbH**



DAY 0 – Sunday, March 30th 2025

17.00 – 19.00 **Early Registration & Networking**

DAY 1 – Monday, March 31st 2025

08.15 – 08.45 **Registration**

08:45 – 09:00 **Welcome by Organizers (Alexander Pfeifer & Jörg Heeren)**

Keynote Lecture (45 min + 15 min)

9:00 – 10:00 Brown fat as a tool to understand mitochondrial bioenergetics
Shingo Kajimura (Boston, USA)

Session 1 – Chair Stephan Herzig (20 min + 10 min)

10:00 – 10:30 Exploring thermogenic adipose tissue from inside-out
Yu-Hua Tseng (Boston, USA)

10:30 – 11:00 **Coffee Break**

11:00 – 11:30 Alternative regulators of BAT
Alexander Pfeifer (Bonn, DE)

11:30 – 12:00 UCP1: Regulation and metabolic significance
Jan Nedergaard (Stockholm, SE)

12:00 – 13:00 **Lunch**

Session 2 – Chair Barbara Cannon (20 min + 10 min)

13:00 – 13:30 Transcriptional and posttranscriptional activation of thermogenesis
Hei Sook Sul (Berkeley, USA)

13:30 – 14:00 Elucidating adipocyte lipid storage via spatial proteomics
Natalie Krahmer (Munich, DE)

14:00 – 14:30 Mechanisms of brown fat involution
Joerg Heeren (Hamburg, DE)

14:30 – 15:00 **Coffee Break**



DAY 1 – Monday, March 31st 2025 (continued)

Session 3 – Chair Alexander Pfeifer (20 min + 10 min)

15:00 – 15:30 Non-invasive imaging of brown fat activity

Martin Klingenspor (Munich, DE)

15:30 – 16:00 Circadian and thermogenic control of metabolite transport in adipocyte mitochondria

Zach Gerhart-Hines (Copenhagen, DK)

Short Talk Session 1 – Chair Christian Schlein (10 min + 5 min)

16:00 – 16:15 **Irina Shabalina** (Stockholm, SE)

16:15 – 16:30 **Tongtong Wang** (Zurich, CH)

Poster Session 1 with Wine, Beer & Refreshments

16:30 – 18:30 Foyer

19:00 **Participants Gathering**



DAY 2 – Tuesday, April 01st 2025

Session 4 – Chair Alexander Bartelt (20 min + 10 min)

- 09:00 – 09:30** Adipose tissue composition and its impact on metabolic control
Christian Wolfrum (Zurich, CH)
- 09:30 – 10:00** Primary cilia – how to determine fate and function of progenitor cells in the adipose tissue
Dagmar Wachten (Bonn, DE)
- 10:00 – 10:30** **Coffee Break**
- 10:30 – 11:00** Uncoupled respiration in white adipocytes: A novel mechanism for energy expenditure and thermogenesis
Shannon Reilly (New York, USA)

Podium Discussion with Editors – Panel Hosts Alexander Pfeifer, Jörg Heeren, Martin Klingenspor

- 11:00 – 11:30** Francesca La Rosa (Nature Communications), Revati Dewal (Nature Metabolism) and Patrick Schaefer (Cell Metabolism)

Short Talk Session 2 – Chair Anna Worthmann (10 min + 5 min)

- 11:30 – 11:45** **Anastasia Georgiadi** (Munich, DE)
- 11:45 – 12:00** **Chunyan Wu** (Zurich, CH)
- 12:00 – 12:15** **Isabel Reinisch** (Zurich, CH)
- 12:15 – 13:00** **Lunch**

Session 5 – Chair Carolina Hagberg (20 min + 10 min)

- 13:00 – 13:30** Novel insights into brown fat biology from a third dimension
Yongguo Li (Bonn, DE)
- 13:30 – 14:00** Defining the vascular niche of human adipose tissue across metabolic conditions
Joanna Kalucka (Aarhus, DK)
- 14:15** **Group Picture**

Social Event

- 16:00** **Participants Gathering**



DAY 3 – Wednesday, April 02nd 2025

Session 6 – Chair Anne Bouloumie-Diehl (20 min + 10 min)

- 09:00 – 09:30** Pharmacological and nutritional activation of thermogenic adipose tissue
Jan-Wilhelm Kornfeld (Odense, DK)
- 09:30 – 10:00** Recent advances in human BAT research
Kirsi Virtanen (Turku, FI)
- 10:00 – 10:30** **Coffee Break**

Poster Session 2

- 10:30 – 12:30** Foyer
- 12:30 – 13:30** **Lunch**

Session 7 – Chair Tobias Fromme (20 min + 10 min)

- 13:30 – 14:00** Mapping brown adipose tissue in humans
Kirsty Spalding (Stockholm, SE)
- 14:00 – 14:30** Understanding the role of human brown adipose tissue in health and disease - Insights from studies in patients with cancer
Maria Chondronikola (Cambridge, UK)

Short Talk Session 3 – Chair Kerstin Wilhelm-Jüngling (10 min + 5 min)

- 14:30 – 14:45** **Hannah Hui** (Hongkong, CN)
- 14:45 – 15:00** **Livia Petriskova** (Bratislava, SK)
- 15:00 – 15:15** **Closing Remarks by Alexander Pfeifer & Organizing Committee**

DEPARTURE



Poster Assignment (alphabetical)

Poster Session 1 (March 31st 2025)

Poster No.	Last Name	Abstract Title
1	Ali	Effects of allicin on human Simpson-Golabi-Behmel syndrome cells in mediating browning phenotype
2	Alrifai	Revealing the importance of transferrin receptor-mediated iron uptake for efficient thermogenic response of human adipocytes
3	Amaouche	Effects of clock desynchronization on brown adipose tissue function
4	Arianti	L-amino acid transporter 1 regulates thermogenesis of human brown adipocytes by controlling metabolic and transcriptomic program
5	Auer	Nfe2l1 in Myf5+ progenitors is required for proper development of brown adipose tissue
6	Behrens	Interplay of lipid and ketone body metabolism in activated brown adipose tissue
7	Ben-Kraiem	Preoptic PNOC neurons modulate energy expenditure and brown adipose tissue function
8	Blaas	The Ube2h complex regulates insulin signaling in brown adipocytes via mTORC1
9	Briand	Multimodal epigenetic and enhancer network remodeling shape the transcriptional landscape of beige adipocytes
10	Broghammer	Mitochondrial Stress Test to Analyze Effects of Adipocyte Browning in Human Mature Adipocytes
11	Braunsperger	Effects of time-of-day on the noradrenaline, adrenaline, cortisol and blood lipidome response to an ice bath
12	Corral Plaza	Characterization of brown adipose tissue during the development of type 1 diabetes in rodents
13	Correa	Loss of Laminin $\alpha 4$ Enhances Brown Fat Activity but Drives Adipose Tissue Inflammation
14	Donghai	LETMD1 enhances energy expenditure in human beige adipocytes
15	Efthymiou	Survodutide improves systemic insulin sensitivity via early effects on adipose tissue independent of reduced food intake
16	El-Merahbi	Adhesion GPCR GPR116/Adgrf5 controls a vascular niche of anti-thermogenic adipocytes and it is an essential factor for adaptive thermogenesis during prolonged cold exposure
17	Elschner	The endothelial taurine transporter TAUT is important for the communication of endothelial cells and adipocytes during thermogenesis
18	Gaudriault	Charting new paths in adipose tissue organoid development via stromal vascular fraction
19	Ghosh	ACTIBATE randomized controlled trial: Effects of a 24-week exercise intervention on subcutaneous adipose tissue and skeletal muscle in young healthy adults



Poster No.	Last Name	Abstract Title
20	Graelmann	Metabolic Regulation through the Aryl hydrocarbon Receptor Repressor (AhRR) shapes Cellular Interactions in Adipose Tissues
21	Gunasekaran	Vitamin K2 promotes Brown Fat Thermogenesis
22	Hasic	Exploring aerobic and anaerobic contributions to thermogenesis in brown and brite adipose tissues
23	Hazell Pickering	Beige and white subcutaneous adipocytes arise from the same progenitor populations in cultured human adipose stem cells
24	Herrero	Time-restricted feeding improves metabolic parameters and restores circulating corticosterone's circadian rhythm in male mice fed a high-fat high-sucrose diet
25	Hiefner	Exploring the role of purinergic signaling in white adipocyte differentiation and adipose tissue function
26	Kellenberger	Gut Microbiota Depletion Enhances Glucose Tolerance via GLP-1 Signaling
27	Hurkmans	CD36 expressed by brown adipocytes promotes lipid disposal and adaptive thermogenesis
28	Jaeckstein	Inflammatory degeneration of thermogenic brown adipose tissue is regulated by purinergic adipocyte-macrophage crosstalk
29	Jancovicova	LATS2 is an important regulator of brown adipocyte function which modulates PPAR γ activity
30	Jha	Novel Role of ribosomal protein, RPS4X in Brown Adipose Tissue-Dependent Thermogenesis
31	Jouffe	BMAL1 controls brown adipose metabolism in a temperature-dependent manner
32	Jung	The new SHB complex controls insulin signaling and brown adipocyte function
33	Karadsheh	Thiamine transporter inhibitor, Fedratinib suppresses thermogenic activation of human neck area-derived adipocytes
34	Karagiannakou	Unveiling the Vascular Landscape of Murine Thermogenic Fat
35	Kardinal	The role of compartmentalized cAMP signaling in controlling brown adipose tissue homeostasis
36	Nono Nankam	Turning Up the Heat in White Adipose Tissue: Upregulation of Thermogenesis markers in Lipedema
37	Shapiro	Gut Microbiome-Derived Metabolites Regulate Weight Gain Following Smoking Cessation



Poster Session 2 (April 02nd 2025)

Poster No.	Last Name	Abstract Title
38	Horváth	Fstl3 as a potential switch between brown adipocyte differentiation and immunomodulatory cells
39	Khandelwal	GRB14 regulates rate of lipolysis in activated brown adipocytes
40	Kristóf	The importance of thiamine availability in the thermogenic competency of human adipocytes
41	Küllmer	Fibroblast Growth Factors induce atypical expression of functional Ucp1 in preadipocytes and lead to an anti-inflammatory state when differentiated
42	Lackman	The effects of high-fat diet-induced obesity on murine brown adipose tissue vasculature
43	Llerins Perez	The stress hormone ACTH activates brown fat thermogenesis
44	Long	MEDAG functions as an A-Kinase Anchoring Protein in adipocytes
45	Mansouri	Divergent Structural and Functional Features of Human vs. Murine UCP1: Insights from a Comparative Approach
46	Mao	A new mechanism underlying lipodystrophy mediated by UPS control of beta-catenin
47	Martelli	Functionality of brown adipose tissue in the inherited forms of lipodystrophies
48	Mena Gómez	Lipid droplet biogenesis protect adipocytes from lipid peroxidation and cell death
49	Meyer	A norepinephrine-AXL/MERTK axis regulates efferocytosis in adipose tissue macrophages
50	Monfort-Pires	Body adiposity and long-term cold acclimation influence meal-induced hormonal responses to acute cold exposure
51	Örling	The development of primary human brown adipose spheroids as a new tool for adipose tissue research
52	Paez	MafG regulates the Nfe2l2-mediated anti-oxidant response in brown adipocytes
53	Petrovic	No UCP1 in kidney
54	Pilz	Intrahepatic T cell responses modulate metabolic adaptation in adipose tissues
55	Ran	Role of Calcitonin Receptor Family Signalling in Thermogenic Adipose Tissue
56	Rodriguez Fernandez	Adaptive Plasticity and Long-Term Memory of Brown Adipose Tissue Following Cold Stimulation
57	Rostás	Loss of Adenosine A3 receptor protects mice against high fat diet induced obesity
58	Sabaté Pérez	Complement factor D as a dual regulator of brown adipogenesis and adipocyte metabolism
59	Seep	cOmicsArt – a customizable Omics Analysis and reporting tool
60	Sharma	Futile lipid cycling has a pronounced thermogenic function
61	Simonian	Identifying the Role of Sex-Specific Hormones Dihydrotestosterone and B-Estradiol in Early Brown Adipogenesis



Poster No.	Last Name	Abstract Title
62	Sousa Filho	Green tea does not promote thermogenesis in high-fat diet-fed mice maintained at thermoneutrality
63	Spaehn	BK channel function in brown adipocytes promotes diet-induced obesity
64	Stenzel	Unravelling the dietary effects of omega-3, omega-6, and saturated fatty acids on brown adipose tissue and its endothelium
65	Strehlau	Loss of Adipose Tissue Myoglobin promotes diet induced obesity
66	Szondy	Loss of MER tyrosine kinase attenuates adipocyte hypertrophy and leads to enhanced thermogenesis in mice exposed to high-fat diet
67	Thodou Krokidi	Investigating the Role of FNDC4 in Metabolic-Associated Steatohepatitis (MASH) and Adipose Tissue Remodeling
68	Tischer	The role of circulating exomiRs in thermogenic adipose tissue-skeletal muscle crosstalk during exercise
69	Vartanova	Impact of UCP1+ Cell Loss and Regeneration on Metabolic Function
70	Wang, Y.	Brown fat organoid culture promotes superior thermogenic development via diminishing the F-actin-YAP-HDAC mechanotransduction axis
71	Witt	BAT macrophages show increased capacity to handle lipids upon cold exposure
72	Yuan	Unraveling the molecular mechanisms underlying the inhibitory effects of progesterone on brown adipocyte differentiation markers
73	Yüksel	The role of primary cilia in the communication between tissue-resident macrophages and preadipocytes in white adipose tissue
74	Li, Z.	The Role of Protein Phosphatases in Orchestrating Thermogenesis Dynamics