

Abstracts of papers presented  
at the 2025 Cold Spring Harbor Asia Conference

# MITOCHONDRIA & METABOLISM IN HEALTH & DISEASE

October 13–October 17, 2025

Arranged by

Quan Chen, *Nankai University*  
Nika Danial, *Harvard Medical School*  
Kaori Ishikawa, *University of Tsukuba*  
Luca Scorrano, *University of Padova*



Cold Spring Harbor Conferences Asia  
Cold Spring Harbor Laboratory



## MITOCHONDRIA & METABOLISM IN HEALTH & DISEASE

Monday, October 13 – Friday, October 17, 2025

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Monday	7:00 pm	<b>1</b> Keynote Session
Tuesday	9:00 am	<b>2</b> Mitochondrial Metabolism
Tuesday	11:00 am	<b>3</b> Mitochondrial Shape and Function
Tuesday	2:00 pm	<b>Poster Session</b>
Tuesday	7:00 pm	<b>4</b> Mitochondria and Ageing
Wednesday	9:00 am	<b>5</b> Mitophagy and Organelle Communication
Wednesday	1:30 pm	<i>Visit to Old Suzhou*</i>
Thursday	9:00 am	<b>6</b> Mitochondria and Metabolism in Neuronal Biology and Disease
Thursday	2:00 pm	<b>7</b> Mitochondria in Cell Death and Cancer
Thursday	5:30 pm	<i>Cocktails and Banquet</i>
Friday	9:00 am	<b>8</b> Emerging Concepts in Mitochondrial Biology

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Oral presentation sessions are located in the CSHA Auditorium

Poster session is in the Lake Front Hall.

Cocktail social hour is held outside in the Suz Garden.

Old Suzhou visits depart from the CSHA lobby

*\*optional tour requires additional fee.*

Meal locations and times are as follows:

Lunch: Main Cafeteria 12:00pm - 1:30pm

Dinner: Main Cafeteria 6:00pm - 7:30pm

Banquet: Suz Garden 7:00pm

More information will be available at CSHA office.

*(Map at the end of this abstract book)*

# PROGRAM

MONDAY, October 13—7:00 PM

## SESSION 1 KEYNOTE SESSION

**Chairperson:** **Kaori Ishikawa**, University of Tsukuba, Tsukuba, Japan

### **Mitochondrial plasticity, metabolism and inflammation**

Thomas Langer [35'+10']

Presenter affiliation: Max-Planck-Institute for Biology of Ageing,  
Cologne, Germany.

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### **The mitochondrial permeability transition pore—Past, present and future**

Paolo Bernardi [35'+10']

Presenter affiliation: University of Padova, Padova, Italy; New York  
University, New York, New York.

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TUESDAY, October 14—9:00 AM

## SESSION 2 MITOCHONDRIAL METABOLISM

**Chairperson:** **Nika Danial**, Harvard Medical School, Boston,  
Massachusetts, USA

### **Substrate-dependent regulation of mitochondrial efficiency—A new metabolon**

Laura Formentini [20'+5']

Presenter affiliation: Universidad Autónoma de Madrid (UAM), Madrid,  
Spain.

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### **Mitochondrial transporters and the control of cellular metabolism**

Nora Kory [20'+5']

Presenter affiliation: Harvard T.H. Chan School of Public Health,  
Boston, Massachusetts; Dana Farber Cancer Institute, Boston,  
Massachusetts; Broad Institute of MIT and Harvard, Cambridge,  
Massachusetts.

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**Mitochondrial one-carbon metabolism in cardiac health and dysfunction**

Alanna Wong, Jiemin Nah, Lena Ho [20'+5']

Presenter affiliation: Duke-NUS Medical School, Singapore.

5

**Mitochondrial phosphatase PGAM5 signals p53/PGC1 for mitochondrial biogenesis and muscle health**

Guo Chen, Quan Chen, Na An, Meng Chai [20'+5']

Presenter affiliation: Nankai University, Tianjin, China.

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TUESDAY, October 14—11:00 AM

**SESSION 3** MITOCHONDRIAL SHAPE AND FUNCTION

**Chairperson:** **Maria Eugenia Soriano**, University of Padova, Padova, Italy

**Integrated regulation of membrane dynamics and genome organization in mitochondria**

Naotada Ishihara [20'+5']

Presenter affiliation: The University of Osaka, Toyonaka, Japan.

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**Keeping mitochondria in shape—A matter of cell life and death**

Luca Scorrano [20'+5']

Presenter affiliation: University of Padova, Padova, Italy; Veneto Institute of Molecular Medicine, Padova, Italy.

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**Mitochondrial morphology and function are modulated by GTP hydrolysis-activated OPA1 powerstroke**

Zhoujun Lin, Xin Bian [10'+5']

Presenter affiliation: Nankai University, Tianjin, China.

9

**Diffusion and multimerization of ATP synthase sculpt functional mitochondrial cristae pattern**

Chenxi Liu, Haohang Lin, Abdul H. Khan, Qinghe Wang, Ercan E.

Kuruoglu, Tatsuhisa Tsuboi [10'+5']

Presenter affiliation: Tsinghua University, Shenzhen, China.

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**POSTER SESSION**

**Defective mitophagy in macrophages elicits autoimmunity**

Dongfeng Ren, Qianyuan Ai, Xudong Liao, Quan Chen

Presenter affiliation: Nankai University, Tianjin, China.

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**An in silico pipeline to identify small molecule inhibitors of the mitochondrial fission protein Fis1**

Christina Arseni, Mattia Sturlese, Luca Scorrano

Presenter affiliation: University of Padova, Padova, Italy; Veneto Institute of Molecular Medicine, Padova, Italy.

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**Glucose restriction induces degeneration of neurons with mitochondrial DNA depletion by altering ER-mitochondria calcium transfer**

Lingyan Zhou, Feixiang Bao, Jiajun Zheng, Yingzhe Ding, Jiahui Xiao, Jian Zhang, Yongpeng Qin, Liang Yang, Yi Wu, Qi Meng, Manjiao Lu, Qi Long, Lingli Hu, Chong Li, Haitao Wang, Dajiang Qin, Gong Chen, Xingguo Liu

Presenter affiliation: Chinese Academy of Sciences, Guangzhou, China.

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**Lack of ATP synthase subunit e C-terminus affects the mitochondrial permeability transition**

Federica Boscolo Nata, Ludovica Tommasin, Paolo Bernardi, Michela Carraro

Presenter affiliation: University of Padova, Padova, Italy.

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**Triazole-based mitochondrial therapy for treatment of collagen VI muscular dystrophy**

Silvia Castagnaro, Maria E. Castorina, Ludovica Tommasin, Leonardo Nogara, Olivier M. Dorchie, Paolo Bonaldo, Paolo Bernardi

Presenter affiliation: University of Padova, Padova, Italy.

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**Exogenous bioengineered mitochondrial transplantation mitigates cGAS-STING induced damage.**

Andrew C. Chang, Bin Li, Danshu Xie, Chenguang Wang, Alex C. Chang

Presenter affiliation: de Janus Limited, Hong Kong, China

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- Sub-organelle mapping of a phenolic drug metabolite by engineered peroxidase reveals 4-hydroxytamoxifen enrichment in the mitochondrial intermembrane space**  
Chang Ryul Choi, Hyun-Woo Rhee  
 Presenter affiliation: Seoul National University, Seoul, South Korea. 17
- Mitochondria localized deubiquitinating enzyme Otub1 regulates MDMX via a non-canonical mechanism**  
 Xiao-Xin Sun, Mu-Shui Dai  
 Presenter affiliation: Oregon Health & Science University, Portland, Oregon. 18
- SOAT1-mediated cholesterol metabolism regulates mitochondrial homeostasis and thermogenesis in brown adipocytes**  
Wei Duan, Zhangsen Zhou  
 Presenter affiliation: Shanghai Institute of Nutrition and Health, Shanghai, China. 19
- Mitochondrial time-sequential activation in response to piezoelectric stimulation for regeneration of infected wounds**  
Hongying Fu, Liping Wu, Jingrong Ceng, Le Hu, Weijia Wang, Yanhui Lu, Xuehui Zhang, Yang Liu, Xuliang Deng  
 Presenter affiliation: Peking University School and Hospital of Stomatology, Beijing, China. 20
- HIV protein TAT increases mitochondrial calcium uniporter expression in microglia**  
Ming-Lei Guo, Brooke Russell, Yan Cheng  
 Presenter affiliation: Virginia Health Sciences in Old Dominion University, Norfolk, Virginia. 21
- Sparclng (Spatiotemporal proximity crosslinking by APEX2)—An APEX2-driven crosslinking strategy for outer mitochondrial membrane interactomes**  
Younggi Hong, Hyun-Woo Rhee  
 Presenter affiliation: Seoul National University, Seoul, South Korea. 22
- Targeting SF3A2 deacetylation promotes postinfarction cardiac pathological remodeling by reprogramming cardiomyocyte metabolism**  
 Renpeng Guo, Jiawei Zhang, Ming Qiao, Daqing Zhao, Xiangyan Li, Qingxia Huang  
 Presenter affiliation: Changchun University of Chinese Medicine, Jilin, China. 23

<b>Mitochondrial lipid change determines mitochondrial fission sites and the fate of the fissioned mitochondria</b> <u>Xiaowen Huang</u> , Hongyun Tang Presenter affiliation: Westlake University, Hangzhou, Zhejiang, China.	24
<b>The role of factors regulating cristae structure in mitochondrial membrane fusion</b> <u>Aoi Ichikawa</u> , Takaya Ishihara, Naotada Ishihara Presenter affiliation: The University of Osaka, Osaka, Japan.	25
<b>Stress-induced mitochondrial protein aggregates mediate interorganellar communication for quality control</b> Quan Chen, Fan Yu, <u>Lingyu Jiang</u> , Hanyu Liu, Yu Dong, Jia Xiao Presenter affiliation: The State Key Laboratory of Medicinal Chemical Biology and Frontier of Science Center for Cell Response, Tianjin, China; Qingdao Central Hospital, School of Health and Life Sciences, University of Health and Rehabilitation Sciences, Qingdao, China.	26
<b>Mitochondrial protein POLDIP2 maintains mitoribosome homeostasis and is required for male fertility</b> <u>Jia Jing</u> , He Jin, Xiaoling Deng, Guoshi Chai, Yanfei Ru, Jiatong Chen, Qunyu Lv, Zhe Xu, Siyu Liu, Xianjue Ma, Minxi Liu, Min Jiang Presenter affiliation: Westlake Laboratory, Hangzhou, China; Westlake University, Hangzhou, China; Westlake Institute for Advanced Study, Hangzhou, China.	27
<b>MitoAtlas—A super-resolution proteome atlas of human mitochondria</b> <u>Jiwoong Kang</u> , Sang-Hee Shin, Chulhwan Kwak, Sony-Yi Lee, Minkyong Jung, Hanseul Lee, Myeong-Gyun Kang, Jiho Sim, Seung-Jae V. Lee, Ji Young Mun, Jong-Seo Kim, Hyun-Woo Rhee Presenter affiliation: Seoul National University, Seoul, South Korea.	28
<b>Morphology and dynamics of mitochondrial DNA nucleoids contribute to the regulation of respiratory function</b> <u>Souta Konno</u> , Aoi Ichikawa, Naotada Ishihara Presenter affiliation: The University of Osaka, Toyonaka, Japan.	29
<b>OSER1—A conserved FOXO effector driving stress resilience and longevity across species</b> <u>Zhiquan Li</u> , Jiangbo Song, Lei Zhou, Héctor Herranz, Jesper Velgaard Olsen, Yuan Li, Marianne Nygaard, Claudia Navarro, Vilhelm A. Bohr, Fangyin Dai, Lene Juel Rasmussen Presenter affiliation: University of Copenhagen, Copenhagen, Denmark.	30

**The redox regulation of mitochondrial outer membrane translocase**

Qin Long, Zhigang Peng, Ling Fu, Dandan Wang, Shiyi Nie, Jing Yang, Longbo Zhang, Jian Qiu

Presenter affiliation: Central South University, Changsha, China. 31

**Von Willebrand Domain-containing Protein 8 (Vwa8) affects fatty acid metabolism and thermogenic remodeling of white and brown adipose tissues**

Aleksandra Markovic, Hualin Fan, Camilla Bean, Habiba Hayat, Keisuke Takeda, Tomas Mracek, Lukas Alan, Luca Scorrano

Presenter affiliation: University of Padua, Padua, Italy; Veneto Institute of Molecular Medicine, Padua, Italy. 32

**Functional complementation by mitochondrial dynamics in mutated mitochondrial DNA heteroplasmy**

Emi Ogasawara, Kazuto Nakada, Naotada Ishihara

Presenter affiliation: Osaka University, Toyonaka, Japan. 33

**HIF-1 $\alpha$ -dependent metabolic remodeling in cardioprotection induced by adaptation to chronic hypoxia**

Barbora Opletalova, Lukas Alan, Adam Eckhardt, Miroslav Ferko, Natalia Andelova, David Janko, Frantisek Kolar, Gabriela Pavlinkova, Romana Bohuslavova, Marketa Hlavackova, Petra Alanova

Presenter affiliation: Charles University, Prague, Czech Republic; Czech Academy of Sciences, Prague, Czech Republic. 34

**LACTB2 modulates the sorting of unfolded mitochondrial protein aggregates**

Dan Pan, Keisuke Takeda, Luca Scorrano

Presenter affiliation: University of Padova, Padova (Italy), Padova, Italy; Venetian Institute of Molecular Medicine (VIMM), Padova (Italy), Padova, Italy; State Key Laboratory of Oral Diseases, National Clinical Research Center for Oral Diseases, Chinese Academy of Medical Science, Chengdu, China. 35

**Deep learning of dynamic mitochondrial structure reveals distinctive toxicity mechanisms of nanoplastics**

Xiquan Pang, HaoHang Lin, Tatsuhisa Tsuboi

Presenter affiliation: Shenzhen International Graduate School, Shenzhen, China. 36

**Complex I governs iron levels in bat mitochondria to couple respiration with lipid metabolism**

Wei Qian Zeng, Pengwei Peng, Changhan Chen, Dandan Wang, Liuli Cao, Zheng Wang, Yang Xia, Jian Qiu

Presenter affiliation: Xiangya Hospital, Central South University, Changsha, China; Xiangya Hospital, Central South University, National Clinical Research Center for Geriatric Disorders, China; School of Life Sciences, Central South University, Changsha, China.

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**The mitochondrial fission protein FIS1 is a negative prognostic marker of survival in acute myeloid leukemia**

Paalini Sathiyaseelan, Luca Scorrano

Presenter affiliation: University of Padova, Padova, Italy; Veneto Institute of Molecular Medicine, Padova, Italy.

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**Spatial transcriptomics of mitochondrial cardiomyopathy revealed a specific cluster of macrophages**

Kohei Sameshima, Yasunori Shintani

Presenter affiliation: National Cerebral and Cardiovascular Center, Suita, Japan.

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**An *in vitro* reconstitution system for mitochondrial inner membrane fusion using recombinant L-OPA1 protein expressed in *E. coli***

Reo Tomotake, Yuta Maeda, Tatsuki Yasuda, Tadato Ban, Naotada Ishihara

Presenter affiliation: The University of Osaka, Osaka, Japan.

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**Mechano-aging in cardiomyocytes—Mechanical stress imbalance triggers telomere shortening, mitochondrial dysfunction, and contractile impairment**

Chenguang Wang, Bin Li, Weiyao Xiong, Chia-Hao Andrew Chang, Xiaolu Bao, Alex Chia Yu Chang

Presenter affiliation: Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China.

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**TOMM34 triages mitochondrial proteins into the nucleus to safeguard spermatogenesis upon exposure to heat shock**

Quan Chen, Yanjun Li, Qiong Wang, Qi Meng, Qi Wang

Presenter affiliation: Nankai University, Tianjin, China.

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**Uncovering the role of Fis1 splicing variants in mitochondrial dynamics**

Ziyue Wang, Tiago Fonseca, Elisa Barbieri, Sebastian Zamorano, Denis Martinvalet, Luca Scorrano

Presenter affiliation: University of Padua, Padova, Italy; Veneto Institute of Molecular Medicine, Padova, Italy.

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***Drosophila* Metaxin-2 controls muscle maturation through mitochondrial proteostasis and Myc-dependent ribosome biogenesis**

Xinyi Shou, Xiaoyu Fan, Ling Li, Yina Ruan, Wei Li, Weina Shang, Jianhua Mao, Xiaojun Xie

Presenter affiliation: The Children's Hospital of Zhejiang University School of Medicine, Hangzhou, China.

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**Subcellular redistribution of endomembrane GPR15 promotes NAD<sup>+</sup>-mediated metabolic reprogramming and boosts 5-FU chemosensitization in colorectal cancer**

Zhiying Yue, Wentao Dai, Bin Hu, Jinyan Zhang, Zhengfeng Yang

Presenter affiliation: Shanghai Jiaotong University School of Medicine, Shanghai, China.

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**A novel computational framework for quantitative metabolic flux estimation using multi-omics data**

Chi Zhang, Haiqi Zhu, Sha Cao

Presenter affiliation: Oregon Health & Science University, Portland, Oregon.

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**Mitochondrial-targeted SS-31 protects against radiation-induced cell senescence**

Lixin Xie, Jiaojiao Fan, Kimberly J. Krager, Songlin Li, Jinzi Wu,

Xingyun Qi, Marjan Boerma, Huilang Zhang

Presenter affiliation: University of Arkansas for Medical Sciences, Little Rock, Alaska; Temple University, Philadelphia, Pennsylvania.

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**Mitochondrial superoxide regulates nuclear envelope integrity and aging via redox-mediated lipid metabolism**

Peng X. Chen, Leyuan Zhang, Ye Tian#

Presenter affiliation: Chinese Academy of Sciences, Beijing, China; University of Chinese Academy of Sciences, Beijing, China.

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**Mitochondrial calcium uptake regulates mitochondrial fission modes**

Cien Zhen, Keisuke Takeda, Diego De Stefani, Luca Scorrano  
Presenter affiliation: University of Padova, Padova, Italy; Veneto  
Institute of Molecular Medicine (VIMM), Padova, Italy.

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**Pyruvate supplementation improves mitochondrial dynamics and corrects metabolic alterations in SSc fibroblasts to ameliorate SSc-specific gene expression and fibrotic remodeling**

Xiang Zhou, Thuong Trinh-Minh, Xilu Wang, Honglin Zhu, Jiucun Wang, Jörg Distler  
Presenter affiliation: University Hospital Düsseldorf, Heinrich-Heine-  
University Düsseldorf, Düsseldorf, Germany; School of Life Sciences  
and Human Phenome Institute, Fudan University, Shanghai, China.

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TUESDAY, October 14—7:00 PM

**SESSION 4** MITOCHONDRIA AND AGEING

**Chairperson:** **Paolo Bernardi**, University of Padova, Padova, Italy

**Reverse genetic approach to verify the mitochondrial theory of aging**

Hiroaki Tamashiro, Kaori Ishikawa, Koichi Sadotomo, Emi Ogasawara,  
Kazuto Nakada [20'+5']  
Presenter affiliation: University of Tsukuba, Tsukuba, Japan.

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**Mitochondrial DNA heteroplasmy dynamics in aging and disease**

Leping Zhang, Zhe Xu, Jia Jing, Guoshi Chai, Min Jiang [20'+5']  
Presenter affiliation: Westlake University, Hangzhou, China.

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**Mitochondrial superoxide affects nuclear envelope integrity via redox-dependent lipid metabolism**

Ye Tian [20'+5']  
Presenter affiliation: Chinese Academy of Sciences, Beijing, China.

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**Biphasic mitochondrial network remodeling during *C. elegans* aging**

Abdul Haseeb Khan, Tatsuhisa Tsuboi [10'+5']  
Presenter affiliation: Tsinghua-Shenzhen International Graduate  
School, Shenzhen, China.

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**Immunosenescence as the central mediator of age-related vulnerability**

Maria Mittelbrunn [20'+5']

Presenter affiliation: CSIC-UAM, Madrid, Spain.

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**SPONSOR TALK**

**Development of a high-activity mitochondria isolation method from tissue**

Naoko Yamamoto, Yuya Ouchi, Munetaka Ishiyama, Satoru Torii, Shigeomi Shimizu [20'+5']

Presenter affiliation: Dojindo Laboratories, Kumamoto, Japan.

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WEDNESDAY, October 15—9:00 AM

**SESSION 5** MITOPHAGY AND ORGANELLE COMMUNICATION

**Chairperson:** **Lena Ho**, Duke-NUS Medical School, Singapore

**AMPK regulates Bcl2-L-13-mediated mitophagy induction for cardioprotection**

Kinya Otsu, Tomokazu Murakawa [20'+5']

Presenter affiliation: National Cerebral and Cardiovascular Center, Suita, Japan.

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**Plant-specific mitochondrial fission machinery connects mitochondrial dynamics and mitophagosome formation for piecemeal mitophagy**

Xiaohong Zhuang [10'+5']

Presenter affiliation: The Chinese University of Hong Kong, Shatin, Hong Kong, China.

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**A basal mitophagy flux is critical for mitochondrial homeostasis and its disruption instigates diseases**

Dongfeng Ren, Yandong Pei, Quan Chen, Xudong Liao [10'+5']

Presenter affiliation: Nankai University, Tianjin, China.

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**Novel regulatory mechanisms of mitophagy by targeting PINK1**

Han-Ming Shen [10'+5']

Presenter affiliation: University of Macau, Macau, China.

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**Break**

**The mitochondrial relay with the nucleus—Form and function**

Michelangelo Campanella [20'+5']

Presenter affiliation: Queen Mary University of London, London, United Kingdom; Institute Gustave Roussy, Villejuif, France; University of Padua, Padua, Italy.

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**Mitochondria give rise to proto-organelles during infection**

Xianhe Li, José Delgado, Lena Pernas [20'+5']

Presenter affiliation: UCLA, Los Angeles, California; HHMI, Los Angeles, California; Max Planck Institute for Biology of Ageing, Cologne, Germany.

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**DeepContact—High-throughput quantification of membrane contact sites on large-scale electron microscopy imaging**

Liqing Liu, Hongjun Wu, Ge Yang, Junjie Hu, Fei Sun, Li Xiao, Tao Xu [10'+5']

Presenter affiliation: Institute of Biophysics, Chinese Academy of Sciences, Beijing, China.

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**T-tubule-mitochondria contacts function as energy hubs in skeletal muscle**

Haonan Qi, Le Cao, Tianyi Liu, Lifeng Yang, Weijun Pan [10'+5']

Presenter affiliation: Shanghai Institute of Nutrition and Health, Shanghai, China.

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**Mitochondria-localized STING stabilizes MFN2 to promote mitochondrial hyperfusion in ischemia/reperfusion injury**

Bin Li, Weiyao Xiong, Honghui Wang, Yunfeng Hua, Alex C. Chang [10'+5']

Presenter affiliation: Shanghai Institute of Precision Medicine, Shanghai, China.

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**Willebrand factor A domain-containing protein 8 (VWA8) preserves mitochondria-sarco/endoplasmic reticulum distance and protects from cardiac hypertrophy**

Hualin Fan, Aleksandra Markovic, Jonathan Lambert, Martina Semenzato, Antigoni Diokmetzidou, Aurora Maracani, Dan Pan, Paolo Grumati, Ivan Dikic, Lukas Alan, Marta Giacomello, Luca Scorrano [10'+5']

Presenter affiliation: University of Padova, Padova, Italy; Veneto Institute of Molecular Medicine, Padova, Italy.

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WEDNESDAY, October 15—1:30 PM

**Visit to Old Suzhou**

**SESSION 6** MITOCHONDRIA AND METABOLISM IN NEURONAL BIOLOGY AND DISEASE

**Chairperson:** **Laura Formentini**, Universidad Autónoma de Madrid, Madrid, Spain

**Lipid-dependent regulation of cellular plasticity in gliomas**

Nika N. Danial [20'+5']

Presenter affiliation: Harvard Medical School, Boston, Massachusetts. 67

**Metabolic and mitochondrial plasticity mechanisms in neurons**

Gulcin Pekkurnaz [20'+5']

Presenter affiliation: University of California San Diego, La Jolla, California. 68

**ADSL deficiency is a mitochondrial disease impacting the organelle homeostasis and ERK2/AKT signalling in a linear genotype-phenotype relation**

Matteo Bordi, Elisabetta Betterini, Andrea Mancini, Beatrice Testa, Claudia Compagnucci, Maria Paola Paronetto, Elena Ziviani, Silvia Campello, Christian Frezza, Gianluca Cestra, Marco Tartaglia, Andrea Bartuli, Paolo Grumati, Francesco Cecconi [10'+5']

Presenter affiliation: Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy. 69

**Mitochondrial control of oligodendrocyte lineage via PGC-1 $\alpha$ —Implications for CNS repair**

Keiko Iwata, Haruki Nakanishi, Masafumi Noguchi, Suzuha Hishida, Hideo Matsuzaki, Luca Scorrano, Norihito Shintani [20'+5']

Presenter affiliation: Wakayama Medical University, Wakayama, Japan. 70

**Break**

**CoQ<sub>10</sub> headgroup intermediates improve the outcomes of HPDL-driven mitochondrial encephalopathy**

Michael E. Pacold [20'+5']

Presenter affiliation: NYU Grossman School of Medicine, New York, New York; Laura and Isaac Perlmutter Cancer Center, New York, New York. 71

**Mitochondrial dynamics and signaling at central synapses**

Fan Fan, Michael Abiola, Sandeep Kotturu, Xuelin Lou [10'+5']

Presenter affiliation: Medical College of Wisconsin, Milwaukee, Wisconsin.

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**Alteration of mitochondrial signaling networks in Alzheimer's disease**

Lian Li, Qi Zhang, Lih-Shen Chin [10'+5']

Presenter affiliation: Emory University School of Medicine, Atlanta, Georgia.

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**mtDNA leakage stimulates neuron-glia crosstalk to trigger epilepsy via cGAS-STING-driven neuroinflammation and serine metabolic reprogramming**

Zhiyin Song [20'+5']

Presenter affiliation: Wuhan University, Wuhan, China.

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**TREM2 deficiency impairs mitochondrial metabolism and promotes cGAS-STING-mediated inflammatory activation in microglia**

Claudia Navarro, Helena Madsen, Zhiquan Li, Steen Larsen, Deborah Croteau, Lene Rasmussen, Vilhelm Bohr [10'+5']

Presenter affiliation: University of Copenhagen, Copenhagen, Denmark.

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THURSDAY, October 16—2:00 PM

**SESSION 7** MITOCHONDRIA IN CELL DEATH AND CANCER

**Chairperson:** **Naotada Ishihara**, The University of Osaka, Toyonaka, Japan

**The counterintuitive role of mitochondria in ferroptosis**

Xuejun Jiang [20'+5']

Presenter affiliation: Memorial Sloan Kettering Cancer Center, New York, New York.

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**Exploring the significance of somatic mtDNA mutations in the context of acute leukemia**

Mondira Kundu [20'+5']

Presenter affiliation: St. Jude Children's Research Hospital, Memphis, Tennessee.

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**T lymphocyte mitochondrial fragmentation in solid tumor immune-surveillance**

Silvia Campello [20'+5']

Presenter affiliation: Università degli Studi di Roma Tor Vergata, Rome, Italy.

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**Mitochondria amount determines doxorubicin-induced myocardial senescence**

Weiyao Xiong, Bin Li, Xin Wan, Alex C. Chang [10'+5']

Presenter affiliation: Shanghai Jiao Tong University School of Medicine, Shanghai, China.

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**Break**

**ATAD3 protein family members orchestrate mitochondrial translation with metabolic reprogramming**

Maria Eugenia Soriano [20'+5']

Presenter affiliation: University of Padova, Padova, Italy.

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**The mitochondrial unfolded protein response inhibits pluripotency acquisition and mesenchymal-to-epithelial transition in somatic cell reprogramming**

Zhongfu Ying, Yanmin Xin, Zihuang Liu, Tianxin Tan, Yile Huang, Yingzhe Ding, Xuejun Hong, Qiuzhi Li, Chong Li, Jingyi Guo, Gaoshen Liu, Qi Meng, Shihe Zhou, Wenxin Li, Yao Yao, Linpeng Li, Xingguo Liu [10'+5']

Presenter affiliation: Guangzhou Medical University, Guangzhou, China; Guangzhou Institutes of Biomedicine and Health, Chinese Academy of Sciences, Guangzhou, China.

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**Impaired cAMP/PKA/CREB1 signaling drives mitochondrial dysfunction in skeletal muscle during cancer cachexia**

Lorenza Bodo, Elia Angelino, Roberta Sartori, Valeria Malacarne, Beatrice D'Anna, Suvham Barua, Simone Reano, Marco Sandri, Giuseppina Caretti, Andrea Graziani [10'+5']

Presenter affiliation: University of Turin, Torino, Italy.

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THURSDAY, October 16—5:30 PM

**COCKTAILS and BANQUET**

**SESSION 8**      EMERGING CONCEPTS IN MITOCHONDRIAL BIOLOGY

**Chairperson:**      **Luca Scorrano**, University of Padova, Padova, Italy

**Targeted genome editing in plant mitochondria and chloroplasts**

Shin-ichi Arimura, Issei Nakazato, Nanami Kosaka, Wataru Yamori [20'+5']

Presenter affiliation: University of Tokyo, Tokyo, Japan.

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**Single-cell and spatial transcriptomics to identify mitochondrial disease progression and treatment targets**

Tasneem Qaqorh, Yasunori Shintani [10'+5']

Presenter affiliation: National Cerebral and Cardiovascular Center, Osaka, Japan.

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**A novel protein CYTB-187AA with mitochondrial DNA-encoded protein arising from cytosolic translation (mPACT) pattern**

Xingguo Liu [20'+5']

Presenter affiliation: Chinese Academy of Sciences, Guangzhou, China.

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**SDHA knockdown induces mitochondrial dysfunction and motility impairment through elevated superoxide production**

José Rivas, Andrés Mansilla, José Díaz-Maldonado, Carla Villegas, Lorena Rozas, Paula Fierro, Carla Basualto, Oscar Cerda, Mónica Cáceres, Fabián Jaña [10'+5']

Presenter affiliation: Universidad de Aysén, Coyhaique, Chile.

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**Break**

**Possible roles for the planar dimer of bovine ATP synthase**

Chimari Jiko, Atsuki Nakano, Yosuke Teshirogi, Eiki Yamashita, Genji Kurisu, Daron M. Standley, Tohru Terada, Kaoru Mitsuoka, Ken Yokoyama, Christoph Gerle [10'+5']

Presenter affiliation: RIKEN SPring-8 Center, Sayo, Japan.

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**Dissecting the molecular nature of the permeability transition pore through genetic manipulation of the ATP synthase in *S. cerevisiae* and *D. melanogaster***

Michela Carraro, Giulio Fracasso, Elena Frigo, Federica Boscolo Nata, Ludovica Tommasin, Raffaele Lopreiato, Paolo Bernardi [10'+5']

Presenter affiliation: University of Padova, Padova, Italy.

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**The mitochondria-shaping protein Opa1 is required for melanocyte stem cell maintenance**

Akiko Omori, Domenico Migliorini, Marco Fantuz, Giuseppe Perisco, Margherita Zamberlan, Ritsuko Mortia, Martina Semenzato, Masafumi Noguchi, Marco Giorgio, Alessandro Carrer, Naotada Ishihara, Luca Scorrano [10'+5']

Presenter affiliation: Padova Univ, Padova, Italy; VIMM, Padova, Italy; Osaka Univ, Osaka, Japan.

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**The nutrient-sensing Rag-GTPase complex in B cells controls humoral immunity via TFEB/TFE3-dependent mitochondrial fitness**

Xingxing Zhu, Yue Wu, Yanfeng Li, Jie Sun, Mark Boothby, Hu Zeng [10'+5']

Presenter affiliation: Mayo Clinic Rochester, Rochester, Minnesota.

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