Muscle Biology and Cachexia Conference

May 18-20, 2025 | University of Houston

Program

College of Pharmacy
UNIVERSITY OF HOUSTON

Institute of
Muscle Biology and Cachexia
College of Pharmacy

Department of
Pharmacological and
Pharmaceutical Sciences
College of Pharmacy

Division of Research
UNIVERSITY OF HOUSTON

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Inaugural Muscle Biology and Cachexia Conference
(Final Program)

Sunday, May 18, 2025

Houston Room (220)
Student Center South, University of Houston (UH)

Time

1:00-1:45 pm Registration and badge pick up

1:45-2:00 pm Welcome and opening remarks

02:00-3:30 pm	**Session 1**	**Muscle progenitors, Regeneration, and Rhabdomyosarcoma**
	Chairs:	Shihuan Kuang (Duke University) and Radbod Darabi (University of Houston)
2:00-02:15	**Atsushi Asakura** University of Minnesota	Muscle stem cell niche and regeneration by Notch-signal
2:15-2:30	**Hamed Jafar-Nejad** Baylor College of Medicine	Regulation of satellite cell development and maintenance by O-linked glycosylation
2:30-2:45	**Feng Yue** University of Florida	CRTCs regulate muscle stem cell homeostasis via FAHD2A-mediated metabolism
2:45-3:00	**Laszlo Nagy** John Hopkins All Children's Hospital, Florida	Macrophage controlled regenerative inflammation in acute and chronic muscle injury
3:00-3:15	**Reshma Taneja** National University of Singapore	Interrogating the metabolic landscape in rhabdomyosarcoma
3:15-3:20 (short talk)	**Suvham Barua** University of Torino, Turin, Italy	Delayed skeletal muscle regeneration in an accelerated ageing mouse model
3:20-3:25 (short talk)	**Sabrina DeStefano** Duke University, Durhum, NC	Pediatric genotoxic stress leads to persistent p53 activity in vascular endothelial cells
3:25-3:30 (short talk)	**Jacob A. Kendra** Texas A&M University, College Station	Cobalt Oxide-Time Release Ion Matrix Enhances Angiogenesis and Regeneration Following Skeletal Muscle Injury

3:30-3:45 Coffee and light refreshment break

3:45 -5:30 pm	**Session 2**	**Aging and Sarcopenia**
	Chairs:	Mikhail Kolonin (UT Health, Houston) and Marco Sandri (University of Padova)
3:45-4:00	**Christopher Fry** University of Kentucky, Lexington, KY	Renovating This Old House: Remodeling the Extracellular Matrix Infrastructure to Enable Muscle Adaptation with Aging
4:00-4:15	**Shih-Yin Tsai** National University of Singapore	EIF4EBP1 Activation as a Therapeutic Strategy to Improve Muscle Proteostasis in Sarcopenia
4:15-4:30	**Marco Brotto** The University of Texas at Arlington	Unraveling the Aging Puzzle: The Role of Lipidomics and Metabolomics in Musculoskeletal Disease
4:30-4:45	**Blake Rasmussen** UTHealth, San Antonio	Human Skeletal Muscle Disuse Atrophy has Profound and Negative Effects on the Muscle Transcriptome, Metabolome, and Lipidome
4:45-5:00	**Jianjie Ma** University of Virginia School of Medicine	A 30-Plus-Year Journey with Those Amazing Mitsugumins – Report from a Recent Symposium in Honor of Dr. Hiroshi Takeshima
5:00-5:15	**Melissa Markofski** University of Houston	Inflamm-inactivity in aging and sarcopenia
5:15-5:30	**Taejeong Song** University of Arizona College of Medicine, Tucson	Fast Myosin Binding Protein-C is a Vital Regulator in Young and Aged Fast Skeletal Muscle Homeostasis

5:30-5:40 Break

5:40-6:35 pm		**Keynote Talk 1**
	Chairs:	Ashok Kumar (University of Houston)
	Denis C. Guttridge Medical University of South Carolina, South Carolina, USA	NF-κB Signaling in Skeletal Muscle Pathologies: What we've Learned from the Tumor Microenvironment

7:00-9:00 pm Dinner for invited speakers only (Hilton Hotel, University of Houston)

MONDAY May 19, 2025

Houston Room (220)
Student Center South, University of Houston

8:00-8:30 am Breakfast

8:30-9:25 am		**Keynote Talk 2**
	Chairs:	Ravi Singh (University of Houston)
	Marco Sandri Veneto Institute of Molecular Medicine, University of Padova, Italy	Novel Insights in the control of muscle mass and force generation

9:30-11:00 am	**Session 3**	**Mechanisms of Cancer Cachexia-I**
	Chairs:	Yi-Ping Li (UT Health, Houston) and Andrea Bonetto (University of Colorado)
09:30-09:45	**Min Li** University of Oklahoma Health Sciences Center	Battling a Powerful Enemy: Understanding Pancreatic Cancer Cachexia
09:45-10:00	**Pankaj Singh** University of Oklahoma Health Sciences Center	Metabolic regulation of cachexia in pancreatic cancer
10:00-10:15	**Paola Costelli** University of Turin, Italy	Immunomodulation as a tool to counteract experimental cancer cachexia
10:15-10:30	**Andrew Judge** University of Florida	Cancer cachexia: Role of the complement System
10:30-10:45	**Gustavo Nader** Penn State University, College Park	Anabolic deficits in cancer-associated muscle wasting: the ribosome as a focal point
10:45-10:50 (short talk)	**Ashok Narasimhan** University of British Columbia, Canada	Context-specific function of miR-27a-3p in fibroadipogenic progenitors and pancreatic cancer- impact on muscle wasting
10:50-10:55 (short talk)	**Edson Alves de Lima Junior** UT Health, Houston, TX	Targeting Circulating Hsp70 and Hsp90 to Mitigate Muscle Wasting in a Patient Derived Xenograft Pancreatic Cancer Model
10:55-11:00 (short talk)	**Natalia L Acosta-Vega** University of Washington School of Medicine, Seattle, WA, USA	Muscle mass, physical function and quality of life assessments in patients with cancer cachexia show distinct molecular signatures in plasma, muscle and adipose tissue

11:00-11:15 am Coffee and light refreshment break

11:30-12:30 pm	**Session 4**	**Cardiac Biology and Disease**
	Chairs:	Bradley McConnell (university of Houston) and Yu Liu (University of Houston)
11:30-11:45	**Robert Schwartz** University of Houston	STEMIN- and YAP5SA-induced exosomes prevent myocyte death

11:45-12:00	**Tamer Mohamed** Baylor College of Medicine	Cracking the Code for Cardiomyocyte Proliferation
12:00-12:15	**Nora Ahmed** University of Minnesota Medical School	Shrunken heart cardiomyopathy and failure in cancer cachexia remission
12:15-12:30	**Leonardo Ferreira** Duke University School of Medicine	Diaphragm myopathy in heart failure and ATF3 deficiency

12:30-1:30 pm Lunch and Posters Viewing

1:30-3:00 pm	**Session 5**	**Muscle Signaling and Metabolism**
	Chairs:	Vihang Narkar (UT Health, Houston) and Laszlo Nagy (John Hopkins University)
1:30-1:45	**Erin Seifert** Thomas Jefferson University	Mitochondrial phosphate carrier-dependence of mitochondrial matrix calcium chelation in skeletal muscle
1:45-2:00	**Shihuan Kuang** Duke University School of Medicine	Regulation of mitochondrial Metabolism and Signaling in Muscle
2:00-2:15	**Mattia Quattrocelli** Cincinnati Children's Hospital	Glucocorticoids and clock interplay: There's a flip side to every coin
2:15-2:30	**Zheng (Jake) Chen** McGovern Medical School, UTHealth	Regulatory role of the circadian oscillator in skeletal muscle bioenergetics and function
2:30-2:45	**Longhou Fang** Houston Methodist Research Institute	Lipid Metabolism in Vascular Health and Disease

2:45-3:00 pm Coffee and light refreshment break

3:00-4:30 pm	**Session 6**	**Exercise Physiology**
	Chairs:	Marc Hamilton (University of Houston) and Blake Rasmussen (UT Health, San Antonio)
3:00-3:15	**David Harrison** Boston Children's Hospital	Surviving with a single ventricle: the role of contractions by a strong soleus muscle for plantarflexion
3:15-3:30	**Zhen Yan** Fralin Biomedical Research Institute at VTC	mitoAMPK in exercise-induced mitochondrial remodeling in skeletal muscle

3:30-3:45	**Marc Hamilton** University of Houston	Metabolic and cardiovascular responses to local soleus muscle contractile activity
3:45-4:00	**Vihang Narkar** IMM, UT Health, Houston	Transcriptional Determinants of Oxidative Myofiber type and Exercise Endurance
4:00-4:15	**Chunru Lin** University of Texas MD Anderson Cancer Center	Modulating Tumor Microenvironment in Prostate Cancer Through Exercise
4:15-4:20 (short talk)	**Jingjuan Chen** Duke University	FAM210A is essential for mitochondrial homeostasis and cytosolic protein synthesis in skeletal muscles
4:20-4:25 (short talk)	**Colleen L. O'Reilly** Oklahoma Medical Research Foundation	Are the beneficial effects of Metformin on healthspan context specific?
4:25-4:30 (short talk)	**Zhengwei Li** University of Houston	3D Bioengineered Human Skeletal Muscle as New Model to Study Muscle Atrophy

4:30-4:45 pm **Industry presentation** - **Optics11Life Company**

4.45-5.00 pm **Industry presentation** – **Vector Biolabs**

5:00-6:30 pm **Poster Presentation**

6:30-8:00 pm Dinner reception for all attendees, Ball room 210, Student Center South

TUESDAY May 20, 2025

Houston Room (220)
Student Center South, University of Houston

8:00-8:30 am **Breakfast**

8:30-10:00 am	**Session 7**	**Mechanisms of Cancer Cachexia -II**
	Chairs:	Paola Costelli (University of Turin) and Andrew Judge (University of Florida)
8:30-8:45	**Serkan Kır** Koç University, Turkey	Cancer-associated muscle wasting: the role of EDA2R-NIK signaling
8:45-9:00	**Andrea Bonetto** University of Colorado Anschutz Medical Campus	Characterization of cachexia in head and neck cancer: new insights from patients and mouse models
9:00-9:15	**James Carson** Texas A&M University	Effects of exercise and chemotherapy in the investigation of cancer cachexia
9:15-9:30	**Jason Doles**	Delineating the contribution of muscle wasting to tumor progression

	Indiana University School of Medicine	
9:30-9:45	**Joseph Rupert** Institute of Molecular Medicine, UTHealth	Targeting the IL6R-CD36 axis in skeletal muscle to attenuate cachexia in pancreatic cancer
9:45-9:50 (short talk)	**Giacomo Rubini** University of Colorado	Impact of PRPS1 in Skeletal Muscle Atrophy during Aging and Cancer Cachexia
9:50-9:55 (short talk)	**Laura Cussonneau** Venetian Institute of Molecular Medicine, Padova, Italy	Myo-Tumour: A novel role for skeletal muscle in tumour growth and proliferation
9:55-10:00 (short talk)	**Aniket S. Joshi** University of Houston	The IRE1α/XBP1 signaling axis mediates skeletal muscle wasting during pancreatic cancer cachexia

10:00-10:15 am Coffee and light refreshment break

10:15–12:00 pm	**Session 8**	**Muscle Diseases and Therapies-I**
	Chairs:	George Rodney (Baylor College of Medicine) and Zui Pan (University of Texas at Arlington)
10:15-10:30	**Jingsong Zhou** University of Texas at Arlington	Deficient Sarcolemma Repair in ALS
10:30-10:45	**Matthew Alexander** University of Alabama at Birmingham	Generation and corrective drug screening for models of X-linked myopathy with excessive autophagy (XMEA)
10:45-11:00	**Jyoti Jaiswal** Children's National Research Institute, Washington, DC	Examining the role and therapeutic potential of muscle stromal cells in muscular dystrophy
11:00-11:15	**Darko Bosnakovski** University of Minnesota Medical School	Therapeutic strategies to counter fibroadipogenic dystrophic processes in FSHD
11:15-11:30	**George Rodney** Baylor College of Medicine	Role of SR calcium leak in the pathogenesis of Malignant Hyperthermia
11.30-11.45	**Ravi Singh** University of Houston	The alternative splicing generated muscle-specific MEF2Dα2 isoform promotes muscle ketolysis and running capacity in mice
11:45-11:50 (short talk)	**Mohit Hulsurkar** Baylor College of Medicine	Inflammation and JAK/STAT3 Signaling Promote AML Mediated Atrial Cardiomyopathy

11:50-11:55 (short talk)	**Huang Sophia** UTHealth, Houston	Estrogen-related receptor alpha promotes muscle regeneration and mitigates myopathy in Duchenne Muscular Dystrophy
11:55-12:00 (short talk)	**Joo Hyun Kim** Texas A&M University, College Station	Unacylated Ghrelin: A Promising Therapeutic Nominee for Alleviating Duchenne Muscular Dystrophy-Related Muscle Pathology and Oxidative Stress

12:00-1:30 pm Lunch and Poster Viewing and judging

1:30 -3:00 pm	**Session 9**	**Muscle Diseases and Therapies-II**
	Chairs:	Vihang Narkar (UT Health) and Shahid Baba (University of Louisville)
1:30-1:45	**Terence Ryan** University of Florida	Understanding and targeting myopathy in peripheral artery disease
1:45-2:00	**Mikhail G Kolonin** Institute of Molecular Medicine, UTHealth, Houston	IL6 signaling mediates sarcopenic effects of GLP1 receptor agonists on skeletal muscle
2:00-2:15	**Shahid Baba** University of Louisville School of Medicine	Endogenous histidyl dipeptide therapy for peripheral arterial disease
2:15-2:30	**John M. Lawler** Texas A&M University, College Station	Mechanotransduction in Space City: New Insights in Skeletal Muscle
2:30-2:35 (short talk)	**Karim Ismat** Children's National Medical Center, Washington, DC	Myofiber transcriptomic dysregulation and aberrant stromal interactions drive muscle loss in dysferlinopathy
2:35-2:40 (short talk)	**Anika Nusrat** University of Houston	The Invasion of Epicardial-derived Cells to the Trabeculae Mediated by NFPs-Fgf Signaling Regulates Ventricular Compaction
2:40-2:45 (short talk)	**Kamal Abou Farraj** Baylor College of Medicine	Sarcomere Disassembly due to Genetic Deletion of Cysteine and Glycine-Rich Protein 3 (Csrp3) Promotes Cardiomyocyte mitotic cell cycle entry
2:45-2:50 (short talk)	**Fransisca Leonard** Houston Methodist Research Institute	CRISPR Lipid nanoparticles for macrophage modulation
2:50-2:55 (short talk)	**Hala Abdelnasser** University of Houston,	K2P Potassium Channels Affect Endothelin A Receptor and Vasoreactivity in Idiopathic

		Pulmonary Fibrosis–Pulmonary Hypertension (IPF–PH) Patients
2:55-3:00 (short talk)	**Dillon R Harris** Texas A&M University; College Station	Attenuated Transcriptional Adaptations to Aerobic Training in Aged Skeletal Muscle

3:00-3:30 pm Award ceremony for trainees and vote of thanks

Organizers:
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Institute of Muscle Biology and Cachexia
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Thank you for your participation and hope to see you again at our next conference!