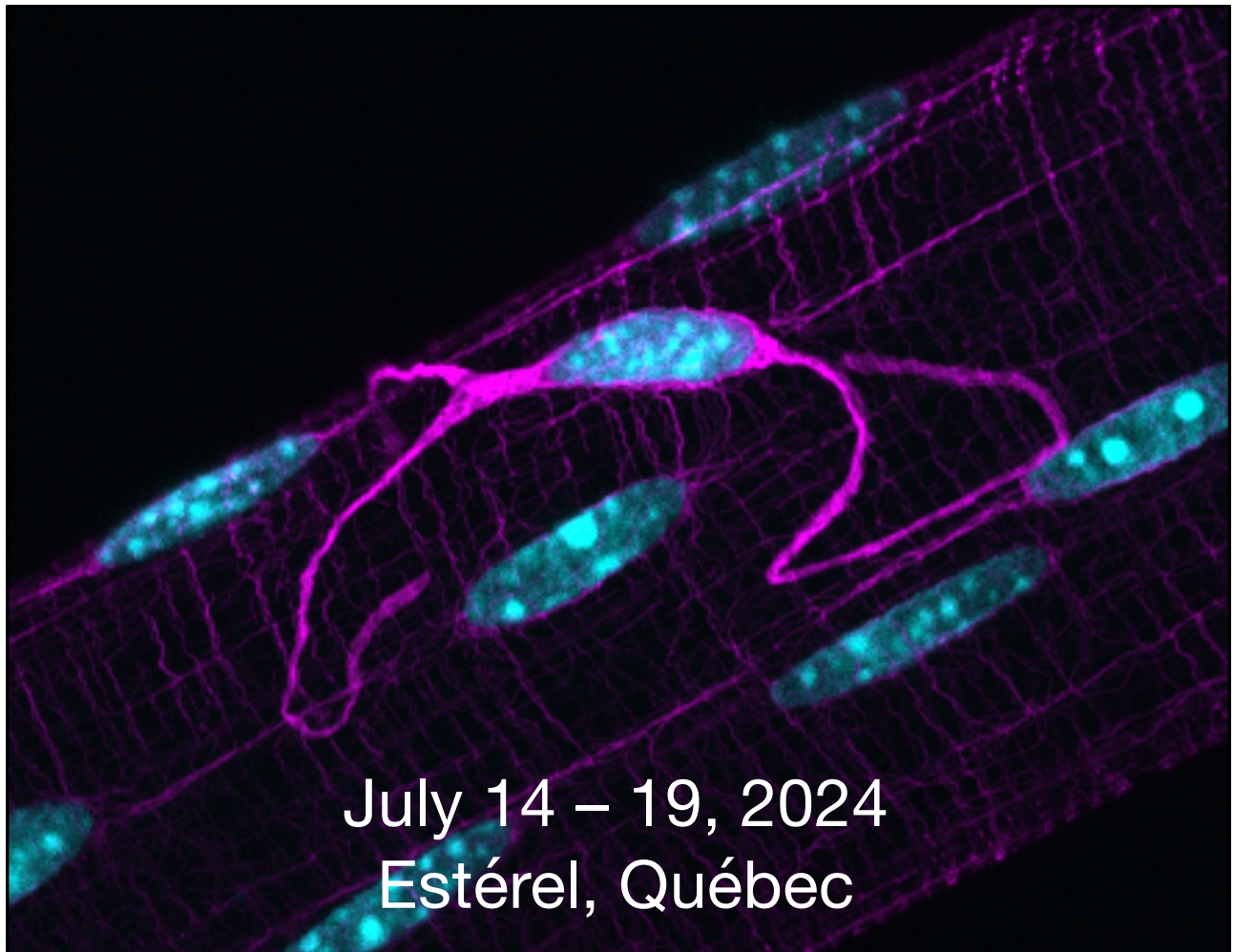


SOCIETY FOR MUSCLE BIOLOGY

Presents the 13th meeting on:

Muscle Stem Cells in
Development, Regeneration
& Adaptations



July 14 – 19, 2024
Estérel, Québec

Courtesy of Allison KANN

Co-Organizers



April Pyle

University of California, Los Angeles



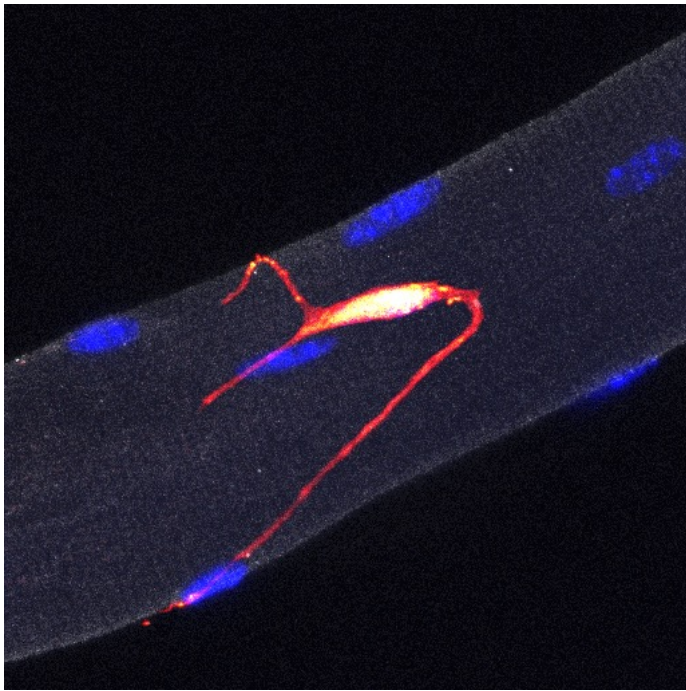
Doug Millay

Cincinnati Children's Hospital



Penney Gilbert

University of Toronto



Courtesy of Grace JONES

SOCIETY FOR MUSCLE BIOLOGY

Muscle Stem Cells in Development,
Regeneration & Adaptations

July 14 – 19, 2024
Estérel, Québec

THANK YOU TO OUR SPONSORS!



MEETING PROGRAM

SUNDAY JULY 14, 2024

2:00 pm – 6:00 pm

Registration

Fridolin-Simard Hall

4:00 pm –

Resort Room Check-In

6:00 pm – 6:15 pm

Welcome & Plenary Introduction

Doug Millay, April Pyle, Penney Gilbert

Fridolin-Simard

6:15 pm – 7:15 pm

Plenary

Fabio Rossi

FAPs as key modulators of the myogenic environment

7:15 pm – 10:30 pm

Cocktail Dîatoire

Fridolin-Simard Hall & Terrace

MONDAY JULY 15, 2024

7:00 am – 8:30 am

Breakfast

Le Voilier Restaurant

8:30 am – 12:30 pm

Session 1: Muscle stem cell regulation and repair mechanisms

Chair: Rob Krauss

8:30 am – 9:00 am

Michael Rudnicki

Molecular regulation of muscle stem cell function

9:00 am – 9:30 am

Natasha Chang

Molecular mechanisms of muscle stem cell function and dysfunction

9:30 am – 10:00 am	Faye Mourkioti <i>New molecular signatures for muscle stem cell identity and repair</i>
10:00 am – 10:15 am	Albert Ernesto Almada <i>Discovery of a muscle stem/progenitor cell population in the super-regenerating lizard tail</i>
10:15 am – 10:45 am	Coffee Break Fridolin-Simard Hall & Terrace
10:45 am – 11:15 am	Benjamin Cosgrove <i>Elucidating the regulation of myogenic cell fates through large-scale single-cell and spatial transcriptomic atlases</i>
11:15 am – 11:45 am	Carlos Aguilar <i>Deconstructing transcriptional and post-transcriptional dynamics of muscle stem cell actions</i>
11:45 am – 12:15 pm	Elizabeth Chen <i>Function of ABC Transporters and Free/Accessible Cholesterol in Myoblast Fusion</i>
12:15 pm – 12:30 pm	Haley Dean <i>Systemic and localized muscle injuries activate distinct repair programs</i>
12:30 pm – 2:00 pm	Lunch and Meet the Speakers Le Voilier Restaurant
1:00 pm – 2:00 pm	Poster Set-Up Dupuis
2:00 pm – 4:30 pm	Session 2: Niche and environmental cues Chair: Ling Liu
2:00 pm – 2:30 pm	Woojin Han

Asymmetric mechanical cues direct muscle stem cell fate and function

2:30 pm – 3:00 pm

Peter Currie

Immune modulation of regeneration, the role of the macrophage in initiation and resolution of muscle repair in zebrafish

3:00 pm – 3:30 pm

Coffee Break

Fridolin-Simard Hall & Terrace

3:30 pm – 3:45 pm

Yuguo Liu

Cell-Autonomous ECM Regulation of MuSC Function

3:45 pm – 4:00 pm

Florian Bentzinger

Novel roles of the extracellular matrix in the skeletal muscle stem cell niche

4:00 pm – 4:15 pm

Emanuela Gussoni

Modulation of CD82 expression in dystrophic muscle leads to changes in macrophage presence

4:15 pm – 4:30 pm

Fabien Le Grand

Combining in silico predictions with an engineered tissue assay identifies a regenerative niche cue promoting stem cell quiescence re-entry

4:30 pm – 5:00 pm

Poster Tease

Nicolas Collao, Luke Sang, Kotaro Hirano, Paola Aguiari, Wai Hing Kung, Sarah Chebouti, Sara Ancel

5:00 pm – 6:00 pm

Career Stories from Academia and Industry

Katrien DeBock (ETH Zurich), Nicolas Dumont (University of Montreal), Feodor Price (Harvard University), Nelsa Estrella (Entrada Therapeutics), Eva Chin (Solve FSHD)

6:00 pm – 8:00 pm

Dinner

Le Voilier Restaurant

8:00 pm – 10:00 pm

Poster Session I

Dupuis

Sponsored by Stem Cell Network

TUESDAY JULY 16, 2024

7:00 am – 8:30 am

Breakfast

Le Voilier Restaurant

8:30 am – 10:15 am

Session 3: Genetic & epigenetic regulation

Chair: Christoph Lepper

8:30 am – 9:00 am

Jeffrey Dilworth

Histone H3 lysine 4 mono-methyltransferase MLL4 facilitates cell fate transitions during muscle regeneration

9:00 am – 9:30 am

Tom Cheung

Epigenetic regulation of muscle stem cell early activation

9:30 am – 9:45 am

Yarui Diao

Histone H3K27me3 modification guards against skeletal muscle fibrosis

9:45 am – 10:00 am

Vahab Soleimani

Epigenetic control of muscle stem cell fate and survival by the REST/NRSF repressive complex

10:00 am – 10:15 am

Soeren Huettner

CTCF is required for limb muscle development

10:15 am – 10:45 am

Coffee Break

Fridolin-Simard Hall & Terrace

10:45 am – 12:15 pm

Session 4: Aging and muscle stem cell dynamics

Chair: Colin Crist

10:45 am – 11:15 am

Bradley Olwin

A novel barcode lineage tracing strategy identifies age-related deficits in cell division dynamics during muscle regeneration

11:15 am – 11:45 am

Charlotte Peterson

Influence of satellite cell fusion on the myonuclear transcriptome during a hypertrophic stimulus and changes with age

11:45 am – 12:00 pm

Nicolas Dumont

Long-term consequences of preterm birth on muscle stem cell states and dynamics mimic accelerated aging

12:00 pm – 12:15 pm

Michael Wosczyzna

Dimensional reduction of multiparameter cellular morphometrics defines senescence in skeletal muscle across age

12:15 pm – 2:00 pm

Lunch and Meet the Speakers

Le Voilier Restaurant

2:00 pm – 5:45 pm

Session 5: Muscle disorder mechanisms and therapeutic approaches

Chair: Aaron Johnson

2:00 pm – 2:30 pm

Helen Blau

Targeting a gerozyme to improve muscle function and extend healthspan

2:30 pm – 3:00 pm

Mary Baylies

Regulation of muscle wasting in drosophila models of cancer cachexia and aging

3:00 pm – 3:15 pm

Peter Zammit

*Identifying genes involved in satellite cell-opathies:
neuromuscular disorders caused by muscle stem cell
dysfunction*

3:15 pm – 3:45 pm

Coffee Break

Fridolin-Simard Hall & Terrace

3:45 pm – 4:15 pm

Amy Wagers

*Modeling and treating disease by in vivo gene editing
with AAV-CRISPR*

4:15 pm – 4:45 pm

Graziella Messina

*Unlocking therapeutic potential: inhibition of the
transcription factor Nfix in skeletal muscle
development and muscular dystrophy with fluorinated
compounds*

4:45 pm – 5:00 pm

Duc Dong

*Small molecule augmentation of Notch signaling
rescues models of DMD and FSHD*

5:00 pm – 5:15 pm

Pascal Stuelsatz

*Discovery and clinical validation of nicotinamide and
pyridoxine as activators of Muscle Stem Cells*

5:15 pm – 5:45 pm

Poster Tease

*George Cairns, Ezequiel Joshua Bulfango,
Virginia Zoglio, Jules Granet, Sophia Huang,
Alaa Elgaabari*

6:00 pm – 8:00 pm

Dinner

Le Voilier Restaurant

8:00 pm – 10:00 pm

Poster Session II

Dupuis

WEDNESDAY JULY 17, 2024

7:00 am – 8:30 am

Breakfast

Le Voilier Restaurant

8:30 am – 11:30 am

**Session 6: Competition for Helen M. Blau
Skeletal Muscle Research Prize for Early
Career Investigators**

Chair: Mary Baylies

8:30 am

Introduction

Doug Millay

8:40 am – 9:00 am

Alessio Rotini

*Sympathetic innervation maintains the quiescent
skeletal muscle stem cell pool via 1
perivascular-derived Angpt-1*

9:00 am – 9:20 am

Romina Filippelli

*Inhibition of translation initiation factor eIF4A in
dystrophic muscle stem cells drives cell fate towards
differentiation*

9:20 am – 9:40 am

Sarah Nahle

*Evidence of fusogene-based myocyte diversity during
embryonic myogenesis in the mouse*

9:40 am – 10:00 am

Fabian Montecino Morales

*RNA Polymerase II-dependent transcriptional activity
is a limiting factor for skeletal myofiber growth and
size*

10:00 am – 10:30 am

Coffee Break

Fridolin-Simard Hall & Terrace

10:30 am – 10:50 am

Nasim Kjabadi

*Harnessing bone targeted-EP4 agonist for Duchenne
muscular dystrophy*

10:50 am – 11:10 am

Jimmy Massenet

*CTCF mediated regulation of skeletal muscle fibers
homeostasis*

11:10 am – 11:30 am	Nechama Gilad <i>Activation of p38 per se in skeletal muscle reveals aging-dependent effects and unexpected elimination of p38 pathway</i>
11:30 am – 11:45 pm	Poster Tease <i>Matthew Triolo, Chung-Ju Yeh, Julie Sitolle, Casey Swoboda, Lawrence Hayward</i>
11:45 am – 12:00 pm	Conference Photo Lakeside
12:00 pm – 1:30 pm	Lunch and Meet the Speakers Le Voilier Restaurant
1:30 pm – 6:00 pm	Free Time & Activities
6:00 pm – 8:00 pm	Dinner Fridolin-Simard Hall & Terrace
8:00 pm – 10:00 pm	Poster Session III Dupuis
10:00 pm	Poster Removal

THURSDAY JULY 18, 2024

7:00 am – 8:30 am	Breakfast Le Voilier Restaurant
8:30 am – 10:00 am	Session 7: Engineering and translating muscle stem cells Chair: Fabrisia Ambrosio
8:30 am – 9:00 am	Rita Perlingeiro

Understanding the cues that induce in vivo skeletal muscle maturation from PSCs

9:00 am – 9:30 am

Francesco Saverio Tedesco

Engineering human skeletal muscle for advanced neuromuscular disease and therapy modelling

9:30 am – 9:45 am

Michael Hicks

Stepwise skeletal cell niche formation in vitro and in vivo from hPSCs

9:45 am – 10:00 am

Feodor Price

Generation of satellite-like cells in skeletal muscle myoblast derived organoids

10:00 am – 10:30 am

Coffee Break

Fridolin-Simard Hall & Terrace

10:30 am – 2:45 pm

Session 8: Metabolic and molecular insights

Chair: Abigail Mackey

10:30 am – 11:00 am

Katrien Debock

GLUD1 dictates muscle stem cell fate by controlling mitochondrial glutamate levels

11:00 am – 11:30 am

Remi Mounier

NUAK1-dependent metabolic underpinnings of adult muscle stem cells

11:30 am – 11:45 pm

Chun Wai Cheung

Characterization of DPP4+ fibroadipogenic progenitors in skeletal muscle

12:00 pm – 1:30 pm

Lunch and meet the Speakers

Le Voilier Restaurant

1:30 pm – 2:00 pm

Fred Relaix

Pax3 drives muscle stem cells heterogeneity and adaptative response during muscle repair

2:00 pm – 2:15 pm

Haileigh Houser

TDP-43-RNA Condensates Build Sarcomeres

2:15 pm – 2:45 pm

Business Meeting

Fridolin-Simard

2:45 pm – 3:15 pm

Coffee Break

Fridolin-Simard Hall & Terrace

3:15 pm – 4:15 pm

Career Workshop II - Perspectives on Grants from NIH, MDA, and AFM

Marjorie Lindhurst (Program Director, NIH), Evrim Atas (Portfolio Director, MDA), Jean-Francois Brand (Director of Operations and Scientific Innovations, AFM)

6:00 pm – 8:00 pm

Banquet dinner & awards ceremony

Fridolin-Simard

8:00 pm – 11:00 pm

Dance Party and Karaoke

Fridolin-Simard

FRIDAY JULY 19, 2024

7:00 am – 8:30 am

Breakfast

Le Voilier Restaurant

11:00 am

Check-Out & Departure