



UCF

STAR NONA 2026

Space Translational Advances & Research

Space: The Final Frontier of Medicine

Exploring how space science, microgravity research,
and commercial spaceflight are transforming
the future of human health

DATE

April 10, 2026

8:45 am

LOCATION

Lake Nona Cancer Center

6400 Sanger Rd Suite A-1000

Orlando, FL 32827

FEATURED PLENARY SPEAKER



NASA Astronaut Robert Curbeam
A legendary spacewalker and
record holder for the most spacewalks
performed on a single mission

Join us for a high-impact day of visionary talks,
breakthrough research, and new insights into:

- Commercial spaceflight
- Microgravity science
- Next-generation biomedical
and clinical applications



Register Here

med.ucf.edu/biomed/star_nona/

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TAVISTOCK
DEVELOPMENT COMPANY



Hydrocephalus and
Neuroscience Institute



CONNECT COLLABORATE LAUNCH

THE FUTURE OF HUMAN HEALTH

Agenda

- 8:15-8:45 Arrival & Registration
- 8:45-9:00 Welcome and Opening Remarks**
Dean Deborah German, Vice President for Health Affairs and Dean of the College of Medicine
Edward Ross, Professor and Chair, Department of Medicine, COM
Ally Silverton, Chief Medical Officer, Tavistock Development Company
- 9:00-9:45 Plenary Session- Living, Spacewalking, and Researching in Space**
Robert L. Curbeam, Jr/ former NASA Astronaut and Navy Captain
Moderator: Smith Johnston / Professor of Medicine UCF COM
and former NASA JSC Flight Surgeon
- 9:50-10:45 Understanding Microgravity and the Next Era of Commercial Space Platforms**
- 9:50-10:10 Microgravity: What is it?
Alain Berinstain / Director of Florida Space Institute, UCF
- 10:10-10:30 Vast: The Next-Generation Commercial Space Station
Ken Shields / Vast Space
- 10:30-10:45 The Role of UCF in Synchronizing and Developing a Manual for Biospecimen Collection,
Biobanking, and Omics Data Generation from Commercial Space Missions
Michal Masternak Professor of Medicine at BSBS, UCF, COM
- 10:45-11:00 Morning Coffee break**
- 11:00-11:45 Cognitive and Neuro-Sciences in the Space Travel**
- 11:00-11:25 How the Social and Cognitive Sciences are Exploring Collaboration in and for Long Duration
Space Travel
Stephen Fiore / Pegasus Professor, Institute for Simulation and Training and College of Arts
and Humanities, and Shawn Burke / Professor, Institute for Simulation and Training, UCF.
- 11:25-11:45 Neurological and Neurosurgical Aspects of Space Travel
Jogi V. Pattisapu / Hydrocephalus and Neuroscience Institute
- 11:45-1:30 Poster session & Lunch**
- 1:30-2:30 Protecting the Muscle in Space and on Earth**
- 1:30- 1:50 Countering Muscle Atrophy with Essential Amino Acids -
Arny A. Ferrando & Robert R Wolfe, Uni of Arkansas for Medical Sciences
- 1:50-2:10 Recovery Of Muscle Volume But Not Peak Torque or Power After 10 Days Of Bed Rest in Older
Individuals With Pre-Diabetes Or Type 2 Diabetes:
Christian J. Elliehausen, Paul M. Coen / AdventHealth, Orlando
- 2:10-2:30 Tissue Chips in Space: What Microgravity Reveals About Human Muscle Aging
Siobhan Malany / College of Pharmacy, UF

2:40- 3:10 Innovations in Space-Based Tissue Engineering and Cellular Systems

2:40 - 2:55 Mini-brain to Study the Impact of Space Travel on Neural Function
Kiminobu Sugaya / Professor and Head of Neuroscience, BSBS, UCF COM

2:55 - 3:10 Development of Novel Approaches for Cell Culture
Bill McLamb /Professor, UCF COM

3:10- 3:30 Afternoon Coffee Break

3:30 - 4:15 Musculoskeletal Countermeasure in Extreme Environments

3:30 -3:45 Minimal Load, Maximal Signal:
A Translational Countermeasure Framework for Musculoskeletal Preservation in
Extreme Environments

Ethan Hill / Associate Professor, School of Kinesiology and Rehabilitation Sciences,
3:45 - 4:00 UCF Estimating joint torque and movement using a reduced number of wearable
IMU sensors to monitor the level of dynamic activities in space
Hwan Choi / Professor, Mechanical & Aerospace Engineering, UCF

4:00 - 4:15 Preventing Radiation- and Microgravity-Induced Injury:
A Novel Countermeasure to Protect Bone
Melanie Coathup / Professor, UCF COM

4:15 - 4:30 Closing remarks

Michal Masternak, Professor of Medicine, BSBS, UCF, COM
Kiminobu Sugaya, Professor and Head of Neuroscience, BSBS, UCF COM

4:30-5:30 Networking Reception – Wine and Cheese

Meeting Chairs:

Michal Masternak
Kiminobu Sugaya

Organizing Committee:

Edward Ross
Ally Silverton
Smith Johnston
Ethan Hill
Alain Berinstain
Wanda Pruett-Butler
Mishfak Abdullah Mohamed Mansoor
Md Tanjim Allam

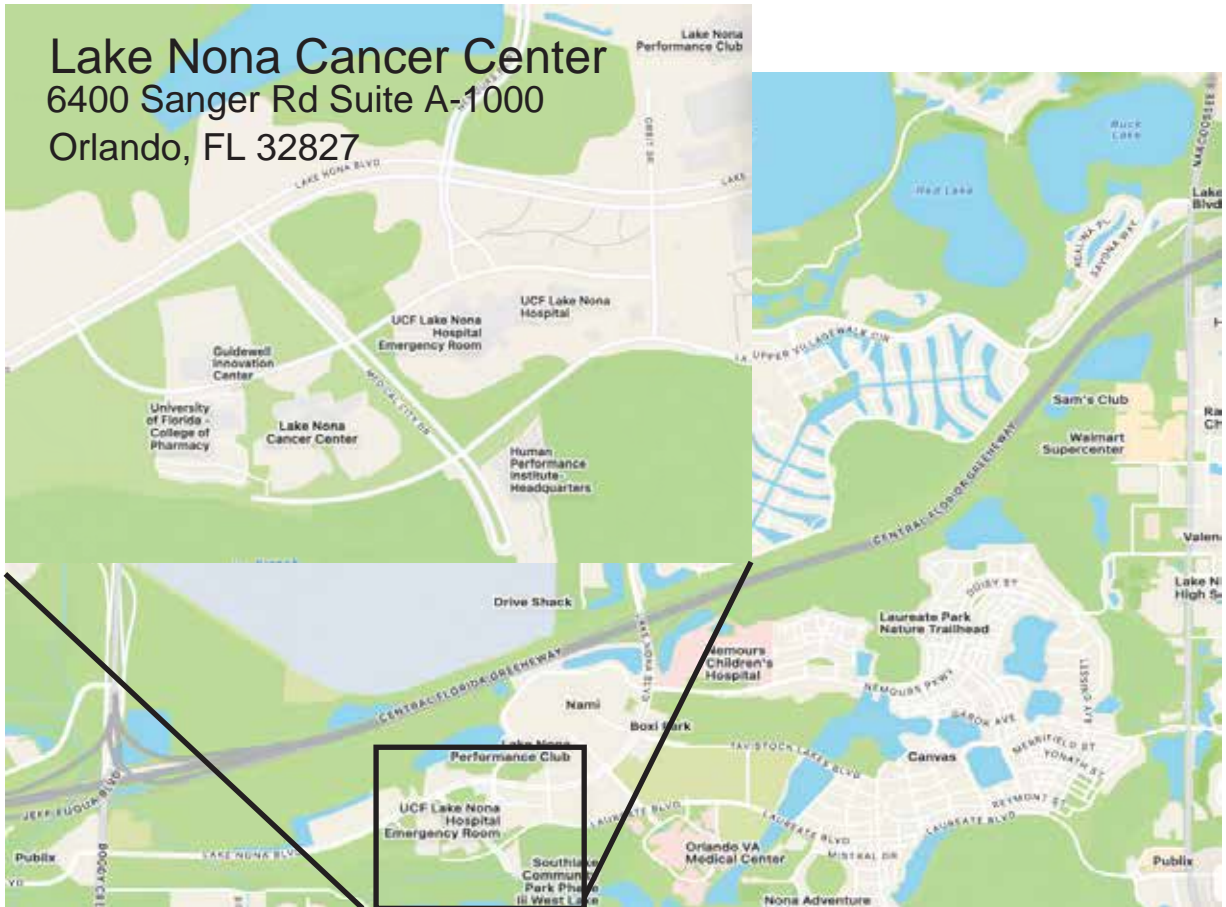
Special Thanks To:

Adriana Christenson
Alicia Willenberg

Schedule may be adjusted as needed

Direction

Lake Nona Cancer Center
6400 Sanger Rd Suite A-1000
Orlando, FL 32827



**College of
Medicine**

UNIVERSITY OF CENTRAL FLORIDA

Inquires and abstract submission at:
starnona@ucf.edu