

# 2024 AFOSR Space BioScience Idea Day

Dr. Jennifer Talley | March 6-7, 2024 | Virtual

## Agenda Day 1 | Wednesday, March 6, 2024 | EST (Eastern Standard Time)

Time	Topic	Speaker
8:45	Registration	
0900-1020	Introduction	Jennifer Talley AFOSR
1020-1030	DoD Space Test Program (STP) – Houston	Carolynn Conley Aegis Aerospace, Inc.
Chair: Bennett Ibey		
1030	Microbial Utilization of Alternative Feedstock for Biomanufacturing under the Influence of Space Environment Factors	Yinjie Tang Washington University in St. Louis
1040	Enabling Bioregenerative Satellites	Amor Menezes University of Florida
1050	Adapting Continuous Directed Evolution for Space Environments to Advance Bioengineering	Amor Menezes University of Florida
1100	Developing the right organisms, platforms, and fermentation styles for on-demand space-based bioproduction	Hal Alper The University of Texas at Austin
1110	Development of Graphene Oxide-Engineered Biofilms for Enhanced Biosynthesis of Materials in Space	Oscar Ruiz AFRL
1120	Increasing the Robustness of Microbial-Based Biomanufacturing in Space	Chia Hung AFRL
1130	BREAK	
Chair: Oscar Ruiz		
1150	Synthetic Mucus Biomaterials for Space Applications	Adam Braunschweig City University of New York (CUNY)
1200	Engineering Radiation Resistant Biomaterials with Self-Repairing DNA Elements	Enoch Yeung University of California, Santa Barbara
1210	Bio-inspired Multifunctional Impact Resistant Coatings for Space	David Kisailus University of California, Irvine
1220	Decoupling the Role of Gravity in Processing Soft Matter Systems	Nicole Hashemi Iowa State University
1230	Enhanced Synthetic Melanins for Radiation Protection	Nathan Gianneschi Northwestern University

1240	BREAK	
Chair: Jennifer Sekowski		
1300	Leech distributed sensation as a means of satellite adaptation	Brian Taylor Case Western Reserve University
1310	AFRL's Bioeffects Division: Introduction and Capabilities Relevant to Space Biosciences	Zach Steelman AFRL
1320	Handheld optical sensors to support bioscience research in a space environment	Christopher Ball The Ohio State University
1330	Magnetic navigation for autonomous satellites	Brian Taylor Case Western Reserve University
1340	Probing the limits of rarefaction on odour source localization in insects	Sridhar Ravi University of New South Wales
1350-1400	Wrap up day 1	Jennifer Talley AFOSR
1400	MEETING ADJOURN	

<b>Agenda Day 2   Thursday, March 7, 2024   EST (Eastern Standard Time)</b>		
<b>Time</b>	<b>Topic</b>	<b>Speaker</b>
<b>8:45</b>	<b>Registration</b>	
<b>0900-0930</b>	Introduction to day 2	Jennifer Talley
Chair: Brooke Ahern		
<b>930</b>	Development of novel therapeutics (prebiotics, probiotics, and postbiotics) against disorders caused by space travel	Siddiqui Heriot-Watt University, UK
<b>940</b>	Converging Statistical Learning Theory and Biofilm Ecosystem Modeling to Achieve Greater Water Quality Control	Weir The Ohio State University
<b>950</b>	Personalized Risk Assessment for Spaceflight Stressors using iPSC-Derived Cells	Wu Stanford University
<b>1000</b>	Biomanufactured Therapeutics to Remedy Space-Induced Coagulopathy	Menezes University of Florida
<b>1010</b>	<b>BREAK</b>	
<b>1030</b>	Immunomechanics in microgravity	Datta University of Notre Dame

1040	Automated patch clamp for high content functional electrophysiological ion channel studies	Wilson Sophion Bioscience
1050	Developing an on-demand biopharmaceutical delivery system for spaceflight applications using beneficial microbes	Foster University of Florida
1100	MatriNova: Revolutionizing Soft-Tissue Repair with Synthetic Nanofiber Technology for Space and Terrestrial Applications	Soliman Matregenix
1110	Nanomaterials approach for cartilage regeneration in microgravity	Chen University of Connecticut
1120	BREAK	
Chair: Andrew Younger		
1140	Innovative bioreactor development to explore extraterrestrial gravitational impact on cellular homeostasis	Kim Johns Hopkins University School of Medicine
1150	Innovative bioreactor development to explore extraterrestrial gravitational impact on cellular homeostasis	Hur Johns Hopkins University
1200	Rhodium Scientific: Implementing Turn-Key, Quality Assured Earth-to-Space Bioscience to Serve the DoD	Gámez Holzhaus Rhodium Scientific LLC
1210	Establishing a space bioprospecting program to support AFOSR's capability to prevent biological surprise	Mills Rhodium Scientific
1220	Technology for Advanced Molecular Biology Workflows in Microgravity	Gupta ANYg Labs
1230	DoD Space Test Program (STP) - Houston	Carolynn Conley Aegis Aerospace, Inc
1240-1300	Wrap up day 2	Jennniifer Talley
1300	MEETING ADJOURN	