



SSEP Mission 21 to ISS: *Discovery* Experiments Flying on SpaceX-35 Payload Summary

Contact: Dr. Jeff Goldstein, SSEP National Program Director, 301-395-0770, jeffgoldstein@ncesse.org

17 Experiments from the SSEP Mission 21 to ISS *Discovery* Payload Flying on SpaceX-35

	Community	Experiment	Team	Grades	At Launch
1	Edmonton, Alberta, Canada	How Does Microgravity Affect the Oxidation of Copper in a Vinegar, Salt, Baking Soda, and Water Solution?	2 Co-Principal Investigators, 2 Investigators	9	X
2	Mississippi Mills, Ontario, Canada	Would broccoli sprout faster in low gravity?	1 Principal Investigator, 1 Investigator	6	
3	Phoenix, Arizona	The Effect of Microgravity on the Growth and Structure of Covalent Organic Frameworks (COFs)	2 Co-Principal Investigators, 3 Investigators	9-10	
4	Pasadena, California	The Effect of Microgravity on the Crystallogenesis of Hen Egg White Lysozyme	6 Co-Principal Investigators	13-15	
5	Colorado Springs, Colorado	Space Climate Seeds: Investigating Osmotic Stress-Primed Germination in Microgravity	2 Co-Principal Investigators, 3 Investigators	13-15	
6	Melbourne, Florida	Effects of Microgravity on Neurodegeneration using Tauopathy Model	4 Co-Principal Investigators	14-15	X

7	St. Petersburg, Florida	The Effect of Microgravity on the Formation and Properties of Calcium Alginate Hydrogels	3 Co-Principal Investigators	13-14	
8	Tampa, Florida	Microgravity Effects on Chitosan Hydrogel Structure for Potential Wound-Care Applications	1 Principal Investigator, 4 Investigators	13, 15 and 16	X
9	New Orleans, Louisiana	Coacervate Protocells in Microgravity: Stability, Function, and Implications for the Origins of Life Beyond Earth	3 Co-Principal Investigators	14-16	X
10	Lowell, Massachusetts	Aging and Coarsening of Milk-Protein Micelles	2 Co-Principal Investigators	14	
11	Omaha, Nebraska	Neutron Radiation Detection via Bubble Neutron Dosimeter Near Solar Maximum	2 Co-Principal Investigators, 1 Collaborator	14	X
12	Albany, New York	The effects of microgravity on red maple tree seed germination	3 Co-Principal Investigators	8	
13	Asheville, North Carolina	How are lubricating oils affected by microgravity?	1 Principal Investigator, 2 Investigators	Undergrad	X
14	Athens, Ohio	Examining the Effect of Microgravity on the Metabolism of the Antihistamine Promethazine HCl, using <i>Caenorhabditis elegans</i> as a Model	4 Co-Principal Investigators	13-14	X
15	Pittsburgh, Pennsylvania – CCAC	Evaluating the Effect of Microgravity on Insulin Activity and Glucose Regulation Post-Flight	1 Principal Investigator, 2 Investigators	13-14	
16	San Antonio, Texas	The Effects of Microgravity On the Growth of Stems and Roots in Length and Direction of Rye Plants	1 Principal Investigator, 2 Investigators	7	
17	iForward-Grantsburg, Wisconsin	The germination and growth of lentil sprouts in microgravity	5 Co-Principal Investigators	7	

The Student Spaceflight Experiments Program [or SSEP] is a program of the National Center for Earth and Space Science Education (NCESSE) in the U.S. and the Arthur C. Clarke Institute for Space Education internationally. It is enabled through a strategic collaboration with Rhodium Scientific, America's first commercial space biotech and mission Spaceflight Implementation Partner, ISS Commercial Service Provider, working with NASA through a CASIS Agreement to utilize its facilities aboard the International Space Station for this mission. SSEP is the first pre-college STEM education program that is both a U.S. national initiative and implemented as an on-orbit commercial space endeavor.