



SSEP Mission 18 to ISS: *Surveyor* Experiments Flying on SpaceX-31 Payload Summary

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

38 Experiments from the SSEP Mission 18 to ISS *Surveyor* Payload Flying on SpaceX-31

	Community	Experiment	Team	Grades	At Launch
1	Edmonton, Alberta, Canada	The Effect of Microgravity on Reproduction of <i>Dugesia tigrina</i>	4 Co-Principal Investigators	8	
2	Guelph, Ontario, Canada	Will Soil Bacteria Biodegrade Compostable Plastic in Microgravity?	4 Co-Principal Investigators	6	
3	Kingston, Ontario, Canada	The Impact of Lectins on <i>Escherichia coli</i> Biofilm Formation in Microgravity	6 Co-Principal Investigators	15-16	
4	Ukraine	Production of Biomedical Purpose Hydrogels in Microgravity	2 Co-Principal Investigators, 3 Co-Investigators	10-11	X
5	Mesa, Arizona	The Growth and Mutation of <i>Staphylococcus epidermidis</i> Biofilm in Microgravity	2 Co-Principal Investigators, 7 Co-Investigators, 8 Collaborators	4-5, 9 and 12	X
6	Tolleson, Arizona	Effects of Microgravity on <i>Arabidopsis thaliana</i> Seed Germination	1 Principal Investigator, 3 Co-Investigators	8	X

7	Glendora, California	Cyanobacteria (<i>Trichormus variabilis</i>) Growth in Extreme Conditions of Microgravity	1 Principal Investigator, 2 Co-Investigators, 1 Collaborator	10	
8	Lamont, California	Effects of Microgravity on <i>Spinacia oleracea</i>	5 Co-Principal Investigators	8	
9	Moreno Valley, California	The Effects of Microgravity on Arugula	5 Co-Principal Investigators	7-8	
10	Colorado Springs, Colorado	Calcium Sulfate Crystal Growth in Microgravity	1 Principal Investigator, 2 Co-Investigators	13-15	X
11	Loveland, Colorado	<i>Capsicum annuum</i> Seed Germination in Microgravity	2 Co-Principal Investigators, 2 Co-Investigators, 1 Collaborator	7	X
12	Hillsborough County, Florida	Handy, Dandy Dandelions – Germination of Dandelion in Microgravity	2 Co-Principal Investigators	7	X
12	Hillsborough County, Florida	Fenugreek and its Nutritional Value in Microgravity	2 Co-Principal Investigators, 3 Co-Investigators	7-9	X
13	Pittsfield, Massachusetts	The Effects of Microgravity on Mitosis in Onion Root Tip Cells	3 Co-Principal Investigators	14	
14	Oak Park, Michigan	How Watermelon Germinates in Space Versus on Earth	4 Co-Principal Investigators	5	
15	Edina, Minnesota	Does Gravity Affect the Germination Growth of Raspberry Seeds	4 Co-Principal Investigators	5	
16	Albany, New York	The Effects of a Microgravity Environment on the Growth of Mold on Strawberries	5 Co-Principal Investigators	8	

17	Garden City, New York	The Effects of Microgravity on the Mass of <i>Salvia hispanica</i> L. (Chia Seeds) Abundant with Omega-3	2 Co-Principal Investigators	7	X
18	Long Beach, New York	The Effect of Microgravity on the Germination of Watercress Seeds	1 Principal Investigator, 1 Investigator, 2 Collaborators	6	
19	North Tonawanda, New York	The Crystallization of the Spores of <i>Bacillus thuringiensis</i> in a Microgravity Environment	1 Principal Investigator, 4 Collaborators	11-12	X
20	Red Hook, New York	The Effect of Microgravity on the Hatching Rate of Rotifers	4 Co-Principal Investigators	11	
21	Grand Forks, North Dakota	The Effects of 6-Benzylaminopurine Enriched Soil on the Growth of <i>Phaseolus vulgaris</i> (Black Beans) in Microgravity	3 Co-Principal Investigators	14-15	X
22	Athens, Ohio	Effect of Spaceflight-Adapted Bacteria on Plant Growth and Resilience in Microgravity	3 Co-Principal Investigators	14-16	X
23	Kent, Ohio	The Effects of Microgravity on <i>Pisum sativum</i> Roots	2 Co-Principal Investigators	13 and 15	X
24	Pickerington, Ohio	Effects of Microgravity on Liquid I.V. Hydration Multiplier	2 Co-Principal Investigators	12	
25	Pittsburgh, Pennsylvania - CCAC	Effect of Microgravity on the Enzymatic Degradation of Polyurethane by <i>Penicillium chrysogenum</i>	2 Co-Principal Investigators, 1 Collaborator	13-14	X
26	Columbia, South Carolina	Gravitational Effects on Calcium Oxalate (CaOx) Regulation in Edible Greens	4 Co-Principal Investigators	13-14	X
27	Arlington, Texas	Germination of <i>Pisum sativum</i> in microgravity	2 Co-Principal Investigators, 3 Co-Investigators	10-11	X

28	Burleson, Texas	Growth of Raspberry Seeds in Microgravity	2 Co-Principal Investigators	6	
29	Houston, Texas	Comparison of <i>Arabidopsis thaliana</i> Germination and Cell Wall Growth in Microgravity versus Standard Conditions	3 Co-Principal Investigators	10 and 13	X
30	Plano, Texas	Growth and Life Cycle of Crickets (<i>Acheta domesticus</i>) in Microgravity for Astronaut Consumption	3 Co-Principal Investigators	12	
31	San Antonio, Texas	Effects of Microgravity on Chia Seed Growth	4 Co-Principal Investigators	11-12	
32	Texarkana, Texas	Will Normal Strength Concrete (NSC) Keep its Structure in Microgravity?	2 Co-Principal Investigators, 1 Investigator, 1 Collaborator	5	X
33	Waxahachie, Texas	Tardigrade Growth in Space	3 Co-Principal Investigators	6	X
33	Waxahachie, Texas	How do Microgravity and Space Conditions Affect the Growth of Cucumber, <i>Cucumis sativus</i> ?	4 Co-Principal Investigators	6	X
34	Sandy, Utah	Nematodes to the Rescue! - Space worms as an Integral Component of Space Agriculture	3 Co-Principal Investigators, 2 Collaborators	10	
35	Chesapeake, Virginia	The Growth of Beets in Microgravity	5 Co-Principal Investigators	5	
36	iForward-Grantsburg, Wisconsin	Will Microgravity have an Effect on the Growth and Development of Brine Shrimp?	2 Co-Principal Investigators	9	

1 Experiment from the SSEP Mission 17 to ISS Orbiter Payload Flying on SpaceX-31

	Community	Experiment	Team	Grades	At Launch
1	Grayslake, Illinois	The Effects of Microgravity on Cholesterol Lowering Activity by <i>Lactobacillus acidophilus</i>	1 Principal Investigator	14	

The Student Spaceflight Experiments Program (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 partnership with Nanoracks, LLC, which is working with NASA under a Space Act Agreement as part of the utilization of the International Space Station as a National Laboratory. 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 venture.

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