SSEP

Student Spaceflight Experiments Program

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

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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 *Dugesia tigrina*	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 *Escherichia coli* 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 *Staphylococcus epidermidis* 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 *Arabidopsis thaliana* Seed Germination	1 Principal Investigator, 3 Co-Investigators	8	X

7	Glendora, California	Cyanobacteria (*Trichormus variabilis*) Growth in Extreme Conditions of Microgravity	1 Principal Investigator, 2 Co-Investigators, 1 Collaborator	10	
8	Lamont, California	Effects of Microgravity on *Spinacia oleracea*	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	*Capsicum annuum* 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
13	Hillsborough County, Florida	Fenugreek and its Nutritional Value in Microgravity	2 Co-Principal Investigators, 3 Co-Investigators	7-9	X
14	Pittsfield, Massachusetts	The Effects of Microgravity on Mitosis in Onion Root Tip Cells	3 Co-Principal Investigators	14	
15	Oak Park, Michigan	How Watermelon Germinates in Space Versus on Earth	4 Co-Principal Investigators	5	
16	Edina, Minnesota	Does Gravity Affect the Germination Growth of Raspberry Seeds	4 Co-Principal Investigators	5	
17	Albany, New York	The Effects of a Microgravity Environment on the Growth of Mold on Strawberries	5 Co-Principal Investigators	8	

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

29	Burleson, Texas	Growth of Raspberry Seeds in Microgravity	2 Co-Principal Investigators	6	
30	Houston, Texas	Comparison of *Arabidopsis thaliana* Germination and Cell Wall Growth in Microgravity versus Standard Conditions	3 Co-Principal Investigators	10 and 13	X
31	Plano, Texas	Growth and Life Cycle of Crickets (*Acheta domesticus*) in Microgravity for Astronaut Consumption	3 Co-Principal Investigators	12	
32	San Antonio, Texas	Effects of Microgravity on Chia Seed Growth	4 Co-Principal Investigators	11-12	
33	Texarkana, Texas	Will Normal Strength Concrete (NSC) Keep its Structure in Microgravity?	2 Co-Principal Investigators, 1 Investigator, 1 Collaborator	5	X
34	Waxahachie, Texas	Tardigrade Growth in Space	3 Co-Principal Investigators	6	X
35	Waxahachie, Texas	How do Microgravity and Space Conditions Affect the Growth of Cucumber, *Cucumbis sativus*?	4 Co-Principal Investigators	6	X
36	Sandy, Utah	Nematodes to the Rescue! - Space worms as an Integral Component of Space Agriculture	3 Co-Principal Investigators, 2 Collaborators	10	
37	Chesapeake, Virginia	The Growth of Beets in Microgravity	5 Co-Principal Investigators	5	
38	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, Illionois	The Effects of Microgravity on Cholesterol Lowering Activity by *Lactobacillus acidophilus*	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.

The Center for the Advancement of Science in Space (CASIS) is a U.S. National Partner on the Student Spaceflight Experiments Program.