



Space Biologist



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Associate Scientist,
Space Station Biological
Research Project (SSBRP)

Contractor, Lockheed Martin
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I help grow and study *Drosophila* (fruit flies), *Arabidopsis* (a small plant), yeast, and *C. elegans* (a worm). We use these organisms to determine if an incubator that is designed for the International Space Station can actually be used to support biological specimens. I also perform tissue culture for the cell culture unit, another habitat for Space Station Biological Research Project. In addition, I attend team meetings, order supplies, maintain inventories, and manage safety issues for the lab. I also volunteer and give talks about SSBRP, and help train teachers for the education office at Ames. I even volunteer for the Mars Society and NASA JPL's Solar System Ambassador Program!

Areas of expertise:

- Biocompatibility of space mission hardware
- Astrobiology education

How I first became interested in this profession:

I've wanted to work for NASA as long as I can remember.

What helped prepare me for this job:

Persistence, consistency, and enthusiasm! Lab skills (molecular and non-molecular), communication and listening skills, knowledge of biology, microscopy, chemistry, mathematics, physics, and most importantly, a desire to learn.

My role models or inspirations:

My mother and father, former students, astronauts, pictures from Voyager 1 & 2, special relativity, winter in North Dakota, and Mars scientists.

My education and training:

- B.S., Education, North Dakota State University
- M.S., Space Studies, University of North Dakota

My career path:

- Farmer and rancher, Mandan, ND: (1987-95)
- High school science teacher, Bismarck, ND (Biology, Physics, Applied Biology, Chemistry, Physical Science) (1995-1999)
- Graduate research assistant, Grand Forks, ND: Climate change, biodiversity, and agricultural stewardship using remote sensing imagery studies (1999-2001)
- Biologist/Associate scientist for Space Station Biological Research Program with LMSO at NASA Ames (2001- present)

What I like about my job:

Everything. I have the privilege of being on the United States' International Space Station science team for the Incubator and the Cell Culture Unit! I appreciate being able to listen and learn from world-class researchers, and I enjoy the flexibility of my schedule.

What I don't like about my job:

Sometimes lab work requires very intensive, long days of repetitive work, even on weekends. If we have organisms growing and experiments running, they need to be tended to all the time. But if I am consistent and persistent with this part of my job, good results make it all worthwhile.

My advice to anyone interested in this occupation:

Be ready to learn and have fun! Be VERY flexible and be sure to follow through on everything you say you will do.

Additional Resources:

- American Institute of Biological Sciences
<http://www.aibs.org>
- American Physiological Society
<http://www.faseb.org/aps>
- American Society for Biochemistry and Molecular Biology
<http://www.biophysics.org/biophys/society/biohome.htm>
- American Society for Microbiology
<http://www.asmsusa.org>
- Astrobiology Summer Academy
<http://academy.arc.nasa.gov/>
- Biotechnology Industry Organization
<http://www.bio.org/welcome.html>
- Education Pays Calculator
<http://www.educationpays.org/calc.asp>
- Graduate Student Researchers Program
<http://spacelink.nasa.gov/Instructional.Materials/NASA.Educational.Products/Graduate.Student.Researchers.Program.Brochure/.index.html>
- MATHCOUNTS Competition
<http://mathcounts.org/>
- Minority University Research and Education Programs
<http://mured.nasaprs.com/>
- NASA Cooperative Education Program for college students
<http://spacelink.nasa.gov/Educational.Services/NASA.Education.Programs/Student.Support/NASA.Cooperative.Education.Program/.index.html>
- NASA Jobs
<http://nasajobs.nasa.gov/>
- NASA Office of Life and Microgravity Sciences and Applications
<http://www.hq.nasa.gov/office/olmsa/>
- NASA SHARP Internship Program for high-schoolers
<http://www.mtsibase.com/sharp/>
- NASA Student Employment
http://nasajobs.nasa.gov/stud_opps/employment/index.htm
- NASA Student Involvement Program student contests
<http://www.nsip.net/index.cfm>
- Order NASA career videos such as "Engineers: Turning Ideas into Reality," "Careers: Aerospace Engineer" or "Reaching for the Stars" from NASA CORE.
<http://core.nasa.gov>
- Student's Guide to Astrobiology
<http://www.astrobiology.com/student.html>
- Tech-Interns.com
<http://www.tech-interns.com/>

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Thank you.

