



Aerospace Engineer



Rubén Ramos
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I design communications systems for space projects. A communications system picks up the signals from space that carry pictures and information about planets. I am also on the management team for life sciences projects and research, so I perform management work as well as scientific work. It's my job to make sure that the technical and the scientific aspects of projects work well together.

Areas of expertise:

- Design of space communications systems for space projects

How I first became interested in this profession:

When I was in grammar school in the sixties, working in space was a big attraction, and the idea of humans going out of the atmosphere intrigued me. This led to my childhood dream of working in a space-related profession.

What helped prepare me for this job:

Math and science have been the most important subjects for my job, so all the math and science classes I took in high school were very useful.

My role models or inspirations:

I've always been driven to better myself and my family. I also have role models like Galileo, Kepler, and Newton, who, through their intellect and perseverance, helped to bring about dramatic scientific breakthroughs that changed the world.

My education and training:

- B.S., Electrical Engineering, University of Texas, El Paso
- M.S., Electrical Engineering, Stanford University

My career path:

- Ten years as a communications systems engineer for the Pioneer Project at Ames
- Six years as a science instruments manager for the Space Infrared Telescope Facility at NASA Ames
- Two years as a science payload manager and communications systems engineer on the Mars Environmental Survey Project at Ames
- Four years as a manager for the contractors' work on all life sciences projects and research at NASA Ames

What I like about my job:

I like knowing that we, at NASA, are doing some things that have never been done before, and that have the potential to benefit humanity.

What I don't like about my job:

Sometimes the funding for projects gets cut, and it takes a lot of time to reorganize.

My advice to anyone interested in this occupation:

Convince yourself that you can be whatever you want to be, and prepare yourself well by taking as much math and science in school as you can. If you work and study hard, you can do it!

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>
- Earth to Orbit: Engineering Design Challenges
<http://eto.nasa.gov/>
- 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>
- Revolutionary Vehicle Concepts and Systems student competition
<http://avst.larc.nasa.gov/competitions.html>
- 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.

