National Aeronautics and Space Administration

Aerospace Engineer

Wendy Holforty
Aerospace Engineer

Automation Concepts
Research Branch
NASA Ames Research Center

I develop procedures to make the job easier for air traffic controllers and the skies safer for pilots and air travelers.

Areas of expertise:

- Aerodynamics
- Space systems design
- Aeronautical engineering

How I first became interested in this profession:

During the time when I was a police officer, I learned to fly. I had thought that becoming an airline pilot would be fun, but decided that designing and testing aircraft and spacecraft would be more exciting.

What helped prepare me for this job:

Because I wanted to build airplanes, I took general courses in engineering. Working with a team of experts in different fields requires a general understanding of their specialized fields. The team members need to speak a common language, and to understand the "big picture" in order to come up with the best design possible. Learning to fly was, of course, important to me, but learning to communicate my ideas was just as important. Even if you have good ideas, you need to be able to express them clearly in order to convince others to try them out.

My role models or inspirations:

My parents taught me by their example that I can do anything I apply myself to, and that I can truly reach out and touch the stars.

My education and training:

- B.S., Engineering, Western Michigan University
- M.S., Engineering, Western Michigan University
- Ph.D., candidate in Aeronautics and Astronautics, Stanford University

My career path:

- Three years as an aerospace engineer at NASA Ames
- Six years in the Aeronautics and Astronautics Department, Stanford University
- Three years as principal investigator at Western Michigan University
- Thirteen years as flight instructor
- Ten years as a police officer in East Lansing, Michigan

What I like about my job:

I like getting paid for doing what I love best, thinking, and also dreaming about airplanes and outer space.

What I don't like about my job:

I miss not getting to fly the airplanes, or to feel the controls and metal with my own hands, but I am happy to know that our research here at NASA is helping many other pilots to fly and land more safely, and allowing the air traffic controllers to work with more reliable information.

My advice to anyone interested in this occupation:

Learn to communicate and to work well with others. Languages are bridges and peepholes into other cultures, so try learning a foreign language! Have broad interests, and don't be afraid to try new things, or to fail at them. If you are willing to learn new skills, you don't have to spend your whole life working in the same field. "Today"can be changed; there is always tomorrow.

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.asmusa.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/

Please take a moment to evaluate this product at:
http://ehb2.gsfc.nasa.gov/edcats/educational_topic

Your evaluation and suggestions are vital to continually improving NASA educational materials.
Thank you.