National Aeronautics and Space Administration

Aerospace Engineer

Brent Wellman
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NASA Ames Research Center

Well, I type a lot at the computer. I used to program one daily to get the answers I needed for my work, but good application programs in the last decade or so have made that unnecessary. Further, I wind up at quite a lot of meetings, because I consult with a lot of ongoing projects in one capacity or another. I also serve on a number of committees. Each year, I produce a video of our division's work during the year. Finally, I periodically spend intensive periods in the lab or the wind tunnel, collecting data.

Areas of expertise:

- Vertical flight
- Compound helicopters
- Tiltrotors
- Ducted fan aircraft

How I first became interested in this profession:

I always had had an interest in flying. I can't remember not being interested. My father was an engineer. I never assumed I'd be anything except an engineer or a scientist.

What helped prepare me for this job:

Well, life prepared me for this job. Studying hard in school and getting the best grades I could didn't hurt. But going into the military instead of college also prepared me, just in different areas. My starting a business (and likewise having the business fail...) helped prepare me. For me, the non-academic training was every bit as important as the academic. The secret was in learning from each experience, and the key was in putting all the experience to work.

My education and training:

I am a mechanical engineer by training, holding a BSME from San José State University. I have done graduate work at Stanford, continued my training through USC, RPI and others thanks to Ames' commitment to continuing education. Much else is learned on the job and through conferences with colleagues and peers.

My career path:

I started at Ames as a project engineer for four years for the Rotor Systems Research Aircraft, RSRA, a compound helicopter. After RSRA, I became project engineer and later the team leader for the XV-15 tiltrotor project at Ames for about seven years. I have also been project manager for a computer program called the Second Generation Comprehensive Helicopter Analysis System. I have lately taken on the study of other vertical lift systems, most notably ducted fan vehicles. I have also evaluated flying cars for the military, and even developed a concept for one myself.

What I like about my job:

What is really great about working at NASA is that there are so many opportunities to do interesting, stimulating, and just plain fun things. I decided to work at Ames, although I was offered more money elsewhere, because of that opportunity. The chance to do great things and use cutting-edge technologies was the real draw.

What I don't like about my job:

Well, there is the money thing.
[Don't get me wrong. I am well paid. Nevertheless, if I had wanted monetary riches, I'd have gone into investment banking, made a pile of cash, and been very, very unhappy...]

My advice to anyone interested in this occupation:

Go with what interests you. Don't do what everyone else is doing or what nobody else is doing or what pays well. Do what you love. I do; can't you tell? If you do that, you can overcome any obstacles in your way. Of course, studying hard and getting good grades doesn't hurt.

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
- 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.