National Aeronautics and Space Administration

Aerospace Engineer

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Aerospace Engineer

Army/NASA Rotorcraft Division
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I work to make helicopters easier to fly in bad weather. I am working to develop a simulated turbulence model for helicopters that make the helicopter respond as if it were flying in atmospheric turbulence on a calm day. When the model is complete, it will help control system engineers design improved control systems that make the helicopter easier for the pilot to control in real turbulence.

Areas of expertise:

- Controls and dynamics

How I first became interested in this profession:

I enjoyed flying and working on helicopters, and math and science were my favorite subjects in school. When I was applying to graduate schools, the opportunity to work at Ames and conduct research on helicopters for my dissertation was a perfect fit for me.

What helped prepare me for this job:

My math and science background, along with my experience flying and working on helicopters, provided the foundation for this job. My natural curiosity of how things work piques my interest in problems, and my tenacious streak makes me stick with it until I have the answer.

My role models or inspirations:

I have always admired Albert Einstein for his intellect and for being able to think outside the box and solve difficult problems. Also my wife Dianne who encouraged me and provided the support system I needed to go back to school.

My education and training:

- BS, Mechanical Engineering, Portland State University
- MS, Mechanical Engineering, Portland State University
- PhD, Aerospace and Mechanical Engineering, University of California, Davis

My career path:

Thirteen years as a self employed Machinist in Hillsboro, Oregon
Two years as a Helicopter Flight Instructor in Hillsboro, Oregon
Three years as an Aerospace Engineer at NASA Ames

What I like about my job:

Even though my research topic is in turbulence modeling for helicopters, I get to work on a variety of different problems. I get to travel for my job, sometimes even to Europe to consult with engineers from other countries that are working on the same problem I am working on. I get to ride in back of the research helicopter and run the computer that collects data for research projects. I also get to fly the helicopter simulators here at Ames.

What I don't like about my job:

There is a lot of paperwork that needs to be done for this job, reports to write, presentations to make and contracts to oversee, which is not nearly as fun as working on research.

My advice to anyone interested in this occupation:

Find your field of interest and love what you do. Work hard and do not give up or settle for mediocre results. Build your math, science and computer programming background because these are the tools that you will need to succeed. Even though it is not easy (for many engineers), work on your presentation and communication skills. Engineers must be able to communicate their findings to others.

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.