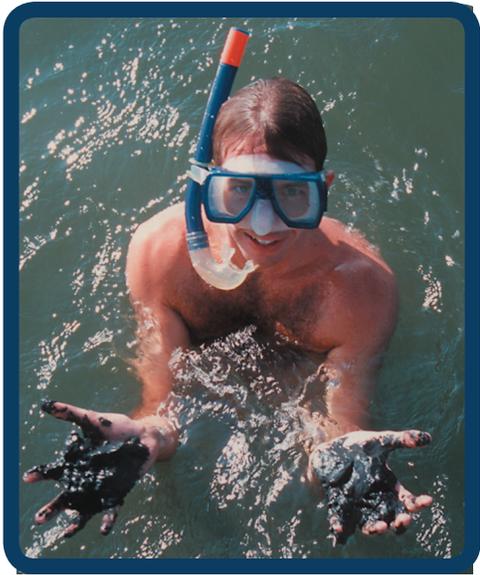




Astrobiologist/

Oceanographer/Chemist



Dr. Tori Hoehler
Astrobiologist/
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NASA Ames Research Center

I work in the astrobiology program, which is the part of NASA that's interested in looking for life on other worlds. The work I do is mostly microbiology, because we think that if we are able to find life on other worlds, it is most likely to be something like the bacteria we have here on Earth. I try to figure out how the microbes that live here on Earth change their environment in ways that might be detected from far away in space. That kind of information will eventually help us to collect data from other worlds and use it to say whether or not there is life on those worlds.

Areas of expertise:

- Exobiology
- Microbiology
- Chemistry
- Oceanography

How I first became interested in this profession:

I was born in the Bahamas and lived there until I was six. I think I got my love of the ocean from that time. My dad tells me that I could swim long before I could walk, and that he used to take me out snorkeling on the reefs starting when I was four years old. When I was pretty young, I got really interested in space. Right about the time I was in fifth grade, Voyager 2 was passing Jupiter, and sending back all kinds of great pictures. I thought it was the coolest thing.

What helped prepare me for this job:

I got a B.S. in chemistry, then a Ph.D. in oceanography. As a freshman, I started working in a lab that studied how bacteria affect the chemistry of the ocean. I stayed with it all the way through graduate school. I then realized that what I was studying would be important to the newly created astrobiology program. So I came to Ames right after finishing my Ph.D.

My role models or inspirations:

Probably the two biggest influences on my becoming a scientist were my grandfather and my high school chemistry teacher.

My education and training:

- B.S., Chemistry, University of North Carolina
- Ph.D., Oceanography, University of North Carolina

My career path:

- Eight years as a research assistant in microbiology studying the effect of bacteria on ocean chemistry, University of North Carolina
- Three years as a research scientist, Astrobiology Department, NASA Ames Research Center

What I like about my job:

One of the best things about my job, even if it can be pretty exhausting at times, is that I go to some cool places, like Baja California in Mexico and Yellowstone National Park. The other really neat part is making new discoveries. Mostly these are little things (not the kind of stuff you would read about in the newspaper), but sometimes they can be pretty important. Either way, it's a great feeling, because you've figured out how something works, and you're the only person in the world who knows about it! Probably the best thing about my work is that it lets me be really creative. Some people create art, music, or literature. My job is to create ideas—new ways of thinking about nature to help us figure out how it works.

What I don't like about my job:

Of course, in between field work and making new discoveries, there can be long periods when I'm just working in the lab or sitting in front of my computer. That can be boring sometimes, but it's important, too—and the good stuff makes my job really worthwhile overall.

My advice to anyone interested in this occupation:

Always work on things that are interesting and exciting to you. Pick a field because you think it's cool, not because someone else tells you it's important. Also, remember that science is a way of studying the world around us, not a set of facts. The most important advances in science have always been made by people who had new and creative ways of thinking about things. So instead of just memorizing facts, learn to be a good problem solver and don't be afraid to apply your creativity.

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.

